



The world leader in geotechnical solutions

- Deep foundations
- Ground improvement
- Earth and water retention
- Grouting



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Brisbane

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About Us

Operational for more than 60 years, Keller is Australia's leader in geotechnical solutions.

Keller Australia is one of the connected companies of Keller. With offices in more than 40 countries across six continents, Keller is the largest geotechnical contractor in the world. Keller is proud to maintain our management systems in Safety, Environment and Quality meeting stringent ISO requirements. Additionally, Keller has achieved Federal Safety Commission accreditation under the Australian Government Building and Construction WHS Accreditation Scheme (OFSC). We are highly focused on achieving the goal of zero incidents and injuries through effective leadership and management. To achieve this, we are committed to continual development of a positive culture of understanding, transparency and learning.

The extensive operating capabilities offered by Keller allows us to provide structural foundations, retaining walls and ground engineering solutions utilising the widest range of techniques. Our risk management and relationship-based approach to project design and delivery will ensure successful outcomes for all parties that interact with our business.

Keller has the financial strength, resources and expertise to package solutions and meet client requirements in all sectors including building, mining, energy and infrastructure. Our extensive fleet of specialised major piling plant and drilling machinery is supported by modern maintenance and workshop facilities across the nation.

Being part of the connected global group of Keller companies we have access to a worldwide knowledge network that ensures the world's best geotechnical engineering capability is available to our customers.

Keller has developed a reputation built on engineering excellence and a commitment to continual innovation. With unsurpassed knowledge of unique geological settings, work procedures and IR conditions, Keller maintain a strong, well trained workforce, with an uncompromising commitment to HSEQ industry best practice.





Company Details

| | |
|------------------------------|--|
| Company Name: | Keller Pty Ltd |
| ABN: | 74 609 867 889 |
| Date of Incorporation: | 1953 |
| Registered Business Address: | G01. 2 Lyonpark Road Macquarie Park NSW 2113 |
| T: | 02 8866 1100 |
| E: | info@keller.com.au |
| W: | keller.com.au |
| Type of Business: | Wholly owned subsidiary |
| Parent Company: | Keller Group Plc (UK based corporation) |
| ANZSIC Classification: | 3109 Other Heavy and Civil Engineering Construction |
| Insurances: | Pen Underwriting Group Pty Ltd Accident & Health International Underwriting Pty Ltd Allianz Australia Insurance Limited Lloyds Syndicate XLC 2003 XL Insurance Company SE |
| | The company has established insurances for public liability, professional indemnity, plant and equipment, motor vehicle, workers compensation and contracts all risks. |
| | Certificates of Currency available upon request. |

6
continents



40+
countries



10k
people



7k
projects/year



To be the leading provider of specialist geotechnical solutions

Every day, people around the world live, work, and play on ground prepared by Keller.

Leveraging our full range of techniques, we provide solutions to geotechnical challenges across the entire construction spectrum.

We have the expertise, experience, and product range to respond quickly with the optimum solution, execute it safely, and see it through to a successful conclusion, no matter the size of the project.

Global strength and local focus

The strongest local construction projects are built on a foundation of connected global experience. Our in-depth knowledge of local markets and ground conditions enables us to understand and respond to specific project challenges. We harness the power of our global network and knowledge base to safely deliver the optimum solution, no matter the size or location.





Keller Structure

Group structure

Keller Pty Ltd is a operational business unit of Keller Asia Pacific (APAC) which is owned by Keller Group plc, a public company listed on the London Stock Exchange (LSE:KLR) and constituent of the FTSE250 index.

Australia overview

Within Australia there are two operational business units namely, Austral Construction Pty Ltd and Keller Pty Ltd.

Keller Pty Ltd was formed in 2016 following the merger of four business units: Frankipile Australia (established in Australia in 1953), Vibropile (established 1966), Piling Contractors (established 1985) and Keller Ground Engineering (established 2004). Keller has a strong reputation for the safe delivery of innovative, high quality, cost effective design and construct solutions for ground improvement, grouting, piling, deep foundations, diaphragm walls and retaining walls.

Leading
the world in
geotechnical
solutions





Keller provide design and construct services for a range of specific engineered solutions. The advanced capabilities of our in-house engineering and construction teams ensure we provide cost effective, fit for purpose, award winning solutions. Our range of piling, deep foundation and ground engineering techniques is comprehensive.

Keller's unique position as a one stop shop for complete solutions seamlessly combines piling with an arrangement of products such as grouted and anchored wall solutions, ground improvement, soil mixed platform alternatives, slurry walls and diaphragm walls.

Bored piles

Large diameter bored piles are non displacement piles commonly used where large vertical loads or bending moments must be carried by a single unit. The selection and use of this pile type permits provision of very high loads with minimal pile movements, particularly when founding in rock. Installation is achieved with minor vibration and noise levels. When ground conditions are unstable, drilling fluids such as bentonite and polymer or steel liners can be used to support the drill hole until the pile is poured.





CFA piles

CFA piles are non-displacement piles used where fast, low vibration installation is required in unstable ground conditions. The drilling process is suitable for penetrating dense layers of soil and rock and is unaffected by ground water or collapsing soil conditions. Drilling, concreting and cage reinforcement installation is carried out in a continuous operation ensuring optimal installation rates. Keller operate the latest generation of deep piling rigs that allow CFA piles to be installed to depths greater than 50metres. Diameters commonly range up to 1200mm.



Cased secant piles

CSP utilises continuous flight auger installation combined with the additional stiffness of a drilled casing in order to achieve a higher degree of vertical alignment. A double head drilling system retains good production levels whilst achieving minimal vibration and noise levels. The selection of this pile type suits weak to medium strength ground conditions.



Work that works

We design and

construct

innovative

geotechnical

solutions across all

sectors including

commercial and

industrial

building,

infrastructure,

marine,

mining

and

resource

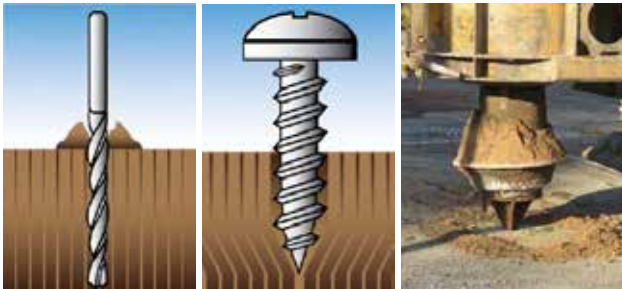
Displacement piles

Drilled displacement piles are a versatile and increasingly popular product which can be used as a structural foundation solution for buildings. Drilled displacement piling techniques utilise purpose-built auger heads and high torque piling rigs to laterally 'displace' the soil during installation, as distinct from the soil 'removal' that occurs during CFA or bored pile construction. This displacement of soil improves the strength of the soil by compacting the surrounding material thus maximizing pile capacity and stiffness. These piles are effectively vibration free and produce minimal spoil (ideal for contaminated sites).



Atlas piles

The atlas pile is a unique "screw" shaped displacement pile. It is designed to take maximum advantage of all available soil capacity by displacing the soil rather than replacing it. The atlas pile is a concrete cast in situ pile installed with new generation high torque hydraulic piling rig. Piles up to 30m can be installed in a single pass. Minimal spoil is produced by atlas piles, and they are effectively vibration free.



Non Displacement Displacement



Precast piles

Keller design, manufacture and install high strength precast concrete piles that incorporate mechanical and compression only joints. This allows piles to be spliced and installed quickly to the required depth. This pile type is ideally suited to ground conditions where soft upper strata overlay hard bearing layers and in regions of clay and silt deposits. Modern, accelerated hydraulic hammers make this a fast and efficient pile type.

Octagonal piles

Driven prestressed concrete piles are displacement piles available in a variety of sizes for large loadings. Tensile and bending stresses, which can arise in a pile during driving with large hammers, are resisted by the prestressing forces.

Steel piles

Driven tubular piles can be driven with either an open or closed end using specialist equipment. When driving through hard strata pile toes may be reinforced with a secondary driving shoe to assist penetration and minimise pile damage. Structural capacity of tubular piles are primarily calculated based on steel strength and concrete strength (if filled). Corrosion can be dealt with by the application of protective coatings or the allowance of sacrificial wall thickness. Universal beams and welded columns can also be driven.

Franki piles

Enlarged base piles are installed by bottom driving a temporary casing ('Franki' Tube) to the identified founding strata. An enlarged base is formed at this level. This pile type can be used in a broad range of ground conditions to maximise compression, tension and lateral load capacity.

Plunge column guide

Keller has developed a plunge column guide frame to accurately locate and suspend precast concrete columns or steel columns weighing up to 45t. Currently the "Plunger" can handle columns that fit inside a window of 600mm x 800mm and up to max column weight of 45t. The guide can be modified to suit nominal differences to these dimensions or odd shaped columns that fit this window.

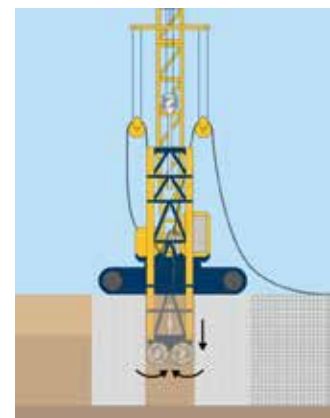




Diaphragm wall

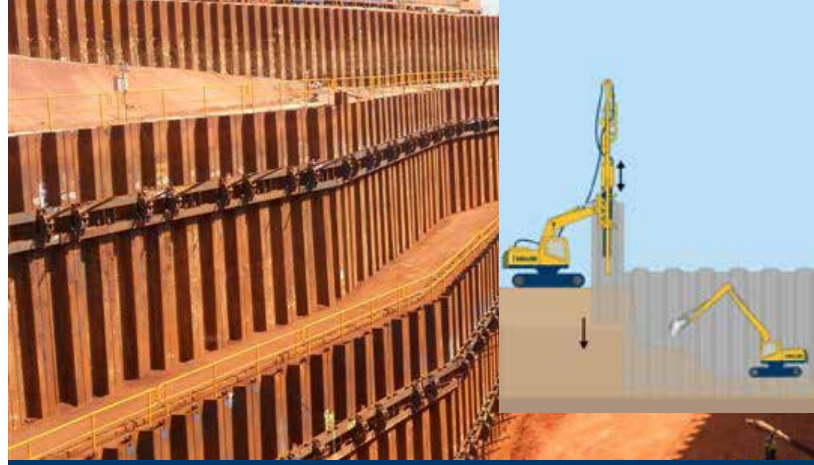
Diaphragm walls are constructed using grabs or cutters to create a narrow trench excavation in the ground. The trench is supported by an engineered fluid. Generally diaphragm walls are made from reinforced concrete, though unreinforced walls can also be used. Keller offer diaphragm walls in a range of thicknesses from 500-1500mm which can be excavated to depths of 100m. Diaphragm walls can be used in congested areas or where the excavation depth is very deep. The choice of a diaphragm wall would suit deep basements, underground rail stations, rail car unloaders, tunnel approaches, pumping stations and the like.

Diaphragm walls can be installed close to existing structures, in restricted headroom, and can also be used in combination with top-down construction. Keller have a fleet of specialist equipment to complete all types of diaphragm wall construction.



Sheet pile walls

Sheet piles are an option for permanent and temporary retaining walls, cofferdams and general excavation activities. The durability of sheet piles can be extended with protective coatings or extra thickness. Sheet piles are often installed by vibrating hammers. High impact hammers and hydraulic press in machines can also be used to drive or push the piles into place. Water jetting or preboring options can be used to assist penetration through stiff or hard layers.



Soldier pile walls

Cast insitu bored or CFA piles are installed at wide spacings. This can be up to 5 - 8 pile diameters depending on soil conditions. The soil arches between the piles in the short term before a more permanent wall is installed (typically by shotcreting or a formed concrete wall) during excavation. This wall type is not suitable where high water pressures or flows exist. This is usually the simplest, fastest and cheapest type of embedded retaining wall in relatively stable soils.



Contiguous pile walls

Cast in situ bored or CFA piles are installed with a small gap ('contiguous', often 40-100mm) in order to retain the soil behind the piles prior to excavation of soil in front of the wall.



Secant pile walls

Secant pile walls are installed as cast in situ bored or CFA piles, and often installed through a temporary concrete guide. The guide ensures that piles are accurately located to achieve an interlock (or 'secant') cut into the adjacent pile. This creates a continuous wall and provides a high degree of water resistance. Keller have significant experience in retaining wall construction and our in house teams are skilled at producing economic designs for such structures, backed by an extensive library of monitoring results from previous projects.



Rigid inclusions

Rigid inclusions are high modulus concrete injected columns installed into soft, highly compressible soil. The addition of the rigid inclusion in the soft soils significantly reduces the compressibility and improves the bearing capacity of the treated soils to enable the conventional construction of buildings and embankments meeting settlement requirements.

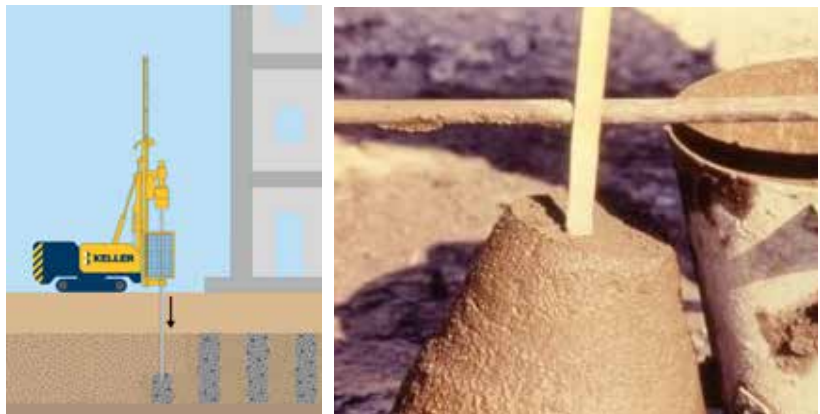
A closed-end mandrel or a displacement auger is advanced into founding strata displacing the soil. As the tool is extracted concrete is pumped to fill the void created, leaving a concrete column. Very little or no spoil is created with this technique. The rigid inclusion terminates in stiffer soils immediately below the weak soils. A load transfer platform is installed above the rigid inclusion to allow the columns to work as a group. Rigid inclusions is a very effective, quick and cost efficient technique to control settlement and increase bearing capacity.



Compaction grouting

Compaction grouting uses low mobility grout to rapidly improve discrete zones of weak or loose soils. The method provides a low risk, minimal disruption solution for applications such as underpinning, load capacity enhancement, liquefaction mitigation and re-leveling of settled buildings. It can be used on large projects using high capacity plant, as well as with hand tools, allowing improvement to be carried out in the most restricted locations.

Following installation of injection casings to the depth required, low mobility grout is injected as the casing is slowly extracted in lifts, creating a column of overlapping grout bulbs. The expanding low mobility grout bulbs displaces and densifies the surrounding soils.



Dynamic compaction and Dynamic replacement

Dynamic compaction and dynamic replacement are typically used to control settlement. This technique is commonly used for embankments, bridge abutments and foundations for large structures such as reservoirs, warehouses and industrial facilities including mineral stockpiles.

Dynamic compaction is a ground improvement technique that densifies soils and fill materials by using a drop weight. The drop weight, typically steel, is lifted by a crane and repeatedly dropped onto the ground surface. Vibrations transmitted below the surface improve soils at depth. The drop locations are typically located on a grid pattern, the spacing of which is determined by the subsurface conditions and foundation loading and geometry.

Treated granular soils and fills have increased density, friction angle, and stiffness. In shallow karst geologies, dynamic compaction has been used to collapse voids prior to construction to reduce sinkhole potential. It has also been used to compact construction debris and urban fill as well as sanitary landfills prior to construction of parking lots, roadways, and embankments. The removal of compressible, contaminated fills can sometimes be avoided.

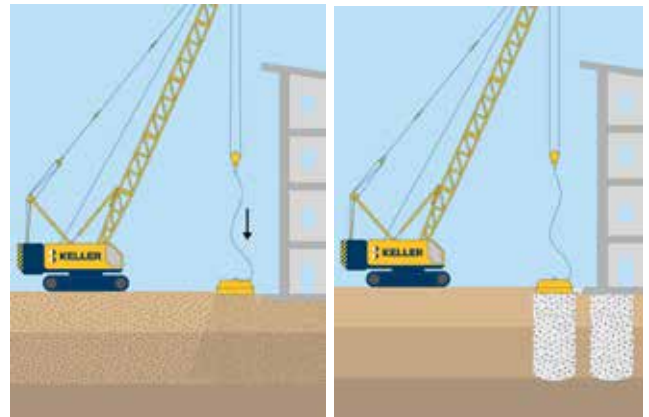
Dynamic replacement is an extension of the dynamic compaction process. Stone (or granular fill) is driven and compacted into the ground using high energy pounders to form large diameter columns where clayey and silty soils are encountered.

Soil mixing

Soil mixing can be applied as either deep soil mixing (DSM) or mass mixing (MSM). It can be used for many different applications including settlement reduction, increased bearing capacity, contamination containment, excavation stability and temporary working platforms. It is a very diverse technique and can be used over water, by utilising Keller owned amphibious plant or barges.

DSM is a technique where soil mixed columns are formed in weak soils ranging in diameter up to 2.4m to depths in excess of 30m. Columns are formed by drilling a rotary tool down to the founding depth. As the tool is withdrawn a slurry or cement powder is pumped into the soil. The tool is rotated at a relatively high RPM with the extraction rate controlled by Keller proprietary computer systems ensuring a quality soil mixed column.

Mass mixing is a technique where the blocks of soil are mixed with slurry or cement to form improved soil masses to depths of 7m. Panels can be installed to reduce the volume of mixed material where design allows.





Mine infilling

Keller has the capability to carry out mine void filling operations using specially developed onsite plant and processes. Keller has successfully carried out small and large turnkey projects ranging from 450 to 200,000 m³ of grout placed in-situ.

Keller own state of the art drilling and grouting plant capable of carrying out small to very large projects.

Bespoke construction techniques have been developed to manage environmentally sensitive groundwater and chemical contamination.



Micropiles

Micropiles or mini piles, are typically less than 400mm diameter and installed using various drilling systems. They can be designed to support loads of more than 1,000kN in favorable ground conditions in restricted headroom.

Micropiles are often used on restricted access sites or where ground conditions, such as buried obstructions, preclude the use of conventional piles.

Permeation grouting

Permeation grouting is a low pressure injection system used to improve the strength and/or reduce the permeability of granular soils. It is often used for dam grouting applications and for groundwater control on tunneling projects. The method uses cement or chemical-based grouts and has the advantage that it produces no spoil.

Microfine cement grouting is an extension of permeation grouting using finer grout capable of penetrating small voids in fissured rock and fine sands.

The GIN method (grouting intensity number) is commonly used for Dam Grout Curtains to prevent underseepage below the dam alignment with the benefit of fully automated QA.



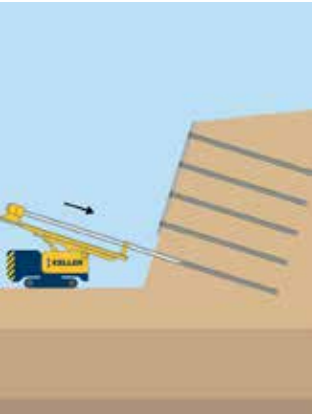
Soil and rock anchoring and nailing

Soil and rock anchors and nails, offer an economical solution to temporary or permanent support and can also be used to resolve stability problems.

Post-tensioned anchors can be designed to withstand lateral and uplift forces and are typically used with temporary and permanent excavation support systems. They are also effective for permanent retaining walls, dam stabilisation, or to resist wind-produced uplift forces.

Anchors can be installed at any angle from vertical to horizontal points, and are test loaded to confirm capacity.

Keller offers a design and construct service for the supply and installation of soil nails, providing an efficient and safe way to retain embankments, cuttings and excavations.



Slurry/cut-off walls

Slurry walls (cut-off walls) are non-structural and are typically installed to limit groundwater flow to enable excavation or, in many cases, to provide containment of buried waste or contaminated materials. They can be excavated under a cement-bentonite slurry or in a two-phase approach, with excavation under bentonite and subsequent backfilling using a soil-bentonite slurry.

Keller designs and constructs:

- Cement bentonite walls
- Soil cement bentonite walls
- Soil bentonite walls
- Bio-degradable polymer Gravel trenches
- HDPE cut off barriers
- Soil mix walls
- Grouted barrier walls





Soilcrete jet grouting

Soilcrete jet grouting is an erosive high pressure ground improvement system used to create cemented soils to depths in excess of 40m, without the need to treat up to the ground surface.

Jet grouting creates in situ geometries of soilcrete (grouted soil), using a grouting monitor (tool) attached to the end of a drill stem. The jet grout monitor is advanced to the maximum treatment depth. Then high velocity jets (cement grout with optional water and air), are injected from ports in the monitor. The jets erode and mix the in-situ soil with grout as the drill stem and monitor are rotated and raised.

Depending on the application and types of soils, one of three variations is used: the single fluid system (slurry grout jet), the double fluid system (slurry grout jet surrounded by an air jet) and the triple fluid system (water jet surrounded by an air jet, with a separate grout port). The jet grouting process constructs soilcrete panels, full columns, or partial columns with designed strength and/or permeability.



The Soilcrete jet grouting is used for a range of applications:

- Underpinning,
- Panel walls to cut off groundwater,
- Historic foundation restoration,
- Improving foundation bearing capacity,
- Joint sealing between piles and other underground structures,
- Shaft construction
- Excavation base sealin

Soilfrac compensation grouting

Keller's soilfrac compensation grouting technique uses the propagation of grout-filled fractures in the soil to consolidate the ground.

Sequential injections of low volumes of cement grout develop up to 20mm thick grout-filled fractures in the soil. Repeated injection and fracturing consolidates the soil.

The method allows buildings, structures and services to be protected from shallow tunneling or nearby excavations, as well as lifting structures affected by settlement back to original levels. It can be carried out in real-time, for example during tunnel boring.



Vibro stone columns

Vibro stone columns are a common form of ground improvement. Using similar plant and equipment to vibro-compaction, the method is used to treat clays, silts and mixed stratified soils.

Stone is introduced either down the side or from the tip of a vibro-probe and is compacted bottom-up in controlled stages. The stone columns reinforce soft soil and also accelerate drainage.

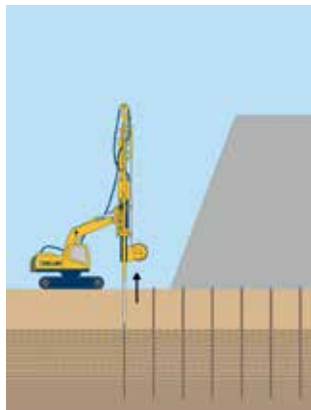
Typical applications for stone columns include settlement and stability improvement below embankments and stockpiles; foundations for low rise warehousing, sheds and other light industrial buildings; and for seismic mitigation on dam sites.





Vertical wick drains

Vertical wick drains offer a cost-effective method of pre-consolidating soft, saturated and low permeability soils to allow construction of earth structures such as road or rail embankments. By incorporating a drainage layer and a superimposed surcharge load, such as earthworks fill, the consolidation of the soft soils is accelerated, through the preferential drainage paths introduced by the wick drains.

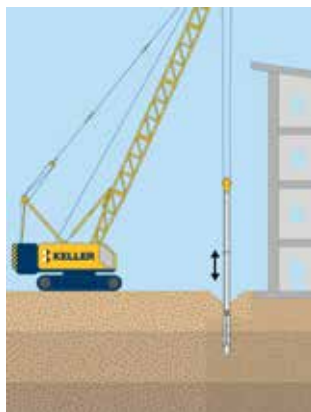


Vibro compaction

Vibro compaction uses probe-type vibrators hung from cranes or mounted on track mounted equipment to densify granular soils up to 40m deep.

The vibratory action of the probe as it drives into the ground rearranges the soil particles and densifies the soil. Granular fill is introduced into the annulus around the vibrator to maintain working platform level and to assist densification.

Vibro compaction reduces settlement, increases bearing capacity and mitigates liquefaction potential in seismic areas.



Design & Construct

Keller has been designing, constructing and certifying deep foundations for over 60 years. During this time it has developed what is arguably the strongest design team in this highly specialised area of civil engineering.

One of our major strengths is providing alternative solutions.

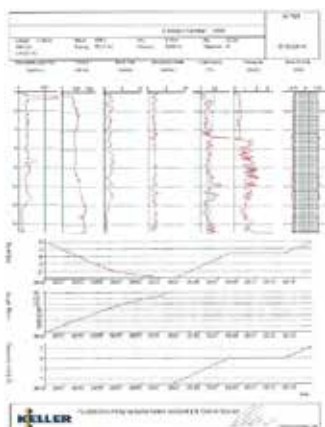
By working closely with our clients our design teams have successfully re-engineered foundation solutions for some of Australia's most high profile structures thereby saving both time and money for our clients.

Keller's design team uses the latest methods of analyses, coupled with sound engineering judgment and experience. Our services include:

- Geotechnical strength and performance of piled foundations
- Structural strength of piled foundations to cater for various load combinations (bending moment, lateral, compression, tension and torsion loads)
- Single pile, pile group and global settlement analysis of piled foundations
- Retaining wall design (wall movements, anchor loads and structural design of wall elements)
- Optioneering and Value Engineering: Creating a range of structural and geotechnical alternatives that consider the whole construction cycle, often in consultation with our clients

Computer monitoring to ensure quality

Our CFA and auger displacement rigs include full computer instrumentation. The latest generation of construction monitoring equipment allows us to monitor and record all aspects of the pile construction process from drilling rates and energy through to concrete pressures and supply.



Testing

Keller offers a range of pile and ground improvement testing services as an integral part of our Quality Control procedures. Some of these relate to the quality of the workmanship and materials, and are generally based on verifying the integrity of the pile. Others relate to confirmation of design, and are based on measuring the performance of the pile in response to a load and comparing this with the design requirements and our estimates of performance. Australian Standard AS2159:2009 has a strong emphasis on pile testing specifying an intrinsic test factor and a testing benefit factor both applicable when appropriate testing is carried out.

Pile testing is conducted in-house by Keller, using state of the art equipment and the latest technology and computer software in processing and analysis of the results, all operated by well-trained, experienced personnel. Integrity testing and load testing are carried out in accordance with the relevant

Australian Standards.

Keller can perform static, dynamic, rapid and integrity testing.

Integrity testing

Integrity testing is carried out using PDI or Profound equipment and software. This test, variously called low strain or sonic integrity test, is used for checking the integrity and continuity of an installed pile foundation.

Static load testing

Static load testing involves the direct measurement of pile head displacement in response to a physically applied test load. Load is normally applied via a hydraulic jack acting against a reaction system. The reaction can be provided by anchor piles, ground or rock anchors or by dead weight known as kentledge.

Bi-directional load testing

An alternative method of static load testing is the Osterberg Cell. This involves placing sacrificial calibrated hydraulic jacks at the pile base and/or in the pile shafts as required.

Dynamic load testing

The system comprises two to four strain gauges & acceleration transducers, a portable field computer with signal processing electronics and a signal conditioning system, together with software for monitoring and reporting. Analysis is carried out using the signal matching computer program CAPWAP. Keller currently utilise DLT systems from DPI with analysis. Our purpose built test hammers allow us to dynamically load test piles up to 1200mm diameter with loads of up to 40,000kN.

Rapid load testing

Rapid load testing is a quasi-static test that models a "push" rather than the "shock" delivered in dynamic testing, reducing the potential for damage to a pile. The modern form of Rapid Testing, known as "StatRapid" involves dropping a mass onto a pile using a soft cushioning system of springs. The size and duration of the applied load can be varied by the drop mass, spring system and drop height of the mass. By comparison with dynamic testing, the duration of the blow is significantly longer than the Dynamic test, more closely resembling a static test. At present, loads of up to 16MN can be delivered.



SQUID testing

Shaft Quantitative Inspection Device

Assess cleanliness and competency of the bottom of bored piles.

An important part of bored pile construction is the cleaning and inspection of the bottom of the hole prior to the placement of reinforcement and concrete. To achieve cleaning once drilling is complete, a cleanout bucket is typically used to remove any material unsuitable for end bearing support. Bottom inspection is then performed with SQUID which takes accurate force and displacement measurements, providing an objective, quantitative assessment.

The signals from the three displacement sensors and the three cone penetrometers pressures are digitally processed and wirelessly sent to the SQUID Tablet. The inspector, engineer or contractor can then make an immediate decision as to the borehole acceptance, additional clean-out requirement or additional drilling. The decision makers may be at a safe location on site or connected via internet to the SQUID Tablet, from any location where there is internet access.

This data and Keller's full time on site engineering support confirming the geology is in accordance with the design, helps guarantee pile quality and minimises any potential for on site delays.





Plant & equipment

Keller owns and operates a well maintained fleet of modern capital equipment that meet stringent legislative workplace health and safety requirements. Our workshops include first class manufacturing and maintenance facilities with national coverage which enable us to design and manufacture purpose built tooling and equipment for specific project requirements.

Multi-functional piling rigs

| Description | Approx Weight | Approx Torque | Number in Fleet |
|-----------------|---------------|---------------|-----------------|
| FUNDEX F3500 | 120t | 450kNm | 3# |
| FUNDEX F2800 | 110t | 450kNm | 2# |
| BAUER BG40 | 140t | 400kNm | 1# |
| BAUER BG30V | 110t | 300kNm | 2# |
| BAUER BG28H | 96t | 280kNm | 3# |
| BAUER BG28V | 96t | 280kNm | 3# |
| BAUER RG19T | 60t | 80kNm | 1# |
| MAIT HR260 | 77t | 260kNm | 2# |
| MAIT HR180 CP | 60t | 180kNm | 3# |
| MAIT HR150 | 50t | 240kNm | 1# |
| MAIT HR130 | 38t | 110kNm | 2# |
| MAIT BABY DRILL | 6t | 35kNm | 1# |
| LIEBHERR LRB23 | 75t | 300kNm | 1# |





Driven piling rigs and hammers

| Description | Approx weight | Approx height | Number in fleet |
|------------------------------|---------------|---------------|-----------------|
| JUNTAN PM 25 LC & 5/7 HAMMER | 78t | 24m | 4# |
| VARIOUS JUNTAN & BSP HAMMERS | 5-16t | hydraulic | 7# |
| SIDE LOADERS | 15t payload | | 3# |

Franki piling rigs

| Description | Approx weight | Approx pile length | Number in fleet |
|----------------|---------------|--------------------|-----------------|
| FRANKI TYPE 17 | 40t | 15m | 3# |

Crane mounted piling rigs

| Description | Approx weight | Torque | Number in fleet |
|-----------------|---------------|--------|-----------------|
| CALDWELD CAH500 | 130t | 500kNm | 1# |

Foundation and CR/DC cranes

| Description | Approx weight | Capacity | Number in fleet |
|-----------------|---------------|----------|-----------------|
| BAUER MC96 | 130t | 130t | 2# |
| LIEBHERR HS 885 | 120t | 120t | 1# |
| LIEBHERR HS 883 | 120t | 120t | 1# |

Diaphragm wall equipment

| Description | Type | Details | Number in fleet |
|-------------------|------------|--------------------------|-----------------|
| BAUER BC35 CUTTER | Cutter | Wheels 640 - 1500 | 1# |
| BAUER DHG-B GRAB | Hydraulic | Jaw 600-1200 | 1# |
| ROPE GRAB | Mechanical | Jaw 600-1500 | 7# |
| DESANDERS | Various | 90-500m ³ /hr | |
| BENTONITE TANKS | Various | 80m ³ | |

Concrete pumps

| Description | Swept Volume | Strokes per Min | Number in fleet |
|-------------|--------------|-----------------|-----------------|
| VARIOUS | 30-60 | 30-40 | 20+# |





Drill and dual rotary rigs

| Description | Approx Weight | Number in Fleet |
|----------------|---------------|-----------------|
| CASSAGRANDE C6 | 14t | 1# |
| HUTTE HBR202E | 7t | 1# |
| HUTTE HBR203 | 7t | 1# |
| HUTTE HBR205 | 19t | 2# |
| HUTTE HBR609 | 26t | 2# |

Ground improvement equipment

| Description | Make | Number in Fleet |
|----------------------------------|-------------------------|-----------------|
| JET GROUT PUMPS | Techniwell, Halliburton | 3# |
| GROUT MIXERS | Colcrete, Keller | 9# |
| MASS MIXING ARMS | Allu | 12# |
| VIBRO COMPACTION & STONE COLUMNS | Keller | 7# |





✓ Quality Management System

ISO 9001

✓ Environmental Management System

ISO 14001

Accreditations

Keller is proud to maintain our management systems in Safety, Environment and Quality while merging our pre-existing businesses and meeting stringent ISO requirements.

Additionally Keller has achieved Federal Safety Commission accreditation under the Australian Government Building and Construction WHS Accreditation Scheme (OFSC).

These certifications provide assurance to the systems and processes Keller utilises in our operations, ensuring a consistently high standard is applied and maintained.

✓ Safety Management System

AS/NZS 4801



HSEQ campaigns

Keller runs a series of quarterly safety campaigns to promote safe work practices. These are targeted campaigns which are selected by reviewing the priority practice, or procedure for continuous improvement and awareness on site.

5S Program

Keller recently took the initiative of adopting 5S methodology with the challenge of applying it across our construction activities and plant facilities. This Japanese methodology empowers employees to organise and develop their workplaces using visual management and re-organisation with the aim to boost operational efficiency. Initial implementation has unlocked significant benefits and we looked forward to carrying it through to completion.





Safety

Keller is highly focused on achieving our goal of zero injuries and no ill health through effective leadership and management. To achieve this we are committed to continually developing a positive culture of understanding, transparency and learning. We have empowered our staff to cease work to review any unsafe situation. This drive is underpinned by our 'Thinksafe' philosophy and backed up by our integrated management system which is compliant with the latest AS/NZS 4801 standards.



Quality

Keller aim to exceed customer expectations by identifying all stakeholder requirements and applying project specific risk management strategies to prevent adverse outcomes and enhance the delivered product. We have developed a consistent approach to product delivery whilst maintaining a degree of flexibility in our design and work processes to manage the variable geotechnical conditions encountered across our worksites. Keller maintain external certification to AS 9001 and implement a variety of internal assurance processes to deliver a consistently high standard of product to our clients.



Environment

Environmental management is a key component of our integrated management system and processes. Environmental concerns are identified at each site so they can be assessed, prioritised and managed via a risk based approach in accordance with the hierarchy of controls. This process encompasses an assessment at design stage so that the most effective solution can be supplied to the relevant stakeholders. Keller maintain external certification to the latest AS/ISO 14001 standards to ensure consistency and compliance whilst discharging our environmental obligations for the benefit of current and future generations.



Locations





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Global strength and local focus

