VERSION 1.1

DAVIS OGILVIE

ENGINEERS / SURVEYORS / PLANNERS

CAPABILITY STATEMENT

From dirt to development, resilience to recovery, DO provides collaborative, efficient solutions. DO delivers.

ABOUT US

We are leaders in future-focused sustainable development and infrastructure.

Davis Ogilvie is a trusted multidisciplinary engineering consultancy in the South Island with an unwavering commitment to the region, its communities and the environment.

With over 90 years of experience, we offer comprehensive engineering, surveying, and planning services, integrating our expertise in civil, geotechnical and structural engineering, resource management and environmental sciences.

By combining these diverse capabilities, we simplify construction, design and development processes to deliver the right solutions to meet your needs.

OUR VALUES

We hold each other to account on these daily.

DO THE RIGHT THING

We act with honesty and integrity – because it's the right thing to do.

DO OWN IT

We are accountable.

DO THE BEST JOB

We provide quality, resilient and innovative solutions.

DO CREATE BETTER FUTURES

Sustainable futures for all – social, economic and environmental.

TOITŪ CARBON ZERO
ISO 14064-1 ORGANISATION

We care about our customers, our communities, our people and the environment.

- We prioritise environmental and eco-friendly practices, consistently exploring innovative approaches to preserve the natural world for future generations.
- We actively participate in a variety of initiatives, including tree planting events and community clean-up efforts, while also lending our support to local businesses and charitable causes.
- We're committed to sustainable development and appropriate resource management, achieving CarboNZero certification in 2015.
- We actively support and are involved in the Superhome Movement which is designed to help enhance building standards and create energy-efficient homes.
- We're committed to diversity and inclusion, and support various initiatives including Engineering New Zealand.

OUR HISTORY

We've experienced numerous pivotal moments, anniversaries, and significant events that have collectively shaped Davis Ogilvie into a powerhouse of multidisciplinary expertise with teams in Christchurch, Nelson, Greymouth and Timaru.

JL Davis

1932

Our history begins when James Leonard Davis registered and founded JL Davis Registered Surveyor and Claims Assessor in Christchurch.

The company began providing civil engineering services.

1959

Peter Yeoman joined as a civil engineer and became a partner in 1966. He retired in 2002.

1960

Gavin Ogilvie established the structural engineering arms of the company. The company became JL Davis, Son, Ogilvie and Associates.

1968

Barry Greig joined as a surveyor. He is now a Consultant Surveyor, having stepped back as Director, a position he held from 1974 to 2012.

1987

We became Davis Ogilvie & Partners Ltd.

1990's

Resource management planning strengthened our service offering.

1996

Amalgamated with Cowan and Holmes in Timaru.

2003

Nelson office established through the acquisition of Gourdie & Ward.

2006

Greymouth office established.

2007

Russell Benge became a director after 13 years with DO.

2011

Davis Ogilvie (Aoraki) Ltd established in Timaru.

2012

After a decade with DO, Elliot Duke is appointed a director to lead the growing engineering team.

2015

Tony Lindbom became a director, managing the teams in Nelson and Greymouth.

2022

90-year anniversary.

Mt Hutt

Gondola Building

Lake Hood

OUR PEOPLE

Our people are the heart of our success. We're dedicated to growing professionally and staying at the forefront of our fields, to deliver exceptional results through personalised solutions and long-term partnerships built on trust and teamwork.

Elliot Duke

Director, Chartered Professional Engineer

"We have the expertise to guide and support our clients from start to finish. Our approach goes beyond short-term solutions – we're focused on delivering resilient outcomes that benefit our environment for future generations."

Russell Benge

Director, Licensed Cadastral Surveyor

"Being locally owned and operated means you get to work with our best including our senior leaders and directors. Our deep understanding of the local landscape, combined with our ability to get to know our clients and build lasting relationships, is what makes us different."

Tony Lindbom

Director, Licensed Cadastral Surveyor, Nelson

"For over 90 years, we've been proudly serving the South Island. Our people make us special – their work has a purpose that positively impacts communities, and they deliver exceptional outcomes."

Alastair Wood

Technical Director, Structural Engineer

Bjorn Raasch

Principal Engineering Geologist

Chris Sandoval

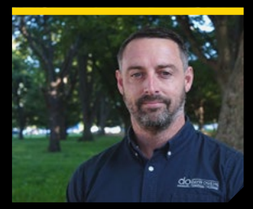
Principal Geotechnical Engineer

Colin Forsyth

Principal Civil Engineer

Damienne Donaldson

Principal Planner



Dave Bowman

Senior Civil Product Manager

Gareth Oddy

Technical Director, Environmental Scientist

Gary Stevenson

Principal Civil Engineer

Glen McLachlan

Director DO (Aoraki) Ltd, Licensed Cadastral Surveyor

Joe Turner

Greymouth Engineering Manager

John Cochran

Principal Surveyor

Samantha Webb

Technical Director, Engineering Geologist

Selwyn Chang

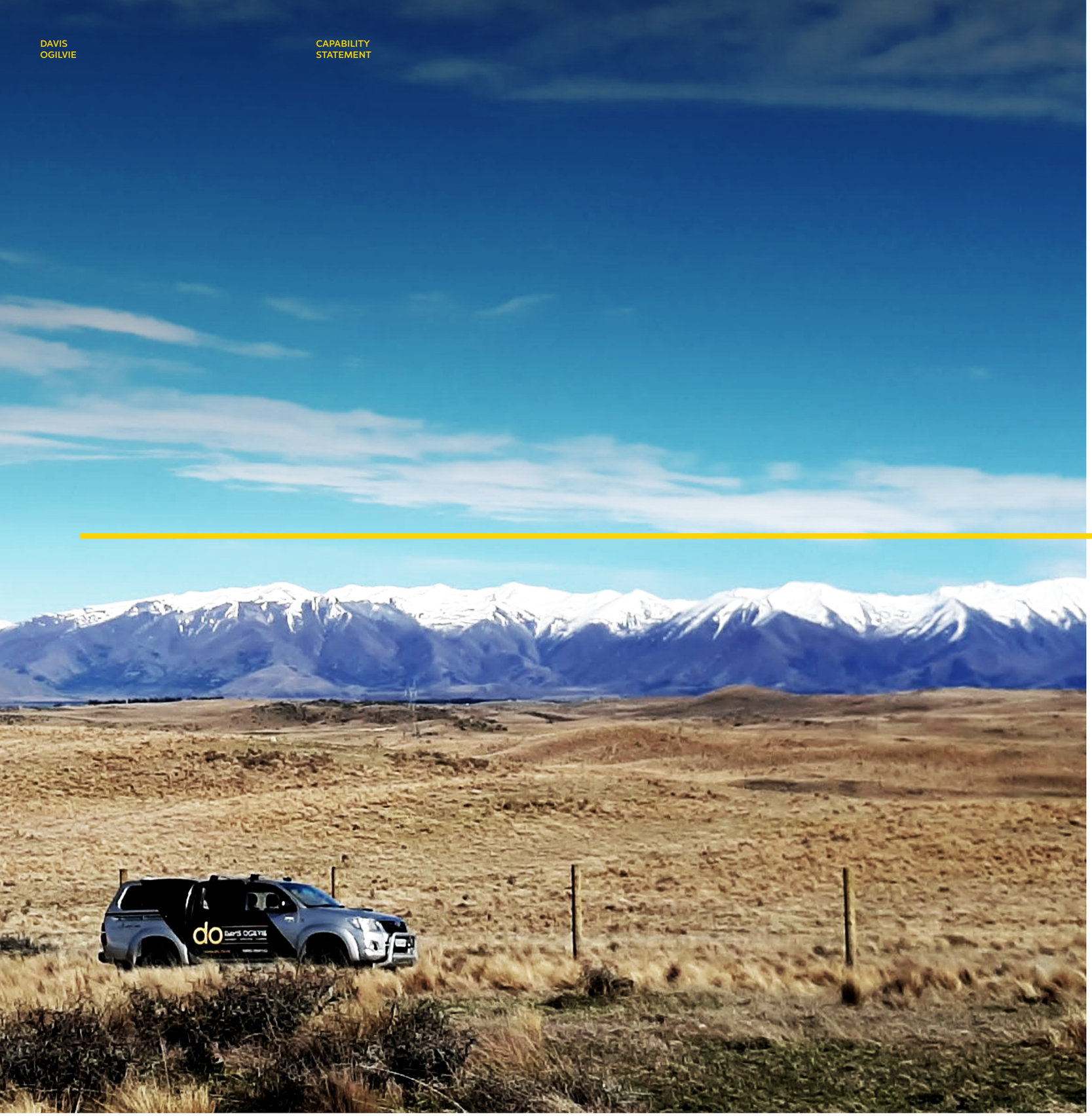
Principal Civil Engineer and Timaru Lead

Sophie South

Principal Civil Engineer

Tim Liley

Survey Team Leader



HOW WE CAN HELP

We bring technical experience and creative thinking to design, construct and maintain the built environment for a better tomorrow.

Our comprehensive solutions go deeper and deliver better results.

With over 110 people across four South Island offices, we add value to each project by providing a wealth of local knowledge and extensive project experience. The depth of our team and the collaboration between Christchurch, Timaru, Nelson, and Greymouth allow us to resource projects at any scale.

From landowners to residential developers, government agencies, local councils, consultants and more, we've got your project covered. We prioritise community wellbeing and sustainable, resilient, solutions. Our commitment to excellence means every project is customised to your needs, and we guide you every step of the way.

GEOTECHNICAL ENGINEERING

Whatever your geotechnical challenge is, we can help. Whether you're building your dream home, developing a subdivision, have a roading or infrastructure project, or building on a slope – we check how the ground is going to respond.

We work with individual homeowners, structural engineers, architects, landscapers, local authorities and land developers. We have the ability to scale up or down depending on what you need. Using our expertise, we'll investigate your ground conditions and take you through the process.

OUR GEOTECHNICAL SERVICES

- Ground and soil reports
- Natural hazard assessments
- Foundational recommendations for residential and commercial development
- Geotechnical report for subdivisions
- Earthwork construction monitoring
- Liquefaction and lateral spreading assessments
- Slope stability analysis
- Rockfall hazard assessment and design of protection structures
- Ground improvement design and certification

"We're geeks for soil. We thrive being outside with our hands in the dirt. We're incredibly proud of our geotechnical capabilities and working collaboratively with our clients. We help you out, take the time to know you and explain the ins-and-outs of what you may require (or don't), and then focus on quality services and timely delivery."

Samantha Webb
Technical Director – Engineering Geologist

In the last five years, we've lifted the dynamic cone penetrometer (DCP / Scala) weight over 200,000 times - equivalent to

19,500
metric tons.

In ten years, we've completed over

18,000+
handaugers test pits and boreholes.

Logged over
30,000
linear meters of soil – that's almost the thickness of the Earth's continental crust.

OUR PROJECTS

Marlborough Road Recovery

Provided geotechnical engineering expertise for the restoration efforts in the picturesque French Pass, located in Marlborough Sounds. The site, a historical landside, was affected by a severe weather event in 2021.

Ravenswood Developments

We've been involved in numerous subdivision developments. For Ravenswood Developments Ltd we provided services in land surveying, planning including consenting, site grading, civil design, geotechnical and environmental services through to construction monitoring. To date, over 80,000m^3 of earthworks have been completed.

Lukes Road, Little Akaloa

Geotechnical investigation, rockfall and slope stability assessment and design options were undertaken to enable the development. This also included construction monitoring and inspection of a rockfall catch fence.

ENVIRONMENTAL SCIENCE

We work with all stakeholders and service providers to help create environmentally sustainable outcomes that are realistic and cost-effective.

These services can be provided as part of a multidisciplinary project involving planning, surveying and engineering, or as a stand-alone service for any project requiring environmental science input.

OUR ENVIRONMENTAL SCIENCE SERVICES

- Contaminated land investigations and risk assessments
- Planning and supervision of the remediation of contaminated soil, sediment and water
- Contaminated site management during redevelopment or for on-going use
- Ground gas and soil vapour assessment and mitigation
- Human health and environmental risk assessments
- Pre-purchase due diligence risk assessments
- Resource consent compliance monitoring
- Groundwater quality assessments

Asbestos management

We have expertise in the identification and management of asbestos to help you with this hazardous material.

Occupational hygiene

Our team of scientists help to identify, manage and prevent potential adverse health issues caused by exposure to hazards in the work environment, including hazardous chemical, noise and vibration, dust, drinking water, biological, and air quality.

Contaminated land investigation and management

Our work is led by Suitably Qualified and Experienced Practitioners (SQEP). Our lead consultant is a Certified Environmental Practitioner – Site Contamination Specialist (CEnvP – SC).

Over 200
sites assessed, managed and successfully remediated in 2024.

OUR PROJECTS

Landfill compliance monitoring

Quarterly monitoring of an operational hazardous waste landfill.

Ground gas risk assessment

Gas mitigation design and installation inspections and verification of a four-storey office structure built next to a landfill.

Sustainable remediation

Re-use of over 3,000 m^3 of organic rich and arsenic impacted topsoil on agricultural land rather than disposal to landfill.

SURVEYING

With over 90 years of experience as a surveying firm, surveying is ingrained in our DNA. We have a deep understanding of the local landscape, and our team are trusted leaders in what they do.

Our skilled surveyors combine the disciplines of mathematics, law, engineering and physics. From measuring and mapping the physical features of land, determining boundaries, dimensions, and elevations, to undertaking desktop reviews to assess the potential for subdividing your property, and providing surveys and certificates from Licensed Cadastral Surveyors – we have you covered.

This also includes spatial data management, where we collect and analyse data, and use cutting-edge technology and advanced computer systems to provide you with fast and accurate results.

OUR SURVEY SERVICES

- Topographical surveys
- Building setouts and building location certificates (BLC)
- As built surveys
- Easement surveys
- Deformation surveys
- Rentable lease area surveys
- Civil and commercial construction setout
- Fee Simple and Unit Title Subdivision

Drone imagery and orthomosaic surveys

Our drones can enhance your topographical survey plan and are ideal for calculating volumes and site levels on hard stand areas. Our LiDAR drone enables us to quickly get an accurate understanding of a site's topography, even through vegetation, which is critical for effective design and construction monitoring.

Digital level and verticality surveys

During the earthquake repair and rebuild process in Christchurch, our surveyors became experts at verticality surveys, scanning, and at levelling floors, bench tops and door frames to determine the extent of deformation.

3D laser scanning and modelling

Our 3D scans can produce millions of survey accurate points. This is ideal for surveying in tricky environments or where there is a high level of detail required to be surveyed.

"Our LiDAR drone enables us to quickly get an accurate understanding of a site's topography, even through vegetation, which is critical for effective design and construction monitoring. It's so cool seeing people's reactions to the results. They're often amazed by the level of detail we can provide."

Hamish Dear
Surveyor.

Over one billion

The largest number of points we've completed on a single scan.

OUR PROJECTS

Quarry Landslide Monitoring

Rapid response monitoring from the air and on the ground to determine the magnitude and speed of the slip movement, helping to assess whether it was safe for workers to retrieve equipment and continue operations.

Tunnel Scan

Full baseline and subsequent annual scanning, and installation of a prisim array for more precise monitoring of a key South Island life line.

3D Laser Scanning and Drone Survey

Full external and internal scan and drone photogrammetry of facilities and surrounds to support building upgrades and redevelopment.

PLANNING

Our planning team excels in all facets of resource management planning, playing a pivotal role in every project we undertake. We believe in a collaborative approach, working closely with clients from the start to understand their objectives and develop a pathway that achieves the best outcome.

We collaborate across various disciplines, including urban design, landscape, architects, transport engineers and environmental sciences, enabling us to provide comprehensive and innovative solutions. We're committed to adding value to all projects as we have a well-rounded understanding of the consenting process and an in-depth understanding of the applicable rules and regulatory framework. Our strong, long-standing relationships with key stakeholders further enhance our ability to navigate complex regulatory environments and deliver successful outcomes.

Whether it is overseeing large-scale land developments, facilitating private plan changes, or offering tailored site-specific advice, our team is dedicated to guiding your project from inception to completion. With meticulous attention to detail, we prepare all necessary documentation and, when required, present expert evidence at local council and Environment Court hearings.

"Planning spans multiple disciplines and requires balancing our own expertise, expert reports, and the legislative framework to navigate the process and achieve the best outcome for clients. Our team have extensive knowledge and experience, and we love a good challenge."

Damienne Donaldson
Principal Planner.

OUR PLANNING SERVICES

- Resource consent applications – subdivisions and land use
- Assessment of environmental effects (AEE)
- Due diligence, development feasibility studies and project scoping
- Council liaison including pre application meetings
- Project management and coordination of specialist services
- Plan changes
- Submissions
- Consultation strategies
- Master planning
- Expert planning evidence
- Research and analysis
- Statutory approvals (designations)
- National, regional and local policy analysis

Resource management planning means informing and guiding clients through the planning process from the beginning of a project through to completion.

OUR PROJECTS

Hot Pools

Davis Ogilvie prepared and managed resource consents throughout the construction and operational phases, secured stormwater discharge consents and strategically staged the consenting process to meet tight timelines while maintaining compliance with environmental regulations.

Flood Protection

We supported our client with raising the floodwalls to provide protection for a 1-in-100-year flood event to protect low-lying areas of the community. This included design review, consultation with stakeholders including iwi, assessment of the provisions against the relevant planning framework, and the preparation and submission of a resource consent application.

Land Development, Amberley

We led the preparation of regional, land use and subdivision consents for a multi-staged 322-lot residential subdivision. The site contained natural wetlands, and the application included a number of assessments against the relevant National Policy Statement and National Environmental Standards. The land use application was subject to public notification and required preparation and presenting of expert evidence at the District Council hearing.

CIVIL ENGINEERING

Our civil engineers are problem-solvers and experienced in feasibility, design, construction monitoring and contract administration.

Dedicated to creating safe and sustainable environments, we excel in the design and management of essential facilities and infrastructure, including residential and commercial developments, as well as roading, three-waters (water supply, wastewater, and stormwater) and flood protection infrastructure.

With a focus on growing and connecting communities, we solve complex challenges and deliver comprehensive, sustainable and efficient civil infrastructure and water services.

Civil Infrastructure

Civil infrastructure plays a fundamental role in allowing our communities to function and thrive, providing critical services such as roading, water supply, wastewater, stormwater and flood management. We bring specialised skills to support the successful delivery of development and infrastructure projects that meet the unique needs of each community.

Water

Water is a natural taonga, a precious resource, which is being put under increasing pressure, and essential for the health and wellbeing of communities. While often considered from the perspective of three-waters, we believe that the natural states of groundwater, surface waterbodies, and marine waters equally require appropriate management. Our strength lies in building relationships and understanding the wider project, to offer practical and sustainable solutions to water challenges.

“Our civil team excels in delivering high-quality, resilient, and sustainable development and infrastructure that benefits society and the environment. We do this by seeking to understand projects holistically by collaborating with our clients and stakeholders and using our extensive technical skills to find efficient solutions.”

Gary Stevenson
Principal Civil Engineer

OUR PROJECTS

Ravenswood Development, Woodend

Provided multi-disciplinary services for a 150ha residential and commercial development located 20 minutes north of Christchurch.

CBD Stormwater Model

We have undertaken detailed rain on grid stormwater modelling of the flood risk to a South Island CBD and developed solutions for the community.

Intersection Upgrades

Designed and provided construction monitoring for two new roundabouts in Selwyn District to ease traffic congestion at major intersections.

UV Upgrades

Upgraded two water supply systems to meet government regulations and to help keep consumers safe.

STRUCTURAL ENGINEERING

Our team is passionate about solving problems, overseeing construction progress, and addressing opportunities as they arise.

We offer an extensive range of solutions, including innovative timber materials, concrete and steel structures, seismic assessments and foundation design. Whether you're constructing commercial buildings, architectural houses, or require retaining wall structures, we have the local expertise and knowledge to guide and support you throughout the process. Our comprehensive multi-disciplinary services bring everything together under one roof, simplifying the process.

Our structural engineering services

- Design of foundation systems
- Design of timber, cross laminated timber, steel, masonry and concrete structures
- Design of commercial and industrial buildings, including portal frame and tilt panel construction
- Structural design for architectural houses New Zealand wide
- Insurance and purchasers' reports
- Initial and detailed seismic assessments to determine the percentage of new building standard
- Design of structural seismic strengthening of buildings
- Damage reports and remedial works design
- Design of retaining wall structures
- Construction monitoring

"Our structural engineers build relationships. We love being on-site and watching the construction process unfold. We take the time to explain each step, offer advice, and use our experience to guide you through the whole process in a way that's easy to understand."

Alistair Wood,
Technical Director – Structural Engineering

The Belfast West & Allenvale schools are supported on approximately

3,200

metres of steel screw piles.

OUR PROJECTS

Taylors Mistake Surf Life Saving Club

Helped replace buildings damaged by the Canterbury Earthquakes within a challenging coastal environment. Our services included geotechnical investigations, the design and specification of the structural elements, as well as supervision for the buildings through the construction phase.

Belfast West and Allenvale Schools

Design of a new school campus which included teaching facilities, an administration building and a sports hall.

Taranaki Stream Crossing

Large scale culverts and headwalls to support the arterial road crossing, which formed part of the Ravenswood Development.

OUR PROJECTS

BELFAST WEST AND ALLENVALE SCHOOLS

01 – Project type

School

02 – Services provided

Structural engineering, geotechnical engineering, environmental sciences and civil engineering

03 – Client

Leighs Construction

04 – Region

Christchurch

05 – Project duration

2021 - 2024

Developing new school infrastructure to support a growing community.

To support future growth, the Ministry of Education embarked on a project to divide the existing Belfast School into two sites: developing a new Belfast West School campus for Year 5 to Year 8 students, and a facility for Allenvale School to cater to students with complex needs.

Leighs Construction was awarded the design and build contract, and we were engaged by Leighs to provide structural, geotechnical and civil engineering, as well as construction monitoring services. Working with the design team, we assisted in developing the master planning, preliminary, developed and detailed design stages as required by the Ministry of Education and contributed to the Design Review Panel consultations.

At each stage of design we considered costs, engaging in discussions with both Leighs and the Ministry of Education to make informed decisions about what materials to use as well as the construction methods.

- Designed and monitored construction of two single-storey school buildings and an administration/hall building at the Belfast West/Allenvale school site.
- The buildings feature steel portal frames with concrete slab foundations supported on steel screw piles.
- Building Information Modelling (BIM) and REVIT were used for structural modelling, structural and architectural coordination – facilitating the review of structural, architectural, and service designs, identifying and resolving any potential clashes between elements.
- To accelerate construction, the building consent was divided into three stages: foundations, superstructure, and fit-out. This necessitated developing the structural design ahead of the final architectural plan.

The buildings are supported on approximately

3,200

metres of steel screw piles.

HOKITIKA FLOOD PROTECTION

01 – Project type

Water

02 – Services provided

Geotechnical engineering, surveying, planning and civil engineering

03 – Client

West Coast Regional Council

04 – Region

Hokitika

05 – Project duration

2022 – Ongoing

Increasing the height of the existing embankment along the Hokitika riverbank.

Located on the banks of the Hokitika River, alongside a busy railway line, and a well-used recreation area, are the flood protection works undertaken for the West Coast Regional Council.

Consisting of multiple stages, the project has required expert coordination to minimise disruption to everything from a regionally significant dairy factory to walkers, cyclists, and the whitebait fishing season.

Over 30,000 tonnes

of rock were moved from the Camelback Quarry and placed on the riverbank.

- The project has involved significant earthworks, as well as modifying existing infrastructure and importing a large amount of quarried rock for armouring.
- We have assisted with all aspects including survey, geotechnical investigation and consenting.
- Collaboration with trusted contractors has enabled us to establish a network of monitoring bores to assess local geotechnical constraints, including long-term automated capture of groundwater data.
- Drone surveys and Pointcloud manipulation software allowed for accurate tracking of quantities, crucial for managing fast paced emergency work.
- Cloud-based filesharing enabled the direct upload of 3D design surfaces directly to machinery operators in CAD, allowing real-time coordination between design and construction.
- Stage 1 was completed under a tight timeframe as it was constructed as emergency works.
- We delivered efficiently and maintained a strong relationship with the client and project management team, which continues through the current project stages.
- The project's success is supported by the consistent value placed on face-to-face meetings, and regular communication with everyone involved, and early stakeholder engagement.

LEVI ROAD – INTERSECTION UPGRADE

01 – Project type

Infrastructure

02 – Services provided

Civil engineering, geotechnical engineering, structural engineering and survey

03 – Client

Selwyn District Council

04 – Region

Selwyn

05 – Project duration

May 2024 - Ongoing

Improving safety and traffic flow for pedestrians, cyclists and motorists.

The Levi Road Intersection Upgrade in Rolleston is designed to improve safety and traffic flow for pedestrians, cyclists and motorists on a key arterial route to the Rolleston township.

Located where Levi Road, Lowes Road, Lincoln Rolleston Road and Masefield Drive meet, the upgrade responds to growing traffic demands and aims to also improve access to a new Foodstuffs (South Island) commercial development, including a Pak'nSAVE supermarket.

A Developer Agreement between Foodstuffs and Selwyn District Council established how project costs would be shared, including new lane layouts for safe vehicle access, improved traffic queuing, traffic lights, signalised pedestrian crossings, dedicated cycle lanes, and road frontage upgrades and access for the new supermarket.

Working alongside Abley who developed the concept design, we were responsible for the detailed design, project management and construction monitoring for Council. Our multidisciplinary team provided additional expertise including pavement design, CAD, stormwater design, geotechnical engineering and surveying.

A key challenge was the tight timeline, with the initial concept design expected at the end of June 2024 following a May tender for the project. The design had to enable large trucks to manoeuvre safely, and the works required removing a significant hedge, relocating services and resolving clashes with existing infrastructure in a highly trafficked area. A further challenge was the flood risk on an adjacent lower-lying site.

Drawing on our experience from the Shands Road Intersection Upgrade, we worked closely with the client and service providers to help keep the project on track.

We secured an extension for the initial design, used structural asphalt (AC) to reduce excavation and minimise interaction with buried services, collaborated with Foodstuffs' designers with the onsite supermarket civil works, including implementing a sump to mitigate flood risk, and provided regular drone footage to keep the client and subsequently the community updated.

From Friday 4 April to Monday 7 April 2025, the road was closed to expedite the resurfacing, footpath completion, traffic light installation and landscaping. This concentrated effort aimed to reduce the project's duration by approximately three weeks, and the project remains on track for completion.

LOCHLEA LIFESTYLE VILLAGE (AND EXTENSION)

01 – Project type

Retirement village

02 – Services provided

Geotechnical engineering, survey, planning and civil engineering

03 – Client

BRV Holdings

04 – Region

Ashburton

05 – Project duration

2010 – 2022

Adding value through relevant experience.

The Lochlea Lifestyle Village in Ashburton is a high-density retirement village and residential development that has grown significantly over the years. We are proud to have been the lead consultant throughout the development, providing multi-disciplinary services to support its evolution.

The project unfolded in two key phases: the first, completed around 2010, consisted of 105 retirement village units and hospital care facilities. In 2022, an extension added 39 more units, further enhancing the village's capacity.

Our involvement covered both the residential and healthcare aspects of the development, including overseeing the engineering, surveying, and planning services, contract administration and construction monitoring, as well as civil design services for the private hospital.

Our involvement included 64 residential allotments, 106 apartment villas, 19 assisted care apartments, and an 80-bed hospital.

- Successfully managed the physical constraints for service trenches and underground infrastructure, minimising clashes between utilities and achieving proper falls for roads, piped services, and finished floor levels – all within the site's space limitations.
- Gained subdivision and land use consents from Ashburton District Council and land use and discharge consents from Environment Canterbury.
- Delivered the full engineering design for civil works, including stormwater management systems, the installation of a sewer pump station, contract administration, and construction monitoring – we also provided surveying services for both engineering set-out and legal boundaries.
- Due diligence was a priority throughout the project – we conducted extensive investigatory testing to minimise unforeseen risks for smooth progress.

RAVENSWOOD DEVELOPMENT

01 – Project type

Roading networks, infrastructure

02 – Services provided

Civil engineering, geotechnical engineering, surveying, planning and environmental sciences

03 – Client

Ravenswood Developments

04 – Region

Waimakariri District

05 – Project duration

2014 – Ongoing

Integrated, sustainable solutions to benefit the local community and environment.

Located 20 minutes north of Christchurch is the 150-hectare Ravenswood subdivision. It includes 25 hectares for commercial use and light industrial use, housing key tenants like Harvey Norman, New World, McDonald's, and BP, as well as 1,350 residential lots.

Since 2014, we've worked closely with Ravenswood Developments, providing comprehensive planning, surveying, structural, environmental, and civil engineering services across residential and commercial areas.

Working in close collaboration at each phase of delivery has been key to our success on this large project, and included working alongside stakeholders such as Ngāi Tūāhuriri, Waka Kotahi, and Environment Canterbury, Waimakariri District Council and adjacent landowners.

Our efforts have focused on sustainable solutions that protect the environment while meeting tight timeframes. It is a showcase of our ability to deliver sustainable, integrated solutions that benefit both the community and the environment, while addressing complex challenges through collaboration and innovation.

- Provided a wide range of services from land surveying and civil design to environmental management and structural engineering for both residential and commercial areas.
- Established a network of roads and roundabouts, redefining accessibility and fostering growth.
- An innovative, 30 metre, double-lane roundabout on Rangiora-Woodend Road now optimises traffic flow, prioritises safety, and supports both vehicles and pedestrians. It was customised for B-train and semi-trailer access.
- Successfully delivered multiple stages of the project from 2014 to the present, fast-tracking Stages 3 to 6 due to high housing demand, with the final stage currently in progress.
- Collaborated with stakeholders to secure non-notified stormwater discharge consents, avoiding costly court processes and ensuring compliance.
- Managed archaeological assessments and had cultural monitors present during excavations due to the cultural significance of the site. We also conducted ecological surveys, fish relocations, and ongoing monitoring of water quality and groundwater.
- Surplus soil re-use and disposal assessments to maximise re-use and minimise disposal of soil to landfill.
- Suggested ways to improve and repurpose the soil during earthworks through screening and mixing, improving farm drainage and helping to reduce flooding.
- Overcame challenging ground conditions with regular testing and inspections, ensuring robust pavement design and construction standards were met.
- Modified access arrangements and integrated a shared cycleway based on community input, ensuring the project met both safety and operational goals.

We designed all civil aspects of the project including over 600,000 m^3 of earthworks, four sewer pump stations, 4.2 km of Ø280 mm sewer rising main to the Woodend Wastewater Treatment Plant and 3.7 km of Ø355 mm high-pressure watermain from the Pegasus Water Supply.

SHANDS ROAD INTERSECTION UPGRADE

01 – Project type

Civil infrastructure

02 – Services provided

Civil engineering, geotechnical engineering, surveying and environmental science

03 – Client

Selwyn District Council

04 – Region

Prebbleton, Selwyn

05 – Project duration

2022 – 2024

Improving traffic flow and safety.

We were proud to work alongside Selwyn District Council to improve the safety, efficiency and connectivity of their roading network.

Selwyn District Council, with funding from Waka Kotahi, engaged us to manage the design and delivery of the Shands Road Intersection Upgrade. This project involved constructing two arterial roundabouts at the intersections of Shands and Trents Roads, and Shands and Hamptons Roads in Prebbleton.

Working as a multidisciplinary team, we provided a range of services including civil and geotechnical engineering, environmental science and surveying, working alongside other consultancies for traffic engineering, landscape architecture and streetlighting design.

10,431
images have been taken of the project site (so far).

1,432m³
of asphalt moved for the intersection upgrade.

- We managed the design and construction of two major roundabouts, improving traffic flow and safety at key intersections.
- Our design process included key elements such as geometric design, safety audits, drainage design, landscaping and construction documentation.
- The project scope was expanded to include the design and delivering a two kilometre watermain along Shands Road, as well as the delivery of the Trents Road seal widening and a watermain extension.
- Facilitated the role of Engineers Representative, where we undertook all contract administration and construction monitoring.
- Our LiDAR drone was often onsite, taking aerial photographs that captured progress.
- Successfully managed a complex infrastructure development, delivering impactful improvements to the local roading network.

TAYLORS MISTAKE SURF LIFE SAVING CLUB

01 – Project type

Structural

02 – Services provided

Geotechnical and structural engineering

03 – Client

Taylors Mistake Surf Life Saving Club

04 – Region

Christchurch

05 – Project duration

Design 03/10/19 and Site Supervision 21/01/21

Providing long-term, resilient solutions.

Taylors Mistake, known for its stunning scenery and powerful surf, is one of Canterbury's most picturesque beaches. Situated at the edge of the beach, and adjacent to sand dunes southeast of Christchurch, is the Taylors Mistake Surf Life Saving Club.

Unfortunately, the Canterbury earthquakes caused significant damage to their clubrooms, and the Club had to operate out of portacoms on the beach.

The result is a beautiful new building with a gear shed behind it, now enjoyed by many, including several keen surfers at DO.

- The building had to be designed with sea level rise and coastal erosion in mind.
- The site falls within a Coastal Hazard 1 Zone, with projected erosion of 3 metres and a 0.6-meter sea level rise over 50 years.
- The ground conditions included loose dune sands, over a band of dense sand, below which the natural sands were likely to be liquefiable.
- The new foundation system required timber piles founded in the dense sand layer.
- The design of the above ground structure allowed for its location within a sea spray zone, with appropriate specification of steel and concrete elements to provide long term durability.
- The Taylors Mistake Surf Life Saving Club is over 105 years old.

THE MEADOWS AND BERRYFIELDS DEVELOPMENTS

01 – Project type

Residential development

02 – Services provided

Planning, civil engineering, geotechnical engineering and surveying

03 – Client

Richmond West Development Company Limited, Appleby Fields Limited, Appleby54 Limited, Richmond West Limited Partnership, and Wensley Road Developments Limited

04 – Region

Nelson

05 – Project duration

Staged development over six years so far

The new suburb – Richmond West.

Over the last six years, we've supported five development companies who have collaborated to provide trunk main services for their developments, resulting in nearly 1200 new residential allotments.

Just ten minutes from Nelson airport, on the edge of Richmond Township, is a growing residential subdivision – Richmond West. This large development has required a collaborative effort across our team, with people from our Christchurch office helping our Nelson team keep-up with the pace of expansion. At times, multiple stages were being constructed simultaneously, and at one point we had five different contractors working on five different stages within the area.

In the planning stages for this development, the Government projected that by 2028, an additional 320 primary, 130 intermediate and 390 secondary places were expected to be needed in the Waimea catchment. To support this, they purchased a 3-ha block of land in The Meadows development to allow for a new primary school.

- We were engaged to undertake the master planning, surveying, civil, hydraulic and geotechnical design, as well as contract administration during construction of the various stages of development.
- We designed a comprehensive low pressure sewer network, facilitating significant development within the Lower Queen Street area.
- Low pressure sewer networks are now an accepted technology in New Zealand and are essential for flat areas such as Richmond West.
- The Meadows development has a commercial hub with a café, bar, dairy, and wildflowers.
- There are seven pocket park reserves throughout the developments, along with the 70-metre-wide Borck Reserve that runs the length of area, providing a large recreational space and flood resilience for the area.
- Adjacent land has developed into a retirement village and a commercial area featuring a movie theatre, local bar, burger bar, pizza store and preschool.
- Titles have issued for most of the stages, with works continuing for the remaining few stages.
- In 2021, the Meadows Crossing Bridge over Borck Stream was completed, linking Lower Queen Street and McShane Road.
- Much of the land has been developed under Tasman District Council (TDC) approved, Special Housing Area (SHA) consents, covered by the Housing Accords and Special Housing Areas (Tasman) Order 2017.

UV UPGRADES AT WEST EYRETON AND OHOKA

01 – Project type

Water networks/treatment

02 – Services provided

Survey, geotechnical engineering, structural, engineering and civil engineering

03 – Client

Waimakariri District Council

04 – Region

Canterbury

05 – Project duration

2024 – 2025

Providing assurance of safe, clean drinking water.

To provide Waimakariri District Council (WDC) with ongoing assurance that water in the district would continue to comply with the bacterial and protozoal requirements of the Drinking Water Quality Assurance Rules (DWQAR), we're helping install two new UV water treatment systems.

Achieving the aim of continuing to comply with the DWQAR requires a multi-disciplinary, collaborative approach. To date, it has involved our survey team, and geotechnical, structural and civil engineers, designing the new buildings and supporting services for the addition of the UV water treatment systems.

- Our survey and geotechnical teams conducted the initial investigations including use of Ground Penetrating Radar (GPR) to trace the existing site services. This information enabled us to confirm the location and sizes of the existing treatment systems and supporting services against the current plans.
- The detailed site information was then used by our civil and structural teams to complete the design of the new buildings for the UV water treatment systems, as well as the designs for relocating the supporting services.
- The UV reactors are manufactured in Europe and take three to six months to arrive, therefore we worked with the WDC to agree the treatment requirements early so the UV reactors could be procured asap.
- After completing our surveying, we discovered one of the sites was bigger than WDC realised.
- Throughout the project, we've been collaborating with the client – this has ensured we've consistently clarified their expectations into a cost-effective design.
- The designs were delivered within agreed timeframes – to achieve the best outcome they were regularly reviewed against WDCs standards.

Design flows (50-year projections) for the sites:

30 litres/second
West Eyreton

14.2 litres/second
Ohoka

WESTPORT ALTERNATIVE WATER SUPPLY

01 – Project type

Water

02 – Services provided

Civil engineering, geotechnical engineering and environmental science

03 – Client

Buller District Council

04 – Region

West Coast

05 – Project duration

2023 - 2024

Improving the reliability of Westport's water supply.

As part of ongoing development planning to improve the reliability of Westport's water supply, Buller District Council (BDC), with funding from the National Emergency Management Fund, began investigating alternative water sources.

They sought a solution that would support future growth, be cost-effective to implement and maintain, and avoid high-risk or hard-to-access options.

We were initially engaged to undertake a desktop study to identify alternative groundwater and surface water sources. Our report was presented to BDC in person and showed 22 potentially viable options that could be investigated further. With a solid understanding of the project and client's objectives, we were subsequently asked to complete a high-level pre-feasibility review of their two preferred options:

- a shallow groundwater take from old, buried river channels, which are expected to occur close to the west bank of the Buller River; and
- a surface water take from Mountain Creek approximately 12 km south-southwest of Westport.

The biggest challenge in completing our high-level pre-feasibility review was the lack of available data. Several studies had considered alternative water sources for Westport, but most of these looked at options on the east bank of the Buller River.

Through a combination of technical expertise, research and local knowledge, we explored the two preferred options, looking at the local geology and surface water catchments, water quality, flood hazard impacts, as well as the estimated cost to convey water from the sources, provide compliant treatment and distribute it to the town reticulation.

The outcome was a report that provided BDC with concise information about each of the potential options and recommended next steps.

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