CLL Mangamuka Gorge Slip Repairs

SERVICE & SOLUTIONS

CLL GROUP (CLL) is a well-established construction company specializing in piling, ground improvements, slip stabilization, ground anchors, retaining walls, civil structures, drainage, and contaminated site remediation. With extensive experience across these disciplines, CLL has built a strong reputation as a reliable and innovative industry leader.

At CLL, we pride ourselves on being at the forefront of ground improvement and piling techniques, leveraging advanced European technologies that set us apart. These cutting-edge systems allow us to tackle complex challenges efficiently, often eliminating provisional tags from tenders and streamlining project delivery. Our collaborative approach ensures that we work closely with your design consultants to develop cost-effective, fit-for-purpose solutions for in-ground challenges.

As part of our commitment to strong partnerships, we offer our expertise and time at no cost—providing indicative pricing and tailored recommendations to help achieve project goals efficiently.

CLL employs 250+ professionals, including engineers, project managers, estimators, machine operators, tradesmen, and skilled labourers. Our workforce includes specialist piling crews and industrial rope access teams, as well as tradesmen such as carpenters, mechanics, and formwork specialists.

OUR EXPERTISE

Geotechnical & Civil Engineering Solutions

- Piling solutions (Olivier Piling, CFA, Bored, Driven, Sheet Piling)
- Retaining and stabilization systems
- Ground anchors and soil nailing
- Deep foundation and ground improvement techniques

Critical Slip Rehabilitation & Drainage

- Earthworks and slope stabilisation
- Cross road drainage and culvert installation
- Swale and water diversion systems
- Manhole and bored drain installations

Specialized Construction Services

- Bridge and structure foundations
- Marine piling and coastal protection
- Infrastructure resilience solutions
- Sustainable construction initiatives

WHY CHOOSE CLL?

- **Industry Leadership:** Cutting-edge European piling and ground improvement technologies.
- **Experience & Expertise:** Decades of experience in delivering large-scale infrastructure projects.
- **Innovative Methods:** Leaders in advanced piling and geotechnical stabilization.
- **Sustainability Focus:** Commitment to environmentally friendly construction practices.
- **Safety & Quality Assurance:** Adherence to the highest industry standards.
- **Project Delivery Excellence:** Proven track record of delivering projects on time and within budget.

LET'S WORK TOGETHER

We welcome opportunities to collaborate on upcoming projects. Get in touch to discuss how CLL can bring value to your project by contacting the person who gave you this brochure or via our branches located on the last page of this document.

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ENGAGEMENT & CULTURAL PARTNERSHIP

The SH1 Mangamuka Gorge project involved repairs to critical landslips within a culturally sensitive 13km stretch of highway.

The summit holds significance to multiple iwi (Ngati Kahu, Te Paatu, Te Rarawa, Ngapuhi) — hapū closest to the project works Te Paatu to the north and Ngā Hapu o Mangamuka to the south.

Engagement required tailored, respectful, and site-specific collaboration throughout the entire project lifecycle.

ENGAGEMENT SNAPSHOT

- 30+ in-person hui held across both sides of the gorge
- Developed tailored engagement plans for two iwi, respecting independent tikanga
- Embedded cultural monitors into site activities
- Enabled access for iwi representatives during construction phases
- Collaborated on design elements impacting whenua or waahi tapu
- Adjusted erosion and sediment controls to align with iwi preferences
- Co-facilitated karakia pre- and post-works
- Delivered project updates using visual, accessible formats for whānau and kaumātua

OUTCOMES

- No formal objections or escalated complaints from iwi
- Works delivered without cultural breach or conflict
- Strengthened CLL's credibility and reputation in Te Tai Tokerau
- Set precedent for future engagement on Crown land and State Highway projects

Key Project Information & Client Reference Sheets

CLL has successfully delivered projects for government agencies, local councils, and private sector clients across New Zealand. Our portfolio includes major infrastructure projects, slip remediation, and specialized piling solutions that have improved the resilience of transport networks and essential infrastructure.

We are able to provide you with our up-to-date presentations, demonstrating our cutting edge technologies and case studies should you require, and you can visit our Linked In page and website for more visual content, or at your request we can provide you with links to these.

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PROJECT INFORMATION SHEET

MANGAMUKA GORGE SLIP REPAIRS

LOCATION	SH1 MANGAMUKA GORGE, KAITAI, NORTHLAND
CLIENT	NZTA WAKA KOTAHI
START & FINISH DATES	FEBRUARY 2023 - ONGOING
VALUE	$200M CIRCA

PROJECT OVERVIEW

The Mangamuka Gorge Slip repairs and rehabilitation project is a major infrastructure initiative located on State Highway 1 (SH1) within the Maungataniwha Ranges, an area of significant natural importance in New Zealand. This project involves the remediation of multiple large slips in a highly sensitive environment, focusing on stabilising the terrain, restoring safe road access, and mitigating environmental impact.

CLL has been engaged as the construction contractor for the entirety of this project, bringing our expertise in geotechnical solutions, complex piling, and environmental management to ensure the successful completion of these critical works.

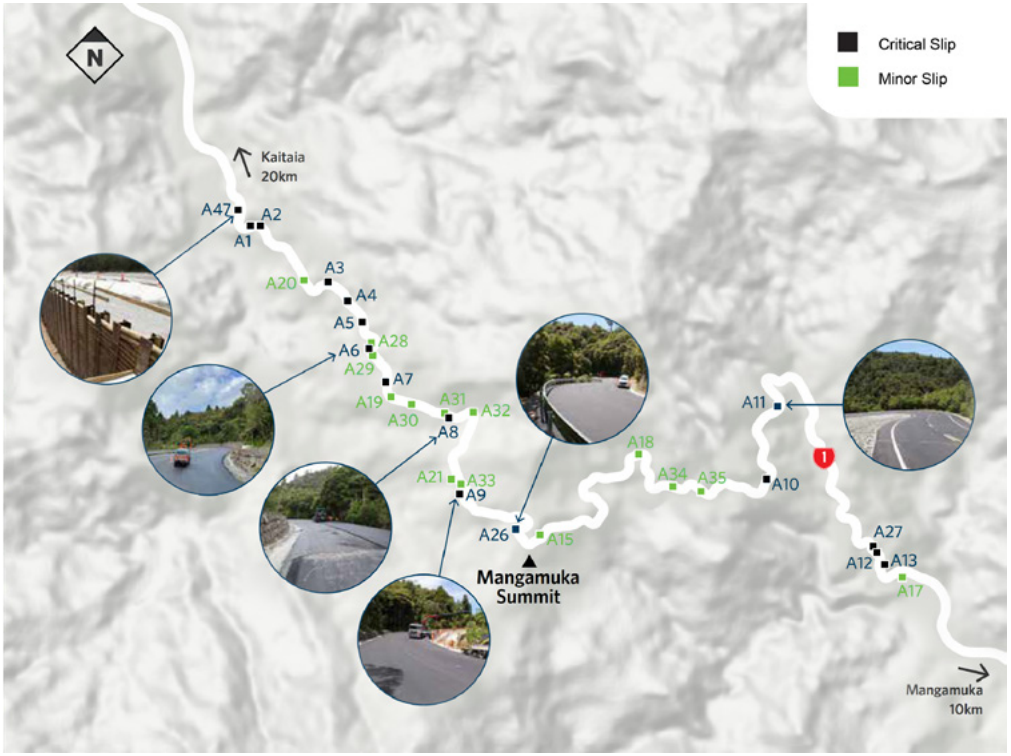
Another innovation on the site is a retaining wall that has now set the standard for such walls on other Waka Kotahi projects, according to Hendrik Postma, NZTA Senior Project Manager.

The wall was constructed by CLL as a subcontractor after the 2020 slips, and after the 2022 slips, the team was surprised to see the wall had held up far better than expected.

“It’s not a cheap fix, but it definitely works and is now being used on other projects because it’s so good,” Postma said.

Mark Ware, NZTA Project Director, highlighted the extreme weather challenges faced during the project: “The past year was one of the wettest on record, with over one metre more rainfall than the historical average in the area. Usually, the region gets approximately 1700mm of rain in 12 months – in contrast, over the past year there’s been over 2800mm of rain.”

Ware further explained the geological difficulties of the region: “Northland’s ground conditions (including through the Maungataniwha Range which surrounds Mangamuka Gorge) have always been fragile. Almost 70 per cent of the geological material which forms rocks in the region is made up of Northland Allochthon, better known as ‘Northland Problematic Rock.’ This type of material has long been challenging for construction and maintenance of roads, and means repairs to slips of this nature need to be carefully planned, since finding competent material to anchor the road to can be difficult.”



DESCRIPTION OF WORKS AND KEY FACTS

The project encompasses extensive earthworks to remove debris and reshape affected slopes, ensuring the long-term stability of the region. Pavement reconstruction involved milling damaged surfaces and installing new asphalt layers, with waterproof membranes applied to enhance durability.

A key component of the rehabilitation was the installation of permanent pile walls, reinforced with anchors to provide additional lateral support, distributing load forces effectively and ensuring slip areas remain stable. Given the project's proximity to waterways, strict environmental management practices were implemented, including erosion control, sediment containment, and ongoing environmental monitoring.

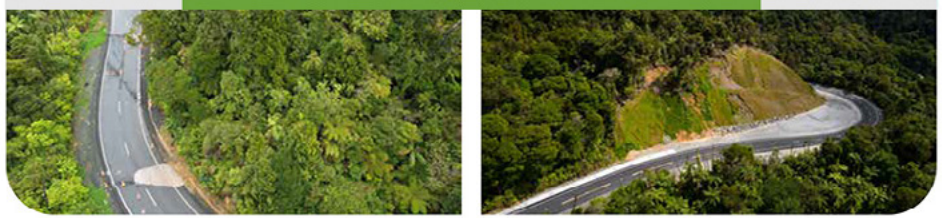
Collaboration with local iwi and environmental stakeholders was central to ensuring that cultural and ecological values were upheld.

30 August 2022 | **Slip A3** | 28 November 2024

30 August 2022 | **Slip A5** | 28 November 2024

30 August 2022 | **Slip A9** | 28 November 2024

11 October 2023 | **Slip A11** | 3 December 2024



30 August 2022 | **Slip A12** | 28 November 2024

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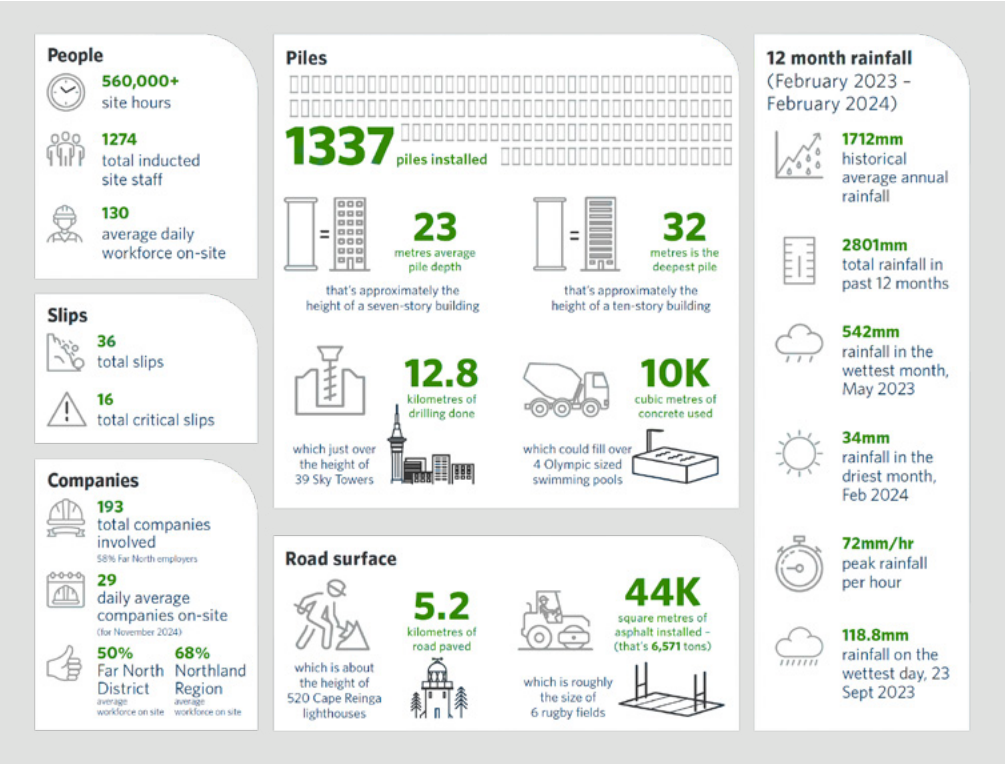
PROJECT FACTS AND FIGURES



ACCELERATED PROCUREMENT PROCESS

The accelerated procurement process used by NZTA for the Mangamuka Gorge project was designed to fast-track the selection of a construction contractor due to the urgency of the repairs. This approach is often used in situations where time is a critical factor, such as emergency road repairs after severe weather events.

Here's what it likely involved:

Key Features Of The Accelerated Procurement Process

1. Direct Engagement with Experienced Contractors – NZTA engaged directly with contractors who had proven expertise in geotechnical and slip remediation works.
2. Cost-Reimbursable Model – A flexible contract structure allowed work to commence before a fully detailed scope was established.
3. Early Contractor Involvement (ECI) – Contractors were brought in early to provide input into design and constructability, expediting the overall timeline.
4. Streamlined Decision-Making & Approvals – Reduced bureaucratic hurdles allowed for quick approvals and project initiation.
5. Collaborative Delivery Approach – Frequent communication and teamwork between NZTA, consultants, and CLL ensured efficient problem-solving and adaptability.

BENEFITS OF THIS APPROACH

- Faster Project Start & Completion – Critical infrastructure repairs progressed without lengthy procurement delays.
- Flexibility for Scope Changes – The ability to adapt to evolving site conditions without significant contract renegotiations.
- Stronger Contractor Commitment – Early engagement fostered a sense of ownership and accountability for successful delivery.

WHY THIS MATTERS FOR CLL MOVING FORWARD

Since this project was CLL's first as a Tier One contractor, the success of the accelerated procurement model strengthens the case for NZTA to continue using cost-reimbursable contracts and direct engagement with capable contractors like CLL for future projects. This model ensures agility, cost efficiency, and effective risk-sharing - key factors in delivering complex infrastructure repairs.

PROJECT EXECUTION AND COST MANAGEMENT

The project commenced as an emergency response under a cost-plus contract due to the absence of a predefined design. As design concepts evolved, procurement of long-lead items, such as 1,050mm-diameter steel casings, led to cost savings estimated at $1 million. Construction budgets were developed in alignment with the progressive design and reported to the Client's Quantity Surveyor (QS).

Throughout the project, financial oversight was maintained through:

- Monthly progress claims
- Cost forecasts
- Cashflow management to ensure budget adherence

Collaboration with the Client's QS ensured financial transparency and accuracy in reporting. Once the final scope was established, additional budgets were prepared to support funding applications.

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CHALLENGES AND INNOVATIONS

- Minimising SH1 Closure: To expedite the project and reduce the impact on local communities and freight operators, night shifts were introduced to enhance productivity while mitigating material supply constraints.
- Adapting to Weather and Site Conditions: The implementation of a Trigger Action Response Plan (TARP) meant construction had to be paused during heavy rainfall or when slip sensors detected movement. Despite these challenges, the team successfully navigated disruptions.
- Holiday and Weekend Works: Approval was granted to work through the Christmas break and long weekends to maintain momentum on critical-path activities. This strategic scheduling helped mitigate delays and ensured steady progress.

CONCLUSION

The SH1 Mangamuka Gorge Slip Repairs Project stands as a testament to CLL's ability to deliver complex geotechnical solutions while balancing environmental stewardship and community engagement. This project highlights our expertise in large-scale slip remediation, sustainable construction methodologies, and effective stakeholder collaboration.

With a commitment to safety, innovation, and excellence, CLL has successfully restored this vital transport corridor, ensuring long-term resilience and connectivity for the Northland region.

NZTA PROJECT REPRESENTATIVES

- NZTA Waka Kotahi Mangamuka Senior Project Manager, Hendrik Postma
- NZTA Waka Kotahi Mangamuka Project Director, Mark Ware
- NZTA Waka Kotahi Project Director, Norman Collier
- Mangamuka-born-and-bred, Tomo Otene, the project's Ngā Hapū o Mangamuka Representative.
- Far North District Councillor, Steve McNally
- Regional Transport Committee Chair, Joe Carr
- Steve Mutton, Director Of Regional Relationships for NZ Transport Agency Waka Kotahi

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CATEGORY 1 - SAFETY

All initiatives were developed and implemented between contract award on 21 February 2023 and road reopening on 20 December 2024, with the final audit in February 2025 covering the remaining anchor installation.

CREDIBLE DETAIL

The SH1 Mangamuka Gorge Slip Repairs project faced extreme safety challenges — unstable geotechnical conditions, remote access, ongoing severe weather events, and high-risk construction activities such as piling and anchoring. Despite this, the project maintained an exceptional safety record with only 1 Lost Time Injury (LTI), 3 Medically Treated Injuries (MTIs), and 14 First Aid treatments across 560,000+ site hours.

Over 1300 workers were inducted, representing 193 companies, with an average of 130 workers and 29 companies on-site daily. Safety was embedded from the outset, with clearly defined roles, robust on-boarding, and ongoing worker education.

RISK REDUCTION

A structured permit-to-work system governed all high-risk tasks, including crane lifts,night works, and confined space activities. Risk mitigation was proactive, with 1,642Hazard Identifications recorded by the workforce and safety team. The project ran 169toolbox talks, 307 site inspections, and 66 subcontractor H&S Committee Meetings,demonstrating constant safety reinforcement and worker involvement. 424 Safety Engagements were also completed, ensuring open communication and empowering all personnel to speak up and act on safety concerns.

INNOVATION

Fatigue management was a key focus due to the 24/7 shift environment and remote setting. Measures included scheduled breaks, hydration stations, rest areas, and real-time environmental sound monitoring during night works to reduce community disruption and protect worker well being. Continuous improvement was encouraged through a feedback loop that informed updates to shift planning, work zone layout, and risk controls.

BEYOND COMPLIANCE

A full Erosion and Sediment Control (ESC) Plan was implemented — going above emergency work requirements that did not require resource consent. This not only protected the environment but also reduced site instability risks to workers. Cultural protocols were integrated into H&S processes in collaboration with iwi, including material management across tribal boundaries and engagement with cultural monitors, fostering mutual respect and safe outcomes. The effectiveness of this approach was reflected in independently conducted Health and Safety Audit scores across the project's life:

- Feb 2024: 98%
- Apr 2024: 96%
- Jun 2024: 94%
- Aug 2024: 92%
- Oct 2024: 93%
- Feb 2025 (Final Audit): 97%

These consistently high scores reinforced the project's strong safety performance and its commitment to continuous improvement.

WIDER APPLICATION

This multi-layered safety model—combining proactive worker participation, subcontractor collaboration, fatigue risk management, environmental integration, and cultural safety practices — can be adopted across similar high-risk, remote infrastructure projects in Aotearoa.

ORGANISATION SIZE

For a medium-sized contractor such as CLL, managing the safety of 1300+ inducted personnel and driving a high-performance safety culture across 193 companies is a significant achievement.

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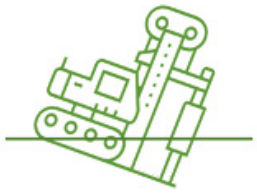
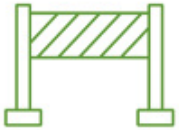
NON-NEGOTIABLES

NO LIFT IS TO BE DONE WITHOUT A LIFT PLAN IN PLACE



GEOTECH APPROVED PILING PLATFORMS MUST BE IN PLACE

NO MACHINE OR VEHICLE MOVEMENT WITHOUT A SPOTTER



ISOLATE PILING ZONE USING SIGNAGE AND BARRIERS

NEVER LEAVE OPEN HOLES UNCOVERED

DO NOT BREAK GROUND UNTIL PERMIT TO DIG HAS BEEN ISSUED

NO CELL PHONE USE WHILE DRIVING OR OPERATING

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CORE VALUES


Integrity
We are straight forward and ethical.
We are astute and considerate.
Courage
We take personal responsibility.
We are confident in our ideals.
Selflessness
We put service and people first.
We respect and share knowledge with each other.
We give others confidence and promote growth.
Innovation
We are strive to think, feel and act - rather than react.
Weare innovative and receptive to new ideas.
Respect
We have respect for ourselves, each other, our clients, the environment, and our plant & equipment.
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