GRIP ENGINEERING

GUIDANCE. RESULTS. INTEGRATION. PERFORMANCE

Engineered Smarter.
Devilered Differently.

New Zealand's first mechanical and hydraulic engineering consultancy operating a fully integrated AI design framework

GRIP Engineering is a specialist mechanical and hydraulic building services consultancy founded by Steve Langley CPEng — a Chartered engineer with extensive project experience across New Zealand's construction and infrastructure sectors. While most consultancies are only just beginning to explore digital tools, GRIP has been designed from the ground up around a fully integrated AI design framework that transforms how engineering services are scoped, delivered, and documented.

The GRIP AI Framework — A New Standard for Engineering Delivery

While the industry is still debating how AI might one day change engineering, GRIP is already using it. No other mechanical or hydraulic building services consultancy in New Zealand has embedded artificial intelligence across its entire design and delivery workflow — from initial brief through to construction documentation.

The result: *you receive faster turnaround, higher documentation accuracy, and better value — not in spite of rigorous engineering standards, but because of a smarter framework built around them*

Factor	Traditional Consultancy	GRIP Engineering
Engineer Access	Junior staff; senior access limited	Chartered Principal Engineer — every project
AI & Technology	Manual workflows; AI adoption minimal	Fully integrated AI design framework — industry-first in NZ. h2x design software for complex designs and large projects
Turnaround	Slower — multiple review layers	Faster delivery through digitally optimised workflows
Cost	High fees reflecting overhead & staffing tiers	Competitive senior-level rates with minimal overhead
Communication	Multiple contacts; information lost in layers	Single point of contact — direct, clear, responsive
Flexibility	Rigid engagement structures	Adaptable scope, tailored to your project
Geographic Reach	Often limited by office location	Nationwide via modern remote collaboration

Four Reasons That Matter

01.
AI-First Delivery

The only NZ mechanical engineering consultancy with a fully integrated AI design framework — delivering work **faster**, more **accurately**, and more **cost-effectively** than traditional models.

Proprietary GRIP AI Assistant
A purpose-built internal engineering knowledge tool — developed specifically for GRIP's methodology and NZ practice.

Smart Proposal Generation - Fee proposals and project set-up produced quickly and accurately from the first enquiry

Automated Documentation - Technical reports, specifications, and compliance documents generated at speed — not days.

Rapid Load Analysis - Initial thermal, hydraulic, and system sizing completed faster with AI-assisted calculation workflows. Industry leading h2x software is used for rapid HVAC and Hydraulic detailed designs, with AutoCAD and Revit files produced directly from the software.

Design Coordination Notes
Automated coordination outputs keep architects, contractors, and project managers aligned in real time

Standards & Compliance Intelligence
NZ Building Code, Green Star, and H1 references embedded in workflow — reducing errors and omissions.

02.
Senior Engineer. Always

Steve Langley CPEng is your engineer from brief to completion. No junior hand-offs, no information lost in layers of management

03.
REAL Value

Low overhead means you pay for senior expertise and smart technology — not office space, management layers, or junior admin. Value that scales with your project.

04.
Rapid Response

One contact. Direct answers. Fast responses. GRIP is structured to remove the friction that slows projects down in larger firms.

THE GRIP ENGINEERING DIFFERENCE

Same expertise. Faster delivery. Lower cost.

GRIP Engineering uses an AI-powered design framework to automate the repetitive, time-consuming tasks in building services engineering — preliminary load calculations, equipment schedules, specification writing, compliance checks and documentation — so that every hour you pay for is senior engineer time.

Factor	Traditional Consultant	GRIP Engineering model
Fee	$300,000–$407,000	$207,000
Delivery time — Concept report	3–4 weeks	3–5 days
Delivery time — Full tender package	12–16 weeks	6–8 weeks
Standards compliance check	Manual, periodic	Automated, every calculation
Equipment schedules	weeks	Auto-generated same day
Specification	Assembled manually	AI-generated, engineer reviewed
Engineer seniority	Mixed team	Principal CPEng throughout
Your saving		**$93,000 – $200,000**

(Typical example based on a sample project. Actual fees may differ from figures shown)

Speed. Accuracy. Transparency. Standards currency. Senior judgment. Value

- AI generates in minutes what takes others weeks
- Every output auto-cross-referenced to current NZBC, NZS, ASHRAE and CIBSE standards
- Full audit trail, every assumption shown
- Live links to MBIE, Standards NZ and NIWA — never an outdated reference
- You pay for expertise, not admin
- Market-leading fees without compromising on quality or compliance

Complex and Detailed Design

GRIP is committed to utilising the best tools available. Detailed design is produced using h2x — purpose-built, industry-leading mechanical and hydraulic engineering software with integrated pipe sizing, pressure analysis, flow calculations, and code-compliant documentation outputs.

Services

Mechanical and Hydraulic Engineering Design

Design of mechanical and hydraulic systems including:

- HVAC systems
- Heating and cooling systems
- Ventilation systems
- Plant room design
- Hydraulic services - Domestic Water and Sanitary Drainage design
- Energy efficient system strategies
- H1 Assessments
- Industry-leading Design software - h2x

Independent Reviews and Quality Assurance

Independent technical reviews for design teams and project stakeholders including:

- Design peer reviews
- Compliance assessments
- Independent QA reviews
- Technical advisory

Compliance and Certification Support

Advisory services to assist with regulatory and sustainability compliance including:

- Green Star certification support
- Independent Commissioning Agent (ICA) services
- Design compliance reviews
- Construction phase verification

BIM Coordination & Delivery

BIM production is delivered through GRIP's network of specialist BIM technicians, working directly to GRIP's design intent and coordination requirements.

- Federated model coordination
- Clash detection and resolution
- IFC / open BIM deliverables

GRIP manages the BIM coordination process end-to-end — ensuring that what is modelled accurately reflects design intent, and that the model is a genuinely useful tool for the full project team.

Site Observation and Construction Support

Providing engineering oversight during construction including:

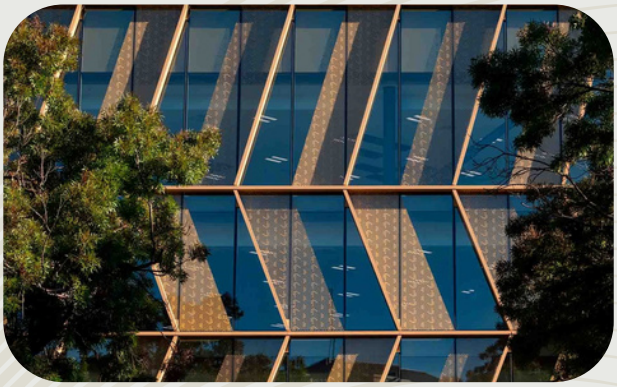
- Site inspections
- Construction monitoring & PS4
- Engineering observation reports
- Contractor technical support

Project Experience

A Selection of Key Projects across New Zealand

- Court Theatre, Christchurch
  - Cromwell Memorial Hall, Cromwell, Otago
  - iFLY Indoor Sky Diving, Queenstown
  - Chinese Abundant Life Church, Christchurch
  - Hallenstein St Apartments, Queenstown
  - SIT St John's, Invercargill
  - Aldersgate Church, Christchurch

- PWC Building, Christchurch
  - Juniper Place Apartments, Queenstown
  - Ellerslie Tongan Methodist Church, Auckland
  - Pacific Islander Church, Porirua
  - Sofitel, Queenstown
  - Queenstown Central, 5 Mile
  - Ascot Park Hotel, Invercargill
  - Invercargill City Council Office Building
  - Nugget Point Hotel (now Coronet Ridge)



- ACC Ōtepoti, Dunedin
  - 645 Frankton Road Apartments, Queenstown
  - QAC Domestic Lounge Expansion
  - Invercargill Airport
  - Les Mills, Meridian Mall, Dunedin
  - Ivoclar facility, Auckland

- Te Unua Southland Museum, Invercargill
  - Ryman Healthcare, Havelock North
  - Ryman Healthcare, Petone
  - Ryman Healthcare, Birkenhead
  - Metlifecare Orion Point, Auckland
  - Spotlight, Auckland

What GRIP Delivers

Same outputs, delivered different.

01 **Concept** Feasibility & brief	• Initial building analysis — size, use, orientation, and services strategy • Preliminary thermal and hydraulic load assessment • Mechanical and hydraulic system options and feasibility advice • Energy performance strategy and sustainability direction • Preliminary H1 compliance review
02 **Preliminary Design** Options & strategy	• AI-assisted Preliminary system selection, sizing, and configuration • Plant room and services zone space planning • AI-assisted Services strategy report for design team coordination - cost, energy and functionality. • Developed energy efficiency strategy and H1 assessment • Preliminary services layout and service routing
03 **Developed Design** Coordination & resolution	• Developed mechanical and hydraulic system design and drawings • Design progression using H2X software. AI-assisted Equipment selection, scheduling, and performance specification • Cross-discipline coordination with architectural and structural teams • AI-assisted Design compliance review against NZ Building Code
04 **Detailed Design** Full documentation	• Full detailed design drawings, specifications, and schedules • AI-assisted Equipment data sheets and performance verification • NZ Building Code compliance documentation • H1 final assessment and certificate of compliance
05 **Tender** Procurement support	• Tender documentation review and technical input • Response to contractor technical queries (RFIs during tender) • Tender submission technical assessment and comparison • Contractor capability review for mechanical and hydraulic scope • Tender package review and contractor pre-qualification support
06 **Construction** Observation & oversight	• Site inspections and construction observation visits • Construction monitoring against approved design documentation • Technical response to contractor RFIs and design queries • Review of shop drawings, product submissions, and substitutions • Engineering observation reports issued to project team • Contractor technical support and site coordination
07 **Commissioning & Sign-off** Verification & testing	• Commissioning oversight and system performance verification • Witness testing of mechanical and hydraulic systems • Review of commissioning records, test results, and reports • Defects identification and contractor rectification follow-up • Building tuning and initial optimisation support

About Me

Steve Langley

CPEng, CMEngNZ, BEng(Hons), IntPE(NZ)

Above all, Steve values clear communication, reliability and delivering solutions that simply work — technically, commercially and environmentally.

As Founder of GRIP Engineering, Steve set about providing something every other Consultant continually struggled with - better service, more accurate, faster results and better value, every single time.

Steve has over 18 years' experience delivering practical, well-considered mechanical and hydraulic design solutions with top-tier multi-discipline consultancies across New Zealand and the UK. Steve's project experience spans high-profile work including airport terminal upgrades, performing arts facilities, large-scale fitness centres, multi-storey residential and mixed-use developments, civic administration buildings, hospitals & aged care facilities, large commercial office developments, commercial fit-outs and hotel refurbishments. Steve has managed multidiscipline design teams, mentored emerging engineers, and served as both project lead and independent commissioning agent across a broad range of project scales and complexities. He holds chartered status with Engineering New Zealand (CPEng #1027433) and is recognised as an International Professional Engineer (IntPE(NZ) / APEC Engineer)

Based in the Queenstown–Lakes region, Steve combines strong technical capability with a collaborative, down-to-earth approach. Steve has successfully built strong client partnerships and an excellent reputation across the South Island, and continues to secure significant new project work across the country. He understands both the technical and commercial drivers of a project, and works proactively to support design teams, contractors and clients alike.

Promises kept. Deliveries met. Quality output guaranteed.

He aha te mea nui o te ao? He tāngata, he tāngata, he tāngata

Ready to experience engineering delivered differently?

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