



mesh
we engineer.

CAPABILITY STATEMENT.

Introduction

We are a new breed of building services consultant who thrives off communication and proactive engagement.

Our team of 19 are highly experienced, qualified professionals, handpicked at the top of their game. They have a talent for working alongside their clients to understand their needs & deliver results. We are a client-focused team, who genuinely believe that collaborative teamwork results in project success.



Relatively new to the market, but our team are not, they have built their reputations in the New Zealand market over the last 30 years by delivering robust and considered solutions across multiple industry sectors.

Successful project delivery is a result of clearly and simply communicated technical expertise. We have built our team around this philosophy; and are proud to say that when you engage with us, we will deliver in this way.

Our Point of Difference

Mesh was founded on the firm belief that building services consultants must be engaged and active members of the design team.

We are committed to the project journey and focused on delivering the very best outcome through continual communication, refined engineering design, and crafting our approach to suit our client's requirements.

Our approach to delivering successful projects in today's market is focused around:

Project Governance:

Our view is that projects need more experienced and senior input to ensure robust analysis and informed decision making from the outset of the project. To achieve this, we veer away from the norm; our directors are actively involved with our projects and contribute to project meetings.



Tailored & Engaged Approach:

For us, flawless project execution is about having a clear understanding of the projects overall delivery strategy; we then tailor our design and delivery to suit. Successful projects require a proactive and engaged approach.

This is key for us; we don't want to be a passenger on the project team, we want to be leading the conversation, actively contributing and collaborating to ensure the very best collective decision making.

Our Point of Difference

People Focused:

To us, consultancy is based around communication and relationships. We have built our team on this basis, with individuals who understand the people aspect of what we do.

It is imperative that we clearly communicate the “why” of our approach to our clients and project stakeholders.

To ensure all project stakeholders have a clear understanding of our design approach & documentation, we actively champion services design presentations at key milestones.

We believe it is our commitment to this that will ensure we deliver outstanding results.

Our Process:

Aside from the large global engineering firms, many of the locally owned and operated consultants do not provide the robust and certified processes required to deliver quality design and documentation.

We have built systems and processes that balance the best of both worlds; they ensure diligence and accuracy but allow us to deliver in a flexible and adaptable manner.

Our Quality Management System is ISO 9001 accredited, and our Health and Safety Systems follow the ISO 45001 requirements.



What We Do

Our focus is on providing a service tailored to our client’s needs; whether it be a full detailed design package for tender and consenting purposes, a due diligence exercise to assess the feasibility of a future project or a one-off workshop to work through some ideas to help our client get started.

For each project, we have a dedicated engineer per discipline. Our highly experienced team leaders ensure a tailored, integrated and cohesive design outcome.

Below is a summary of our core offering;

Electrical

- Power and building-wide electrical infrastructure.
- Critical systems for dependent and live environments.
- Lighting design from public spaces, specialist areas (labs, clean rooms, etc) through to emergency lighting.
- ICT: Building networks and cabling, nurse call, annunciation IP TV, UPS systems.
- Security via electronic systems such as CCTV, access control, monitoring.

Mechanical

- Heating, ventilation and air conditioning.
- Energy analysis and heat recovery.
- Natural ventilation design and performance modelling.
- Controlled environments (i.e. labs) and specialist systems.
- Medical gas systems.
- Ancillary systems (i.e. compressed air).
- BMS and control systems.

Hydraulic

- Plumbing and drainage, trade waste and stormwater.
- Hot water generation, including solar.
- Water supply, including rainwater harvesting.
- Specialist water systems.
- Gas supply & reticulation.

Fire Protection

- Sprinkler/hydrants and alarm systems; performance design or detailed design.
- Fire alarm systems.
- Fire service liaison.

BIM

- Project design and delivery.
- Coordination and clash management.
- BIM strategy and digital project management.
- Independent review and third-party verification.

Sustainability

- Sustainable design strategies.
- Environmental rating and benchmarking.
- Building performance modelling and analysis.
- Passive design and analysis.

Consulting & Advisory

- Independent review and expert opinion.
- Due diligence and pre-purchase inspections.
- Client brief and performance specifications, including leasing schedules.
- Project feasibility review.

Compliance

- Peer review.
- NZBC H1 assessment and reports.
- Residential daylight modelling to NZBC G7.
- Alternative design modelling and verification.

Sector	Scale and Breadth	
Health	Green field new clinical facilities to complex refurbishment of specialist spaces.	Managing live environment and clinical risk, a structured approach to design with significant QA input, services specific user group consultation.
Industrial	Fast-tracked design/build developments to bespoke high-end manufacturing.	Commercially focused solutions that enable a fast and efficient build. A clear delineation of landlord/tenant works.
Hospitality	World-class luxury resorts to bespoke F&B fit-outs.	Clear options with differing life cycle benefits. Input to operator brief negotiations.
Residential	Multi-unit projects of scale to high-end single dwellings.	Aligning services design to sales strategy and market pricing. Value management focus on services within one apartment, resulting in value capture when scaled up.
Education	Tertiary campus rollouts and master planning, MOE and private school development.	Indoor environments that enhance learning. Flexible and adaptable systems and technology. Life cycle costs and opex efficiency.
Retail	New centres, bespoke developments, brand rollout and fit-out.	Maximising NLA with a commercial focus on system selection. Creative approach to digital opportunities in public spaces. Design that enables tenant change and growth.
Commercial	Corporate fit-outs & new HQ developments to Heritage adaptation.	Tailored solutions to meet developer/tenant needs. Benchmarking tenant performance specs, and negotiating agreed brief.
Community and Public	Libraries, sports facilities, aquatic centres.	Comprehensive and robust consultation across stakeholders and users. A clear understanding of community need. Energy efficiency and the whole of life cost.

One of the founding principles at Mesh is collaboration – it's how our name came about. So it is only natural that we fully embrace BIM and the way in which it enables such a collaborative design process.

As an industry, our use of BIM as both a design and construction tool has exponentially progressed over the last 10 years, yet we are only scratching the surface with regards to its potential.

This is something we are acutely aware of at Mesh, and we pride ourselves on our ability to adapt to change in technology and its application.

For a BIM design process to yield a truly resolved and integrated result, the full consultant design team must be aligned with respect to the agreed process and protocols.

It is important that the project delivery strategy and programme are built around the unique characteristics of BIM delivery.

At Mesh we take a very distinct approach to our BIM execution;

- Before we start utilising the model as an integrated tool, our senior team plan the services strategy and reticulation.
- We use the model as a coordination tool; we don't rely on it as a communication tool. In our team, we ensure we still pick up the phone, send sketches and have workshops to ensure our design is understood and coordinated amongst the design team.
- Our dedicated project leaders spend time in the model, so they are aware of the work being undertaken, and they can ensure the design approach is adhered to and coordinated.



Our BIM lead Shimon Hirano brings a wealth of experience and knowledge in leading large and complex BIM projects across multiple industry sectors both in New Zealand and Australia

In the fast-moving world of BIM, Shimon keeps up with the change and helps us adapt our process accordingly.

Some of Shimon's specific expertise include;

- BIM management plan development and input.
- BIM scope.
- Engineering through BIM.
- Model management & auditing.
- BIM Implementation.
- Space management and tracking.
- Construction sequencing and scheduling analysis.



Other Benefits of BIM with Mesh:

- Having engineers working directly in the model.
- As part of our collaborative approach, we make our model available to the client and contractor.
- Cohesive design development.
- Continuous auditing and resolving of clashes.
- Transparency through project duration for all stakeholders.
- We promote sharing, collaboration and communication.

At Mesh, it all starts with listening.

Taking the time to understand what our client's objectives are for their project helps us to ensure we don't miss the mark.

This is why the first thing we do is listen. Through a consultative briefing and investigation process, our team starts to build an appreciation for the project, its constraints, and desired outcomes.

We take our learnings and develop various options taking into consideration different ways to carry out the works.

We see this stage as a critical part of the project as this sets the course for the rest of the design process. Our approach goes against the grain and is to invest a lot more time and energy throughout the early stages.

We believe a well-considered concept drastically reduces the amount of re-work and potential for coordination issues later in the project.

By assessing all the possible eventualities of a concept, we have conversations earlier, and this allows our client and their team time to make well-informed decisions. Once concepts are derived, these options will be tested with the client, assessing the options commercial viability along with its suitability to their application.



When a solution is agreed we will develop it further asking ourselves and the wider team the tough questions to ensure that we cover all eventualities, assess how the risks can be mitigated, and whether these reduced risks are understood and/ or acceptable to our client's requirements.

Before our design is accurately detailed and released to the market for tendering, our internal quality assurance procedures interrogate every aspect of the design philosophy and the way in which it is communicated through our documentation.

Once the works are on-site, our team pride themselves on their proactive approach, trying to prevent issues before they occur. If an unforeseen issue does arise, our team ensure they respond in a timely manner to minimise any impact on the overall project.

After work is completed onsite, our team will ensure a robust commissioning and handover process is followed so that the end- user will have a thorough understanding of the new systems and how they relate to business operations and existing infrastructure.

Throughout the entire process, we adhere to our core principles of collaboration, communication and adaptability.

Matt Lee, Director



Qualifications and Associations Chartered Professional Engineer (CPEng) Green Star Accredited Professional (GSAP)

Key Experience and Capability

Key Experience and Capability.








Building services project governance and leadership.

Crafting of services strategy to align with client brief.

Overall integration of building systems.

Working with varying procurement and deliver models.

Project Examples

	WDHB Rollout	Eight projects over three years including theatres, CSSD, CT scanner suites.
	Hauraki School	New classroom development and site-wide infrastructure.
	Western Springs College	\$80m campus-wide redevelopment.
	AMOT National Aquatic Centre	Bespoke performance aquatic sports facility.
	Modular Prison Accommodation	\$250m rollout of 60 and 120-bed accommodation units at five prison sites.
	Sephora Queen St	Retail fit-out for this global brands launch in New Zealand.
	Launch Bay Apartments	Two buildings with a total of 60 apartments at Launch Bay, Hobsonville Point.

James Donald, Director



Qualifications and Associations Chartered Professional Engineer (CPEng) Bachelor of Engineering (Hons)

Key Experience and Capability








Leadership of multidisciplinary building services teams.

Directing teams to develop well-rounded solutions.

Guiding design teams to align with project objectives.

Master planning and due diligence. Project stakeholder liaison & management.

Project Examples

	Park Hyatt Auckland	\$230 m Hotel – Setting a new standard in luxury hotels in NZ across 200 suites.
	HNZ St Georges Rd	72 Apartments, 3 Buildings, Housing New Zealand development in Auckland.
	Fisher & Paykel Healthcare Building 4 labs	\$120m new build, including office, R&D, manufacturing, and distribution.
	Mayfair Village	Aged care facility refurbishment of the existing community facility and 62 independent living apartments.
	Scott Point & Orewa North School	Two new greenfield primary schools with an initial role of 650 pupils.
	Harbourside Church	A large facility incorporating the church auditorium, office, childcare, cafe and ancillary spaces.
	Sealy Refurbishment	Refurbishment of the office and manufacturing at Sealy Auckland.



Qualifications and Associations

Bachelor of Mechanical Engineering (Hons)

Key Experience and Capability

Building services leadership. Technical leadership.








Bespoke building services design and implementation.

Building services interfacing and integration.

Adaptable approach to suit varying delivery strategy's.

Project stakeholder liaison & management.

Project Examples

	WDHB Operating Theatres	Refurbishment of four operating theatres in a live environment.
	Three O Eight Apartments	\$24m high-end residential project consisting of 18 apartments.
	Park Hyatt Auckland	\$230m Hotel – Setting a new standard in luxury hotels in NZ across 200 suites.
	31 Beach Road Hotel	112 hotel rooms over 15 storeys in central Auckland.
	Williamson Avenue	86 High-end apartments, along with street-front retail tenancies.
	Fisher & Paykel Healthcare Building 4 labs,	\$120m new build, including office, R&D manufacturing, and distribution.
	Stonefield School	New two-level primary school block in Auckland.



Qualifications and Associations

Bachelor of Mechanical Engineering (Hons)

Key Experience and Capability

Delivery of BIM & Revit projects.

Interdisciplinary coordination. Building services project leadership. Team leadership and training.

Client and stakeholder engagement.

Project documentation and review. Site monitoring and handover.

Project Examples

	Karratha Health Campus	\$200m AUD hospital project consisting of 15,000m² of wards, imaging, surgery, outpatients, maternity and consulting services.
	31 Beach Road Hotel	112 hotel rooms over 15 storeys in central Auckland.
	Three O Eight Apartments	\$24m high-end residential project consisting of 18 apartments.
	Rapid build modular Prisons	The project extended across multiple sites and involved the following prisons: Christchurch Men Prison (120 beds); Christchurch Women Prison (60 beds) and Rimutaka Prison (120 beds).
	Hauraki School	New two-level primary school block on Auckland's North Shore. Included investigation and diversion of existing site services to suit new development.








Qualifications and Associations

National Diploma, Electrical Engineering
Member of Engineering New Zealand
CMEngNZ (Eng. Technologist)

Key Experience and Capability

Delivery of large and complex projects. Multi-discipline coordination.
Development of existing sites and live environments.
Design for constructability.

Project Examples

	Ridgeside Office Park	Numerous office developments (including generator installations) within the office park precinct totalling ±22,000m ² .
	Warehouse facility with hazardous storage	20,000m ² warehouse facility for an international logistics company with 5,000m ² hazardous storage area.
	MOE Schools	Various schools for MOE.
	Rapid build modular Prisons	The project extended across multiple sites and involved the following prisons: Christchurch Men Prison (120 beds); Christchurch Women Prison (60 beds) and Rimutaka Prison (120 beds).
	Williamson Avenue	86 high-end apartments.










Qualifications and Associations

Bachelor of Design (BDes) Certificate in Design (CertDes)

Key Experience and Capability

Building Information Modelling. Digital Information Management. CAD Management.
Document Control.
Training and trouble shooting.

Project Examples

	New Royal Adelaide Hospital	\$3.2b capital hospital for South Australia, accommodating over 900 beds.
	Townsville Hospital North Block	North QLD, \$435m upgrade to existing hospital for additional departments.
	Stonefield School	New two-level primary school block in Auckland.
	Edition Apartment	Parnell high-end apartment. LEP Construction project.
	The PwC Centre, Site 10	Wellington waterfront premier office, base-isolated Precinct Project. Property Council Award best in category for commercial property.
	Pier B Terminal Extension	Auckland International Airport. Additional 3 international gates and support structures.
	Gemini	Gen-I Data centre in Takanini. \$60m facility designed in modular system.

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