

90 Devonport Road

Tauranga NZ



CHILLER



BMS



AIR HANDLING UNITS
AND FAN COIL UNITS



DUCT
WORK



MSSB

Client: LT McGuinness

Contract Value: \$7.95M

Completion: 2025



6 STAR GREEN STAR RATING

5 STAR NABERS ENERGY EFFICIENCY

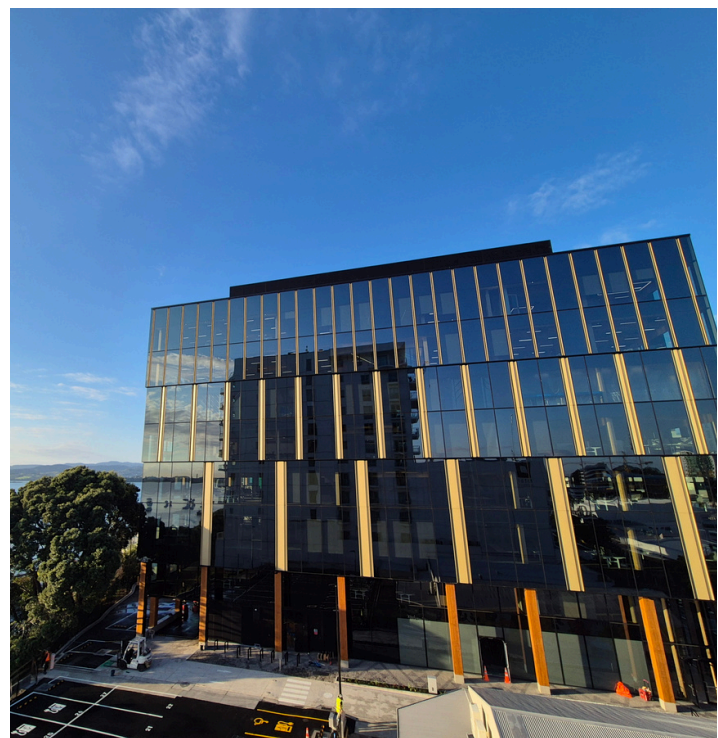
OVERVIEW

The 90 Devonport Road project in Tauranga, New Zealand, is a landmark case study in sustainable construction, showcasing the country's largest mass timber office building. Developed by Willis Bond and built by LT McGuinness in partnership with Tauranga City Council, this iconic structure will feature a state-of-the-art six-level workplace focused on wellness, innovation, and environmental performance.

Project Delivery

From a building services perspective, the 90 Devonport Road project in Tauranga stands out for its integrated approach to achieving a 6 Star Green Star rating, the highest sustainability benchmark under the New Zealand Green Building Council's framework. Providing the complete Mechanical and BMS design and installation for this cutting-edge project centered on maximising the building services' impact on the Green Star rating:

- **Energy Efficiency (NABERS 5 Star):** The building's services were designed to achieve a 65% reduction in energy consumption compared to typical office buildings. Key features include:
 - **High-performance HVAC:** heat recovery optimise heating and cooling, reducing energy demand.
 - Zoned controls allow precise temperature management across open-plan and meeting spaces.





- **Building Management System (BMS):** A sophisticated BMS monitors and optimises HVAC, lighting, and other systems in real-time, ensuring peak efficiency. This aligns with Green Star's Management category, which rewards proactive energy monitoring.
- **Indoor Environmental Quality (IEQ):** The building services prioritize occupant health, a core Green Star focus:
 - **Ventilation:** Enhanced fresh air rates via mechanical ventilation exceed ASHRAE standards, improving air quality. CO2 sensors adjust ventilation dynamically, balancing energy efficiency with comfort.
 - **Thermal Comfort:** The mass timber structure's thermal mass, combined with high-performance glazing and insulation, reduces HVAC loads while maintaining consistent indoor temperatures. This supports IEQ credits for thermal comfort.
 - **Low-VOC Materials:** Building services components, like ducting and piping, were selected for low volatile organic compound (VOC) emissions, contributing to IEQ credits for healthy indoor environments.
- **Renewable Energy and Electrification:** The building is fully electric, with no gas reliance, aligning with Green Star's push for low-carbon operations. Rooftop solar panels (though limited by roof space) and provisions for future expansion contribute to the Energy category. EV charging stations in the parking area further support Green Star's Transport credits.



Key Considerations & Innovations

- **Selection of premium Mechanical and BMS design and installation methods and materials** to ensure building reaches optimal efficiency to achieve 6 star energy rating.
- **Integration with Timber:** Coordinating services within the exposed mass timber structure required careful planning to maintain aesthetics while ensuring accessibility. Prefabricated service modules were used to streamline installation, reducing on-site waste [supporting Green Star's Waste category].
- **Seismic Considerations:** Tauranga's seismic zone demanded robust mounting for HVAC systems. Lightweight timber reduced structural loads, allowing simpler service supports compared to concrete buildings.
- **Commissioning Rigor:** Achieving 6 Star required extensive third-party commissioning of all systems, ensuring performance matched design intent. This was time-intensive but critical for Green Star certification.

Conclusion

90 Devonport Road's buildings performance ... through the incorporation of energy-efficient HVAC, water conservation, and IEQ-focused design ... were instrumental in securing the 6 Star Green Star rating. The project demonstrates how integrated services engineering can further support the mass timber construction to deliver a sustainable, occupant-centric office space.