Case Study



RPA Building 12

Project Commencement Date: 11/12/2022

Project Completion Date: 10/12/2023

Contract Value: \$1,623,416

Estimated Total Hours Worked: 5642







Project Overview:

This project encompassed the Early Works Packages 2 & 4 at the Royal Prince Alfred Hospital (RPA), clearing the way for the construction of a new multi-level structure on the site of the old pathology lab.

- **EW2** involved modifications to the Gloucester House Bridge and Gloucester House Road, including external and roadway lighting upgrades.
- **EW4** required the relocation of Anatomical Pathology services to Building 12, a mostly vacant structure, to enable demolition of the existing building for the new multi-story facility. The scope included complete new service installations and fit-out to meet the lab's operational needs.



Scope of works:

KLEC Projects was engaged on a "Construct Only" basis, while the overall project was a Design and Construct (D&C) contract. We inherited a building that had been partially stripped by previous contractors, requiring us to address the state of disrepair.

The services delivered included:

- Connections to the Existing MSB from the live Hospital
- Supply and install new MDB-KGV and MDB-B12
- New 330kVA Standby Generator with a custom 1600L base tank, remote operation controller and mobile generator link
- box and associated controls
- 2 New Non-Essential, 2 Essential, 2 UPS and 1 Generator Distribution Boards
- New 75kVA N+1 Rack mounted UPS unit with remote battery cabinet
- External Lighting Package for EW2
- Internal Lighting Package with a combination 240VAC and Dali controls
- Over 3,000m worth of submains cabling installation
- 8,000m worth of power cabling installation
- Fibre Backbone system installed through existing services tunnels
- Over 500 Siemon Cat6A Data Outlets
- Over 40,000m worth of Siemon Cat6A Cabling
- New Dedicated Site Communications Room
- Monitored Emergency and Exit Lighting
- Security and Access Control System
- CCTV System
- 37.6kWp PV System

Technical Innovation:

The initial design called for infrastructure linking Building 12 to the adjacent KGV building and its standby generator, but our investigation revealed that the existing generator could not meet the required load.

We proposed an innovative solution involving a new generator system,

switchboards, and Automatic Transfer Switch (ATS). This redesign:

- Ensured sufficient standby power
- Made the pathology lab independent of other buildings' services
- Reduced the number of submains and required shutdowns, minimizing the impact on hospital services.
- Our knowledge and approach allowed the project to run smoothly, benefiting all parties involved.



Sustainability & Environmental Contributions

As part of the project, KLEC Projects played a crucial role in finalizing the design and installation of a 37.6kWp rooftop solar PV system. Working closely with our solar contractor, we integrated the system's inverters into the new main electrical cupboard, optimizing space usage and reducing cable lengths and costs. We also adjusted the layout to accommodate exhaust ducts for the laboratory.

Quality Control & Project Management

This project's size demanded hands-on management. The decision for management to stay actively involved on-site not only helped drive material efficiency but also reinforced a strong work ethic among the team. This direct involvement bolstered our relationship with the builder and helped us achieve a financially beneficial outcome, which has supported further investment in the company.

To maintain our high standards of quality, we implemented new quality control measures including extra training and supervision, it was evident from our consistent positive feedback from consultants and clients during inspections that these measures ensured this with minimal defects reported.

The project utilized Omtrak, an online portal, to track quality issues, and we only received 44 issues to resolve throughout the entire project.

Work Health & Safety (WHS)

WHS was a top priority, with KLEC Projects integrating Hammertech and NECA forms for daily and weekly safety management. We were the only contractor conducting separate pre-start and toolbox meetings, giving our team the chance to raise concerns proactively. With over 5,600 hours worked on the project, we achieved zero Lost Time Injuries (LTI).



In Summary

KLEC Projects successfully delivered the Early Works Packages 2 & 4 at the Royal Prince Alfred Hospital, facilitating the construction of a new multi-level structure.

The project involved complex electrical and infrastructure upgrades, including the installation of a new standby generator, solar PV system, and advanced data and communication networks.

Despite initial challenges with existing infrastructure and scope increases, KLEC Projects provided innovative solutions, ensuring seamless integration of services while maintaining high standards in quality, safety, and sustainability. The project was completed on time, and on budget, and has since led to further large-scale opportunities for the company.



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