NORTHERN ENERGY EFFICIENCY SHOWCASE

May 22, 2026

Presentation:

Building Envelope Replacement
College of New Caledonia

Why This Project?

- Aging building envelope with declining thermal performance
- Increasing energy loss and comfort complaints
- Need to extend building life and reduce long-term operational costs
- Opportunity to improve performance while maintaining operations

Project Scope

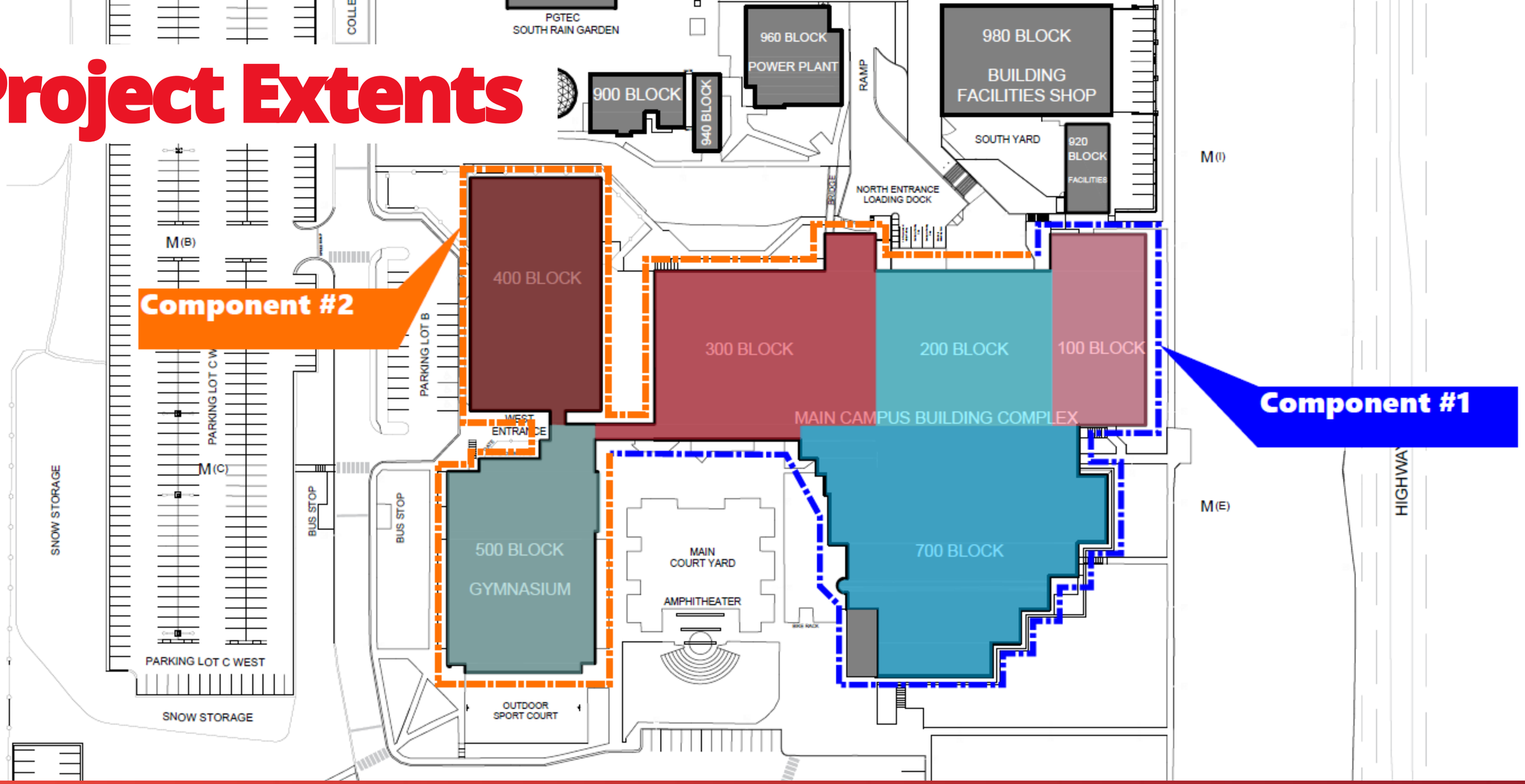
What Was Included

- Exterior wall and roof assemblies
- Windows and doors
- Air/vapour barrier improvements
- Targeted upgrades (not a full rebuild)

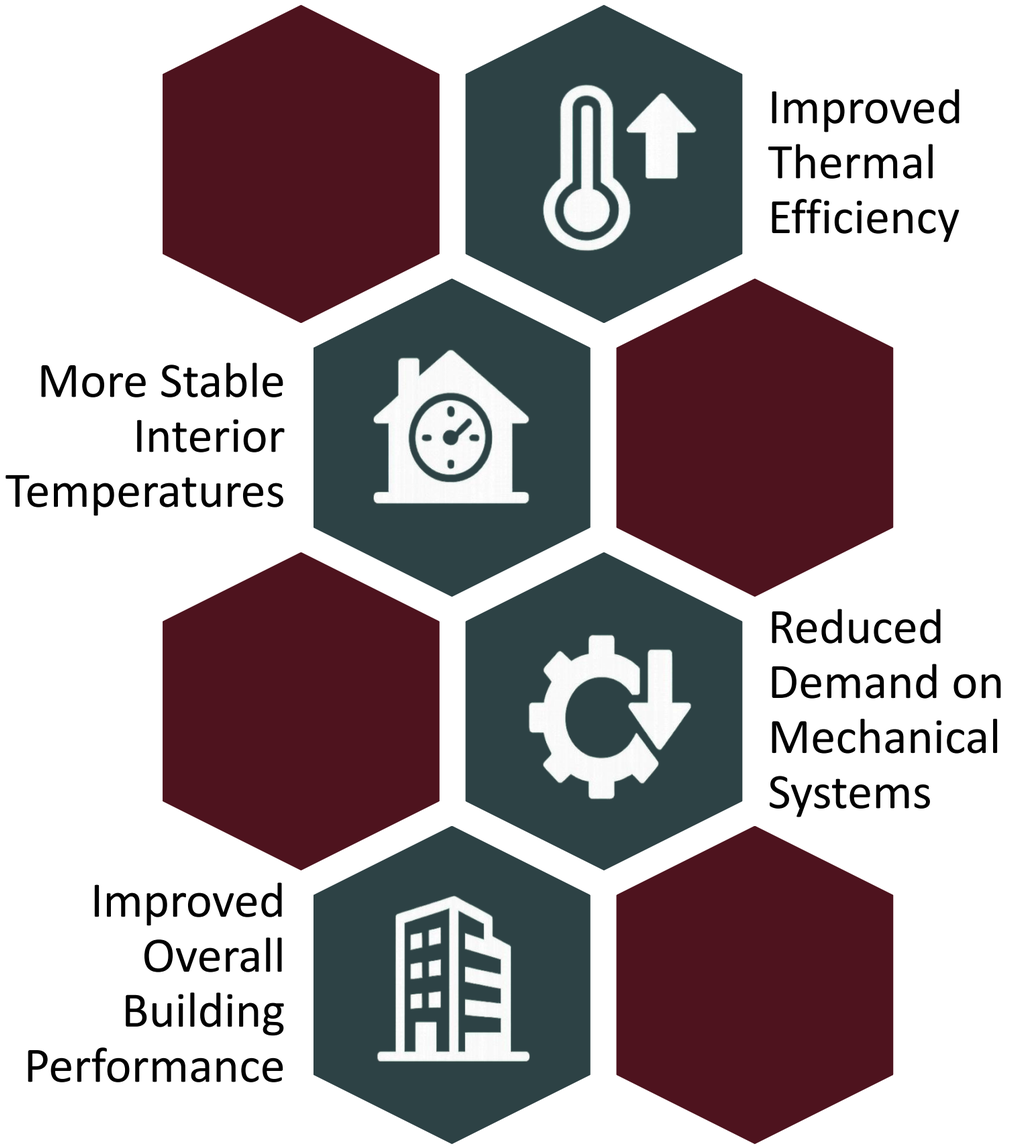
What Was Not Included

- Interior finishes
- Major mechanical system replacement

Project Extents



Energy & Performance Outcomes



Building & Operational Benefits

- Extended service life of envelope assemblies
- Reduced risk of moisture-related deterioration
- Lower ongoing maintenance requirements
- Improved occupant comfort and fewer complaints

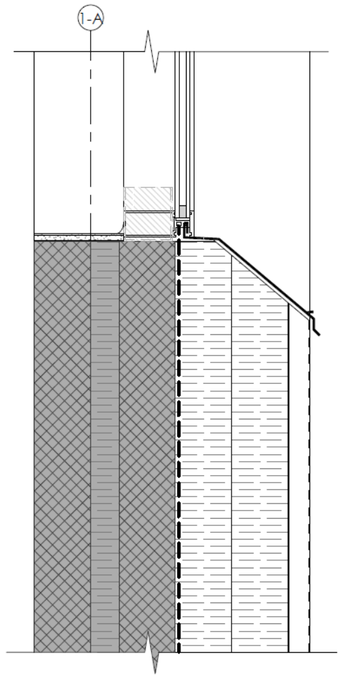
Thermal Imaging Insights

New vs. Existing Construction

What We Noticed

	Existing	New
ASSEMBLIES	Inconsistent	Standardized
AIR BARRIER	Discontinuous	Continuous
COLD BRIDGING	Bridged	Thermally Broken
FENESTRATIONS	Less Efficient	More Efficient

Design Stage



Focus on Performance

- Prioritized energy savings through improved envelope continuity
- Targeted high-loss areas identified during assessment
- Designed for long-term building performance

Preplanning & Coordination

- Early focus on sequencing and constructability
- Anticipated challenges of working in an occupied building
- Detailed attention to interfaces and transitions

Contract Approach

Why the Contract Approach Mattered

Contract structure should support adaptability and coordination

Why It Mattered

- Existing buildings come with unknown conditions
- Flexibility was required as conditions were uncovered

What Helped

- Collaborative approach between owner, consultant, contractor
- Ability to adapt scope/details during construction
- Clear communication and defined expectations

Construction Management

Pre-Construction

Operating During Construction

- Building remained operational throughout construction
- Phasing used to minimize disruption
- Close coordination with users and contractors

Maintaining operations drives how the work is planned and delivered

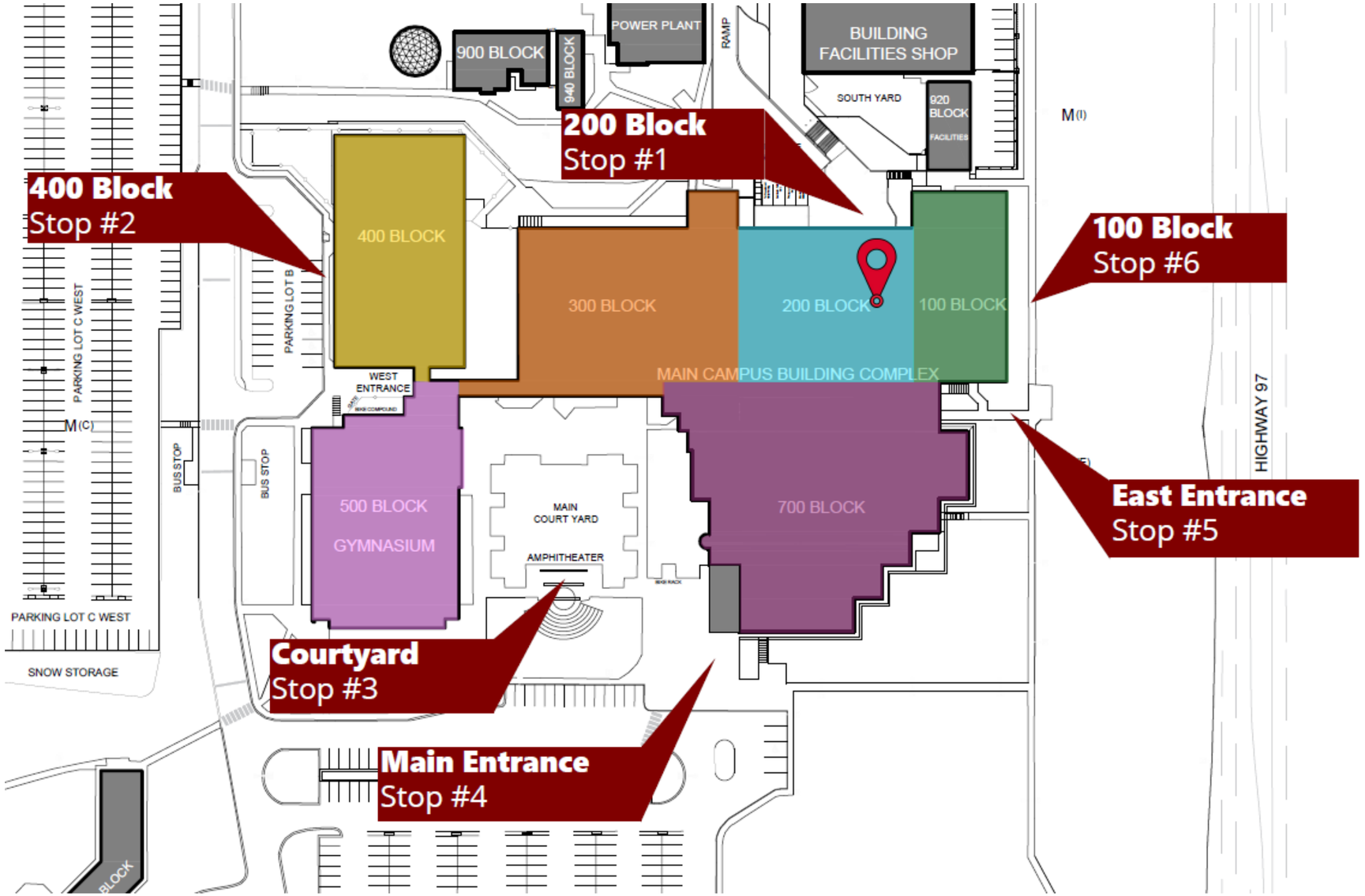
Site Tour

What We'll See

- Envelope upgrades
- Old vs. new construction

How the Tour Will Work

- 6 stops
- Questions at each stop
- Return



Project Learnings

Core Takeaways

- Early Coordination is Critical
- Construction Sequencing Matters in Occupied Buildings
- Clear Performance Requirements Reduce Risk

Applying This to Other Facilities

Start with Diagnostics

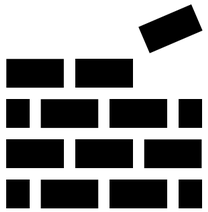
Plan Project Phasing Early

Communicate with Users Early and Often.

Improved Overall Building Performance

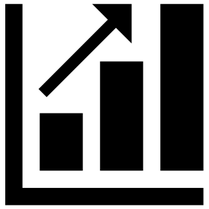
Closing

Final Thoughts



Envelope upgrades are foundational investments

This approach is scalable to other public facilities



Performance drives long-term value

Questions & Answers