
MITCHELL ELEMENTARY SCHOOL SEISMIC UPGRADE & PARTIAL REPLACEMENT

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| TARGET CONSTRUCTION START: | November 2019 |
| TARGET COMPLETION: | September 2021 |
| PROJECT BUDGET: | \$8.98 Million |
| FUNDING SOURCES: | Ministry of Education Capital Plan - \$11.41 Million (maximum) |
| CONSULTANT: | Craven Huston Powers Architects |
| CONSTRUCTION MANAGER: | Unitech Construction Management Ltd. |
| PROJECT MANAGER: | Richmond Project Team |
| | Enquiries: Sam Yoo, 604-275-7000 ext. 4100 |

BACKGROUND

Mitchell Elementary School is a single storey wood frame building constructed in 1960 with additions in 1964, 1975, 1992 and 2001 to serve Kindergarten to Grade 7. School District No. 38 (Richmond) has confirmed that Mitchell Elementary is needed for the long term as part of the overall long-range strategic planning.

Mitchell Elementary, which consists of four distinct blocks (Block 1 was the original school building located to the west of the main facility and was demolished in 2008), was seismically assessed using Version 3 of APEGBC's Seismic Retrofit Guidelines. The pre-2001 blocks of the school have a high risk of liquefaction potential requiring substructure upgrades, with Block 2 (1960 and 1964 Classrooms/Administration) and Block 3 (1975 Gymnasium) having Seismic Risk Categories H1 and H2, respectively, and requiring superstructure seismic resistance upgrades.

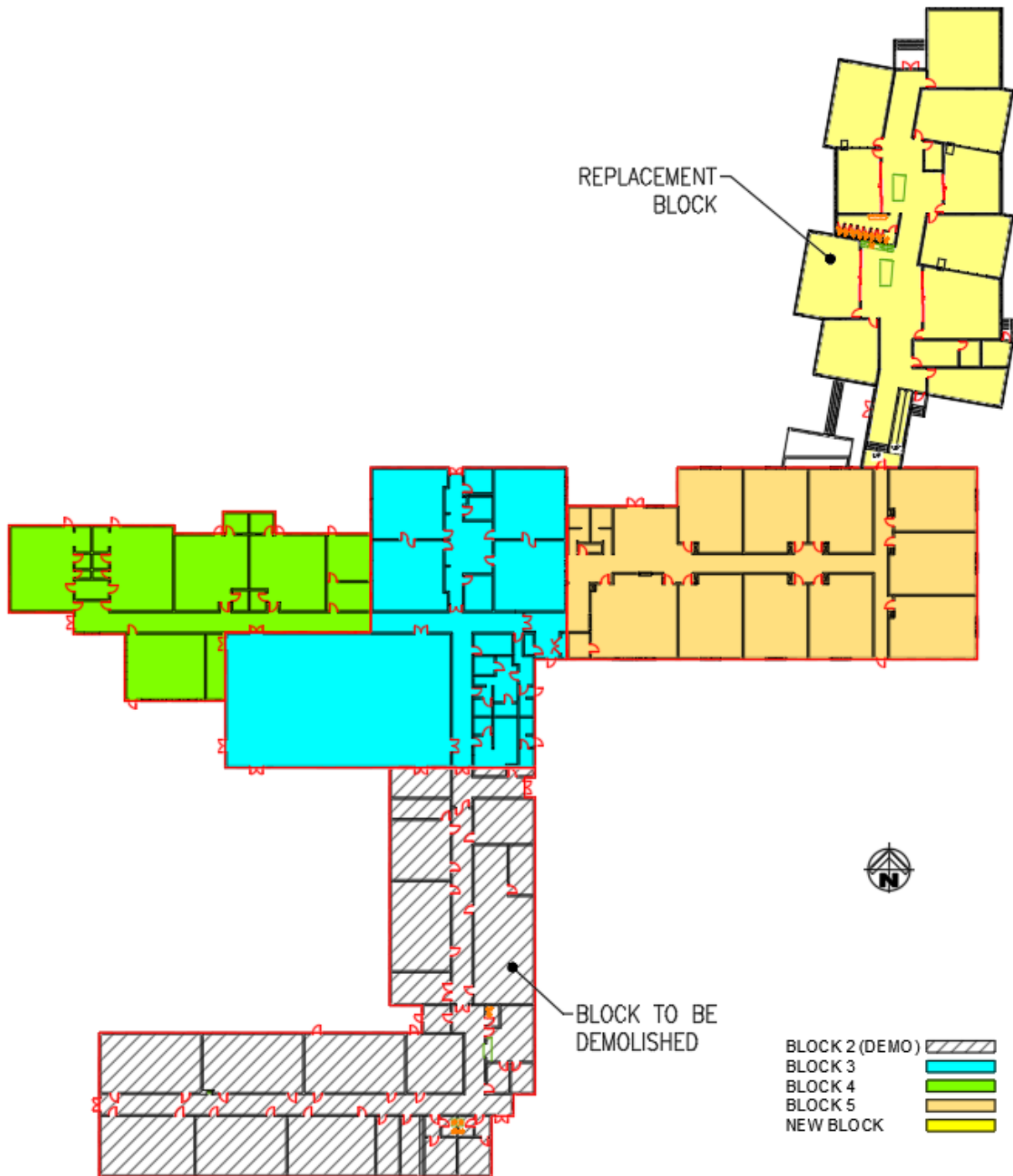
PROJECT SCOPE

- Block 2 (1960 and 1964 Classrooms/Administration) - Demolition of this portion of the school with the replacement of classrooms in a new wing constructed at the east end of Block 5 (2001 Addition). The remaining existing building will be reconfigured to accommodate the Administration, Media/Tech and other support spaces being demolished.
- Block 3 (1975 Gymnasium) - Structural upgrades consisting of: additional shear capacity through new plywood sheathing, blocking and hold-down anchors added in selected locations to existing wood stud walls; vertical reinforcement, grouting and upgraded connections to the roof diaphragm added to concrete block walls in the mechanical room; and plywood sheathing added to the existing timber roof complete with diaphragm chords as required. Seismic retrofit of foundations to achieve a life-safety level for liquefaction mitigation by adding reinforced concrete grade and tie beams.
- Block 4 (1991 Addition) - Seismic retrofit of foundations to achieve a life-safety level for liquefaction mitigation by adding reinforced concrete grade and tie beams.

- Non-structural seismic resistance upgrade to the entire school (added restraint of lighting, HVAC, plumbing and cabinets).
- Restoration of wall/floor/ceiling/exterior finishes and hard/soft landscaping affected by the structural work, addition and demolition.
- Minor removal and replacement of mechanical and electrical equipment to accommodate structural work.

PROJECT STATUS

- The Ministry of Education approved the project 06 March 2019 and the Capital Project Funding Agreement, funded from the Seismic Mitigation Program (SMP), was completed 23 April 2019.
- Consultants retained in April 2019. 30% design completed May. 75% completion expected by the middle of September and 95% completion by the end of September 2019.
- The floor elevation of the addition was determined by consultants to be raised by 0.65 m from the existing school floor elevation to comply with City of Richmond Flood Plain Designation & Protection Bylaw. Consultants explored different options of structural systems for the building to best deal with elevation difference and post-construction settlement.
- Site determined to be preloaded to deal with poor soils.
- Preloading to commence late August for a period from 2 to 4 months.
- One playground was in the area where addition is proposed; hence, it was disassembled in summer and will be put back together at another location on site in September 2019.



Seismic Block Map – Mitchell Elementary School