



HGC ENGINEERING

Noise & Vibration from Redpath Sugar

Associated Challenges for Developers

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ACOUSTICS



NOISE

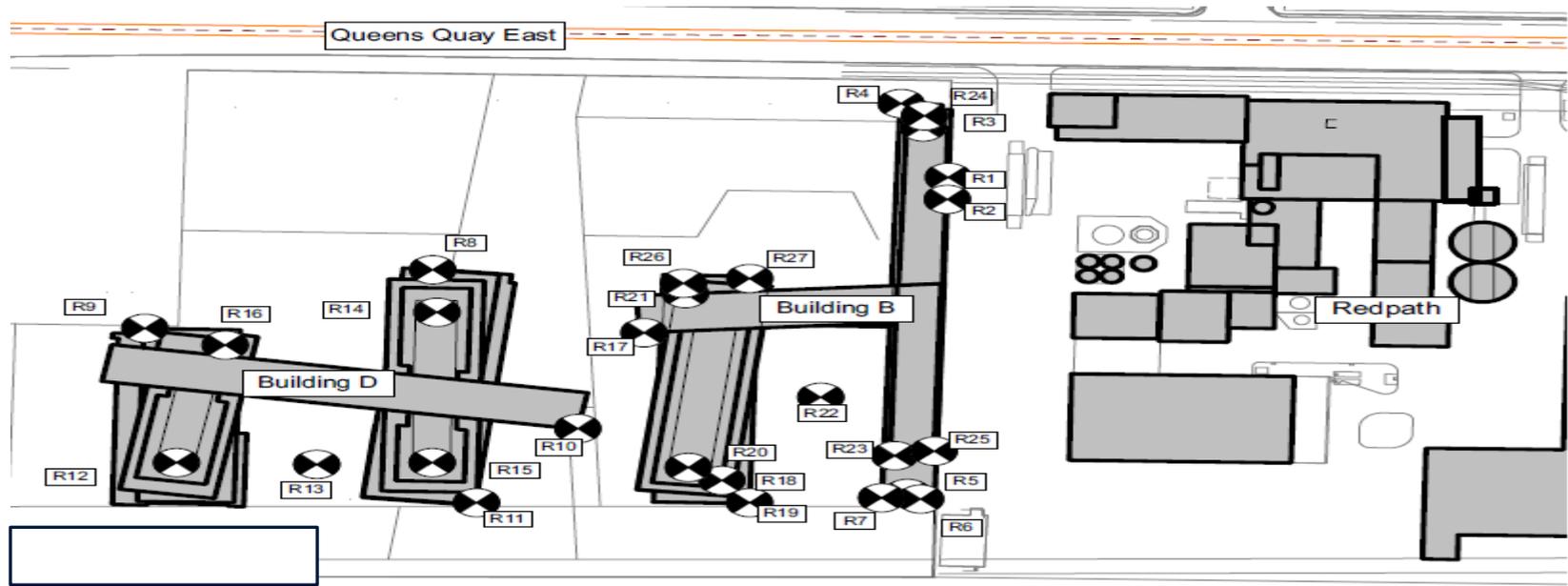


VIBRATION

Development near Redpath

Pier27 Phase 1

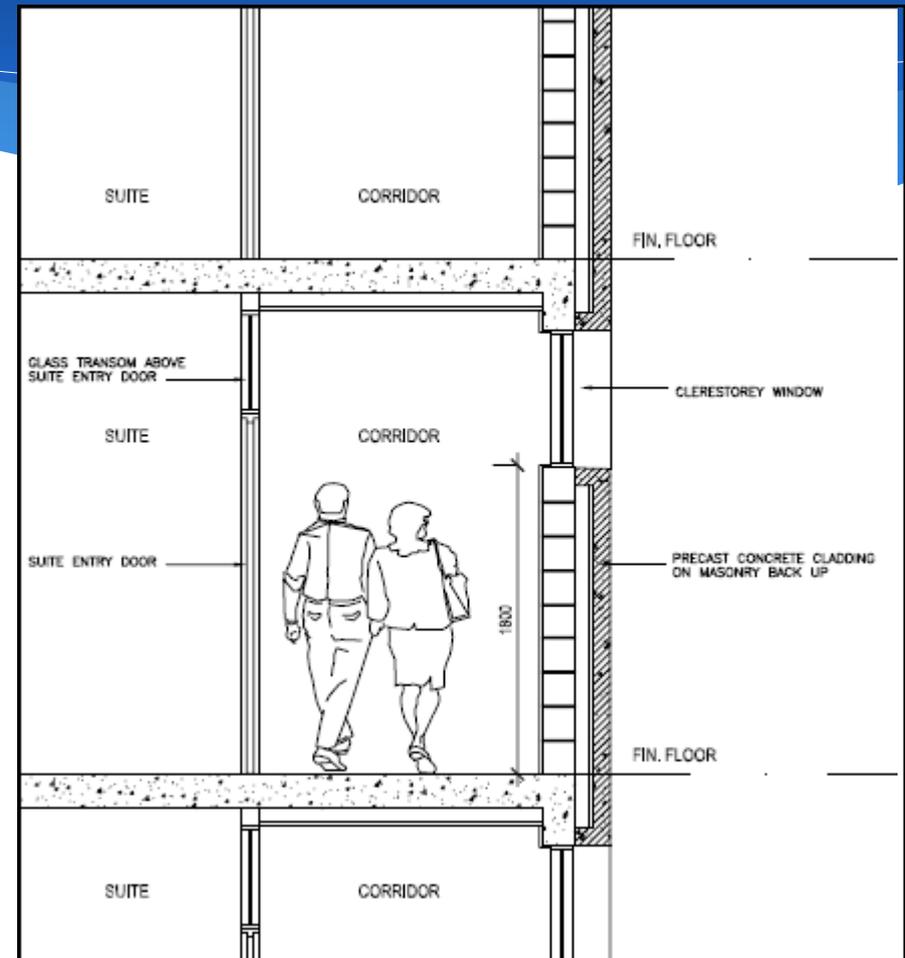
- 2005 - Pier27 moves forward with plans for development of Phase 1
- Re-assessment of noise required due to changes at Redpath since MT27 settled in 1996 – source controls implemented, other process modifications
- Barrier building (B1) included to shield noise and visibility of Redpath, relieves noise impacts at other planned buildings
- 12 m high promenade barrier not required acoustically, but Redpath insists on it to separate from the public realm



Development near Redpath

Pier27 Phase 1

- B1 is mainly single loaded (East corridor with clerestory windows).
- Any residential suite walls adjacent to Redpath have no windows and upgraded acoustic properties.
- Also, no mechanical vents through East wall, and blinder walls for south-facing windows at top.



Development near Redpath

East Bayfront Precinct

- 2005 / 2006– Following release of the Precinct Plan, TWRC (WT) given mandate to promote the development of East Bayfront (east of Jarvis to Parliament)
- Noise from Redpath shipping activities in Jarvis Slip presents a major impediment. Outdated Colby cranes (1957) produce banging (impulse) noises when off-loading ships for days at a time, including night-time periods. Engineering controls introduced to reduce noise from existing cranes are only partially successful. Eventually Redpath purchases new hydraulic crane (2010?). One old one remains as a back-up unit.
- Vibration concerns also addressed by removing existing rail lines on QQ. New LRT introduced.



Development near Redpath

East Bayfront Precinct

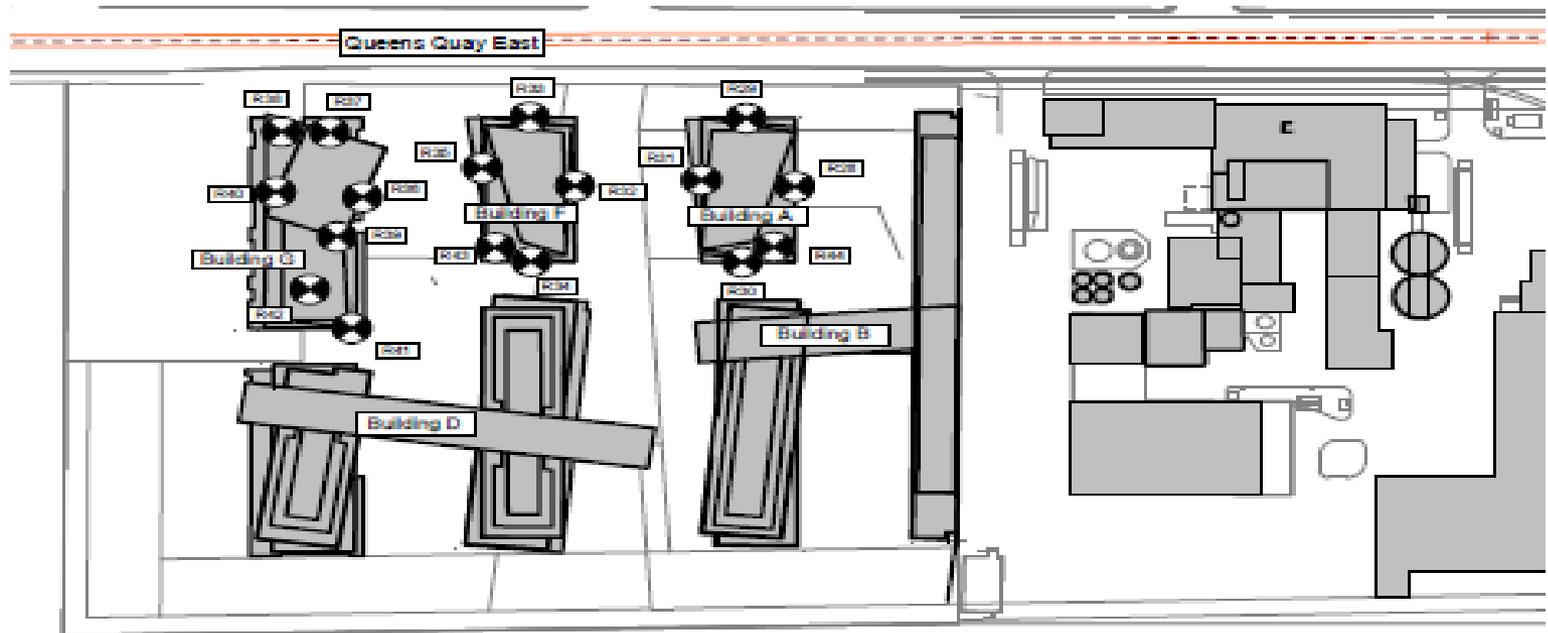
- Through mediated planning sessions (2006-2007), WT agrees to promote institutional / employment uses on public lands south of QQ that are closest to Redpath. This results in development of Corus building and Sugar Beach (2010), and George Brown College (2011). Still some special sound insulation requirements included.
- North of QQ, various settlement agreements negotiated between Redpath and developers in consultation with WT, City of Toronto, and MOE. Agreements involve use of Matrix toolbox to address noise excesses (some sealed windows, etc.) , as no practical solutions exist otherwise. Same applied east of Sherbourne, although impacts from Redpath generally minimal (< 5 dB) and do not require physical controls.
- Private lands closest to Jarvis Slip (now owned by Daniels) additionally constrained to prevent residential windows facing Redpath, and to require upgraded building envelope assemblies for noise-sensitive residential and commercial spaces.
- Most of the lands in EB now generally either approved or actively engaged in the planning approvals process.



Development near Redpath

Pier27 Phase 2

- Meanwhile, Pier27 Phase 1 constructed and occupied. Phase 2 of the development submitted for planning approvals.
- Phase 2 site designed to take advantage of barrier building (B1) to shield it from Redpath. Only some minor impacts on the furthest tower were originally predicted. To eliminate all projected impacts, the tower was rotated to tilt the most impacted (south) façade away from Redpath. Development now meets Class 1 requirements, and does not require the Matrix toolbox to achieve compatibility with Redpath.



Development near Redpath

What's Next?



- Lower Yonge Precinct Plan (2014)
- Future development expected to the north and north-west of Redpath, including Loblaws lands, LCBO lands, and One Yonge Street property.
- Noise from Redpath – will Matrix be applied? A Class 4 designation? Will Class1 be achieved on some parcels? The optimal solutions depend on the proposed land uses and massing, and are subject to future discussions amongst the stakeholders.