BHS Cost Drivers: FAQs

- **Facade renovations and structural upgrades due to PCB abatement and abatement costs.**

Q: Will students be on campus during the abatement? If so can we communicate our plan to keep them out of harm's way and/or a risk analysis.

A: At this time we do not know if any abatement will be taking place while students are on campus. We are continuing to work with our environmental consultants to determine the best course of action for dealing with all hazardous materials at BHS. A big part of this planning is a very robust risk analysis. Be assured that we will be following strict regulations that govern abatement activity, and incorporating best practices. These practices will include a communications plan to keep all community members informed and out of harm's way.

- **Premiums associated with the recently adopted 3-Acre Rule Site requirements.**

Q: What's the 3-Acre rule and how does it impact the project? Do you provide a link to the rule?

A: The 3-acre rule was adopted by the Vermont Department of Environmental Conservation (DEC) in March, 2019, approximately 4 months after the November 2018 bond vote for the BHS project. Here, in a nutshell, is what it means:

> *"The introduction of the **3-Acre Rule** means that a stormwater general permit will be required for all "three-acre sites" – existing properties with three or more acres of impervious area (places where water can't soak into the ground, like roads, parking lots and rooftops) which do not have stormwater permitting based on the 2002 Stormwater Management Manual. This means that sites with more than 3-acres of impervious will no longer be "grandfathered" and will be required to have stormwater permitting and treatment even if no site changes are proposed. All sites within the Lake Champlain and Lake Memphremagog watershed are required to comply with the rule by 2023 and all other sites in Vermont are required to comply by 2033."*
>
> - quoted from Trudell Consulting Engineer's website.

Q: How does the new 3-acre rule impact the BHS project?
A: Pre-bond estimates of costs of compliance were based on stormwater rules in place at the time. The 3-acre rule requires a much higher level of stormwater treatment than would have been required under the previous rule, and this higher level of treatment equates to higher costs of stormwater-related construction. Furthermore this rule will apply to the BHS site and other BSD sites ***even if no other projects are planned on those sites.*** So this will be a cost driver not only for the BHS project but for other BSD sites as well. Here are some links with more information.
https://dec.vermont.gov/watershed/stormwater/stormwater-rule-update

http://tcevt.com/state-stormwater-rule-update-new-permitting-requirements/

https://watershedca.com/2019/07/08/stormwater-management-in-vermont/

https://dec.vermont.gov/sites/dec/files/wsm/stormwater/docs/3acre_sites_06252019.pdf

- **Urban Soil Management: Unforseen contaminated soils were found on-site.**

Q: What's the soil contaminated with? Lead? Other stuff? And like PCB [and asbestos] abatement, will students be on campus during the abatement? If so can we communicate our plan to keep them out of harm's way and/or a risk analysis.
A: The term "Urban Soils" (also referred to as "development soils") is a catch-all phrase that encompases a very long list of possible contaminants. Some of the most common categories of contaminants are polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). Testing on the BHS site revealed evidence of some PCB and PAH contamination in isolated areas. At this time we do not know if any abatement will be taking place while students are on campus. We are continuing to work with our environmental consultants to determine the best course of action for dealing with all hazardous materials at BHS. A big part of this planning is a very robust risk analysis. Be assured that we will be following the strict regulations that govern abatement activity and will also be incorporating best practices. These practices will include a communications plan to keep all community members informed and out of harm's way.

- **Increases in Owner-side expenses.**

Q: What are owner-side expenses? Give us a couple of examples.
A: Owner-side expenses (sometimes referred to as "soft costs") are generally those project costs that do not go directly into the construction. (Construction costs are often

referred to as “hard costs”.) Examples of owner costs include: design fees, zoning permit fees, environmental consultants, clerk of the works, soil borings, furniture, kitchen equipment, Owner contingency, etc. Examples of where we are seeing increases in Owner Costs are: Extensive and follow-up hazardous materials testing, increased abatement costs based on test results, follow-up soil borings, increased design fees related to PCB findings, additional estimating fees, etc.

- **Program scope creep.**

Q: What is “program scope creep” and what are some examples?
A: ***NOTE: This answer applies to the first round of Schematic Design (SD) and the first SD estimate. Since then adjustments have been made to align the program and scope with the original project goals and budget.***
“Program”, in the language of architects and engineers, essentially means the intended functions or use within any given facility. “Scope” is the extent or list of specific work items in a project. “Creep” is when either the program or scope (or both) increases any time after the initial project concept. For the BHS project the basic program and scope that was identified prior to the bond vote was conceptual in nature and based on input from faculty, staff, students, and parents. After the bond vote, in the spring of 2019, there was additional, extensive input from faculty, staff, and the public that provided more details of program wants and needs. In some cases, these wants and needs went beyond the pre-bond program and conceptual design, and were incorporated into the SD to determine how many of them could be absorbed into the project. Two examples are (were) large community space, and improvements to the HVAC in the playing field concession building. These, along with other items, added approximately 12,000 square feet to the project in the first SD round.

- **Additional structural upgrades for unforeseen seismic loading requirements.**

Q: I’m assuming this has to do with foundational, weight bearing requirements but please explain what seismic loading is and, work-wise, what’s the difference between what was projected and the reality?

A: Part 1, Seismic loading refers generally to the force that a building must withstand in the event of an earthquake or similar event. Designing a building to resist seismic load involves analysis not only of the building structure, but also other factors like the soils on which the building is situated.

What is the difference between what was projected and the reality?

A: Part 2 - *NOTE: Again, this answer applies to the first round of Schematic Design (SD) and the first SD estimate. Since then adjustments have been made to align the design with now known site conditions and the budget.*

In the case of the BHS project, the biggest difference between what was projected and reality is the nature of the soils on the south side and southeast corner of building A. It was originally projected that the ledge that is so prominent on the site would extend out from the south end of the building and be within a similar distance from the surface. Preliminary test borings that took place after the bond vote did not "find" ledge and also showed that the soils in that area were not of a suitable weight-bearing capacity. This necessitated more extensive (deeper) soil borings (see "Owner costs", above.) This further testing confirmed that the ledge was much deeper than originally projected. Building on this portion of the site, as originally envisioned, would have been much more expensive than anticipated. The current SD avoids building construction in that part of the site.

- **Escalations/Market Conditions.**

Q: Is there a main driver or a combination of things adding up?
A: One cause of this escalation locally is supply and demand. We have seen an unprecedented level of activity in large capital projects in the Burlington area with UVMMC, UVM, and housing developers. While some of the larger projects are wrapping up, others, including City Place and several school and housing projects, are still in progress or in the pipeline. There is a finite supply of labor and demand for that labor is one factor that is driving up construction costs. There are a number of national databases that track construction costs at regional and local levels. Nationally, the current numbers for cost escalation range from a low of about 2.5% per year to a high of nearly 7% per year. Locally, professionals in the construction industry, including architects, engineers, contractors and project managers are factoring in approximately 5% cost escalation per year. This, of course, can vary from project to project, but for our BHS project further delays will mean higher costs and more cuts to the scope of work.