# Boston
# Groundwater Trust

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November 7th, 2015

Christopher Tracy, Project Manager
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007

Subject: 380 Stuart Street Expanded Project Notification Form

Dear Mr. Tracy:

Thank you for the opportunity to comment on the expanded project notification form (EPNF) for 380 Stuart Street. The Boston Groundwater Trust was established by the Boston City Council to monitor groundwater levels in sections of Boston where the integrity of building foundations is threatened by low groundwater levels and to make recommendations for solving the problem. Therefore my comments are limited to groundwater related issues.

The project is located in the Groundwater Conservation Overlay District (GCOD) established under Article 32 of the Zoning Code. Prior to the scoping session the proponent met with the Trust to review the project and potential locations for the required recharge system. The site is in area with wood piling supported buildings, in particular the row of carriage houses along Stanhope Street which abuts the rear of the project site where there is an existing vulnerability to low groundwater levels (El. 2.5' to 4.5' BCB).

As stated in the EPNF and confirmed at the scoping session the project is proposed to be designed and constructed to comply with the requirements of Article 32.

The proponent confirmed in their meeting with the Trust and again at the scoping session that compliance with the GCOD requires both the installation of a recharge system and a demonstration that the project cannot cause a reduction in groundwater levels on site or on adjoining lots. As stated in the EPNF, the proposed project will include four levels of below grade parking. The EPNF also states the excavation will be performed to a depth of approximately 44 feet below street grade which corresponds to approximately El.-25 BCB. As stated in the EPNF and confirmed at the scoping session the below-grade construction will be designed to be watertight so as to not adversely affect (i.e., lower) short-term or long-term groundwater levels.

The EPNF also proposes that an essentially watertight excavation support wall will prevent withdrawal of groundwater from outside the excavation. In the unlikely event that leakage occurs through the walls, the applicant has committed that it will be promptly sealed by pressure grouting of the wall. In our view, it is essential that no underdrains or pumps be required or installed as a part of the foundation system design. Before the GCOD zoning approval can be put in place, the proponent should submit to the Board of Appeals and the Trust a letter stamped by a professional engineer registered in Massachusetts that details how it will accomplish what is stated in the EPNF and meets the GCOD requirement for no reduction in groundwater levels on site or on adjoining lots.

The EPNF states that temporary dewatering will be required inside the excavation during excavation and foundation construction to remove "free" water from the soils to be excavated as well as precipitation. As confirmed in the proponents meeting with the Trust and again at the scoping session, monitoring data for existing and new groundwater observation wells will be collected pre and post construction and the data will be furnished to the Trust and the Authority on a weekly basis. It also is stated in the EPNF and confirmed at the scoping session that geotechnical instrumentation will be installed around the site perimeter for observational purposes during construction. The instrumentation is proposed to be monitored before and during the below grade portion of the work to observe the performance of the excavation, adjacent buildings and structures, and area groundwater levels. This data is to be furnished to the Trust and the Authority on a weekly basis.

In the event that groundwater levels drop below the observed pre-construction baseline levels during construction, there should be provisions in place to halt construction and dewatering until the cause is found and remedied. I look forward to working with the proponents Engineer on reviewing the monitoring wells in the area to be read and reported. Reporting of the groundwater level data and provisions to halt construction and dewatering if groundwater levels outside the project site drop below baseline levels should mirror the plan developed by the projects Engineer for the 888 Boylston Street project.

In discussions with the proponents Engineer they stated that Trust well 22J-0456 in Alley No. 559 will most likely be destroyed as a result of the construction for 380 Stuart Street. The proponent has committed to replacing this well in the same position as the current well. In addition, the proponent has committed to installing one additional well at either the corner of Alley No. 559 and Clarendon Street or at the corner of Clarendon and Stuart Street.

One of the lowest reporting wells in Trust's well network is located on Stuart Street, adjacent to 197 Clarendon Street (Stephen L. Brown building) also owned by this applicant. It would be helpful if the proponent investigated and reported on the potential causes of the reduced groundwater levels in the area, which are among the lowest found in the entire area monitored by the Trust. Additionally, existing utilities connecting the current building at 380 Stuart St. proposed for demolition should be inventoried for defects, repaired and properly sealed prior to new construction. The maintenance of adequate groundwater levels is necessary to preserve the integrity of the proponents existing foundations and other wood piling supported buildings in the vicinity.

I look forward to continuing to work with the proponent and the Authority to assure that this project can have only positive impacts on area groundwater levels.

Very truly yours,

Christian S. Simonelli

Christian Simonelli
Executive Director

CC: Kathleen Pederson, BRA
Maura Zlody, BED