

**Elliott Laffer Statement from public hearing on the Supplemental Draft
Environmental Impact Report for the MBTA Silver Line Phase III
Project, June 30, 2005**

My name is Elliott Laffer, and I'm the Executive Director of the Boston Groundwater Trust. The Trust was established by the Boston City Council to monitor groundwater levels in sections of the City where wood piling supported building foundations are threatened with failure by sinking groundwater levels and to make recommendations aimed at solving the problem. As such, my comments are restricted to groundwater related issues.

While the core tunnel of the Silver Line Phase III project is not located in filled land, its relocation to Essex Street has brought it within a half block of the colonial shoreline as it passes through the Leather District and Chinatown. Older buildings in both of these neighborhoods are supported on wooden pilings; in fact some buildings in Chinatown were demolished in past decades because of failures of their wood piling foundations. Leaks in the core tunnel could lead to lower groundwater levels in these adjacent districts.

Two of the portal locations raise potentially serious issues. While we have no data that indicates a current problem with groundwater levels along the Charles Street route to the NEMC area portal, the location of the route near the original colonial shoreline makes it highly likely that nearby buildings have their foundations supported on wood pilings. Any tunnel raises the likelihood of leaks that would lower the groundwater level nearby, threatening the pilings.

Of far greater immediate concern is the proposed Columbus Avenue portal. As the MBTA itself notes in the SDEIR, this is the one tunnel that would be built almost entirely in a filled land area. Not only is that statement true, but the portal itself would be located in the center of the largest groundwater depression that we have discovered through our monitoring well network. Groundwater levels in Boston are generally reported in terms of Boston City Base or BCB, an arbitrary designation from which surveyors work to have a common meaning to their findings. While different heights at which building pilings were cut off limit our ability to define any water level as safe, there is general agreement that groundwater levels below 5' BCB place foundations at high risk. The worst readings are those below 3'. Of the 529 wells that we monitored at our most recent readings last month, only 48 had groundwater elevations below 3'. Nine of those 48 wells are within two blocks of the portal route, on either side of it.

The MBTA recognizes the problem, but maintains that its tunnel design will overcome it. While I believe that might be true, certainly recent experience with tunnel construction in Boston raises concerns about both the effectiveness of design and the ability of public agencies to assure that the design will be implemented properly by installing contractors.

In addition to problems with groundwater at the Big Dig, there have been issues with construction in the Southwest Corridor that many competent engineers believe might be

caused by improper installation of a portion of the waterproofing system. The MBTA has not been responsive to suggestions about repairing any such leaks, possibly because the repairs would be very expensive and potentially cause substantial disruption to service. The T has been similarly reluctant to aggressively pursue the possibility that leaks in Green Line tunnels could be causing lowered groundwater levels in portions of the Back Bay.

Even if they are constructed to be watertight when new, the underground structures must be maintained to retain that condition for as long as there are wood piling supported buildings nearby that could be threatened by lowered groundwater levels, potentially for hundreds of years. The risk of this maintenance not being adequately funded, based on past history, is high. Locating a tunnel in an area where such a known and serious risk exists does not seem to me to be a responsible decision. I urge the T to avoid building new underground structures in these high risk locations.

Thank you for the opportunity to comment and, hopefully, for avoiding this risk.