Sub-Slab Monitoring Well Access Approach Designed Using Modified FLUTe™ Liner System

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As property owners and developers seek out opportunities for brownfields redevelopment, it becomes important to address issues related to coordinating simultaneous remediation and redevelopment. One issue commonly encountered is how to deal with design complexities related to monitoring wells that are located beneath a building foundation or floor slab. Several commonly used techniques include directionally-drilled wells and conventional monitoring wells accessed within the building (i.e. basement access wells). These techniques can be expensive, a nuisance to future property managers and building occupants, and/or can produce volatilization to indoor air issues. This presentation describes an innovative option for monitoring wells installed beneath a floor slab using a modified FLUTe™ liner system for a site in northern New Jersey.

This innovative approach allows access to existing vertical wells with long horizontal runs for more convenient well sampling, water level measurements, and removal with re-installation for inspection/replacement of below grade components. This approach allows for sampling and testing wells for various constituents of concern (i.e. volatiles, semi-volatiles, inorganics, etc.) under building foundations from an area outside the building. This presentation will include:

- details of the horizontal liner installation, removal, and sampling approach,
- benefits and limitations as compared to other methods,
- a description of quantitative prototype testing that verifies the liner installation driving pressure as a function of tortuosity of the access passage,
- an overview of the cost to install, maintain and sample the wells, and
- usability of this approach at other sites with different constraints on the access piping geometry.