

# **SYOSSET CENTRAL SCHOOL DISTRICT**

## **South Grove Elementary School & Annex**

### **Subsurface Investigation Vapor Intrusion, Soil, and Groundwater Summer, 2018**

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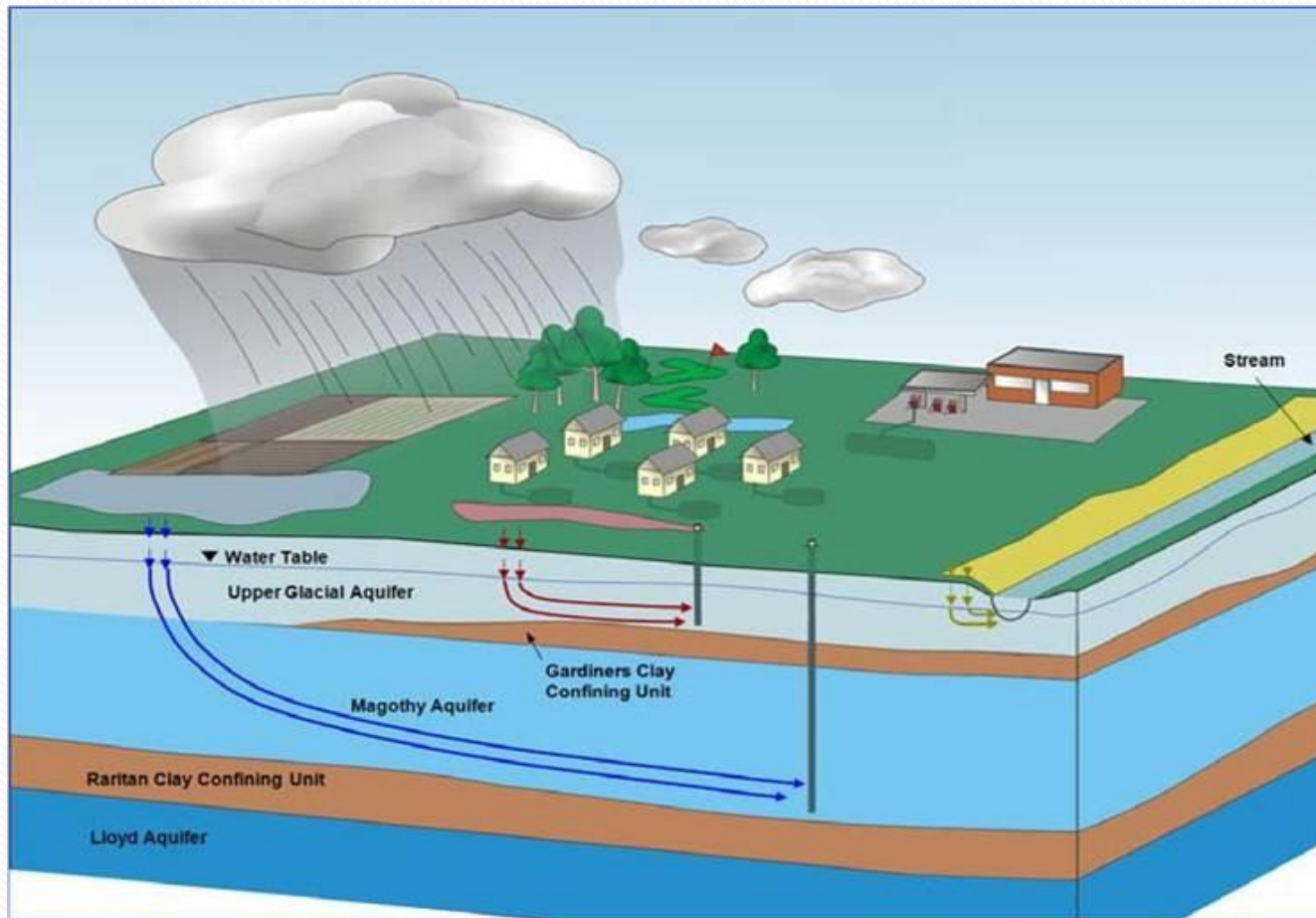
Board of Education Meeting: August 28, 2018



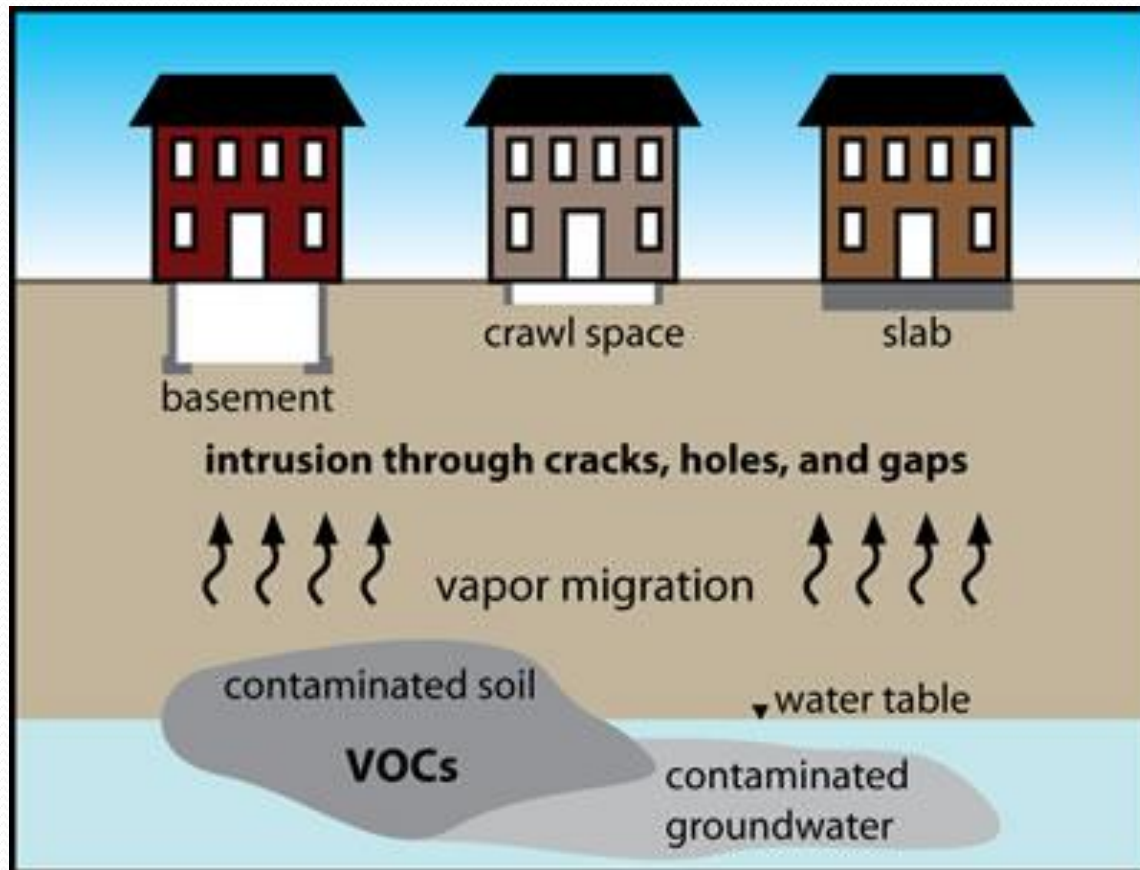
# Subsurface Investigation

- Volatile Vapor Intrusion Sampling
- Soil Sampling
- Groundwater Sampling

# Long Island Groundwater



# Volatile Vapor Intrusion (VVI)

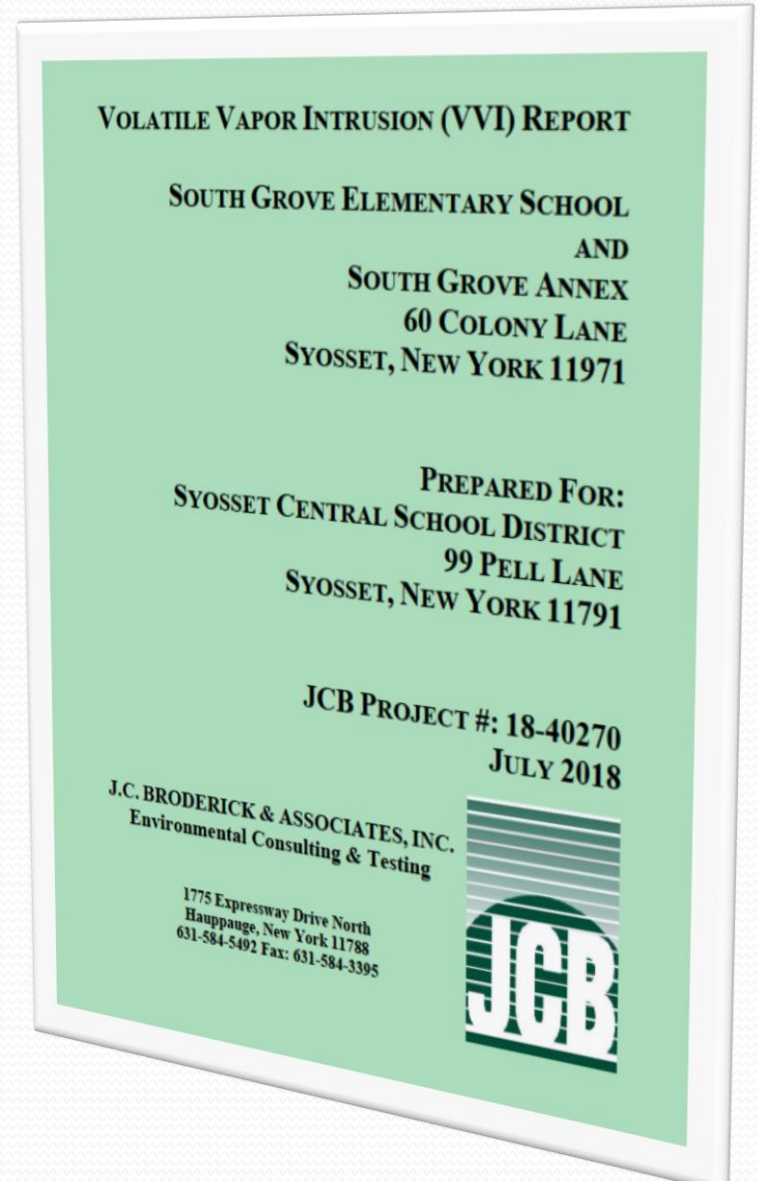


The NYSDOH defines VVI as the process by which volatile chemicals migrate from a subsurface source into the indoor air of buildings. Soil vapor, also referred to as soil gas, is the air found in the pore spaces between soil particles.

# Vapor Intrusion Investigation

In June, 2018 JCB conducted a VVI Investigation of the South Grove Elementary School and Annex.

The investigation consisted of collecting 4 sub-slab, 2 crawlspace, 4 hallway and 2 outdoor samples.

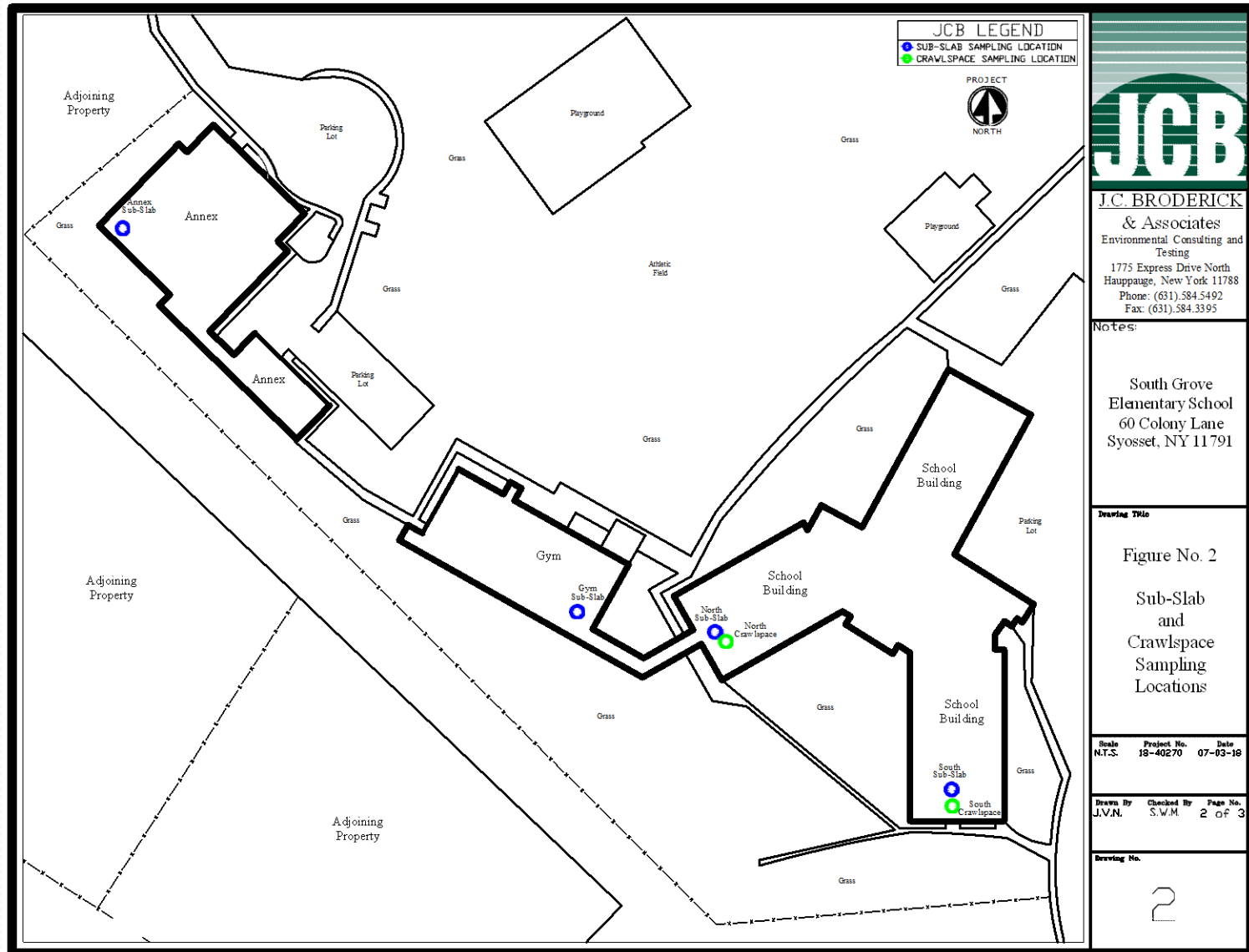




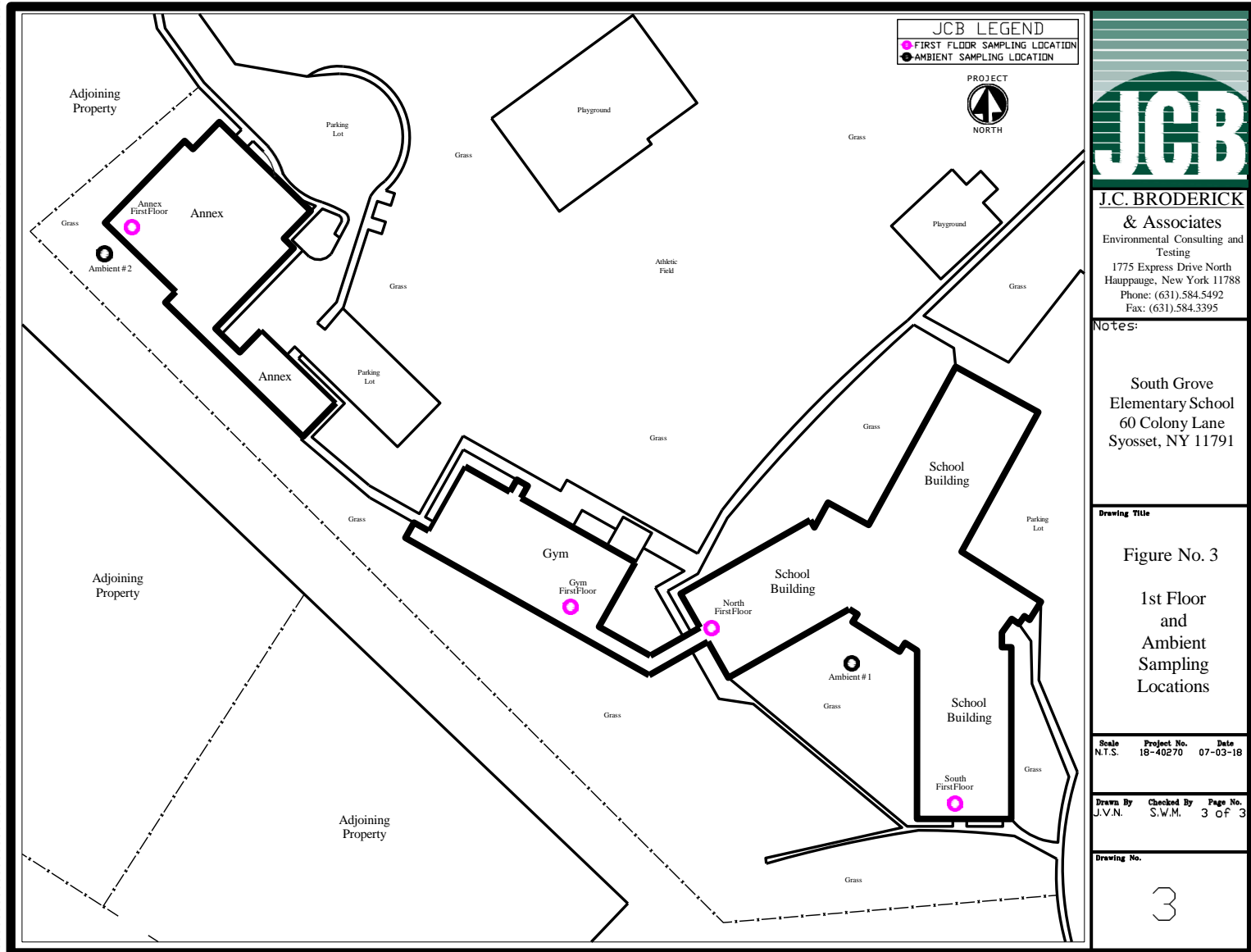
# VVI Investigation



# VVI Investigation



# VVI Investigation





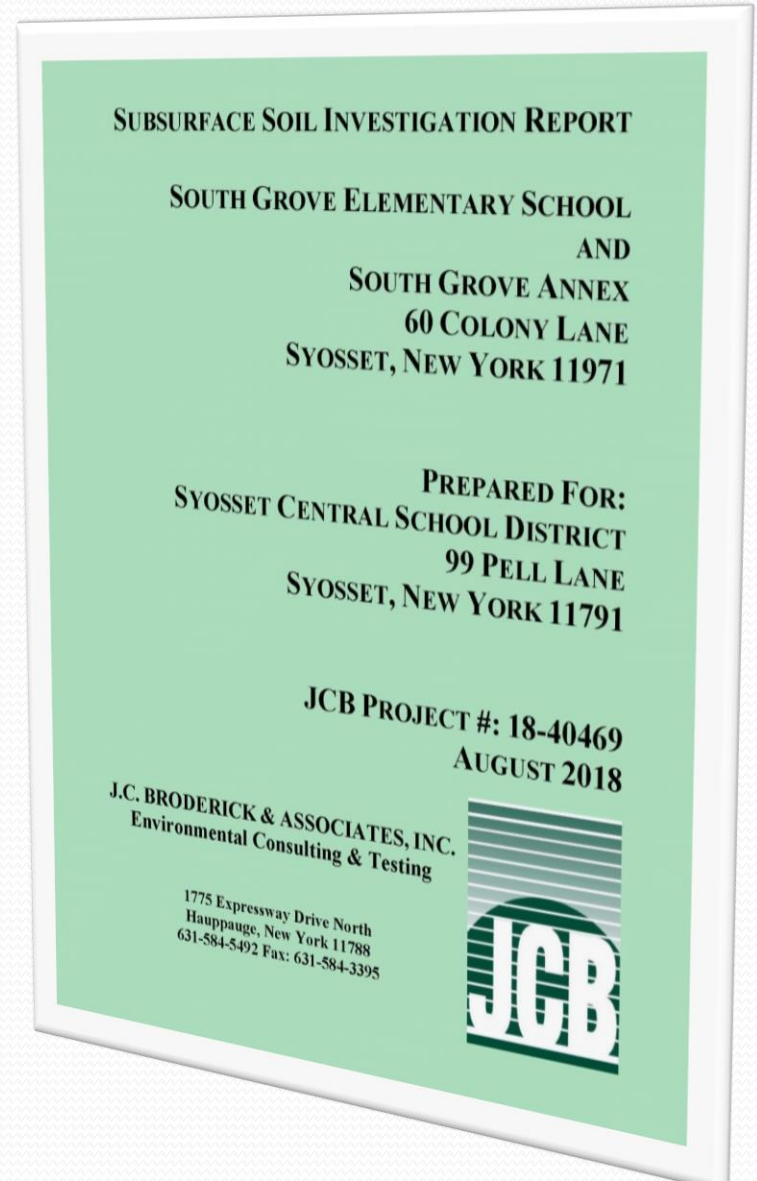
# VVI Investigation Results

- All detectable concentrations observed were reported well below published occupational health guidelines.
- All detectable concentrations observed in the occupied spaces of the school buildings were below the NYSDOH Background Values.
- No hazardous condition or immediate health concern was identified associated with VVI.

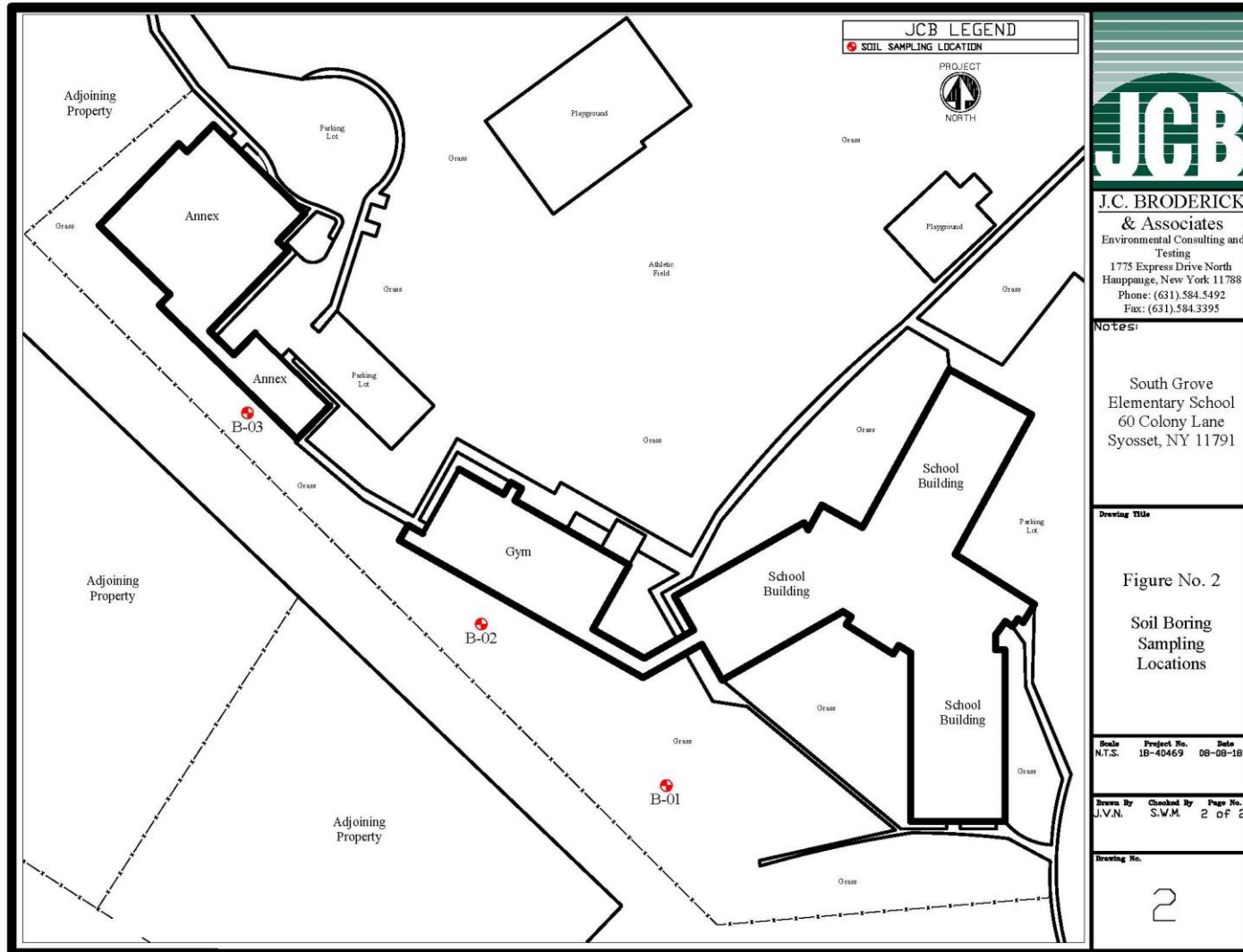
# Subsurface Soil Investigation

In July, 2018 JCB conducted a Subsurface Soil Investigation at the South Grove Elementary School and Annex.

The investigation consisted of collecting 3 shallow and 3 deep soil samples.



# Subsurface Soil Investigation



# Subsurface Soil Investigation

- Direct Push Soil Sample collection on July 3, 2018.





# Subsurface Soil Investigation Results

- A clay layer was identified approximately 85 feet deep
- The laboratory analysis results for the soil samples submitted from B-01, B-02, and B-03 did not indicate any detectable concentrations of VOCs or SVOCs exceeding the NYSDEC Part 375 for the Protection of Groundwater or Unrestricted Use Soil Cleanup Objectives.
- No further action with regards to the soil at the subject site is warranted at this time.



# Groundwater Investigation

In August 2018, groundwater monitoring wells were installed on the property.

The investigation consisted of the installation of 3 groundwater monitoring wells, so the aquifer can be sampled at future intervals.



# Preliminary Groundwater Results

After the installation of the first of three monitoring wells, a grab sample of the groundwater was collected and analyzed.

- The local groundwater table is greater than 100 feet below the surface.
- No volatile organic compounds (VOCs) were detected above the NYSDEC groundwater standards in this sample.

# Preliminary Groundwater Results

- A small group of semi-volatile organic compounds (SVOCs) were detected above the NYSDEC groundwater standards in this sample.
- These compounds known as PAHs are most commonly formed by the incomplete combustion of natural (forest fires) or man-made sources (coal, wood burning, automobile exhaust) and are ubiquitous in the environment.
- No other SVOCs were detected above the NYSDEC groundwater standards in this sample.

# Preliminary Groundwater Results

- Since these SVOCs are dissolved in groundwater that is over 100 feet below the surface and confined by an identified silty clay layer, there is no exposure pathway by VVI; therefore the buildings and grounds are safe. The only available pathway is exposure to the groundwater from pumping which the district does not do.
- Drinking and irrigation water is provided by the Jericho Water Authority from deeper aquifers
  - The water is required to be regularly and thoroughly tested before entering the distribution system.
- Once the 3 groundwater monitoring wells are completed and sufficiently developed, a round of groundwater samples will be collected, and a comprehensive groundwater investigation report will be prepared.

# Subsurface Investigation Summary

- Volatile Vapor Intrusion Sampling
  - No hazardous condition or immediate health concern was identified associated with VVI.
- Soil Sampling
  - No further action with regards to the soil at the subject site is warranted at this time.
- Groundwater Sampling
  - Although the buildings and grounds are safe, some SVOCs were detected in the aquifer over 100 ft below surface.
  - There is no exposure pathway for these contaminants, as they cannot migrate upward nor penetrate the layer of clay.
  - Therefore the only way to be exposed to these chemicals is to pump the groundwater which the District does not do.