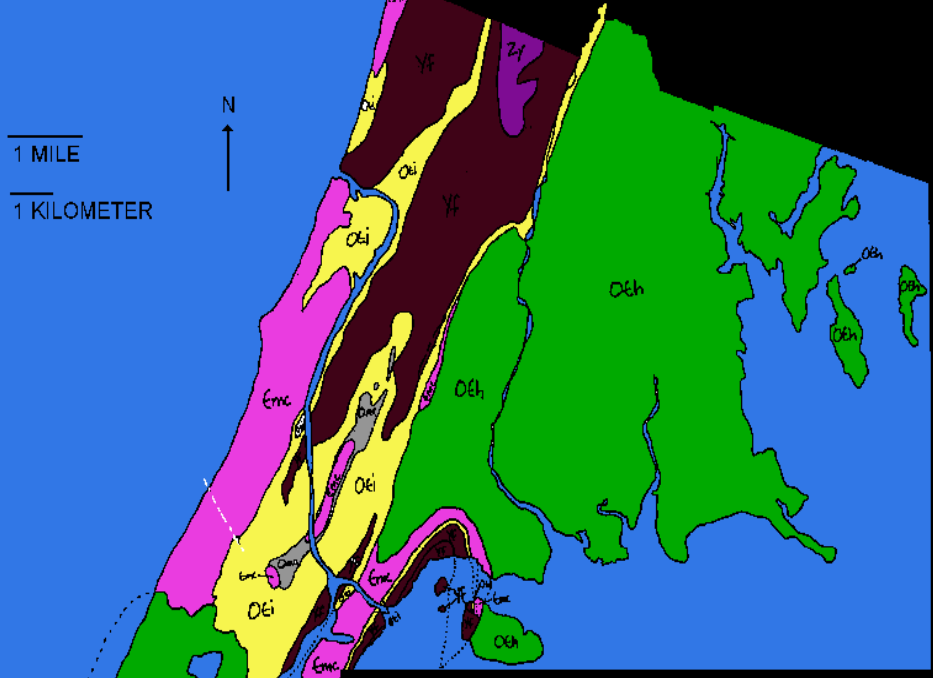













**Geologic Map of Manhattan,  
The Bronx, and parts of  
Brooklyn and Queens**



 Ordovician WALLOOMSAC SCHIST	 Ordovician SERPENTINE
 Cambrian-Ordovician INWOOD MARBLE	 Cambrian-Ordovician RAVENSWOOD GRANODIORITE
 late Proterozoic YONKERS GNEISS	 Cambrian-Ordovician HARTLAND FORMATION
 middle Proterozoic FORDHAM GNEISS	 Cambrian MANHATTAN SCHIST
 125th St. FAULT ZONE	 GRANITE
 water	

NYC Bedrock Map

# Minimum Characteristics of Video Inspected Rock Sockets

1. Type of bedrock: gneiss, granite, diabase, schist, marble, serpentine, cemented shale and sandstone.
2. Exposed bedrock characteristics
  - A. Rock gives a dull sound when struck with a pick or bar.
  - B. Rock does not disintegrate after exposure to air or water.
  - C. Broken pieces may show weathered surfaces.
  - D. Rock may contain fracture and weathered zones up to one inch wide spaced as close as one foot.
3. Rock core characteristics
  - A. RQD with a double tube, NX size diamond core barrel is generally greater than 35% for each 5 foot run.
  - B. Core recovery with BX-size core of generally greater than 35% for each 5 foot run.
  - C. Standard penetration resistance is 50 blows per foot or more.

# Possible Objectives for Video Inspection of Rock Sockets

1. Comply with NYC Building Code so that static load testing is not required.
2. Verify that the socket is formed in bedrock meeting design requirements.
3. Evaluate the shedding of casing load directly to bedrock, thereby reducing the load that the rock socket must be designed to carry.
4. View the condition of casing joints.
5. Apply same QA/QC to all piles.





Video Equipment



Casing joint not completely connected.





Concrete Rubble – Below Water



Casing on Bedrock - Above Water



Casing on Bedrock – Below Water





Casing Teeth in Schist



Casing Teeth





Competent Gneiss Below Water



Weathered Bedrock and Large Void



# Load Transfer to Micropile Rock Socket

