Existing Conditions Report

Local Conditions

The structure is located in North West Washington DC. Generally, the buildings of this city are constructed out of concrete to maximize floor to floor heights. For Columbia Heights Community Center, this is not the case. The owner has decided upon using a steel frame with a composite concrete slab on deck. A truck crane will be used to set the steel in three phases.

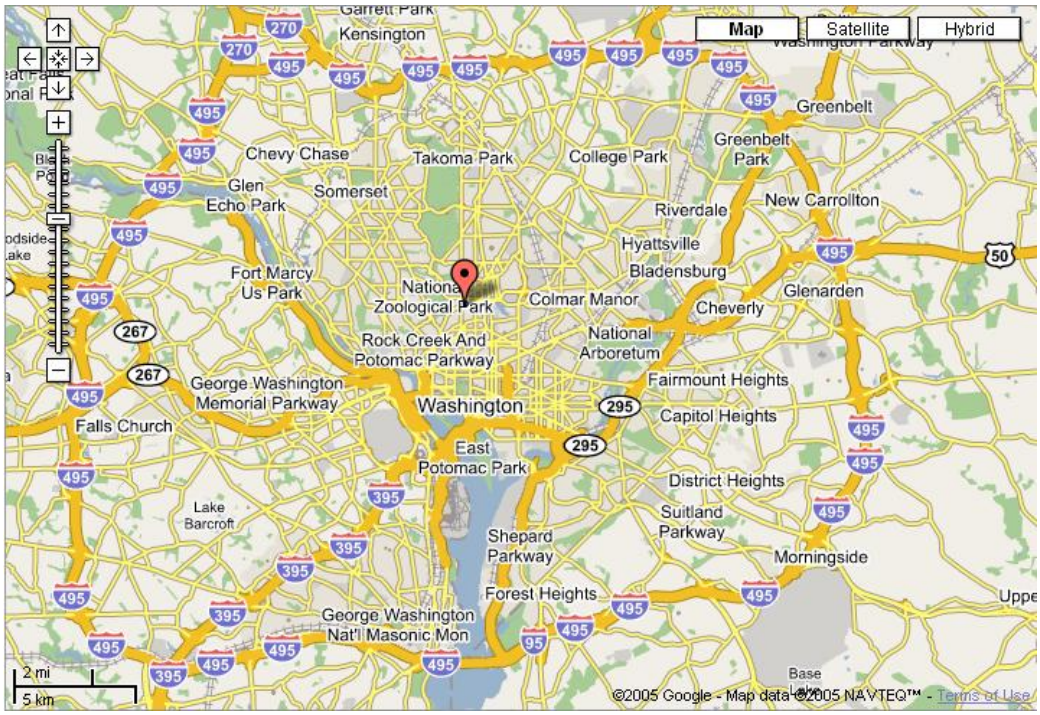
Since this project is in a downtown urban area, parking is at a premium. One lane is closed off along Girard St. (refer to site plan) which houses the trailer and temporarily houses parking only for the owner and construction management staff. Later, the parking spaces will be used as material staging. Subcontractors are responsible for their own parking, which is illustrated in their contract.

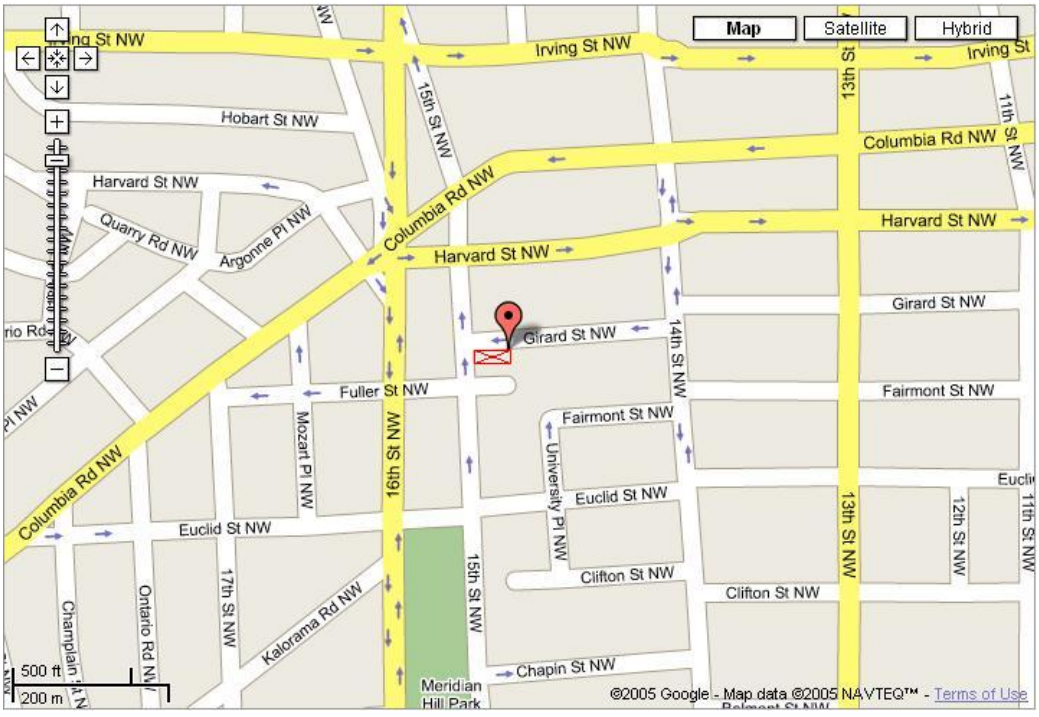
The surface soil was found to be a mix of crushed stone in some areas, and top soil in others for a depth of 3 inches. Directly below this existing fill was encountered. It consisted of medium dense silty sand and clay. Also, building material from the previously demolished apartments was mixed throughout. This layer lasted until 5 feet below the surface layer. Underneath the fill, medium loose to very dense silty to clayey gravel was discovered and ranged from 11 to 23.5 feet below the surface. Lastly, the bottom layer, which ranged from 21 to 28.5 feet, was found to contain silt, elastic silt, and silty sand. Upon removal of the site borings, the groundwater level was undetected, even at the cave-in depth.

Evaluation of these soils shows that all subsurface layers are suitable to support the shallow foundations with an allowable soil bearing capacity of 3000 psf. Only in certain areas will structural fill have to be used. The main area in question is the remaining rubble from the buried apartment building that was demolished.

Vicinity Maps

Below you will find two vicinity maps. The top one shows the location of the Columbia Heights Community Center in the Washington D.C. area, while the bottom one zooms in to show the position of the project within the community.





Site Layout Planning

The site for Columbia Heights Community Center is extremely congested. Critical phases of construction are highlighted and the site plans illustrate how work will flow during those phases. Four site plans, which include Existing Conditions, Excavation, and Steel Phases 1-3, can be found in *Appendix A*. Below is a list of three major phases and a brief description outlining a few key points:

- **Excavation**
  - There are two levels of excavation. The 10' deep section is in the area where the footing steps down to meet the water meter vault. The remainder of the site will be excavated 4' below datum to prepare for the rest of the foundation. The fleet will be balanced to minimize wait time for dump trucks before loading. All early trucks will park on the other side of 15th Street as seen on the Excavation Plan.
- **Steel Erection**
  - Steel is to be erected by bays (using multi-story columns) in three phases. Each phase is displayed on a separate drawing. The steel erection phases are as follows:
    1. Column Line (M-H)
    2. Column Line (H-E)
    3. Column Line (E-A)
       - The last piece of steel is to be erected from the street, closing a lane on 15th Street. This work will be performed on a weekend during off-peak hours so that impact to traffic is minimized.
- **Concrete Work**
  - Concrete work will follow shortly behind the steel erection. Upon completion of a steel phase, concrete will be poured in the decks of that finished area. The concrete operation will chase the steel erection until completion of the entire steel frame, and then the slab on grade will be poured.