



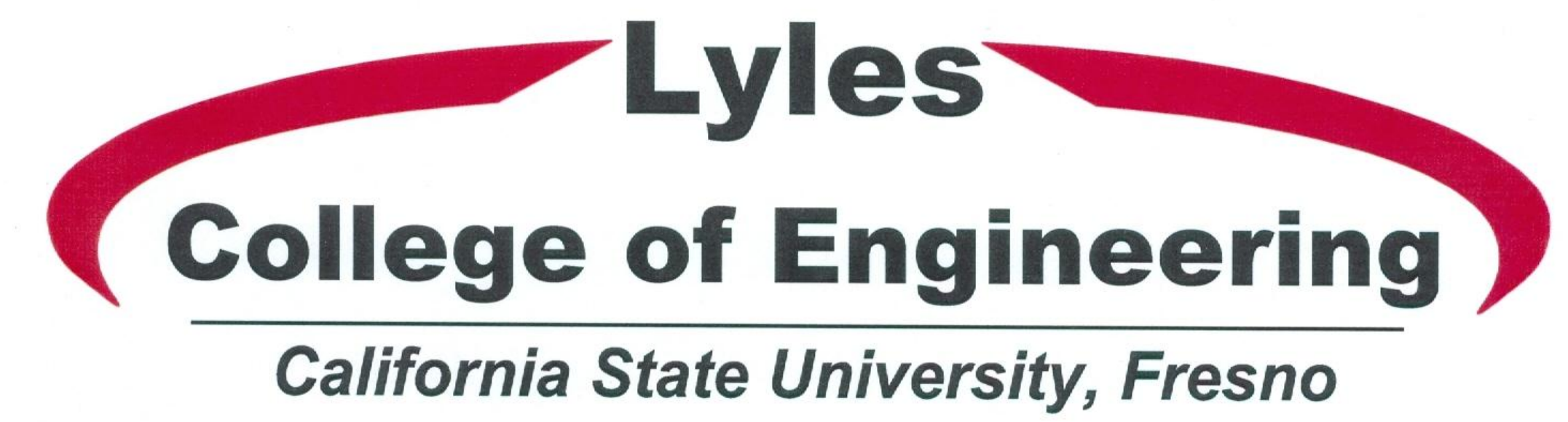
# CSU Fresno Lot Q Parking Structure

Civil Engineering

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## Abstract

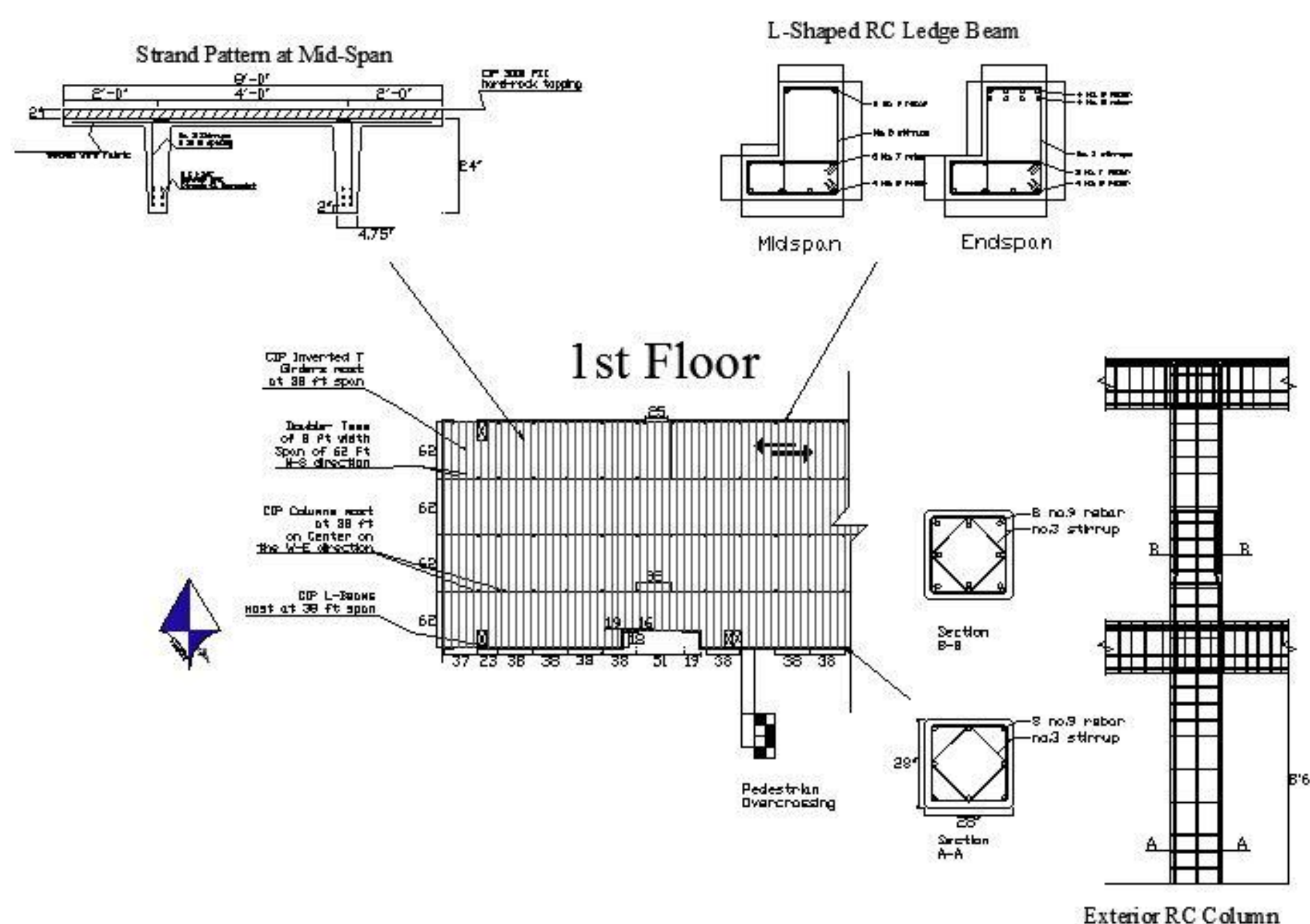
Fresno State is in dire need of additional parking. Currently, over 90% of all parking spaces at Fresno State are used during the peak hour, and the majority of those spaces are located at Lot Q, a parking lot located on the north side of Barstow Avenue between Cedar Avenue and Maple Avenue. Currently, there are approximately 20,000 students enrolled at Fresno State, and the rate of enrollment is increasing by 20% for every ten years.

The other primary problem is the amount of traffic on Barstow Avenue. Based on cars alone, 47% of all campus traffic travels along Barstow Avenue. Pedestrians cross Barstow daily, requiring the cars in the street to yield to them, and therefore slow down traffic. This delay in traffic causes a multitude of issues including students being late to class, the requirement of crossing guards to aid pedestrians crossing the street, and the struggle of finding a parking space.

The proposed solution is a three level parking structure located in Lot Q. The parking structure consists of a rectangular footprint of 253 feet by 1006 feet. This footprint is located in the southern portion of Lot Q, and was chosen for the convenience of students and design. In this structure, there will be four ramps 219 feet long with a slope of 6% that will be used to travel between each of the levels. There will be access to the back portion of Lot Q on the first floor of the structure and the parking stalls will be aligned to suit the alignment of the stalls within the parking structure.

This design also includes two pedestrian overcrossings and two roundabouts to facilitate traffic flow on Barstow Avenue. The pedestrian overcrossings will be located on the second floor and will serve as the primary means to allow students to safely cross Barstow Avenue. Each overcrossing will consist of one elevator within the parking structure itself as well as an elevator on the south end of the structure to allow access to the campus itself.

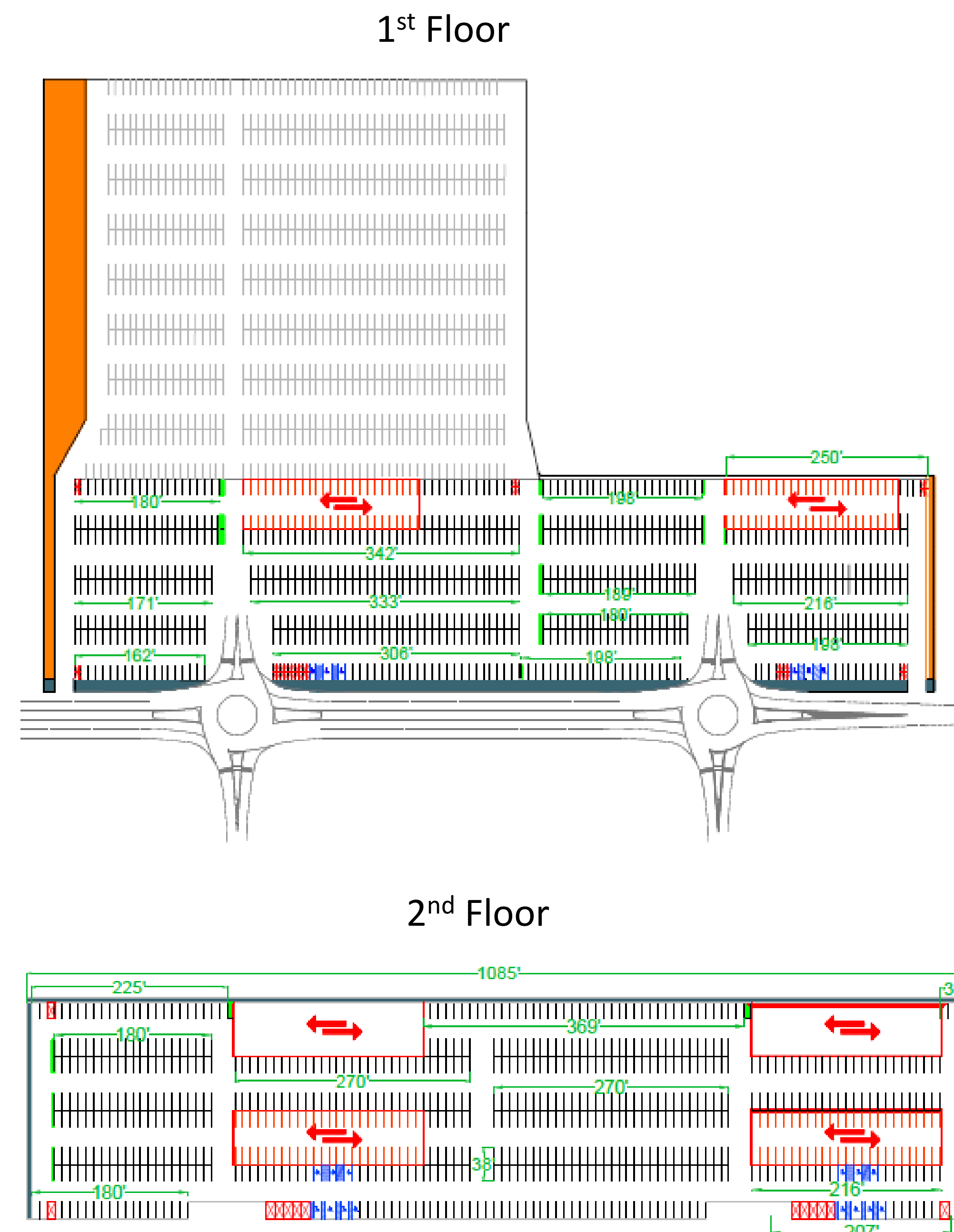
## Structural Design



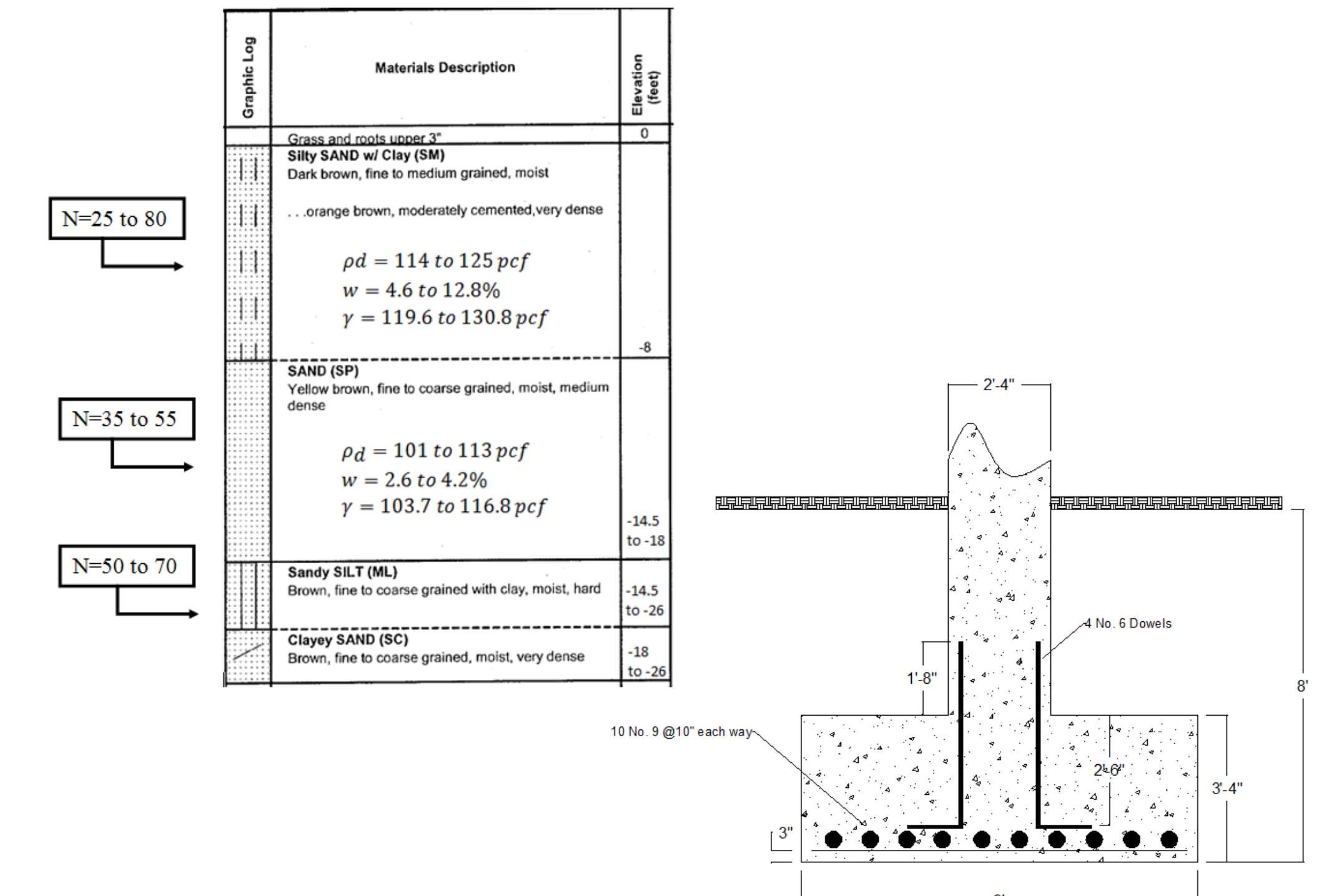
## Location Map



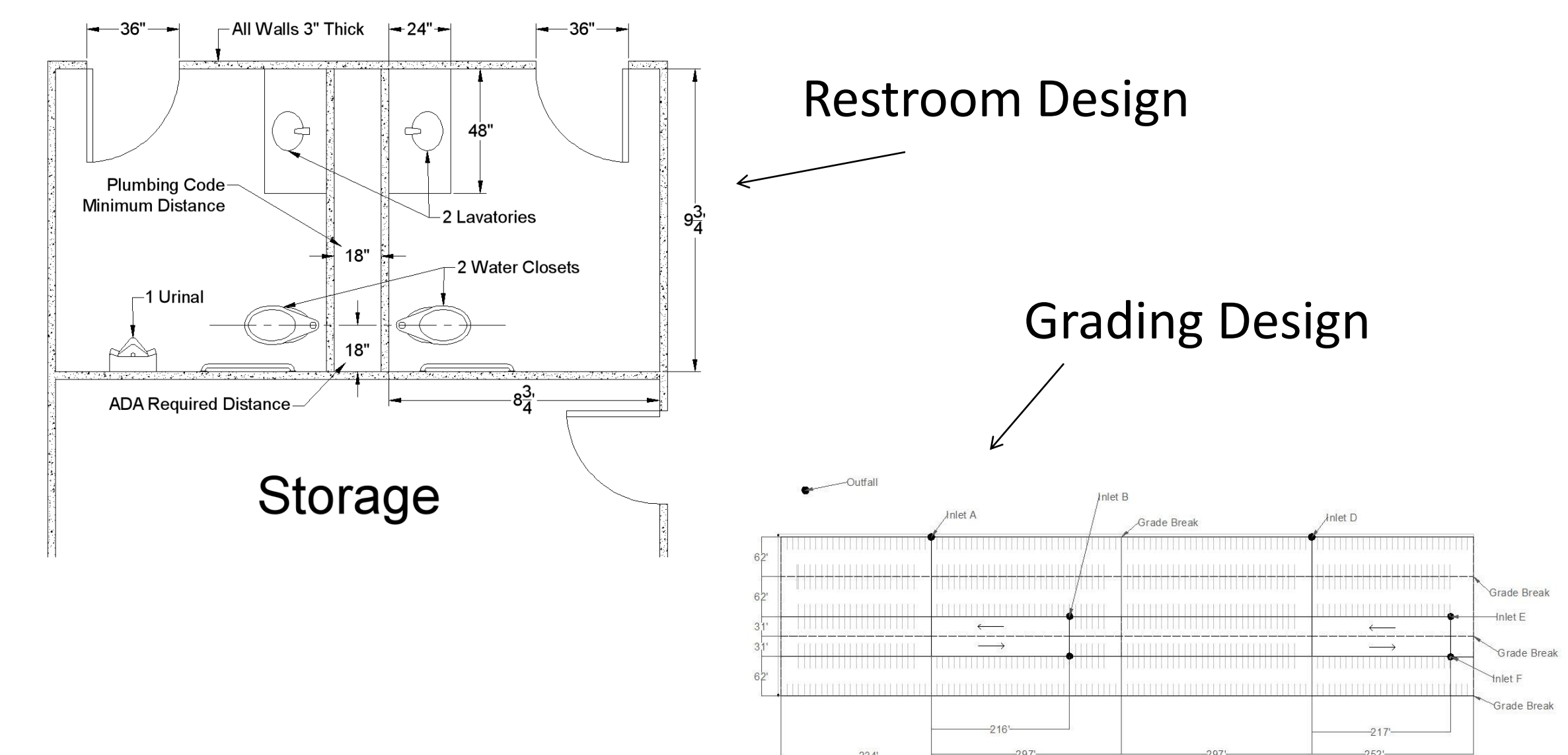
## Transportation Design



## Geotechnical Design



## Water Resources/Environmental Design



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