

St Matthew's Redevelopment | FEMA Mitigating Revisions

Proposed revisions to the PUD-approved design fall under two types, FEMA code compliance and flood protection measures.

For compliance, the residential units located within the western portion of the apartment tower must be elevated by approximately two feet (24") above the PUD design. Hence, no residential unit's floor elevation may fall below one foot and six inches (18") above the 100 year flood plain of elevation. This revision requires substantial re-grading of the perimeter unit terraces, modifications to the stairways and elevator, and changes to the structural and mechanical designs.

Flood protection revisions include three significant measures; each designed to meet DDOE-approved standards. First, PUD designed masonry garden walls must be elevated to a level above elevation +13.00'. Second, removable flood gates must be added to protect the parking ramp and garden entrances. Third, a removable flood protection system of sub-grade supported post and planks must be added protecting +-180 linear feet of glazed M Street façade fenestration and entranceways. This measure must be installed outboard of the façade but within the property boundary.

UNDERGROUND PARKING STRUCTURE – FLOODPROOFING

1. Due to the requirement for dry floodproofing the underground parking structure, it will be necessary to provide tiedown anchors into the mat foundation throughout the entire footprint of the underground structure. Tiedown anchors consisting of high strength steel tendons grouted into a drilled hole and anchored into the mat foundation shall be corrosion protected with an epoxy coating or plastic sheathing to provide a permanent installation. Tiedown anchors shall be designed to resist uplift forces at each column. as follows:
 - a. Below the 11 story tower – 550 kips.
 - b. Below the 8 story tower – 950 kips.
 - c. Below the plaza and the church sanctuary (refer to the foundation plan for extent) – 1,700 kips. An additional 5 psf of reinforcing steel in the mat foundation will be required to resist the uplift pressure.
2. Increase the thickness of the below grade basement walls from 12 inches to 18 inches, and the quantity of reinforcing steel from 6.5 psf to 9 psf.
3. Raising the floor elevation of the Ground Level for the residential units by 2 feet will require adding beams along the majority of the perimeter of the raised area, and approximately 3,000 gsf of overbuilt slab construction consisting a 4 inch thick concrete slab on rigid insulation (see attached sketch).


