

MANSION ON TURTLE CREEK PARKING GARAGE & AMENITY DECK

DALLAS, TEXAS



YEAR COMPLETED:
2018

OWNER:
Rosewood Hotels and Resorts

ARCHITECT:
Three: Living Architecture

CONSTRUCTOR:
Hensel Phelps

RLG SERVICES:
Structural Engineering
Civil Engineering

PROJECT DESCRIPTION /SCOPE:

RLG Consulting Engineers, in partnership with Three Living: Architecture and Hensel Phelps, provided civil and structural engineering services for a major expansion of the Mansion on Turtle Creek. Three decades ago the private residence was converted into a luxury hotel and restaurant. Very few changes have been made to the Dallas staple over the years, but the addition of a new parking garage and amenity deck were needed to keep up with its growing popularity. A former concrete parking garage located next to the hotel lobby was demolished to make way for a new underground parking garage and amenity deck, which features a lawn, breezeway, pool, and private garden.

RLG provided the design of a new 3-level below-grade parking garage with a grade-level amenity deck. RLG's civil and structural engineers collaborated together to design a ramp for the garage. The amenity deck required reinforced one-way slabs with girders. The ground level slab was designed to carry the amenity deck which included soil, planters, amenity buildings, and the pool. RLG's team of structural engineers were challenged with meeting the needs of the event lawn while still maintaining a minimum structure depth. The team designed a solution that allowed for proper garage clearances while limiting the excavation into very hard limestone by coordinating locations of structural elements with amenity locations.

RLG's team of civil engineers designed the underground utility connections and graded the site. The civil team worked closely with the contractors and design team consultants to properly set the flow lines for the storm sewer, sanitary sewer and water connections for the parking garage. Due to City of Dallas requirements, RLG was tasked with capturing all offsite runoff from the site that previously drained onto neighboring sites.