

JFK - Residential project AK7

Avenue John F. Kennedy on the Kirchberg plateau, Luxembourg (LU)



Complete stability mission

Owner
SNHBM - Société Nationale des
Habitations à Bon Marché S.A.

Architect
Steinmetzdemeyer architectes
urbanistes

Area
Lot 1: 33.000 m²
Lot 2: 29.500 m²

Cost of the works
€ 103,5 M excl. vat of which
€ 21,4 M for lot 1 and
€ 17,3 M for lot 2

Studies
2022 - 2025

Execution
2025 - 2029

ST



The project involves the construction of **residential buildings** on the Kirchberg plateau in Luxembourg, covering an area of over **62,500 m²**.

On a greenfield site in an iconic neighbourhood (home to the Luxembourg Philharmonic, the European Parliament, and Arcelor's headquarters), the project is situated between Avenue John F. Kennedy and Rue du Fort Thüngen and is divided into **two lots**. The first lot consists of four towers, each with a maximum of 13 storeys, linked together by a base. On the Rue du Fort Thüngen, situated below Avenue John F. Kennedy, townhouses are planned. Lot 2 follows a similar layout, with flats spanning up to six storeys. Numerous terraces are dotted amongst the buildings, linked by landscaped esplanades. In total, more than **245 new homes**.

The layout of the flats, which **varies considerably** from one floor to the next, and the interruption of the core blocks at the car parks posed significant structural challenges. To maximise the amount of space available in the basement (corridors and car park), many of the vertical load-bearing elements have not been extended, which has made the design more complex. Given these constraints, the engineers came up with a **solution** involving **beam-and-wall** construction combined **with high-strength concrete**, applied specifically to the areas under the greatest stress.

Built on rocky ground (marl), the buildings rest on an **optimised foundation slab**, the standard thickness of which is just 25 cm.

This thinness, made possible by detailed modelling of the behaviour of the soil and concrete, makes it possible to halve the volumes of concrete and quantities of steel compared with a conventional design. This optimisation also helps to **minimise rock excavation**, making the project part of a **more sustainable approach**. Wind forces and earth pressure imbalances, intensified by the difference in level between Avenue John F. Kennedy and Rue du Fort Thüngen, are counteracted by making use of the existing walls. For Lot 2, foundation pits between 1 and 6 metres deep are planned to ensure the stability of the whole structure.

