

# DESIGN OF A FIRE STATION IN NILAI TOWN

Prepared by: Lim Jian Chin

## ABSTRACT

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On behalf of the project title “Design a fire station for Nilai Town which includes a hose-drying tower”, the objective of the project is to design a steel design a 2 storey fire and a 4 storey height hose-drying which is located at a 50m x 50m rolling terrain nearby Majlis Perbandaran Nilai.

From the abstract of the project title, “Design a fire station using BS Code 5950 and BS Code 8110 for the office and the hose-drying tower. Accommodation has to be provided for the fire fighters in the fire station”, it is clearly defined that the fire station must provide facilities to support the routine of the staffs in the fire station.

Firstly, the project has been worked out with architectural design, which involves the layout of the structure. The external and the internal appearance of the fire station is shown in the architectural drawing in the report. An analysis of traffic in the fire station has been carried out together with architectural design.

Next, I have proceeded with the structural design of the fire station and the hose-drying tower. The fire station itself is mainly a steel design structure based on British Standard Code (BS Code) 5950 and the tower is a reinforced concrete tall structure based on BS Code 8110. The design was started with roof, slabs, beams, column and finally footings. The outcomes of the structural design are the structural key plans and the detailing of structure, which I have attached to the Body of this report.

Throughout the design, three main issues appear are:-

- i. The traffic of the fire station needs to be strategically designed.
- ii. The fire station needs to be designed for future expansion.
- iii. The R. C. design of ground floor of the fire station needs to be combined with the steelworks design of the upper floors.