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CASE STUDY

Bräckeskolan School

Project: Commissioned SWG to develop a 3D BIM model (building information model) of the 8,000 m2 Bräckeskolan school.

Objectives: The model and data will be used as a design reference for the renovation and extension of the school, and for the production of as-built plans.

Results: The 3D BIM model, the plan, façade drawings and the point cloud were all delivered together, alongside a point cloud viewer with 360 images.

About the City of Gothenburg Local Government

The local government created environments where life can take place; by building, renting, adapting, and managing premises and accommodation for the City of Gothenburg's operations. They are one of Sweden's largest managers of public premises with a total area of 2.2 million square meters. Every day, 150,000 Gothenburgers work in schools, preschools, offices, and care homes managed by Gothenburg Local Government.

Using BIM to Maintain a Secure Learning Environment

The local administration in the City of Gothenburg, Sweden, commissioned SWG to develop a 3D BIM model (building information model) of the 8,000 m2 Bräckeskolan school. The model and data will be used as a design reference for the renovation and extension of the school, and for the production of as-built plans.

Identifying the Suitable Software

Prior to the construction, the local government department noted early on that the existing 2D building drawings were inaccurate. Changes and renovations made by the school over the years had not been updated consistently, which resulted in several drawings being out of date. The decision to 3D scan and create an accurate 3D model of the building and its outdoor environment was therefore an easy decision to make.

"The process of laser scanning and 3D modeling was very quick and smooth. SWG gave us frequent and comprehensive updates on the works' status, and all

the timetable expectations were kept, as promised. The results met our requirements to an excellent standard," says Jonas Bertheden, Information Coordinator at the Local Administration office in the City of Gothenburg.

Accommodating the Intricacies

In order to ensure that school activities were not disrupted, SWG carried out the fieldwork with 3D laser scanning and georeferencing technology over a weekend.

From then, the 3D BIM model, the plan, façade drawings and the point cloud were all delivered together alongside a point cloud viewer with 360 images.

This gave the Local Government Administration office the opportunity to virtually 'walk' around the interior and exterior of the building, and easily navigate to a specific location, to see what it would look like or to take measurements.

Bertheden says:

> **The consultants greatly appreciated being able to go through the image model from the office, without having to go out on-site to examine all the details."**

Benefits Gained

- The architect is given a complete Revit model (the design model) to start working with, which means that future planning and building work will be smoother, easier, and faster.
- The architect does not need to take additional measurements on-site or produce new data; the information is included in the 3D BIM model.
- The different designers are given reliable documentation that they can accurately draw from.
- The designers can use SWG's point cloud viewer, conceptually similar to 'Google Streetview', to make virtual site visits to the building and can take measurements directly from the model.
- The architect and designers have the correct information and documentation to hand over to the building and construction workers on the school site. This ensures that the work proceeds with minimal delays in production and an accurate expectation for project completion can be set.
- By SWG producing an accurate drawing documentation/model for the project, the City of Gothenburg Local Administration will benefit from smooth project progress at all stages, with satisfied project participants, lower costs and less time project time required.