# *Leading edge assessment of benchmark models*

## Introduction

The following documents introduce the two benchmark models, which are to be assessed by you as a domain expert participant. The images have been annotated with the elevation and coordinates of the building elements. (Note that all measures and coordinates are in millimeters.) The images and annotation should enable you, as a domain expert, to highlight the leading edges needing fall protection systems. (Note that access to the areas should NOT be considered. Assume that all platforms and surfaces are reachable to personnel.)

**Purpose** – The output of this workshop is used to create a ground truth that can afterward be digitized and compared to the outputs of automated safety analysis software tools.

**Procedure** - The workshop will be carried out in a four-step approach in two parts:
Part 1:

1) Short meeting with an introduction to the content of this document
2) Assessment by you as a participating domain expert
3) Return the assessment by email

Part 2:

4) An online meeting with all participating domain experts discussing the assessments if these differ.

**Guide** - The participant is asked to:

- Fill out the empty fields in Table 2
- Highlight the leading edges in both models (i.e., edges where fall protection systems should be installed). As exemplified by the yellow marking in Figure 1Figure 2
  - Available mitigation equipment is guard railing and cover panels
    - (Note: use different colors if both are applied)

**Content overview:**

- Regulation overview
  - Presents an overview of the values stated in the regulation.
- Domain expert questioner
  - Captures information about the participant.
- Model A assessment
  - Figure 2, which should be used to annotate leading edges in model A.
- Model B assessment
  - Figure 3 and Figure 4, which should be used to annotate leading edges in model B.
- Model A appendix
  - Provides a set of model views to facilitate a spatial understanding of the model A
- Model B appendix for spatial understanding
  - Provides a set of model views to facilitate a spatial understanding of the model B

*Figure 1 Example of the highlight of the leading edge*

# Regulation overview

Table 1 provides an overview of the values that should be used to assess the two models. The values are extracted from the European regulation and are confirmed in the introductory meeting (i.e., pt. 1 in the workshop steps).

*Table 1 Overview of regulation values extracted from European regulation regarding fall protection system [1]*

| Natural language formulations | Attribute | Symbol | EU |
|---|---|---|---|
| The minimum distance, from an elevated surface to a lower surface which an item or a human being could fall onto, which would require a form of fall protection equipment. | Fall distance | $f_d$ | **2m** |
| The minimum width of an area where an agent is allowed to be present. | Surface width | $w_s$ | **60cm** |
| Maximum dimension of hole in a surface, where chosen mitigation will be a coverboard | Cover dimension | $c_w$ | **Not stated** **(best practice)** |

# Domain expert information

Please fill out the table to share your work experience

*Table 2 Domain expert work experience*

| | | |
|---|---|---|
| Name and E-mail | | |
| Work country | | |
| Experience (years) | | |
| Usual project types | | |
| Usual project sizes (EUR) | | |
| Did you use the 3D model | Yes: | No: |
| Time spent (minutes) | Model A: | Model B: |

# Model A (low complexity model)

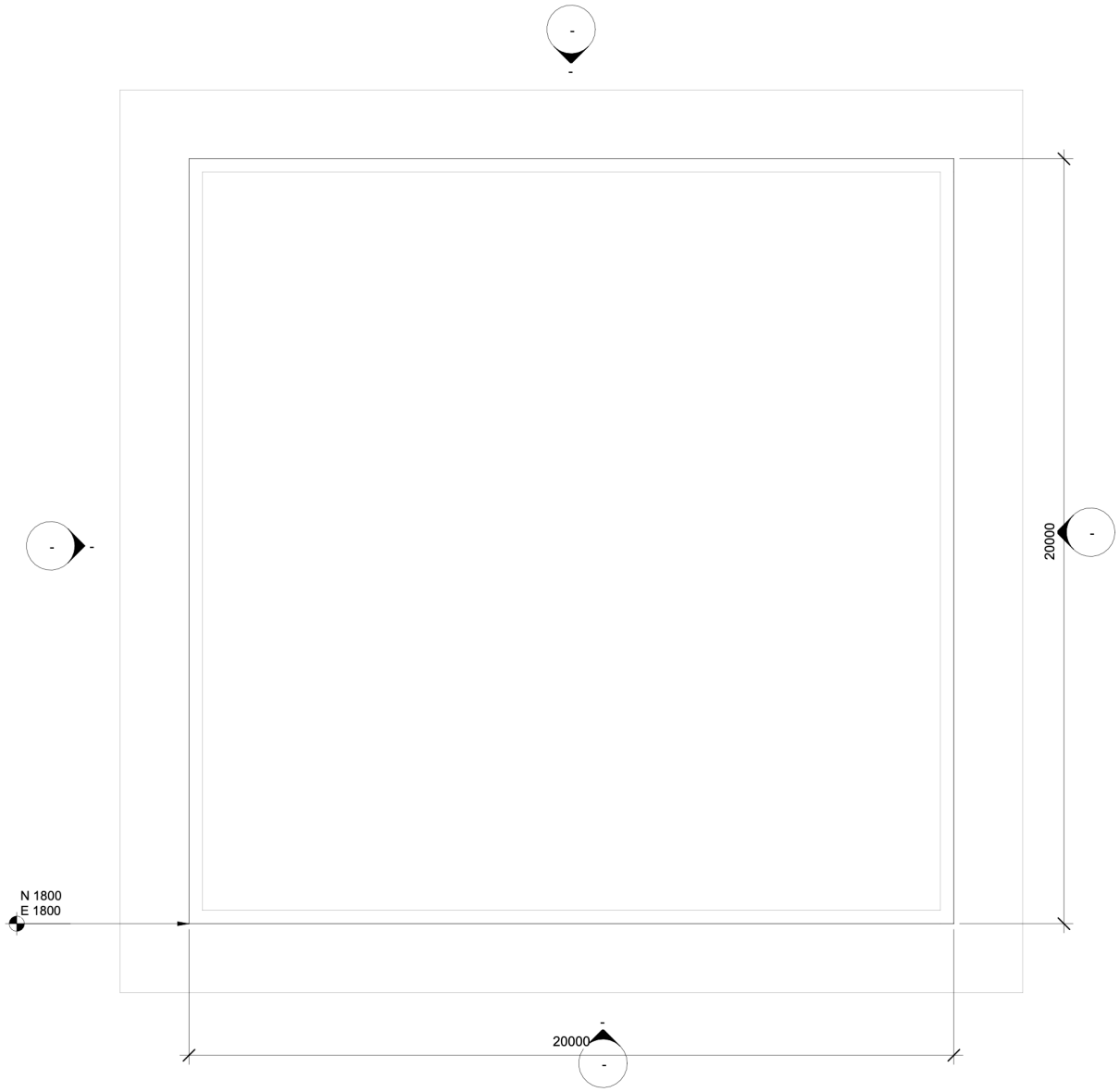



*Figure 2 Top-down wireframe view with dimensions.*

# Model B (edge case model)

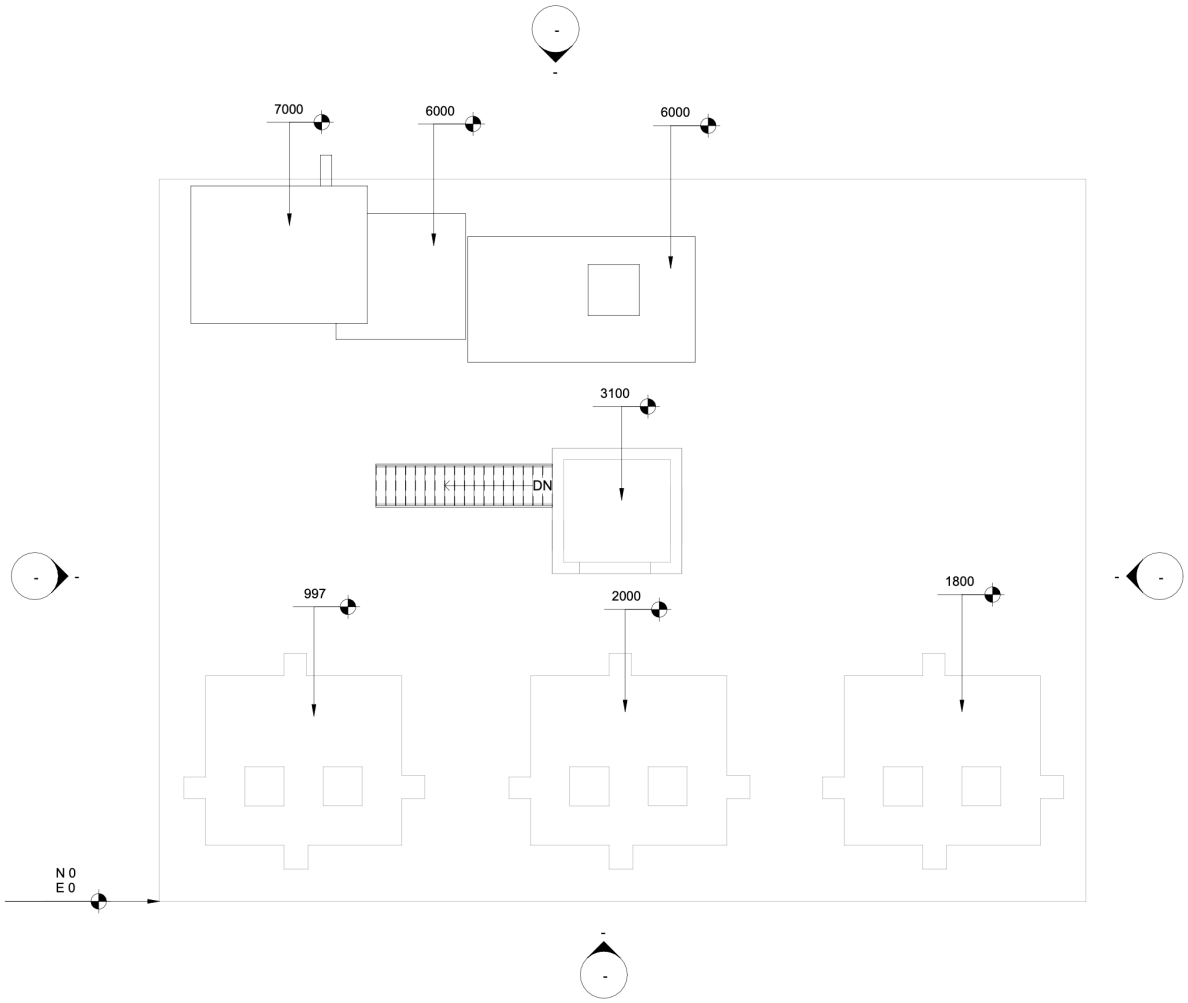



*Figure 3 Top-down wireframe view 1 of 2 with elevation annotated.*

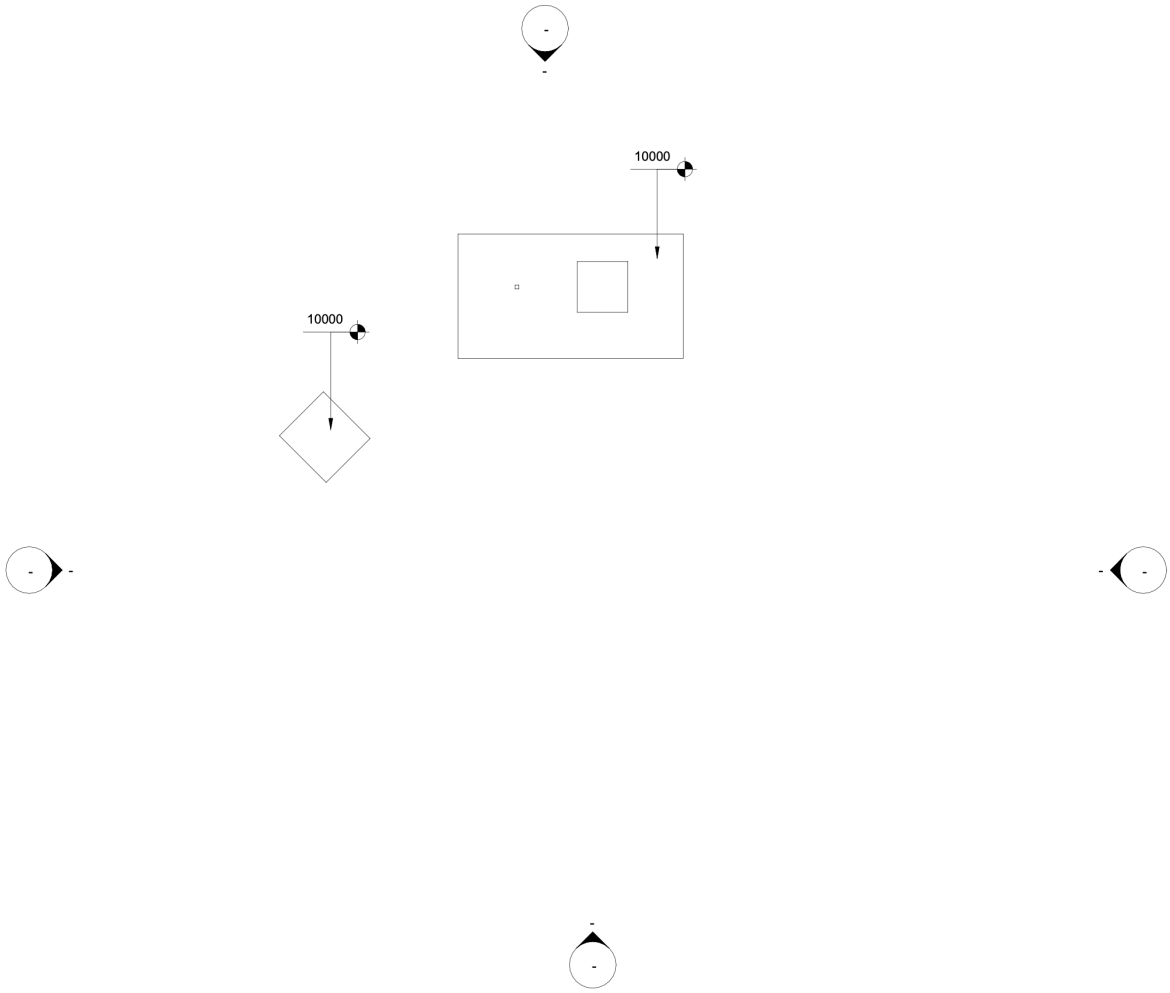



*Figure 4 Top-down wireframe view 2 of 2 with elevation annotated.*

# Appendix A: Model A (low complexity)

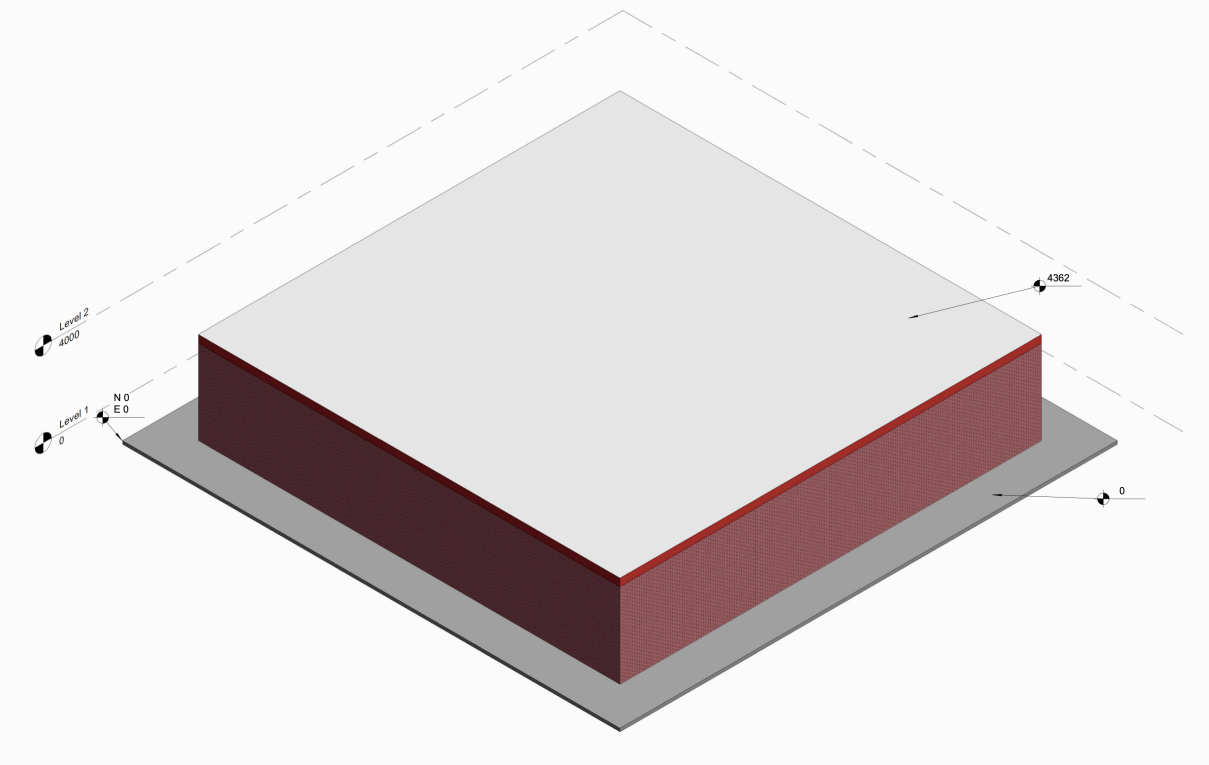



*Figure 5 3D view with elevation annotated.*

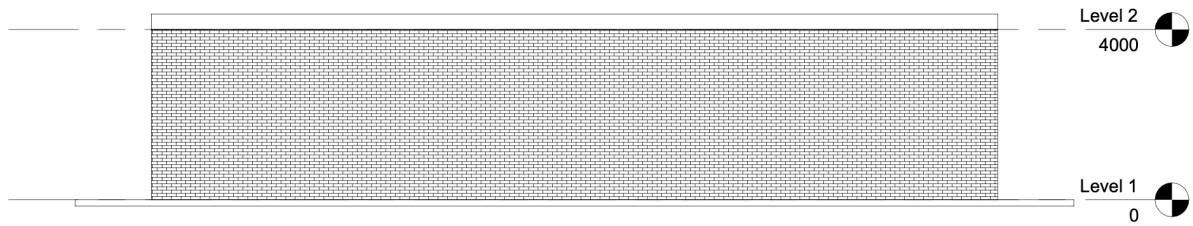



*Figure 6 Sectional view east.*

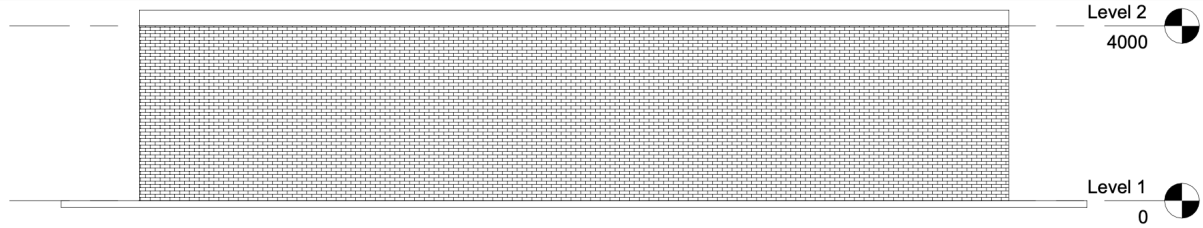



*Figure 7 Sectional view north.*

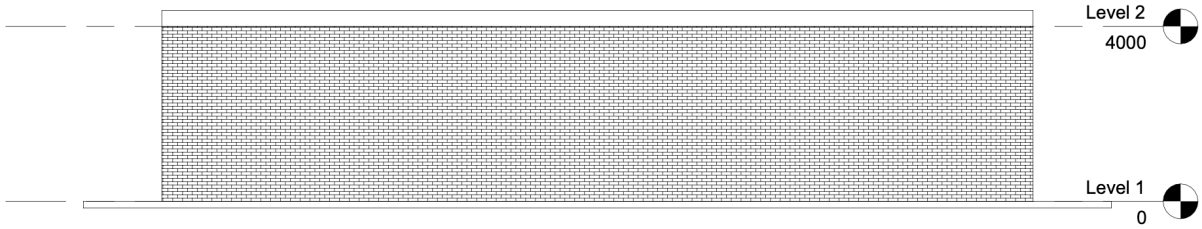



*Figure 8 Sectional view south.*

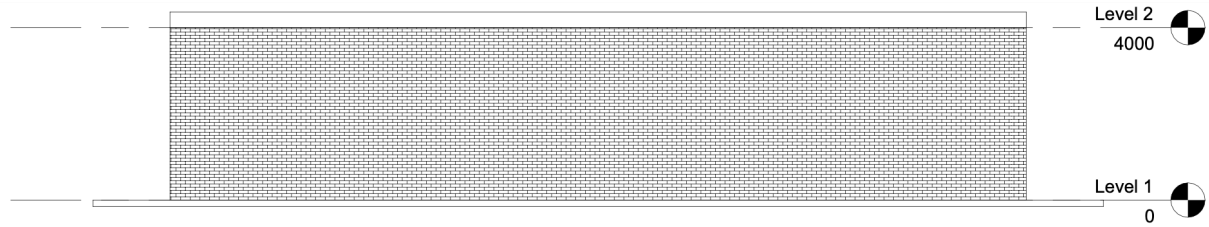



*Figure 9 Sectional view west.*

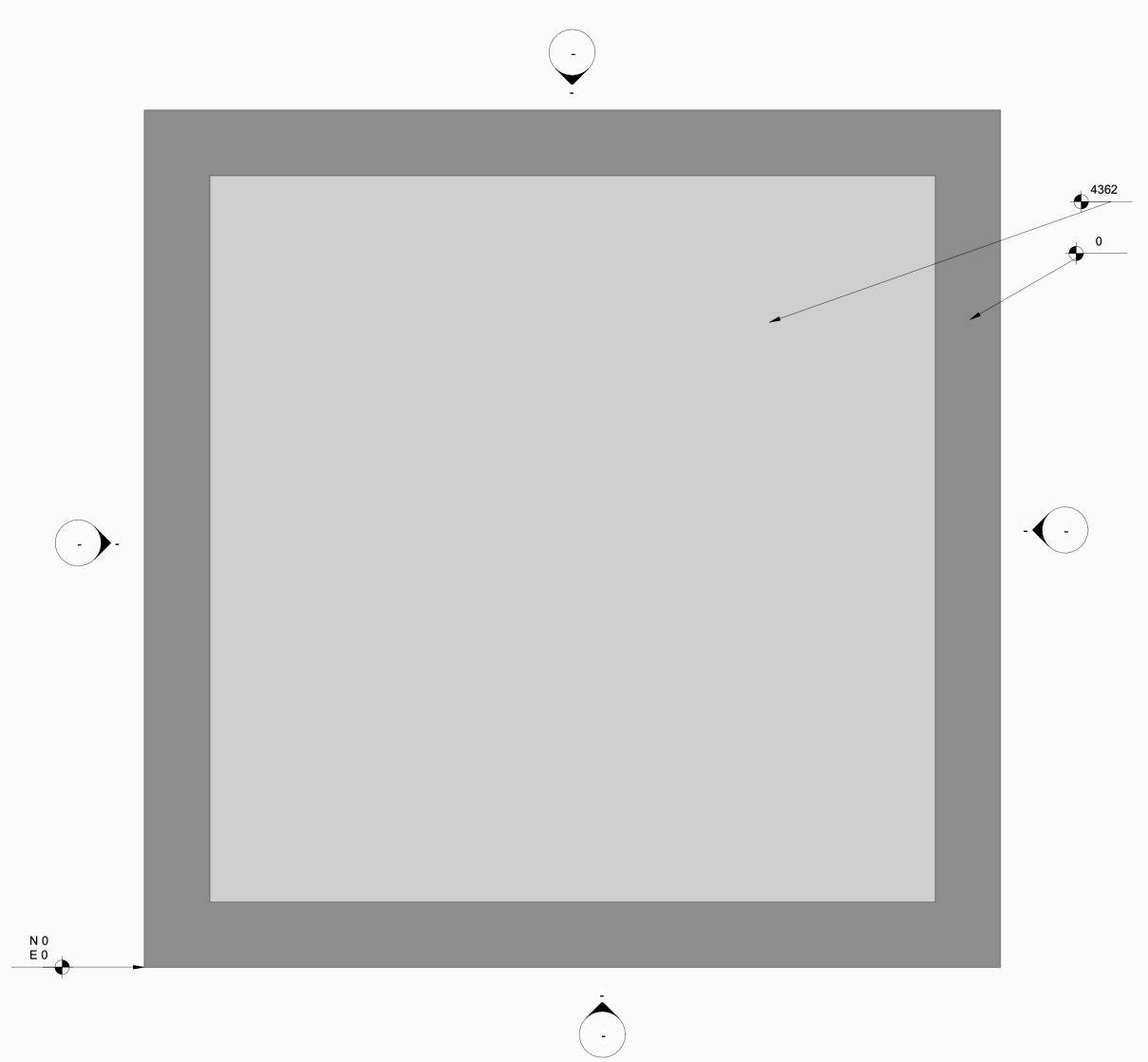



*Figure 10 Top-down shaded view with elevation.*

# Appendix B: Model B (edge case model)

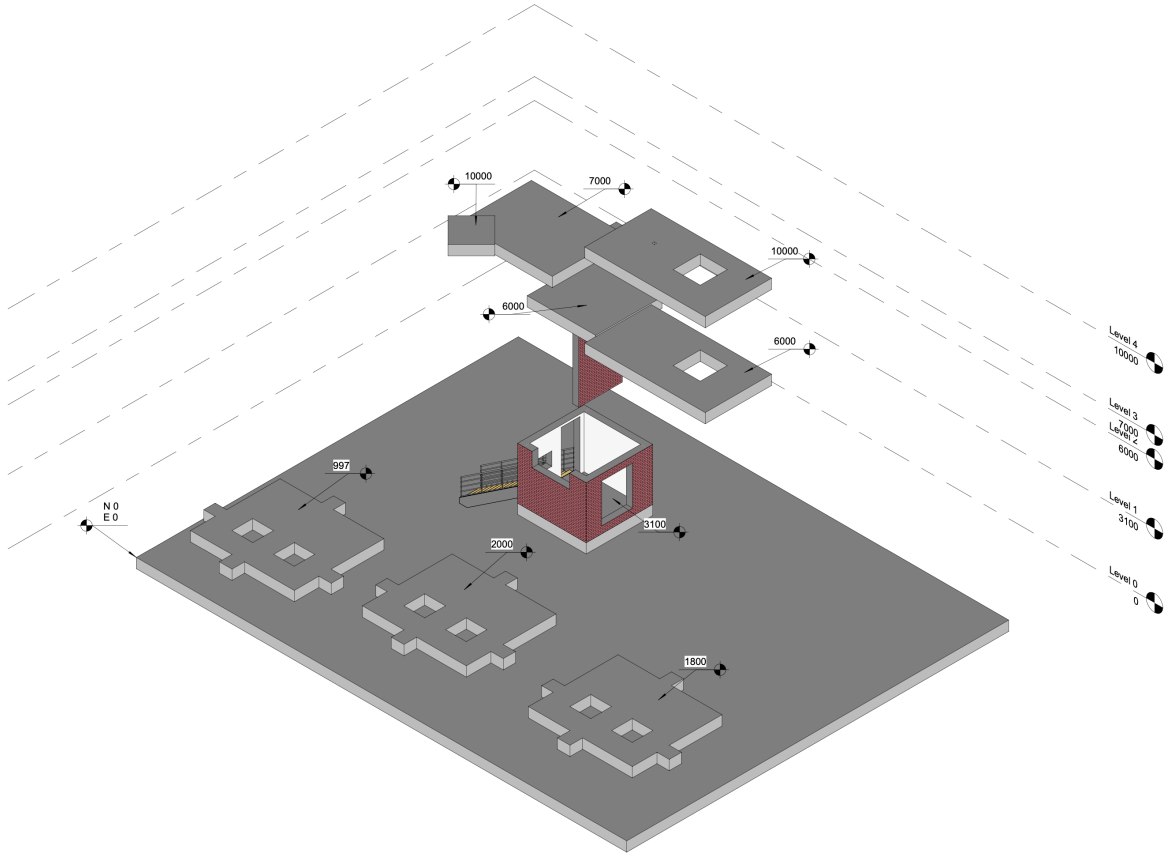



*Figure 11 3D view with elevation annotated.*

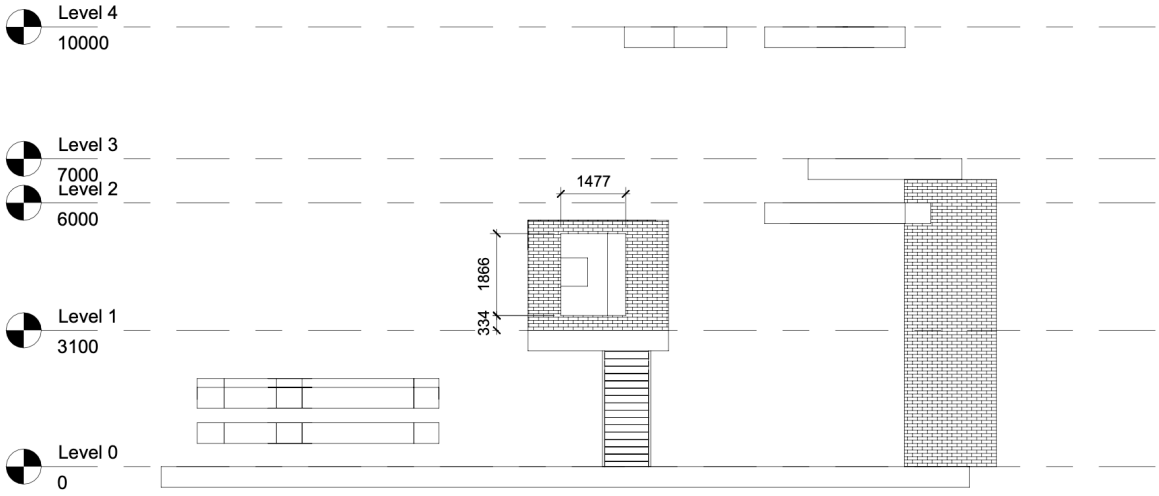



*Figure 12 Sectional view east.*

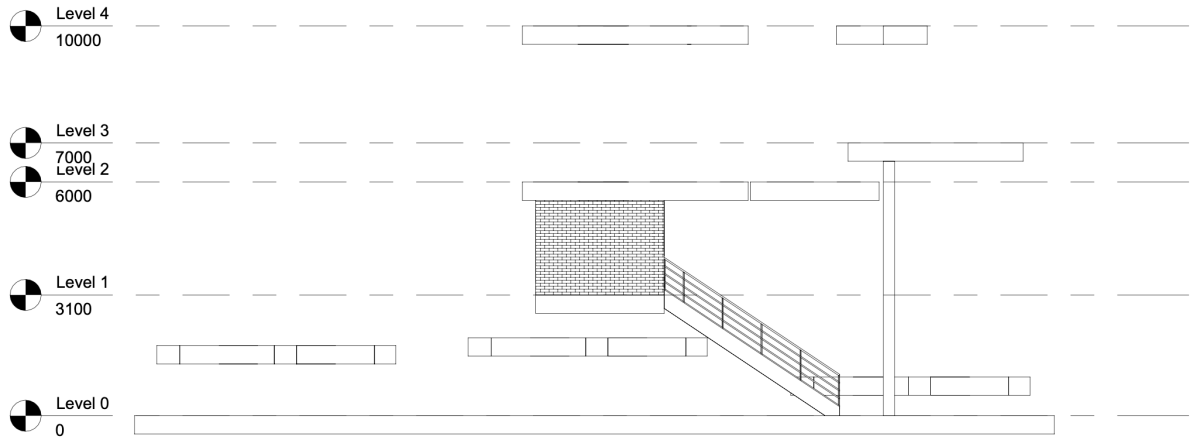



*Figure 13 Sectional view north.*

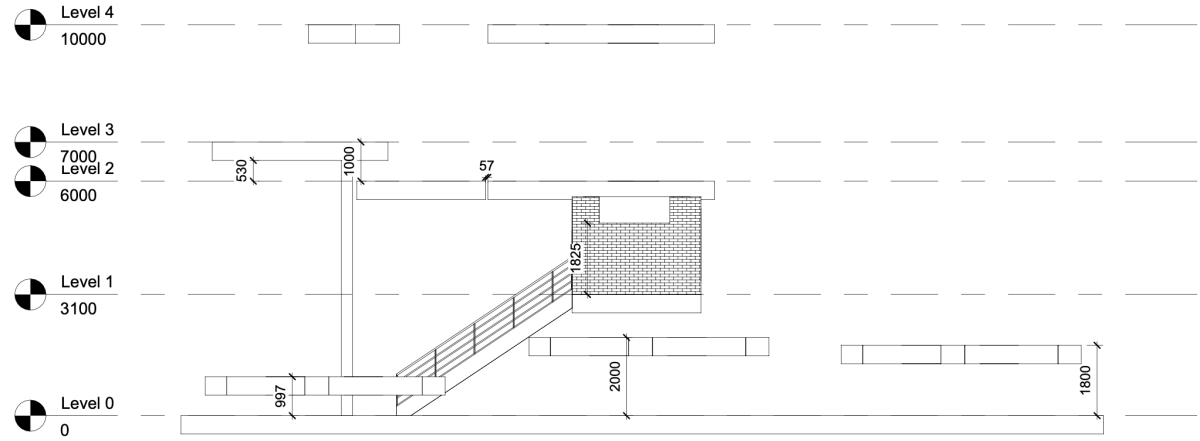



*Figure 14 Sectional view south.*

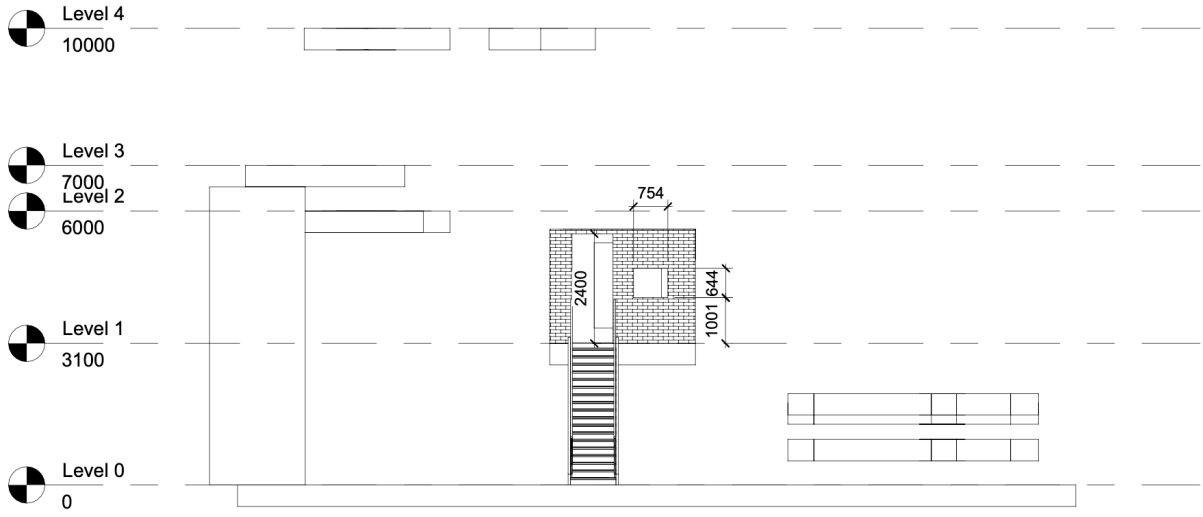
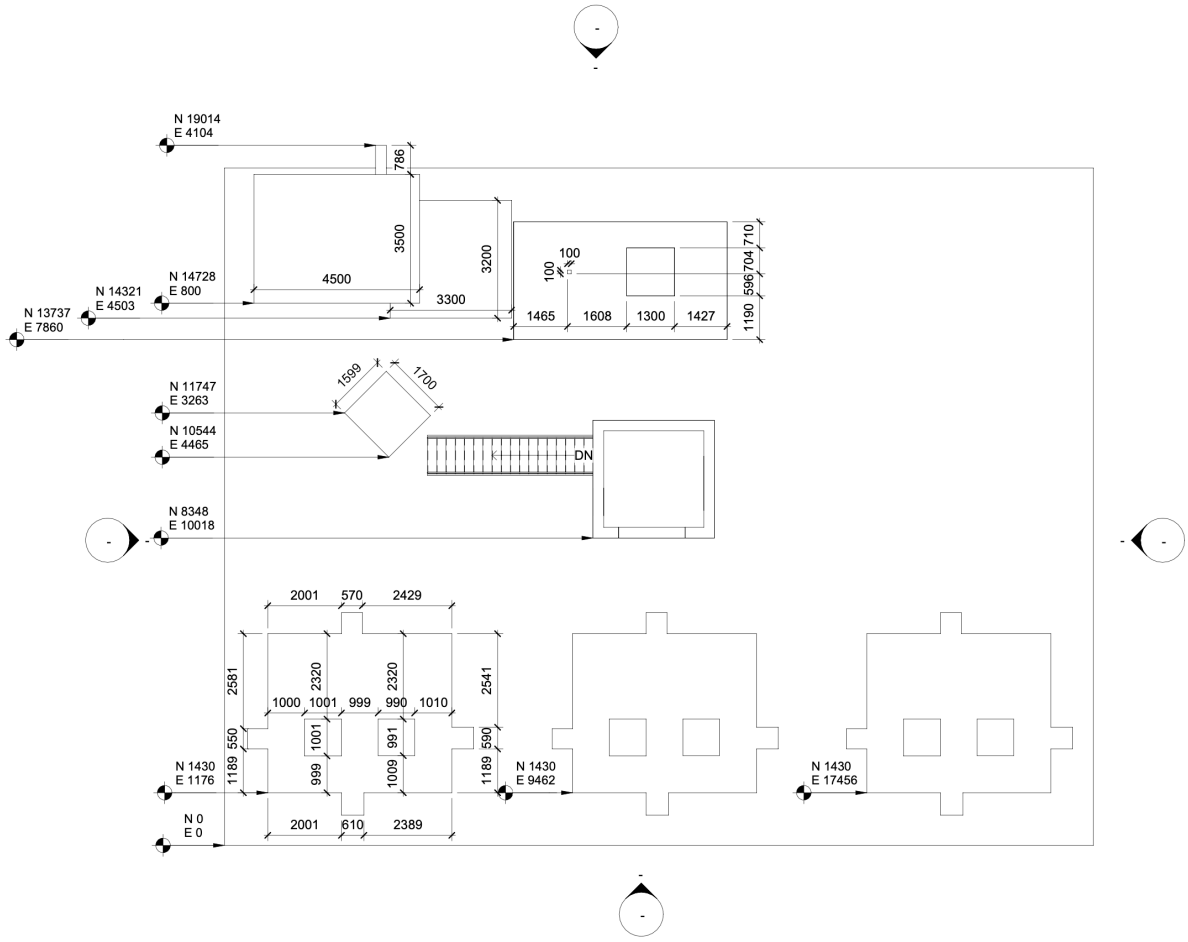



*Figure 15 Sectional view west.*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