

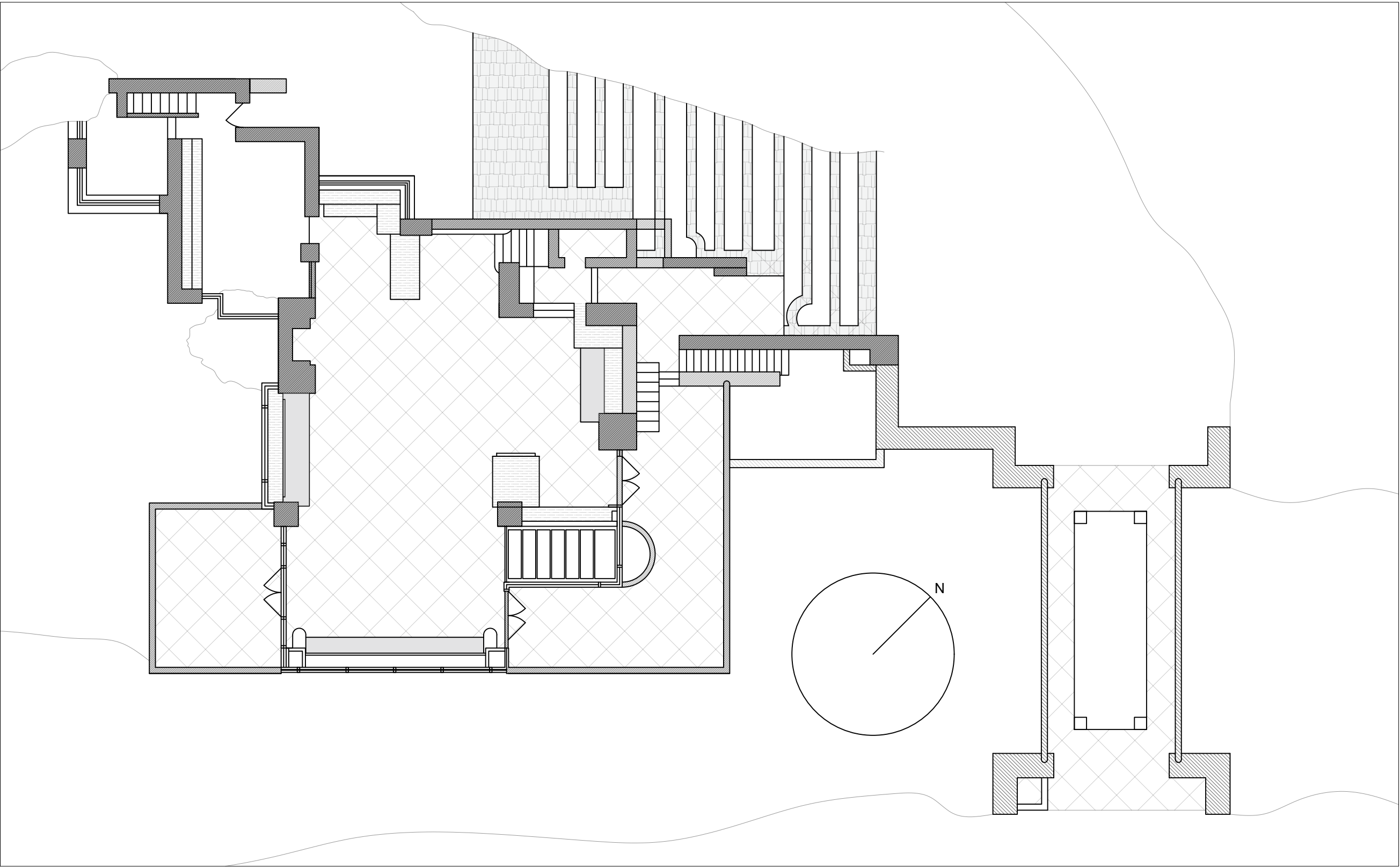


Image by: Western Pennsylvania Conservancy

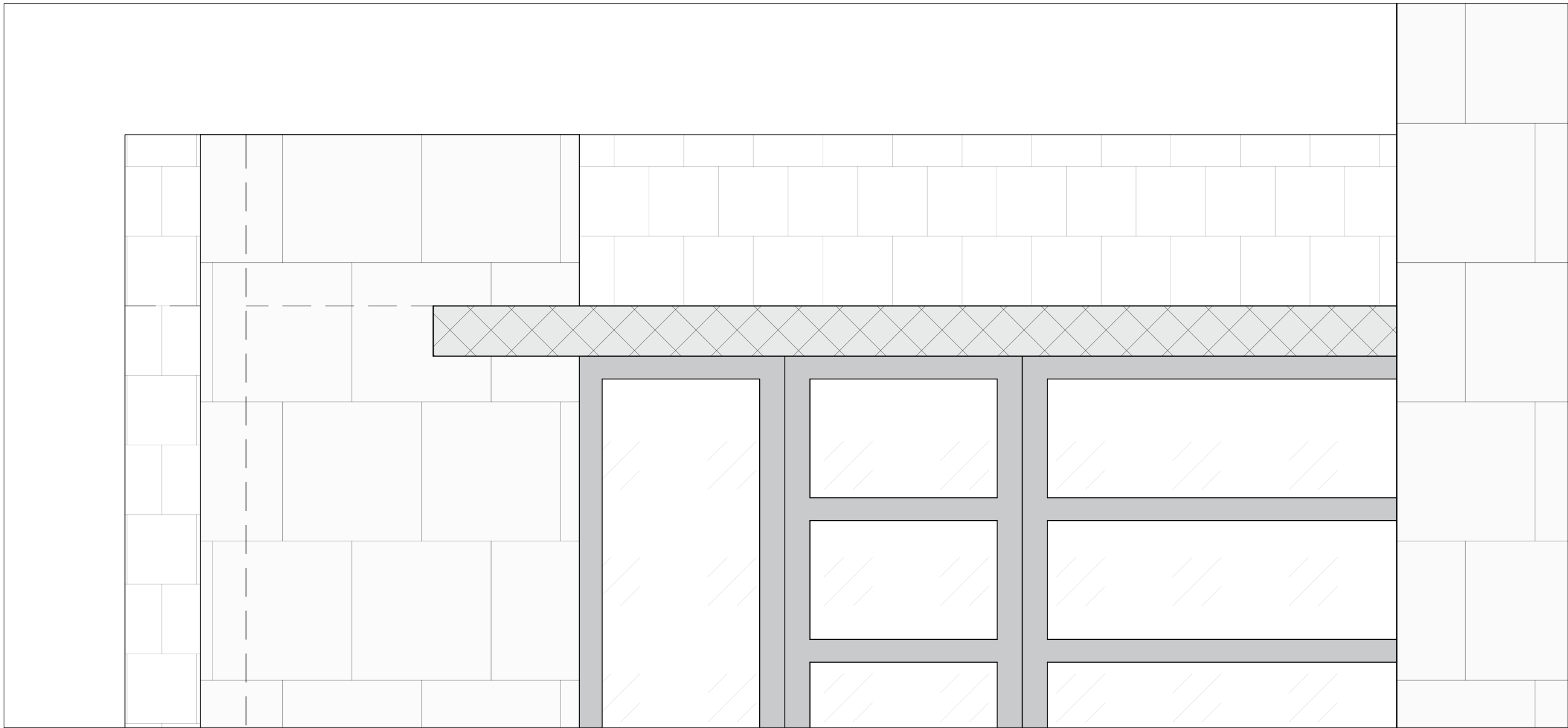
Falling water was designed in 1935 by American architect Frank Lloyd Wright. Designed as a private home, the work exhibited Wright's capability in the integration between his design and the natural environment surrounding it. The building has been described as a masterwork of organic architecture - Fazzare (2023). The site of Falling water is located directly over a waterfall in the forests of Mill Run, Pennsylvania. Originally commissioned by the family of one of Wright's students, Falling Water was designed to be a retreat location in their favourite countryside destination.

The design features multiple sandstone floor levels descending the cliff to the waterfall, with cement and stone walled, cantilevering terraces seamlessly connecting the building with the environment. Steel reinforced concrete was primarily used for the structural elements.

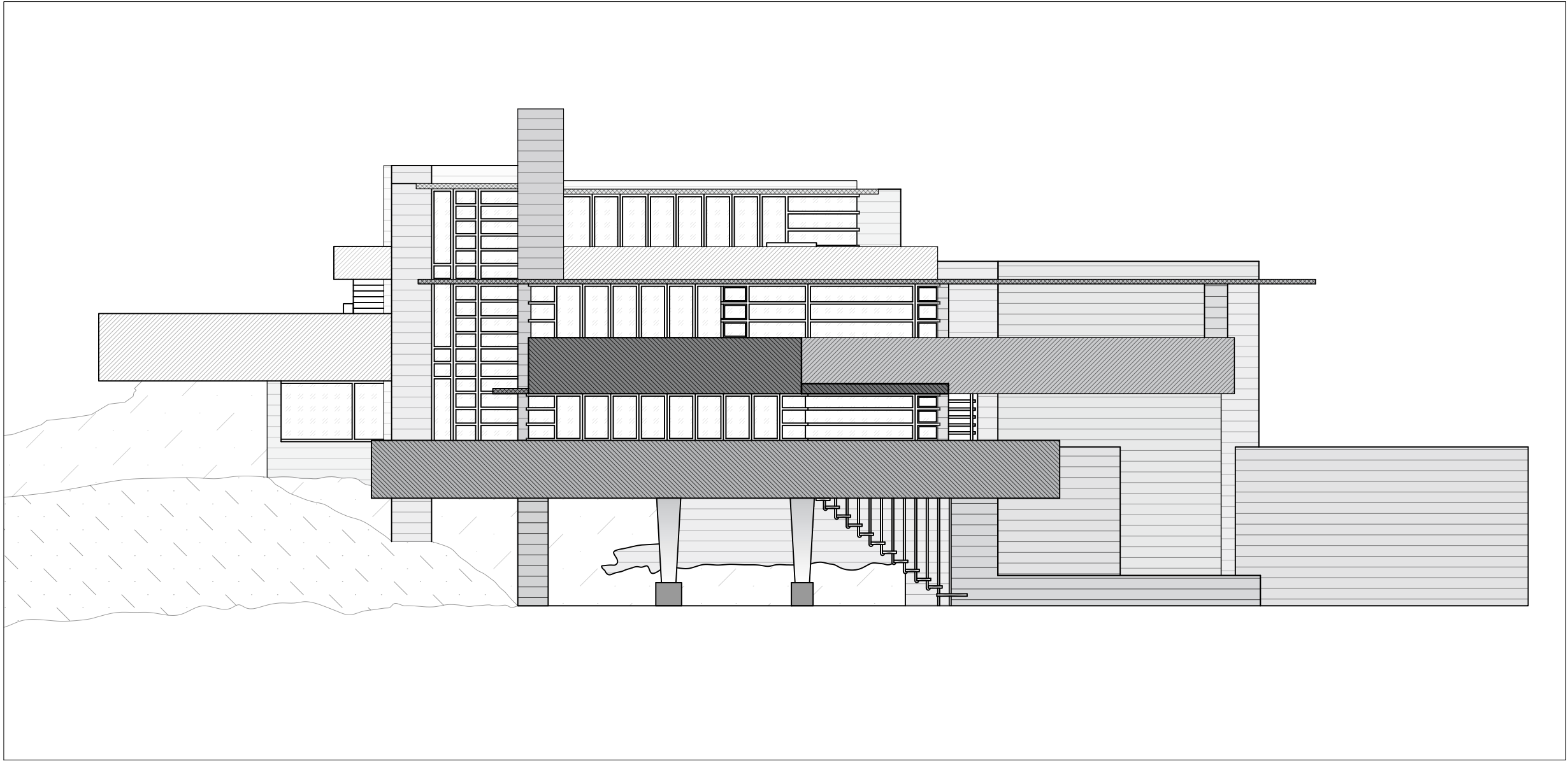
Falling Water's Construction started in in April 1936 and finished in 1938. Additionally, a guest house was built in 1939.



Ground Floor Plan
1:100



Rooftop Construction Section
1:10



Elevation
1:100

Drawing Conventions
The use of drawing conventions in construction is necessary in communicating information in a 2D format for issuing to clients and contractors. Drawing standards in construction should communicate depth and material using line type and weight, hatching, scale and layering.

Line Type
The use of line types of different patterns are used in construction drawings to communicate various profiles and boundaries. A solid line is used for wall construction, dashed lines for hidden objects and dots and dashes for centre lines. Lines including symbols are typically used to show utilities. Architectural drawings can contain a lot of information, so a standard of line types is important for clear communication between other construction professionals who need to understand the details in 2D.

Line Weight
Line weight is a term used to describe the thickness of lines on construction drawings. Similarly to line types, line weights are used to differentiate between elements of a structure such as walls and doors and objects on different levels. Traditionally line weight would have been conveyed using different types of graphite in pencils. A HB graphite used for cuts and profiles, and a 2H or 4H for construction and textures. - Ching (2015) p. 16 Modern construction drawings using digital technology for drawings have built in line weight settings that can be configured with layers for a simpler drafting process.

Hatching
Hatching is used in construction drawings to communicate textures and materials. Hatches are used as supporting information for the linework and should not be used in its place. - Liz (2021) Use of different hatches can make a drawing easier to understand where a plan or elevation is oversaturated with many different depths and features, such as this elevation of Falling Water, hatching of the terraced walls with varying shades communicates depth.

Scale
Scale is used in drawing to allow for the reader to appropriately measure elements of the structure to know their real life size. Scale is shown on drawings as a ratio between the building as shown and its real life measurements. Some standard architectural scales include 1:100, 1:500 and 1:1000. A suitable scale should be used to best communicate the view. A plan or elevation can be drawn at 1:100 or 1:200 whereas a section can be drawn at 1:10 to show more detail.

Layers
Layers are an important part of identifying different elements of a drawing in digital technologies. Layers are named and are assigned their own properties making it simpler to draw to British conversion standards. Layers can be switched on and off when drawing and plotting to hide and show relevant information to the correct professionals. For example a civil engineer may not need to receive a drawing with internal furnishings plotted.

References

Ching. F (2015) *Architectural Graphics* pg.16 1st edn. Elsevier Science & Technology Books

Fazzare. E (2023) *Fallingwater: Everything to Know About Frank Lloyd Wright's Masterpiece* Available at: <https://www.architectedigest.com/story/fallingwater-everything-to-know-about-frank-lloyd-wrights-masterpiece>. (Accessed: 12/01/2024)

Liz at Archimash (2021) *Essential Architecture Design Drawing Conventions*. Available at: <https://archimash.com/articles/architecture-design-drawing-conventions/> (Accessed: 13/01/2024)

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