**Project:**  **Design of Secant Pile Wall**

**Client:** A renowned consultant based in Belgium who offers various structural/geotechnical services

The client is Belgium based leading consultants in the construction sector specialized in Structural and Geotechnical design.

Secant pile walls are formed by constructing intersecting reinforced concrete piles. These are often preferred when excavations are to be carried out very near to existing buildings. These piled walls consist of alternate female (primary) piles installed first and subsequently the male (secondary) piles are constructed by boring through the concrete in the female piles in order to key male piles between them.

The secant pile wall is designed to resist the lateral earth pressure due to the retained backfill. Moreover, in certain cases the piles may have to function as foundation at a later stage. In such cases the piles have to be designed to resist the vertical axial loads as well.

Tie-back anchors may be given for additional support where high loads are expected, provided the space limitations are not violated.

Paradigm assists the Design Consultant in design of Secant pile walls with and without anchors.

**Objective:**

- To analyze the given soil data to determine the shear strength parameters of the soil.
- To design the retaining wall and the piles based on excavation height, soil conditions and loading conditions.
- To prepare formwork drawing for clear and easy understanding of the design details.

**Services:**

- Design of secant pile walls for lateral earth pressure.
- Design of piles for vertical loads.
- Design of anchors, in case of anchored retaining walls.

**Benefits:**

- Clear graphic representation of various design details
- Timely submission.
- Economic design.
- Online availability

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**Software Used:** Elasplas, Pile

**Technology:** Retaining wall design, Pile design

**Design Codes Used:**
Code : Euro codes

**Duration:** 5 hours

**Team Size:** 1 Engineer