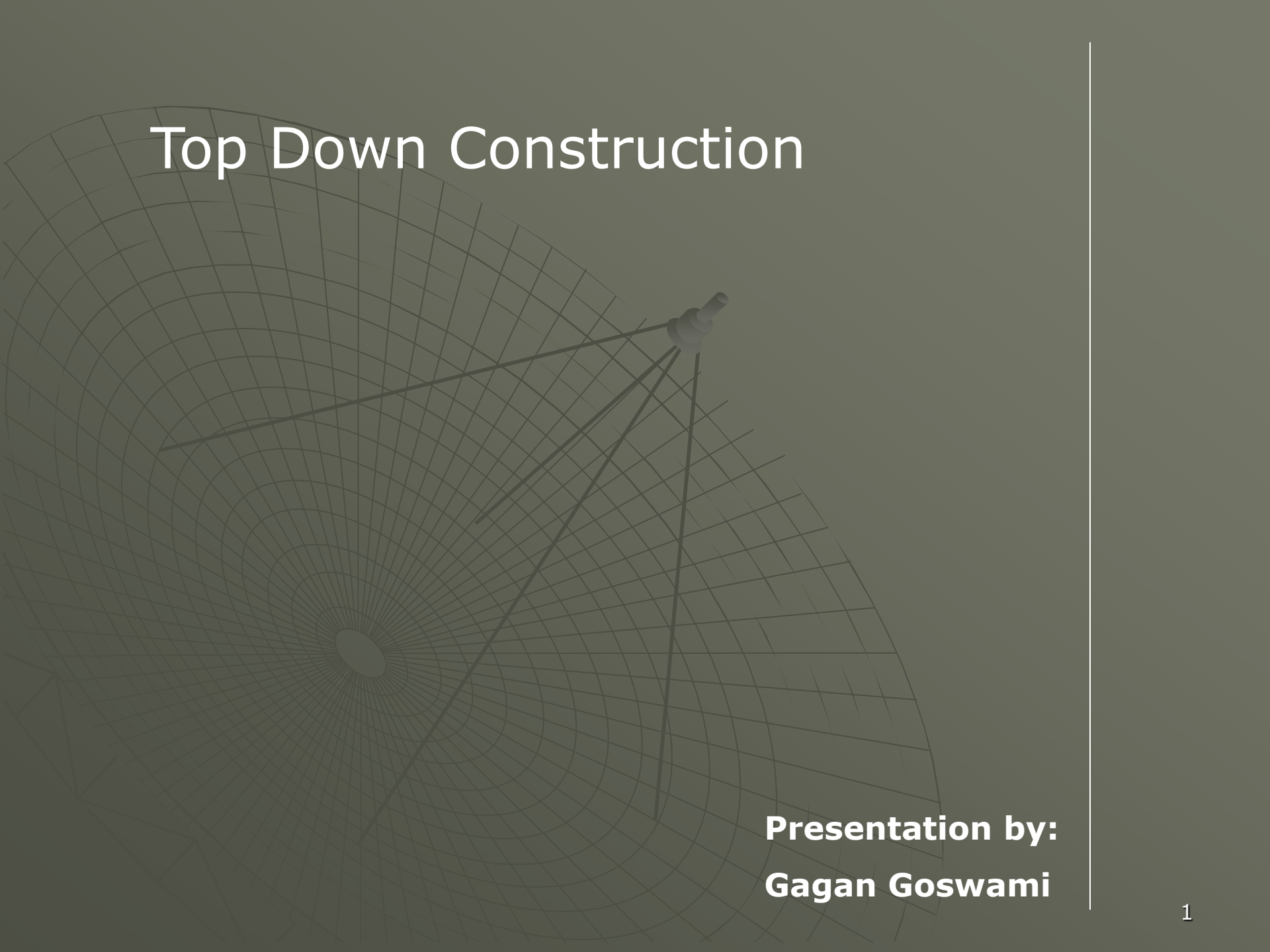


Top Down Construction



Presentation by:
Gagan Goswami

Why Top Down Construction Required

- ◆ Top Down Construction are commonly used in congested areas. These can be installed in close proximity to existing structure with minimal loss of support to existing foundations. In addition, construction dewatering is not required, so there is no associated subsidence. Top Down Construction are practically suited in the construction of deep basements , Metro Railway Projects.
- ◆ The “Top Down” method of construction is designated to enable above ground construction work to be carried out simultaneously with the excavation of the basement resulting in significant saving of time on a project.
- ◆ Using Top Down Construction more Building and Basement Area can use. Suitable for two or more basement.

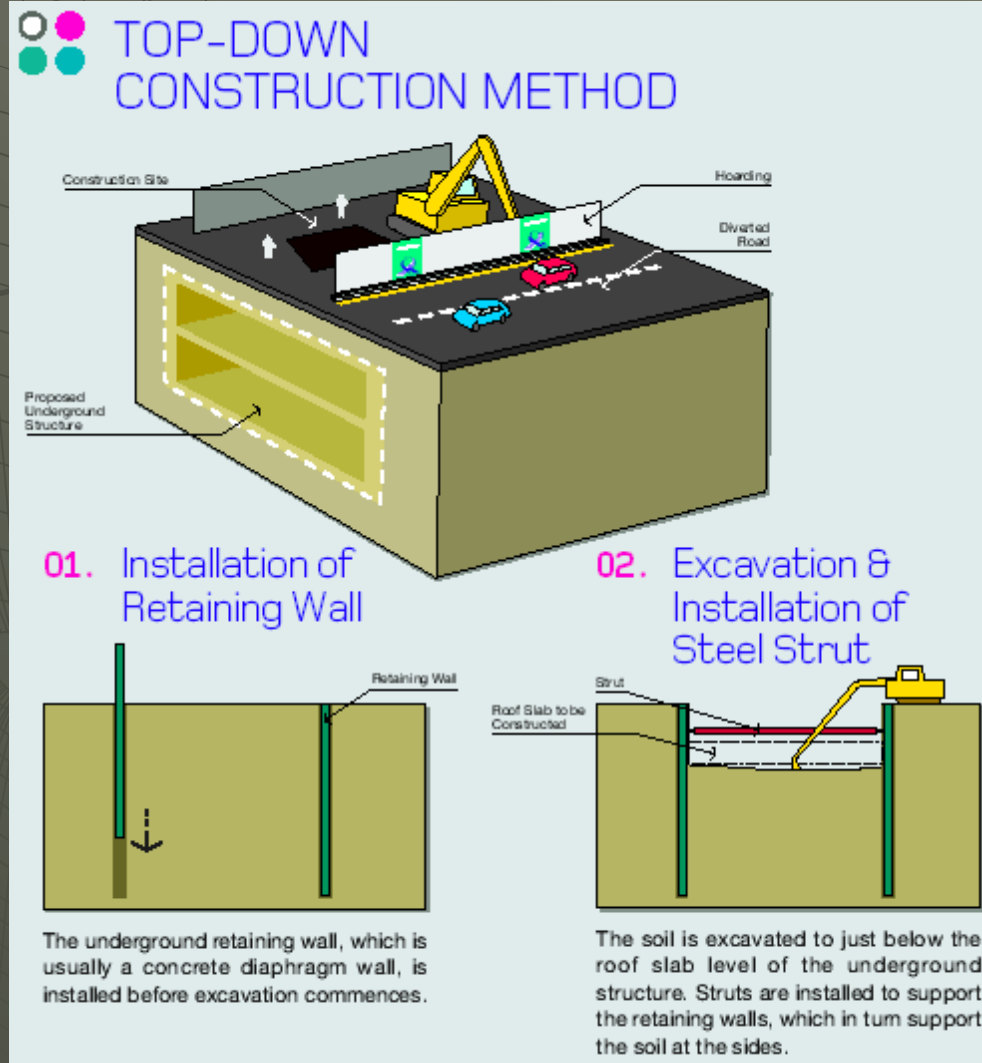
METHODOLOGY OF TOP DOWN CONSTRUCTION

- ◆ Diaphragm wall Installed in both side up to design depth with coupler bars/dowel bars for different level slabs as per alignment. if span is more between diaphragm wall Barrete Piles can be use as a intermediate Columns to support the slabs.
- ◆ The soil is excavated just below roof slab level with margin for P.C.C. thickness, if roof slab level is more than 3 meter and span is more than structural strut to be provided to support diaphragm wall as per design.
- ◆ Coupler bars/ Dowel bars to be exposed from Diaphragm wall both end reinforcement to be completed as per design.

- ◆ R.C.C. slab to be cast with suitable size openings for further Construction in suitable interval (around 40 to 50 mtr) suit to site and for proper air ventilation.
- ◆ Coupler bars/Dowels bars provisions to be kept for centre wall (In Tunnel case) and opening closing after construction. 100/150 mm pipe (1 meter C/C) opening to be kept in roof slab thickness for concreting of center wall.
- ◆ After Casting of slab, excavation to be continued through opening provided with the help of Long arm excavators/Crane and Bucket.
- ◆ Small excavator to be lowered inside to feed soils for long arm excavator.(Proper Lighting, Air Circulation is must).

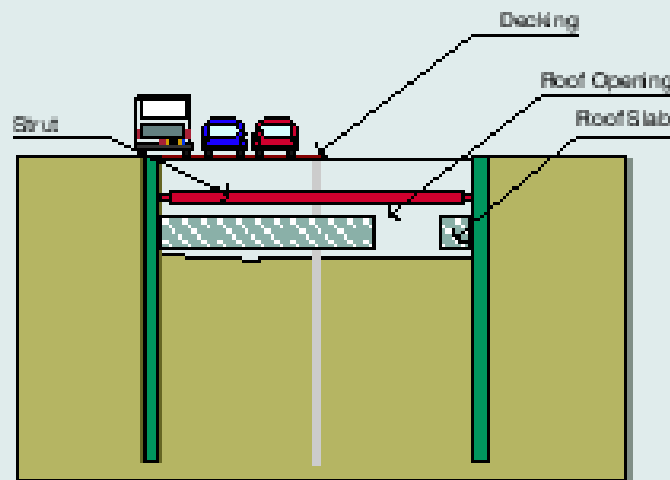
- ◆ P.C.C. to be break by using small excavator and excavation to be continued till base slab level.
- ◆ Coupler bars to be exposed and base slab to be cast as per design.
- ◆ Center wall to be cast with dowel bars from Base slab and finally connect with coupler bars from roof slab.
- ◆ Scaffolding and bottom form work to be fixed below openings , coupler bars to be exposed and reinforcement for opening to be completed and concreting to be done.
- ◆ After concreting of openings , water proofing if required to be done than backfilling to be done in layers and finally surface to be leveled and reinstating the same.

Schematic section of Top Down Construction



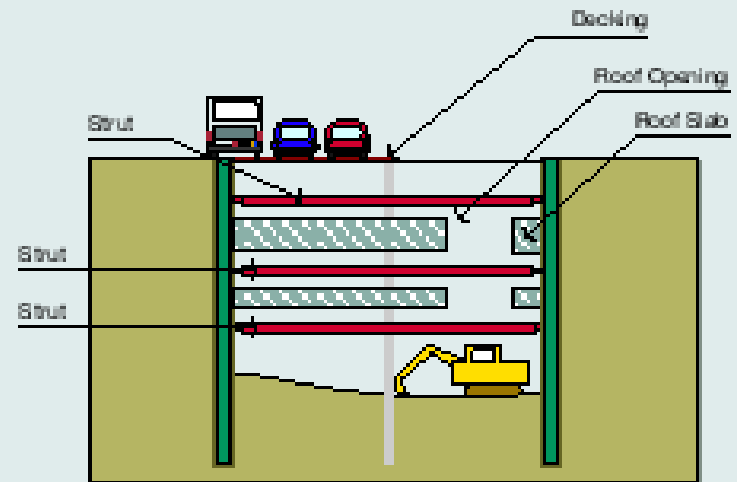
Schematic section of Top Down Construction

03. Construction of Underground Structure



The roof slab is constructed, with access openings provided on the slab for works to proceed downwards. The roof slab not only provides a massive support across the excavation, it also acts as a noise barrier.

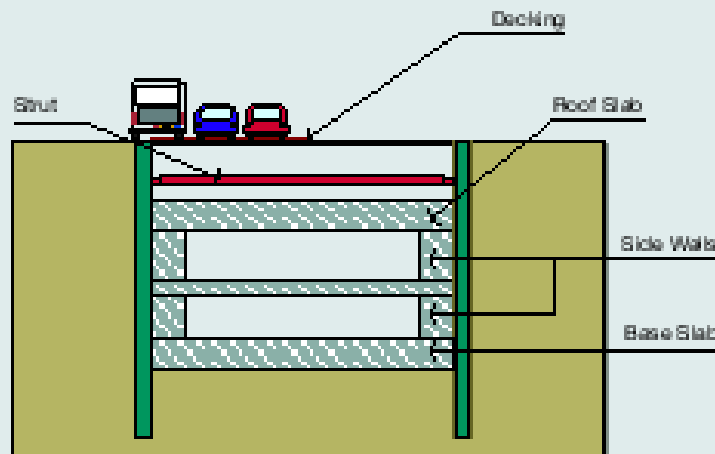
04. Construction of Underground Structure



The next level of slab is constructed, and this process progresses downwards till the base slab is completed.

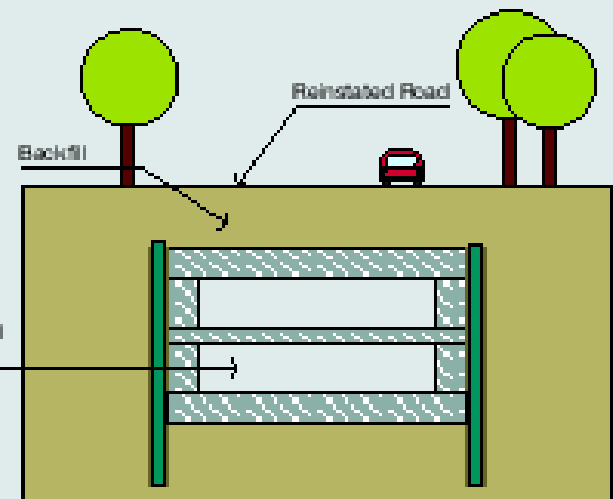
Schematic section of Top Down Construction

05. Construction of Underground Structure



The side walls are constructed upwards, followed by removal of the intermediate struts. The access openings on the roof slab are then sealed.

06. Backfilling & Reinstatement



After the underground structure is completed, the soil is backfilled to the top strut level before the strut is removed. This is followed by completely backfilling the top of the underground structure and finally reinstating the surface areas.

PROJECT PHOTOGRAPHS



PROJECT PHOTOGRAPHS



Contact Details

- ◆ Gagan Goswami
- ◆ Cell-+919662506595

Address-

- ◆ HERITAGE INFRASPACE INDIA PVT. LTD
- ◆ F-36,Sukh Shine Complex,
- ◆ Opposite to Himalaya Mall
- ◆ Sunrise park Road, Drive In ,
- ◆ Ahmadabad-380052, Gujarat ,India

E [mail- info@diaphragmwallconstruction.com,gagangoswami@yahoo.co.in](mailto:info@diaphragmwallconstruction.com)

Website- www.diaphragmwallconstruction.com