**CONSTRUCTION METHOD OF CAST-IN-SITU PILES**

The equipment required for the Cast-in-Situ pile consists of pile boring Rig having the following components.

1. A Tripod stand of sufficient height.
2. A casing pipe- of inside dia equal to the dia of pile- 16’ to 20’ in length.
3. A pile boring Chisel with hollow shaft with a Diesel Winch.
4. Water pump for water jetting.
5. A two chamber water / mud reservoir.
6. A termite pipe with hopper for pouring concrete in a number of segments which can be assembled or disassembled as per requirement
7. A concrete Mixer
8. Pan & baskets etc for carrying stone, aggregate cement and prepared concrete.

**The Procedure**

1. The piles to be bored are market on the ground.
2. The Tripod is brought on the pile position in such a way that the boring Chisel can hit the ground centered around the pilling point.
3. A temporary casing pipe is installed on the ground in such a way that about 300 to 400 mm of the pipe length is above the ground.
4. The chisel is then used to hammer to excavate the earth inside the casing pipe and water jet is used through the hollow shaft so that the mud comes out of the bore and collected on the two chamber cistern already constructed near the site. In one chamber of the cistern the mud is deposited and in other chamber, clear water from the mud chamber is collected. This clear water is used for water Jetting purposes.
5. This chiseling and pumping continues until the required depth is reached. As the chisel goes deeper and deeper, more and more hollow shaft is added for water Jetting. After completing of boring, the hole will be washed and cleaned. Then the chisel will be with drawn out with simultaneous dismantling of the hollow shaft.
6. Reinforcement casing already fabricated is now placed inside the bore and anchored properly with the casing pipe.
7. Concrete is prepared in required proportion of cement, sand and gravel/stone chips. A tremie pipe of required size is inserted into the bored hole and kept about one foot above the bottom of the hole.
8. Concrete is then poured in through a hopper, compaction of the concrete is achieved by vibrating the tremie pipe.
9. As the concrete is poured in, the tremie pipe is gradually lifted up by dismantling of the segments.
10. Concrete will be poured up to the required level only.
11. After the cement is stabilized and hardened, the temporary casing, which was fixed on the month of the pipe will be gradually lifted with the help of the winch.
12. The Rig is then shifted to the next pile.
13. The next ile must not be in the immediate vicinity of the just executed pile but will be at a minimum distance as specified.