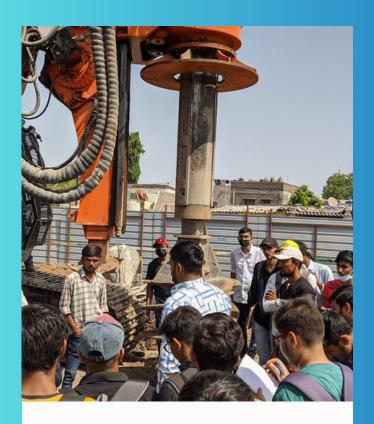


GOVT. POLYTECHNIC JAMNAGAR CIVIL DEPT. – NEWSLETTER

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OBSERVATIONS

Pile Construction Observations

- The site visit witnessed the construction of cast in situ piles being implemented for the bridge foundation.
- Huge pile-driving machines worth Rs. 100 Cr were used for piling
- Approx depth of the foundation was @ 20m
- Many services were also managed during the whole construction process.
- Traffic management and public interaction was also a part of the project.



THE NEWS

THIS NEWSLETTER PROVIDES A SUMMARY OF THE RECENT FIELD VISIT CONDUCTED IN APRIL 2022 TO OBSERVE THE PILE CONSTRUCTION PROCESS FOR THE ONGOING FLY-OVER BRIDGE PROJECT IN JAMNAGAR, GUJARAT. PROJECT DETAILS

- PROJECT NAME: FLY-OVER BRIDGE FROM SAT RASTA TO VICTORIYA BRIDGE
- LOCATION: NEAR SAT RASTA, JAMNAGAR, GUJARAT, INDIA

FIELD VISIT OBJECTIVES

- OBSERVE THE PILE CONSTRUCTION METHODOLOGY BEING EMPLOYED.
- ASSESS THE PROGRESS MADE ON THE PILE FOUNDATION WORKS.
- IDENTIFY ANY POTENTIAL CHALLENGES OR AREAS FOR IMPROVEMENT.



BENEFITS OF THE FIELD VISIT

- The construction team will continue pile foundation works as per the project schedule.
- Subsequent site visits will be conducted to monitor the progress and ensure adherence to quality standards.



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Pile cap concreting is the process of pouring and curing concrete to form the pile cap, the critical element that ties the driven piles together and transfers the building load to them. Here's a breakdown of the steps involved:

Preparation:

- 1.Excavation: The area around the driven piles is excavated to expose the pile tops and create space for the formwork.
- 2. Pile preparation: The pile tops may be trimmed to ensure they are all at a uniform level for a consistent concrete base.



HERE'S A BREAKDOWN OF WHAT A PILE CAP DOES:

- DISTRIBUTES WEIGHT: THE PILE CAP
 SPREADS THE WEIGHT OF THE BUILDING
 (OR WHATEVER STRUCTURE IT'S
 SUPPORTING) EVENLY ACROSS ALL THE
 PILES BELOW. THIS PREVENTS ANY SINGLE
 PILE FROM BEING OVERLOADED.
- CREATES A LEVEL SURFACE: SINCE PILES
 MIGHT NOT BE PERFECTLY DRIVEN AT THE
 SAME LEVEL, THE PILE CAP CREATES A FLAT,
 EVEN SURFACE FOR THE REST OF THE
 BUILDING'S FOUNDATION TO BE BUILT
 UPON.
- INCREASES STABILITY: THE PILE CAP HELPS TO ANCHOR THE PILES TOGETHER AND PROVIDE ADDITIONAL STABILITY AGAINST LATERAL FORCES, SUCH AS WIND OR EARTHQUAKES.



BENEFITS OF THE FIELD VISIT CONCRETING:

MIXING AND POURING: CONCRETE IS
MIXED ACCORDING TO THE PROJECT
SPECIFICATIONS AND CAREFULLY
POURED INTO THE FORMWORK AROUND
THE PILES AND STEEL REINFORCEMENT
CAGE.

COMPACTION: THE POURED CONCRETE IS VIBRATED TO ELIMINATE AIR POCKETS AND ENSURE PROPER COMPACTION FOR OPTIMAL STRENGTH AND DURABILITY.

CURING:

CURING TIME: ONCE THE CONCRETE IS POURED, THE FORMWORK REMAINS IN PLACE FOR A DESIGNATED CURING PERIOD.



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ADDITIONAL POINTS:

SEALING: IN SOME CASES, THE TOP
SURFACE OF THE PILE CAP MAY BE SEALED
WITH A WATERPROOFING MEMBRANE TO
PROTECT IT FROM MOISTURE INGRESS.
QUALITY CONTROL: THROUGHOUT THE
PROCESS, QUALITY CONTROL MEASURES
ARE IMPLEMENTED TO ENSURE THE
CONCRETE MIX MEETS SPECIFICATIONS
AND THE CONSTRUCTION ADHERES TO
ENGINEERING PLANS.
PILE CAP CONCRETING IS A CRITICAL STEP
IN DEEP FOUNDATION CONSTRUCTION. BY
FOLLOWING THESE PROCEDURES, A
STRONG AND STABLE BASE IS
ESTABLISHED FOR THE STRUCTURE ABOVE.



ADDITIONAL NOTES:

IT WOULD BE BENEFICIAL TO OBTAIN

INFORMATION ON THE SPECIFIC
CONCRETE MIX DESIGN AND
STRENGTH REQUIREMENTS FOR THE
PILE CAPS.
ANY DISCUSSIONS REGARDING
POTENTIAL CHALLENGES
ENCOUNTERED DURING THE
CONCRETING PROCESS OR PLANNED
SOLUTIONS FOR UNFORESEEN
CIRCUMSTANCES WOULD BE

VALUARI E FOR FUTURE REPORTS.



OVERALL ASSESSMENT:

THE FIELD VISIT INDICATED A WELLORGANIZED AND EFFICIENT PILE CAP
CONCRETING OPERATION. THE CREW
DEMONSTRATED FAMILIARITY WITH
THE PROCEDURES, AND ALL
NECESSARY MATERIALS AND
EQUIPMENT WERE READILY
AVAILABLE. FURTHER VISITS WILL BE
CONDUCTED TO MONITOR PROGRESS
AND ENSURE THE CONTINUED HIGH
STANDARD OF CONSTRUCTION.