

GOVERNMENT POLYTECHNIC FOR GIRL'S AHMEDABAD



CIVIL ENGINEERING DEPARTMENT
“CONSTRUCTION PROJECT MANAGEMENT”

(3360603)

Stages of Construction

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STAGES OF CONSTRUCTION

INTRODUCTION

- ▶ Construction is a process of constructing a building or infrastructure .
- ▶ Construction start with planning, design, and financing and continues until the project is built and ready for use.

The following are the stages involved in any construction project:

1. Briefing Stage
2. Designing Stage
3. Tendering Stage
4. Construction Stage
5. Commissioning Stage

STAGES OF CONSTRUCTION

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graph TD; A[STAGES OF CONSTRUCTION] --> B[BRIEFING]; B --> C[DESIGNING]; C --> D[TENDERING]; D --> E[CONSTRUCTION]; E --> F[COMMISSIONING];
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BRIEFING

DESIGNING

TENDERING

CONSTRUCTION

COMMISSIONING

1. Briefing Stage:

This stage is also called the “REPORT STAGE” It is the stage where ideas originated by individual are studied with regard to cost and benefits so as establish the economic viability or social utility of a project.

Purpose:

The purpose of briefing stage is to enable the client to specify project functions and permissible costs so the engineers, architects and other members of the construction team can correctly intercept the owner wishes and provide a likely estimate of costs.

Activities:

Various activities involved in briefing stage are:

- i) To appoint a project steering committee, if necessary.
- ii) To appoint a project manager who will have responsibility through out the construction process.
- iii) To carry out technical and non-technical investigations so that alternative proposals may be given due consideration.
- iv) To study various alternatives and identify the most feasible one.
- v) To prepare the project report which is outcome of the first stage (i.e. Briefing stage). The project report describe the investigation carried out, possible solutions and their evaluation.

2. Designing Stage or planning stage:

It is very important stage in the field of construction because modification in the project after this stage would prove expensive. A realistic and detailed cost estimate of the project can be prepared in designing stage.

Purpose:

The purpose of this stage is to complete the project summary and determine the method of construction and estimated costs so as to obtain necessary approvals from the client. Its purpose also includes

- a) The preparation of working drawings
- b) Specifications
- c) Arrangements for inviting.

Activities:

1. To develop the project summary for the final adoption of the most suitable alternative.
2. To carry out natural investigations such as:
 - Soil investigation
 - Topographic investigation
 - Material survey
 - Market survey
3. To prepare detailed design, working drawings, specifications, final cost estimate and preliminary construction program.
4. To obtain the owner final approval of the project summary.

3. Tendering stage:

During this stage tenders are invited and the contract is awarded at the best available terms agreed mutually between the owner's team and the contractors.

Purpose

The purpose of tendering stage is to appoint a contractor or a member of contractor who will undertake the construction work on the most suitable terms and conditions of quality cost and completion time.

Activities:

1. To invite tenders from the contractors for the construction work and to award the contract.
2. Pre-qualification of contractors involves an investigation of the potential of contractor's financial, managerial and physical resources, contractors experience of handling similar projects, etc.
3. To prepare contract documents, to be signed by the client and the contractor. The contractor document should be prepared with extreme care and by experienced persons because the contractor forms the basis on which the project management team exercises control of the project during construction phase.

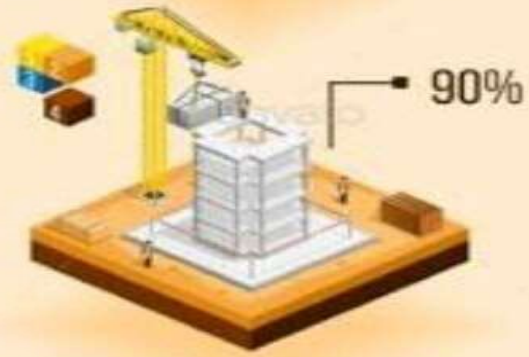
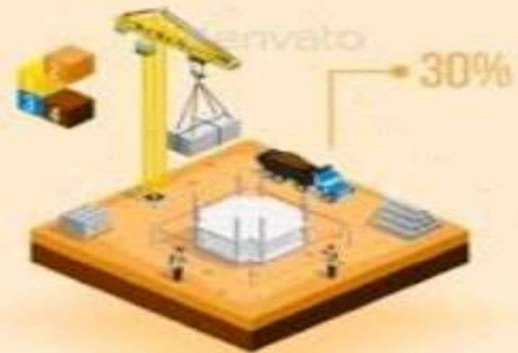
The contract is defined as a legal document which describes the term and condition of executing the project.

4. Construction Stage:

- The construction stage involves the execution of construction work as per design, drawing and within agreed limit of time, cost and specified quality.
- The construction stage is the most resource intensive and difficult stage of any project. The problems encountered during this stage may have to be referred to the designers for appropriate solutions.

STAGES OF CONSTRUCTION

Infographics



Activities:

a) The construction project planning includes the preparation of :

- Construction schedule
- Manpower schedule
- Material delivery scheme
- Plant and equipment schedule

b) The control of site operations includes:

- Supply of materials and equipments
- Supervision for quality control
- Co-ordination among sub-contractors
- Supply of necessary drawings

5. Commissioning stage:

It is the stage in which the performance of the structure is evaluated and the proposed nature of maintenance and repair are considered.

Purpose:

The purpose of this stage is to ensure that the construction work been carried out as per the drawing and specifications, and all the facilities developed function properly as investigated in the design. During this stage records are prepared of the actual construction work finally carried out at site.

Activities:

- i) To keep various record of actual work.
- ii) To inspect the construction work thoroughly and have any defects rectified.
- iii) To prepare operating instruments and maintenance manuals.
- iv) To carry out tests for performance, such as water tightness, strength etc.

THANK YOU