




**PRE-CAST HOUSE
CONSTRUCTION**

BY

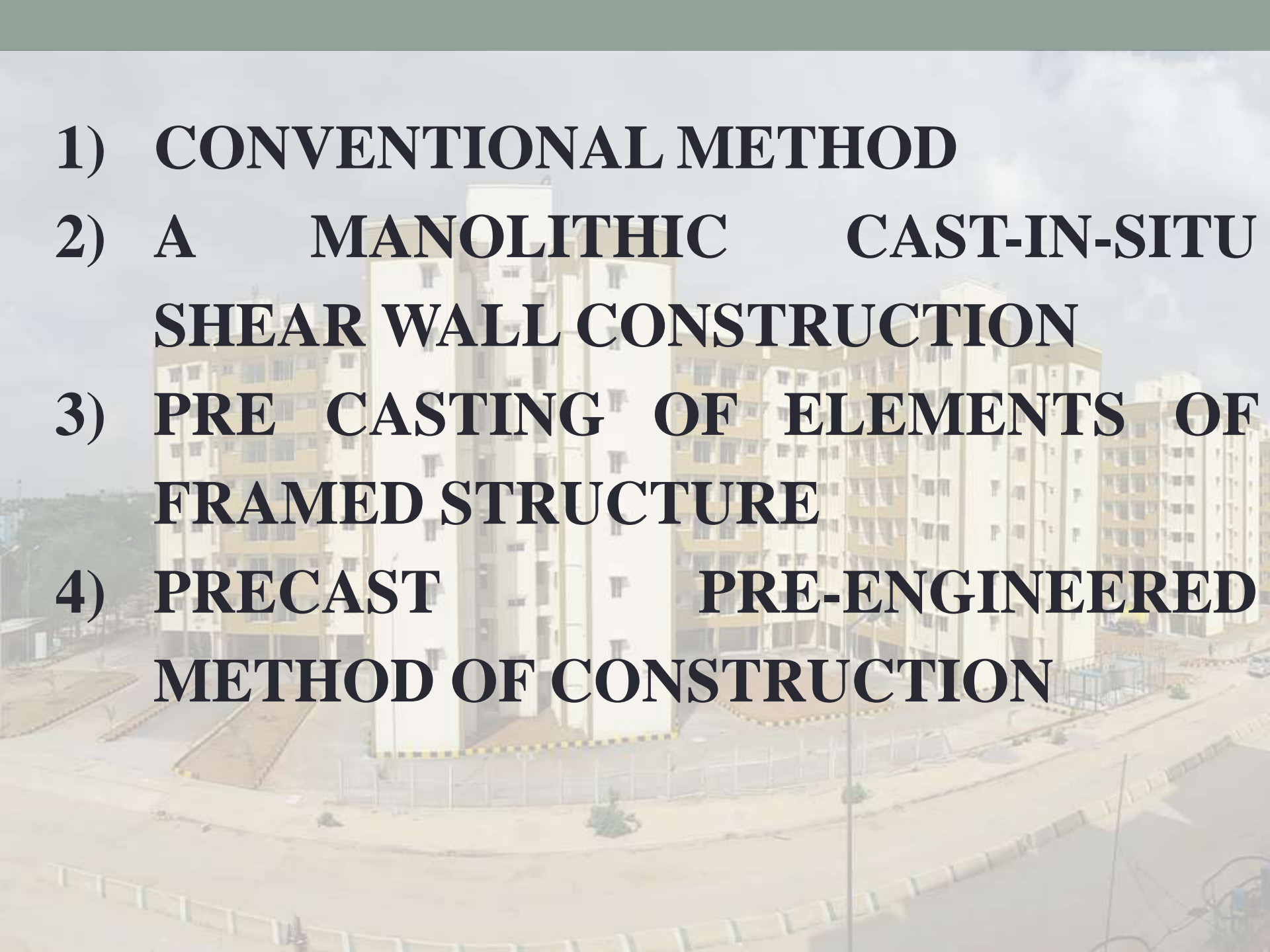
BANGALORE DEVELOPMENT AUTHORITY

- 
- ✧ **BDA is a Planning and Development Authority**
 - ✧ **Jurisdictional Area is 1370 sq.km.**
 - ✧ **Developed 64 Layouts**
 - ✧ **Distributed 1,40,000 of sites**
 - ✧ **Developed Infrastructure Works like Ring Roads & Grade Separators.**
 - ✧ **BDA is also responsible for approval of Development Plans and Layout Plans of private agencies**

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- ✧ **BDA has now taken up Construction of Affordable Housing Projects.**
 - ✧ **Over 13000 Housing Units are under Constructions.**
 - ✧ **5000 units have been completed.**
 - ✧ **To encourage latest available fast track methods of construction, flexible tender conditions adopted.**



**FOUR DIFFERENT
CONSTRUCTION
TECHNIQUES ARE BEING
USED AT PRESENT**

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- 1) CONVENTIONAL METHOD**
 - 2) A MANOLITHIC CAST-IN-SITU SHEAR WALL CONSTRUCTION**
 - 3) PRE CASTING OF ELEMENTS OF FRAMED STRUCTURE**
 - 4) PRECAST PRE-ENGINEERED METHOD OF CONSTRUCTION**



TWO TYPES OF PRE CASTING CONSTRUCTION

PRE CASTING OF ELEMENTS OF FRAMED STRUCTURE -

Elements of framed structure including slabs are precast and will be assembled at site



PRECAST PRE-ENGINEERED METHOD OF CONSTRUCTION

- Load bearing wall elements are precast which will be assembled in to cubicles at the factory. All finishing's will be done at factory. The finished cubicles will then be transported and erected at site





**DODDABANHALLI AFFORDABLE HOUSING
PROJECT AT SY. NO. 03
USING PRE CASTING OF ELEMENTS OF
FRAMED STRUCTURE**

SALIENT FEATURES

- Total cost of the project:- 133.41 Crores
- Total Number of Buildings:- 7 (3BHK-2, 2BHK-5)
- Type of structure:- Pre Cast Framed Structure
- Total Carpet area:- 4,36,482 Sft
- Total Built-up area:- 7,11,000 Sft
- Total number of housing units:- 704 Nos
- Total number of floors:- B+S+18 Floor
- Total Numbers of lifts:-14
- Total Numbers of OHT:- 7

THE ISOLATED FOOTING FOUNDATION IS DONE WITH IN-SITU CONCRETE.



THE RCC COLUMNS AND RETAINING WALL OF BASEMENT FLOOR IS DONE

WITH IN-SITU CONCRETE.



VIEW OF THE RCC COLUMNS AND GRADE SLAB OF BASEMENT FLOOR



04/12/2013 10:32

THE BASEMENT SLAB (PODIUM) IS DONE WITH IN-SITU CONCRETE.

VIEW OF THE SHUTTERING WORKS



BATCHING PLANT



14/07/2014 12:09

FABRICATION OF LATTICE GIRDER AT SITE..



BEAM CASTING IN PC YARD...



COLUMN CASTING IN PC YARD...



VIEW OF PRE-CAST COLUMNS





**VIEW OF SHIFTING OF
PRE- CAST COMPONENTS**

CURING OF PRE-CAST COMPONENTS





STACKING YARD



COLUMN ERECTION...



VIEW OF ERECTED COMPONENTS...



18/02/2014 13:57

VIEW OF ERECTED COMPONENTS



VIEW OF ERECTED COMPONENTS



AFTER COMPLETION OF SLAB ERECTION.....



VIEW AFTER SLAB ERECTION



PROP SUPPORTS FOR PRE-CAST SLABS



AERIAL VIEW...



VIEW OF ROOFS READY FOR SCEDING



BLOCK WORK PROCESS





VIEW OF EXTERNAL PLASTERING IN PROGRESS..

VIEW OF EXTERNAL PLASTERING GROOVE MAKING IN PROGRESS..





SAMPLE TENAMENTS





NORTH SIDE ELEVATION







**ALUR HOUSING PROJECT
USING PRECAST PRE-ENGINEERED
METHOD OF CONSTRUCTION**

SALIENT FEATURES

Name of the Project : AFFORDABLE HOUSING FOR ECONOMICALLY WEAKER SECTION AT SY.NO. 113 OF ALUR VILLAGE, DASANAPURA HOBLI, BANGALORE NORTH TALUK (PHASE – 1).

Name of the client	: BANGALORE DEVELOPMENT AUTHORITY
Name of the Agency	: Sri. C.P Umesha
Technology	: Pre-Cast Technology.
No. Of Units	: 1520 (1 BHK)
Cost as per accepted tender	: Rs. 110.23 Crores
Date of execution of Agreement	: 29-03-2013
Date of Commencement of Work	: 29-03-2012
Date of Completion	: 31-08-2015



SCHOOL PROPERTY

STATEMENT:

No. OF BLOCKS - 47.8
 No. OF UNITS - 1020
 LAND AREA - 59,675.89 SQM.

CA AREA - 2091.938 SQM (0.003%)
 PARK AREA - 8009.844 SQM (13.400%)
 COMMERCIAL - 1759.679 SQM (2.947%)
 RESIDENTIAL - 10843.88 SQM (18.173%)
 AREA OF EACH BLOCK = 1255.28 SQM.
 P.A.R. ACHIEVED = 1.097

COVERAGES ACHIEVED = 27.426%
 BUILDING DESIGNED FOR G + 3 FLOORS.
 ALL ROUND MIN. SET BACK PROVIDED = 5.00m

AREA CALCULATIONS:

PARKS	
PARK-1	1,286,791 SQM
PARK-2	1,517,111 SQM
PARK-3	1,117,481 SQM
PARK-4	1,117,481 SQM
PARK-5	1,117,481 SQM
TOTAL	6,156,345 SQM
CA AREA	2,091.938 SQM
COMMERCIAL	1,759.679 SQM
RESIDENTIAL	10,843.88 SQM
TOTAL	14,695,696 SQM

CA AREA	2,091.938 SQM
CA-1	2,091.938 SQM
TOTAL	2,091.938 SQM
CA AREA	2,091.938 SQM
CA-1	2,091.938 SQM
TOTAL	2,091.938 SQM
PARK AREA	8,009.844 SQM
PARK AREA	8,009.844 SQM
TOTAL	8,009.844 SQM
PARK AREA	8,009.844 SQM
PARK AREA	8,009.844 SQM
TOTAL	8,009.844 SQM
COMMERCIAL	1,759.679 SQM
COMMERCIAL	1,759.679 SQM
TOTAL	1,759.679 SQM
RESIDENTIAL	10,843.88 SQM
RESIDENTIAL	10,843.88 SQM
TOTAL	10,843.88 SQM
TOTAL	14,695.696 SQM

COOPERATIVE - 1,759.679 SQM X 100 = 27.001%
 OVERALL - 27.426%
 COVERAGES ACHIEVED FOR G + 3 FLOORS:
 BUILDING DESIGNED FOR G + 3 FLOORS.
 ALL ROUND MIN. SET BACK PROVIDED = 5.00m

LAYOUT PLAN

DESIGNED BY: **SHREYAS ENGINEERS PVT. LTD.**
 10/10, PLOT NO. 10, SECTOR 10, PHASE 1, GATEWAY INDIA, NEW DELHI - 110028
 CONTACT: 011-26101111
 www.shreyasengineers.com

View of Completed Structures



BATCHING PLANT



Plant & Assembly Line





Steel Fabrication Work



Steel Fabrication Work

Vertical Mould System Shuttering



VMS shuttering



Vertical Mould Section



Vertical Mould Section (Top view)





De-Moulding & Lifting



Hardened Concrete Panels



Welding of Panels with Angle plates and Steel Column



Welding of Panels with Angle plates and Steel Column



Assembling of Panels with Angle plates and Steel column



Assembled Units



Floor Slab Reinforcement



Electrical Works



Flooring



Kitchen Counter & Dadoing



Bathroom: Dadooing

Putty & Painting



Finished Big Cubical Unit



Finished Small Cubical Unit





Cube Assembly Area





Excavation & PCC



Plinth Beam at Casting Yard



Erected Plinth Beam at Site



Footing Concreting



Footing Concreting

Transporting the Housing Unit





Transporting the Housing Unit



Lifting of Housing Unit



Placing of Housing Units



Anchorage Bars



Placing of Housing Units



Placing of Housing Units



Blocks & Placed Units



Blocks & Placed Units



Staircase Mould



Staircase Units



Lifting of Staircase Unit

Stairs





Staircase Flooring



Corridor



Finished Unit

Finished Unit





Finished Unit



Terrace Water Proofing

Finished Block



Finished Block



Finished Block



Finished Block



Finished Block



Finished Block



Finished Block









ADVANTAGES OF PRE CAST CONSTRUCTION TECHNIQUES

- ❑ Optimum use of Construction Materials : Fly Ash and GGBS are used to maximum possible extent.
- ❑ Very Less Wastage of Construction Materials.
- ❑ Better Quality Control : As the components are manufactured in control factory environment : Rigid and uniform quality control is possible.
- ❑ Recycling of Material is ensured : Usage of River sand and Water reduced substantially.
- ❑ Clean and Healthy built / construction environment.
- ❑ Environmental Friendly, Energy Efficient, Green Building Construction is possible.
- ❑ Construction time is reduced substantially.



**THANK
YOU**