Emerging and Innovative Technology for construction of Housing used in Gujarat

Affordable Housing Mission
Urban Development & Urban Housing Department
Government of Gujarat
KEY FEATURES OF INNOVATIVE BUILDING TECHNOLOGY

► **Economic Factor:**
  - Adaptability
  - Affordability and Reductions in O & M
  - Safety at Construction Site
  - Cost Saving

► **Environmental Factor:**
  - Sustainability
  - Energy Efficiency

► **Social Benefits:**
  - Quality Assurance
  - Comfort and Standardization
  - Enhance Productivity of Occupants
Advantages of Innovative Technology Buildings vs Conventional Building

- Cost savings
- Minimize impact on environment
- Enhanced health & productivity of occupants
- Speedy construction
- Community & social benefits
- Lower energy costs
  - maintenance costs
- Improved space utilization
- Increased occupant comfort
LIST OF TECHNOLOGY APPROVED BY BMTPC

Formwork Systems
1. Monolithic Concrete Construction System –
   (a) using Plastic - Aluminum Formwork; and (b) using Aluminum Formwork
2. Modular Tunnel form
3. Sismo Building Technology

Precast Sandwich Panel Systems
4. Advanced Building System – EMMEDUE
5. Rapid Panels
6. Reinforced EPS Core Panel System
7. Quick Build 3D Panels
8. Concrete wall Panel System
9. Glass Fiber Reinforced Gypsum (GFRG) Panel System

Light Gauge Steel Structural Systems
10. Light Gauge Steel Framed Structure (LGSFS)
11. Light Gauge Steel Framed Structure with Infill Concrete Panels (LGSFS-ICP) Steel

Structural Systems
12. Factory Made Fast Track Building System
13. Speed Floor System Precast Concrete Construction Systems

14. Waffle-Crete Building System
15. Precast Large Concrete Panel System
16. Industrialized 3-S system using cellular light weight concrete slabs & precast columns
Salient features of Monolithic Concrete Construction

- Produce high quality, durable and low maintenance structures.
- Produce structures that are resistant to seismic conditions.
- Monolithic Construction - good finish
- Leak-proof joint less construction
Monolithic Concrete Construction AMC, Ahmedabad
Constructing Houses for Economical weaker section
Monolithic Concrete Construction AMC, Ahmedabad
Constructing Houses for Economical weaker section
Monolithic Concrete Construction AUDA Ahmedabad
Waffle Crete Technology at Palanpur Nagarpalika

- Thermal insulation
- Low cost construction
- Least source utilization
- Speedy construction
- Standard quality of work
Flat Slab Building with Shear wall and Column GHB - Valsad

- Smoothness - reduces cost of plastering on walls & ceiling
- Environment friendly – allows use of fly-ash in the mix
- Speedy implementation and High structural strength
- Less maintenance, cost saving and good finishing.
Fly Ash Concrete Block & Bella Masonary Porbandar Nagarpalika

- More crushing strength and less water absorption ratio.
- Environment Friendly – green building concept.
- Low cost with speedy construction.
• More crushing strength and less water absorption ratio.
• Environment Friendly – green building concept.
• Low cost of construction.
• Speedy construction.
<table>
<thead>
<tr>
<th>Innovative Technology/ Alternative Material Used in Project</th>
<th>Towns</th>
<th>No. of DUs</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Approved</td>
<td>Completed</td>
</tr>
<tr>
<td>Waffle Crete Technology</td>
<td>Anand</td>
<td>308</td>
<td>308</td>
</tr>
<tr>
<td></td>
<td>Dahod</td>
<td>480</td>
<td>480</td>
</tr>
<tr>
<td></td>
<td>Deesa</td>
<td>1456</td>
<td>880</td>
</tr>
<tr>
<td></td>
<td>Bharuch</td>
<td>512</td>
<td>288</td>
</tr>
<tr>
<td></td>
<td>Palanpur</td>
<td>1776</td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>Kalol</td>
<td>2421</td>
<td>336</td>
</tr>
<tr>
<td></td>
<td><strong>Total-A</strong></td>
<td><strong>6953</strong></td>
<td><strong>2532</strong></td>
</tr>
<tr>
<td>Monolithic Concrete Construction</td>
<td>Boriyavi</td>
<td>416</td>
<td>416</td>
</tr>
<tr>
<td></td>
<td>Ahmedabad</td>
<td>33776</td>
<td>33776</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4518</td>
<td>4518</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2528</td>
<td>2368</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1488</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2240</td>
<td>2240</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1652</td>
<td>1652</td>
</tr>
<tr>
<td></td>
<td>Rajkot</td>
<td>736</td>
<td>736</td>
</tr>
<tr>
<td></td>
<td><strong>Total-B</strong></td>
<td><strong>47354</strong></td>
<td><strong>45706</strong></td>
</tr>
<tr>
<td>Total (A+B)</td>
<td></td>
<td><strong>54307</strong></td>
<td><strong>48238</strong></td>
</tr>
</tbody>
</table>
Thank you......