



INNOVATIVE ENGINEERING AWARD (DESIGN)

TO-BE-BUILT BUILDING

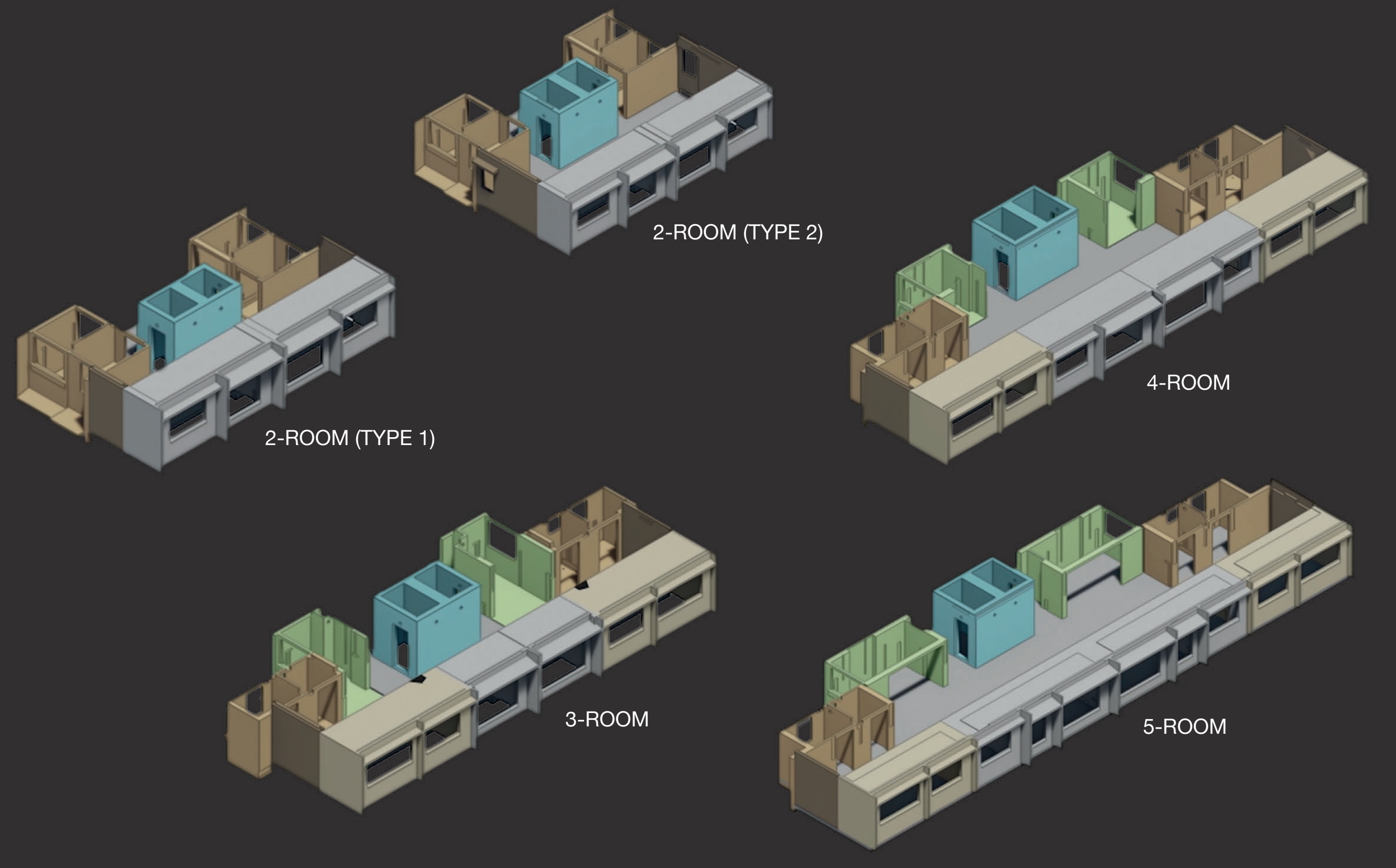
Garden Waterfront I & II @ Tengah

Project Overview

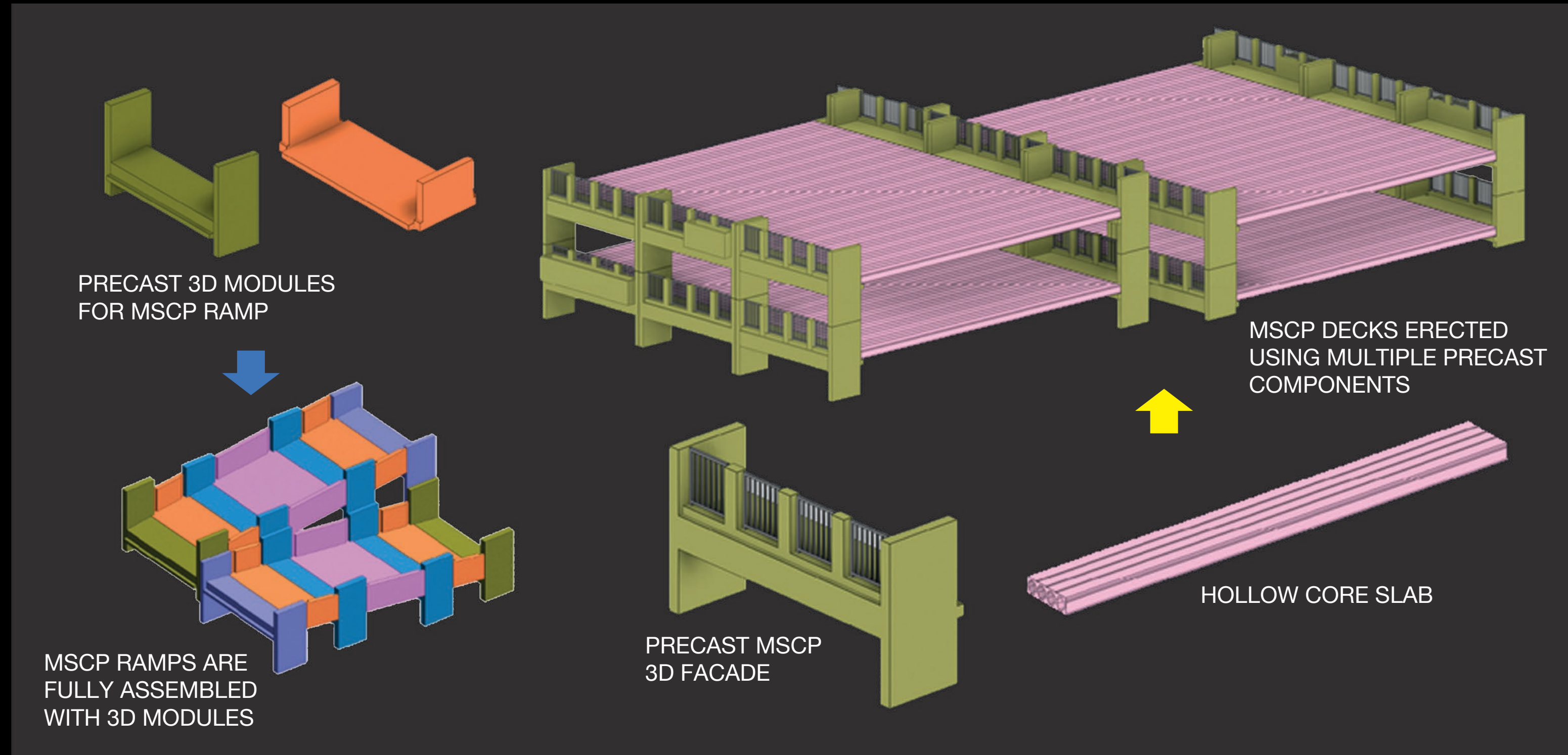
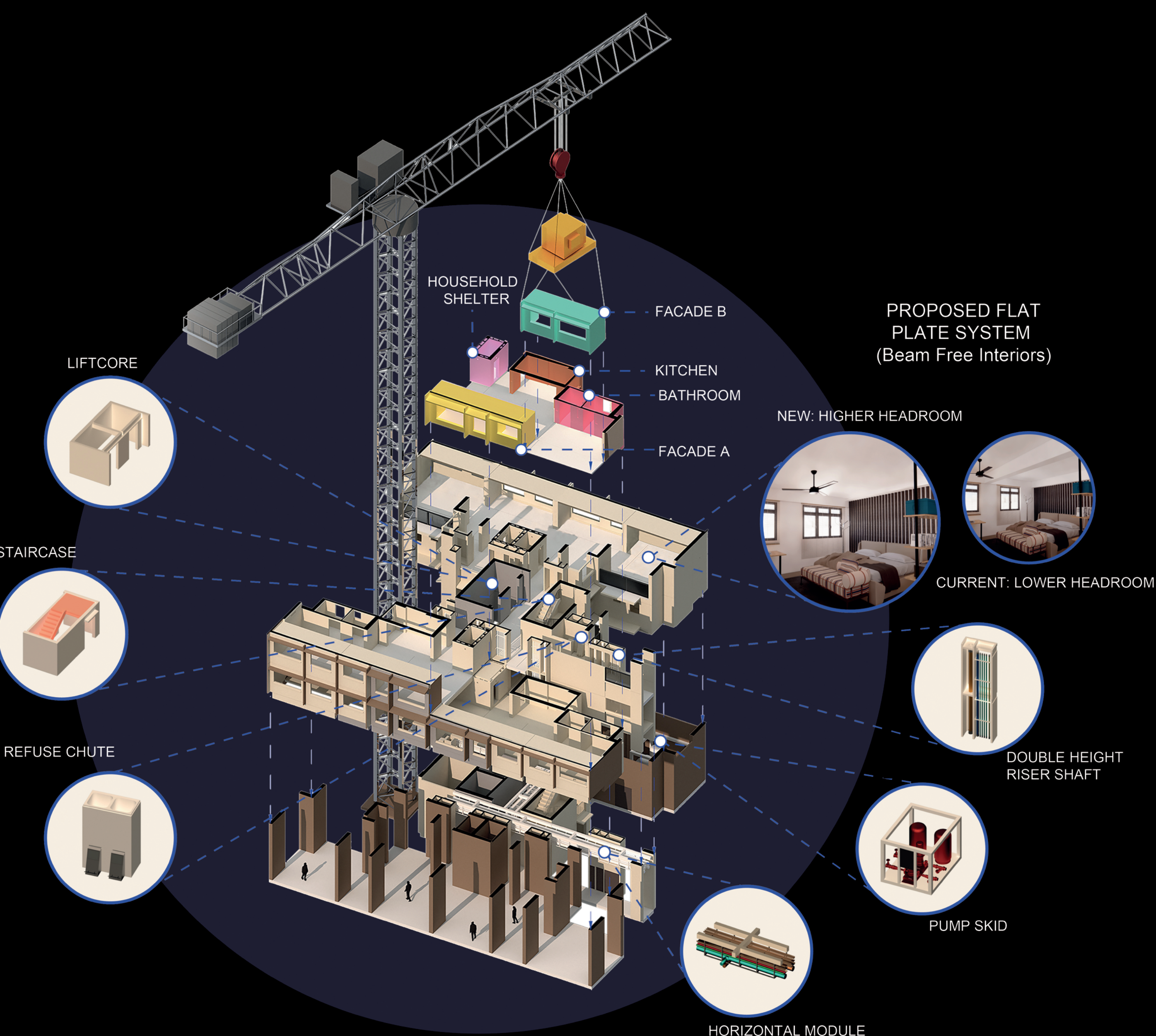
Garden Waterfront I & II @ Tengah is a showcase of HDB's enhanced construction capabilities, that seeks to increase construction productivity through innovative design engineering and construction management methods.

Project Achievements

- Adopted hybrid precast system for residential units comprising three-dimensional (3D) volumetric facade, prefabricated prefinished volumetric kitchen, prefabricated bathroom unit and two-dimensional long spanned precast slab
- Residential units designed as beamless flat plate systems that offer higher headroom and greater flexibility for reconfiguration
- Innovative engineering design that optimises living spaces and precast production efficiency
- Adopted 3D large integrated components for common corridors comprising 3D volumetric lift wall, 3D refuse chute and double tier precast duct
- The multi-storey car park (MSCP) utilised H shaped volumetric facade modules integrated with reinforced concrete crash barrier and railing



Residential units designed to enhance pre-casting and constructability, with 3D structural modules interconnected by 2D precast floor slabs to form complete units



3D façade modules and hollow core slabs of the multi-storey car park are efficiently assembled from end to end with the use of crawler cranes



Engineering innovations to enhance construction safety, reduce manpower requirements and optimise resource utilisation