



WEBINAR TITLE	DELIVERING MMC RESIDENTIAL AT SCALE THROUGH LAST PLANNER: CASE STUDY
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ORGANISATION	OCC CONSTRUCTION
DATE	20/03/2025

OVERVIEW

 **OCC's Progress to date**

 **Strategies Employed**

 **Challenges & Learnings**

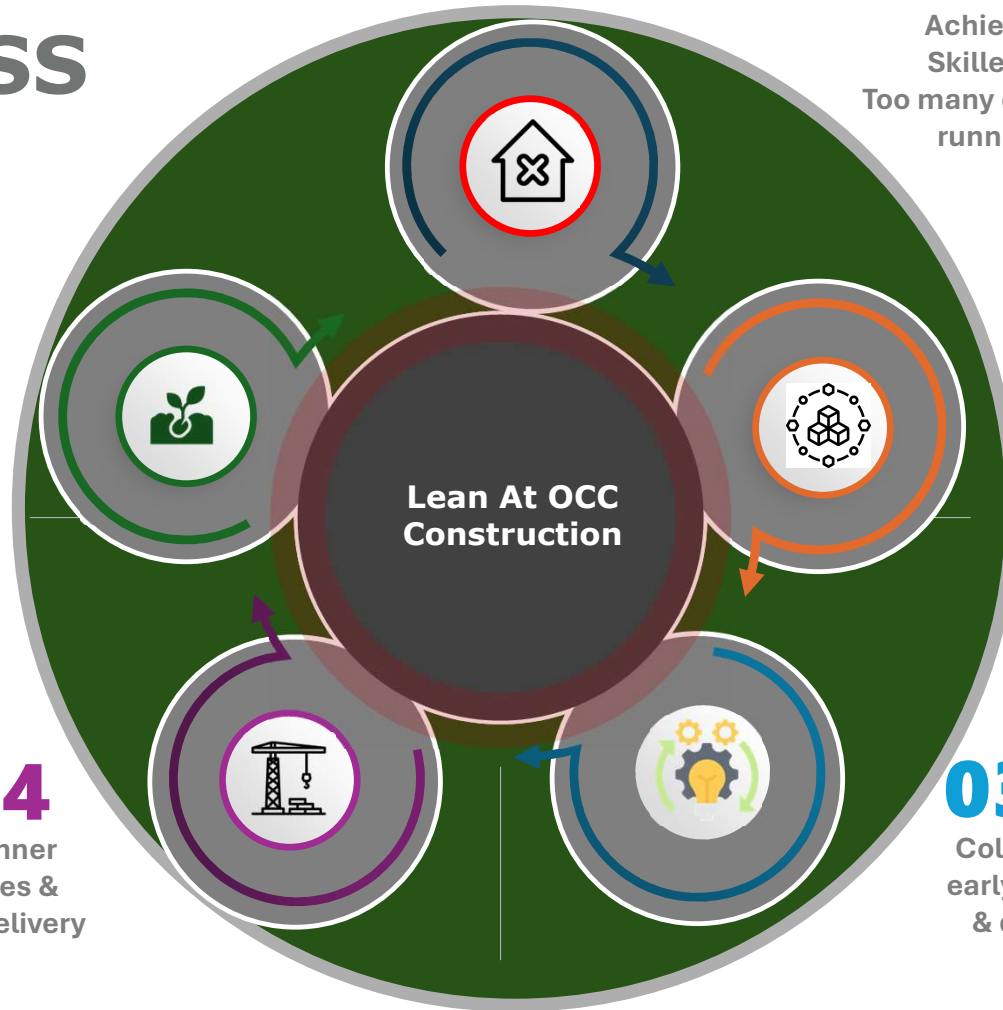
Residential Case Study



Commercial Case Study



PROGRESS



01 Identifying the problem

Traditional Building Delivery Not Achieving Results for OCC
 Skilled Labour Availability
 Too many contractors on-site, Sites running behind program.

02 Implemented MMC & Lean Manufacture

Embraced MMC on all construction sites & development of our own Green frame MMC LGS product. Maximising output through Lean Manufacture.

03 Design Process Improvement

Collaborative planning & workshops at early design stage from sub-contractors & design team to reduce works to be carried out on-site

Sustainability Improvement 05

Utilising Lean principals to save time & waste on all projects, building efficiency into design procurement & delivery.

Delivery Process Improvement 04

Utilising the last planner system across all sites & combining Design & Delivery improvements

LEAN & MODERN METHODS OF CONSTRUCTION



Cost Control – Cost certainty, decreased overheads, greater productivity, maximisation of labour resources.



Speed – Can reduce construction stage by up to 20%. E.G Site installation for two semi - detached units is < 5 days.



Superior Quality, Testing & Certification – All materials manufactured to factory tolerances tested and certified at before site construction.



Health & Safety– Significantly reduced site activity resulting in safer working environment. Risks designed out before site installation. less traffic, short program time.



Sustainability– Waste reduced by over 15%, use of recycled materials and accurate EE & EC for all components.



Project Risk Avoidance – Design review & clash analysis carried out pre-construction avoids delays during the project.



CURRENT STRATEGIES EMPLOYED

OCC Construction has invested significantly in MMC, aiming to maximise the capabilities of latest technology in materials and modern methods of construction to improve the Time, Quality, Safety, Sustainability of the built environment.

DESIGN IMPROVEMENT



LIGHT GAUGE STEEL

OFF-SITE
 CONSTRUCTION 3-5+
 STORIES

250 RESIDENTIAL
 UNITS ON-GOING

2 COMMERCIAL

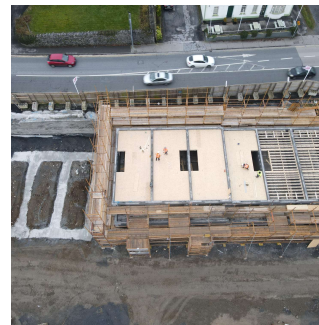


TIMBER FRAME

OFFSITE
 CONSTRUCTION 1-2
 STORIES

220 UNITS ON-GOING

PROCESS IMPROVEMENT



INSULATED CONCRETE FORMS

ON-SITE MMC
 CONSTRUCTION

200 UNITS ON-GOING



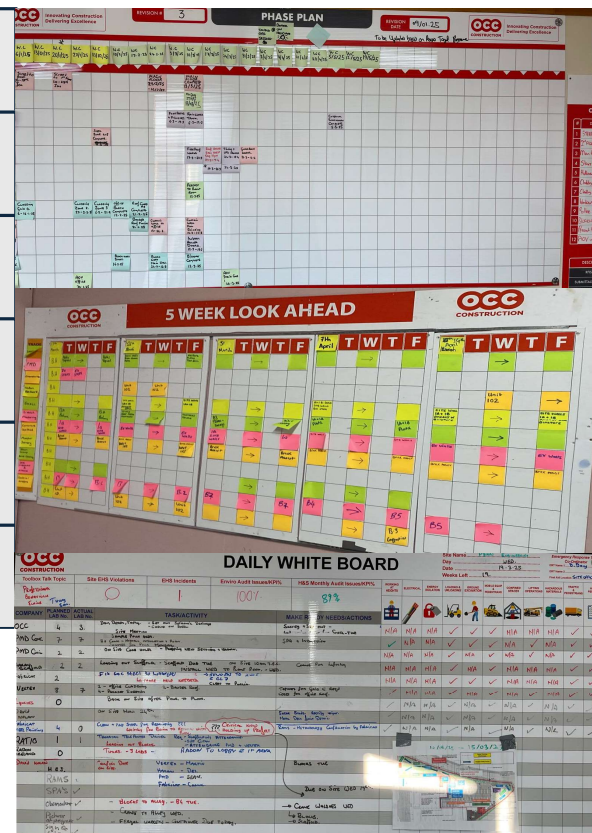
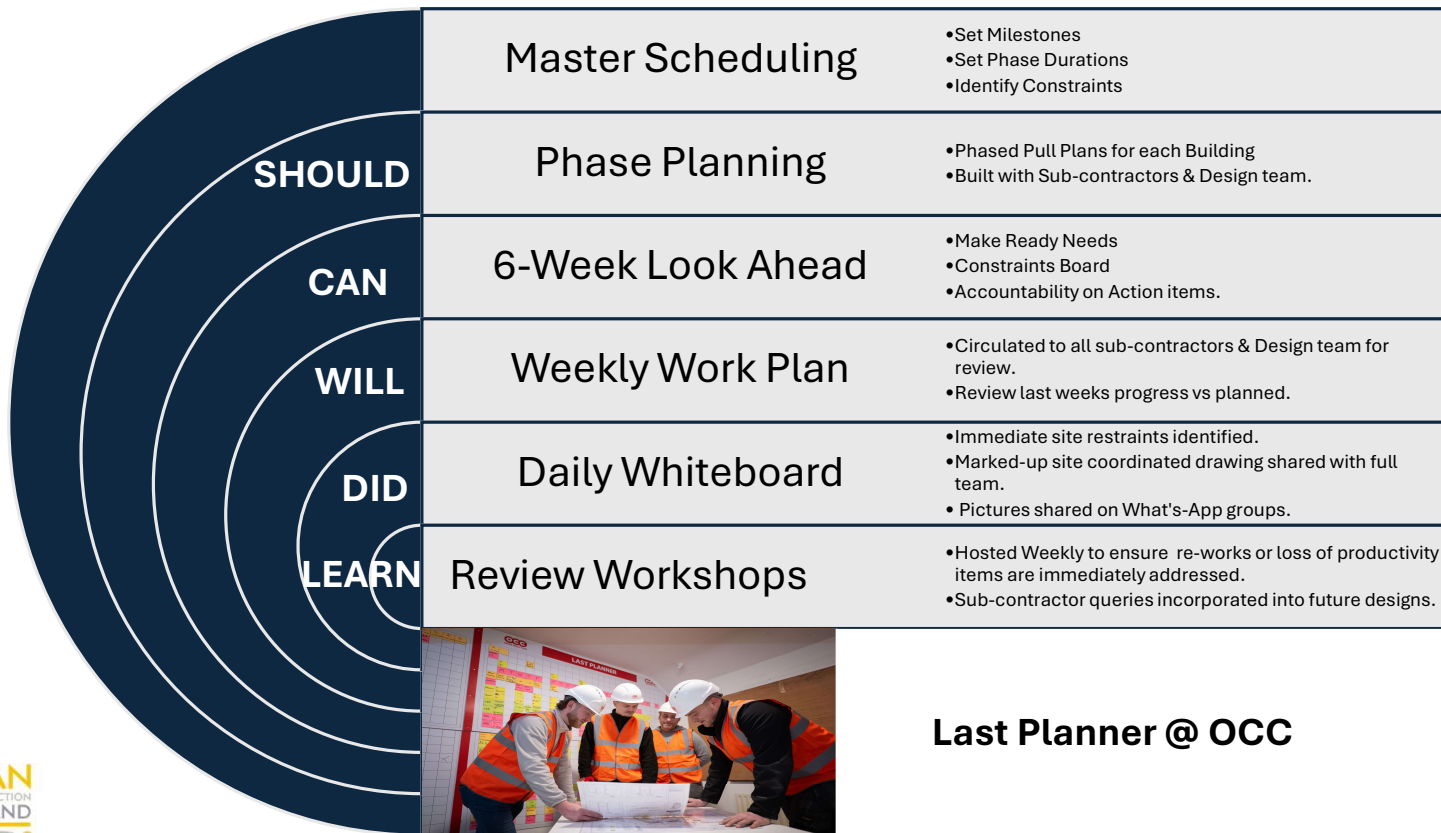
LEAN CONSTRUCTION

LAST PLANNER SYSTEM

IN ACTION ON ALL
 SITES

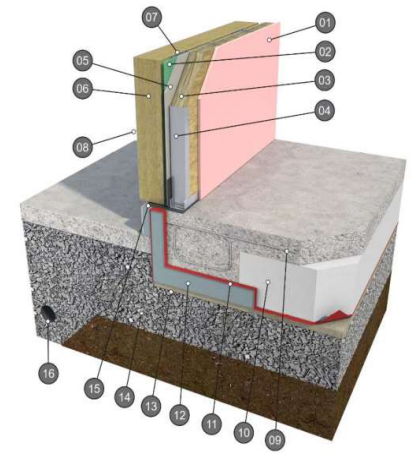
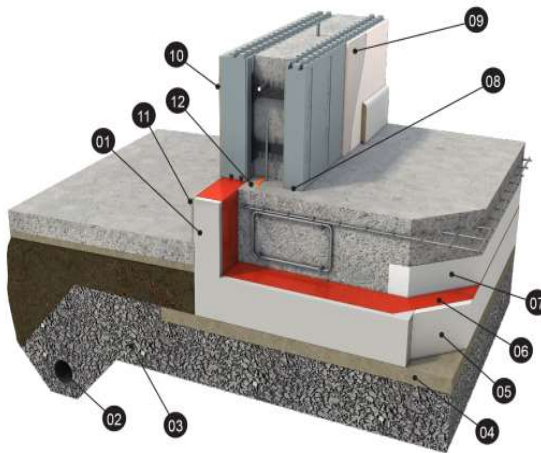
LAST PLANNER SYSTEM

All staff trained to yellow belt standard from general operatives through to senior management, full project team from commercial, design, purchasing and site team believe in the system.



Last Planner @ OCC

LEAN MMC: KINVARA CASE STUDY



Building Energy Rating (BER)

BER for the building detailed below is: **A1**

Address	28 CINIC NA NDIALG CONVENT ROAD KINVARA, CO. DUBLIN 9
Eircode	D09P944
BER Number	115605735
Date of Issue	18/10/2022
Valid Until	18/10/2032
Assessor Number	100324
Assessor Company No.	100002

The Building Energy Rating (BER) is an indication of the energy performance of this dwelling. It covers energy use for space heating, water heating, ventilation and lighting, calculated on the basis of standard occupancy. It is expressed as primary energy use per unit floor area per year (kWh/m²/yr). 'A' rated properties are the most energy efficient and will tend to have the lowest energy bills.

Building Energy Rating
 kWh/m²/yr
 MOST EFFICIENT

< 25	A+
25 - 35	A2
35 - 50	A1
50 - 75	B1
75 - 100	B2
100 - 125	B3

Carbon Dioxide (CO₂) Emissions Indicator
 kgCO₂/m²/yr

BEST	0
Calculated annual CO ₂ emissions	2.04 kgCO ₂ /m ² /yr



MMC KINVARA CASE STUDY: DAY 0



MMC KINVARA CASE STUDY: DAY 1



MMC KINVARA CASE STUDY: DAY 2



MMC KINVARA CASE STUDY: DAY 3



MMC KINVARA CASE STUDY: DAY 4&5



MMC GALWAY CASE STUDY: 102 UNIT RESIDENTIAL



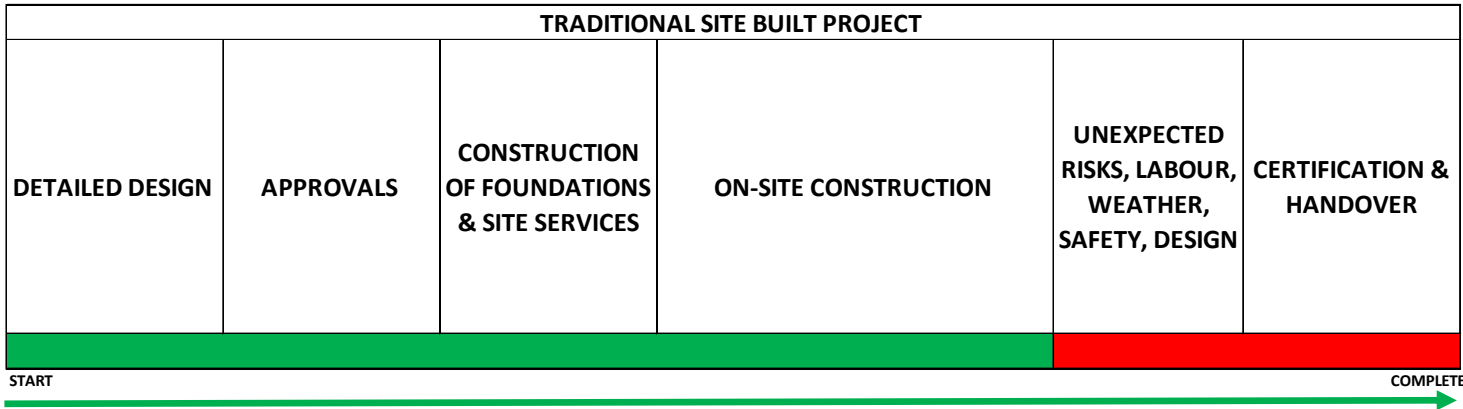
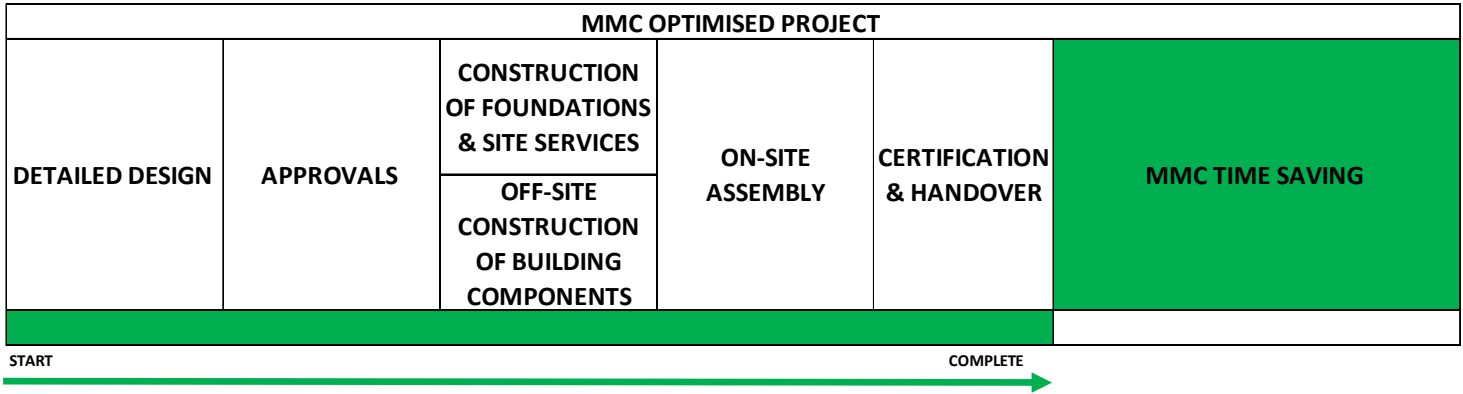
MMC GALWAY CASE STUDY: 102 UNIT RESIDENTIAL



COMMERCIAL CASE STUDY: SHANNON BLOCK R

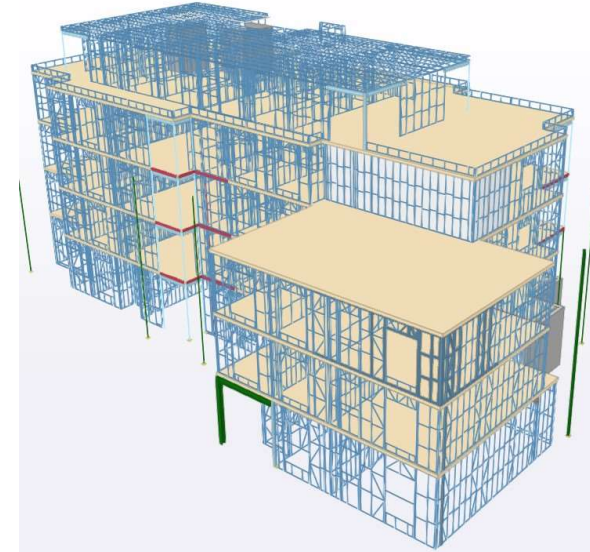


CHALLENGES & LEARNINGS FROM LEAN & MMC



CHALLENGES & LEARNINGS FROM LEAN MMC

- 1. Design for manufacture assembly philosophy** – Greater collaboration from the contractor & design team at planning stage through the last planner system allows a rationalised & efficient design approach.
- 2. Design Freeze** – Detailed review of pre-construction drawings ensuring all building components are accounted for is worth 4x time on-site.
- 3. Structural Systems** - From OCC analysis most cost efficient for Multi Build type residential, LGS is the preferred System due to the speed & adaptability for housing, duplex's & apartments.
- 4. Continuity & Repetition** – Optimisation of output from MMC companies could be easily gained from repeating delivered project designs.



MMC CAMPUS – MOUNT LUCAS



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage



Innovating Construction
Delivering Excellence





John O'Connell

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