



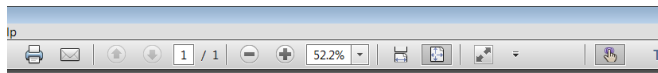
**Richard
Whittaker**

**Director of
Development**

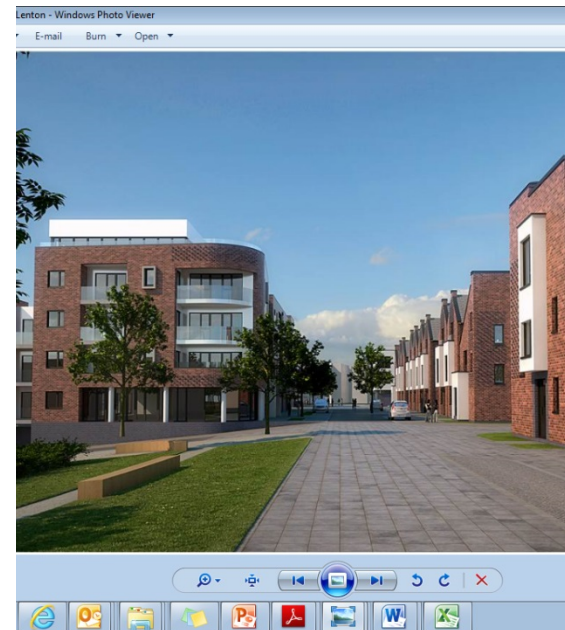
Building Better 1960's design principles to meet demand



Building Better What design year?



The Meadows



wm housing group

Building Better Modern Design Standards?

A large, irregular teal-colored splash or paint blotch on the left side of the slide, with some darker and lighter shades of teal and some white speckling at the edges.

BIM4HOUSING

- Constructing Excellence

National Case Study

[http://
constructingexcellencesw.org.uk/presentations/
bim4housing-presentations/](http://constructingexcellencesw.org.uk/presentations/bim4housing-presentations/)

[http://
www.bimtaskgroup.org/](http://www.bimtaskgroup.org/)

Building Better

Meadows and Cranwell Scheme



Meadows Q recently procured in conjunction with Cranwell Road and consists of:

8 x 2 b semi-detached bungalows

1 x 2b detached bungalow

16 x 2b terraced houses

24 x 2b semi-detached houses

1 x 2b detached house

4 x 3b semidetached houses

National BIM pilot

Beattie Passive Modern method of construction

Cranwell Road consists of:

12 x 1 bedroom flats plus study

10 x 2 b terraced bungalows

1 x 1b detached bungalow

14 x 2b semi-detached houses

10 x 2b with study semi-detached houses

1 x 2b detached house



BIM for Affordable Housing



Meadows – BIM – Modern Methods of Construction

Cranwell – Traditional construction methods

Construction Project Information Exchange (CPIX)

All documents for exchange of information are prepared using the rules of CPIX

Project Implementation Plan (PIP)

This is submitted pre-contract-award to convey each potential supplier's capability related to information management.

Task Information Delivery Plan (TIDP)

BIM for Affordable Housing

BIM Summary



Meadows – BIM – Digital Delivery

Cranwell – Traditional construction methods

Opportunities:

Compare apples with apples

Clear Lessons learnt

Inform & Influence delivery of social housing

Improve community consultation

Full scale 3d models

Allows a full walkthrough of both the estate and house types

Can be embedded in google street view to give real life views

Savings in time and cost should be achieved through design,

Procurement and delivery

Reductions in waste and defective works will be realised

Better tender information and Greater cost certainty

BIM for Affordable Housing

BIM4Housing National Case Study



Accurate design and material schedules

Reduced up front design costs

Accurately model the life of a building

Benefits in terms of design repetition

Quick and efficient changes at planning stage

Much more detailed interactive view of the plans at consultation stage

BIM for Affordable Housing

Early Engagement



All 7 contractors from the EEM Framework were invited – those highlighted attended

- **Kier**
- **William Davis**
- **Robert Woodhead**
- **Keepmoat**
- **Geda**
- **Westleigh Developments**
- **Wates**

Purpose of the day

- **Introduce BIM**
- **Support contractor partners with tender submissions**
- **State our intentions for the delivery of both schemes**

BIM for Affordable Housing



Tender information has been much better contributing to greater cost certainty

% Difference between 1st and 2nd place

The quality of information has made our procurement team happy

Hard copies priced up

Communication with Residents, the Community and Members greatly improved

BIM for Affordable Housing

The interesting bit

Variations and Spend

	JCT Design and Build Lenton	NEC Option C Meadows (BIM)	NEC Option C Cranwell
Variations Nr	225	60 Due to diversions	42

Build costs	No.of units	Forecast/completed cost	Unit cost	Scheme GIFA M/2	Cost per M2
Meadows	55	£5,758,608	£104,702	4545	£1,267
Cranwell	48	£4,932,000	£102,750	3937	£1,253

Surplus Meadows £278,860.80

Spend against budget	Contract Sum	Contingency	Contingency Spend	Outturn	Percentage against Budget Contingency	Percentage Spend against Budget
Contract Sum Meadows	£5,488,608.00	£548,860.80	£270,000.00	£5,758,608.00	4.69%	8.17%
Contract Sum Cranwell	£4,487,000.00	£448,700.00	£445,000.00	£4,932,000.00	9.02%	5.15%

£112k & 118k costs per unit –
The most cost effective new homes NCH have
delivered

BIM for Affordable Housing

Next steps



Project the programme is prepared in Asta and is compatible with the Asta BIM software for 4D reporting.

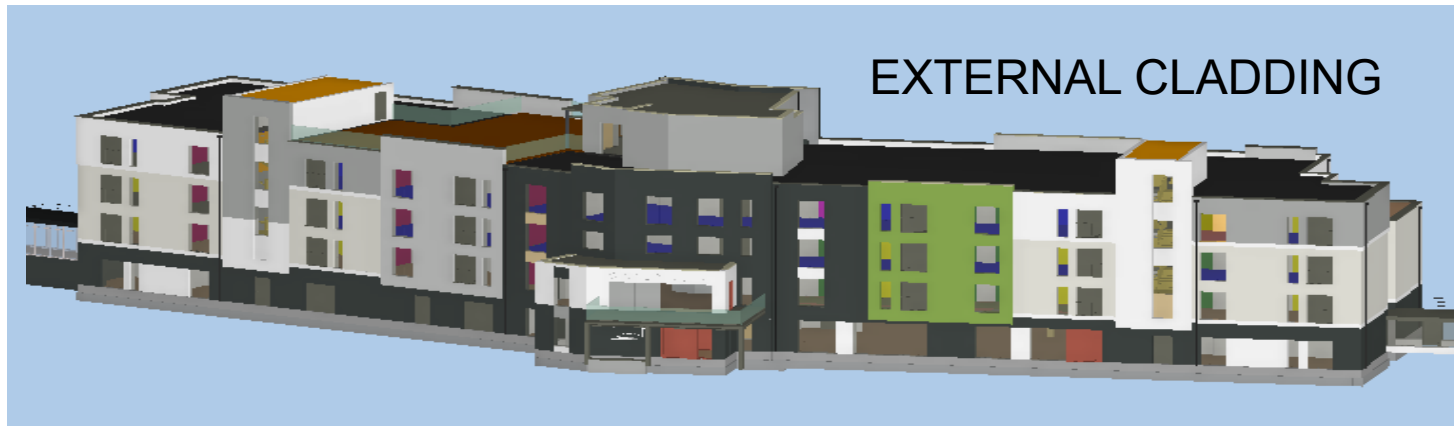
The architect can export the BIM model in the IFC file format which can be read by Asta.

With the Asta programme and the IFC format model linked it is possible to assign elements in the 4D model to activities in the programme.

Once all of the model elements are assigned to programme tasks the software allows planned versus actual analysis in 4D. It also allows snapshot analysis of what the project should look like at selected dates and a video of the project build can be seen against the programme timeline.

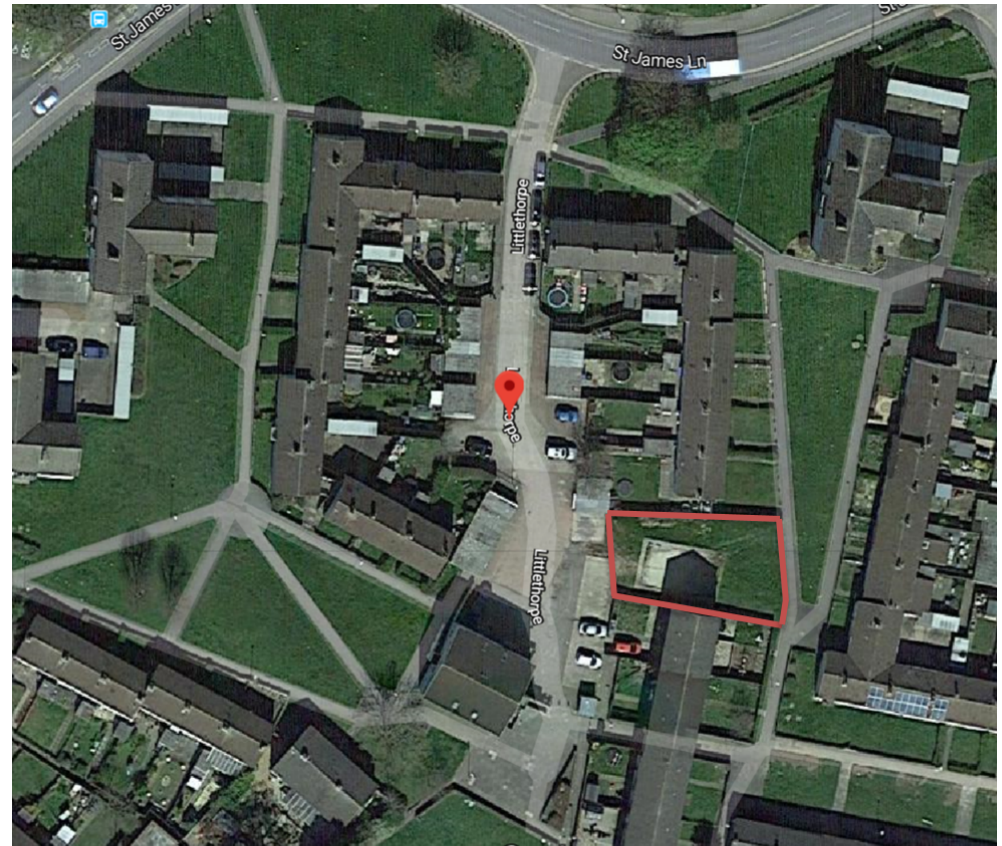
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Next steps Development 4D BIM



**In Conjunction with
Coventry City Council
Offsite Manufactured
Pilot Bimmed**

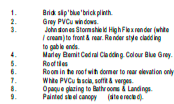
- Littlethorpe



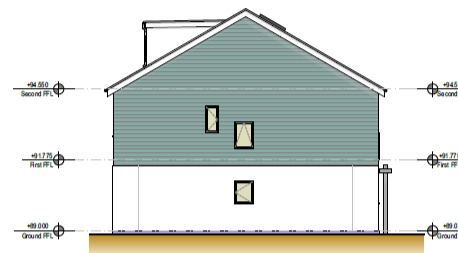


- Littlethorpe

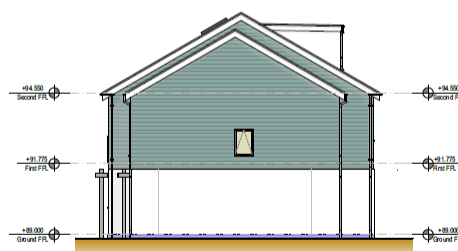
Offsite Manufactured Pilot Bimmed



G.A. E-01 Front Elevation
1:100



G.A. E-02 Side Elevation 1
1:100



Rev.	Date	Grid	Comment
C	09.05.18		Mixer note amendments. Drawing status changed to Planning App.
B	22.03.18		Remaining elevations added. Rainwater goods indicated. Drawing status changed to Contractor's Proposals.
A	14.02.18	F3	Rooflight added to En-suite shower room on 2nd storey in accordance with dep. E1006.PA.05 rev. B. Rev. B.

Offsite Manufactured Pilot Bimmed

- Littlethorpe

A large, abstract teal watercolor splash shape on the left side of the slide, with various shades of blue and green and a textured, ink-like edge.

Next Steps

- “Golden thread of building information” – BIM
- Life cycle costed models
- Standardised design entities
- significantly improve the quality and efficiency of building and maintaining homes
- Will help manage risk management and responsibility throughout the building lifecycle.

Any Questions?