CAMBORNE MEWS

Initial Design Ideas

Your refurb. Your choice.

ECD Architects
ENERGY CONSCIOUS DESIGN

LANCASTER WEST
NEIGHBOURHOOD TEAM
W11

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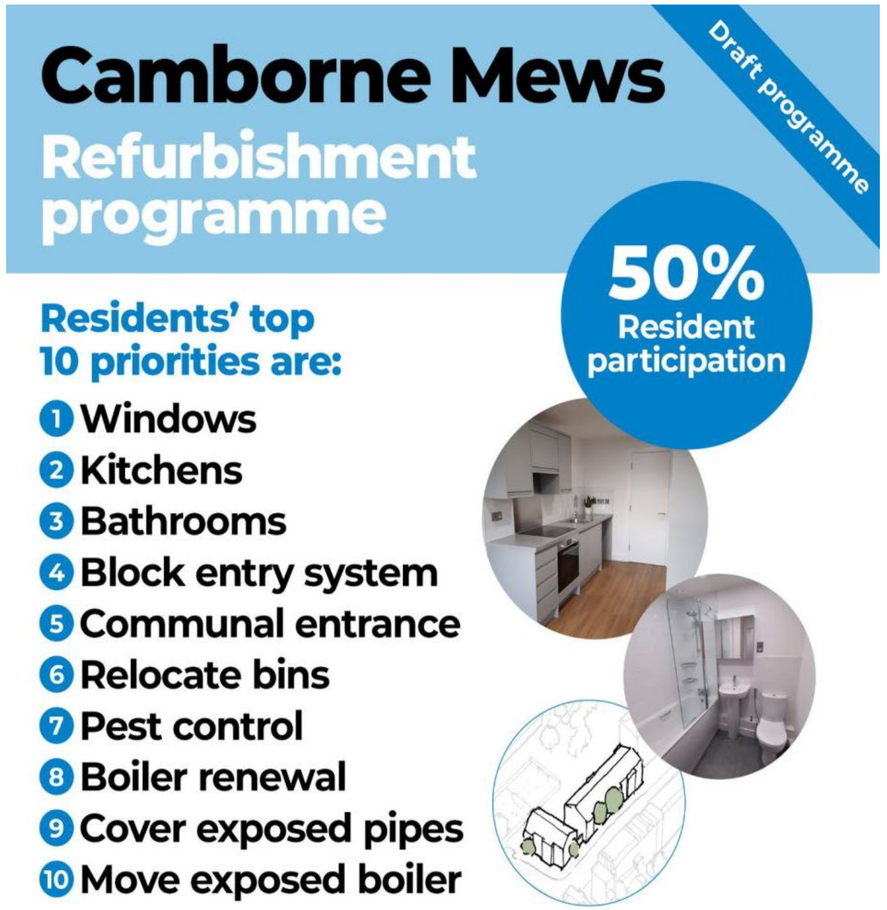
Co-Design Process

For the last couple of years, you have been part of the co-design sessions organised by the LWNT, including the identification of your top 10 priorities for your block.

The LWNT is working with an array of consultants who are addressing all your priorities and other concerns. ECD are working alongside these consultants to design the external refurbishment of your block.

Resident engagement event at LWE

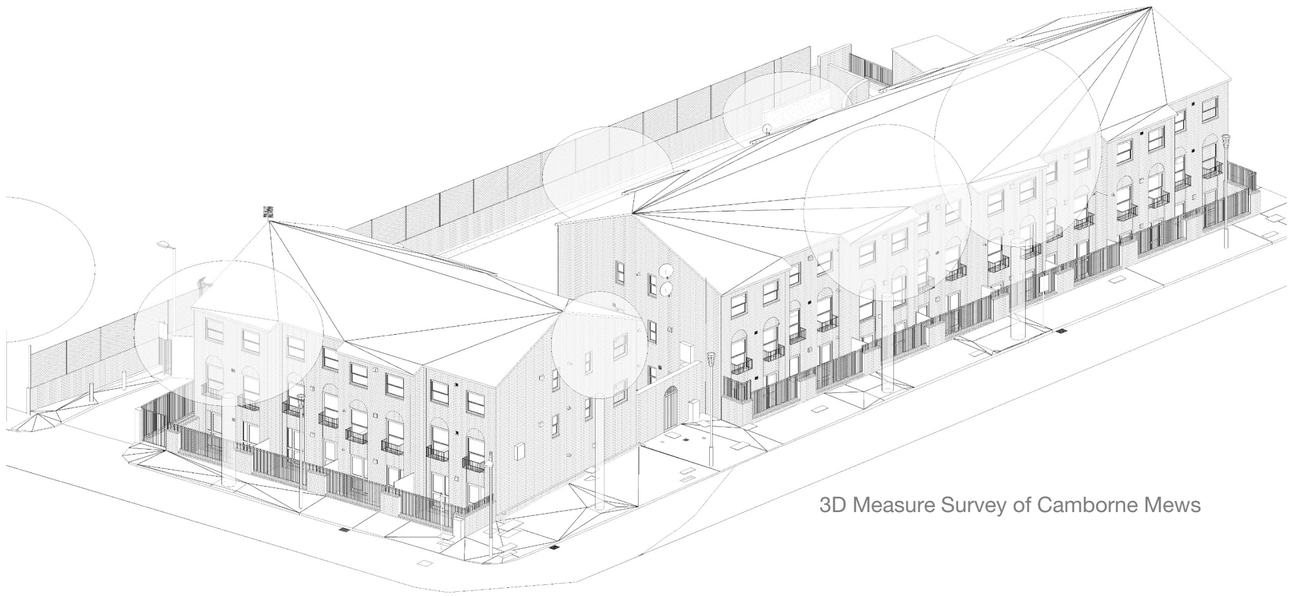


Resident's Top 10 priorities for Camborne Mews

Surveys done to date

Technical Surveys

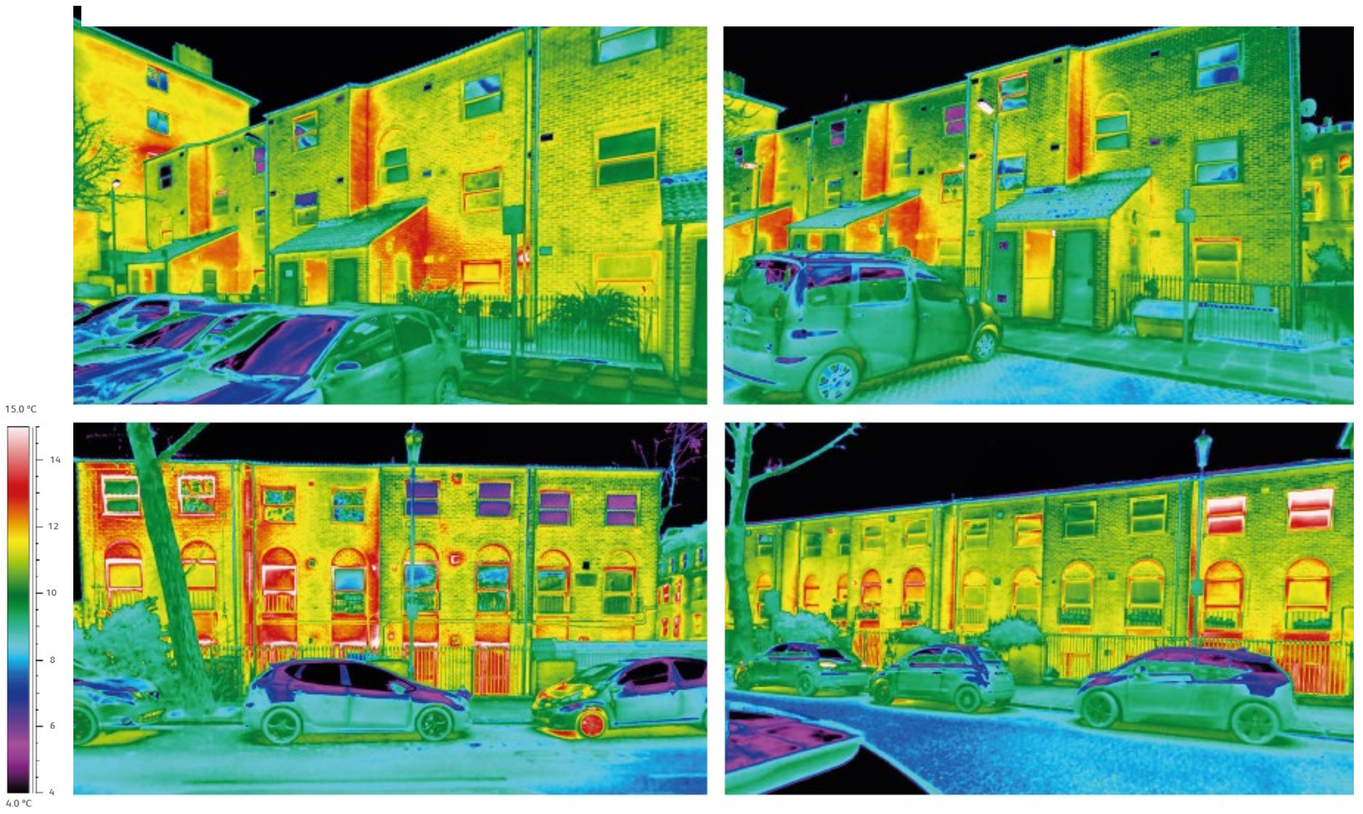
Earlier this year, we commissioned several surveys of the external facade and communal areas of your block, as well as the internal area of 2 unoccupied flats. Using this data, we have designed a virtual 3D model of the block and general layout of the inside of the flats.



3D Measure Survey of Camborne Mews

External Thermographic Images

A thermal imaging report was carried out on Camborne Mews in March 2021. The images illustrate that there are several areas of heat loss across the facade of both buildings shown in yellow and red on the image to the right. The latest thermographic report states that, generally, the thermal performance of Camborne Mews is poor.



Thermal Imagery of Camborne Mews showing heat loss through facade (red/orange area)

Proposed Energy Efficiency Works

Some significant refurbishment works to be carried out at Camborne Mews, in order to upgrade Camborne to a 21st century estate, will be to improve the building envelope u-value and reduce heat demand and carbon emissions along with maximising fire safety. There are three standards, Bronze, Silver and Gold that we are working towards with Gold being the highest level of improvements in terms of energy. LWNT does not currently have funding in place for PV solar panels but will investigate this as an option if the majority of residents are interested in this.

After further site investigations, detailed design and resident engagement, confirmation on preferred options will be made for the following:

- Installation of new internal wall insulation (IWI) OR external wall insulation (EWI)
- Upgrade of existing windows to new triple glazed windows
- Install mechanical ventilation with heath recovery (MVHR) system
- Photovoltaic Panels

By others, but integrated:

- Door entry systems
- Lighting
- CCTV
- Landscaping works
- Plumbing and Heating
- Below ground drainage
- New kitchens & bathrooms

	Proposed measures
Bronze	Upgrade double-glazed windows No insulation to existing walls Upgrade Mechanical Extract Ventilation (MEV)
Silver	Upgrade double-glazed to triple-glazed windows New wall insulation (Internal or External) New insulation installed in roof (under or over) New Mechanical Ventilation with Heat Recovery
Gold	Upgrade double-glazed to triple-glazed windows New wall insulation (Internal or External) New insulation installed in roof (under or over) New Mechanical Ventilation with Heat Recovery PVs on roof & battery storage

Matrix of possible interventions

Existing Buildings

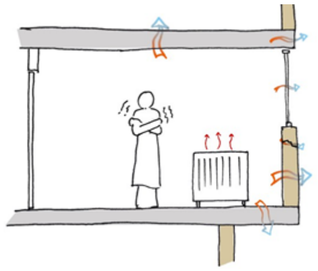
Double Glazed Sash Windows

Cavity walls without insulation

Poorly insulated roof

Why upgrade your home

- Poorly insulated homes use lots of heat to keep warm i.e. expensive bills
- Summer overheating and very cold winters is an increasing problem with climate change
- Draughts and temperature swings with poor heat distribution i.e. cold ankles but hot head
- Cold spots in your walls that can lead to condensation and mould growth



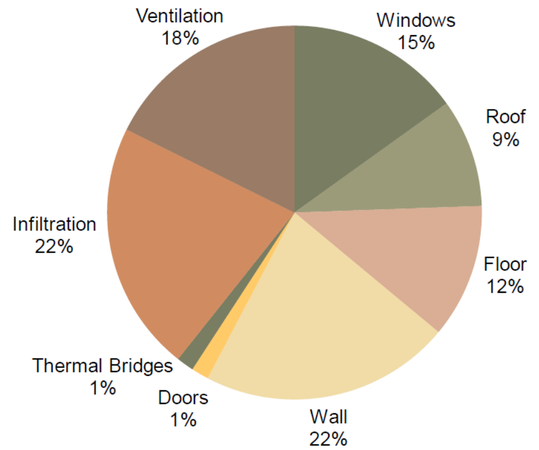
Possible improvements

We are considering options to improve the building envelope u-value and reduce heat demand and carbon emissions along with maximise fire safety. We are considering options to:

- Install wall insulation: Installation of internal wall insulation (IWI) OR external wall insulation (EWI)
- Upgrade windows: Upgrade existing double-glazed windows to new triple glazed windows
- Upgrade roof insulation: Installation of insulation to improve the existing roof thermally, internally OR externally.
- Upgrade ventilation: Installing mechanical ventilation with heath recovery (MVHR) system to each property.

Existing heat losses

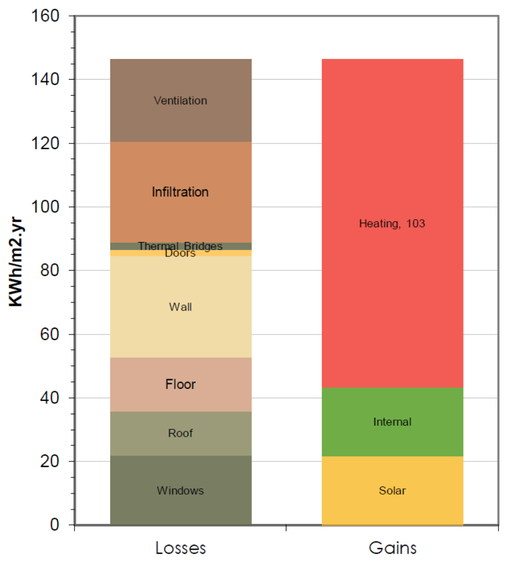
Camborne Mews is currently losing heat via uncontrolled air leakage (infiltration), walls, ventilation, windows, floors and roofs. This is something we need to address as part of the external refurbishment of your block, while ensuring the upgrades to the block will help Lancaster West become a carbon neutral estate.



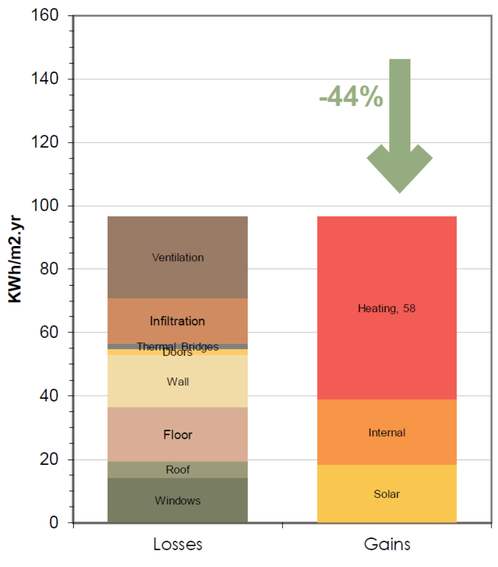
Baseline Model - Heat losses by component type

Estimated Energy Savings (heat losses vs heat gains balance)

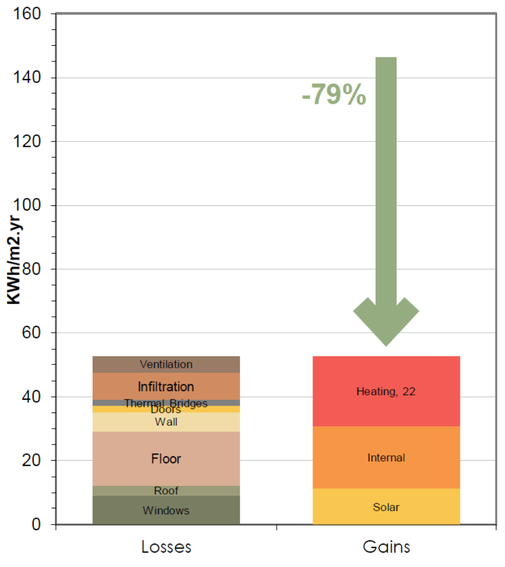
Estimated Heat Demand (in red) of the current building and the External Wall Insulation (EWI) refurbishment scenarios. Energy use for heating can be reduced by 84%



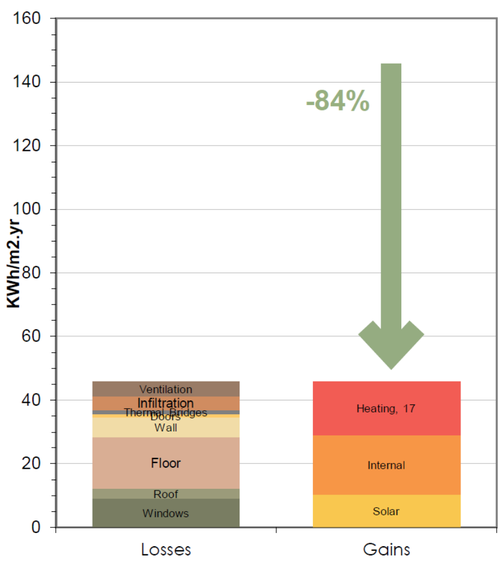
Baseline Model – Current situation



Refurb Scenario 1– Building Regulations



Refurb Scenario 2– AECB Standard



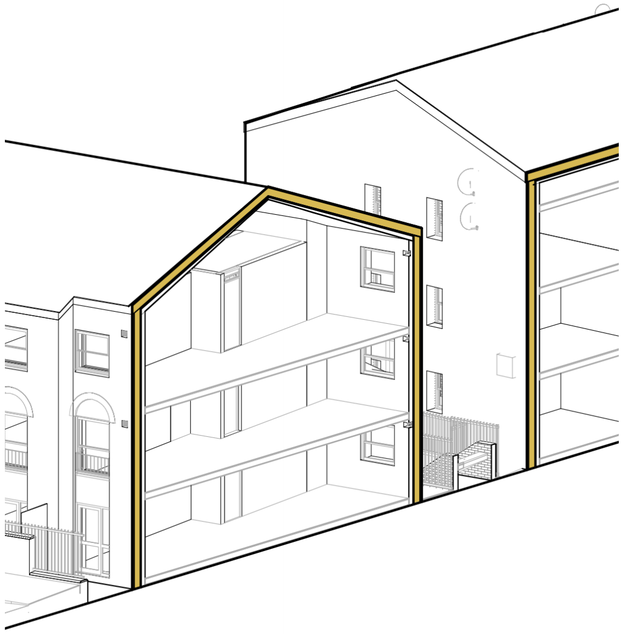
Refurb Scenario 3– EnerPHit

Insulation Strategy Options

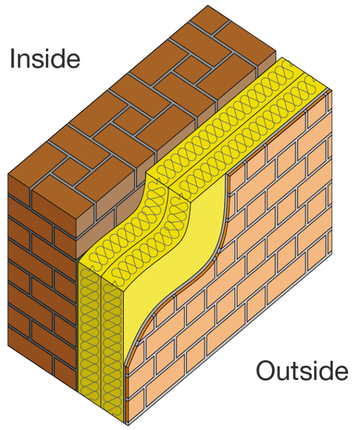
External Wall Insulation – (EWI)

This option allows for a layer of non-combustible (A1/A2 rated) insulation to cover the external face of the façade with a finishing layer - brick slips, render or a combination. Triple-glazed windows and doors to be installed in the new outer layer.

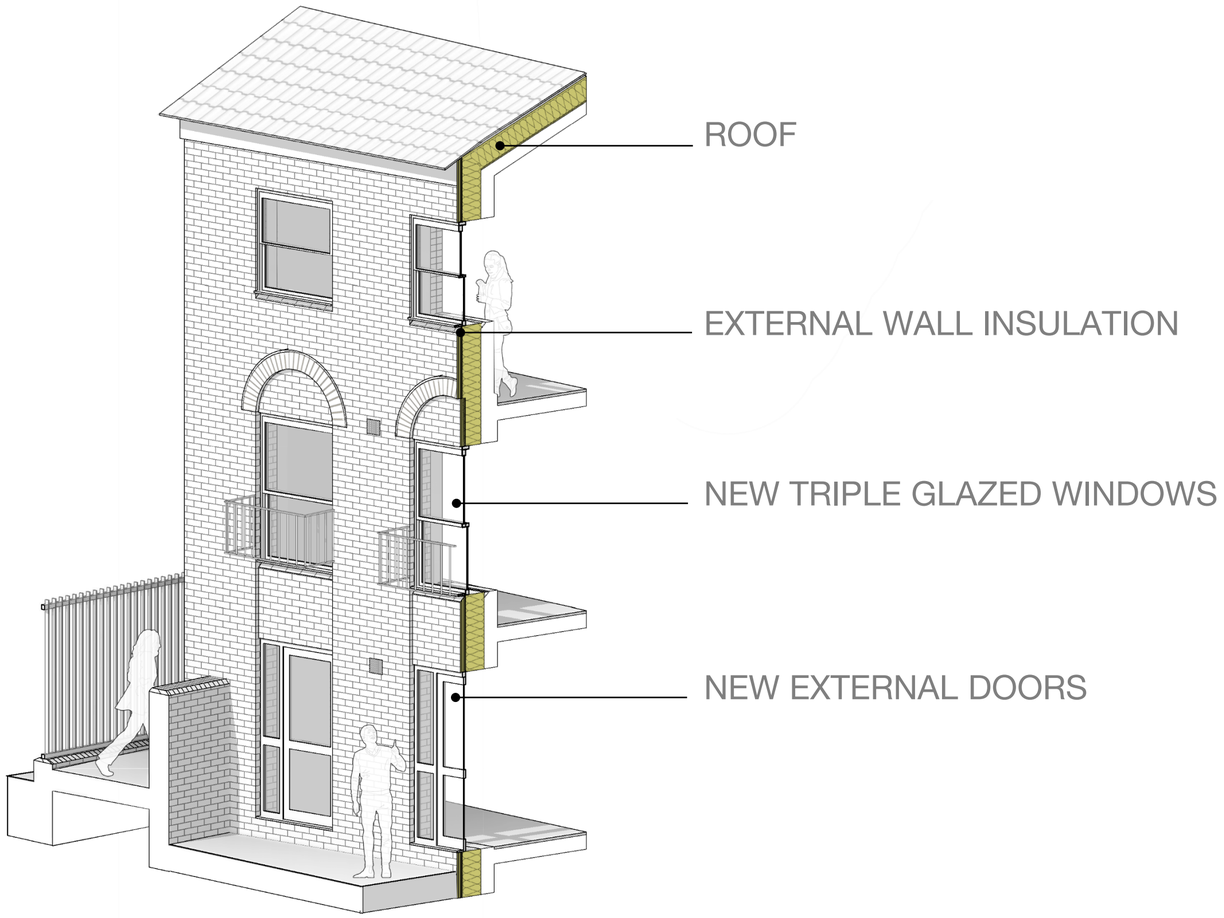
This system offers a quick installation process, which provides high levels of insulation, fire protection and acoustic attenuation. External Wall Insulation (EWI) can be fixed from the outside, with minimal disruption to the residents, nor internal area losses. EWI allows for the whole building to be “wrapped” in insulation, thus eliminating all thermal bridges and avoiding heat and air leakage.



3D section view of EWI insulation



Installation of EWI insulation



Section of Camborne Mews showing EWI

Insulation Strategy Options

External Wall Insulation – (EWI) - Material Study

Options to improve the design of the existing facades.
Initial facade studies to explore options for the brickwork.


Brick matching at Camborne Mews


Precedent image showing contrast of brick colours


Precedent image showing contrast of brick and render


Option 01


Option 02


Option 03


Option 01


Option 02


Option 03

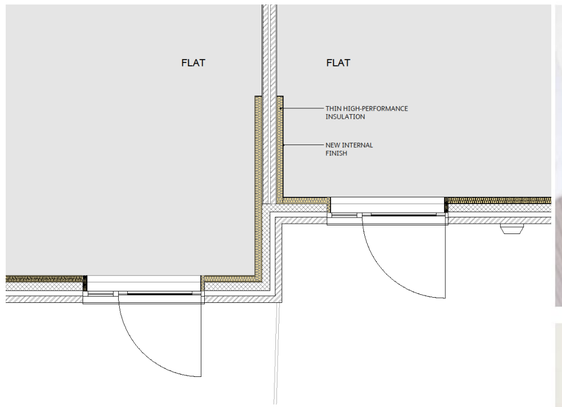
Insulation Strategy Options

Internal Wall Insulation – (IWI)

If internal wall insulation is preferred, the proposal is to remove the internal wall finishes and install a layer of A1/A2-rated insulation to the internal face of the facade + new internal finishes. This system offers a reduction in heat loss through the walls and there is no change to external appearance of the buildings.

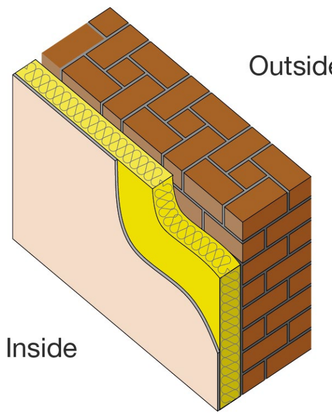
By using the thinnest high-performance material, there will be approximate 1- 3% loss of area within each flat. Installing Internal Wall Insulation (IWI) is a very disruptive process as all internal fixtures and fittings would need to be removed from each room, and furniture relocated. It is also highly likely that residents will need to decant their properties for a period of time.

In some instances, installing IWI could result in risk of interstitial condensation (hidden water condensation happening between the internal insulation and the existing wall, which may result in damage and/or mould growth). Installing IWI does not allow the insulation to completely “wrap” the building, as it is too difficult to insulate between the external wall and the party walls or floors, this leads to “thermal bridges” where heat will continue to escape to the outside; therefore, the energy savings of IWI are limited.



Detail showing the insulation with a minimum 1 metre return within each flat

Aerogel Insulation added to inside face of external wall



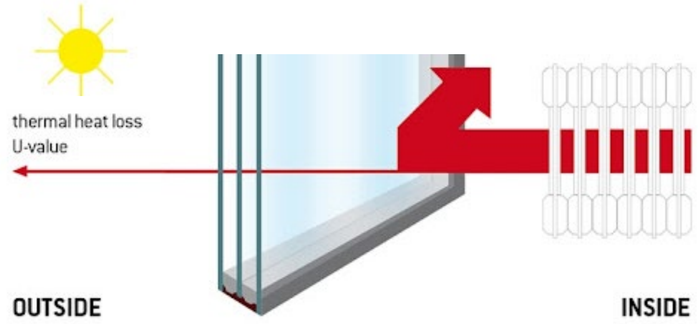
Axonometric section showing internal wall insulation (IWI)

Windows

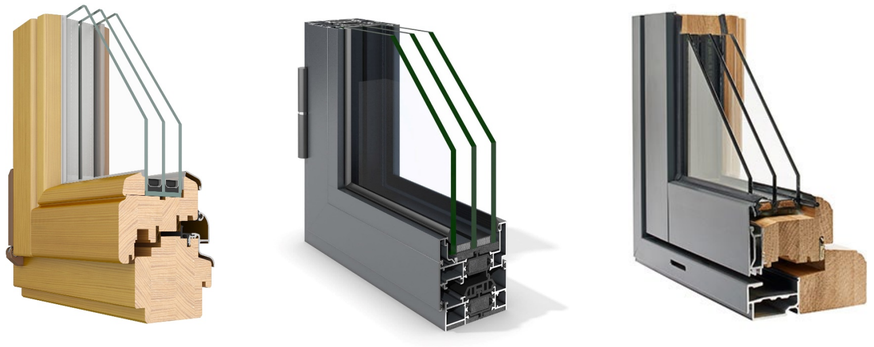
To date, residents have complained about general unhappiness with the windows, such as ventilation issues that have resulted in mould and condensation issues in bathrooms and kitchens.

The existing windows could be upgraded to triple-glazing which has better thermal performance than current double-glazed windows; and residents will be invited to choose new windows including material, mechanism and colour.

- Triple-glazed windows are substantially better in terms of thermal comfort, energy savings, sound-proofing, and reducing energy bills
- Installing new windows will affect the appearance of the block, but can still be kept relatively similar to the existing appearance if preferred by residents



Triple glazed window showing u-value and g-value



Timber, aluminium and composite (timber + aluminium) window frames

Triple glazed windows

Examples of window frame colours

Additional colours available. Let us know your favourite options!

Improved Ventilation

Mechanical Ventilation with Heat Recovery (MVHR) is a unit that brings in fresh air and pre-warms this with the heat from outgoing air in the winter. This fresh, warmed air is then distributed to living areas, while stale air is extracted from kitchen and bathrooms. Windows can still be opened, but the building will still work even if windows are kept shut.

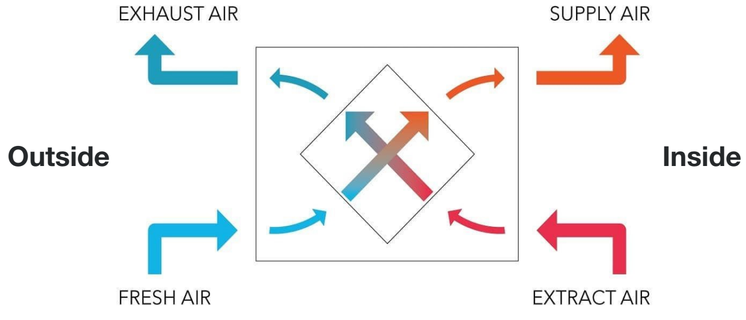
In summertime, the MVHR automatically switches to "summer by-pass mode" in which the heat from the flat is not recovered by the unit. Instead, filtered external fresh air is constantly supplied to the flat.

This unit will need to be fitted into all flats to improve the ventilation and heating. Each property will have the system installed, including ductwork and acoustic attenuators to all bedrooms, living rooms, kitchen and bathrooms. As these units recover the heat from the internal air, they reduce the need for heating massively.

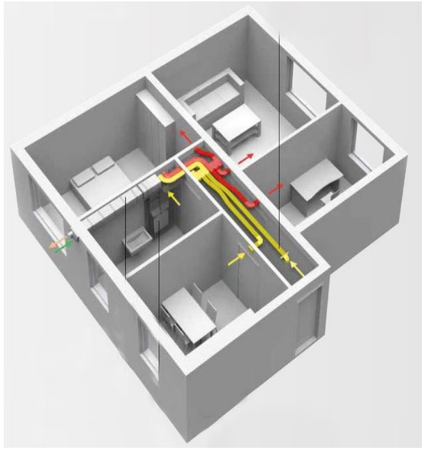
The design team will work with residents, to identify the best possible locations to install this ventilation unit inside each flat. They can be mounted at ceiling height or in a cupboard depending on the flat type and available space.

Upgrades to Heating

Camborne Mews is currently not part of the local district heating system. TACE and other consultants are investigating options in order to include Camborne Mews into the overall Lancaster West Heat Network. If the Heat Network feasibility study proves that it is technically and financially advantageous to include Camborne Mews, then that would result in the option to remove the individual gas boilers from each flat, and instead each unit would be connected to the Heat Network (which will result in fewer carbon emissions as it transitions to a zero-carbon heat network over the next few years).



MVHR diagram

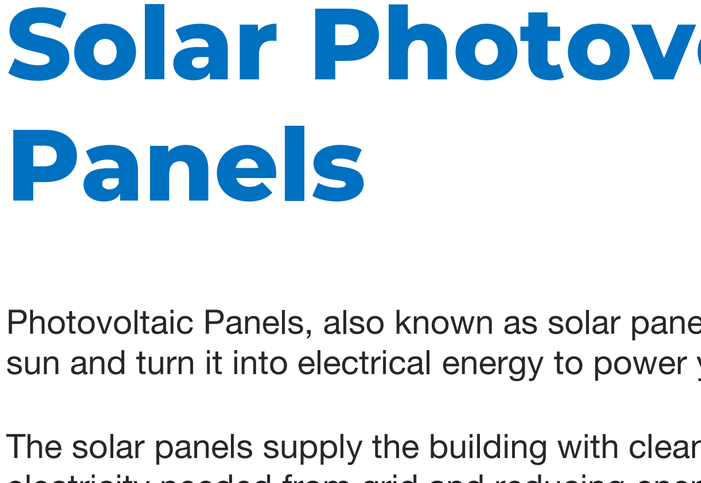


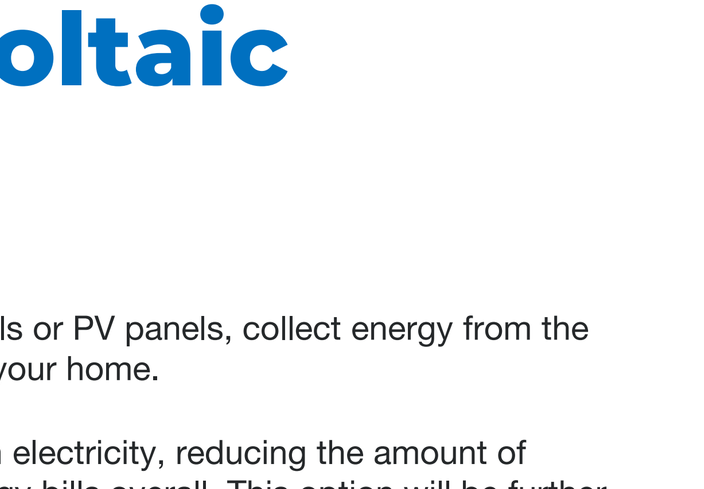
Typical MVHR layout in flat

Solar Photovoltaic Panels

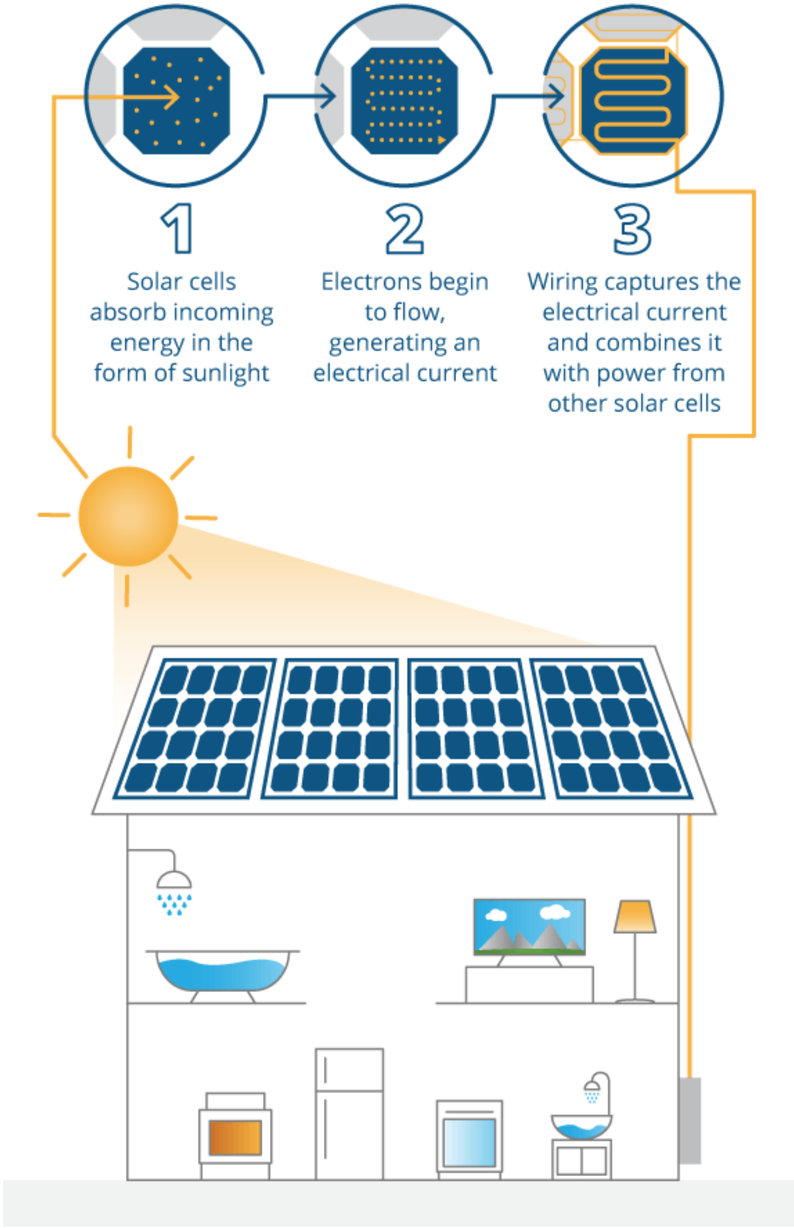
Photovoltaic Panels, also known as solar panels or PV panels, collect energy from the sun and turn it into electrical energy to power your home.

The solar panels supply the building with clean electricity, reducing the amount of electricity needed from grid and reducing energy bills overall. This option will be further explored and co-designed with residents.





Photovoltaic Panels examples



Photovoltaic Panels diagram

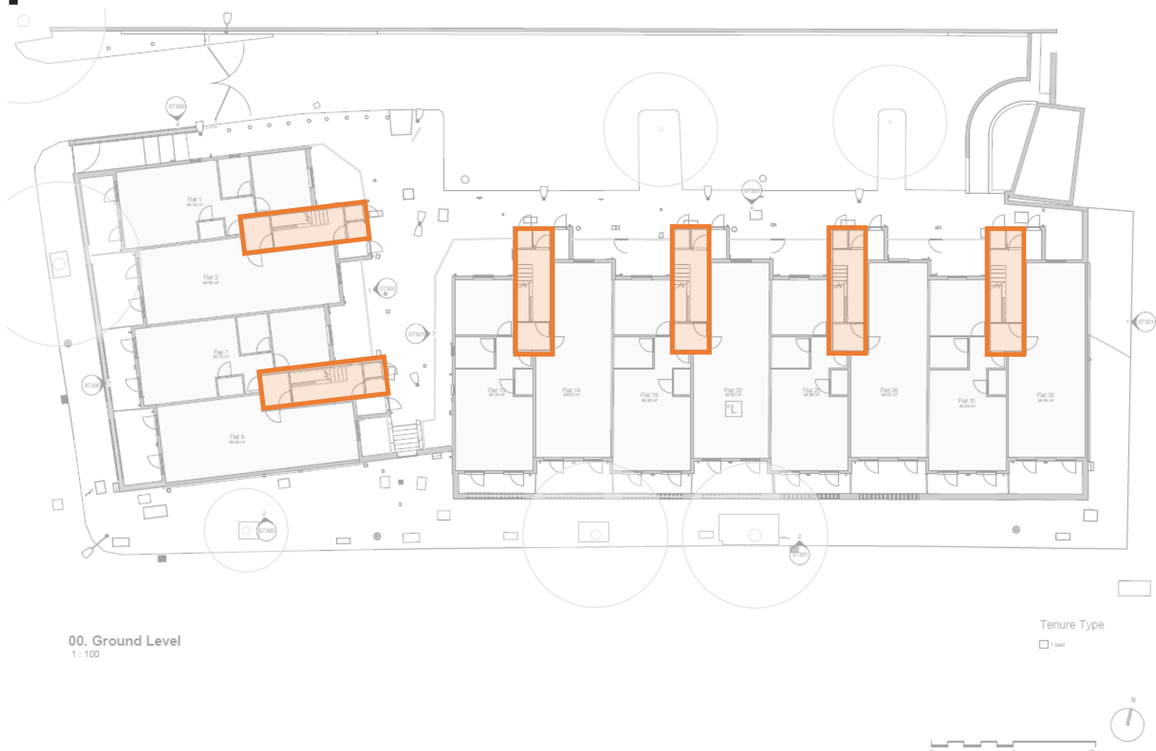
We want to hear from you!

Internal Communal Areas Redecoration

What do you like about the existing internal communal areas?

What would you like to see improved?

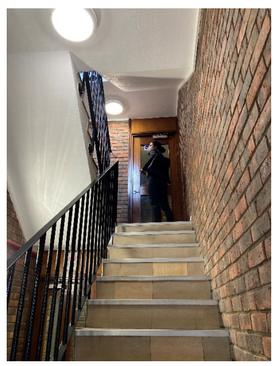
What could work better?



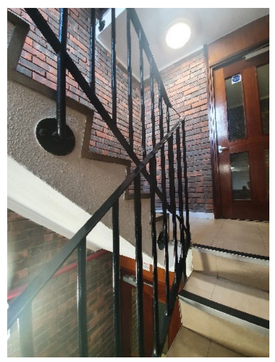
Camborne Mews ground level plan highlighting internal communal areas

Communal Doors

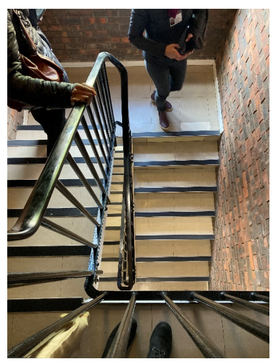
Wall finishes



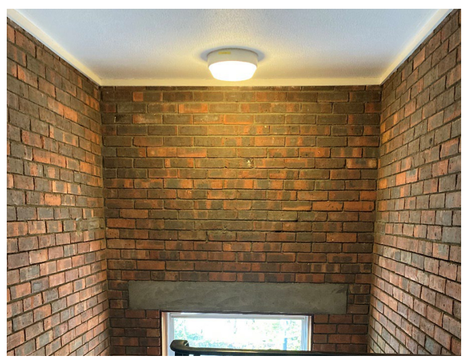
Stairs



Railings



Stairs and landing finishes



Lighting

Letterplates

We want to hear from you!

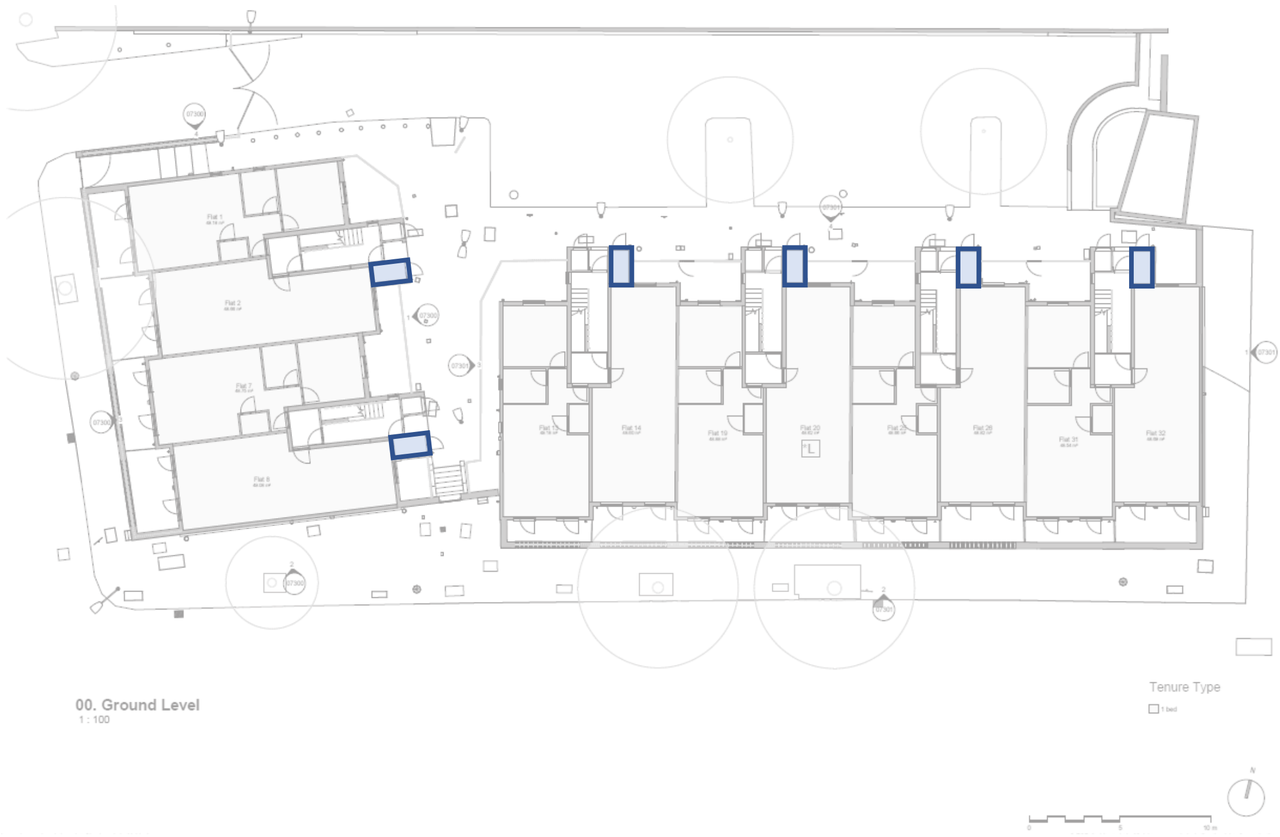
Refuse Storage Improvements

What do you like about the existing refuse areas?

Where do you put your recycling waste? Food waste?

What would you like to see improved?

What could work better?



Camborne Mews ground level plan highlighting refuse storages

Views from Camborne Mews refuse storages

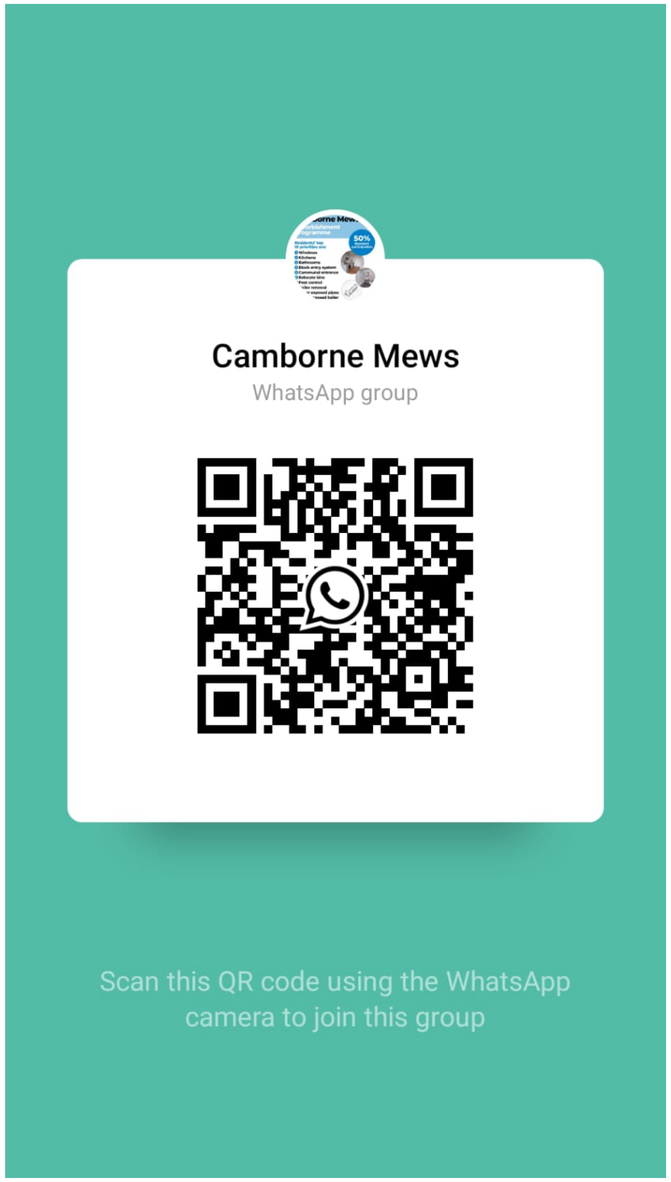
Let us know what you think

We want to know how your feel about the initial design ideas and proposals presented to you here. This is important to the future of the refurbishment.

We will be sending you a survey to fill-in and return, or alternatively, you can type the link below into your browser to complete an online survey about the proposals for your external block refurbishment. We want to know your thoughts.

- **https://lwnt.typeform.com/to/FN7Z5nVM**

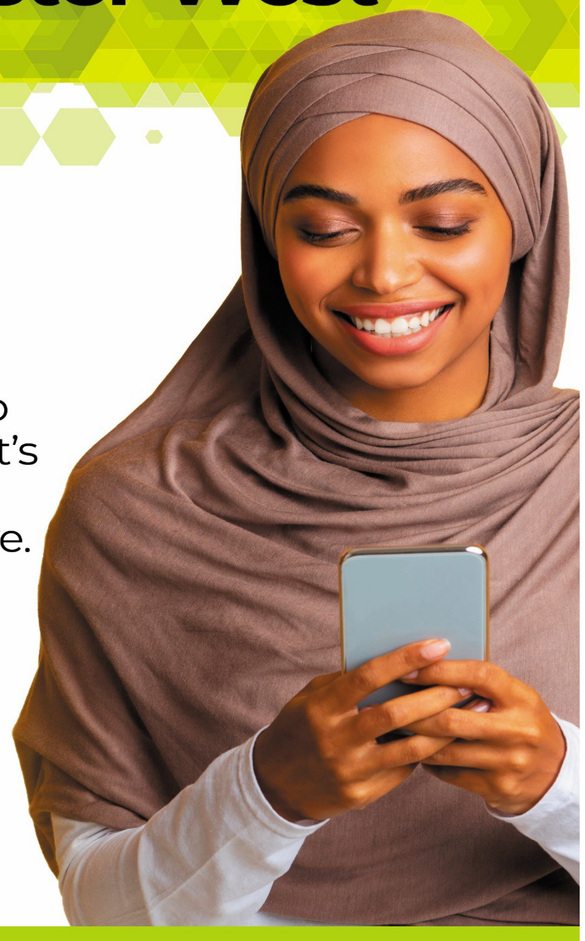
Join your new LWNT *block* WhatsApp group



Camborne Mews:
https://chat.whatsapp.com/C9Ok3zO1SN2JGfsVcnTU1y

Scan the QR code or click on the link to join your block whatsapp group, where you will find the latest refurb and block information. You can also post refurb specific queries and get replies to your questions.

Subscribe to our new resident enewsletter Lancaster West News



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