However, as we worked through our feasibility assessments, it became apparent that utilising the whole site for public housing would not deliver the return on investment that we were seeking.

Our current intention is to subdivide the site so that it can provide a mix of both public and non-public housing. The new public housing proposed for the site includes a mix of apartments and terraced housing suitable for families. We'll share any revised plans once they are finalised.

The total expenditure since April 2023, once the homes were removed, until the end of March 2024 was $356,401.

Consultants	$236,167
Consenting	$11,402
Site Works	$108,832
Total	**$356,401**

Note: As requested, the above costs do not include demolition. They are mainly site holding costs and initial architectural, civil engineering and geotechnical costs over a year following demolition, with soil remediation site works the highest single cost.

36-40 Crossfield Road and 3 – 11 Cranbrook Place, Glendowie, Auckland

In December 2022, Kāinga Ora removed eight older state homes from the 5,569 square metre site at Crossfield Road/Cranbrook Place.

The site was earmarked for a significant sustainability-innovation pilot to achieve housing outcomes under MBIE's Building for Climate Change Programme (the final of their three draft performance caps) and help drive industry improvement. The project, named Ngā Kāinga Anamata (Homes of the Future) sought to resolve many underlying problems with New Zealand's housing sector, energy hardship, sick building syndrome, and climate change mitigation. This was an ambitious innovation project, with R&D and industry collaboration to inform the design taking approximately two years from 2020 to 2022.

Ngā Kāinga Anamata would take up most of the site (30 homes), with the construction of five three-storey walk-up buildings, each using a different construction method and achieving Passive House standard. Also on the site, but separate to the innovation project, would be a three-storey apartment (8 homes) with elevator and a community room, and 2 x townhouses (1x Passive House and 1x 7 Homestar v5).

In late 2022, two unforeseeable factors led Kāinga Ora to pause the project as originally scoped. First, the effects of a range of cost and supply chain issues stemming from COVID-19, which in a development as ambitious as Ngā Kāinga Anamata, were amplified to the point that the original design became cost prohibitive. Second, the cultural significance of the site became more apparent, with archaeological investigations identifying it as part of an historical Pā (Taurere Pā), which has implications on how we develop the land. As a result, the development footprint was no longer appropriate to construct on the site.

We have now formally withdrawn our application for Resource Consent with Auckland Council and are working with mana whenua on development options for part of the land.

The R&D, beyond just this specific project, was designed to benefit the wider and ongoing Kāinga Ora housing pipeline, and this remains the case. Low carbon design and technical solutions from this project are currently being developed into resources that can be applied to future apartment/walk-up typology projects as the MBIE Building for Climate Change Programme and regulations advance. This

means the design and R&D costs for Ngā Kāinga Anamata, will be used for future housing projects. The outcomes of this R&D support our shift towards lower carbon and climate change resilient public housing.

The costs incurred from 27 May 2020 to 2 October 2023 totalled $3,234,630.

Consultants / contractors and R&D	$1,927,281
Development and acquisitions costs	$1,147,689
Maintenance	$91,678
Consenting	$60,601
Other expenses	$7,381
Total	**$3,234,630**

The investment in consultants and R&D delivered the following outputs. This is in addition to full resource consent documentation, and developed and detailed design documentation.

- Specialist and comparative advice for each of the five systems on fire, structural, mechanical, electrical, hydraulic and acoustics engineering.
- A whole of life carbon model comparing each of the five different build systems.
- Renewable energy generation options and design (solar panels).
- A modelled assessment of the risk the apartments will overheat.
- Costed options to meet multiple sustainability criteria for Passive House and the expected future Building Code climate caps.
- Support for sourcing and price-checking the more innovative products and materials
- Modelling of the heat and moisture movement within the buildings using different materials and designs.
- Options and design solutions to meet heating, cooling and ventilation requirements.

This consultancy and R&D work provided an evidence-based comparison of the sustainability and building performance aspects across the different building structural systems (Cross Laminated Timber, Hybrid system, Light Timber Frame, Precast Concrete, Light Gauge Steel Frame, and traditional concrete and steel). This information is being used to provide direction on the optimal build solutions comparing time, cost, buildability and sustainability benefits.

If comparing costs between the two sites, please note some key differences.

- Jordan Avenue costs are for one year, whereas Crossfield Road and Cranbrook Place costs span nearly three and a half years.
- Crossfield Road and Cranbrook Place costs include deconstruction and related costs whereas this is out of scope for Jordan Avenue.
- As mentioned above, Crossfield and Cranbrook costs include consultancy fees for the development of a significant R&D project, with this expenditure contributing to leading the building and construction industry in its transition to be low carbon, sustainable, and climate safe. The majority of this expenditure is to support learnings beyond this specific site.

More information about recent and proposed developments across New Zealand, including an interactive maps, can be found at https://kaingaora.govt.nz/en_NZ/urban-development-and-public-housing/public-housing/public-housing-developments/

The following link provides regular updates on the number of Kāinga Ora homes across New Zealand: https://kaingaora.govt.nz/assets/Publications/Managed-stock/Managed-Stock-TLA-September-2023.pdf.

Kāinga Ora
Homes and Communities

Waterloo Quay Office
PO Box 2628, Wellington 6140

0800 801 601
www.kaingaora.govt.nz

Please note that Kāinga Ora proactively releases our responses to official information requests where possible. Our response to your request may be published at kaingaora.govt.nz/publications/official-information-requests/ with your personal information removed.

Yours sincerely

Patrick Dougherty
General Manager, Construction and Innovation