

## Target Sustainability House Builders Project

## David Reid Homes

### About the Project

**Company:** David Reid Homes

**Project:** Applefield Court, Christchurch

**House size (floor area):** 230 m<sup>2</sup>

**Building type:** Brick, timber frame

**Waste contractor:** Concut Skips

**Sorting site:** Becon Canterbury/Styx Mill



David Reid Homes © Copyright

### Introduction to the Project

David Reid Homes signed a Memorandum of Understanding with the Christchurch City Council to participate in the Target Sustainability House Builders Project. The objective of the project was to reduce solid waste going to landfill and cleanfill from new house construction. The project also aimed to test the REBRI (Resource Efficiency in the Building and Related Industries) guidelines and to develop measure-to-manage tools and key performance indicators for new house construction.

David Reid Homes chose one construction project on which to identify opportunities to reduce waste to landfill and cleanfill and apply the REBRI Guidelines and measure-to-manage tools. The house was a 4 bedroom, brick and timber house.

### Waste Reduction Initiatives

The majority of waste was sorted off-site due to limited space on-site for waste sorting. David Reid Homes did the following on-site to try to minimise the amount of waste going into the skip and to maximise the amount of waste that could be recovered off-site:

- To reduce contamination, Concut provided a list of materials that could and could not be put into the skip.
- The Project Manager sent a letter to their sub-contractors and spoke to the builder about what could and could not go into the skip.
- Put up signs asking for no food waste to be put in skip.
- Trialled a food waste bag to reduce contamination of the dry construction materials in the skip. They found that the builder taking food waste home for composting worked best.
- Put a fence around the building site to minimise public

access to the skip to prevent unauthorised dumping in the skip (fly tipping). They also put a sign on the fence warning against unauthorised dumping.

- Kept timber off-cuts in separate piles for reuse on-site.
- At the end of the job, returned brick pallets to suppliers for reuse, instead of disposing of them in the skip. They also left excess bricks on-site for the owners to build a fence and left carpet off-cuts for the owners to use as mats.
- David Reid Homes also have a lock up store where they store left over stock for reuse on other jobs. For example, full lengths of timber are collected by the project manager at the end of the job and taken back to the lock up.
- On another job in Rangiora, where the supplier would not take back pallets for reuse, David Reid Homes used the waste exchange Terra Nova ([www.terrano.org.nz](http://www.terrano.org.nz)) to donate approximately 15 pallets for reuse.



"No food waste" sign on skip © Copyright



Fenced site to prevent unauthorised dumping in the skip © Copyright



Sign on fence warning against unauthorised dumping © Copyright

## Waste Sorting

Space on house building sites is often limited. Therefore, the use of skips and off-site waste sorting was considered to be the best option. Concut Skips collected the skips and took them to a sorting site for materials sorting. Four 7 cubic metre skips were removed for sorting during the house construction. The first two skips went to Becon and the final two went to Styx Mill for materials sorting.

Concut Skips recorded the waste composition in the skips by doing a visual assessment when they were emptied at the sorting site. They sent this information to David Reid Homes using a simple data collection sheet. The composition and destination of the waste in the skips is shown below (right).

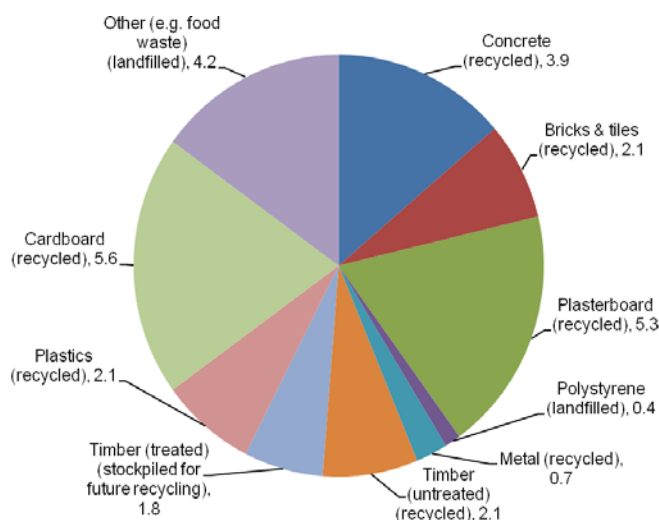
Once at the sorting sites, all of the material from mixed skips is put over a sorting line where the materials, e.g. cardboard, plasterboard, metals and plastic, are separated. The sorting sites provided information on the materials that were recovered for reuse and recycling.

The Key Performance Indicators for the house build project are shown below (left). 84% of the waste material in the skips was reused or recycled. The main material that was landfilled was fly tipped materials, mainly food/green waste (included in the pie chart as "Other"). The treated timber was stockpiled for trialling as a fuel in a consented, high-temperature furnace.

## Waste Summary and KPIs

<b>Total waste weight</b>	4.38 tonnes
<b>Kilograms per 100 m<sup>2</sup> floor area</b>	1,904 kg/100m <sup>2</sup>
<b>Total volume of waste</b>	28.0 m <sup>3</sup>
<b>M<sup>3</sup> recycled/reused per 100m<sup>2</sup> floor area</b>	10.2 m <sup>3</sup> /100m <sup>2</sup>
<b>M<sup>3</sup> landfilled per 100m<sup>2</sup> floor area</b>	2.0 m <sup>3</sup> /100m <sup>2</sup>
<b>Percentage recycled/reused/stockpiled for recycling</b>	84%
<b>Percentage to landfill</b>	16%

## Waste Composition and Destination (m<sup>3</sup>)



## Difficulties

- Unauthorised dumping in the skip was a problem as the house building site was in a developed residential area. **Tip: Put up a fence around the site and put up signs warning the public against putting their waste in the skip. Move the skip away from the fence to prevent waste being thrown over. Consider asking your waste contractor to provide a lockable lid.**
- The soffits were not a standard size and the entrance was complicated creating additional waste. **Tip: Recommend to clients that houses are built to standard sizes to reduce off-cuts. Stockpile off-cuts for reuse on other jobs.**
- Clients expect a clean finish and so off-cuts e.g. of plasterboard cannot always be used. **Tip: Discuss this with your client to see if they are happy for off-cuts to be used. Talk to your sub-contractors about minimising off-cuts.**

## Future Plans - David Reid Homes

- David Reid Homes are working with Concut on signs to warn against unauthorised dumping in the skip for trial on 10 David Reid Homes branded skips. It is proposed that the sign will read "No Fly Tipping" and will have a recycling symbol. This will advise the public and sub-contractors that the skip is going for materials recovery and not straight to landfill.
- David Reid Homes are trialling the use of a dedicated plasterboard skip on-site during gib stopping. This skip will be clearly signed and sub-contractors will be asked to put only plasterboard into this skip. Having a dedicated skip during this stage in the construction avoids the need for off-site sorting keeping the plasterboard 'clean' for crushing for soil amendment.

Want more information? Visit the Target Sustainability website at [www.target sustainability.co.nz](http://www.target sustainability.co.nz)  
The REBRI guides are available at [www.rebri.org.nz](http://www.rebri.org.nz)