

Rydges Latimer Christchurch

Introduction to the Project

This construction waste reduction case study demonstrates that with careful planning and management of contractors at least 71.9% of construction waste can be recovered for reuse and recycling.

Client: Rydges

Site: Rydges Latimer Christchurch

Location: 30 Latimer Square, Christchurch

Construction Contractor: Lanyon and Le Compte Construction

Construction Waste Contractor: Waste Management

Rydges Latimer Christchurch agreed to participate in this Target Sustainability waste reduction project. The objective of the project was to reduce waste going to landfill and cleanfill.



Rydges Latimer Christchurch © Copyright

Construction Waste Recycling

With the assistance of Lanyon and Le Compte Construction and Waste Management, Rydges Latimer Christchurch achieved the following results.

Waste Materials	Reuse and Recycling	Disposal	Comments
Type	Off-site (tonnes)	Off-site (tonnes)	
Hardfill	106.6		This included concrete overpours, bricks, tiles or pieces of broken concrete. This material was either reused in other applications, if possible, or sent to the Lyttelton Port of Christchurch's Te Awaparahi Bay reclamation project.
Plasterboard	22.5		This was off-cuts of plasterboard which was used as a material in cement manufacture.
Timber (untreated)	15.7		This included timber off-cuts (untreated) which was able to be reused or recycled as firewood. This also included pellets which were returned to suppliers for reuse.
Steel	4.8		This was off-cuts of reinforcing steel which were not of a sufficient length to be able to be reused so was sent for recycling.
	0.9		This was off-cuts of reinforcing steel and excess reinforcing steel which on many sites would end up in the metal recycling skip but in this case was sent back to the Lanyon and Le Compte Construction yard to be reused.
Cardboard	21.7		This was packaging waste, mostly from the fit-out of the hotel and was sent for recycling.
Plastic wrap	0.5		This was packaging waste, mostly from the fit-out of the hotel and was sent for recycling.
Polystyrene	9.9		This was packaging waste from the fit-out of the hotel and was sent for recycling.
General		71.3	This was general non-recyclable waste such as treated timber and contaminated materials. This was sent to landfill.
TOTAL TONNES	182.6	71.3	
Percentage	71.9%	28.1%	

NB: The figures in the table include actual and estimated tonnage as provided by Waste Management.

Construction Waste Recycling

Lanyon and Le Compte Construction aimed to reuse and recycle at least 75% of the materials from the construction project. They reused and recycled 71.9% (182.6 tonnes) of the materials from the construction project.

Waste Management analysed the waste collection and disposal costs for this project. The results showed that recycling materials saved an estimated 15.7% of the total waste collection and disposal cost when compared with the cost of sending all of the waste to landfill (excluding hardfill and scrap metal).

Lanyon and Le Compte Construction did the following to achieve these results:

- Included waste management requirements in the site induction and at toolbox meetings to ensure local as well as foreign contractors were aware of the site requirements.
- Placed clear signage on all waste collection units so contractors knew which waste material should go in which collection unit.
- Gave a staff member the responsibility to monitor and police waste management on-site. The staff member checked for recycling skip contamination and sub-contractors who contaminated recycling with general waste were penalised. The penalty included providing food for the weekly barbecue. The penalty system was used on only a few occasions before contamination stopped.
- Manufactured bathroom units off-site as pre-fabricated modules enabling significant waste to be eliminated from the site and significantly shortening the construction time schedule.
- Worked with Waste Management to implement a solution to recycle significant quantities of polystyrene.
- Located a co-mingled recycling receptacle outside the staff lunch room for staff and contractors to use.



Plasterboard recycling skip © Copyright



Reinforcing steel set aside to return to the yard for reuse © Copyright



Reusable lengths of timber set aside to be reused © Copyright



Polystyrene recycling skip © Copyright



Cardboard recycling skip © Copyright



Pre-fabricated bathrooms ready for installation
© Copyright



Soft plastic recycling skip © Copyright

Difficulties

- Not all sub-contractors are motivated to ensure proper separation of recycling materials from general waste. **TIP: Include waste management requirements and penalties for non-compliance in sub-contractor contracts.**
- Lanyon and Le Compte led the waste management procedures on-site up until the last three months of the project, when they left the site while fit-out was completed. During this period the amount of materials being recycled reduced dramatically. **TIP: Ensure best practice waste management requirements are maintained throughout the construction project by having waste management requirements and penalties for non-compliance included in all relevant contracts.**

Summary

The Rydges Latimer Christchurch's hotel commenced construction in July 2012 and was completed in February 2014 (including the internal fit-out). The project included 188 hotel rooms, a restaurant, bar, lounge and a conference centre as well as a penthouse suite.

"Rydges Latimer worked in conjunction with Lanyon and Le Compte for a significant proportion of the rebuild and we have nothing but praise for the waste management methods and practices that were recommended by the Target Sustainability consultant and implemented by the project site manager to maintain a clean, clear and functional work site.

Furthermore, we would also like to note that in witnessing first hand the on-site waste management systems that Lanyon and Le Compte put in place as a result of the support offered through the Target Sustainability services, we ourselves were able to adapt and adopt a number of these waste management practices into the operational aspects of the built facility. These operational waste management initiatives have continued to this day with outstanding success and have realised a marked reduction in waste management costs". Robert McGufficke, General Manager, Rydges Latimer Christchurch.

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