Case Study
January 1st, 2023

Circular Design-Build: Bed Rest

By Marian Wihak, Production Designer

DGC GREEN Here's How!

Independent U.S. feature film, 2021

Written and directed by Lori Evans-Taylor

Budget:
Medium*

Location:
Winnipeg, Manitoba
“Studio build”

Storyline:
A pregnant woman on bed rest begins to wonder if her house is haunted or it’s all in her head.

Topic:
This case study illustrates how sustainability and effective budget strategies can both win.

* “When breaking TV series into budget levels, The Guild categorizes low budget as below $2 million per episode, medium as between $2 million and $5 million, and high as above $5 million.” For features, The Guild categorizes low budget as below $10 million per film, medium as between $10 million and $20 million, and high as above $20 million.

Green Goal

To embrace as many of the DGC Green Here How Top Tips as possible, to achieve combined Sustainable, Aesthetic and Budgetary goals, and ultimately, to reduce land fill.

1. Use modular, circular design
2. Design for disassembly
3. Rely on sustainable supplies and suppliers
4. Reduce and eliminate single use products

Green Outcome

1. 60% Recovery of Materials & Assets for Re-use
2. 30% Reduction of Typical Tipping Fees & Landfill
3. $5,000 in Cash sales + Barter of Recovered Materials
4. Savings Overall in Both Manpower & Materials

The Project

Conceived in the thriller genre reminiscent of ROSEMARY'S BABY, approximately half of BED REST is situated in the main bedroom and bathroom, which was built in studio, along with some additional smaller sets, and location retrofits as well. Walls needed to shake, objects needed to fly, bathtubs needed to crash through the floor. And it needed to be beautiful.

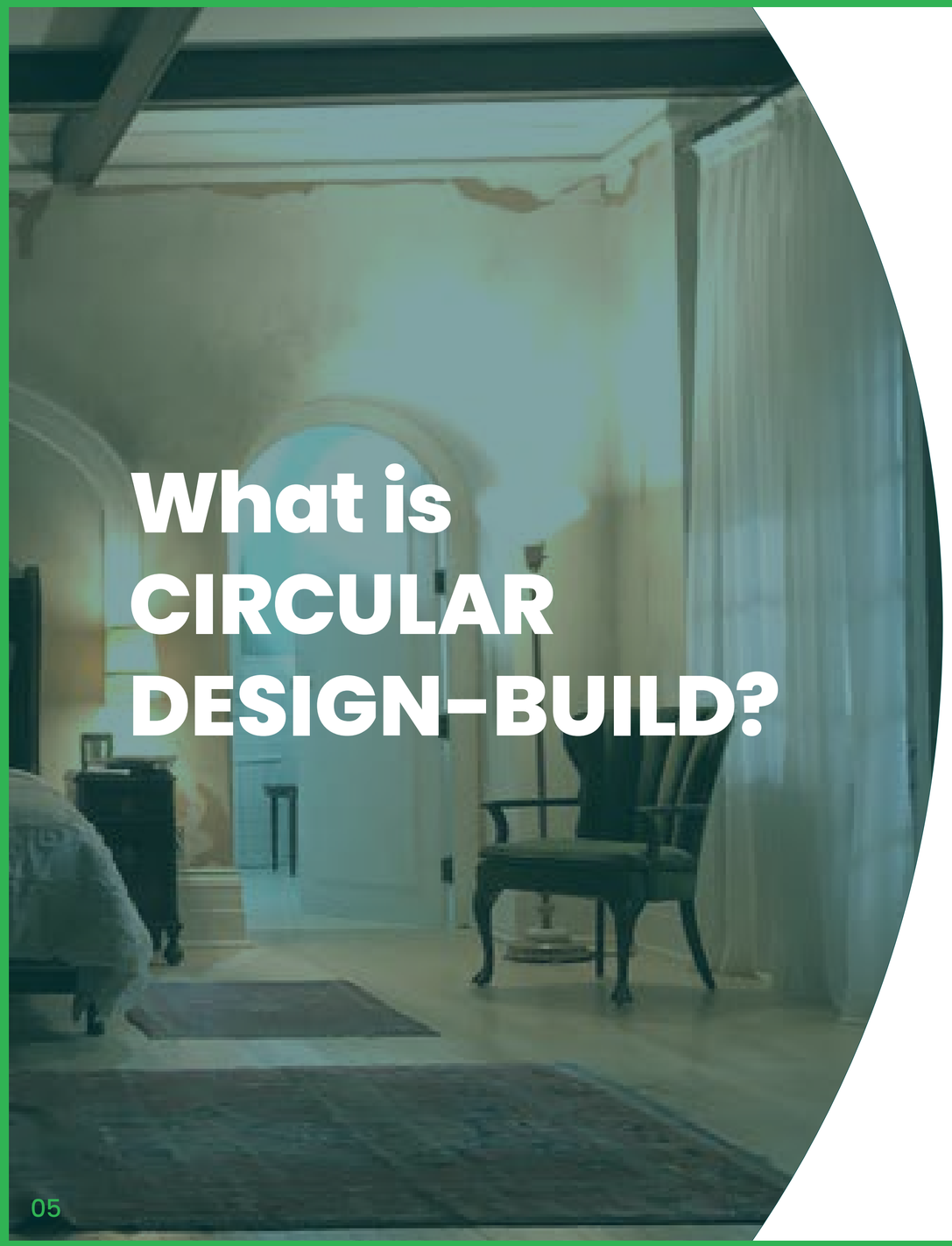
One of the initial design challenges on BED REST was to convince the Producers that we needed to build our main set in studio versus relying on location, to allow for the tremendous amount of shooting required there, in addition to the various in-situ special effects that the story required (shaking walls, flying furniture etc.). Our sustainability goals helped make this an achievable financial goal.

At the outset, our goal was to embrace as many circular design-build strategies as possible, by using reclaimed and/or sustainable materials, creating modular units, and planning for optimum re-use and recovery of all assets, while always maintaining full commitment to the look, cost and functionality.

“... a stunning design that perfectly encapsulated the world of our story... using proactive sustainability strategies”.

Bed Rest Director

Lori Evans Taylor



What is CIRCULAR DESIGN-BUILD?

'Circular Economy' is a concept and term that has been floated since the late 1980's and has become a dominant term and concept in the global push for Sustainable action. The prominent and influential Ellen McArthur Foundation in the UK has this to say by way of definition:

"In a Circular Economy [...] nothing becomes waste and everything has value. A circular economy, increasingly built on renewable energy and materials, is distributed, diverse, and inclusive"

Essentially, this concept involves designing and building sets with the most sustainable materials, processes and strategies possible so that afterwards, the materials and assets can be easily deconstructed and disassembled; repurposed, refurbished and reused; harvested, shared or stored; this eliminates set elements being scrapped and sent to the dump as waste. Make your goal zero-waste.

Important Sustainability Wins

1. 60% Recovery of Materials & Assets for Re-Use
2. 30% Reduction of Typical Tipping Fees & Landfill
3. Savings Overall in Both Manpower & Materials

TIP:

THINK REUSABLE, MODULAR AND CIRCULAR DESIGN

Design sets so that they can be disassemble and stored, instead of disposed of.

Instead of buying new materials and producing more waste, following the sustainability principle of making sure that the material that already exists can be re-used.

We designed and built this studio set using modular 4 ft x 10 ft flats and standardized the window openings to a width of 4ft.

These same flats were easily retrofitted to be used in subsequent seats. Upon wrapping the production, the set was purchased for another production.

We succeeded at monetizing this set and reducing waste; only smaller filler flats went to landfill.

Instead of building multiple custom units for the “built-ins” that were needed for aesthetic purposes, we found components in second-hand stores and architectural finders, and used them to enhance the design of the set.

The pieces purchased were significantly cheaper than custom builds. The way these pieces were built into the set made them easily removable and were sold or bartered upon wrapping production.

The cost of these units was cheaper than those custom-made, none of the build-ins went to landfill and we did not incur rental fees. A huge success!

TIP:

RENT SET ELEMENTS FROM SUSTAINABLE LOCKUPS RUN BY LOCAL PRODUCERS

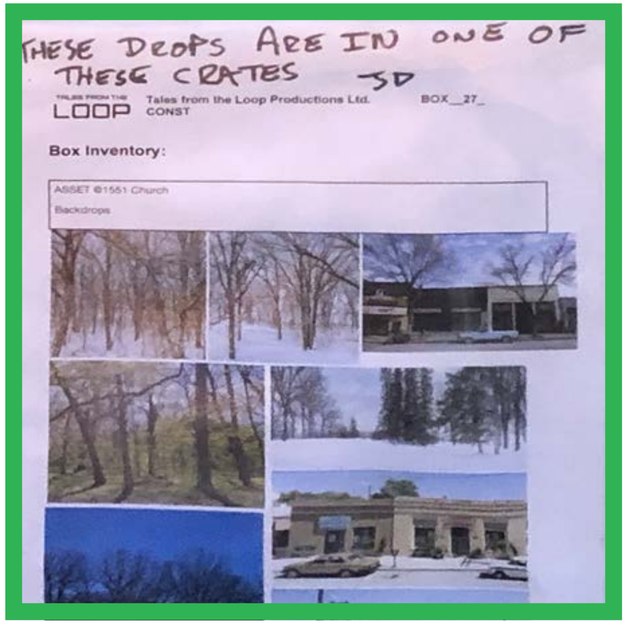
Renting materials can save productions from unnecessary expenses

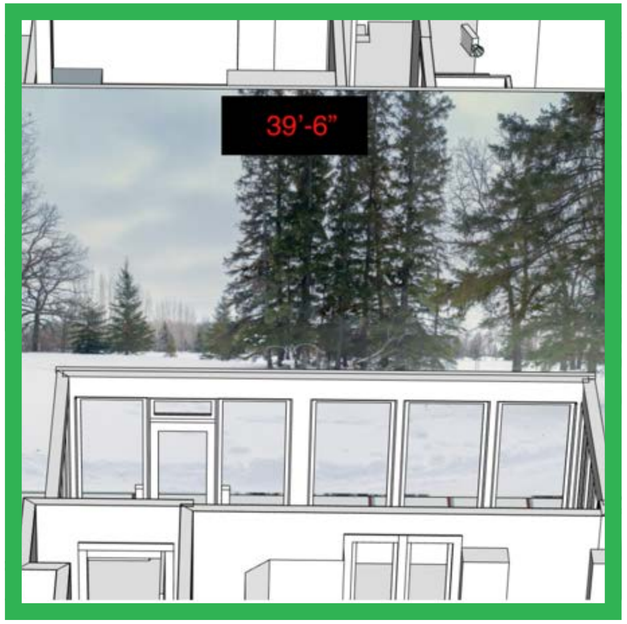
Rental supplies are just as flexible as newly-purchased elements

If possible, look into opening your own “Sustainable Lockup” to help others achieve reusable design

Instead of purchasing new plywood, we rented subflooring from a local producer “Sustainable Lockup”.

This saved the production from a significant expense and the flooring was sent back into circulation for other productions to use as part of their circular design as well.





We continued using the sustainable lockup to provide the production with backdrops and set dressing. This method once again saved the production a tremendous expense which would have otherwise been spent on creating and shipping these resources from Toronto or Los Angeles.

Resources from sustainable lockups can even be rented and redesigned to fit a specific production's aesthetic. In this instance we were able to source bookshelves from a lockup and alter them to cohere with the main studio set design. The shelves then returned into the lockup for future circulation.

TIP:

USE NAILS & SCREWS, NOT GLUE

Glue is the enemy of circular design

Glue causes set materials to be nearly impossible to disassemble and salvage

Nails and screws are a great alternative that facilitate recyclability

To design this bathroom sustainably, we started by affixing ceramic tiles to ply backing. Then, we screwed the tiles to modular flats and subfloor.

Pictured here is the finished Main Bathroom set with tiles screwed into place.

This photo shows a second Bathroom set which was constructed by reusing those same tiles.

We unscrewed the tiles from the Main Bathroom set and installed them into this new room, adding a simple and effective circular design-build element to the production.

TIP:

FIND SUSTAINABLE SUPPLIERS NEAR YOU

Members across every District Council are putting together lists of sustainable vendors.

Seek out these vendors and encourage other suppliers to stock sustainable materials.

Think-Lightweight supplied BED REST with 98% recycled panels that were used to design the ceiling in the bedroom picture below.

The cost of these sustainable panels was the same as the non-sustainable alternative.

At wrap, we resold the panels to another production and saved on landfill and tipping charges.

Testimonials

"Our goal as artists is to tell stories that resonate in the real world, yet more often than not, we don't consider the impact that physical production can have on the world around us. With BED REST, I was so impressed not only by Marian's ability to create a stunning design that perfectly encapsulated the world of our story, but that she was able to accomplish the design using proactive sustainability strategies."

BED REST Writer/Director

Lori Evans Taylor

"The set came down efficiently due to the design and construction, which saved both manpower and materials.... I feel we were over 60% in our recovery of materials, given the reuse/reclaimed quotient, with our binned waste only about 900 cubic feet versus the usual 3240 cubic ft, plus we actually sold approx. $5000 in assets to other productions."

BED REST Construction Coordinator

Ed Preston

"At the outset, the design and build strategy was to use sustainable materials, create modular units, and plan for as much re-use as possible, while maintaining full commitment to the look, cost and functionality."

BED REST Production Designer

Marian Wihak

Additional Resources

DGC Art Department Case Studies: Circular Design-Build Webinar

Watch now

Circularity: Everything IN Needs An EXIT Plan

Watch now

WIFT - Atlantic Creating Community Creating Change: Sustainable Sets

Watch now