



An Alchemy 2009 Experience



A TouchFlame project

Submitted by Troy Cobb / aka Runaway!

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Project Description

Starting from the top of effigy hill, right next to the Effigy Bar, **The Bleeder** is a hell-raising, hair-curling slide of death encompassing nearly 100 yards of bumps, banked turns and sheer straightaway downhills. Those with the bravery to attempt it and the skills to finish will find themselves at the bottom of the hill, cheered across the finish line by a powerful air horn that can be heard all across the burn.

The Bleeder is a team designed and built roller coaster composed of 2 foot wide “track” constructed with a 1/2” OSB surface. There are 240 linear feet of track straightaways accounted for in the budget. In addition to the thrills that the hill topography will provide, there are four constructed 3-foot tall by 5-foot long “bumps” and four steeply-banked turns, allowing the track to snake down the hill.

The two hand-built six-wheeled carts should be sufficient to carry at least two participants each down the hill and are guided on the tracks by 2x4 boards nailed to the outer edges of the OSB. Each cart is tagged with a tall flag so that participants across the property will be able to spot each of the carts as they rocket down. That, and the finish line air horn should draw interest and participants from all over Alchemy. We will also encourage participants to take other types of vehicles down the track – skis, rollerblades, and skateboards come to mind.

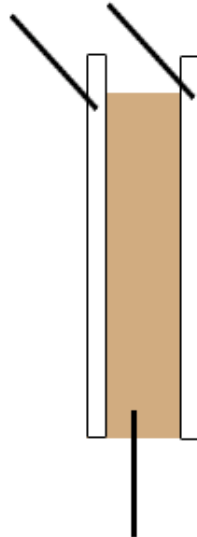
The location of the start of **The Bleeder**, at the top of the hill near the Effigy Bar, will allow participants to drink their courage to the sticking place before attempting it. The hand-painted **Bleeder** sign mounted there will hearken back to the scary carnival rides of our youth with a challenge that few will turn down. **You must be “this tall” (and have balls “this big”) to ride this ride.**

Design

Track

The track is constructed from 19/32" OSB 4'x8' plywood sheets. Each track length is 2' wide by 8' long, yielding two track lengths per sheet of plywood. On each of the two outside edges of each track is nailed an 8 foot length of 2"x4" lumber to act as a guide for the carts. These boards are nailed offset by six inches on the ends, which allows each straightaway track section to be attached securely to the next when implemented.

2x4" lumber offset as track guides



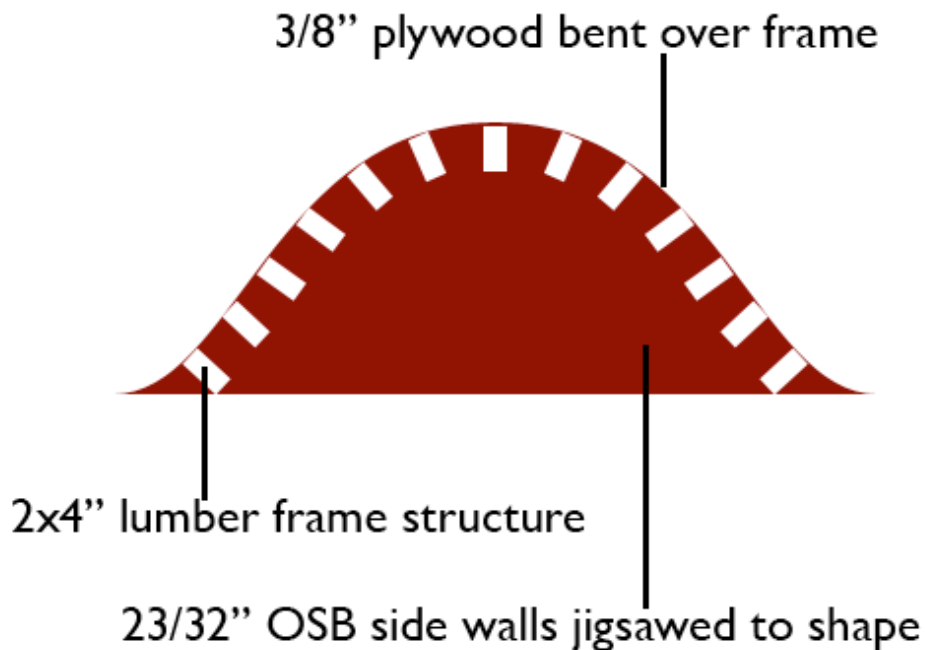
19/32" OSB plywood track floor

Carts

Carts are constructed from 3/4" OSB plywood reinforced by a 2x4" lumber frame on the top and bottom. Six heavy-duty castors are attached to the framing members on the underside of the cart. The carts have no sides, though we may choose to add some rope hand-holds to help the riders stay on. We'll construct two carts so that hopefully one will always be at the top of the hill awaiting a rider. Obviously we'll depend on the participants to bring the carts back up after they've ridden.

Bumps

Bumps are constructed using a reversed and scaled-down version of a small skateboard half-pipe design. Each bump is covered by three pieces of 3/8" plywood decking which is bent over the 2x4" frame to form the shape and then nailed into the 2x4" structure. Small 2x4" side rails are nailed to the structure along the edge of the bump track to help guide the cart in the correct direction.



Turns

Turns are cut from a single piece of plywood and then curved to the shaped structure. They are constructed like an inverted one-sided bump, as described above. The 3/8" plywood is flexible enough to conform to the curved and banked shape which is necessary to keep the carts from flying off during the turn.

Lighting

Lighting is provided by a solar security light illuminating the sign and surrounding area at the beginning of the ride and 48 solar walkway lights that are distributed along the track throughout its length. Solar walkway lights are expensive and so

the 48 will provide minimal lighting – which should enhance the experience at night! Mostly these will help keep participants in art cars from driving over the track unexpectedly.

Finish Line

Because we believe that it will be difficult to finish the track, cheering on those skillful enough to do so is important. This is accomplished with a small pressure-mat at the end of the track which triggers a brief blast from a 12v air horn. The mat and horn are powered by a 12v deep cycle marine battery. The power requirements are small and hopefully a solar panel recovered from last year's Friendly Fire project will be sufficient to keep it charged.



Implementation

Timeline

I will begin the build-out of the track sections at my house in Acworth (or other suitable location found). We should be able to rip all of the track pieces and precut the jigsawed bump and turn pieces before the August work weekend. During the work weekend, we'll construct a small test run of the coaster and determine what rework is required for the full implementation. The final build-out will occur on the work weekend just prior to the event, with the coaster completed and ready to go that weekend or by Wednesday at the latest.

Team

The design was a collaborative effort from many people over several weeks' time. I have had promises of labor for the onsite build out at the work weekends and expect to build a small core team to assist with the work ahead of time as well.

Materials

Materials Spreadsheet

Straightaways		240	linear feet of track		
19/32 OSB	floor		\$9.00	15	\$135.00
2x4x8	sidewall		\$2.50	60	\$150.00
					\$285.00
Bumps		4	complete bumps		
3/8" plywood	floor		\$12.00	3	\$36.00
23/32" OSB	sidewall		\$10.00	8	\$80.00
2x4x8	supports		\$2.50	20	\$50.00
					\$166.00
Turns		4	banked turns		
3/8" plywood	floor		\$12.00	4	\$48.00
23/32" OSB	banked side structure		\$10.00	4	\$40.00
2x4x8	supports		\$2.50	15	\$37.50
					\$125.50
Carts		2	total carts		
castors	cart wheels (6 per cart)		\$3.50	12	\$42.00
23/32" OSB	cart seat/floor		\$10.00	1	\$10.00
2x4x8	side walls for cart		\$2.50	6	\$15.00
					\$67.00
Miscellaneous					
decking screws	5lb box of screws		\$21.95	1	\$21.95
cart flags	1 flag per cart		\$4.00	2	\$8.00
finish line sensor	14x23" touch-sensitive mat, triggers sound		\$7.99	1	\$7.99
finish line alarm	12v air horn, sounds when mat is triggered		\$14.99	1	\$14.99
signage	sign at top, several others		\$20.00	1	\$20.00
lighting	8 pc solar walkway lights (every 10' on both sides)		\$18.95	6	\$113.70
					\$190.63
TOTAL ESTIMATED COST					\$830.13

Funding

100% funding of the project to \$830.00 will allow for all aspects of the **The Bleeder's** track to be built and implemented as described. Funding above and beyond this level will allow for enhancements, including increased length, more carts, and mid-length improvements like arches and lighting.

I will try to gather funds from other sources to complete the project should the Alchemy Art Fundraiser participants choose not to fund **The Bleeder** fully. We can scale back the length or complexity of the **The Bleeder** to fit a budget from a low of approximately \$300 all the way up to the requested \$830.00.

Cleanup and LNT

Given the effort and materials required to put this project together, the preference would be to take apart the track sections and store them for later use. In keeping with that goal, each track section will be attached to the next with screws rather than nails. I believe that we will be able to store the whole track on Cherokee Farms for later reassembly.

In the absence of interest in storing and rebuilding the project later, the 60 full length 2x4x8' boards will be separated from the track sections and donated to Habitat For Humanity. The OSB and plywood will be burned and all of the metal leftover materials (screws and nails) from the burning will be recovered with a magnet sweeper.

- The castors will be recovered from the carts and repurposed.
- The 48 solar walkway lights will be donated to Alchemy.
- Signage will be saved for posterity or burned.
- The finish line sensor and horns will be recovered and repurposed for future projects.

Lasting Effects

There will likely be some grass damage where the roller coaster track is sitting, but that should recover quickly. Any burning of materials will be done at existing burn locations therefore creating no additional burn scars. There should be no lasting effect on the land from the presence of this project.