West Virginia Conservation Agency

WEST VIRGINIA SOIL TRAILER

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Inspiration!

- Attended the February 2012 NACD Conference in San Antonio, Texas.
- During the conference I was inspired by the Miami County, Kansas Conservation District presentation about the Kansas Soil Tunnel Trailer.
- Miami County Soil Conservation District graciously provided information about their project.
- ADA accessibility in the design was the priority in this project to ensure a safe and inclusive environment for all students.
- Learning a new way to construct the interior walls would be a necessity. WV mountainous roads and terrain would need flexible materials to withstand transportation.
The first sketches were rough but helped give a visual idea that helped “sell” the idea to the conservation district board of supervisors.
The West Virginia Soil Trailer

Grants and Funding

- $8,238 Capitol Conservation District purchase of trailer (2012)
- $10,800 2012 USDA Specialty Crop Block Grant, administered by the WVDA. (2013)
- $3,000 DEP Litter Control Grant (2015)
- $2,000 WV American Water Environmental Grant (2015)
- $20,000 West Virginia Conservation Agency Support (2017)

Specifications and Cost

- Purchase: July 16, 2014
- Purchase Price: $8,238.00
- 18’ Length
- 8’ 6” Width
- 7’ Height
- Screwless aluminum panels
The trailer was a completely blank slate inside with interior walls that are framed and covered with \( \frac{1}{4} \)" plywood per specification.

The task seemed daunting for someone with very little construction experience. I had to learn quickly about materials, adhesives, chemical hardeners, foams.

As an artist, my mind could see the end result, but I had no idea just yet what path I would take to get to that. The project consumed the majority of my days. I had so much to learn to achieve the goal!
The 5 inch, 5lb expanded polystyrene foam was glued, then anchored to the walls and ceiling. Our foam was purchased at a roofing supply company. This foam is also used for boat docks and architecture. Hot tools are used to carve. If you can imagine, carving all of this with a hot wire the size of fishing line!
Carving went on for approximately 4 months. The finished carved foam was then base coated with Kiltz Primer and sprayed with StyroSpray 1000 foam hardener. **I do not recommend this method!** Please consult a professional paint shop to spray your foam hardener coating.

Grateful to my “little” brother Henry and his friends. They would show up when available and help with the construction. All professional carpenters and one very artistic civil engineer who took the lead, all of us - though we had no experience in carving earthworms - had a little something to offer to the project and somehow managed to pull it off!
Walls after primer and StyroSpray hardener. Ready for base coat of paint colors.
Base coat of color. Six layers of color were used for the desired finish.
As the project went by, it continued to consume so much of my time as I was still learning as I went along. This part, however, was the easiest for me since my skill was in the detailed painting and adding finishing touches!
• 3-D prints of soil microbes for interior

• Artificial flowers on 2x8x6 boards are used for the removable roof trays

• Next build we will have aluminum trays that snap into place onto the roof fabricated for less weight and preventing trays from blowing over
Our WVCA Communication Specialist was the photographer for the Soil Trailer exterior wrap. We wanted our design to reflect our very cute “clientele”
The completed project was unveiled at the West Virginia State Fair in Lewisburg, West Virginia in August of 2016.

The project was a challenge, but we think it turned out pretty good!

The most important qualities of the WV Soil Trailer are something that you might not think about....
Give yourself 10 seconds and think about what you can see on this slide.
What do you see on this slide?
As programming educators, we need to think outside the box to accommodate all students.

For a child who is blind, a soil microbe can only be described to them. They cannot feel a real microbe or touch it to learn.

For a child who is visually challenged, it may not make sense and can cause eye strain, resulting in painful headaches.

For a child who is deaf, or hard of hearing. So much is missed during instructional time.

Less than 6% of blind, VI, deaf or HH students across the United States receive opportunities to learn about conservation and agriculture.

Even less than that have a tactile learning tool, or any instructional inclusiveness.
The West Virginia Conservation Agency is dedicated to supporting the educational needs of all West Virginia children.

The soil trailer is an ADA accessible unit. Designed specifically for blind or visually impaired individuals. All carvings are outlined, and we have braille placards to utilize when blind children are in attendance.

Adults and children who utilize equipment such as wheelchairs, walkers, crutches or other mobility devices have full accessibility to the soil trailer with a ADA compliant ramp to enter and another to exit.

Adults and children who are deaf, or hard of hearing have no communication barrier as the Soil Trailer presenter can present the programming in both spoken English, and American Sign Language.
Our first school visit was at the West Virginia Schools for the Deaf and the Blind in Romney. The students enjoyed the tactile learning environment and ease of accessibility.
Things I would do differently?

- Refuse delivery of trailer pending inspection of required specifications
- Legally binding contractor agreements
- Foam hardener with less odor
- Add handrails
- Add an awning before interior construction began
- The opportunities will come to make those changes because…..
Soil Trailer II on the way!

Currently in unit purchase. Since the manufacturing shortage is an issue, we will begin to build without the unit.

New unit will be a larger trailer. Due to the shop and storage location, we will have 26’ maximum length.
Where are we now?

• 2018 the Soil Trailer moved to the state agency from district due to demand.

• WVCA continues to invest in the Soil Trailer education and outreach programming.

• Full time employee dedicated to the program.

• New build shop in a safe, secure location.

• Funding, IT and administrative support.

• Additional programming expanded.
The West Virginia Soil Trailer visits schools (public, private and homeschool co-ops), fairs and festivals that fall within the WVCA education mission, camps and private educational events, STEM events and related conferences.

The West Virginia Soil Trailer is a rental unit.

Some of the ways that schools cover the rental fee include:

• Grants, Title 1 Funding, PTO/PTA, Local business sponsorship (example, Warner Law Office, WV American Water Company, WV Landscaping and Nursery Association).

• WVCA employee assists schools who require financial aid. A scholarship form is provided.

• Watershed Groups – WVCA working towards writing funding into the base grant.

• All revenue is utilized for Soil Trailer Programming.
Unfortunately, COVID 19 did put a halt to the WV Soil Trailer programming for the majority of 2019, and all of 2020. We are taking this time to put focus on other curriculum development, and outreach programming that fit the virtual schooling, home schooling and work-from-home needs of the families within West Virginia.

Our outreach stayed very strong, with a reach of over 20,000 in FY21 by utilizing technology available to us thanks to the WVCA Information Technology Team. (we call them the “Grand Wizards”!)

Due to COVID-19 concerns, the WV Soil Tunnel Trailer event and travel schedule is temporarily suspended until further notice. Events cancelled will be given priority for rescheduling. Please contact soiltrailer@wvca.us for updated information.

The West Virginia Soil Tunnel Trailer (WVSTT) is an 18-foot tandem-axle box trailer that serves as a mobile learning unit for soil, water, agricultural specialty crops, and non-point source pollution. This dynamic mobile unit is stationed in Kanawha County, and is available to service all of West Virginia.

In spring of 2020 we expect to be moved into the new shop for construction to begin on the new Soil Trailer. While we wait for the new unit, we will begin the foam carving and construction on plywood panels.

We plan to host a “How To” workshop when we can safely do so. We hope you can join us! (Tentative date: June 2022)
For Soil Trailer outreach program information please contact:

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I hope you have enjoyed this presentation.

Questions?