



**BUILT WORLD
ENTERPRISE**

November 2023 Alumni Newsletter



Built World Enterprise Members

Built World Enterprise would like to welcome our new members: Chance Adair, Dylan Cook, Ezra Crocker, Christian Dahnke, Rebecca Feber, Austin Ford, Porter Gunderson, Chase Jones, Andrew Karimi, Brailee Klipa, Gus Krohn, Elsa Meyer, Jack Moon, Connor Tokie, Allyson Walcott, Zian Withington, & Andrew Wozniak!

Placements from Last Year

WERC Environmental Design Competition:

The two WERC teams that traveled to New Mexico in April were very successful!



Task 1: Wastewater Reuse for Rural Communities

1st Place Overall -Task 1

1st Place Flash Talk - Nadia Stauffer

Pollution Prevention Award

IEEE Environmental Engineering Publication Initiative

Task 4: Detecting and Quantifying Microplastics in Reservoirs

2nd Place Flash Talk - Jake McDowell

Timber Strong:

The Timber Strong team competed in Kentucky and got the 3rd place prize! We are impressed with their hard work and success with their first competition!



Current Project Teams

Engineers Without Borders (EWB)

The EWB team is designing a long term water supply solution for the community they work with in northern Guatemala. Water quality, flow rate, and geospatial data is being used from an assessment trip in May 2023 to ideate the most dependable solution to be implemented. If all goes well, a team will travel in May 2024 to facilitate the new system!



Steel Bridge

This year the Steel Bridge team has been asked to create a theoretical bridge across a water hazard in the Louisiana Lincoln Parish Disc Golf Course. They have chosen the basic geometry for the bridge and are working on fine-tuning the model now. The team is hoping they can begin ordering steel and creating shop drawings in a few weeks, but have much to do before then.

EPA Rainworks

The team is working on the EPA Rainworks Challenge which involves incorporating sustainable and green infrastructure into college campuses. They have decided to focus on MTU's new masterplan and are coming up with a way to incorporate more sustainability into that. They are currently looking at creating guidelines for improving the LEED rating for the new buildings in the masterplan using the H-STEM building and the new East Dorms as examples.





ASCE Timber Strong

This year Timber Strong is tasked with building a two story wood structure similar to last year's project. However, this year the team must add a cantilevered second story. Through their design process they have decided to minimize the size of the structure to limit costs and optimize assembly efficiency.

ACRP

We're happy to bring back the ACRP team to BWE this year! As a team, they are looking into the various challenges available and brainstorming. In the coming weeks the team will be picking one of their ideas to move forward with and preparing for their submission to the competition in the spring.



WERC Environmental Design Competition

The success of the WERC teams in the last two years has attracted more students to participate in the competition as well as returning competitors! There are two teams this year working hard on the design thinking process and brainstorming fundraising ideas to help them with their travel to New Mexico State University for the competition in April.



WERC Team 1

The 1st WERC team is built up of WERC veterans and Andrew! They are working on developing an innovative stormwater management project that will mitigate the effects of extreme weather events for disadvantaged communities while considering all aspects of the triple bottom line. The team chose to focus on the small town of Dollar Bay, Michigan considering the impacts of flooding from rain and snow melt. They have been busy coming up with infrastructure designs that are sustainable, cost effective, and that will benefit the community!

WERC Team 2

The 2nd WERC team is made up of all new BWE members ready to take on a challenge! The team is working on a cheap, modular CO₂ removal device that can be implemented across many different communities. Their current idea is to incorporate a small filter device that can be built into HVAC systems. The filter device itself will use an algae box to remove the CO₂ through photosynthesis. They will soon have a meeting with Dr. Shiliang Wu about the viability of their idea and anything else they should consider.



If you are interested in any of the projects this year and would like to offer any insight please feel free to reach out to us!

Senior Design Projects

Jake

Jake is developing an engineering design that will increase the percent of total solids in the biosolids process. This theoretical system will be able to treat wastewater biosolids to Class A standards in colder climates.



Morgan

Morgan is creating an overview for the future of the Sustainability Demonstration House (SDH) yard. The plan will include irrigation, native plants, garden areas, and walkways.

Francine, Averi, Dylan, Eden, Ollie, and Tania have all started their senior design projects this semester and BWE is excited to see all the creative projects designs they come up with!

Sponsorship

If you would like to help fund any teams you can donate by going to [this website](#), and donating to the student leadership fund. To ensure your donations go to BWE, email Dr. Morse at anmorse@mtu.edu, or when donating select “add another destination” then select “other” and say Built World Enterprise. If you have any questions, reach out to Dr. Morse.

<u>Level of Sponsor</u>	<u>Incentive</u>
Bronze- \$5-\$100	Acknowledgement in newsletter and in all teams final reports
Silver- \$100-\$500	Include your logo on BWE posters or banner in the WERC Booth, or on Timber Stong House; Include names on website plus bronze acknowledgements
Gold- >\$500	Private Campus Tour including a design review (presentations from the teams regarding their project progress- video version for those who can't do in person) plus silver acknowledgements



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