

Engineers' News

May 2019

Vol. 81 No. 9

www.FortWayneEngineersClub.org



Find us on 

May Tour



AMERICAN LANDMASTER

[2499 S 600E, Suite 102, Columbia City, 46725](http://2499_S_600E_Suite_102_Columbia_City_46725)

Tuesday (NOT Thursday), May 21, 3:00 pm

American-Built UTVs manufactured right here in Columbia City, IN. Bring eye protection and/or glasses, long pants/slacks, socks, and shoes which enclose the foot.



AMERICAN LANDMASTER CREW SERIES

Future Tours

June Social: June 27, 5-9 pm. Come and go as you please to a joint gathering with TekVenture. Fort Wayne Engineers Club will provide pizza, some health-conscious items, and refreshments at their huge workshop facilities (note the plural) on Griffin Street in Fort Wayne. FWEC will provide bottled water and something such as soda pop. Feel free to bring your own drink(s) if that is not sufficient.

The Police Drone Demo

TekVenture, Wednesday, May 22 at 6:00 PM. The Fort Wayne Police Department will demonstrate its drone at TekVenture, 1550 Griffin Street, Fort Wayne, IN 46803.

Free Plane Ride for Kids

FREE AIRPLANE RIDES BY EAA-2 FOR KIDS: DeKalb County Airport, DeKalb County Airport, Smith Field Airport, and Kendallville Municipal Airport. https://www.eaa2.org/young_eagles.php
Our local Experimental Aircraft Association Chapter 2 (EAA-2) has scheduled more

Young Eagles flight events. These are FREE AIRPLANE RIDES for kids, 8-17 years old, which they have conducted annually for decades. The remaining dates for 2019 are: at DeKalb Airport, June 15, August 24, & September 14; at Smith Field, June 8 & August 10; and at Kendallville Muni, June 22 and September 21. It is best to arrive a bit early to avoid waiting in line, and because the atmosphere can get more turbulent as the day warms up.

EAA-2 has CHANGED its monthly get-togethers to second Thursdays, such as May 9. These are 7 PM at the Ivy Tech Aviation Center along Cook Road in the northeast corner of Smith Field. This is typically for members but visitors are welcome and/or one can become a member during the gathering. The Ivy Tech Aviation Center typically has lots of things to look at and/or touch, including a wealth of static engines intended for teaching.

EAA-2 will have a Pancake Breakfast fundraiser the morning of June 29 at historic Hangar 2.

EAA-2 is also a primary volunteer group supporting the world-renowned AirVenture near Oshkosh, WI, each year. They would be an outstanding local contact for anyone wishing to be involved at that event. This year's AirVenture is July 22-28, 2019

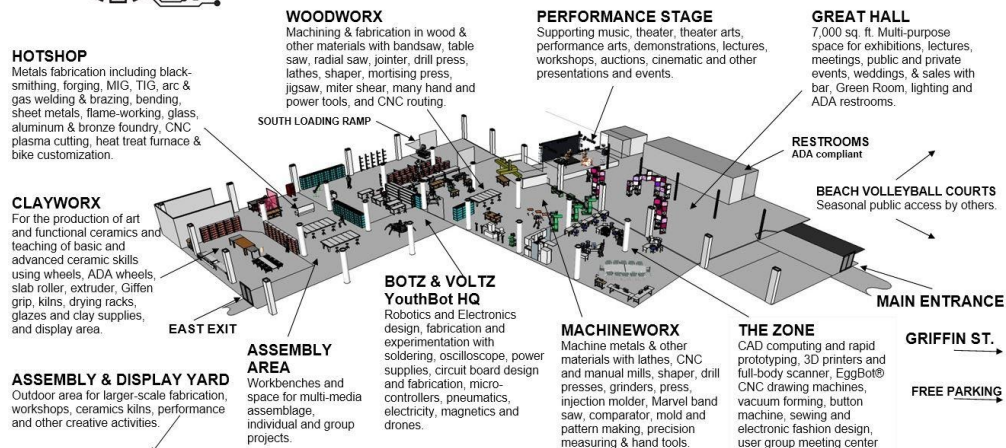
TekVenture Meetings Open to The Public

Got something you want to make, a technique you want to learn or a tool you want to use? Come to TekVenture and start Making your future! See tekventure.org. This location has also substantially lowered their overheads and costs of membership.



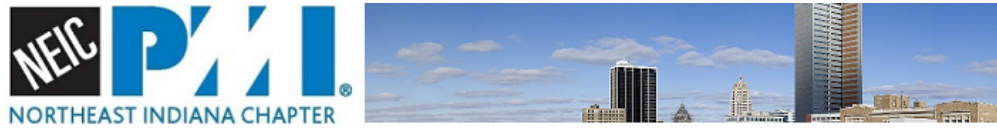
PUBLIC ART & TECHNOLOGY WORKSHOP

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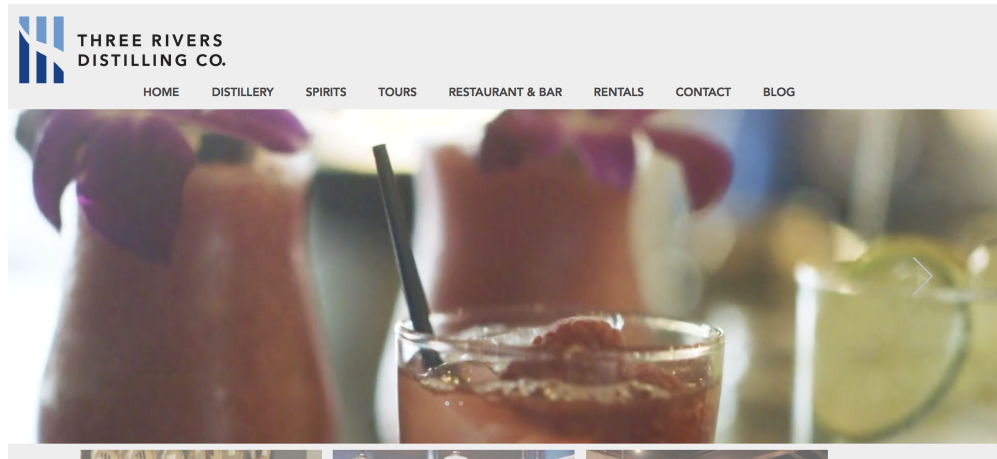


RIVER CITY 1550 Griffin Street, Fort Wayne IN USA 46803 WWW.TEKVENTURE.ORG facebook.org/tekventure 260.432.1095

Northeast Indiana Chapter Project Management Institute



Three Rivers Distilling Co Tour - Wed, May 15th - 5:30PM



Northeast Indiana PMI Chapter hosting evening at Fort Wayne's only Craft Distillery. Founded in April 2016, Three Rivers Distilling Co. was northeast Indiana's first craft distillery since Prohibition, producing a full lineup of grain-to-bottle products made in Fort Wayne. Ingredients sourced, such as wheat and corn, grow within 100 miles of the distillery. The distillery produces bourbon, rye whiskey, vodka, coffee liqueur, gin, rum, and 122-proof corn whiskey – named in honor of the men and women in the 122nd Fighter Wing based here in Fort Wayne– in liquor stores all over the city. We will be in the tasting lounge overlooking the distilling area. We will have a presentation on the lessons learned while bringing this company from concept to community asset. They promise to share the good and the bad making this a unique opportunity to learn about the risks and mitigations of setting up a small business in Northeast Indiana. The evening will also include a tour of the facility and a cash bar for those who wish to sample their wares.

Dinner served buffet style

- White Corn Chips & Medium Heat Salsa
- Spinach Salad-Fresh Spinach, Bacon, Red Onion, Apples, Hard Boiled Egg & Candied Pecans
- Bourbon Salted Carmel Cheesecake made with their own Bourbon
- Your choice of Sandwich:

- Crave Grilled Cheese-Cheddar, Swiss, Gouda, Bacon, Honey, & Candied Pecans.
- Philly Cheesesteak Bahn Mi – Pickled Vegetables, Roast Beef Simmered in Bourbon Demi, Cheese Sauce
- Buffalo Chicken Wrap -Buffalo Chicken, Lettuce, Onion, Tomato, & Blue Cheese Dressing

Location:

Three Rivers Distilling Company, LLC
224 E. Wallace Street Fort Wayne, IN 46803

May 15, 2019

Networking 5:30 PM – 6:00PM

Dinner: 6:00PM -7:00PM

Presentation and Tour: 7:00 PM -8:00 PM

Register at: www.pmi-neic.org

April Tour Summary



The old GE Building, now called Electric Works



Eighteen members participated in our April 25 tour of the "GE campus" now being prepared for redevelopment into "Electric Works". This campus had been mostly utilized for design, build, and repair of "small" and medium-sized electric motors. "Small" seemed to mean weighing less than a ton.

The oldest existing building (#20 on the aerial map) is dated 1907 and located adjacent to the railroad tracks and Broadway. It was built to rapidly prototype and produce arc-lamps when they were cutting edge technology. Reportedly, big names like Thomas Edison collaborated there. The arc-lamp building shares loading and unloading facilities with an adjacent building (#22) built for fabricating medium-sized (i.e., conforming to conventional railroad flat cars) transformers during World War II for rapid transport to facilities along the East Coast. A roof over those loading facilities will be removed and a tunnel under the railroad reopened to provide one of several bicycle and pedestrian entrance boulevards. The two buildings have circa 30' ceilings with privacy walls at floor level and continuous expanses of windows above. They will become separate restaurants and/or rental spaces, such as for weddings.

The "campus" comprises 39 acres in various parcels on both sides of Broadway and two sides of McCulloch Park. Mainline railroads bracket two-thirds of the campus's borders. On the north side, several combined vehicle-pedestrian tunnels pass under the railroad. These underpasses evolved during 1890-1955 and are one lane (12-16'?) wide in the center with significantly elevated walkways, perhaps 4 feet wide, on both sides. All are paved with original brick in generally good condition including drainage. Industrial development in this area began before 1900, within walking distance of closely spaced housing which ranged from very basic to very affluent on both sides of the east-west railroad. McCulloch was Fort Wayne's first public park. Many public streets in the area are also still brick but would be very expensive to restore, including drainage.

Surrounding properties in the area have attracted speculators and developers. Private property prices have increased ten-fold. Subsequent renovation costs of private buildings in the area sounded staggering since most predate 1940. Several of our participants grew up in the area, pointing where their tiny homes once stood crammed onto small lots. Only two had worked at this GE facility.

Existing campus buildings enclose about 1.5 million square feet, about 60% of it on the west side of Broadway. That west side will be "Phase I" for redevelopment plans. Very long term, there is physical space for another 1.5 million square feet of construction using similar height and visual designs.

The building in best condition is a "gym" (#28) which had been financed by GE employees in 1926-1927. It had been designed to serve a remarkable range of purposes including a meeting hall, theater, social center, boxing venue, and indoor basketball court. This design could be a tour report in itself for elegance, simplicity, adaptability, aesthetics, and being both dated yet timeless. It will be a privately owned and operated wellness center. The basement is an extensive integrated bowling, social, and utility space which will be rejuvenated almost intact. The basement's solid construction and vast open space suggest an ideal public emergency shelter.

Unfortunately, very comfortable and appealing bleachers surrounding three sides of the first floor "gym" are too outdated. Their individual wood seats with shared armrests allow only 17" clearance per person, which was conspicuously too narrow for us regardless of Body Mass Index.



Ingeniously, each seat is bolted onto a rigid underlying structure of thick steel back plates, bent to also form a Treadway for the next layer of seats. Each shaped steel plate is bolted to similar plates of the higher and lower tiers, forming a multipurpose corridor under each bleacher for its entire length. Unfortunately, the pitch of the bleacher incline is also too steep and the Treadway of each level too narrow for modern safety standards.

This gym is in remarkable condition because heat continued each winter after GE officially moved out. In comparison, their multistory administration building on the east side of Broadway was not heated and had to be demolished due to pervasive black mold.

The rest of the Electric Works campus showed remarkably little water or related issues. The tall factory and window designs were intended to chimney excess heat and moisture up and out. Adequate air flow and lack of heat for three winters revealed interactions of expansion and contraction between different materials. Certain paints effectively shattered and contracted from some masonry and steel surfaces. The masonry and steel itself are in very good condition, indicating minimal rain or snow intrusion.



The factory floors appeared to be heaved where cables had been pulled up for recycling. These shop floors are designed as concrete wells. The wells are filled with multiple layers of very dense wood blocks, each roughly the size of bricks. The wood bricks are held in place with oils and "pitch", then overlaid with a floor of "pitch"

(asphalt?) ranging 0.5-4.0' thick. These floors allowed routing utilities as needs changed. They also provided vibration dampening for machining purposes, shock absorption while routinely moving multi-ton motors and transformers with overhead gantry cranes (still in place), control of oils and solvents, and probably acted as anti-fatigue mats. The wood "bricks" have already been sold for \$700,000 as is, mostly still in place for now. They are so dense that contaminants can be shaved off as an eighth-inch surface layer.

Environmental remediation of the 39-acre campus is estimated to cost \$6-8 million, well below the \$20 million publicly discussed by City Council. GE had steadily remediated more than anticipated over the decades. Remediation and demolition costs were major reasons to repurpose as much as possible, rather than demolish.

The area was registered as historic in order to qualify for tens of millions of dollars in tax benefits, grants, and other programs. The existing buildings are immensely sturdy and regulations allow adding two stories of private condominiums on some existing rooftops. Portions of some ground floors will be used as parking garages.

Windows throughout the complex are vast affairs from prior to World War II and slated for multi-million dollar replacement. The current condition of the old windows appeared commendable. The exterior masonry is remarkably intact and scheduled for thorough renewal due to Federal requirements for historic status funding. Discussion and our tour revealed that the complex has probably never been outright "abandoned" and certainly not gutted for its metals, as commonly rumored. GE sold the property including any on-site environmental liabilities to Fort Wayne's current private developer for \$5.5 million. GE retained potential liability for offsite contamination. The private developer is organizing a cascade of prominent local contractors and their subcontractors. The vast projected costs of redevelopment are being driven in large part by comparison with alternatives such as demolition or decades-long abandonment. An analogous project underway in Fort Wayne is a refurbishment of Centlivre Apartments, originally built to New York City fire code standards which would have been massively expensive to demolish.

Electric Works is a basket of evolving projects, cultural values, and goals which will legitimately play out over decades. Our tour host, Dave Sholl, played an excellent role as discussion moderator and informed guide. We discussed unknowns and acknowledged potential fantasies, which will be sorted out by ever-changing circumstances. Surrounding private property has been bought out and concerns abound about "gentrification", but updating a square mile or more by 90-150 years requires massive experience and money. A dominant concern was that mobility and safety throughout Fort Wayne's core is already woefully inadequate regardless of driving, bicycling, or walking. Successful downtowns studied by Fort Wayne are immediately served by at least one interstate ramp. Many participants felt Electric Works should include a Fort Wayne Police Department facility until projected security and other changes actually occur.

Our sincere thanks to our hosts, Dave Sholl, and Greater Fort Wayne.

Tour Summary of Ryan's Starks Homebuilt Airplane

Ryan and Sheri Stark hosted about 15 people at Ryan's place of business to see his homebuilt airplane in the final stages of assembly. Ryan and his wife started working on it in June of 2016 and have spent countless numbers of hours drilling, deburring metal, and squeezing rivets. Thankfully the end is near. The engine was installed in December and all the associated parts that were required to finish that section of the plans are nearly complete. The plane is a Van's RV-12. A popular two-seat low-wing airplane powered by a Rotax 912. The engine has 100 HP and will fly around 100 knots for 500 miles. It's primarily an aluminum plane, though there are a few fittings that needed to be made out of fiberglass. With any luck, the first flight will be sometime in June or July.

FWEC roster for FY2018-2019

FWEC roster for FY 2018-2019:

President: John Magsam

Vice President: Open and under discussion; comments and suggestions welcome.

Treasurer: Ryan Stark (456-0809).

Treasurer Trainee: Volunteer needed.

Secretary: Marna Renteria.

First-year Board Members: Rob Cisz. Another volunteer needed.

Second-year Board Member: Dave Gordon, Morgan Miller. Another volunteer needed.

Third-year Board Member: Rod Vargo (416-0986). Craig Welch.

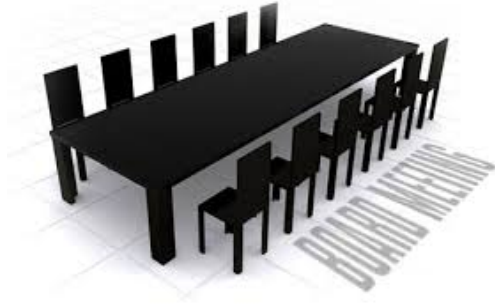
Editor of Engineer News: Maruf Ahmad.

Membership and Contact Chair: Dave Schaller.

Northeast Indiana DiscoverE Chair: Rob Cisz.

PLEASE CONSIDER STEPPING UP INTO ONE OF THE OPEN POSITIONS. Most require very little time. The economy is booming, so tasks are being distributed across more people. Outgoing individuals are experiencing increased demands outside FWEC. Historically, Board Member ages range from high school through retirement. Participation tends to return more than it takes.

FWEC Board Meetings



Fort Wayne Engineers' Club board meetings are open to all FWEC members. The next FWEC board meeting will be on Tuesday, May 7 at 7:00 PM and the next meeting August 27 at 7:00 PM. Board meetings are held on the [Indiana Tech campus in the Academic Center](#) in room ACC-201.

Advertise in the Engineers' News

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