

DONALD MARTIN, PLS, DECEMBER 2020

SURVEYOR TECHNICIAN APPRENTICESHIP PROGRAM UNDERWAY IN ILLINOIS

The IPLSA Annual Meeting of 2020 was the forum for the roll-out of the Surveyor and Mapping Technician Training Program. The announcement of the program was the culmination of a two-year effort by the Workforce Development Task Force. The program came about as a response to what Task Force leader Tim Murphy summarized when saying, "Illinois is facing the same challenge as other states; not enough technicians coming into the business."

The program was established in partnership between IPLSA and the Land Surveying Program at Parkland College. A U.S. Department of Labor recognized apprenticeship, the Surveyor and Mapping Technician Training Program is a two-year undertaking for participants who work as a surveying technician while taking academic courses in surveying. The program commences with an optional surveying bootcamp which serves as a skills lab to introduce basic instrumentation and processes. From there, apprentices begin their studies entailing 144 contact-hours of classes per year. They do this all the while being an employee of a sponsoring business.

For participating employers, the program gives them an engaged team member that is actively learning and using the skills needed to be an effective technician. Committed to the apprentice's development and employment by a binding agreement, employers provide vocational opportunities which supplement the employee's education. In the meantime, the employer has an intern aboard to help out where needed. Employment is incentivized by way of a \$3,000 annual tax credit - the Apprenticeship Education Expense Tax Credit Program administered by the state's Department of Commerce and Economic Opportunity.

The program began fulfilling its mission in August of 2020 with its first bootcamp. From then, apprentices have gone on to or returned to Illinois surveying businesses where they put their first-learned lesson to work in the "real world." Here is a look at two firms and their apprentices.



Hampton, Lenzini & Renwick (HLR)



HLR is a dynamic provider of engineering, environmental and surveying services to clients throughout Illinois. Their 80-member team is led by Jeni Lyon, President and CEO. Ms. Lyon is an IPLSA member who has long-been devoted to introducing the surveying profession to young people through participation in the Trig-Star program of the National Society of Professional Surveyors. As a surveyor herself, she is aware that the pipeline of young surveyors and technicians to replenish our retiring ranks is broken. As an employer, she knows capable technicians working alongside HLR's highly qualified professionals are a key to success. But finding these technicians isn't easy and their success isn't guaranteed. She also knows that employee on-boarding can be a slow, expensive process. She is always on the lookout for solutions to this myriad of challenges.



Apprentice Ryan Baker of Hampton, Lenzini & Renwick, coding a topo point for a culvert relocation.

While attending the IPLSA Annual Meeting in the spring of 2020, Jeni was present when the Workforce Development Task Force presented a panel discussion and introduced the program. She saw the program as a means to addressing her charge of finding new associates and her desire to connect a talented intern to the fine profession of surveying. A solution was found.

Mike Mejia is the Human Resources Manager for HLR and he is thrilled that Ms. Lyon found the program. "It is difficult to try to find surveyors anymore", exclaims Mejia. Mike reports that HLR appreciates having the program as a source for surveying technicians. As he describes it, "we are grooming a future associate who is interested in surveying." And this future associate comes with an ongoing academic footing in the discipline.

Mejia cited HLR's success with using internships as a means of growing their own staff in their Native Land Management program. In that program, many of their accomplished staff began as interns in HLR's environmental services team. Learning while doing, they went on to help lead their organization in their sustainability and regulatory compliance endeavors. He predicts the Surveyor and Mapping Technician Training Program is beginning a similar legacy for HLR and may well become a surveying technician pipeline.

Ryan Baker is the program apprentice for HLR. Working under the tutelage of PLS John Sweet he has quickly moved from job shadowing to being a competent teammate. Surveyor Sweet has guided Baker in his introduction to surveying while taking on projects which entail topographic surveys for culvert relocation, roadway alignments and manhole inspections. There has also been some construction layout and Sweet affirms that Baker arrived with the entry level skills he needed thanks to the program's bootcamp.

Both the business and the apprentice are finding satisfaction through the program. And surveying may have found a future practitioner.

Willet Hofmann & Associates (WHA)



IPLSA members should never doubt the value of attending the Annual Meeting. Just as was the case for Jeni Lyon of HLR, Willet Hofmann VP and Survey Department Manager Jeff Rohde, too, was there when the Workforce Development Task Force introduced the apprenticeship program. He also saw the apprenticeship as an opportunity for his firm. Willet Hofmann has been a provider of land surveying and engineering services throughout the company's history which extends well back to the first half of the last century. Owned solely by licensed professionals on staff, WHA assures client needs will be met by a team they proudly proclaim to be a "highly trained and skilled staff." Rohde envisioned the program to become a new source of continuity to the WHA legacy of trained and skilled team members. The only things needed were an opportunity and an apprentice.

The realities of current works and projects have placed contemporary design firms in the position of relying more and more on the talents of technicians to work along with licensed professionals. Meeting expansive client expectations while complying to ever-broadening scopes of procedures and regulations, licensed professionals are adding a new tier of uniquely capable employees to their staffs. This tier is taking up some of the tasks which were once the purview of licensees. This is the state of surveying. Where once, land surveyors served as party chief, abstractor, researcher and drafter all in one, many firms have transitioned to operating with PLS project managers supported by technicians. Willet Hofmann had begun such a system of operation by 2017 and the land surveyors on staff quickly learned the value of good technicians. They also learned they're not easy to find.

In the summer of 2020, Jeff Rohde was in need of just such a person for his surveying department. Fortunately, his need was met when Travis Keller accepted an offer to join WHA. To assure Mr. Keller would meet the WHA standard of being highly trained and skilled, Rohde realized he had the aforementioned "opportunity and apprentice." Rohde turned to the team at Parkland College and an interested and motivated Travis Keller was on-board as

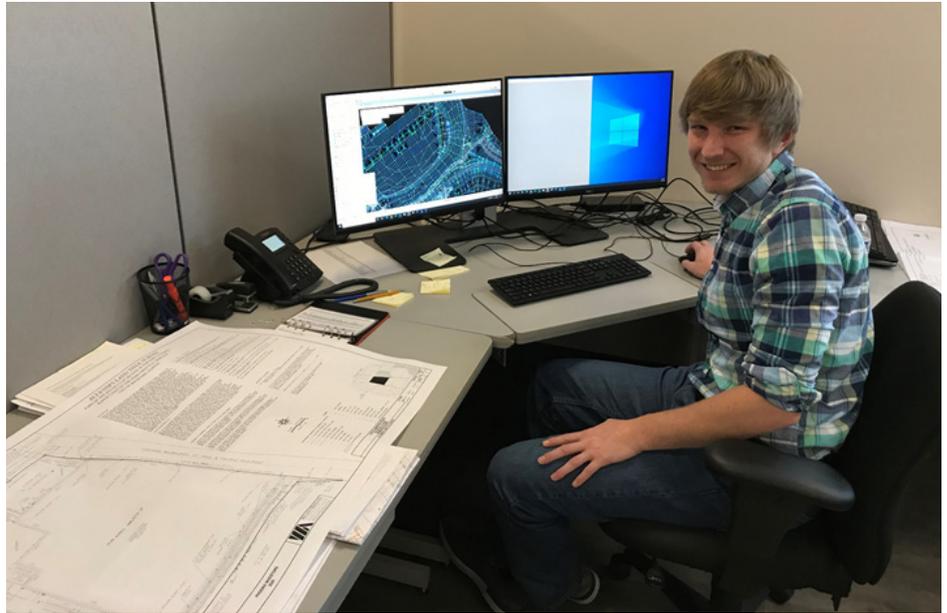
a new apprentice in the Surveyor and Mapping Technician Training Program.

How is it working out for WHA so far? As Rohde gladly confirms, it was worth all of the applications, the agreements, the effort. With a solid grounding from the Parkland skills lab known as the surveying bootcamp, Travis is a capable operator of surveying instruments with ever-growing understandings of the measurement needs associated to boundaries and engineering projects. Much of this introductory phase of Keller's journey as a WHA teammate is being spent providing CAD services of terrain modeling along with ALTA and boundary plat development. His fieldwork has primarily been construction layout and data collection for topo's.

As Travis advances through the apprenticeship, he undertakes academic affairs on weekends which qualify as accredited surveying courses. Along with earning CST status, he is fulfilling basic requirements which could open a future door to licensure as a PLS if he so chooses. But the gains are not only his. Willet Hofmann benefits too with the addition of one more to their highly trained and skilled staff. More than having a mere helper, Rohde describes their apprentice as an "integral part of our team." The WHA legacy of a highly trained and skilled staff, continues as the legacy of Travis Keller begins...thanks to the program.

Being an Apprentice

While Travis Keller had already joined Willet Hofmann when becoming a program apprentice, HLR's Ryan Baker's journey to the apprenticeship was a little less direct.



Willet Hofmann apprentice Travis Keller at his CAD station, checking a TIN model as a draft of an ALTA survey awaits review to his left.

Mr. Baker matriculated to Eastern Illinois University after a studious high school career. Academically guided by the curriculum and counselors of high school, and intellectually driven by his own interests and proclivities, there had been little vocational direction in young Ryan's life. Graduating from EIU with a BA in Philosophy and Psychology, Ryan set out to fill his own employment skills gap. Turning to Parkland College for some fine tuning, Baker was looking for "real world skills for real world projects which contributed to the public good." From the pages of the Parkland directory, he found the subject of "surveying." Not quite sure just what that was, his question of "tell me more" was directed to PLS Kory Allred of the Weekend Land Survey Program.

Surveyor Allred led Baker through an introduction to the topic. He then continued by having Ryan take something of a placement examination. Although a

graduate of humanities, Ryan was math capable to a level which could flourish in the Parkland surveying program. Allred also introduced Ryan to the IPLSA Surveyor and Mapping Technician Training Program and the former philosopher noted the alignment to his desire for "real world skills for real world projects." And the apprenticeship meant paid work while studying – it was a match! Mr. Baker signed up for the program and awaited an employer connection.

Shortly thereafter, the team at Hampton, Lenzini & Renwick signed onto the program as well. Ryan Baker then had a pretty tight calendar with an August 24th date for the Parkland survey bootcamp and September 1st as a first day-of-work for HLR. He describes the bootcamp with one word – "awesome!" Instructor Jim Harpole led Ryan and the others through a rigorous two days of differential leveling, construction staking, instrument setup, GPS and more. He arrived

at HLR not yet seasoned, but ready to start.

The fresh start with HLR was accompanied by the beginning of the formal education portion of the program. CRV-113, Basic Surveying, is what the Parkland course catalog calls it. Between weekend studying and work-day "doing" it is refreshing to hear that Ryan describes his journey to surveyorhood as fun. Enthusiastically, he asserts "there is so much to learn, but it's fun!"

Ryan now sees the world differently. Yes, in that uniquely surveyor point-of-view, landscapes now are a collection of break-lines and elevation changes. He also can see something else a bit differently as well. His future. It may well include surveying as a career.

The Program Moves Forward

From the introduction last spring at the IPLSA Annual Meeting, to the surveying "bootcamp" at the end of August, then the start of the program in September, the IPLSA Surveyor and Mapping Technician Training Program is establishing its place in the Illinois surveying community. Its inaugural season came in the misbegotten year of 2020 with a pandemic that has disrupted and changed so many things. As we enter a winter of COVID discontent the first



Apprentice Ryan Baker (center) and his HLR mentors in a survey-selfie.

semester for our surveying apprentices has concluded. The program will now move forward just as Ryan Baker and Travis Keller will move forward as well.

Moving forward also means it is time for renewal. Just as the coming new year renews our calendars, and the coming vaccine renews our hope, the IPLSA Surveyor and Mapping Technician Training Program must be renewed with prospective apprentices and employers. As stated in the IPLSA Press Release of December 9th:

Opportunities abound, it is finding them that is so often the challenge. Here is one before us, within the fold of our own Association. In it, a new generation can find a prospect of a long and happy career. Businesses can find the help they need in staffing to deliver the quality surveying services clients deserve. And our venerable profession can find its way forward, invigorated by the commerce of new surveys and restored by the enrollment of new surveyors.

"IPLSA is currently taking applications for next year's class, set to start at the end of August 2021. Potential apprentices can upload their resume for free by visiting the apprenticeship page on IPLSA's website, iplsa.org. Employers can upload job postings for apprentices there as well."