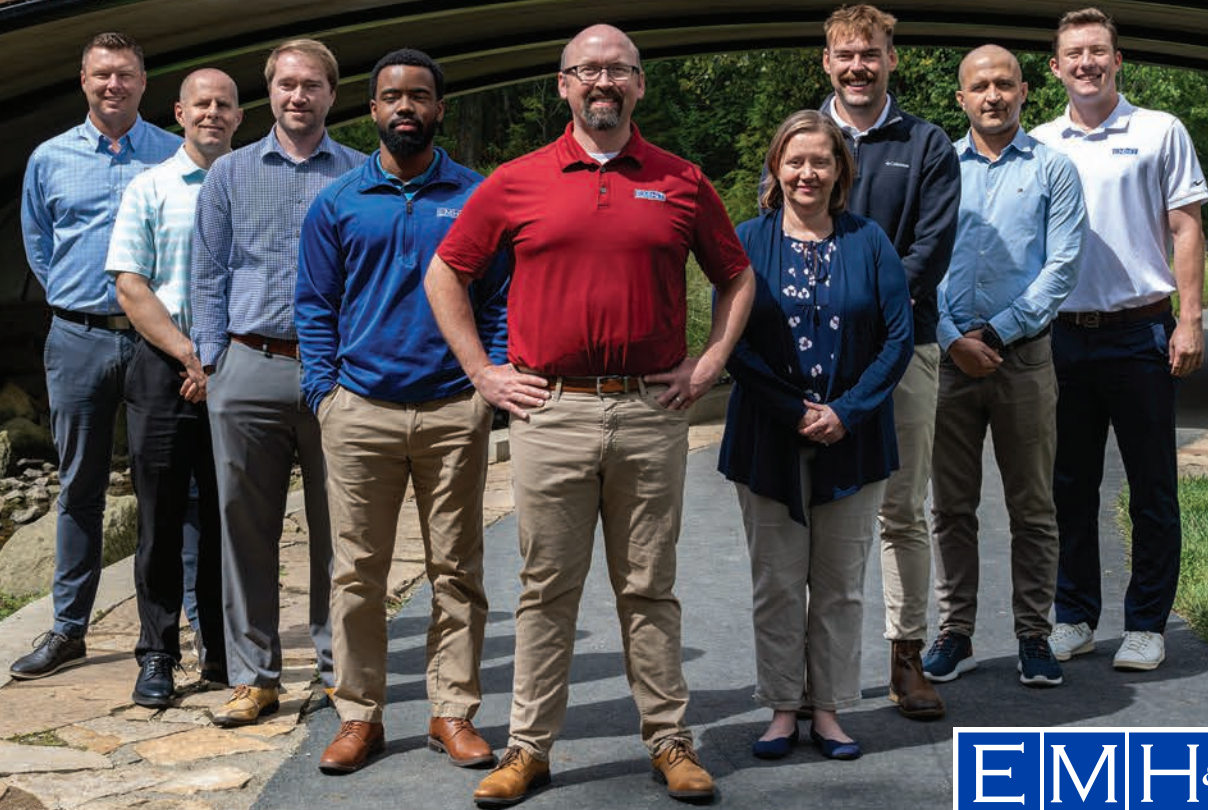


in 'JEN ee um; Latin. Natural disposition of talents. Root word for "engineer"

Ingenium

FALL 2024

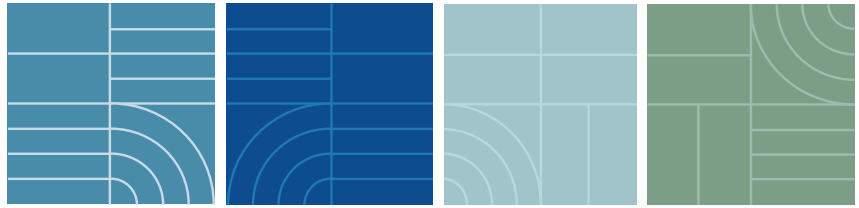


Structures Team

Visualization as a Critical Tool

OhioHealth Expansion

Hamilton Quarter Infrastructure



In this issue of *Ingenium*, we explore the dynamic landscape of public infrastructure, innovation, and collaboration. Public infrastructure is the foundation of thriving communities, and in this issue, we celebrate the tools, teams, and partnerships driving our projects forward.

A key focus of EMH&T's Design Innovation Division is the integration of InfraWorks and Unreal Engine software, powerful tools revolutionizing how we visualize and design infrastructure. Together with other cutting-edge technologies, we use 3D modeling and simulation to enhance decision-making by offering a comprehensive view of complex projects. Read about visualization as a design tool on page 2.

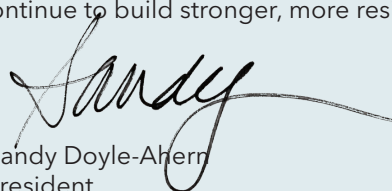
We also highlight the evolution of our structural engineering team, whose expertise continues to grow, as does their comprehensive portfolio. Beginning on page 12, read about how this group's dedication to innovation and problem-solving is the reason for the trust they have earned on a federal, state, and local level.

In addition to structural engineering, we delve into comprehensive wastewater services. Collection system design begins with thorough data gathering in the field and concludes with construction administration and oversight through to activation. Our feature examines the cutting-edge technologies and strategies used to seamlessly gather field data, analyze the conditions and goals, and maintain and upgrade wastewater systems, ensuring safe and reliable services for communities.

Beginning on page 6, we explore the critical role of public-private partnerships in modern development through our story on the Hamilton Quarter development in northeast Columbus, Ohio. These collaborations are driving significant economic growth, allowing us to leverage both public funding and infrastructure expertise to manage and foster smart development.

Rounding out this issue is a comprehensive story about our partnership with OhioHealth, one of Ohio's largest healthcare networks. OhioHealth is embarking on a breathtaking expansion of both its Grant Hospital and Riverside Methodist Hospitals that will impact many of Ohio's communities well into the future.

We hope the stories in this issue inspire you to think about how infrastructure is evolving to meet the challenges of today and tomorrow. Together, through technology, teamwork, and collaboration, we can continue to build stronger, more resilient communities.



Sandy Doyle-Aherr
President

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Ingenium is a semi-annual publication of EMH&T. It is designed to provide information on issues that are relevant to public officials and public servants of all levels, spanning the full array of public works industries. To add your name to the mailing list for **Ingenium**, please send an e-mail to lruh@emht.com with your name, address, e-mail and phone number.

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VISUALIZATION EMERGES AS A CRITICAL TOOL FOR INFRASTRUCTURE DESIGN

The role of visualization—whether it be a 3D rendering, a fly-through video, or interactive experience—has long played an important role in providing a visual representation of proposed infrastructure improvements.

With the rapid evolution in technology, these capabilities have never been more crucial as a requisite component in the design process for infrastructure.

EMH&T provides a full range of sophisticated visualization capabilities that serve as a necessary tool for the broad spectrum of services we offer. Our Design Innovation Division, led by director Adam Burger, PE, is on the cutting edge of the evolving technology that allows EMH&T to provide this approach to infrastructure design.

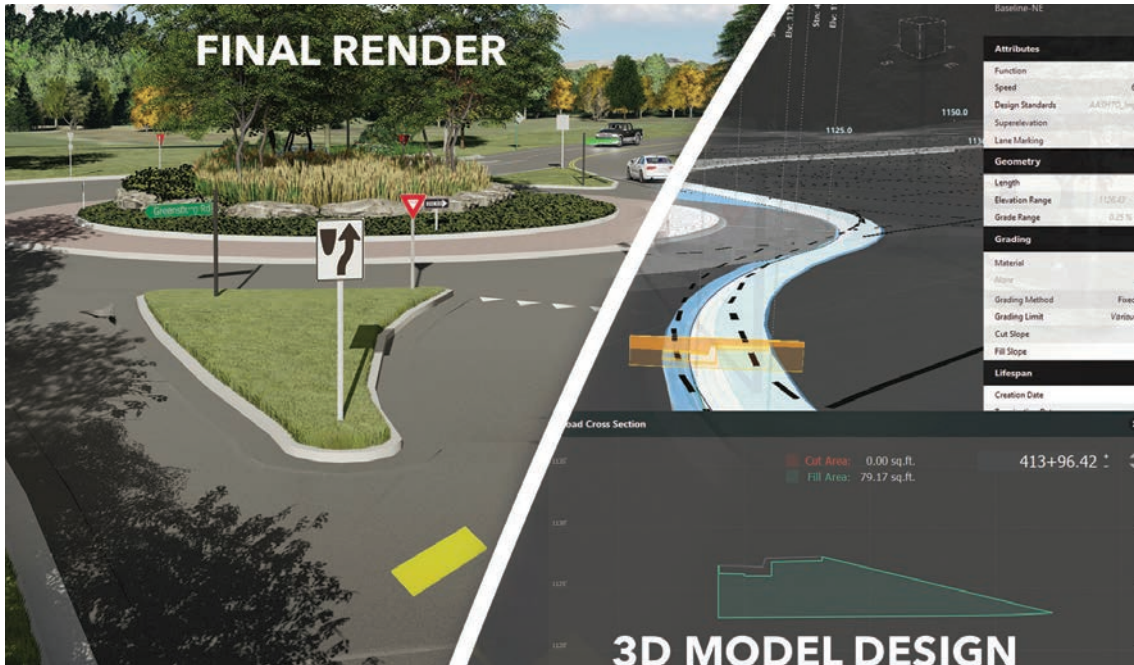
The visualization component for most projects are 3D models, which are utilized to

visualize infrastructure improvements, such as streetscape improvements, infrastructure updates, and site development proposals. This provides stakeholders with a realistic understanding of proposed changes before implementation.

The EMH&T Design Innovation Division was born out of an engineering design need to test autonomous vehicle movements, using InfraWorks, as part of a project with the Smart Cities grant in 2016. This involved building 3D



Smart Cities



3D renderings and visualization models provide a technological means to allow for infrastructure design decisions to be made more quickly and with greater cost efficiency.

models of Easton Town Center and integrating the autonomous vehicle movements and pathways to see how that could function. Through this experience with transportation design, Adam expanded the role of 3D renderings and visualization models as a technological means to allow for infrastructure design decisions to be made more quickly and with greater cost efficiency.

This approach provides the engineering design team the ability to utilize 3D models to assist in making decisions and to test the feasibility of a potential solution. This technological approach allows the design team to go through multiple iterations quickly to consider multiple scenarios leading to an infrastructure solution. If the design team was performing these tasks with more traditional tools, like Civil 3D, there's a lot of setup time, which means for the same budget, the engineer could go through fewer iterations. However, using the 3D visualization and rendering tools allows the team to explore a greater number of feasible options, ultimately reducing the client's financial burden for the project.

During the BUT 129/I-75 Interchange project, the design team was challenged to engineer solutions to route multiple highway ramps, which crossed over one another, all while meeting necessary criteria, and performed in a

cost-effective manner. The team believed there were potential solutions that had not yet been explored. To explore other options, Adam imported the necessary data to InfraWorks and was able to measure bridge clearances much more quickly than was possible in other programs and work modalities.



Using InfraWorks, EMH&T was able to measure bridge clearances far quicker than in other programs.

Everything the Visualization team creates begins with a civil design base. Even if nothing has been designed from an engineering perspective, the visualization team still have LiDAR contours and topographic maps as a starting point when creating 3D models. The team also have access to a wealth of GIS data, often used for planning, that contain building and boundaries data. Most of the time, however, the Division has the advantage of beginning their work with a significant amount of engineering data.

The engineering design team have started solving the problem, performed the calculations, arrived at a solution, and created CAD drawings. The visualization team then takes all of the real-world data and CAD information and translates it into a 3D drawing, which then becomes a rendered model. Once the model is created, the team can then begin testing the solution to ensure sound constructability.

In one instance, while the team was designing the US 33 and SR 274 roundabout in Logan County, Ohio, when the data was input to create the 3D modeling for a rendering video, a potential design conflict was discovered. Adam and his team began running different vehicular scenarios and discovered that a combine with the cutterhead attached to the machine could strike signage that was designed to be integrated into the intersection.

The initial design did not allow for a wide enough berth for this particular machinery. Because 3D visualization and renderings are such an integral component of EMH&T's design process, the potential issue was quickly identified and rectified, which saved hours of redesign and construction work.

"We assisted our Transportation Planning & Design team working with the Ohio Department of Transportation by creating a 3D model video to help Logan County residents understand that many different vehicles are able to navigate the roundabout and why it's being constructed. It's our team thinking about the space in 3D and explaining how the roundabout is ultimately a benefit," Adam said.

An advantage of having the EMH&T Visualization and Design Innovation team work alongside engineers and designers in conjunction with the client is the ability to troubleshoot, in real-time and in real-world models, which allows for design adjustments more quickly and efficiently. It also reduces the need for extensive revisions during the planning process, leading to more efficient use of resources. ■

For more information about how the EMH&T Visualization team can tell your story, please contact Adam Burger at aburger@emht.com or 614.775.4608.



Because 3D visualization and renderings are such an integral component of EMH&T's design process, potential issues are quickly identified and rectified, which can save hours of redesign and construction work.

ENGINEERING BASED VISUALIZATIONS



Community Planning

Public Involvement

Stakeholder Feedback

Education

Marketing

Economic Development

Risk Assessment

Immersive Simulations

For more information about how the EMH&T Visualization team can tell your story, please contact Adam Burger at aburger@emht.com or 614.775.4608.

*To view our digital portfolio scan the code or visit:
<https://www.emht.com/expertise/visualization>*

SCAN ME





HAMILTON QUARTER:

Infrastructure to Attract and Support Economic Development

EMH&T has played an integral role in bringing developers and local communities together to improve public infrastructure to support economic development projects.

A Public Private Partnership (3P) is born out of a desire to advance a project that helps each party achieve different goals by the same means. One such project is Hamilton Quarter.

This mixed-use development was announced by CASTO, The Daimler Group, and The New Albany Company and designed to serve the far northeast side of Columbus and surrounding communities. The location was the last major

interchange-accessible greenfield site in Columbus near the intersection of SR 161 and Hamilton Road. Today, it contains a robust mix of retail, residential, office, and other destination spaces.

“EMH&T assisted with the master planning and detailed design of public and private infrastructure needed to support the larger development of Hamilton Quarter, which is still growing eight years later,” said EMH&T’s Mike Brehm, Senior Project Manager and Director of Transportation Partnerships.

Working with a consortium of developers as part of the master planning effort, EMH&T studied alignments, prepared cost estimates, and developed phasing plans for over four



miles of new or reconstructed roadways. The first phase of roadway infrastructure was a \$5.1 million Dublin-Granville Road realignment, which included modernizing and realigning an open-ditch rural road section by adding curb and gutter, six new traffic signals, LED street lighting, widening of the SR 161 eastbound exit ramp, and improved capacity at the intersection of Old Hamilton Road and Dublin-Granville Road. ODOT permitting, water mains, and new regional stormwater management basins were designed on an accelerated schedule to keep pace with surrounding development, including the Big Lots Corporate Headquarters.

EMH&T designed infrastructure improvements in subsequent phases, including the \$2.1

million Old Hamilton Road Improvements and a \$2.8 million improvement to Dublin-Granville Road east of Hamilton Road.

“The project advanced through detailed design following the City of Columbus’ Public Private Partnership (3P) process in place at that time,” Mike said. “This 3P project was a good example of developers and cities working together to construct a backbone of public infrastructure which enables a variety of economic development opportunities and community amenities.” ■

To learn more about infrastructure investment as a road to economic development, contact Mike Brehm at mbrehm@emht.com or 614.775.4616.

OhioHealth Comprehensive Expansion

EMH&T began a partnership with OhioHealth, the ubiquitous healthcare network of 14 Hospitals and over 200 ambulatory sites spanning 47 Ohio counties, right on the cusp of their massive expansion throughout the state roughly 15 years ago.

Since that time, the EMH&T team of professionals have been a trusted and active consultant on over 100 projects furthering OhioHealth's mission.

EMH&T began work on the emergency department component of the Westerville Medical Campus in the developing Polaris area of Columbus. The solutions delivered on this project resulted in a cascade of projects that have led to the Riverside Methodist Hospital Neuroscience tower, the Pickerington Medical Campus—which recently expanded to become the Pickerington Methodist Hospital—to more recent projects consisting of the Grant Medical Center expansion and the Women's Health Tower at Riverside Methodist Hospital to many of the freestanding emergency care facilities.

Medical Campuses

After the EMH&T team asserted their technical expertise designing the necessary infrastructure improvements to support the Westerville Medical Campus Emergency Department, they were selected to begin work with the Pickerington Medical Campus.

The team began planning the 35-acre greenfield site initially to have an outpatient surgery center, emergency department, and other ambulatory medical services. However, within five years the Pickerington Medical Campus expanded services to include a new tower that offers inpatient and overnight beds, labor and delivery, and additional surgical capabilities, effectively transforming this facility into what is now known as Pickerington Methodist Hospital.

Because EMH&T provided the initial infrastructure design for the property, the transition from medical office building to hospital was seamless. The team knew the location of all utilities, making site investigations and routing utilities an uncomplicated task, which allowed design and construction to proceed expeditiously.

Once the initial Pickerington Medical Campus was designed and under construction, OhioHealth and the EMH&T team pivoted to the Grove City Methodist Hospital. OhioHealth and the design team took a building nearly identical to the Pickerington Medical Campus and developed the

Pickerington Methodist Hospital

Image courtesy of OhioHealth



Grove City Methodist Hospital
Image courtesy of OhioHealth



greenfield site to house the Grove City Methodist Hospital, which offers similar services and level of acuity as Pickerington Methodist Hospital.

While EMH&T worked on the development of Grove City Methodist Hospital, they concurrently performed infrastructure design for a roster of OhioHealth freestanding emergency departments, including: Ashland, Hilliard, New Albany, Obetz, Powell, and Reynoldsburg. These facilities are smaller in scale to their medical campus counterparts but serve a vital community need, offering services of greater acuity than urgent care locations.

“EMH&T served as consultant and performed the due diligence for the freestanding emergency department sites,” said Amy Nagy, PE, Partner,

and Senior Project Manger. “OhioHealth subsequently began acquiring additional properties to expand ambulatory care across their network, which the EMH&T team has performed significant amounts of work from due diligence through construction. This has resulted in a vast amount of jobs and access to exceptional healthcare over the last 15 years.”

Regional Hospital Facilities

In addition to expanding medical office locations and lower acuity service lines to regional areas, OhioHealth also focused on acquiring regional hospitals with the goal of bring the top-notch quality care, for which they are known, to locations outside of Central Ohio while providing a direct line to more acute care needs that are offered at OhioHealth’s anchor hospitals like Riverside Methodist Hospital and Grant Medical Center.

Expanding beyond Central Ohio allowed the healthcare system to grow its network and offer advanced services close to home. In this way, a patient is able to see his or her primary care provider in a local office, and if a referral to a specialist is necessary, she or he is able to also see that provider right in the same area. Additionally, the patient is able to have advanced testing and treatment in the local hospital rather than travelling to Columbus. This strategically allows the patient to remain in network for a wider range of care needs.

As OhioHealth’s portfolio of care facilities has grown, EMH&T has provided the necessary civil consultation when updates, renovations, and additions take place. OhioHealth planned to

**New Albany Free Standing
Emergency Department**
Image courtesy of OhioHealth





update Marion General Hospital, OhioHealth O'Bleness Hospital, and Southeastern Medical Center once they expanded into those areas to provide the most enhanced technology, facilities, and capabilities.

EMH&T provided infrastructure improvements to support a 60,000 square foot bed tower addition at Marion General Hospital, along with associated utility services and parking lot modifications, to accommodate for a new hospital entrance. Once the tower addition was completed the team quickly turned their focus to an expansion devoted solely to oncology services.

When OhioHealth took over management of O'Bleness Hospital in Athens, Ohio, EMH&T provided the necessary infrastructure design to support the development of a new medical office building. Our team of professionals performed

due diligence through final engineering for the development of a 30,000 square foot medical office building offering a wide range of outpatient and ambulatory services.

EMH&T provided infrastructure design to support the construction of a new 12,000 square foot oncology addition when OhioHealth took over management at Southeastern Medical Center. While planning and designing for many of the additions, like the oncology addition to Southeastern Medical Center, there's a lot of site utility investigation that is required because the records are often aged or sparse. Because of this, the EMH&T team performs significant utility investigations and design to route around a proposed building or addition. Despite any challenges, though, the EMH&T was able to provide sound infrastructure solutions while minimizing any potential building footprint issues.

Main Hospitals

The two largest and most advanced hospitals within the network are likewise undergoing massive expansion and renovations in an effort to provide first-class care in a more efficient manner. Adding to the extensive work EMH&T has performed, the team is providing infrastructure design services to Riverside Methodist Hospital's Women's Health Tower and Grant Medical



Grant Medical Center's Trauma Care, Emergency Department, and Critical Care Pavilion
Image courtesy of OhioHealth



Center's Trauma Care, Emergency Department, and Critical Care Pavilion in addition to a new ambulatory facility.

EMH&T is providing professional services related to the design and construction of a new 400,000 square foot Women's Hospital facility, two accompanying parking garages totaling 3,300 new parking spaces, as well as a 160,000 square foot Women's Health Medical Office Building, which will all replace Riverside Methodist Hospital's current Women's Care Pavilion. This addition will effectively consolidate women's health services into one convenient location within Columbus.

The intent of the new Women's Health Tower is "to bring women's voices, experiences, and insights into the design and planning of this comprehensive center," said Kristina Stuecher, OhioHealth Vice President and project executive of the OhioHealth Women's Health Center.

The \$600 million investment is slated for an early 2027 completion date. Grant Medical Center is making a \$400 million investment to create a state-of-the-art Trauma Center, Emergency

Department, and Critical Care Pavilion. EMH&T has performed master planning services and major public and private utility design and relocation. Work will also include vacating a portion of Sixth Street in downtown Columbus to accommodate for the new tower expansion and emergency room.

Grant Medical Center will also add a new ambulatory facility. Once constructed, the new facility will contain two floors of outpatient care and a five-story parking garage. Grant Family Medicine, the Transitions of Care Clinic, and a food pantry will all be located in the new facility.

The expanded facilities are slated for completion in mid-2028. Grant Medical Center will increase total space by 310,000 square feet. ■

To learn more about EMH&T's healthcare market experience, contact Amy Nagy at anagy@emht.com or 614.775.4376.



RAINES CROSSING

The EMH&T Structures Group works in seamless collaboration, turning complex challenges into elegant solutions.

(L-R) Tyler Adams, PE; Ryan Ely, PE; Bob Weger, PE; Romell Bolden, EI; Craig Schrader, PE, MS; Jennifer Miller, PE; Chase Davis, EI; Abdul Ibrahim Khail, PE; and Alex Hamm, EI

STRUCTURAL EVOLUTION

From modest, utilitarian beginnings, EMH&T's Structural Engineering team has evolved into a statewide engineering powerhouse.

More than 50 years ago, EMH&T brought aboard its first transportation-specific engineers, including structural experts. EMH&T's significant private and commercial development role in Central Ohio provided many support service opportunities for structural bridge work. As communities grew around bridges, culverts, and retaining walls, EMH&T's team flourished.

This role led to increased opportunities and growth of staff and project complexity.

Fast forward 50 years, and the EMH&T Structures Group stands as one of Ohio's largest single-office structures design operations. The group boasts a team of six Professional Engineers (PEs) and three Engineer Interns (EIs), all of whom are equipped to handle a broad spectrum of projects.

One of the early significant milestones in EMH&T's structures design history occurred in 2003 during the completion of the interchange at I-270 and State Route 161. In a bid to save costs and optimize the project, EMH&T proposed an innovative solution: building a tunnel under the interchange rather than a traditional fly-over. This forward-thinking approach saved \$10 million in project cost and exemplifies EMH&T's commitment to cost-effective and innovative design solutions, a trait that has only strengthened over the years.

"Unlike some firms that specialize solely in large-scale highway and interchange bridges, EMH&T's engineers are well-versed in a wide array of projects, ranging from minor structure rehabilitations to major ramp interchange structures," said EMH&T's Structural Group Manager Craig Schrader, PE, MS.

"Versatility is a key asset, allowing EMH&T to meet the diverse needs of its clients, whether they require a small pedestrian bridge or a complex urban interchange."

Ryan Ely, PE, is a testament to the growth and evolution of the EMH&T Structures Group. Ely joined EMH&T 25 years ago, fresh out of school, and began his career on a team that primarily provided structural support for commercial and residential projects. Over the years, Ryan witnessed the steady transformation of this group from internal project support roles



Senior Project Manager Tyler Adams discusses a bridge design with Structural Group Manager Craig Schrader.



SR 129 and I-75 interchange redesign included a new bridge over re-aligned I-75 ramps.



US 35 bridge over Albany Road in Montgomery County, Ohio, at the interchange of I-75 and US 35



Early concept rendering of a new interchange to connect I-75 to the Western Hills Viaduct in Cincinnati



Ridgeway Road Bridge over West Dorothy Lane in Kettering, Ohio

to becoming a leading structural/bridge design provider.

Today, EMH&T's bridge team is supported by an array of in-house disciplines, ensuring seamless collaboration and facilitation throughout the project lifecycle.

“The EMH&T bridge team operates with efficiency and agility,” said Craig. “We are quick to start, nimble in execution, and capable of making necessary adjustments on the fly.”

In a world that demands instant results, this team consistently delivers, meeting and often exceeding client expectations. In tandem with their

high performance, they approach projects with a pragmatic mindset, balancing innovation with careful stewardship of clients' limited financial resources.

Versatility is another hallmark of the EMH&T bridge team. The team is proficient in various design platforms, including AutoCAD and Bentley Open Road/Bridge Designer, and adheres to multiple standards such as AASHTO, ACI, ASCE, AISC, NDS, and AREMA. Their commitment to quality is unwavering, ensuring that their plans are clean, error-free, and ready for construction without relying on external reviewers.

With the Ohio Department of Transportation (ODOT) as a major client, EMH&T's bridge team is deeply familiar with ODOT's processes and procedures. They don't just navigate the ODOT system; they proactively guide their clients through it, ensuring that even those without bridge design expertise feel confident and



Kent State University Tuscarawas Campus new entry bridge

supported. This dedication extends beyond the delivery of final plans. EMH&T's team follows each project through completion, monitoring construction and standing by their clients from inception to close-out.

"At the core of EMH&T's philosophy is the belief that a successful project should not only meet technical and financial benchmarks but also be an enjoyable experience for the client," said Craig. "By working closely with our clients and making the process as smooth as possible, EMH&T ensures that each project is not just a job well done, but a partnership that clients can rely on, time and again." ■

To talk about your next structural engineering project, contact Craig Schrader at cschrader@emht.com or 614.775.4632.



Lock Road Bridge in Knox County, Ohio




Brookview Reserve Ward Brook Pedestrian Bridge in Mentor, Ohio

WASTEWATER COLLECTION: Providing Well Rounded Services through Seamless Management

The hallmark of EMH&T is providing comprehensive services, which is especially true for the wastewater collection team led by Principal and Division Director Marci Bland, PE. She has the dual role of leading field infrastructure evaluations—known as the Infratechnologies Division—along with wastewater design services.

“We provide technical monitoring and professional engineering in one group,” Marci said. “Together, these facets result in a seamless transfer of information and efficient data collection and interpretation.”


For close to 30 years, Marci’s well-rounded career has focused on assisting clients from the assessment to construction of collection systems. She has led or been a part of the assessment, planning, hydraulic modeling, design, and maintenance and operation for thousands of miles of new and/or rehabilitated piping.

 **System Assessment**
EMH&T’s system assessments integrate field services, like CCTV inspections, light and heavy cleaning, flow monitoring, manhole inspections,


dyed water testing, and smoke testing, with design services in a proven successful and efficient business model for Marci’s team.

“We bring extra benefit,” she said, “by utilizing our knowledge and training through our NASSCO certification in the Pipe Assessment and Certification Program (PACP), as well as Manhole Assessment and Certification Program (MACP).”


These certifications provide a high level of confidence for clients that Marci and her team have the precise training for evaluating piping and ensuring it meets national standards when constructed.

 **Alternatives Analysis and Selection**
After assessing the system, the wastewater team begins developing concept-level collection system improvement alternatives, prepares planning level costs for client review, and if possible, utilizes the existing hydraulic model.

Her team also provides improved level of service for existing customers and capacity upgrades for future development. Marci maintains a Class II Collections System Operator certification, which means she is fully versed on the state and federal requirements for collection system operations and maintenance. She is also familiar with the standards set by the Environmental Protection Agency for sewer operations.

 **Project Prioritization**
EMH&T’s hands-on, team approach allows for a broad understanding of limitations and how best to apply suited project technologies. Within her recommendations, Marci and her team include constructability and community impacts for a realistic infrastructure investment strategy specific to each project within the capital improvement program budget.

“Our goal,” she said, “is to get the most out of the available funding and the correct construction techniques while keeping the longevity and future improvements in mind.”

 **Project Design**
Every successful collection system begins with good design. EMH&T’s talented wastewater collection design team will discern the appropriate cutting-edge technologies for project success. During review of a proposed project, Marci and her team work with a client to utilize the most cost-effective technology for the observed deficiency. They provide planning skills for small to very large-sized cured in place pipe (CIPP) lining, pipe bursting, lateral lining, manhole rehabilitation, horizontal directional drilling, and traditional open-cut replacement.

"Our team is able to design for a variety of construction techniques based on the intent of the project," said Marci.



Funding

Cost is the primary concern to constructing a project for most communities. To

ensure EMH&T clients are leveraging budget resources on local, state, and federal levels, Marci works with each community to determine cost, feasibility, and affordability, and locate private contributions or grant monies if available for funding the work is paramount.

"This process," she said, "quickly evaluates the feasibility of sewer system improvements and also helps the client to develop a long-range funding plan."



Construction

As her projects move into construction, Marci relies on EMH&T's in-house team of construction

experts to ensure her plans are not only constructable, but the intent of the project is safeguarded during construction—even when changes occur in the field—maintaining our credibility and reputation with clients, as well as project success.

"Our team is invested in designing efficient collection systems for current and future generations." ■

To talk more about your wastewater collection system, contact Marci Bland at mbland@emht.com or 614.775.4237.



Marci Bland, PE, ENV SP, LEED Green Associate

EMH&T Wastewater Collection Services

Wastewater Collection Assessment, Inflow & Infiltration, and Field Services

- Sanitary Sewer Evaluation Surveys (SSES)
- CCTV Inspection
- Sewer Cleaning
- Manhole Inspection
- Smoke & Dye Testing
- Capacity Assurance Field Services
- Flow Monitoring
- Rain Gauging

Comprehensive Wastewater Collection System Analysis

- Capacity Assurance Planning
- Hydraulic Modeling
- Combined and Sanitary Sewer Management
- Combined Sewer Overflow and Sanitary Sewer Overflow Elimination Studies
- Long Term Control Plan and Implementation Optimization
- Data Management
- Flow Isolation and Inflow/Infiltration Analysis

Collection System Permitting, Operation, Maintenance, and Regulatory

- Record Plan Scanning and Data Management
- Operation and Maintenance Program Review
- CMOM Compliance
- Regulatory Management
- Code, Standard Drawings, Specification, and General Notes Support

Wastewater System Design Types

- Collection System Sewers
- Pump Stations and Force Mains
- Regulators
- Combined Sewer Separation and Inflow Redirection
- Rehabilitation and Renewal
- Green Infrastructure

Engineering & Detailed Design

- Construction Drawings, Specifications and Bid Documents Preparation
- Construction Technology, Value Engineering, and Constructability Reviews
- Regulatory Agency Review and Permitting
- Project Cost Estimates Preparation
- Financing Assistance Support

Construction Services

- Consultation During Construction
- Shop Drawing Review
- Resident Project Representation
- Contract Management and Funding Support



Shorts

Brown-Harris Cemetery Dedication

The historic Brown-Harris cemetery, in Dublin, Ohio, was officially dedicated on June 28. EMH&T provided archeological and environmental services in association with the City of Dublin, University Boulevard, Phase 2 project—uncovering a cemetery dating back to the 1850s.



EMH&T's work confirmed that the cemetery area includes at least 22 grave vaults. Due to its historic significance as a 19th-century, rural, African American burial site, it was determined to be eligible for inclusion on the National Register of Historic Places. EMH&T partnered with the City of Dublin and the Brown and Harris families to preserve and commemorate the site with a historical marker.



YWCA Playground Gives Kids a Place to Dream

EMH&T joined the Columbus Blue Jackets Foundation, civic leaders, and community partners for the grand opening of the YWCA Family Center's new playground and outdoor space in July. Every child, regardless of circumstance, deserves a safe and engaging place to play and dream. EMH&T is honored to have played a role in the design and

infrastructure work for such an important project. This remarkable refuge provides social justice, housing, youth development, and early childhood education.

For more information on all the resources the YWCA provides the central Ohio community, check out their website: <https://www.ywacacolumbus.org/housing/ywca-family-center>



Caesar Ford Campground Open for Fun

In June, EMH&T attended the grand opening of the Caesar Ford Campground in Greene County, Ohio. Caesar Ford is Greene County Parks & Trails first campground site boasting 12 Class-A, full hook-up, pull-through sites suitable for large RVs, fifth wheel campers, and truck/trailer combinations. Additional amenities include: combined shower house and restroom structure, large-event sized picnic shelter, informational

kiosk, dedicated parking, dump station, trail head connection to the Xenia-Jamestown multi-use trail, and connections to the over 10 miles of equestrian trails located throughout the Park. EMH&T performed the feasibility study that identified the incredible potential for the site, and then partnered with the Park District to provide landscape architecture and civil engineering design.



Vista Village Construction Underway

Vista Village officially broke ground October 23rd in Columbus, Ohio. This new community is a tiny home development serving the city's unhoused population with the goal of transitioning residents to skilled trades and long-term housing over the course of two years. Once completed the 15-acre community will contain 120 homes, a community center, and 2-acre park. EMH&T is proud to have partnered with such an impactful and innovative mission to serve our community.

Giving Back

EMH&T continues its commitment to give back to the communities where we live and work. The firm offers employees paid time off to participate in a wide variety of charitable efforts. Here's a look at how some of our staff have recently given back:



United Way of Central Ohio, NBC4, and Columbus Crew's Stuff the Backpack

EMH&T employees spent the morning stuffing backpacks with back-to-school supplies for students in Franklin, Union, and Licking counties. Celebrating its seventh year, Stuff the Backpack has provided over 200,000 students across central Ohio with basic school supplies.



Structured Giving

This past spring, EMH&T employees competed in Structured Giving to benefit the Mid-Ohio Food Collective. Structured Giving is a contest between department groups to see how creatively they can build structures using non-perishable food or personal need items. Structures created in 2024 included; the Paris Olympics, movie theatre, crayon box, and under the sea complete with a fish and turtle.

Mid-Ohio Food Collective representatives came to view the completed structures and thank EMH&T employees for donating over 5,300 items, and giving back to their local communities.



YWCA Columbus Family Center Volunteer Clean Up Day

EMH&T team members volunteered at the YWCA Columbus Family Center cleaning up the playground area, flower beds, and trash pick-up around the site.



Worthington Resource Pantry

Members of the Transportation Planning & Design and Transportation Partnerships divisions volunteered at the Worthington Resource Pantry unloading and stocking their monthly delivery received from the Mid-Ohio Food Collective.



Homeport

Members of the Traffic Division volunteered at Homeport assisting with their summer drive-thru produce fair. They set up tables, bagged up different produce items, and assisted with loading vehicles.



People In The News



A. Ibrahim Khail

PE Earned

Congratulations to EMH&T's newest Professional Engineer, Abdul Ibrahim Khail, PE. Abdul is a Structural Engineer in the Transportation Planning & Design Division. Abdul has 13 years of experience in his field and designs structural plans for retaining walls, rehabilitation for existing bridges, and replacement bridges.

Contact Us

Contact EMH&T today to schedule a visit at your office. You can reach us at **614.775.4500** or by email at info@emht.com.

You are also welcome to contact any of the experts identified at the end of each article in this issue of *Ingenium*.



D. Dosen

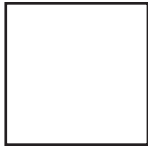
Employee Grant Program

EMH&T offers an Employee Grant Program where employees can apply to seek funding for an organization with which they are directly involved as a volunteer. Awards are considered through an application process and winners are chosen semiannually. The Spring 2024 award recipient was Dana Dosen for her volunteer efforts at the Mid-Ohio Market at the Bishop Griffin Resource Center.





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Tuesday, October 8 | 10:30 a.m. to Noon

Floodplain Management and Tunnels



Moderator: Robert Hoops, PE

Robert will moderate this session providing information on transportation hydraulics. The session will first discuss transportation floodplain compliance with ODNR & ODOT. Then, focus on how to both design and construct stormwater tunnels for use in highway applications. Speakers will walk through the risks associated with hydraulic modeling, tunnel sizing, and ground conditions, illustrating real world examples.

Tuesday, October 8 | 1:30 to 3 p.m.

Exploring the Finance and Development of Ohio's Urban Freeways: History and Case Studies



Moderator: Christy Pirkle, MS

Christy will moderate this session that will provide the history of Ohio's Freeways and their impact on the environment.