Volume 28, No. 1 | Spring 2019

PIPELINE

MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS
MANAGING MICHIGAN'S WATER RESOURCES SINCE 1899

WATER QUALITY GOES WITH THE FLOW

USING TECHNOLOGY FOR ASSET MANAGEMENT

2018 LEGISLATIVE UPDATE

FOIA AND RECENT OMA CASE LAW

THE HIAWATHA DRAIN IN OTTAWA COUNTY

2019 MACDC INNOVATION & EXCELLENCE AWARD WINNING PROJECT

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PRESIDENT'S MESSAGE

JOE BUSH
Ottawa County Water Resources Commissioner

Friends -

I am very honored and humbled to serve as your new President, representing the MACDC family. I want all my fellow drain commissioners and partners to know that for me, being President means serving as a voice for our organization. I do not take this position lightly and want all of you to know that I will work diligently to have our voices heard, whether that is with the Drain Code or educating the public on any water related issues.

When I strike up conversations with the public it is surprising how many times I get asked, "So, what does a drain commissioner even do?" This serves as a good reminder that we need to keep educating the public on what our job entails.

As I focus on 'who we are', there are several aspects to highlight that I would like to share with the MACDC family.

I believe there are times the public may forget we are regular people just like them; we attend our children's soccer games, run errands, and get together with family and friends. There are certainly times constituents become agitated and upset about an assessment or flooding issue they are experiencing, and it takes some reassurance to help them understand we are human and trying our best to assist in their problem/situation. If you can focus on your job and do it well (but do not forget your priorities of family, especially when the workload is very heavy in this position) you will succeed. Make sure to take care of yourself and surround yourself with people/staff who make you the best in the position you have been elected to serve.

Drain/Water Resources Commissioners play a vital role in moving Michigan forward. I believe we can do this by creating relationships with the public and working with our legislators, staff, and the numerous contractors and other companies. Although each Drain/Water Resources Commissioner's county may look very different in terms of the workload, it is imperative that we continue to work to improve our communication, collaboration, and consolidation with our fellow commissioners and partners. Whether or not you have been a commissioner for four years or 20 years, I want to challenge each of you to work together and to seek advice on current and future projects. The talent amongst our Drain/Water Resources Commissioners is second to none. At times, we may forget that we are only a phone call away to brainstorm or seek guidance on a particular project. Keeping the lines of communication open and seeking that collaboration between our MACDC family is important to moving Michigan forward in the years ahead.

I look forward to connecting again at Summer Conference at Shanty Creek in July. It will again be a time of collaboration and networking to broaden best practices on the projects and ventures that we seek to improve our counties with. As the Program Committee begins to look at the topics that will be offered, I thank you for the extra time and effort to help make our conference beneficial to the attendees.

Again, I humbly thank you for the honor to represent the MACDC family as President. Please reach out and contact me if I can ever be of assistance to you. It is our job to make sure that everyone is aware of 'who we are' because we have been elected to share our voice and have been given the unique role of preserving everything 'water' in our beautiful state.

In Partnership,

Joe

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2019 MACDC INNOVATION & EXCELLENCE AWARDS

Hiawatha Drain Project Team

HIAWATHA DRAIN

The Hiawatha Drain in Ottawa County is a new three-mile-long drain. Over two miles were designed as a habitat corridor swale through Ottawa County Parks open space property. A balanced design used the fluctuating water table and sandy soils for increased infiltration and groundwater recharge. Two unique storage areas were created. One was designed as a Coastal Plain Marsh, which is a declining habitat wetland community containing plant disjuncts from the Atlantic and Gulf coastal plains. The other storage area was designed as a vernal pond. Vernal ponds are ephemeral pools that hold water mostly in spring or autumn, but dry out seasonally. They provide critical habitat for many species that rely on water level fluctuations and the absence of fish populations. The project will provide flood relief and improve breeding, nesting, and foraging opportunities for several rare and declining species (plants, amphibians, and reptiles).

PROJECT TEAM:

Joe Bush, Ottawa County Water Resources Commissioner
Engineer: Prein&Newhof; Ottawa County Parks
Contributing Companies: Advanced Drainage Systems, Inc.; Hanes Geo Components

Honorable Mention

CUDDY INTERCOUNTY DRAIN

Established in 1915, the Cuddy Intercounty Drain (Cuddy) is a tributary to Gun Lake located in Allegan and Barry Counties. Since its original construction, the Cuddy has undergone an evolutionary process of channel degradation (down-cutting) and lateral expansion (bank erosion) within Allegan County, causing the failure of several county road and private culverts and sending thousands of cubic yards of sediment downstream into Gun Lake. Petitions were filed by both Yankee Springs and Wayland Townships and the Board made it a priority to work with the local community. Several informative public meetings were held to solicit input and allow residents to play an active role in the decision-making process. A stakeholder group known as the “Friends of the Cuddy Drain” was established by local property owners, Deb Masselink and Greg Purcell, to help formulate public sentiment and take a lead role in activities such as E. Coli monitoring and the organization of neighborhood meetings.

The project team developed a holistic, sustainable solution to upgrade failing infrastructure, construct a stable channel geometry, reduce the sediment load, limit debris and improve water quality. Culverts were sized to span the bankfull width and provide a natural channel bottom for fish passage. Principles of natural channel design were incorporated into the Allegan County portion of the Cuddy to develop a stable dimension, pattern and profile. The use of toe wood revetments provided a more natural and cost-effective method to stabilize channel banks. Elements such as rock riffles were incorporated into the design to provide grade control, aerate the water, and create habitat for aquatic life. In addition,

LIGHTHOUSE CREEK DRAIN

Lighthouse Creek Drain Project Team

A major storm event hit the City of New Buffalo following Hurricane Ike in September 2008 and caused major flooding and damage throughout the City, including the City's Drinking Water Treatment Plant. The project team developed solutions to several areas of concern including a constriction of the culvert at Water Street which was identified as the main cause of the flooding. The culvert was removed and replaced with a new concrete box culvert, and riprap was installed along a pristine wetland located upstream of the culvert, which now provides valuable flood storage. Nearly 850 tons of boulders were installed near the mouth of the drain where Lake Michigan had caused major erosion, and a new decorative-stone stairway was installed to allow safe access to the beach for homeowners. An earthen berm was built at the treatment plant to protect against any future rain events. The project was successfully completed in the Summer of 2018.

PROJECT TEAM:

Christopher J. Quattrin, Berrien County Drain Commissioner
Engineer: Spicer Group, Inc.
Contractor: Selge Construction Co.
Contributing Companies: Fahey Schultz Burzych Rhodes, PLC; GEI Consultants

the historic sediment basin between Patterson Road and First Street was reconstructed to capture sediment and debris prior to depositing in the navigable channel. To put it in the words of local resident, Deb Masselink, "The end product is a beautiful, navigable channel that is clean and safe from debris, stable from erosion – and the upstream drain is actually a very lovely place to see!"

Cuddy Intercounty Drain Project Team

PROJECT TEAM:

Brady Harrington, P.E., Michigan Dept. of Agriculture and Rural Development
Denise Medemar, Allegan County Drain Commissioner
Jim Dull, Barry County Drain Commissioner
Engineer: Land & Resource Engineering (LRE)
Contractor: Gro America
Contributing Companies: Streamside Ecological Services, SME, "Friends of the Cuddy"

WATER QUALITY GOES WITH THE FLOW

Using Technology for Asset Management

By Harry Sheehan and Evan Pratt, P.E.

OVERVIEW

We ask our creeks to do a lot of work, particularly in towns with separate storm sewers. Walk along the bank and you'll see outfalls popping out at uninvited intervals. The express route from street, to pipe, to stream, yields erosive flows, and what one grade-schooler dubbed "hydrofilth."

Combined systems have their own disadvantages, to be sure! But until recently, even separate storm networks weren't designed with water quality in mind. What if we could change that?

We all look for ways to manage existing assets more effectively rather than chasing funding for expensive retrofits. Well, about 3 years ago University of Michigan School of Engineering's Dr. Branko Kerkez came to Washtenaw County with an idea. What if the watershed was the treatment system? It sounded crazy, and our first reaction was that we couldn't possibly gain any benefit from the existing system – many older areas hadn't even been designed to handle even the current '10-year storm'.

However, we had previously looked at some of our nine regional storage basins in urbanized areas, and had a hunch (backed by rough calculations) that there was room for more storage in a few of them. There wasn't really a downside to using our system as a proof-of-concept lab. Besides, Dr. Kerkez brought specialization in data collection and analysis, along with critical funding. We later found out that his funding from the National Science Foundation focused on having more academic work performed in partnership with local agencies to address known or anticipated problems.

Through an iterative process using remote sensing and controls, Dr. Kerkez and Washtenaw County have been testing inexpensive sensors and variable controls to treat stormwater within existing flood control impoundments. The goal is to manipulate discharges and timing to minimize downstream peak flows, extend detention times and affect sedimentation and nutrient transport.

MARY BETH DOYLE PARK CASE STUDY SUMMARY

We chose Malletts Creek, partly because we had a long range plan created about 25 years ago with over 20 recommendations for improvements. We knew something about this watershed because we had completed about 2/3 of the intended improvements and had recently seen some positive results from

Figure 1: Malletts Creek branches in southern Ann Arbor. Ellsworth Pond in the lower center, Doyle Park treatment wetlands in the upper right.

annual long-term macroinvertebrate surveys. Things were better but still impaired.

The creek drains close to 11 (urbanized) square miles, some 40% of Ann Arbor, with land cover similar to that shown in Figure 1. This had been a very impaired waterway and we could see that investments were finally paying off – but could we now optimize some of those investments?

An existing upstream weir was modified at Ellsworth Basin in Ann Arbor, Michigan. By installing a variable control, we were able to borrow extended detention downstream at (Mary Beth) Doyle Park. Adjusting detention timing in this one branch of Malletts Creek created capacity for 5,000,000 gallons (about 15.3 acre-feet) at Doyle Park – a basin that otherwise would be in a state of overflow. More importantly, relative to the impairment, we found that we were managing an additional 33% of Phosphorous (P) – this is based on field autosampling during storm events, not calculated. Previously the pond was designed to remove 600 lbs of P annually (calculated), and we are now able to remove another 200 lbs.

The way the existing treatment wetland at Doyle Park works is the "U" shape in the upper right of Figure 1 handles low flows while at high flow, the entire 7 acre area within the pathway that rings the "U" is inundated. Doyle Park receives the upper 2/3 of the watershed, so we aren't treating the entire drainage area. So to put things into perspective, we took a treatment wetland sized to treat a 0.3" storm and gave it the ability to treat a 0.5" storm, about the 85th percentile storm in our area.

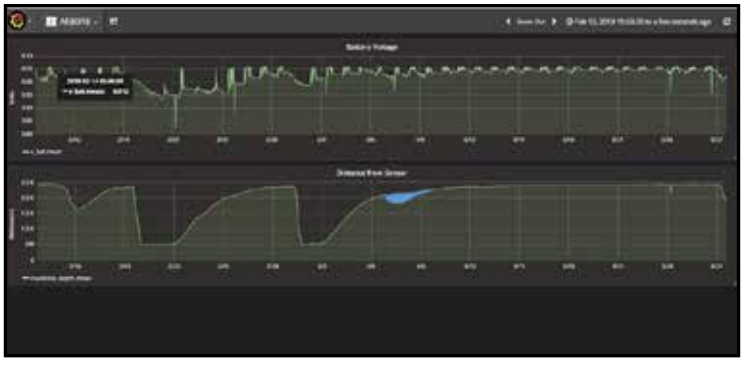


Figure 2: Blue shading shows additional volume capture at Doyle Park.

This exercise was done for about $25,000, and only after checking the upstream hydraulics to confirm no impacts from increasing storage height and frequency. For comparison, the original cost to construct Doyle Park regional detention 11 years ago was about $1.60 per cubic foot, adjusted for construction inflation to nearly $2 per foot. We increased capacity by about 33% at a cost of $0.05 per cubic foot.

Through an earlier retrofit (after our first forebay cleaning!) Doyle Park has a sediment removal area that can be accessed more frequently, giving us a way to improve conditions in a watershed that still has Total Maximum Daily Load limits (TMDLs) for both P and biota, with secondary targets for total suspended solids. And to put our improved pollutant removal efficiency into perspective, this same $25,000 for 200 pounds of P removal works out to about $125 per pound annually, compared to the initial Doyle Park costs of about $2,500 per pound removed.

Wow!! These retrofits were giving us orders of magnitude of benefits with unit costs two orders of magnitude better than new construction. Plus we had no disruption to any residents or businesses during the minor retrofit of an existing control structure – all work was done by hand within existing easements!! It seemed too good to be true.

CAN WE REPEAT THE OUTCOMES AT ANOTHER LOCATION?

We've since ramped up our process to seek more ways to re-configure our existing assets – our costs of building new are just astronomical, especially on the unit cost basis, not to mention the raw costs that get you the stinkeye at a Council or Board meeting!! Think of it like having a car that is near the end of its life, but realizing you really need a van to fit the whole family as well as haul an occasional sheet of plywood. It's great to keep something running for its whole planned useful life, but what if things have changed and that make and model just isn't what you need anymore? In fact, maybe we started shopping a little later than we should have, because our new 'vehicle' does more of the things we need it to do. Subsequent to

the retrofits described above, water quality at the creek outlet improved even more.

This is one example in an 11 square mile watershed. We've expanded controls to another downstream basin, where students initially demonstrated their ability to control the hydrograph by drawing an M for Michigan. It's an example of Michigan successfully running a play, just not on the football field. This was verified at the USGS gauge at the outlet of Malletts Creek, the same location where we were seeing greater diversity of sensitive macroinvertebrate species in annual sampling.

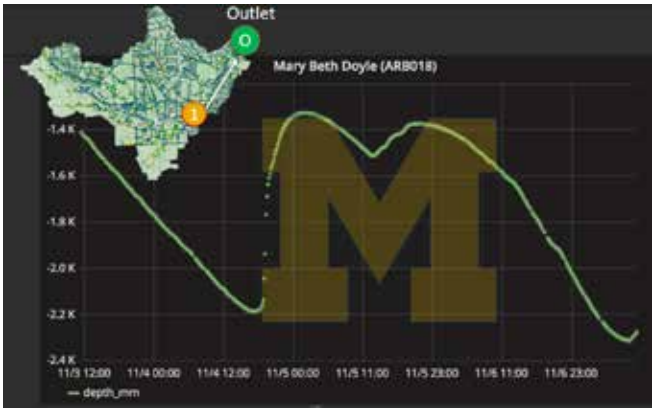


Figure 3: Hydrograph intentionally manipulated by algorithm and remote sensing/controls to produce a specific shape

WHAT ELSE DID WE LEARN OR SEE DIFFERENTLY?

Why is a seemingly flippant manipulation of creek flow important? Because it suggests that with the right algorithm we can manipulate multiple basins to produce a desired hydrograph – perhaps one that has a goal of keeping peak flows below erosive velocities for 90% of rain events in our improving but still impaired Malletts Creek. Whoa! We have hundreds of private detention basins draining into this creek, and we suspect that the theory of delaying discharge in all of them with the same formula is actually resulting in marginal improvement – we may be tamping down the peak response in the creek, but we may be extending the duration of highly

erosive velocities to 4, 5, or 10 times as long. Not good, but stay tuned for future reports on cost-benefit for this follow-up initiative.

We also know that some basins are mowed to the bottom year round, suggesting they may not be functioning as designed or may offer infiltration possibilities. We have just embarked on a project to further study these effects – especially the actual cumulative impact or benefit of multiple basins. We want to see if retrofitting inexpensive sensors and controls ($500-$1,000, home-built) on certain private basins might get a similar bang for the buck. If you're skeptical, we suggest you take a drive around your community and take a look at 10-20 random detention basins. Or take a look at an aerial image.

Then consider whether you would agree that the travel time for a majority of the basins is probably similar enough that the extended hydrographs have a cumulative peaking effect as suggested above.

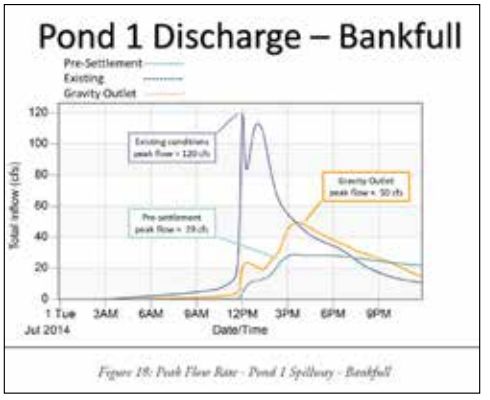
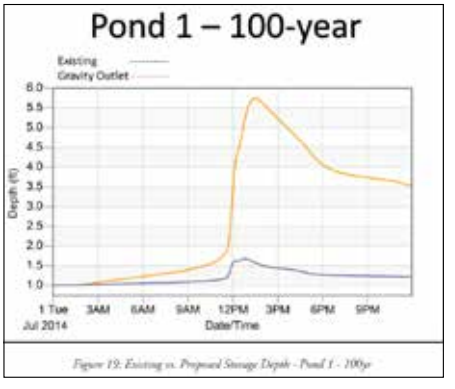


Figure 4A & 4B: Improved hydrograph modelled at Briarwood Malls



NOW WE'RE ON A ROLL, CASE STUDY #3?

And to continue our work of retrofitting larger basins, we have plans to add an upstream location at Briarwood Mall (center left on Figure 1, with 3 of 5 sequential ponds visible). Briarwood is home of the largest surface parking lot in Ann Arbor. We did a little more upfront technical work for Briarwood since we currently have jurisdiction over the creek but not the ponds – before approaching the Owner, we needed to find out whether it was worth taking over responsibility for pond maintenance. At press time, we don't have a deal, but our analysis shows we can reduce peak flows by 60% during the channel-forming 2-year storm and by 25% in the 100 yr. event – in this case, even with static control, reducing the unit cost of maintenance.

CONCLUSIONS OF CASE STUDY #3

In summary, we know we will capture additional sediment by treating smaller storms, which suggests we need to budget for more frequent sediment removal from a new forebay. We know that having the forebay will make access and removal easier so this will also drive down the unit cost to remove the sediment during future maintenance. Further, based on our prior work we know we will capture substantially more pollutant load at a small incremental capital cost, driving down the cost per pound of pollutant removal.

So similar to the Doyle Park example, this will be much less expensive than new pond construction while being more effective and efficient. Having creeks as part of an urban stormwater system has many advantages: free capacity, service life, access, ease of monitoring and maintenance. However, water quality is one of many issues that factor in to the equation. It's important to realize that your creeks are assets that provide service at a defined level, and carry cost and financial consequence if not maintained well and protected from failure.

Real time controls allow us to stabilize channels, reduce sedimentation and associated phosphorus, and protect aquatic species.

Nature has provided a free resource. It's up to us to use it wisely.

Harry Sheehan is the Chief Deputy Drain Commissioner for Washtenaw County.

Evan Pratt, P.E., is the Water Resources Commissioner for Washtenaw County.

Harry Sheehan and Evan Pratt, P.E. can be reached at 734 222-6860, or at SheehanH@Washtenaw.org and PrattE@Washtenaw.org respectively

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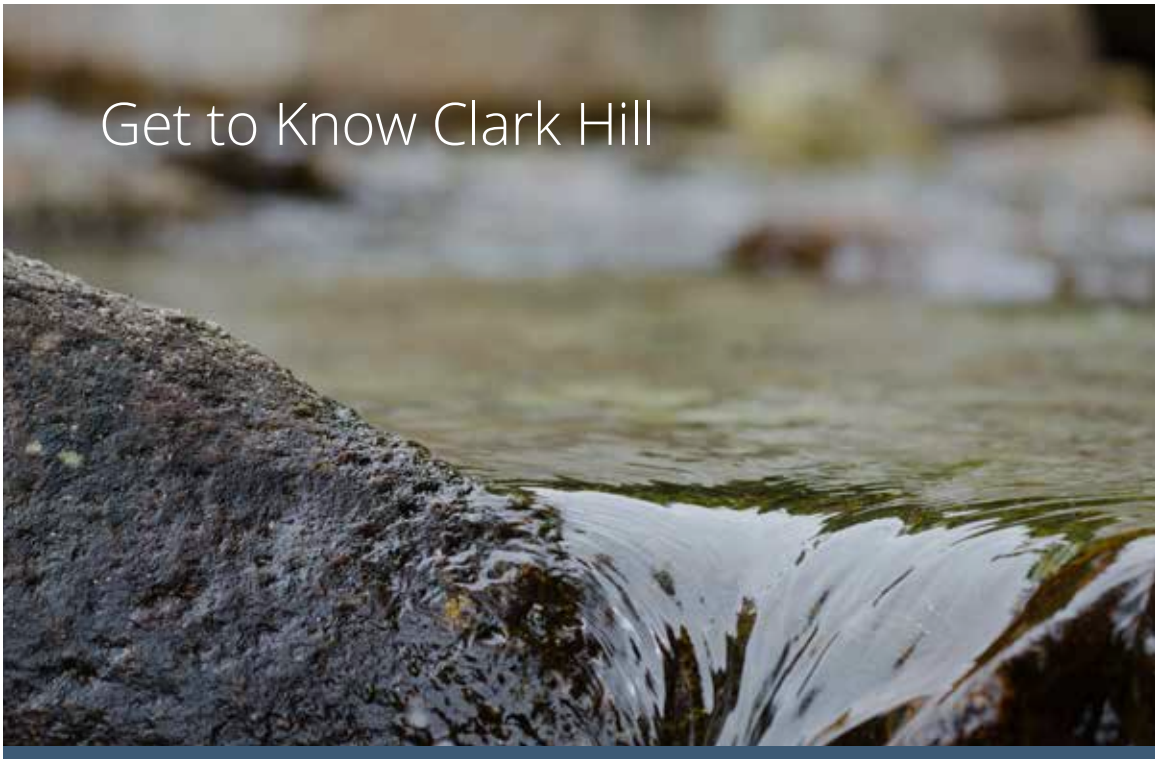

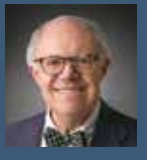

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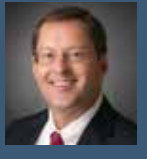

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CLARK HILL

GETTING DOWN AND DIRTY: Dollars for GSI Maintenance

By Catie Wytychak & Jennifer Lawson, C.S.M

Photo by Linda Prieskorn

Green stormwater infrastructure (GSI) has become a popular stormwater management tool, but many municipalities have found that they are creating a new challenge by installing rain gardens, bio-swales, a variety of wetlands, and bio-retention basins: maintenance. How do we maintain these new areas? And how much does it cost?

A natural reaction to GSI is to be concerned about maintenance and costs. One might first ask if your community is already or should be investing in water quality. If water quality improvement is a goal, these spaces are often the most effective and cost-effective way to address the #1 source of pollutant loading – our road drainage systems. Studies since the 1970s have documented the loading per curb mile of a wide range of pollutants, including lead, mercury, cadmium, manganese, phosphorous, zinc, copper, and many more toxins. These considerations may help you move to thinking value versus cost.

Since 2015, the City of Ann Arbor has funded a project within the Water Resources Commissioner's Office to create and implement a maintenance plan. Over three years, maintenance needs and cost estimates have been developed for GSI assets. GSI maintenance spending in 2018 was $104,000, and while not yet approved for 2019, the sum of individual plans would total $147,000 in maintenance. Altogether there are 124 individual assets at 48 sites, with most installed in the past decade. In comparison, vactor and street sweeping costs have been typically budgeted at close to $1,800,000 annually.

GSI is proven to be much more effective (100% per the Center for Watershed Protection) at pollutant removal. Remembering that our goal here is to optimize the cost of addressing pollutant load per unit of pavement, we are working on Key Performance Indicators (KPI's) related to cost per unit area and mass for street sweeping vs GSI. In addition, through this process of reviewing and standardizing maintenance, design techniques have also been identified to reduce maintenance expenses while maximizing pollutant capture.

Note that the total acres for each site decreases from the first to the last site, but the total price per square foot increases significantly. And although there are a total of 30 public GSI acres, 45% of the total budget is spent on just 2 acres. Those 2 acres are

made up of 26 individual sites that are less than 10,000 square feet but often are in highly visible locations. So on a unit cost basis, smaller GSI sites are more expensive to maintain, although we have learned that clustering small sites together helps offset costs. Data averaged from 48 sites show that the average cost per square foot varies widely, from $23 to $10,000 per acre. Detailed data can be found on the www.washtenaw.org/drains website.

SITE	MAINTENANCE NEEDS	COMPLETED BY	TIMELINE	COST/ YEAR	TOTAL/100 SQUARE FEET
Mary Beth Doyle Mitigated Wetland & Detention Basin 7.5 acres or 326,700 square feet Level of Service: Medium	Controlled burns	Contractor	1 every 3 years	$317	$0.54
	Invasive control	Contractor	2 visits per year	$620	
	General maintenance & monitoring	Staff & volunteers	61 hours per year	$825	
			total	**$1,762**	
Stone School Road Rain Gardens 1.35 acres or 58,806 square feet Level of Service: High	Controlled burns	Contractor	1 every 3 years	$150	$15
	Invasive control	Contractor	5 visits per year	$7,000	
	Sediment removal	Staff	1 every 5 years	$1,000	
	General maintenance & monitoring	Staff & volunteers	26 hours per year	$500	
			total	**$8,650**	
Kingsley & 1st Rain Garden 0.05 acres or 2,178 square feet Level of Service: High	Controlled burns	Contractor	1 every 3 years	$216	$28
	General maintenance & monitoring	Volunteers	58 hours per year	$0	
	General maintenance & monitoring	Staff	4 visits per year	$400	
			total	**$616**	

City of Ann Arbor example maintenance plans and costs

LEVELS OF CARE

To prioritize maintenance, the public rain gardens in the City of Ann Arbor are categorized into levels of service based on aesthetics. High Aesthetic sites receive the highest level of care and have the goal to look formal and tidy. These gardens are kept weed free, dead headed in the late fall and trimmed throughout the year. Often these sites are found in road right-of-ways or by park entrances.

Medium Aesthetic sites have the invasive plants removed and the edges trimmed but common lawn weeds are not managed. These sites are often in parks and have a distinct edge that distinguishes them from the surrounding landscape.

Low Aesthetic sites receive the least amount of care and are allowed to look informal. Invasive plants are removed from these sites but no pruning or trimming work is done. Often, these sites are adjacent to natural areas and blend in with the surrounding prairies or woodlands.

DESIGN TECHNIQUES

Design techniques can be used to reduce the maintenance needs. First, sizing green infrastructure appropriately is important. The main factors determining the cost of a site are size and level of care. In comparing the rain gardens at Stone School Road and Kingsley and 1st, both sites have a high level of service but the annual cost to maintain Stone School is much higher because of the size. Smaller sites can afford to have higher levels of service but as the size increases, it is important to consider during the design process that costs can become prohibitive if a high level of service is expected.

Second, the type of plants and their placement has an impact on the amount of maintenance required. Some plants are needier than others. For example Switchgrass, Panicum virgatum, needs to be cut back every 2-3 years or it will shade out its own new sprouts. Controlled burns in established rain gardens will encourage native growth, reduce some invasive plants and remove the standing dead stalks – like that of Switchgrass.

Tall plants like Rose Mallow, Hibiscus moscheutus and Asters, Asteraceae sp, can cause visibility issues along roadsides and begin to crowd pathways. These plants must be trimmed frequently. It is recommended to plant wide swaths of short plants like Wild Strawberry, Fragaria Virginiana, Common Cinquefoil, Potentilla Simplex, and Sedges,

Controlled burn in the City of Ann Arbor - Miller Ave raingarden

Carex sp., as a border to reduce the need to trim along pathways and roads. These plants are appropriate for the Great Lakes Region. In general, hardy, deep rooted, drought tolerant, short plants that match the sunlight and soil requirements for the site are recommended.

Third, simple planting designs make it easier for novices to care for GSI. The six public rain gardens along Madison Street in Ann Arbor have just two species of plants, a Blue Flag Iris and either Canada Anemone, Purple Coneflower or Autumn Joy Sedum. This makes for a dramatic sweep of color when the plants are in bloom and an easy site for volunteers to maintain.

Finally, an assortment of designs for storm inlets along roads and parking lots have been designed to convey water into the green infrastructure asset with varying levels of success. See the table below showing examples and the pros and cons of the various methods.

City of Ann Arbor - Madison Ave neighborhood planting workday. Photo by Linda Prieskorn

Concrete splash pad
MILLER AVE RAIN GARDENS

PROS:
- sediment accumulates in one place

CONS:
- can be dangerous to clean out along roadsides so is no longer a volunteer job in Ann Arbor

- Must be cleaned out 2 times per year

Stone Channel
ZAMBONI RAIN GARDEN

PROS:
- slows stormwater water as it enters garden so effective for sites with high velocity flows
- simple and safe way to clean so is completed by volunteers in Ann Arbor

CONS:
- time consuming to clean out because all rocks must be moved out to clear out sediment

- must be cleaned out annually

Drop Chamber
STONE SCHOOL ROAD

PROS:
- maintenance is needed once every 5 years

CONS:
- sediment must be removed with a vactor truck which is costly

- while sediment is being removed from roadside sites, traffic control is necessary and permits from the local municipality must be pulled

City of Ann Arbor – pros/cons of different sediment trap design options

LESSONS LEARNED

Since GSI is often located in areas with shared jurisdiction, it is important to develop a multi-pronged approach to maintenance. In the case of Ann Arbor, City Parks and Recreation staff, Washtenaw County Water Resources staff, volunteers and contractors all play a role in maintenance. Over three years, appropriate roles have been identified for each player. For example, individual volunteers work in small rain gardens because they are simple and pleasant to care for. Parks and Recreation staff help herbicide, conduct controlled burns and organize workdays on GSI in parks. Contract work is typically reserved for non-park locations that are too large in size for volunteers. It is important to be fiscally prepared to hire a contractor and not rely solely on volunteers.

Volunteers play a key role in the maintenance of GSI in Ann Arbor. With over 40 volunteer stewards who have adopted individual sites and approximately 30 group volunteer workdays, nearly 2,000 volunteer hours were logged in 2018. This work not only helps remove weeds, and prune and plant new plants, but also allows volunteers to serve as ambassadors in the community. Volunteers spread their knowledge and excitement about GSI to friends, family and people passing by the gardens.

CONCLUSION

In most urban areas, municipal ROW is on the order of 15% of the drainage land area but has little or no stormwater treatment or retention. As a result scientists estimate (Schuler, et al.) around 50% of the stormwater and thus pollutant load for the community is from municipal ROW. So maintenance needs in GSI should be appropriately budgeted for these assets to continue to function and be accepted by the public. Design techniques can be adjusted to allow for simplified maintenance and to create opportunities for volunteer involvement.

Catie Wytychak is the Water Quality Specialist in the Washtenaw County Water Resources Commissioner's Office.

Jennifer Lawson, C.S.M, is the Water Quality Manager of the City of Ann Arbor.

2018 LEGISLATIVE UPDATES

FOIA and Recent OMA Case Law

By Cole Hedrick, Fahey Schultz Burzych Rhodes PLC

Drain commissioners, drainage boards, and drainage districts are each subject to both the Michigan Freedom of Information Act ("FOIA") and the Open Meetings Act ("OMA"). The purpose of both statutes is to promote governmental transparency and openness. In other words, both statutes attempt to keep the public informed on what public entities are up to. However, both statutes have many nuances. These nuances make compliance difficult and lead to many issues and questions. This article discusses changes to the FOIA made in 2018's lame duck legislative session and a recent OMA court decision that requires public entities to specifically name litigation before going into closed session.

LAME DUCK FOIA AMENDMENTS HELP PUBLIC ENTITIES MANAGE REQUESTS

The Governor signed Public Act 523 of 2018 into law on December 28, 2018. This bill amended the FOIA in two ways. First, the FOIA now requires FOIA requestors to provide public entities with basic contact information.[1] [1]Second, public entities can now deem FOIA requests "abandoned" under certain circumstances.[2] These changes were made in response to a widespread FOIA request from September 2018. The request asked municipalities throughout Michigan to provide "United Impact Group LLC" with copies of all their voted ballots from the 2016 Presidential Election. The requestor signed the request under the pseudonym "Emily," and requested the municipalities to send the election materials to a P.O. Box in New York City.

To prevent future anonymous FOIA requests, the legislature amended the FOIA to require basic contact information. Namely, FOIA requestors must provide their: (1) complete name; (2) address written in compliance with United States Postal Service standards; and (3) a telephone number or e-mail address.[3] Corporations and other entities requesting information must provide contact information for one of their agents.[4] Should your organization receive a FOIA request without basic contact information, your organization can deny the request. However, most legitimate FOIA requestors will end up providing this basic contact information when asked.

The second change to the FOIA allows public entities to deem requests abandoned under certain circumstances.[5] Once a requestor abandons a FOIA request, a public entity no longer needs to fulfill the request or retain any of the requested public documents.[6] However, the FOIA amendments only allow public entities to deem requests abandoned if a requestor does not submit a good-faith deposit within 48 days of a public entity's request for a good-faith deposit.[7] As a reminder, public entities can require a FOIA requestor to submit 50% of the costs to fulfill a FOIA request before processing that request when the estimated costs of fulfilling the request exceed $50.00.[8]

Public entities should now cite MCL 15.234(14)'s abandonment language in letters requesting a good-faith deposit. Citing the abandonment language in a good-faith deposit letter begins the 48-day abandonment timeline. Should a FOIA requestor not provide your organization with a good-faith deposit within 48 days from a request for a good-faith deposit, it can consider the FOIA request abandoned and stop retaining public records responsive to the request.

Due to the amendments to the FOIA, drain commissioners should update any "form" FOIA responses and documents, to note that FOIA requests must contain basic contact information and that FOIA requests can be deemed abandoned under MCL 15.234(14).

1. MCL 15.233(1).
2.MCL 15.234(14).
3. MCL 15.233(1).
4. MCL 15.233(1).
5. MCL 15.234(14).
6. Id.
7. Id.
8. MCL 15.234(8).

PUBLIC ENTITIES MUST NAME CASE NAMES TO GO INTO CLOSED SESSION FOR LITIGATION UNDER OMA

Drainage boards need to be aware how they can discuss confidential aspects of litigation during meetings without violating the Open Meetings Act ("OMA").[9] Violations of OMA have stiff penalties. Public officials who intentionally violate OMA are criminally liable for a misdemeanor punishable by a fine of not more than $1,000 for first time offenses and are also civilly liable for actual and exemplary damages of not more than $500 plus court costs and attorney fees.[10]

Generally, the Open Meetings Act requires public entities to discuss all policy matters in an open meeting accessible to the public. However, OMA specifies some exceptions to that general principle.[11] For example, public entities can go into a closed session, which is inaccessible by the public, to consult with legal counsel regarding a trial or settlement strategy in connection with specific pending litigation.[12] Prior to the Michigan Court of Appeals July 2018 decision in Vermilya, it was unclear whether a public entity needed to provide the public with the name of the litigation under OMA.

In Vermilya, a community college board attempted to go into in closed session by simply saying they were going to discuss "specific pending litigation" without naming the litigation they planned to discuss.[13] The Michigan Court of Appeals held in Vermilya that OMA's litigation exception requires public entities to name the pending litigation to go into closed session.[14] Three principles supported the court's holding. First, OMA is a pro-transparency statute and courts will interpret its provisions broadly to keep most policy discussions public.[15] Second,

9. MCL 15.261 et seq.
10. MCL 15.272.
11. MCL 15.268 et seq.
12. MCK 15.268(e).
13. Vermilya v. Delta College Board of Trustees, --- NW2d --- (2018), 2018 WL 3635297.
14. Id.
15. See generally, Booth Newspapers, Inc v. University of Michigan Board of Regents, 444 Mich 211, 223; 507 NW2d 422 (1993).

the Attorney General's OMA Handbook suggested that public entities name litigation they discuss in closed session.[16] Third, and most importantly, courts interpret statutes harmoniously.[17] Harmoniously means courts will not interpret parts of laws in isolation.[18] By reading all of the provisions of OMA together, the Court of Appeals determined that the litigation exception's reference to "specific" pending litigation requires public bodies to name litigation and not just state "specific pending litigation."[19]

When a drainage board needs to go into closed session to discuss litigation it is imperative that it names the litigation the board plans to discuss to avoid OMA's penalties. Naming litigation is as simple as stating "X plans to go into closed session to discuss the lawsuit name litigation." There is no requirement for public entities to name the particular aspect of a case they plan to discuss such as a motion to dismiss. If a drainage board plans to discuss more than one case, it needs to name each case. Even if there are no members of the public at a meeting, it is still necessary to follow this OMA requirement for purposes of drafting meeting minutes.

To conclude, when your drainage board goes into closed session to discuss a case, it must name the case. The Attorney General's Office publishes a handbook addressing regular OMA questions.[20] However, if you have a question regarding OMA, you should contact legal counsel to prevent any potential OMA violations.

Cole Hedrick is an Associate at Fahey Schultz Burzych Rhodes PLC.

*16. Vermilya at *3.*
*17. Id. at *1.*
18. Id.
*19. Id. at *4.*
20. Open Meetings Act Handbook, https://www.michigan.gov/documents/ag/OMA_handbook_287134_7.pdf.

THE HIAWATHA DRAIN IN OTTAWA COUNTY

2019 MACDC INNOVATION AND EXCELLENCE AWARD WINNER

By Joe Bush & Dana R. Burd, P.E.

Ottawa County is one of the fastest growing areas in the state. Development pressure is increasing in this highly-sought-after area of the lakeshore due to the proximity to jobs, Lake Michigan, and beautiful public spaces. The Hiawatha Drain was built to provide an artery for overland conveyance through an area, where seasonally fluctuating water tables and a prior lack of drainage have historically resulted in flooding. Three miles of new drain were constructed over a two square mile area. At the heart of the district lies the Hiawatha Forest, a 365 acre public open space property. This property presented an opportunity to build something different that will have lasting rewards for the community far beyond the district boundary.

Ottawa County Water Resources Commissioner, Joe Bush, recognized the opportunity for collaboration early on. As a member of the County Parks Commission he knew this project could be special. Ottawa County had a long-term plan to transition this property away from an old red pine plantation to a more native oak savanna community, and the county had just received a Coastal Zone Management Grant to conduct a Natural Features Inventory of its parks. The impeccable timing of this grant brought a talented

group of botanists, biologists, and a herpetologist to the project. This team set a baseline for the property and suggested ways to further improve habitat and other unique features.

Prein&Newhof had the challenge of building habitat into the design of the drain while balancing flood management. Ultimately, a two mile habitat corridor was built within the open space property. The balanced design used the fluctuating water table and sandy soils for increased infiltration and groundwater recharge. Two distinctive areas were created to act as storage and habitat: a coastal plain marsh and a vernal pond.

Existing pocket marsh discovered during CZM inventory.

COASTAL PLAIN MARSH

A coastal plain marsh is a wetland community that thrives in depressions in sandy areas and contains plants normally found in the Atlantic and Gulf coastal

The coastal plain marsh area relied entirely upon the native seedbank to become established.

plains. They are hydrologically sensitive because their seedbank relies on fluctuating water table conditions to survive. Seeds can be dormant for several years at a time until they germinate. Fluctuating water tables also prevent competition from woody plants.

A coastal plain marsh area was constructed to further enhance the nearby ecosystems by providing storage and groundwater recharge. The new area was built to mimic pocket marshes discovered during the grant where local biologist, Bill Martinus, had confirmed the presence of uncommon plant life. Excavations were kept shallow to find the right hydrologic conditions for the native seedbank to flourish and develop into the unique plants found elsewhere in the Hiawatha Forest. The seasonally inundated areas provide breeding habitat for amphibians.

VERNAL POND

A second storage area was designed as a vernal pond, or ephemeral pool that holds water mostly

Vernal Pond Area at Low Water (above) and at High Water (below)

Habitat corridor swale

in spring or autumn, but dries out during summer months. Pond depths fluctuate given the time of year. This creates a variety of depth zones and critical habitat for many species that rely on water level fluctuations, and the absence of fish populations, from their egg-to-adult stages. Pond slopes were kept shallow and uneven to encourage access, and bare sand areas were provided for nesting. Water levels were monitored for 18 months during design. The well study helped strike the right balance between the hydraulic design and ecological objectives. The wet and dry zones accommodate storm event storage and support a variety of species.

HABITAT CORRIDOR SWALES

The project swales were designed to maximize infiltration during times of low water and provide overland conveyance during seasonally high water periods. The water table drops dramatically as the drain moves closer to Lake Michigan. The design allows runoff to flow through grassed bio-swales built with deep-rooted native seed mixes. The native grasses promote infiltration and ground water recharge upstream of the outlet to Little Pigeon Creek, a designated trout stream that runs through the Palomita Nature Reserve managed by the Land Conservancy of West Michigan.

Blanding's Turtle

Fowler's Toad

Additional habitat features are spread throughout the project to improve breeding, nesting, and foraging opportunities. Three hibernacula were constructed, which in Latin means “tent for winter quarters.” These structures, along with brush piles, rock piles, cover logs, and root wads, provide shelter along the swale. Leading state herpetologist, David Mifsud, provided valuable information to Prein&Newhof to develop the corridor for the entire life-cycle needs of target species such as the Fowler’s Toad and Blanding’s Turtle.

REUSE

From the beginning, the project partners adopted a “less is more” philosophy, which fostered unconventional thinking and generated cost savings ideas during design and construction. A key question was, “How do we kick-start mother nature after disturbing an area, without doing too much?”

A project goal was to reuse all topsoil and manage spoils in place along the project corridor. Keeping the footprint small saved cost and minimized disturbance. The contractor stockpiled materials in locations where wood chips and sand could be easily reused and sold as commodities to area blueberry farmers and residential homebuilders. Camp Geneva, a local summer camp and retreat center, also used some of the materials. The selected drain route converted cleared red pine rows into prairie openings for wildlife. Many of the trees and stumps were used as habitat features throughout project. None of the cleared materials had to be burned or wasted offsite.

Past experience with the property had proven that oak forest and prairie plant communities would emerge naturally from cleared areas without supplementing additional seed. Reuse of topsoil allowed for the original seedbank to be preserved. In many locations only a light temporary cover of seed oats and annual rye was applied to stabilize the site. Native mixes of bluestem, switch, and Indian grasses were used along the drain instead of traditional roadside

mixes. Ottawa County requested that no fertilizer or herbicides be used on the park property. Equipment was cleaned to prevent invasive species from entering, and post-construction monitoring is actively being done by volunteer crews.

The collaborative spirit of the project partners was a catalyst for additional coordination between the design team, the contractor, and their suppliers. After Schmidt Bros Excavating discovered a large blue racer snake trapped in some of the first erosion control blanket placed on the project, they proposed an alternative to avoid future entanglements. Flexterra High Performance-Flexible Growth Medium was used as a hydraulically-applied product with interlocking fibers, mineral activators, and wetting agents to bond seeds to the soil surface without using netting. It allowed the site to be stabilized while maintaining a rough graded condition. The water retention benefits also played a key role in initial growth establishment.

LASTING LEGACY

The legacy of the Hiawatha Drain will be one of public involvement and educational opportunities far beyond construction. Organizations like Ottawa County Parks, West Michigan Soil Erosion Control Network, and the Great Lakes Office of National Audubon have already engaged local people through outreach programs, hiking events, volunteering, and educational activities.

Flexterra High Performance Flexible Growth Medium

Creation of habitat for reptiles and amphibians provides opportunities for people to go “herping”, a hobby that involves exploring for herpetofauna: frogs, salamanders, snakes, lizards, and toads native to Michigan. Identified sightings can be reported to the Michigan Herp Atlas, a publicly-accessible statewide database. The original site inventory, documented for Michigan’s Natural Features Inventory and the University of Michigan Herbarium, provides as a baseline for future inventories. The site is also a candidate for the translocation of distressed and recovered species.

Students at all levels have been involved with the project. Grand Valley State University used the project as a living laboratory for its Restoration and Terrestrial Ecology Classes studying past and future management strategies. Grand Haven Lakeshore Middle School learned about the project and planted 500 tree seedlings of swamp oak, scarlet oak, and black oak around the vernal pond. Additional field trips for elementary through high school students, and volunteer activities will plant more trees and propagate seeds from some of the more rare native plants found elsewhere on park properties.

Ottawa County highly values its natural resources and public trust spaces. The forward thinking of Water Resources Commissioner Joe Bush made the collaboration and cooperation of the Hiawatha Drain successful. As engineer, Prein&Newhof adapted the design of traditional volume control

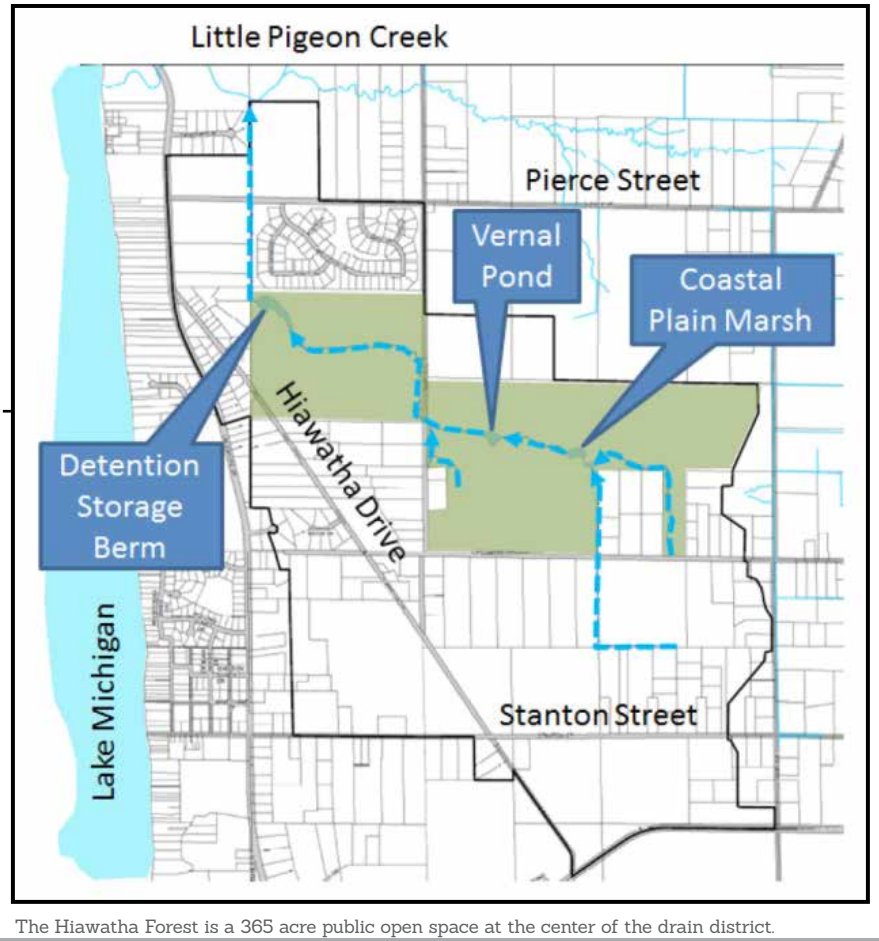
West Michigan Soil Erosion Control Network Field Trip

areas and swales to create a variety of habitat zones that realized the project's dual purpose. Ottawa County Parks continues to develop programing centered on the drain, the vernal pond, the coastal plain marsh areas, and the diverse populations of amphibians, reptiles, birds, plants and trees beginning to populate the project areas.

The Hiawatha Drain project is an excellent example of the collaborative spirit of Ottawa County. With the majority of the drain located on public property, it will remain accessible for future generations. Melanie Manion, Ottawa County Parks Natural Resources Supervisor, said of the project, "Joe Bush's vision of water resources launched this collaboration and Prein&Newhof did an amazing job balancing the project's dual benefits to create a lasting legacy project for West Michigan."

Joe Bush is the Water Resources Commissioner of Ottawa County.

Dana R. Burd, P.E., LEED® AP, CFM is an Engineer at Prein&Newhof



The Hiawatha Forest is a 365 acre public open space at the center of the drain district.

ASSOCIATE MEMBER NEWS

NTH CONSULTANTS, LTD. ANNOUNCES EXECUTIVE PROMOTIONS

Edberg and Sachidanandan to lead NTH's Public Infrastructure and Underground Engineering efforts

NTH Consultants, Ltd. (NTH), a leading professional engineering consulting firm, today announced the promotions of two key leaders within the firm to support the firm's growing public infrastructure and underground engineering initiatives.

Jason Edberg, P.E., who has provided his leadership to the firm's operations for a number of years, and has been instrumental in creating a vision and charting the course for NTH's Underground Engineering Division, has been promoted from Vice President to Senior Vice President. In this position, Jason will manage NTH's portfolio of water, wastewater, and transportation clients and lead the firm's public infrastructure initiatives, building upon recent high-profile project wins, such as the Gordie Howe International Bridge and Segment 3 of the I-75 Modernization Project.

Jason joined NTH in 2004 and was named Young Engineer of the Year in 2009 by the Michigan Society of Professional Engineers (Detroit) and the American Society of Civil Engineers (Michigan). Jason has more than 19 years of experience in heavy civil / structural design and project management, and during his time at NTH, he has taken the helm of several major infrastructure projects, garnering local, regional, and national awards.

Saju Sachidanandan, P.E. has been promoted to Vice President. In this position, Saju will lead the expanded Underground Engineering Division that began under Jason's leadership and will oversee the infrastructure design, subsurface exploration, geo-structural, and construction support teams as well as laboratory operations for NTH. Saju has more than 18 years of experience in civil / structural engineering and will bring the high-level project delivery and operational skills he has developed with NTH to maintain the firm's 50-year tradition of providing excellent service to our clients. Saju joined NTH in 2005 and has served in technical and project management roles in the design and construction of major civil infrastructure projects.

"NTH is committed to providing growth opportunities for our staff and has a history of rewarding hard work and strong leadership. Jason and Saju have proven that they have the depth of experience and the vision to help move NTH forward to where we want to be as a company," said Jeff Jaros, Chief Operating Officer.

SPALDING DEDECKER ACQUIRES GREAT LAKES GEOMATICS

Spalding DeDecker, a leading civil engineering and surveying firm, announced that it has acquired Great Lakes Geomatics, a surveying firm specializing in 3D laser scanning. This purchase will assist Spalding DeDecker in better serving the needs of industrial and manufacturing customers.

The purchase of the company fits into Spalding DeDecker's strategy to offer the latest technological advances in 3D laser scanning surveying and imaging technology to the industry. By purchasing the company

Spalding DeDecker will provide these services to firms across Michigan and the country.

Great Lakes Geomatics was one of the first land surveying firms to maximize the potential of 3D laser scanning and point cloud technology. Laser scanning and the use of point cloud data provides accurate as-built data, eliminates work interruptions, and creates more cost-effective solutions.

"Our acquisition of Great Lakes Geomatics complements our overall service offering so we can now be a true "one-stop shop" for our customers' survey needs. This 3D technology allows us to provide extremely detailed models of existing structures and infrastructure in buildings." said Steve Benedettini, President of Spalding DeDecker. "This investment is an important strategic opportunity to add to our capacity and ability to serve customers quickly and with incredible accuracy."

"This is the beginning of an exciting new era for myself and the employees of Great Lakes Geomatics." said Marty Dunn, PS, and Managing Member of Great Lakes Geomatics. "We look forward to bringing our 3D laser scanning technology knowledge and experience to Spalding DeDecker Associates. Combining our staff with the SDA staff and resources assures that together we will continue to be a leader in 3D Laser Scanning Technology"

Employees will remain in Michigan, relocating to Spalding DeDecker headquarters in Rochester Hills, MI.

IN MEMORIAM – PAUL S. ROMANO, P.E.

It is with great sadness that we share the news that our longstanding Owner, friend and committed industry professional, Paul S. Romano, P.E., passed away unexpectedly after an illness.

Mr. Romano's early professional career was spent in Florida, where he was a City Engineer in Broward County. Paul joined Jones & Henry Engineers in 1999, as the Office Director of the Cincinnati office. His team of "sewer sleuths," as they liked to be called, proudly served the City of Loveland, The Metropolitan Sewer District of Greater Cincinnati, and the Northern Kentucky area — growing Jones & Henry's presence in the Tri-State area. Jones & Henry's Cincinnati office continues to serve our clients in the region.

In 2003, Mr. Romano led the establishment of the Jones & Henry Engineers office in Kalamazoo, Michigan, relocating our team from Lansing and establishing relationships with additional clients and business partners. Paul cared deeply for the success of the Michigan region and worked to connect many cities, towns, counties, and villages with our team of Water, Wastewater and Stormwater experts. He was active in many industry organizations as well. Paul found friendship and fulfillment in supporting the needs of our industry and clients for the last 20 years at Jones & Henry Engineers. He will be missed, and his contributions will not be forgotten.

A private memorial was held to honor Paul, by request of his wife, Mary Beth, and their three children. Thank you for keeping the Jones & Henry Engineers family and the Romano family, in your thoughts and prayers. We expect to carry on the business successfully in the Kalamazoo office, in honor of Paul's commitment to engineering excellence in the region.

MACDC EVENT CALENDAR

MAY 16, 2019
Northwest Spring District Meeting
Location TBD

MAY 17, 2019
Southwest Spring District Meeting
VanBuren County

MAY 20, 2019
Northeast Spring District Meeting
Windjammer Restaurant, Lexington

MAY 23, 2019
Southwest Spring District Meeting
Location TBD

JULY 17 – 19, 2019
MACDC Annual Summer Conference
Shanty Creek Resort, Bellaire

Check our website www.macdc.us for a complete list of events. To place your event on this calendar, contact us at 517.484.9761 or admin@macdc.us.

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