



This Issue

Member Association News (Pages 1-2)

- ◆ Alabama WEA
- ◆ Chesapeake WEA
- ◆ Georgia AWP
- ◆ Kentucky-Tennessee WEA
- ◆ North Carolina AWWA-WEA
- ◆ Pennsylvania WEA
- ◆ Virginia WEA

Technical News (Pages 3-4)

- ◆ There May Be a Green Future for Britain's Victorian Sewers
- ◆ New York High School Students Win U.S. Stockholm Junior Water Prize, Will Represent the U.S. in International Competition
- ◆ NASSCO Updates

WEF News (Page 5-6)

- ◆ Conference Recap of CS 2017 in Omaha, NE!

- ◆ Announcing CS 2018 in Virginia Beach, VA!
- ◆ I/I Webcast Series Continues in December!
- ◆ Collection Systems Topics at WEFTEC

Did You Know? (Page 6)

- ◆ Bringing the Underground, Above Ground: Decorative Manhole's Bring Sewer Awareness in Japan

Member Association News

Alabama WEA ([AWEA](#))

The AWEA Collection System Committee hosted a workshop on June 30th at the Harris Center in Auburn Alabama. Forty-one water professionals attended the workshop where the following sewer assessment tools were discussed:

- ◆ Line Locate Technology
- ◆ IT Pipes – Pipe Inspection Management Software
- ◆ Cues – Digital Universal Camera (DUC) - side scanning/lay flat

After the presentations concluded, the Line Locate equipment and the DUC were demonstrated live to the attendees.

The AWEA Collection System Committee (CSC) plans to host three (3) additional workshops around the state prior to the AWEA annual conference in April of 2018.

Chesapeake WEA ([CWEA](#))

CWEA Collection Systems Committee Spring Seminar—IT TAKES 2, OFFICE & FIELD WORKING TOGETHER

Author: Aaron Z. Hughes



CWEA President Kraig Moodie.
(Photo: Aaron Hughes)

On Thursday, June 1, 2017 the Collection Systems held their Spring Seminar at the Richlin Ballroom in Edgewood, MD. The seminar focused on three topics:

- ◆ Locating Forcemains
- ◆ Do It Yourself
- ◆ Collection Systems Safety

Andy Fitzsimons, Project Manager/Senior Engineer with WSSC and

Collection Systems Chair, took a few moments to welcome the attendees and provide life experiences that directly related to the theme of the 3 topics. John Fletcher (Sponsorship Chair) and

Kraig Moodie (CWEA President) shared Master of Ceremony duties; covering the upcoming event with CWEA, the update in voting to electronic, describing how the sponsorship process works, and challenged the audience to think of future topics for seminars.

After the welcome, we jumped right into the topic of Locating Forcemains. David Ball and Wes Warren of Howard County Bureau of Utilities brought in their locating equipment while navigating the audience through the methods used to find force mains. Their visual aids gave attendees a clear understanding of the challenges that arise while working in the right of way (ROW).

Gus Belmont of Whitpain Township, PA familiarized the crowd with the concept of "DIY" (Do-It-Yourself). Gus provide photos and video to tell the story of how his crews were able to take a large task of bypassing a pump station to replace a plug valve. The story touched on timing issues, space concerns, safety, cost savings, and confidence building. The project highlighted was considered a success by all parties; instead of spending \$200,000 per a proposal the Township spent \$70,000!

After a delightful "Mini Thanksgiving" lunch provided by Richlin Ballroom, Daren Williams, the Safety Committee chair of NASSCO displayed examples of how the new changes in OSHA confined space and fall protection can mitigate the risk involved in sewer

emergency operations. In tribute to Memorial Day which had just passed a few days earlier, it was heartwarming to hear Daren speak of his friend/colleague J.P Blecksmith and the sacrifices made to serve his Country.



CWEA CSC Chair Maya Sathyanadhan
(Photo: Aaron Hughes)

Member Association News (continued)

Closing remarks included the recognition of the new Sponsorship program and the Sponsors participating in the different programs. Maya Sathyanadhan, incoming Collection Systems Chair, also recognized Andy Fitzsimmons, current Collection Systems Chair, for his contributions to the industry and the Committee as he nears his retirement planned for the end of June 2017. Be on the lookout for the next CSC event; the full day seminar in the fall!

Georgia AWP ([GAWP](#))

The Georgia Association of Water Professionals (GAWP) held its 2017 Annual Conference in Savannah, Georgia on July 16th through 19th. The conference was well attended at 1400 attendees. Highlights of the Conference included:

- ◆ 2017 5S (Select Society of Sanitary Sludge Shovelers) Induction Breakfast – Selection for membership into the 5S is considered a high honor and recognizes individuals who have made a significant contribution in the Water/Wastewater Industry. The 2017 Induction Breakfast was held in Savannah, GA where eight new members were inducted; Chris Boyd with City of Roswell, **Mike Hopkins** with Newton County WSA, **Rachel Jones** with AECOM, **Roy McConnell** with Veolia North America, **Connie Nelms** with the City of Carrollton, **Heather Veal** with Macon Water Authority, **Tom Weidmeier** with Augusta Utilities, and **Chuck Youmans** with Cobb County Water System. The new members collected donations to be given to the GAWP Scholarship Fund and set a record with their collections of almost \$9800.
- ◆ The Collection Systems Committee held its Annual Reception at Top Deck on Monday evening after conference sessions. The purpose of the reception is for networking and engaging potential new members for the committee. Overall, around 30 people were in attendance and there was lots of fun to go along with the networking.
- ◆ Technical Sessions – The CSC organized two sessions for the Conferences. The first session was a panel discussion entitled “Career Path and Moving Up the Ranks” and included four participants from utilities around the state. Each participant was given the chance to speak about their career paths and how they got to where they are today followed by a question and answer period. The session was well attended with approximately 45 registrants participating. The second session included a variety of topics such as a case study on a design-build project, gas and sewer utilities working together, lime build-up downstream from treatment plants and what to expect from a collection system audit.

Additionally, GAWP Collection Systems Committee will be hosting a **Collection Systems Pipeline Knowledge Workshop** on **Tuesday, September 12, 2017** in McDonough, Georgia. This workshop will feature information on sewer cleaning, monitoring, and inspections, as well as hands-on demonstrations. For more information and to register for the workshop, [click here](#).

Kentucky-Tennessee ([KY-TN WEA](#))

From July 9-12, 2017, approximately 1500 professionals converged on Lexington, Kentucky, for the 14th Kentucky/



Exhibit hall overview. (Photo: Ron Baker)

Tennessee Water Professionals Conference. This annual conference, hosted by the KY/TN Water Environment Association and the KY/TN Section of American Water Works Association, brings together engineers, operators, students, and others from the water industry.

Highlights from the conference include:

- ◆ A water education event, dubbed Water for Life, where the public visited interactive booths to learn about water conservation, what not to flush, wastewater treatment, and other topics.
- ◆ Facility tours of the Lexington-Fayetteville Urban County Government’s Lower Cane Run Wet Weather Storage Facility and Kentucky American Water’s Richmond Road Drinking Water Plant
- ◆ A strong technical program with 10 concurrent tracks that offered up to 14 hours of continuing education units and professional development hours
- ◆ Over 225 exhibitors providing information on the latest equipment and services available
- ◆ Opportunities for students to become more engaged in the industry through the student poster competition and scholarship opportunities
- ◆ Numerous opportunities to network and connect with other water professionals, including the Member Celebration, which was held at the University of Kentucky’s football stadium.



Speaker presenting in a technical session. (Photo: Ron Baker)

The 2017 KY/TN Water Professionals Conference was a great success. The 2018 conference will be held in Nashville, Tennessee, from July 8 through July 11. More information can be found at <http://kytnwpc.org/>.

North Carolina WEA ([NC AWWA-WEA](#))

The objective of this school is to REVIEW the basic concepts in the proper operation and maintenance of water distribution and wastewater collection systems. The curriculum will provide information that should be helpful in preparing a participant for the mandatory certification exams in Water Distribution, Backflow, and Wastewater Collection.

Upcoming collection and distribution schools include:

[Central Collection & Distribution School](#)

October 2-6, 2017

Raleigh, NC

For more information about the upcoming collection and distribution schools, [click here](#).

Member Association News (continued)

Pennsylvania WEA ([PWEA](#))

On June 4-7, 2017, PWEA hosted their annual 89th Annual PennTech conference in Pocono Manor, Pennsylvania.

This year's program included a wide range of topics related to water quality. Lateral concerns including cross-bores were of particular interest to attendees at Pennsylvania's annual conference this summer, for which the PWEA Collection Systems committee prepared two solid days of presentations. The state's Golden Manhole award went to Deepthi Kalyanam who was recognized for her service to the wastewater industry and the association. Deepthi took the lead in coordinating recent technical sessions for the annual conference.

Virginia WEA ([VWEA](#))

Registration is open for WaterJAM 2017!

September 11, 2017 - September 14, 2017
Hampton Roads Convention Center

This year's theme is *Fluid Thinking* and will continue to provide great workshops, technical sessions, mobile sessions, and tours.

The Sewer and Water Art Gallery is also back this year! Attendees will try to "guess what this CRAZY thing is". The exhibit will be a "museum" of things that Virginia sanitary sewer, stormwater, and drinking water industry professionals have encountered in the field and found to be interesting, confusing, or down right CRAZY!

For more information and to register, [click here](#).

Technical News

There May Be a Green Future for Britain's Victorian Sewers

Built in the 19th century, the U.K.'s sewer systems may play a role in tackling climate change as it unfolds as the environmental crisis of the next 100 years.

Some of the pipes in Britain's 624,000-kilometer (388,000 miles) sanitation network can get as warm as 21 degrees Celsius (70 degrees Fahrenheit). That's because water flowing into the system from toilets and plug holes has collected heat from the air around and from household appliances.

Capturing that warmth as a source of renewable energy could provide enough heat for more than a third of London each year. The technology could help government ministers increase the share of renewables used to supply heat, which is among the biggest sources of pollution. They're seeking to meet a target to cut greenhouse gas emissions by 57 percent in 2030 from 1990 levels.

Taking carbon dioxide out of heat may be the biggest challenge facing U.K. energy policy over the coming decades, according to the regulator Ofgem. While electric utilities are investing in wind and solar power, it's harder to cut emissions associated with heating, which accounts for a third of carbon pollution in the U.K.

More than 11 billion liters (2.9 billion gallons) of water is collected in sewers from bathrooms, kitchens and rainwater run off from roads every day in the U.K., according to the Department for Environment, Food and Rural Affairs. A single liter of that could provide almost 6 watt-hours of heat, according to Scottish Water Horizons.

Capturing heat from sewers is already being tested in cities around the world, from Cologne, Germany to Philadelphia, Pennsylvania. The U.K. in 2015 installed its first system for recovering heat from waste water.

Source: <https://www.bloomberg.com/news/articles/2017-06-14/britain-s-century-old-sewer-network-seen-as-source-of-green-heat>

New York High School Students Win U.S. Stockholm Junior Water Prize

The Water Environment Federation proudly announced students **Rachel Chang** and **Ryan Thorpe** from the New York Water Environment Association won the 2017 U.S. [Stockholm Jr. Water Prize](#), the nation's most prestigious youth competition for water-related research.



Chang and Thorpe engineered a system to efficiently detect and purify bacterial presence in a more rapid time frame with a lower detection limit than conventional methods.

US Stockholm Jr. Water Prize winners Ryan Thorpe and Rachel Chang. (Photo: WEF)

Students from 48 states and Puerto Rico competed in the national finals June 16-17 at the University of North Carolina at Charlotte. The Stockholm Junior Water Prize aims to increase students' interest in water issues, research, and careers, as well as to raise awareness about global water challenges. The competition is open to projects focused on improving water quality, water resource management, water protection, and drinking water and wastewater treatment.

In their winning paper, "A Novel Approach to Rapidly and Sensitive Detect and Purify Water Contaminated with Shigella, E. coli, Salmonella, and Cholera," Chang and Thorpe note that waterborne diseases cause 3.4 million deaths annually, concentrated in countries lacking sanitary water. Chang and Thorpe engineered a system to efficiently detect and purify bacterial presence in a more rapid time frame with a lower detection limit than conventional methods. Graphene was utilized to create four specific biosensors through the immobilization of specific enzymes that target analytes released during the respiratory cycles of model organisms for Salmonella, Shigella, Cholera, and E. coli. The system successfully detected minute levels of bacteria in a rapid time frame and purified the water of pathogens.

For more information about the winning projects, [click here](#).



Understanding Legislative Impact on Underground Infrastructure

The political climate is changing at such a pace that it takes a significant investment in time for us to keep up with what's going on – and that's something that many of us just don't have. The reality, however, is that we must pay attention to and thoroughly understand those issues pertaining to underground infrastructure, because they can significantly impact our industry and our businesses.

One issue that many of us are tracking very closely is President Trump's proposed 2018 EPA budget of \$5.7 billion, which is down considerably from the original \$8.3 billion. This proposed cut includes nearly 25% from the Office of Enforcement and Compliance Assurance, which is responsible for enforcement of the Clean Water Act. While it's unlikely the President's proposed cuts will become law, the political undercurrent sends a strong message that clean water enforcement actions such as consent orders and consent decrees may decline, negatively impacting the proactive assessment and rehabilitation of sewer systems.

In order to provide impactful communication with Congress and the Administration, NASSCO recently secured the services of McGuireWoods Consulting (MWC), a full-service public affairs firm located in Washington, D.C. The firm offers federal, state and local government relations, infrastructure and economic development, strategic communications and grassroots mobilization services. NASSCO's engagement with MWC is designed to develop a strategic federal government relations plan that will identify potential policy issues related to our industry, as well as political threats and opportunities. MWC will also identify the most influential policy decision-makers, and deliver to us a roadmap for recommended actions, implementation, and timing.

After our first month's engagement with MWC, their team has identified legislative issues that may benefit the underground infrastructure industry, and others that can pose potential threats. While most of the issues require our diligence in monitoring and addressing future changes to legislation, there are three issues that can impact our industry in the very near future:

1. **Federal Budget:** With the return of Congress to Washington this fall, it will have to address federal funding for the next fiscal year. This will include funding for the EPA and the Department of Agriculture, and the programs and functions they provide that support our industry.
2. **Tax Reform:** Another priority for Congress in 2017 will be reforming the U.S. Tax Code. This could put into question the tax deductibility of municipal bonds – a key financing tool for local water and wastewater projects.
3. **Infrastructure Legislation:** Following tax reform, Congress is expected to pursue one of President Donald Trump's key legislative priorities: investing in America's crumbling infrastructure. This will ideally provide an opportunity for greater investment in sewer system rehabilitation and asset management.

In order to be effective, members of NASSCO, WEFTEC and other organizations aligned to our industry need to be aware of what is going on with our government and reach out to local, state and federal representatives to build a collective voice for our industry to ensure that our position is heard and understood.

Recent reports on the use of Styrenated Resins in Cured-in-Place Pipe

A report released by Purdue University on July 26, 2017 in *Environmental Science & Technology Letters*, a publication of the American Chemical Society (ACS), indicates findings pertaining to the safety of styrenated resins in the use of CIPP. This report was the source of many recently published articles, however it does not indicate that industry resources or NASSCO members were involved during the testing performed, nor referenced in the study by the University.

Well prior to the release of the report, on February 23, 2016, NASSCO attempted to contact the author of an earlier study (and co-author of the latest report), Dr. Andrew J. Whelton, Assistant Professor of Engineering at Purdue University, to provide the opportunity for him and his team to benefit from the years of research conducted on the topic by a number of reliable sources. To date, Dr. Whelton has not accepted our invitation.

NASSCO has formed a workgroup to launch a plan to review of all available industry data and related studies and reports, and to pursue the preparation of an independent study and research program that will be properly peer reviewed to challenge and/or confirm the information developed and published by these reports. To ensure objectivity in data collection, evaluation and conclusions, we plan for the study be conducted by a third-party group consisting of a professional testing company in conjunction with an institution of higher learning that has a background and experience in CIPP technology. To read our complete response, please visit nassco.org/news.

Tech-Tips—The Dangers of Using Damaged Jetter Hose and Proper Repair Techniques

To ensure the safety of our employees, it is important to properly use and maintain high pressure pipe cleaning equipment. There are several important practices that need to be done correctly when it comes to jetter hose maintenance and safety. Personnel using the jetter should first understand how the hose is constructed.

To view the full Tech-Tip, [click here](#).

Let us highlight what your MA is doing in the realm of collection systems. Share any successes, milestones, events, initiatives, innovations, fun ideas, etc. with all in our collection systems community by emailing a short summary to Bri Nakamura at bnakamura@wef.org

collection systems 2017

May 21-24, 2017 | Omaha, Nebraska



Another Great Collection Systems Specialty Conference in the Books!



Participants engaging in a group discussion during workshops (Photo: NWEA)

NWEA and the City of Omaha were the proud hosts of the 2017 WEF Collection Systems Conference from May 21st through May 24th. The conference included approximately 550 attendees from over 40 states, Canada, and Europe. The vendor area had over 60 exhibitors and included

the NASSCO sponsored sewer history exhibit. The conference began on Sunday, May 21st, with two workshops focused on "Performance Management for Collection System O&M Programs" and "Managing Uncertainty: Program Management Concepts for I/I Control Programs".

Sunday evening was the NWEA Conference Social at the Lauritzen Gardens, a beautiful venue selected for numerous reasons, including the fact that a sewer separation project was recently completed at the Gardens. Over 300 NWEA members and WEF CS Conference attendees were at the event. Every attendee noted how much they enjoyed the food, drinks, venue, band, tram rides, trolleys, and the weather. It was also great to see the spouses of WEF members. One spouse noted that the event was "the best date we have been on in 15 years". Donations to attend the event raised over \$8,000 for Water for People and Engineers without Borders.



Enjoying the outdoor weather and festivities at the social event. (Photo: NWEA)



WEF Board Member Peter Vanrolleghem kicking off the conference. (Photo: NWEA)

Monday morning's Opening General Session began with heartfelt welcomes by Joe Strauch and Peter Vanrolleghem representing WEF. Bob Stubbe, Omaha Public Works Director, welcomed attendees on behalf of the City of Omaha and provided a greeting from Mayor Jean Stothert. Jim Theiler and Scott Aurit provided a summary of the Omaha Sewer History, Back to the River Initiative, and noted area attractions for conference

attendees. The Opening General Session concluded with Peter Brunette, Henry Doorly Zoo Outreach Coordinator, providing an overview of the zoo and their amphibian conservation initiative.

After a great start, the conference transitioned into high-gear with attendees participating in the vendor mobile sessions, highlighting collection system technologies, and attending the 52 presentations (13 technical sessions). The Conference included two tours to allow attendees to see the recent improvements to Omaha's collection system. The first tour was conducted on Tuesday, May 23rd, and included the Leavenworth Lift Station, South Omaha Area Industrial Lift Station, and the Missouri River Wastewater Treatment Plant Improvements project. The second tour was conducted on Wednesday, May 24th, and included Adams Park, Fontenelle Park, Saddle Creek Area Sewer Separation, Spring Lake Park, and the UNO Visitors Center bioretention basin.

Many thanks to Joe Strauch and Christy Willson, the CSC Specialty Conference Subcommittee, the NWEA local planning group, and WEF staff for putting on another successful conference! And see you all in 2018 in Virginia Beach, Virginia!!!



Virginia Beach 2018

Collections on the Coast

investing in a sustainable future

SAVE THE DATE—Collection Systems 2018 April 8-11, 2018 in Virginia Beach, VA

Virginia WEA (VWEA) and the City of Virginia Beach will be hosting the Collection Systems 2018 Specialty Conference. The 2018 conference will be held on **April 8-11, 2018** at the Virginia Beach Convention Center.

The theme for next year will be *Collections on the Coast—Investing in a Sustainable Future*. This is fitting for the surroundings, which includes the Hampton Roads Sanitation District (HRSD) which operates 9 WWRF's in state-of-the-art facilities, which will be available to tour during the conference.

For more information about the upcoming conference, [click here](#).

SAVE THE DATE—I/I Webcast Series Continues!

On **June 7, 2017** the WEF Collection Systems Committee hosted a webcast on "Planning for I/I Reduction and Strategies to Get the Job Done". The webcast was led by Andy Lucas, the leader for Private Property I/I Focus Group and focused on the funding, legal, and communication aspects, to leading a successful I/I program. If you missed the webcast, you can view a recording, [here](#).

Look out for a second I/I webcast on **December 6, 2017**, on "Looking Back, What did we accomplish? I/I Reduction Case Studies and Lessons Learned".

For more information and to register for the webcast, [click here](#).



September 30-October 4, 2017
Chicago Convention Center, Chicago, Illinois

Always highly attended, WEFTEC offers a variety of collection systems-focused programming, including technical sessions and workshops on the management, rehabilitation, and financing of these complex systems. The [WEFTEC Conference Announcement](#) is now available!

First Time at WEFTEC?
September 19, 2017 from 1:00 p.m.— 2:00 p.m. EST

Join WEF for “*WEFTEC Orientation: Getting The Most From Your Time*”, on **Tuesday, September 19th from 1:00-2:00 p.m. EST**. Whether you have already registered or you just want to see what WEFTEC has to offer, this webcast will give you an

overview of the networking opportunities, educational offerings, and how to make the most of your time with exhibitors. [Click here](#), to register now!

If you miss the webcast, don't worry! We will be having a live WEFTEC Orientation on **Monday, October 1st from 7:45-8:15 a.m.**

Collection Systems Committee Meeting at WEFTEC
September 30, 2017 from 2:00 p.m.—5:00 p.m.

Join “seasoned”, new, and potential Collection Systems Committee volunteers at the WEFTEC CSC meeting on **Sunday, September 30, 2017 from 2:00 p.m.—5:00 p.m.** This year’s meeting will feature updates from several CSC Subcommittees, a technical presentation, and the always fun roundtable/debate discussion. Hope to see you there!

For more information on the Collection Systems events at WEFTEC, [click here](#).

Collection Systems at WEFTEC
[\(click here for the Collection System Flyer\)](#)

Saturday, September 29, 2017

8:30 a.m. to 5:00 p.m.

- ◆ Workshop (W10) Performance Management for Collection System O&M Programs

Sunday, September 30, 2017

9:00 a.m. to 11:00 p.m.

- ◆ **CSC Subcommittees and Task Group meetings**

2:00 p.m. to 5:00 p.m.

- ◆ **Collection Systems Committee Meeting**

5:00 p.m. to 6:30 p.m.

- ◆ Mix with Members (Open to all WEF Members)

Monday, October 1, 2017

10:30 a.m. to 12:00 p.m.

- ◆ Technical Session (103) Private Property I/I in the Collection System

1:00 p.m. to 5:00 p.m.

- ◆ Tour (T2) Collection Systems Tour: McCook Reservoir

1:30 p.m. to 5:00 p.m.

- ◆ (213) Collection System Tunnels: From A to Z
- ◆ (214) Collection Systems Rehabilitation and Construction

Tuesday, October 2, 2017

8:30 a.m. to 12:00 p.m.

- ◆ (312) Effective Collection Systems O&M Techniques
- ◆ (313) Collection System Basics You Really Need to Know!
- ◆ (317) Conveyance and Pumping Condition Assessment

10:30 a.m. to 12:00 p.m.

- ◆ (322) Odor Practices in the WRRF and Collection System: Results From the 2016 Odor Benchmarking Survey

12:00 p.m. to 1:30 p.m.

- ◆ **15th Annual Collection Systems Luncheon**

1:00 p.m. to 5:00 p.m.

- ◆ (403) Meeting the Challenges of Implementing a \$6 Billion Wastewater Infrastructure Program
- ◆ (408) Wet Weather Treatment Strategies and Real Time Control
- ◆ (412) Together Again: Wet Weather, I/I, and Pump Stations in the Collection System
- ◆ (413) Collection System Models: The Foundation of Planning, Design, Construction, and Post-Construction Evaluation

3:00 p.m. to 4:00 p.m.

- ◆ (432) Mobile Session: Solutions to Real-World Odor Problems

Wednesday, October 4, 2017

8:30 a.m. to 10:00 a.m.

- ◆ (512) Collection System Condition Assessment: Out of Sight, But Not Forgotten!

8:30 a.m. to 1:00 p.m.

- ◆ (W26) Practical Operation and Maintenance for Pumps: Progressive Cavity Pumps

10:30 a.m. to 12:00 p.m.

- ◆ (528) Mobile Session: Lateral Rehabilitation - Technology Effectiveness Comparison

1:30 p.m. to 5:00 p.m.

- ◆ (607) It Smells Good in the Neighborhood: Collection System Odor and Corrosion Control
- ◆ (610) Emerging Topics and Technologies in the Collection System

Did You Know?

Bringing the Underground, Above Ground: Decorative Manhole's Bring Sewer Awareness in Japan

When most people walk down the street, they usually step on or walk over the “dirty” sewer manhole. But not in Japan, “kawaii” (cute) manhole covers are hard to miss; decorated with flowers, buildings, cartoon characters, and mascots. Some residents (and tourist) have even become self-styled “drainspotters”, seeking out and finding decorative manholes, with as much excitement as Pokémon Go!

Decorative manholes, began gaining popularity in Japan in the 1980’s when a high-ranking official from the former infrastructure ministry decided to utilize manhole covers as a way to promote and improve the image of Japan’s sewerage system, as well as raise awareness and remind tax payers of the costs associated with sewage projects. And according to Gesuido Koho Purattofomu (Sewerage Promotion Platform or GKP), a group of professional and enthusiast from local governments and the infrastructure ministry’s sewage management department, there are roughly 12,000 different manhole cover designs throughout Japan. Many municipalities choose designs that highlight their area, from attractions (like Mt. Fuji and the Yokohama Bridge), area symbols (like the squid in Hakodate or sakura (cherry blossom) in Tokyo), sports teams and events/festivals (like the Hiroshima Toyo Carp, the local professional baseball team), and even anime characters (like GeGeGe no Kitaro in Chofu).



Manhole design promoting a professional baseball game. (Photo: B. Nakamura)



Manhole Guidebook and playing cards (Photo: B. Nakamura)

What originally started as a simple way to make the “unseen” sewer seen, has now boomed into a gift and merchandise industry thanks in part to design competitions, publications, social media, and a healthy competition between municipalities to see who can come up with the best design. With the growing popularity and recognition of the local manhole covers, Japanese Municipalities have found a way continue the education and capitalize on the local uniqueness by teaming with companies like Ageless Goods (<http://ageless-goods.com/>) who produce and sell local manhole merchandise. Manhole designs are transformed into things like mini decorative manholes, keychains, t-shirts, bag holders, rubber coasters, towels, and decorative carpets. The craze has even sparked GKP to release a series of manhole collectible playing cards, which includes information about the meaning of the manhole’s design, the area it’s found in, and even some sewer history of the area. These cards are available for free at local treatment plants and visitor centers, and have become a popular souvenir for school groups touring local sewage plants. The playing cards have become so popular that an [Official Guidebook of Manhole Cards](#), was released this year.

By bringing easy recognition to manhole covers, Japan has been able to bring the underground aboveground, by continually engaging and educating the public of their underground sewer infrastructure. These street fixtures are no longer thought of as “yucky” or “dirty” but instead are “kawaii” and a local representation of who they are!



Examples of various manhole cover designs and merchandise (Photo: B. Nakamura and HIDETOSHI ISHII)

This issue is brought to you by...

WEF CSC MA Outreach E-Newsletter Team

- ◆ Jimmy Stewart, Member Services Chair, *Alabama WEA, Chesapeake WEA, GAWP*
- ◆ Chip Smith, Member Services Vice Chair, *North Carolina AWWA-WEA, South Carolina WEA, GAWP*
- ◆ Stuart Bowns, *Kentucky-Tennessee WEA*
- ◆ David Brown, *North Carolina AWWA-WEA, Virginia WEA*
- ◆ Daniel Coleman, *Chesapeake WEA, Virginia WEA*
- ◆ Ted DeBoda, *Chesapeake WEA*
- ◆ Jerome Iltis, *WEA of Texas*
- ◆ Kara Keleher, *New England WEA*
- ◆ Roger Lehman, *Pennsylvania WEA*

- ◆ Christine Radke, *Chesapeake WEA, Virginia WEA*
- ◆ Michael Quamme, *North Dakota WEA*
- ◆ Heather Veal, *GAWP*

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