

Talking... **TRASH**

The Newsletter of the SWANA Florida Sunshine Chapter

Summer 2023



Learn About the Sarasota Central County Solid Waste Disposal Complex Phase III Landfill Expansion ... page 13

Support Services for Solid Waste Management in Florida

Uncertain Times. Informed Decisions.

We understand the immediate and longer-term impacts of the global COVID-19 pandemic on solid waste operations, not least in terms of looming inflationary pressure, labor shortages, and uncertainty surrounding supply chain issues, which has affected procurement of new equipment and parts and distorted recycling markets. Many services such as curbside recycling remain popular with the public, yet for the majority of our clients are economically marginal. Waste generation has changed during the pandemic, with many haulers reporting sustained increases in residential waste and recycling streams coupled with declines in commercial volumes. No matter the challenges you are facing, Geosyntec can help your solid waste operation to be more efficient and resilient for an alternate future.

What We Offer

Our experienced team of engineers, scientists, and economists can help.

Rate and Cost Analyses: Updated rate structures and cost-of-service models are needed to better understand cash flow implications. We can help with:

- Rapid rate studies, audits, and level of service analyses to rebalance rate structures and competing priorities
- Revising input costs, inflation, and volume projections based on updated benchmarks and industry data
- Grant application assistance for critical infrastructure

Engineering Design: We have pioneered the use of mechanically stabilized earth berms designs to maximize capacity expansions. We can help with:

- Vertical landfill expansions to add capacity through airspace volume while maintaining existing site footprint
- Design of landfills over challenging subgrade conditions such as soft soils and karst
- Innovative gas collection and optimization and leachate management solutions to help reduce cost and maintenance needs for owners and operators

Planning: Revised near/medium term plans under “what if” scenarios will be key to providing necessary flexibility and resilience to maintain services and budget levels through the next several fiscal cycles. We can help with:

- Contingency planning
- Alternative disposal solutions, operational, and recycling market assessments



In these times of unprecedented global uncertainty, Geosyntec offers advice on fulfilling service obligations and customer commitments while minimizing costs and risks.

ABOUT GEOSYNTEC

With 1,800 engineers, scientists, and technical personnel; we serve our clients from more than 90 offices in the United States, Canada, the United Kingdom, Ireland, Sweden, the United Arab Emirates, and Australia.

Geosyntec has one of the largest groups of solid waste professionals in Florida (20+) who can provide engineering, solid waste planning expertise, and advisory services for your project needs.

For additional solid waste advisory-related services, visit [geosyntec.com/swa](https://www.geosyntec.com/swa)

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Letter from the President

August 2023

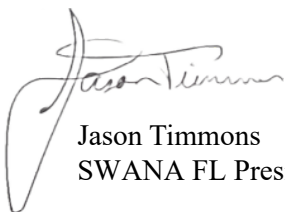
We just wrapped up the SWANA FL Summer Conference in Daytona Beach a few weeks ago, and what a great event. Thank you to all our exhibitors and sponsors for their support and, as always, to our members because you all are what make this chapter the best in the nation. We had a full house this year for the summer conference with over 260 attendees and 39 exhibitors. We also hosted the Hinkley Center for Solid Waste and Hazardous Waste Management (Center) Research Forum at this year's conference. Dr. Tim Townsend from the University of Florida was introduced as the incoming Executive Director for the Center with the upcoming retirement of long-time Executive Director John Schert. John has been a mainstay in Florida's solid waste research world for decades, and his impact to the industry and to the many researchers and students throughout the years was celebrated by all in attendance.



It is back to school season for all those big and little scholars out there. From the first-time kindergarteners to the college graduates, the schools are firing back up, so watch out for all of the additional kids on the sidewalks and traffic around the school zones. Lifelong learning is an important part of what SWANA seeks to bring to its membership, and with that being said we have several upcoming events right around the corner including WASTECON 2023 in Boston, MA from September 27-29, 2023. WASTECON is the premier event for waste management professionals and leaders to learn and network together. Also, if you have a great idea, topic, panel discussion, project, or other interactive session idea that you think others could learn from, look for the call for abstracts to be released in the next few months for the 2024 SWANA FL Winter Conference. It will be held in Orlando from February 19-21, 2024, at the all-new Drury Plaza Hotel near Disney Springs. We want to hear from you!

Finally, this is my first Talking Trash Newsletter as your Chapter President, and I look forward to all we have in front of us. I want to thank Keith Howard, our Past-President, for his service and dedication to the Chapter and our directors and chapter officers for all their support. We are here to serve you, our chapter membership, so please do not hesitate to contact us anytime with your ideas and thoughts for how we can continue to improve the Chapter.

Sincerely,



Jason Timmons
SWANA FL President

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Landfill Gas Control Measures: Passive Gas Ventilations Systems and Atmospheric Pressure

Aaron Quesada

Ever wonder how gas ventilates? No, it's not a joke, but air physics mitigating landfill gas emissions using passive gas ventilation systems designed for this purpose.

What is a Passive Methane Gas Management System (MGMS)?

An interconnected network of perforated pipes and the passive gas venting system collects and diverts landfill gases from underneath the buildings underlying geomembrane, creating a gas barrier. It moves gases away from the building and into the atmosphere via vent risers. The MGMS offers preferred pathways for safe gas migration.

What Environmental Conditions Can Affect MGMS Performance?

The efficiency of a passive MGMS depends on environmental conditions, which may or may not be controlled by the system design. For example, atmospheric pressure can affect passive ventilation. Gases accumulating in the MGMS can create areas of high pressure. The variation in pressure throughout the MGMS results in gases moving from high to low-pressure areas. As more gases generate, the pressure in the MGMS increases, causing higher pressures in the MGMS than the atmospheric pressure, so the gases migrate to the ambient air or atmosphere. Conversely, high atmospheric pressure sometimes results in ambient air entering the MGMS through the vent risers.

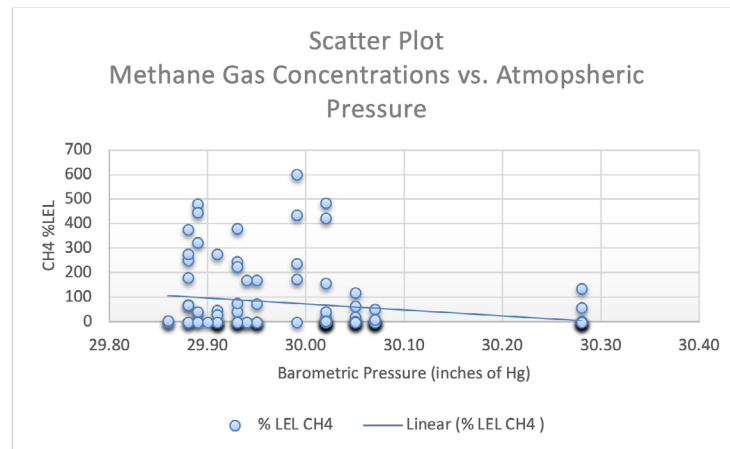


Figure 1



Passive Gas Vent Riser (typ.)

Case Study: Methane Gas and Barometric Pressure Readings: Old Closed Landfill Project

Methane gas concentrations and barometric pressure readings were recorded from March 2019 through June 2022 at the passive vent. The readings were plotted and shown in the scatter plot (see Figure 1).

System Performance Factors

There is an inverse correlation between methane gas concentrations and atmospheric pressure conditions. For instance, methane gas concentrations were lower during high ambient atmospheric conditions and vice versa. Gas readings are compared to historical readings to determine if there has been a

change in the system performance. Many factors could cause changes in system performance, but atmospheric conditions at the time of gas monitoring may contribute to the performance of the passive MGMS. Therefore, we could conclude that the passive landfill gas ventilation strongly depended on barometric pressure changes.

So next time you are evaluating system performance, check the weather.

Aaron Quesada is Project Manager at SCS Engineers. He has 17 years of combined experience working on various projects such as civil and environmental engineering, solid waste/landfill gas management, facility due diligence, contamination assessment and remediation, environmental permitting, and construction quality assurance oversight. Aaron and SCS Engineers have designed a Passive MGMS at a state-of-the-art industrial park in Hialeah, Miami-Dade County, FL. Aaron can be reached at [linkedin.com/in/aaron-quesada-gisp-a18a038](https://www.linkedin.com/in/aaron-quesada-gisp-a18a038).

The Linear Extraction Economy: Limitations and Solutions

Allen Witters

In a world increasingly consumed by consumption, the old linear model of “take-make-waste” has become outdated and untenable. It involves extraction of natural resources, transforming these resources into products, and then discarding these products as waste at the end of their useful life. This model ignores the intrinsic value of materials used in the process, contributing to an increasing strain on the planet’s finite resources. We see the evidence in overflowing landfills, wastelands of discarded consumer goods, and ever-increasing levels of environmental pollution.

Landfill: The Dead End of Value

In the current economic setup, value tends to come to a full stop at the landfill. This happens when the materials extracted, processed, and used are eventually discarded. It’s where commodities lose their economic worth, contributing nothing more than a physical footprint on the planet. From a sustainability perspective, this is a clear waste of resources.

While recycling initiatives have been somewhat effective, they often fail to fully reclaim the economic and inherent value of materials. Furthermore, recycled materials can sometimes be of lower quality or have limited applications, and the process can be energy intensive.

The Circle of Life: The Circular Economy

Enter the circular economy, an economic system designed to maximize utility and minimize waste, with a central aim of extending the lifespan of resources. In a circular economy, economic activity builds and rebuilds overall system health. It’s restorative and regenerative by design, ensuring that products and materials are kept in use, and that the natural systems providing these materials are regenerated.



The circular economy has the potential to be a game-changer for the global economy, the environment, and society. It encourages us to view ‘waste’ as a resource and invites businesses and consumers to participate in a system where materials constantly flow around closed-loop systems.

Unleashing Latent Value

The circular economy approach unveils the latent value in materials that are typically discarded. This value comes in many forms: economic, environmental, and societal.

- **Economic Value:** A circular economy can significantly reduce the economic cost of waste management. Businesses and industries can tap into new revenue streams through recycling, refurbishing, and reselling. What’s more, by promoting resource efficiency, the circular economy can also mitigate risks associated with raw material price volatility and supply shortages.
- **Environmental Value:** By preserving and enhancing natural capital, the circular economy can substantially decrease the environmental impacts of production and consumption. This, in turn, contributes to climate change mitigation, biodiversity conservation, and reduced dependency on virgin resources.
- **Societal Value:** The circular economy not only has the potential to generate new jobs and foster innovation, but also to improve the quality of life by reducing pollution

and promoting more sustainable consumption patterns.

Closing the Loop

In the circular economy, products are designed and optimized for a cycle of disassembly and reuse, shifting away from the traditional cradle-to-grave lifecycle. This keeps components and materials at their highest utility and value at all times. This

‘cradle-to-cradle’ model considers the entire lifecycle of a product, from design to end-of-life, and redefines what is considered ‘waste.’

Here’s how it works in practice: once a product has reached the end of its life, its components are reclaimed, refurbished, or recycled, feeding back into the economic circle, thus decreasing demand for new raw material extraction. For instance, a mobile phone manufacturer could design a phone to be easily disassembled, facilitating the recycling of metals, and reducing the need for new extraction.

A Never-Ending Life of Value

The circular economy envisions a world where the value of materials, products, and resources is maintained for as long as possible, and waste is minimized. The concept goes beyond recycling. It’s about redesigning the economic system to make it more sustainable, resilient, and beneficial for all.

As we face unprecedented global challenges, the transition to a circular economy provides a viable pathway for achieving sustainable development goals. By reimagining the lifespan of resources, we can ensure the value lives on forever and ever, closing the loop, and creating a sustainable, circular future.

Allen Witters is CEO of Gravitas Infinitum. For more information, e-mail info@gravitasinfinitum.com or visit www.gravitasinfinitum.com.

Lithium-Ion Batteries: Friend and Foe

Andrew Trefry,
Carol Sawyer,
PE and Chad
Spreadbury,
PhD, PE

Lithium-ion batteries (LIBs) have become commonplace in our daily lives and are found in all types of consumer goods, such as smartphones, laptops, tablets, drones, e-cigarettes, cordless power tools, toothbrushes, and, of course, electric vehicles. The development of these rechargeable LIBs began in the 1970s while they became prevalent in commercial markets in the 1990s. LIBs have a wide range of benefits, including their ability to be recharged quickly and hold their charge for a long period of time. Additionally, LIBs do not fall victim to the *memory effect*, which is the reduction of a battery's maximum recharge capacity after partial discharging of the battery (this effect is commonly observed in nickel-cadmium rechargeable batteries). These benefits give LIBs a long shelf life and make them ideal for high-power applications.

While there are many advantages to using LIBs, lithium can violently react with water and explode, making LIBs a potential fire hazard. Water and even moisture in the air oxidizes the lithium to form lithium hydroxide, flammable hydrogen gas, and heat. These reactions can generate enough heat to ignite surrounding materials regardless of if the battery itself ignites (EPA¹). Damage can be caused by general wear and tear, physical impact, exposure to extreme temperatures, and/or improper

charging. As explained by the EPA, "physical damage to the battery may not immediately trigger a fire, creating the possibility of a fire later in the battery's life. This threat is significant enough that some LIB manufacturers will discard batteries that have been dropped or otherwise damaged during manufacturing, even if no physical damage or fire is immediately evident" (EPA¹).

On the Rise

Across the country, fires caused by LIBs at solid waste facilities are

on the rise. According to Perry Kent, Executive Director of the New River Solid Waste Association in Raiford, FL, in his 30 years of solid waste experience, landfill fires were once rare; now they are happening repeatedly, and their staff has traced them to LIBs in the waste stream.

The upsurge of these batteries into the commercial market has created a fire and waste management problem with a multitude of consequences. In addition to fire risks, burying damaged LIBs also allows metals such as cobalt, nickel, and manganese to enter the leachate. Leachate is a serious landfill management problem, and the addition of LIBs introduces more potential complications and risks for groundwater contamination.

For the past three decades, EPA has let states decide how to address

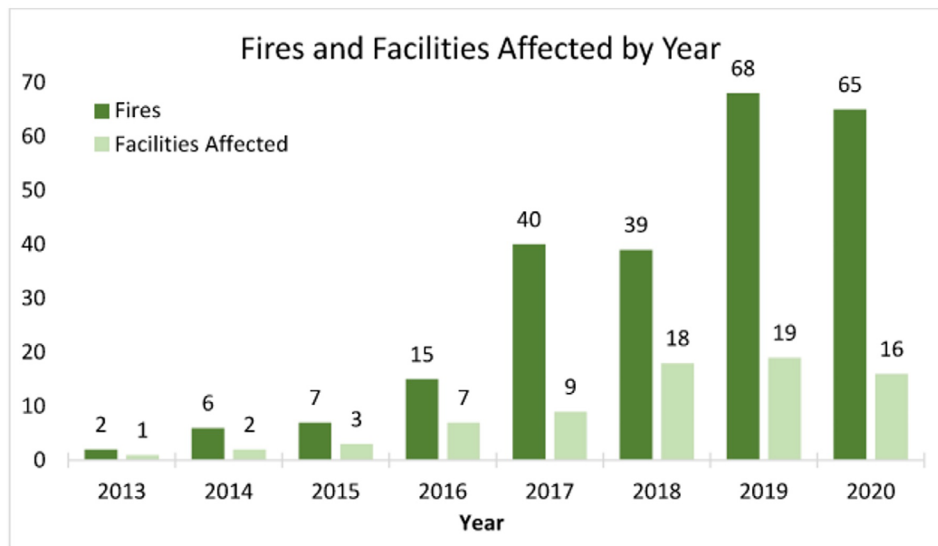


Figure 1



Recycling lithium-ion batteries.

LIBs in their landfills. On May 24, 2023, EPA issued a guidance memorandum addressing the hazardous waste status of LIBs under the Resource Conservation and Recovery Act (RCRA). The intent of the memorandum was to clarify that although LIBs generally qualify as a hazardous waste under RCRA, they can be managed as universal waste under 40 CFR Part 273, *Standards for Universal Waste Management*. Universal waste is defined as “hazardous wastes that are widely produced by households and many different types of businesses.” Universal wastes include batteries, pesticides, mercury-containing devices, and aerosol cans. The 40 CFR Part 273 regulations are meant to “streamline the hazardous waste management standards for certain categories of hazardous waste that are commonly generated by a wide variety of establishments” (<https://www.epa.gov/hw/universal-waste>).

The frequency and severity of LIB fires at solid waste facilities have been somewhat anecdotal as reporting and research have been limited. EPA conducted a preliminary study into the effect of LIBs on fires in waste management facilities from 2013 to 2020 and published their findings in a July 2021 report.¹ They noted that the results “illustrate the scope and intensity of this problem but do not constitute a full accounting of recent LIB-linked fires in the nation’s waste stream.” EPA’s data presented in Figure 1 illustrates the significant growth in LIB fires since 2013.

Proper Disposal

Municipalities and facilities across the country are engaging in information campaigns to educate residents about how to properly dispose of LIBs. In Highlands County, the Solid Waste Department and Public Information Office have issued news releases to local newspapers, radio stations, and social media urging residents to learn

how to dispose of LIBs safely and properly. In a press release, Clinton “Gator” Howerton, Jr, Director of Critical Infrastructure, said, “fires caused by electronic waste are a growing problem—when refuse is compacted or crushed in rubbish trucks and landfills, the batteries can be damaged and cause fires; and that lithium-ion batteries should be taken to a separate recycling or household hazardous waste collection point, like the County’s landfill.”

The demand for these high-energy and compact batteries to power the items in our day-to-day lives will continue to increase; therefore, improved awareness of the consequences of disposal is critical. As a best practice, consumers should not dispose of their LIBs with their household waste or recycling bins; instead, they should dispose of these items at household hazardous waste drop-off locations or battery/electronics collection programs.

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Note

1. An Analysis of Lithium-ion Battery Fires in Waste Management and Recycling, EPA, July 2021, EPA 530-R-21-002

Advertising Opportunities Available

It’s not too late to reserve a space in the Fall/Winter issue of Talking Trash.

Job Openings

Post an employment notice on the SWANA FL website and in the YP newsletter for FREE!

Email

info@swanafl.org

or visit

www.swanafl.org

for more information.

Observations About Work and the Solid Waste Industry

Marc J. Rogoff, Ph.D.

A few years ago, in preparation for my Life Membership Award from the Solid Waste Association of North America (SWANA), I wrote a guest editorial for one of the solid waste journals. I re-read that editorial a few weeks ago and decided to write an update based on my mentoring roles and project management assignments over the past five years. I believe that these personal observations, which are discussed in the paragraphs below, will be interesting for many Florida chapter members, particularly our Young Professionals.

First, some personal observations about work life issues:

- **Always try to return phone calls and e-mails in a timely fashion.** Sometimes, the smallest little things can have the biggest impacts. “I’ll get to it eventually” is a thought that has likely run through the mind of many a young professional. While you may think that not returning a phone call promptly is not that big of a deal, it can have massive repercussions on your career. Most obviously, it gives a bad impression of your work ethic—that you cannot be relied upon to provide expedient service. In today’s world, people expect things fast. You are competing against the almost instantaneous responses individuals can receive from Googling their question. Returning phone calls and e-mails shows that you are dependable and that you prioritize individual relationships. It’s also simple good manners.
- **Be genuine and have integrity.** You have probably heard this from parents, professors, or mentors, but when it comes to career success, it’s all about who you know. When you are trying to work your way up in your field or take on a greater role, a positive referral from a well-respected professional can make a big difference. Of course, this doesn’t mean be overly nice or fake—people can see right through that facade. You need to be genuine and put in the effort to get to know and get along with others. People do not just care about your ability to do the job; they are also interested in your demonstrated integrity. If you have strong convictions about something, stick to them. Anyone who can be convinced without effort to change their mind illustrates that their convictions were not steadfast in the first place. Moreover, most people will respect your opinions if you verbalize them appropriately. On the other hand, have the maturity and grace to accept the arguments of others and be prepared to learn a thing or two. No one can ever say they have everything figured out perfectly.
- **Be active in a professional or social organization.** Given the number of responsibilities we must juggle daily, joining a professional association may not be among your top priorities. Which busy person, after all, has the time for more meetings and activities after spending a whole day at the office? Thinking this way may cause you to miss the numerous benefits that membership of a professional association can bring. Whether you join a national-level organization, an industry-specific body, a neighborhood community association, or a special focus group like SWANA, the decision to join an organization can result in valuable professional contacts and access to a wealth of information, as well as the development of meaningful, lifelong relationships.
- **Mentor others.** A mentoring partnership can be rewarding to both the mentor and the mentee, personally and professionally. Both sides of such relationships can be an opportunity to develop communication skills, expand your viewpoints, and consider new ways of approaching situations. It is a win-win, where both partners can advance their careers in the process.
- **Write.** Even if you don’t consider yourself to be “a writer,” you should consider writing about your contributions, projects, or community. Writing can be a great way to share knowledge and engage others in your work, and it has personal benefits as well. It can help you meet new people, learn new skills, and improve your communication style and confidence. I find that writing often clarifies for me what I don’t know about a topic. The process highlights gaps in my understanding and motivates me to fill in those gaps through further research, reading, and asking questions.

Now, a few thoughts about our solid waste industry:

- **Recycling**—Rates of recycling sky-rocketed in the U.S. with the advent of single-stream curbside services in recent years, mainly because China and other Asian nations were willing to take our garbage embedded with recyclables. Many communities patted themselves on the back about the “good recycling” they were doing. Aspirational and lazy recyclers alike were able to just throw everything in the recycle cart. Single-stream recycling was literally the least we could do. However, once China and other nations established rigorous quality controls on importing our recycling, the market for mixed paper and plastics collapsed. This exposed the reality that single-stream recyclables were usually highly contaminated with plastic bags, broken glass, expanded foam packaging (Styrofoam), rubber hoses, food residues, and other trash, making the whole mix unrecyclable. The truth is, as a society, we are actually pretty bad at recycling. Strong public education programs as well as penalty systems will be needed to fix this problem and minimize contamination to acceptable levels. We also need to focus on developing our own mills to

turn these recyclables into useful products without reliance on exporting materials. Moreover, we need to ban things like single-use plastics, which are degrading our environment.

- **Regulations and Costs**—As someone who does rate studies for a living, I have been amazed at all the discussions about the cost of waste disposal. When compared to typical items in public works, solid waste collection and disposal are relatively inexpensive. As a society, we really do not place a premium on the clean water and air afforded by modern waste collection and disposal. We need to do a better job of valuing these regulatorily driven benefits. When I consider the current state of the environment compared to when I started at Cornell in the 1970s, we've made some remarkable progress. On the other hand, as a society, we still tend to push environmental costs onto future generations. For example, it is my perception that the financial assurance requirements within our current landfill regulations still do not fully account for some long-term environmental costs of landfilling. We are kidding ourselves that the tipping fees currently charged truly account for all future costs. We need to require a more robust lifecycle cost accounting for landfilling, to properly assign costs to environmental externalities and not just pass these costs along to our kids and grandkids.

- **Facility Siting**—Not in my backyard (NIMBYs) concerns control the siting of most public works projects. All you need is a small minority to force decision-makers to quiver in their boots about making the right decision on siting a solid waste facility. Political decision makers need to have a backbone and trust in the advice they have received by subject matter experts. We also need to do a better job in supporting them in making difficult

but correct decisions that can never please everyone.

- **Producer Responsibility**—Recycling as it is currently practiced should be called what it is the transfer of producer responsibility for their products and packaging to the consumer and taxpayer, who must ultimately



Oftentimes, materials placed in recycling carts are contaminated. Educational programs need to highlight which materials are truly recyclable. Otherwise, this turns into "wish recycling."

ensure and pay for its pickup and management. Local governments are left holding the responsibility for businesses inability or refusal to do what is right, which is to take charge of the materials used and produced, particularly with regard to minimizing the use of non-recyclable materials and single-use packaging. Until manufacturers become directly responsible for the costs associated with their decisions on materials and packaging, we should not expect serious progress on recycling.

- **Waste-to-Energy**—In the U.S., waste-to-energy (WTE) has always been the piñata for environmentalists and zero waste activists, who tout that everything can be recycled. In comparison, European and Japanese cities have turned to WTE as an essential component of the circular economy, with unrecyclable solid waste being turned into electricity, fuels, heat, and/or steam. Landfills are rightly frowned upon in Europe and Japan and only used to dispose

of the byproducts of WTE. In the U.S., we primarily dispose of solid waste through long-haul transit into mega-landfills. What environmental sense does that make? As outlined by the EPA in their sustainable materials management hierarchy, WTE is the preferable disposal option over landfilling if recycling, composting, or other waste diversion options are not available.

- **The Newest Mousetrap**—For my entire career, I seen one salesman after another tout their latest "revolutionary" technology that can recycle 100 percent of a raw solid waste stream and is cheaper than landfilling. We should be wary of anything that has not worked beyond pilot scale, that has not been working on a consistent basis in our industry for several years, or, most importantly, for which the vendor needs the government to take all the financial risk. There's usually a good reason why the private sector can't bring something to market on their own.

Conclusions

These observations on project management and standards in the solid waste industry have proved valuable to me over a long professional career. I hope that these will be valuable to you in your career. If you have any comments, please feel free to drop me a line.

Dr. Marc J. Rogoff has worked in the solid waste industry as a solid waste manager, solid waste consultant, and statewide manager of a public administration institute. Based in Tampa, FL, he currently works as a Senior Consultant with Geosyntec Consultant's Solid Waste Advisory Practice. Opinions expressed in this guest editorial are his own and do not necessarily reflect the views of his employer or this publication. Marc can be reached at (813) 810-5547 or mrogoff@geosyntec.com.

Photo courtesy of Marc Rogoff.

Commentary: Advanced Aesthetics and Structural Integrity for Future Waste-to-Energy Facilities

Paul Hauck, P.E. and Rich Ubaldi, P.E.

A concept for future WTE facilities with enhanced aesthetics and structural integrity started approximately 27 years ago with two seasoned veterans of the Waste-to-Energy (WTE) industry, both of which were working at their former employer in the business development department. Its origin began with the challenge from senior management to find a way to build a WTE plant that didn't have its tell-tale stack to proudly announce its presence to the host community.

The omnipresent stack represented a throwback to the bygone industrial era and was thought to promote NIMBYism.

Circa 1994, two engineers had a bright idea while sitting at the airport after a marketing trip to explore development of a WTE project in Central Florida. They were lamenting the difficulty presented by the stack when they literally came up with an idea which was sketched on the back of the proverbial envelope (a damp napkin from condensation of the Florida humidity). The concept was for an integrated dome design with a rearranged process flow layout that allowed the stack, and resulting flue gas, to exit at the dome apex, but be basically flush and mostly invisible from the local view. However, because domes of all types had long been patented, the key to getting this application approved by the patent office (patent #5,531,170) was the redesign of the WTE facility layout and its integrated flue gas exhaust within a dome. Additionally, a critical wind tunnel test was contracted with one of author's former fluid dynamics professor at the university (now NYU) graduate research lab. It showed that the dome did not affect the flue gas dispersion. In fact, the surprising result was that the dispersion acted the same as if you had a stack of the same height and no dome. This breakthrough allowed the patent to be issued, but unfortunately, the opportunity to implement the design and meet the challenge from management never materialized.

Getting the patent was an easier process than getting everyone at their former place of employment to support the concept. "Why fix something

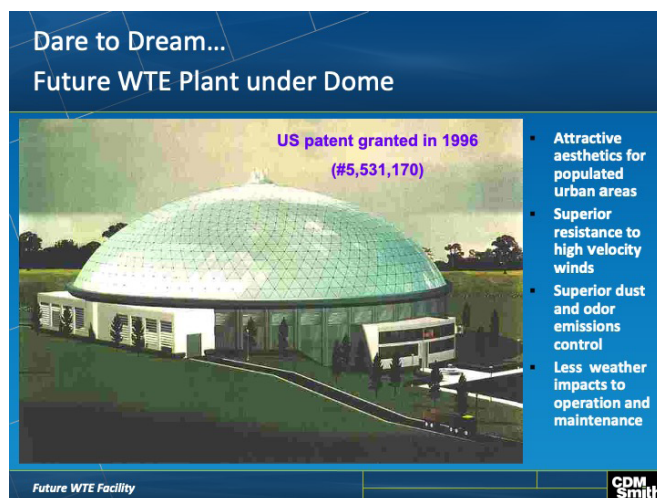


Figure 1

that isn't broken?" they chided. After more than a year of development, which included input and support from Temcor representatives, a U.S. dome manufacturer, a workable cost estimate, detailed interior dimensional, and process flow layout, an overall aesthetic design was developed for a Massburn WTE process (see Figure 1). Unfortunately, this insight proven to be another one of those inventions hatched "before its time." The market for new WTE projects essentially disappeared in the U.S. right about the time of this invention, and before too long, both were on to new career paths.

Considering the unfortunate impacts of Hurricanes in Florida, it may be worth re-visiting the concept for designing structures with lowered drag coefficients. This advancement would enclose a modern WTE facility inside of an essentially hurricane proof structure, while providing an aesthetically pleasing view to the community.

Paul Hauck, P.E. is Senior Environmental Engineer for CDM Smith in Tampa, FL. He can be reached at 813 281-2900 or e-mail HauckPL@cdmsmith.com.

Rich Ubaldi, P.E. is semi-retired and living part-time in Bradenton, FL.

Congratulations New SWANA FL Officers and Directors

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Sarasota County

Vice President

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Lee County Solid Waste

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Becky Hiers-Bray
GAI Consultants

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Gene Ginn
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Geosyntec Consultants, Inc.

Monica Hool, CDM Smith

Thierry Boveri, Raftelis

Member News

Sarasota County's *Leaf It Out* Campaign

Following the lead of surrounding communities, Sarasota County began moving toward the elimination of plastic bags from their yard waste collection processes last fall. On November 15, 2022, the Sarasota County Commission adopted an ordinance revision to eliminate the option to accept yard waste in plastic bags for processing at the Central County Landfill. This change helps support Sarasota County's commitment to environmental stewardship and reduce staffing challenges and associated plastic bag removal costs prior to processing.

Approximately 145,000 Sarasota County residences were impacted by this change. Knowing that media is consumed differently through the various generations living throughout Sarasota County, the Solid Waste department deployed a dynamic, multimedia campaign, which included a combination of print and digital advertising, broadcast and streaming radio, social media, newsletters, flyers, postcards, doorhangers, and outreach events, to reach as many citizens as possible.

Working toward a May 1 implementation date, education outreach efforts began mid-March and ran through early June. Messaging was scripted for three phases: 1) Initial announcement, 2) A change is coming May 1, and 3) A change took place on May 1.

Below is a quick overview of the campaign.

Paid Advertising

Sarasota County contracted for paid content with local media outlets:

- 59 print ads across six publications
- 1.8 million digital impressions
- 319 :15 spots on broadcast radio
- 368 :15 spots on streaming radio
- Targeted e-mail blast
- Sponsored Facebook posts
- Seven-day enhanced banner
- Flyer insertion
- Cover tab sticker

Free Advertising

Relationships with internal county departments were leveraged to extend the reach of the campaign:

- Signage placed in 40 county transit buses.
- Content insertion in 14 editions

of county/community newsletters (County e-news, UF IFAS/ Extension – University of Florida, Neighborhood Services and Governmental Relations).

- 17 social media posts on Facebook and on Twitter.
- Enplug slide display in nine county libraries and two county administration buildings.
- Flyers displayed in nine county libraries.
- 3-1-1 staff mentioning campaign to 5,000+ callers with solid waste related questions, and to other callers when appropriate.

Media Coverage

- Four media pitches sent to a total of 86 reporters.
- Generated seven interviews that aired across four stations.

Additional public outreach efforts including a postcard mailing, use of doorhangers during the transition period and interaction with the public at several community events. With the support from Sarasota County's county commission, the current franchise hauler, and numerous county departments, the *Leaf It Out* campaign was deemed a success and enabled a smooth transition to

eliminate plastic bags for yard waste collection.

For more information, contact Wendi Crisp, Sarasota County Solid Waste, at (941) 861-6218 or e-mail wcrisp@scgov.net.

Leaf it OUT!
No plastic bags for yard waste.

Beginning May 1, 2023,
Sarasota County will no longer accept yard waste in plastic bags.

CURBING COST. INCREASING SUSTAINABILITY.

Sarasota County
Questions? Scan QR code,
contact Sarasota County at 311
or visit scgov.net/leafitout.

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Member News

Kessler Consulting, Inc. Welcomes Three New Members to their Team!

Randy Rudd

has joined KCI in the role of Senior Consultant. Originally from Clearwater, FL, Randy has a degree from the University of South



Florida in Political Science and Public Administration. Before joining KCI, Randy was the Executive Director of Environmental Management for Charleston County, SC and prior to that was the Deputy Executive Director of the Emerald Coast Utilities Authority (ECUA) in Pensacola, FL.

Randy has more than 30 years of experience as a Department Director for multiple local solid waste operations in Florida and South Carolina. Randy has extensive management and operational project experience in collections, disposal, material recycling facilities, and composting operations. Programs under Randy's management have won both national and state awards for their accomplishments. Randy has a strong background in local government management, as his previous experience in communities in Florida and South Carolina has given him a unique perspective and understanding of both municipal and county agencies and how they should be operated. Randy's expertise and background will be used on projects focusing on collection operations analyses, rate studies, organics and processing operations and facilities, and solid waste procurements and program transitions.

As a previous SWANA FL Board member, Randy is looking forward to reengaging with our Chapter and serves as KCI's representative with Pinellas Partners in Recycling.

Kyle Richardson joins KCI as a Consultant in their Tampa, FL office. Originally from Orlando, FL, Kyle has an

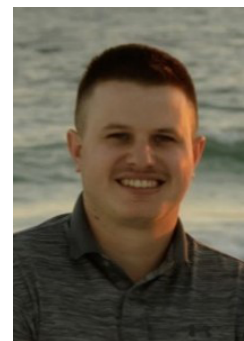


undergraduate degree in Finance from Florida State University and an MBA from the University of Florida. Prior to coming aboard KCI, Kyle held corporate finance roles in planning and analysis in the commercial real estate and healthcare industries, and before that he served clients as a consultant implementing enterprise resource planning and financial software.

Kyle will use his extensive experience in financial planning and analysis, revenue and cost optimization, organizational process planning and improvement, and project management to bring insight and value to KCI projects and clients.

Domanic

Miele a native of Pittsburgh, PA, with a B.S. in Education and background in the institutional sector, joined KCI as a Research Analyst with a focus on composition studies and financial analysis projects. He has served as Field Manager on multiple composition and characterization studies across the nation, ranging from New Orleans, LA to Napa, CA to Olympia, WA. With strength in data analysis and communications, his leadership has proven invaluable in recent characterization studies.



For more information, visit www.kesconsult.com.

New Advisory Board Delegate

Ravi Kadambala is SWANA's newly-elected Landfill Management Technical Division Advisory Board Delegate. Congratulations on your new role and thank you for your time and dedication to SWANA and the LFM TD.



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Sarasota Central County Solid Waste Disposal Complex Phase III Landfill Expansion

Benjamin Lopez, E.I.

On February 1, 2023, a significant milestone was reached when the first truckloads of waste were unloaded into the Phase III Landfill at Central County Solid Waste Disposal Complex (CCSWDC) in Sarasota County, FL. This project began in 2018 and almost five years later, has finished construction that includes a few unique design ideas to help during construction and for long-term operations. Some of these design features included: building the bottom liner below the seasonal high-water table (SHWT), installing early gas collection, and permanent stormwater downcomer perimeter connections.

Building a Bottom Liner Below the SHWT

Yes, you read that correctly, a portion of the bottom liner for this project was built below the SHWT. The water table in Florida is high making it a challenge during landfill design to attain necessary drainage without sacrificing airspace. After geotechnical investigations, it was decided a portion of the landfill area should be constructed below the SHWT to avoid additional soil requirements and gain valuable airspace. What about dewatering? Well, to overcome this challenge, slurry bentonite walls were installed and keyed into the underlying confining layer to create barriers between the groundwater in the areas below the SHWT. A series of wells with pumps inside the slurry



Early gas collection work.



Installing slurry wall.



Permanent stormwater downcomer connection points.

wall pumped out the groundwater. The design of the slurry walls took a great deal of preparation to ensure the bottom liner would be protected and installation was handled properly. Although an added cost to the project, the placement of the slurry wall cutoff systems greatly reduced the risk to both the County and Contractor due to dewatering.

Early Gas Collection

As environmental stewards, our goal is to reduce our carbon footprint by capturing methane. Unfortunately, new landfill cells must wait for adequate waste disposal to install gas collection

infrastructure. For this project, early gas collection, through horizontal wells, was installed along the drainage sand to benefit from the gas generated at the beginning of this cell's life. Gas wellheads were placed at one end of the cell and then a main header was connected to our existing gas infrastructure. The County is pleased with this additional feature to the cell and looks forward to benefiting from this infrastructure when these gas lines are opened to being collecting.

Permanent Stormwater Downcomer Connection Points

Diverting stormwater off a landfill is a major task for landfills, especially for new landfills because of their larger open area. These factors lead to increased generation of leachate and more money spent on disposal costs. To assist the landfill contractor with removing stormwater off the working face, the design team proposed the installation of 22 permanent stormwater downcomers where these pipes can connect. These features were installed along the perimeter of the landfill cell to provide an easy connection for the contractor and prevent continuous movement of piping as well as maintain the perimeter road access without the need to install large soil mounds over piping.

Benjamin Lopez, E.I., is Technical Specialist II For Sarasota County Solid Waste. He can be reached at (941) 861-3033 or e-mail belopez@scgov.net.

SWANA FL 2023 Summer Conference



and Hinkley Center Research Forum



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Upcoming SWANA Events

WASTECON 2023
September 27-29
Boston, MA

**2024 SWANA FL
Winter Conference**
February 19-21
Lake Buena Vista, FL

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