



SOLID WASTE ASSOCIATION OF NORTH AMERICA

The

▶ SUMMER 2016

Keystone

For the Solid Waste Professionals of the Keystone Chapter of SWANA

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A Message from SWANA President: Robert Zorbaugh

As we move into the summer months of 2017, I would like to take this opportunity to wish all Keystone Chapter members and their families a safe and fun summer season. Thus far in 2017, the Keystone Chapter has been able to host numerous programs and events for members. A very successful Safety Summit was held in Harrisburg which was well attended by the membership and we were grateful for the participation of SWANA National CEO David Biderman. Late this spring the Chapter was also able to give back to membership in the Annual College Scholarship program. The Keystone Chapter, for the second consecutive year, hosted the Mid Atlantic Equipment Road-E-O graciously hosted again by the Northern Tier Solid Waste Authority. We are busy planning additional educational mini-tech seminars throughout the remainder of this year. There has been a lot of behind the scenes planning ongoing related to the Fall Conference, co-hosted with PWIA again this year. This is shaping up to be another great event with numerous educational opportunities along with outstanding networking events slated for early September. The Keystone Chapter has also been working on support letters with fellow Pennsylvania Waste Industry trade organizations related to legislative changes to the Covered De-

vice Recycling Act. This legislative policy in current form has become a burden on those tasked with collecting and managing electronic waste within the Commonwealth. We need to advocate for change to improve the current policies to grow and sustain programs across the state.

The summer months are typically the busiest time for the waste industry and with that in mind would like to remind everyone that safety should be a focal point as facilities and individuals become increasingly busier. Remember to convey the importance of work place safety to your staff during this high demand season for your organizations services.

I would also continue to encourage all members to actively get involved with the Keystone Chapter in some fashion from participating as a Board member a committee member or a volunteer at a Keystone event. The Keystone Chapter is only as strong as the participation of the membership. I look forward to seeing you at future Chapter events. ▼

Sincerely,
Robert Zorbaugh
Keystone Chapter President

SWANA 2016 Scholarship Awards



Since 2010 the Keystone SWANA has been providing scholarships to students who are both currently enrolled and actively beginning their college careers. With the help of contributions through sponsored events such as the Road-E-O and Annual Fall Conference, and with the direct purchasing of advertisements in the newsletter, the Keystone Chapter has been able to award thousands of dollars each year to up and coming environmental scientists, engineers and solid waste professionals.

The Keystone SWANA is proud to present the
2016 Grant H. Flint
 Category I Scholarship Winners:

Paige Hoheneder:

Granddaughter of Joseph C. Hoheneder, York County Solid Waste Authority.

Attending: Fairleigh Dickinson University

Essay: "My Views on Solid Waste Management"
 Page 6

Jacob Klecko:

Son of James Klecko, Covanta Energy.

Attending: West Chester University

Essay: "What is Solid Waste Management"
 Page 16

Jacob Myers:

Grandson of Joseph C. Hoheneder, York County Solid Waste Authority

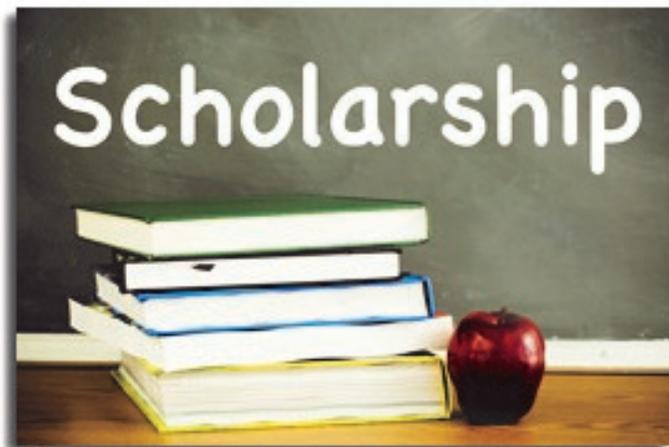
Attending: Indiana University of Pennsylvania.

Essay: "Discussions on Solid Waste Management" Page 11

Makenzie Witmer:

Daughter of Jay G. Witmer, Centre County Recycling & Refuse Authority.

Attending: Pennsylvania College of Technology
Essay: "The Human Environment and Solid Waste" Page 5



The Quiet Crisis of Food Waste



Picture a field ready for harvest. Any field in the world, it doesn't matter: an acre of cassava in Nigeria, a rice paddy in Indonesia, some amber waves of

grain in the United States. Now harvest this imaginary field, and toss one third of it into the trash.

Welcome to the global food supply chain of 2016, a vast system in quiet crisis which requires an emergency intervention to nourish people, preserve our planet and protect profits.

By 2050, the Earth's population will have swelled to an estimated 9.7 billion people. According to Rockefeller Foundation research, all the food that never makes it from farm to table could feed all of the 1.2 billion hungry or undernourished people on the planet today.

While hunger is the most visible part of this quiet global crisis, it is certainly not the only impact. Indeed, the ramifications of global food loss and waste hit home throughout the entire food supply chain in every country in the world and reverberate in corporate bottom lines. Every year, food loss and waste costs the global economy nearly \$1 trillion, which includes \$680 billion in industrialized countries and \$310 billion in developing countries. That's more than the combined 2015 profits of the Fortune 500.

It has dangerous implications for our planet, as well. Limited land and water resources are squandered. In the U.S., a quarter of the world's increasingly scarce freshwater is wasted on unconsumed food. Harmful greenhouse gas emissions increase. In fact, if food loss and waste were a country, it would be the third largest greenhouse gas emitter after the United States and China.

This isn't to say that progress hasn't been made, particularly in the industrialized world. The adoption of new warehousing, shipping and logistics technologies all have reduced spoilage from farm to market. Retailers have installed misters and improved refrigeration, helping extend the shelf life of fruits and vegetables. Food saving technologies like vacuum bags and services that deliver pre-measured portions of food are reducing waste in the home.

Despite advances like these, there remains no comprehensive approach to address all three heads of this hydra — people, planet and profits — simultaneously, including the now-familiar problem of post-consumer waste in industrialized nations, as well as the massive, hidden post-harvest loss issue in the developing world.

That's why the Rockefeller Foundation has launched YieldWise, a \$130 million initiative that will work with private, public and nonprofit participants across the entire global food supply chain to prove that we can slash global food loss and waste by half. We will meet this ambitious goal by attacking the problem at every point of entry, from farm to table to trash: tackling everything from how small-holder farmers grow and store their crops, to how corporations account for food loss and waste, to consumer tolerance for throwing away food.

The initiative is starting work in Sub-Saharan Africa, where some researches say up to 50% of certain crops are lost to inefficient harvesting, storage and processing. Some of the solutions to this problem are simple, like airtight stor-

Food Waste being dumped at a landfill site.



age cocoons and polyethylene storage bags. Others are more complex, but equally achievable, such as mobile processing units — and the consistent electricity needed to power them — that extend the short life of foods like cassava.

These interventions have the potential to transform family incomes and, in due course, local and regional economies. And partnerships between multinational corporations and smallholder farmers enable these farmers to quickly sell their crops to a guaranteed buyer, saving trips to frequently oversaturated markets.

In industrialized countries — where 40% of food waste happens at the retail and consumer level — targeted investments can have a major impact. The average American family of four wastes almost \$1,500 a year throwing away food in their kitchen. This includes the humble broccoli, which sees its stems and leaves thrown out, despite the fact that these parts are almost equally nutritious and delicious as the florets. You just need to know how to prepare them.

While some change will happen at the household level, restaurants, college campuses and supermarkets can take innovative and creative measures to reduce food waste. For example, organizations and companies like the Food Recovery Network, The Campus Kitchens Project and Aramark challenge college and university campuses to reduce waste and recycle more. Through an innovative platform called Zero Percent, restaurants with surplus food can alert local volunteers to take donations to homeless shelters and food pantries. In Canada, supermarket chain Loblaw sells misshapen apples and potatoes at up to a 30% discount through a campaign to encourage customers to buy imperfect-

looking, but perfectly edible, food.

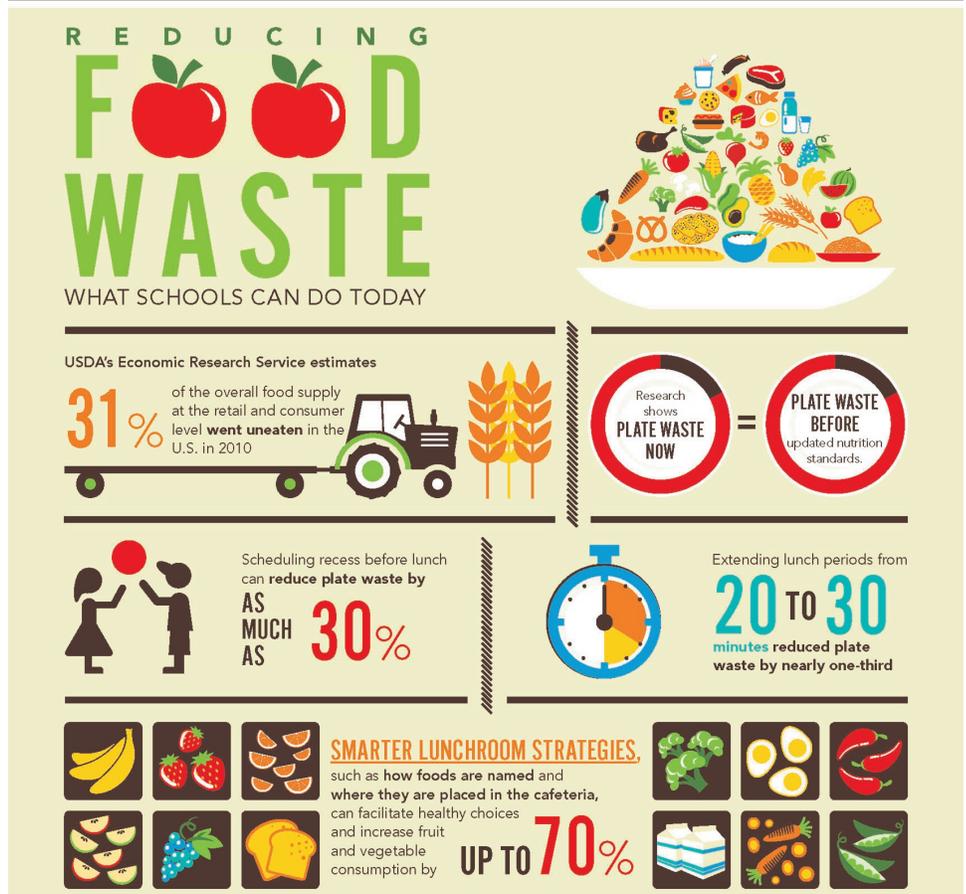
The public sector has a critical role to play in this solution as well. Nearly 200 national governments — including the Obama administration — have already pledged to cut food loss and waste in half by 2030, and 117 cities have signed a pact to develop and implement strategies that improve their local food systems.

No business would ever excuse the loss of one-third of its inventory — and when it comes to the world's food supply, neither can we. Together, these efforts will help ensure that the earth's bounty continues to feed people all over the world. ▼

Original Article by: Judith Rodin and Sam Kass

Published: March 7, 2016

Source: <http://www.coloradoan.com/story/opinion/columnists/2016/03/07/quiet-crisis-food-waste/81462858>



USDA Infographic depicting food waste Stats in typical US Schools.

The Human Environment and Solid Waste

Solid waste management is very important nowadays and is necessary not only to the safety of human environment but to human health as well. At the same time, it is necessary to underline that often a little attention is paid to this problem and the solid waste are often disposed improperly. What is more, this problem is considered to be less important than the problem of proper disposal of other types of waste, such as radioactive. However, the danger and potential threat of solid waste often remains underestimated.

First of all, it should be said that solid waste may represent a serious threat to human health and environment. It is not a secret that nowadays practically all industries tend to produce products that could be recycled or processed with minimal harm to the environment. Nevertheless, it is practically impossible, at least on the current level of the development of technologies, refuse from the use of materials and products that contribute to the growth of solid waste.

Unlike, some other types of waste, solid waste possesses certain characteristics which make it quite dangerous to the environment and may affect considerably human health. Firstly, it should be said that solid waste cannot be naturally processed and, what is more, it pollutes the environment increasing the number of wastes constantly since, as a rule, as this type of waste is not processed naturally and remains not recycled artificially, than naturally this lead to the accumulation of the stock of solid waste. In practice, this means that this waste need the

landfill that is properly build and the measures preventing the spread of waste or its negative influence on the environment and human health are undertaken.

Furthermore, under the impact of natural factors and in the result of improper disposal practices, solid waste may have negative impact on environment and human health causing various types of health problems. Naturally, this risk decreases if solid waste is disposed properly since the conditions of its disposal prevent the waste from emissions of some dangerous gases or other products as well as from other dangerous reactions that may occur under the impact of external factors or simply under the impact of time when solid waste simply start to change or partially decay causing a profound impact on the surrounding nature and people living in the area.

Also, it should be said that the improper disposal of solid waste also increases the costs of environment protection to the local community, while proper disposal of solid waste can make the use of funds more effective and improve the ecological situation. In fact, the ignorance of the problem of improper disposal of solid waste leads to the gradual deterioration of the ecological situation negatively influencing both human health and environment.

Naturally, it is impossible to ignore this problem and, therefore, it is necessary to develop really effective technologies and methodology of the disposal of solid waste

[See "Human" continued on page 6](#)



“Humans” continued from page 5

in order to minimize their negative effects on health and environment. Otherwise, the problem will be growing more and more serious to the extent that it may even lead to an environmental catastrophe if the proper disposal of solid waste is ignored.

In this respect, it is worthy of mention that along with the accumulation of solid waste there may appear another threat to environment, the decrease of clean lands. What is meant here is the fact that the simple accumulation, and, what is more, the improper disposal, of solid waste make the soils and areas where this waste is disposed practically useless. To put it more precisely, in the result of the improper disposal and, therefore, negative impact of solid waste on soil and surrounding nature, it is impossible to use the lands where the waste was disposed for any practical purposes, such as agriculture, or building some residential zones for instance. Naturally, such use if areas where waste were disposed is practically impossible in any case but, in a long-term perspective, the areas where the waste was disposed properly the opportunity to use the area in some practical purposes is more real in the future. At any rate, it is possible, for instance, to cope the problem of deforestation by means of planting trees in the areas where solid waste was disposed but, if it was disposed improperly, that can undermine the natural balance and make such planting practically impossible. ▼

Makenzie Witmer

2016 SWANA Scholarship Recipient



Advertisement

My Views on Solid Waste Management

As part of an assignment for my AP Environmental Science Class my junior year, I was required to carry a trash bag around school for an entire week with the inorganic garbage I produced both at school and at home. I quickly became more aware of what I was eating and the products that I was using and the amount of packaging associated with all of these items. Since I wanted to carry around with me the least amount of trash as possible, I began to make conscience changes to what I was consuming and thereby what I was throwing away. For example, I started to place more food items in my lunchbox into reusable containers, instead of plastic bags, and I began to bring a refillable water bottle with me to school, instead of a one time use plastic bottle. This assignment really opened my eyes to how much goes straight into the trash without a second thought about reusing or repurposing it. Realizing how much trash one person can generate in a single week opened my eyes to solid waste management.

The average American is responsible for generating 4.5lbs. of garbage every day. Individuals and individual households produce waste independently and often act in their own self-interest, consuming materials that are convenient and efficient for them rather than those that are packaged more effectively. As a result of this individualistic mindset, the shared resources of landfills and space for waste to be discarded is being depleted with a growing rate of trash, especially as individuals and businesses disregard their own impact on this shared resource. However, it is clear that it is not in anyone's long-term interest to deplete shared limited resources and to overuse landfills.

Landfills are the primary method of disposing of waste in the United States. However, as landfills fill up, we have to find more sites to place all of our trash. The good news is that we can make changes to our daily routines that can help to decrease the amount of garbage that is piling up in

See “Hoheneder” continued on page 9

5 Law Suits Stranger Than Fiction...That Are Real

As in many other settings, when it comes to lawsuits, fact can be far more bizarre than fiction. Try as you may, you can't do better by making stuff up. How many of the following scenarios are actual court cases?

To get you in the spirit, the undercard:



- A Washington, D.C. judge took his trousers to be dry-cleaned, but, according to him, the cleaners returned someone else's pants. Relying on the "satisfaction guaranteed" sign in the store, he sued the cleaners for \$67 million, claiming mental suffering, inconvenience and shady business practices.

- Someone who had legally changed his name to Jack Ass sued Viacom, which owns MTV, for \$10 million because the network aired a show called "Jackass" which allegedly injured his reputation and defamed his character.

Now, the main events:

- Randall Krause filed suit in federal district court against the city of Omaha, claiming that the city violated the federal Resource Conservation and Recovery Act (RCRA) by using sodium chloride and sodium ferrocyanide - a type of road salt to melt snow and ice- on a street located within a flood plain.



- Gary Gerber was prosecuted for violating the Pennsylvania Solid Waste Management Act by illegally burying solid waste. After a jury handed down a guilty verdict, Gerber asked the judge to set aside the verdict and acquit

him, arguing that the state failed to prove he lacked a permit to dump solid waste. The trial court agreed, but the state convinced an appeals court to overturn the acquittal and remand the case for sentencing. Meantime, Gerber had other problems, starting with a sentence of life imprisonment for first-degree murder in an unrelated matter.

- Lewis Kendall was convicted of criminal littering under Hawaii state law because a deputy sheriff saw him throw rice and bread on public property to feed birds. Kendall had argued unsuccessfully that, because the birds ate the food almost immediately, he was not littering.

The Outcomes

All were actual court filings. (But you knew that.)

In the case of the "No Pants" Judge :

He didn't recover a penny, but he didn't leave the court empty-handed. At the trial, the store owner handed over his pants, saying, "These are yours." - District of Columbia Superior Court.

In the case of the "Name Gamer" Jackass:



Case dismissed. - Montana 20th Judicial District Court.

In the case of "Road Salt Warrior" Randall Krause:

The trial judge dismissed his complaint on grounds that the road salt described in the complaint did not meet the RCRA definition of "solid waste." Undaunted, Krause appealed, but without success. A three-judge appellate panel upheld the lower court ruling relying on a decision by a San Francisco federal appeals court.

There, a utility company had been charged with violating RCRA by treating its utility poles with wood preservative, which was released over time and was in turn "discarded" by rain water falling on poles. But that court concluded the wood preservative was not "discarded" and therefore not "solid waste" under RCRA, as it was released into the environment as an expected consequence of its intended use. - *Krause v. City of Omaha*, No. 15-2985, 8th Cir., Feb. 22, 2016



In the case of "Gracious" Gary Gerber:

He eventually got sentenced to one to 12 months' incarceration for the waste violation with credit for time served. From that ruling he appealed. The reviewing court rejected his claims of ineffective assistance of counsel and evidence insufficient to support a conviction, and upheld the sentence. What's unclear is whether the new jail time would be tacked onto his life sentence. - *Commonwealth v. Gerber*, No. 591 MDA 2015, Pa.Super., Feb. 1, 2016

In the case of the "Non-Littering" Kendall:

To prove the offense, the prosecution was required to present substantial evidence that Kendall knowingly placed, threw, or dropped litter on any public or private property. The deputy sheriff who issued the ticket testified that he observed Kendall throwing rice and other food articles in a 2-1/2 foot radius area on a public walkway, that the birds were actively eating some of the food at that time and that, after the officer's presence scared away the birds and he issued Kendall a ticket, Kendall did not attempt to pick up any of the food remaining on the ground.



By a two to one margin, the appeals court panel found undisputed evidence that before the deputy sheriff intervened, the birds almost immediately began eating the rice and bread Kendall had placed on the ground. *"We conclude that in this case, the State failed to introduce substantial evidence to prove that Kendall knowingly placed, threw, or dropped litter on the property,"* the opinion stated. The conviction was overturned and no re-trial was ordered.

Aside from the merits of the prosecution, his conviction would have been set aside anyway, as the appeals court found that the trial judge denied him the opportunity to make a closing argument and failed to determine that he knowingly and freely waived his right to an attorney before proceeding to trial without one. - *State v. Kendall*, CAAP-14-0001046, Haw.App., Dec. 24, 2015. ▼

Original Article by: Barry Shanoff "Attorney and General Counsel of the Solid Waste Association of North America."

Published March 9, 2016



“Hoheneder” continued from page 6

the landfills and possibly get to a point where there is zero waste. We can reduce, reuse and recycle. I can personally apply these three ‘R’s’ to my household trash. I can look for products that have less packaging, decide not to buy things that do not have a long term purpose, recycle and buy recycled products, receive mail items electronically instead of receiving paper mail, use reusable containers and shopping bags, and compost my organic waste. These same rules can also be applied to solid waste management on a larger scale. Rather than spending money on landfilling garbage, going forward municipalities will spend more of their time and resources on preventing waste from ever reaching landfills. Increased public education on solid waste management, increased recycling opportunities for individuals and businesses, and mandatory composting are the keys to moving our country towards zero waste. ▼

Paige Hoheneder
2016 SWANA Scholarship Recipient

Save the Date: Drone Demo Mini-Tech

Save the Date
Drone Demonstration Mini-tech
October 21, 2016

Northern Tier Solid Waste Authority
Bradford County Landfill
108 Steam Hollow Rd
Troy, Pa 16947.



Remote Intelligence will demonstrate how drones can be used for topographic mapping and volumetric analysis.

More information will be posted to the Keystone SWANA web site (<http://www.keystoneswana.org/>) as details are finalized.

MIC

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YCSWA Gets Updated E-Waste Policy



The York County Solid Waste Authority offers a revamped residential Electronics Recycling Program in York County. The program is free and open to York County residents ONLY and is conducted Tuesdays, Wednesdays and Thursdays from 3:00 p.m. to 6:30 p.m. every week at the Authority's Yard Waste Site located off of Flour Mill Road in Manchester Township. Saturday events are no longer conducted at the Yard Waste Site. The multiple days and additional hours will provide residents with greater opportunity, flexibility and efficiency in recycling electronic devices.

Penn and Fairview Townships will also be conducting electronics recycling collection programs. Both Penn and Fairview will accept electronics from all York County residents and offer weekday and Saturday collection hours. Please call, or visit their web sites for times and locations:

Penn Township: 717-637-1561, <http://www.penntwp.com/>
Fairview Township: 717-901-5200: <http://twp.fairview.pa.us/>

The Authority's e-scrap management contract is with electronics recycling vendor ECOvanta and extends only to December 31, 2016. The Authority is pursuing program alternatives for 2017.

Act 108, the Covered Device Recycling Act, bans both the disposal and collection of certain electronic "covered devices". Electronics currently banned from hauler collection and disposal in PA waste disposal facilities include: televisions, desktop and laptop computers, com-

puter monitors and computer peripherals (anything that connects to a computer such as a mouse, keyboard, printer, etc.).

Material accepted in the program includes these electronic "covered devices" as well as other electronic recyclables including cell phones, vacuum cleaners, alarm clocks, irons and coffee makers or anything with a plug that does not contain Freons. Examples of Freon-containing items include refrigerators, freezers, air conditioners and dehumidifiers.

Act 108 applies only to residential sources of electronic devices specified in the Act. As such, Original Equipment Manufacturers providing recycling capacity to electronics recycling vendors will not accept electronics from non-residential sources. York County organizations, schools and businesses that wish to recycle electronic devices may contact electronics recycling vendors directly. A list of recycling vendors is also located on our website at: www.ycswa.com.

The Authority facilitates responsible solid waste management through an integrated system that emphasizes

waste reduction, reuse, recycling and resource recovery. The Authority is the owner of the York County Resource Recovery Center in Manchester Township. The Resource Recovery Center manages York County's household and commercial waste, as well as some manufacturing waste. ▼



Infographic on commonly accepted E-Waste Items

Submitted by: Jen Cristofoletti
 Published: June 23, 2016

Discussions on Solid Waste Management

Discussion 1: What is Solid Waste Management?

Solid waste management refers to a strategy where solid waste is managed from its conception to final disposal. This process includes storage, collection, transportation, and the disposal and treatment of the final product. Regulatory requirements help keep workers and the environment safe from all different types of harmful waste. The term solid waste management refers to all types of waste generated from residential, commercial, industrial, and agricultural facilities, as well as the impact they have on the environment and public health. The term can also be associated with waste that has the potential to be recycled, renewed, or reused.

Discussion 2: Who participates in Solid Waste Management?

Many different stakeholders participate in the process. From the community at large to governmental and regulatory agencies. Along with designers, operators of treatment facilities such as landfills, composting facilities, and waste-to-energy plants. Those who transport the waste also play a large role in the process. It is important that all of these different participants work together to successfully plan for the disposal of waste, while at the same time creating certain strategies to advance in waste reduction, treatment and the recycling of solid waste.

Discussion 3: What are the current issues facing the profession?

This is a difficult area to respond to since I have no personal experience I can relate. However, one of my best sources for this information was my grandfather. From his perspective the industry has a hard time attracting young professionals to the field of solid waste management. My studies at the University of Indiana in computer engineering may offer some opportunities to develop interest in the field. On the other hand, if the concern is with the issues within the field of solid waste management itself, I would say that one of the main issues is the safe disposal and processing of waste. Hazardous, and unsafe waste are extremely hard to manage, being that they can harm workers, the public, and the environment. Strict regulations must be taken into account to make sure no damage to public health or the environment is caused when dealing with this type of waste.

Discussion 4: My thoughts on the future direction of solid waste management.

With the issues and concerns I have addressed above, I believe that the future of solid waste management is taking the current systems we have in place and improving upon them to make sure they will stay safe, while at the same time meeting our future needs. I also believe that new and innovative processes of dealing with solid waste need to be developed. For example a goal set by many in the solid waste management field is “zero waste”. This is even happening today as major corporations adopt these new goals to massively reduce and recycle waste they previously might have just thrown away. “Zero Waste” is a currently attainable goal, but the way we create it needs to be improved upon vastly in the future. Even locally in York county Pennsylvania, a resource recovery facility is set to create an innovative ash processing and recovery system to recover metals and other materials once thought impossible. This is just one aspect of many plans for the future of solid waste management. ▼

Jacob Myers

2016 SWANA Scholarship Recipient

Harrisburg Makes Progress on Commercial Trash

Two large apartment buildings in Harrisburg that were using private haulers to dispose of trash are now using city services, marking a major development in the city's efforts to reclaim commercial accounts.

Executive House and the Townhouse Apartments both transitioned to city services Jan. 1, said Harrisburg Mayor Eric Papenfuse. The city is expecting about 80 other commercial accounts to rejoin the city by March 1, under an agreement Papenfuse made with three private haulers who had been servicing the accounts. The new customers are expected to generate an additional \$100,000 per month in revenue to the city's new neighborhood services division, formerly known as public works.

Under city ordinance, private haulers cannot operate in the city unless they are servicing a business with a waiver. Any waivers previously granted to commercial businesses have long since expired, said Neil Grover, city solicitor.

Amid an overhaul of Harrisburg's trash and recycling programs last year, city officials identified about 350 commercial property owners who were using private haulers against city ordinance. The agreement with the private haulers allows for an orderly transition of nearly all of those accounts back to the city, the mayor said, which is necessary to help balance the city's budget.

The first round of customers will return March 1, with the next rounds coming on board Dec. 1., and June 2017. City officials have not yet calculated revenue estimates for how much the second and third rounds would generate for the city.

Private haulers have started to send notices to all of their customers, alerting them to the change. Harrisburg Park Apartments, which filed a lawsuit against the city last year to be able to retain a private hauler, will also be transitioned back to the city, according to Mayor Papenfuse.

"They have no alternative but to work with us," Papenfuse said. "I think if they implement meaningful recycling we can get them down to a rate they can live with."

Tim O'Donnell, of Republic Services, said he and representatives from other



Harrisburg Mayor Eric Papenfuse unveiled new trash and recycling containers at a news conference. At left is Public Works Director Aaron Johnson.

private haulers held a series of meetings with city officials. He said he appreciated the mayor's willingness to transition gradually as their contracts with city customers expired. "The transition benefitted both sides," he said. "The city has its own challenges to be able to take on the additional work."

The mayor's 2016 budget, approved by council last month, contains money to hire 17 public works employees and earmarks \$1.3 million for new equipment. The city should continue to invest in sanitation, Papenfuse

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**For additional information and an application visit KeystoneSWANA.org or contact Alison D'Airo
Phone 717-737-8326**

Note of interest—sponsors to either the Road-E-O or the annual Chapter meeting will receive a free advertisement in the next issue of the Keystone newsletter.

has said, because it the one revenue source that is out-performing expectations. It was the one area of the budget that could afford new hiring in 2016.

As part of the trash overhaul, city officials have granted several dozen two-year waivers for commercial properties that have special trash needs, such as large trash compactors or environmental restrictions. "I think it's the single biggest accomplishment of last year, to get all three major private haulers to transfer back all of their accounts this year and next," Papenfuse said. "We've come a long way since the (city's financial recovery plan) recommended privatization."

Meanwhile, the city is continuing to try to collect on more than \$1 million in disputed trash bills owed mostly by large apartment complexes, including Townhouse and Executive House. City officials have reached an agreement in principle, Papenfuse said. David Lanza, an attorney who represents Executive House and Townhouse Apartments, confirmed that both buildings are now using city services and that negotiations are underway regarding the disputed trash bills. ▼

Original Article by: Christine Vendel

Published: February 01, 2016

Source: http://www.pennlive.com/news/2016/02/harrisburg_gets_back_commercia.html?utm_source=CPBJ+Morning+Roundup&utm_medium=Email&utm_term=http%3a%2f%2fwww.pennlive.com%2fnews%2f2016%2f02%2fharris-burg_gets_back_commercia.html&utm_campaign=Wolfgang+Candy+names+new+COO



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Bob Watts Honored at SWANApalooza

The Distinguished Individual Achievement Award from the Landfill Management Technical Division was presented to Robert A. Watts, S.C., BCEEM, Executive Director, Chester County Solid Waste Authority, Pennsylvania, during the awards ceremony at SWANApalooza in Charleston, South Carolina.



Bob Watts

In addition to his service as Chair of the Awards Committee for the Landfill Management Technical Division, Bob recently completed a term as Director for the Landfill Gas and Biogas Technical Division.

Bob was nominated for the award by Robert Schoenberger, Ph.D., P.E., BCEE, Chairman of the Chester County Solid Waste Authority, who presented the award to Bob in Charleston. *“Without reservation, I can assert that Bob performs his responsibilities in an exemplary manner,”* Schoenberger said in the application.

Introducing Watts at the award ceremony, Dr. Schoenberger offered the following remarks. *“This award is the highest honor that can be granted by*



a Technical Division and selection is based upon two criteria: (1) service to SWANA and the Division and (2) recognition by his peers of superior landfill operation, engineering and construction.”

According to his nomination application, Bob Watts, a graduate from Utah State University, has been a SWANA member since going to work for the Authority in 1999. He became active in the SWANA Keystone Chapter and served a two-year term as president and still remains the Chapter’s International Board Representative.

He has seen significant service on committees and as an officer in both the Landfill Management and Landfill Gas and Biogas Divisions. In recent years his professional activities have broadened to include Solid Waste Management Planning and waste reduction, recycling and waste processing. For two years he was the interim Executive Director for the Professional Recyclers of Pennsylvania, Serves on the Pennsylvania Solid Waste Advisory Committee and

as liaison to the Pennsylvania Waste Industries Association.

Bob’s passion in SWANA has been the Road-E-O. For the last dozen years Bob has devoted extra to the Road-E-O. Beginning with the Keystone Chapter, Bob reached out and induced New Jersey, Delaware and Maryland landfills to participate in a “Middle Atlantic Regional” Road-E-O. This Rodeo has been rotated among the states and has been extremely successful in promoting camaraderie among both public and private sector landfills.

Bob also serves on the SWANA Training Faculty, and he instructs both the MOLO and Bioreactor Landfill courses. He has devoted extensive review time to the upgrade and revision of both these courses in the past five years.

Congratulate Bob on his award: Bob Watts, Executive Director, Chester County, PA Solid Waste Authority, at bwatts@chesterccswa.org or 484-796-4040. 🗳️

Released by: SWANA
Published: April, 2016
Edited by: Alison D’Airo

Source: <http://swana.informz.net/admin31/content/template.asp?sid=48637&ptid=1012&brandid=4288&uid=1009292151&mi=5550707&ps=48637>
- Suggested by: Bob Watts and R.J. Schoenberger Ph.D., P.E.

David Hostetter Named Waste 360 YP Winner



Next Generation of Leader in the Waste and Recycling Space Award: Dave Hostetter of SCS Engineers.

Waste360 Unveils the Next Generation of Leaders in the Waste and Recycling Space Award.

The Waste360 “40 Under 40” awards program recognizes inspiring and innovative professionals under the age of 40 whose work in the waste, recycling, and organics industry has made a significant contribution to the industry. Dave

Hostetter focuses on designing landfill gas systems and landfill gas flare systems. Although still considered a young professional himself, he serves as a mentor to other engineers, providing guidance with hands-on design as well as professional guidance.

Dave is a LEED® Accredited Professional (LEED AP) and a Certified Energy Manager (CEM). He brings to SCS Engineers an abundance of expertise and fresh ideas. Dave has a keen eye for troubleshooting and diagnosing control system issues. He serves SCS clients wholeheartedly and goes out of his way to provide assistance as well as the expertise needed to make their day-to-day operations run as smoothly as possible. Dave has participated in a multitude of landfill gas and leachate system designs, including designs for blower and flare stations, wellfields, gas conveyance piping, leachate pumping systems, and groundwater extraction systems. His vast and varying experience, honest and hard-working approach to projects, and his positive attitude make him a respected resource within the firm.

Dave lives the SCS mission, and clients trust him for his honest and comprehensive approach to their challenges. Dave takes ownership of his work and puts in the time and effort to deliver excellent results and maintain a great relationship with his clients. *“Dave Hostetter sets the example of how an honorable, dynamic, and experienced engineer should act at SCS,”* said Paul Mandeville, Senior Vice President and Director of SCS’s offices on the east coast. *“Dave serves as a model of what young professionals and students should strive to become in their professional and personal careers; we are very proud of him.”*

Please join SCS in congratulating Dave Hostetter on his recent recognition by Waste360. 🏆

Original Article by: Diane Samuels

Published: May 10, 2016

Source: <http://www.scsengineers.com/scs-engineers-david-hostetter-pe-leed-ap-cem-named-a-waste360-young-professional-award-winner/>

- Suggested by: Denise Wessels



What is Solid Waste Management

Growing up in a household where waste management is a highly discussed topic, with my father being in the industry, and my sister being in the waste industry from an environmental perspective, we discussed continuously what I believe solid waste management is. It can be unused electronics, household trash, recyclables, or the daily newspaper. However differed, all this waste can be monitored and managed,

All products are handled in different innovative and hopefully sustainable ways. There are specific companies who make it their business to handle many different wastes, keep the waste harming the environment, and attempt to provide long term solutions to our disposal dilemma.

Waste is a business, there is the management side of it, where private companies and municipalities work various aspects of the industry as a business, with trash and various recyclable pick-ups on a regular basis. There is also the economic side, private companies attempt to prosper from waste collection and disposal as well as recycling some products for re-use, and municipalities who try to get all-inclusive services with the least financial impact to their citizens. On an environmental side, companies try to dispose of waste in a safe, clean and sustainable way. They want to avoid damage to the environment by getting rid of all wastes, including harmful products, to approved facilities, dispose of regular trash as an energy source or recycle products for proper re-use and recovery.

Recycling comes in various forms, it is used for fuel for energy generation, re-using products to minimize use of virgin resources or recovering usable electronic products or recovering valuable metals. On a political side, governments both local and state must find ways to make it easy for people to properly dispose of all waste they may generate. The convenience of curb side collection is only the start. Communities also need places that are easily accessible, controlled and sustainable and understandable, to dispose of all discarded material.

The responsibility of workable programs falls in the hands of state and federal government creating an environment where private industry can succeed and provide our Earth's environment is protected and the burden of financial responsibilities do not overload local governments.

In closing, the true responsibilities of waste management starts with the people who dispose of their wastes being responsible, governments developing workable programs and businesses for developing innovative means and effective solutions for disposal of the waste. The future of waste management relies on all these factors. Waste is a resource, we must handle and treat it as such. We must learn to accept tomorrow is in our hands, we can throw it away or make it work for us. ▼

Jake Klecko
2016 SWANA Scholarship Recipient

Cleveland Brothers



The Leachate Treatment Process: An Introduction

There is a growing need to consider the installation of onsite LTP as the EPA and POTWs continue to make it difficult for landfills to meet their leachate limitations. When considering this process there are three common levels of the leachate treatment process: primary, secondary, and tertiary (or advanced). In many cases all three should be evaluated at the beginning design stage. Landfills with existing LTPs, may need to consider additional stages. This is a brief description of the stages and the purpose of each.

Primary Treatment

Primary (mechanical) treatment is designed to remove gross, suspended, and floating solids from raw leachate. It includes screening to trap solid objects and sedimentation by gravity to remove suspended solids. This level is sometimes referred to as “mechanical treatment”. Chemicals such as coagulants are commonly used to accelerate the sedimentation process. Primary treatment can reduce the BOD of the incoming leachate by nearly 30% and the total suspended solids by nearly 60%. Primary treatment is usually the first stage of the leachate treatment process. As the leachate load increases, the need for treatment continues to increase. Some locations that have been treating leachate in the primary stage are now adding or have plans to add additional treatment stages like secondary and tertiary.

Secondary Treatment

Secondary (biological) treatment removes the dissolved organic matter that escapes primary treatment. This is achieved by microbes “bugs” consuming the organic matter as food. They convert it into carbon dioxide, water, and energy for their own growth and reproduction. The biological process is then followed by secondary sedimentation tanks to remove additional suspended solids. About 85% of the suspended solids and BOD can be removed by a well running plant with secondary treatment. Secondary treatment technologies include a basic acti-

vated sludge process, variants of ponds and constructed wetland systems. Tertiary treatment addresses what these trickling filters and other forms of treatment cannot break down through biological activity.

Tertiary Treatment

Tertiary treatment is additional treatment which can remove more than 99% of all the impurities from leachate, producing an effluent of almost drinking-water quality. The related technology is extensive and requires a high level of technical knowledge and well trained treatment plant operators. The success of this stage relies on a steady supply of energy and chemicals with the correct equipment design. A typical tertiary treatment process modifies conventional secondary treatment plants by removing surplus phosphorus and nitrogen. Current EPA discharge limitations often require this level of treatment. Disinfection, typically with chlorine, can be a final step before discharge of the effluent. However, some environmental authorities are concerned that chlorine residuals in the effluent can be a problem in their own right, and have moved away from this process. Disinfection is frequently built into treatment plant design due to the reduced effectiveness of ultraviolet radiation where the effluent is not sufficiently clear or free of particles.

As the EPA and POTWs continue to make it difficult to meet discharge limitations, the need for an onsite leachate treatment process is inevitable. Experienced companies like Coyne and our engineering partners, will help optimize the correct design and provide the most impactful treatment applications for a better and more cost effective solution to today's leachate concerns. ▼

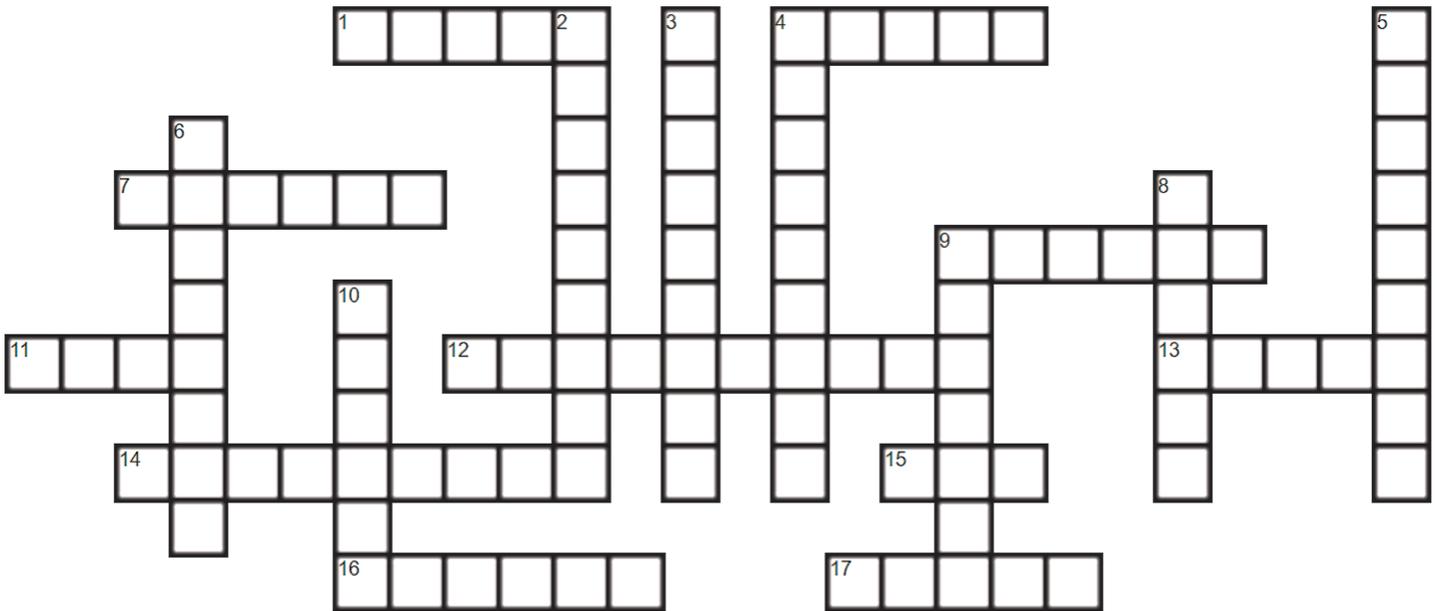
Original Article by: [Thomas Coyne, Jr.](#)

Published: [May 2016](#)

Submitted by: [Melanie Morgan](#)

Just for Fun - The Keystone Cross-Word

Solid Waste of Time



ACROSS

- 1 2016 Scholarship Honoree Last Name
- 4 'Y' in YP
- 7 1.2 Billion of these ppl could be fed on food waste
- 9 NYC's "disliked tableware"
- 11 Average US poundage of daily waste per person
- 12 Second step in Leachate treatment
- 13 Popular avian food for Kendall
- 14 Harrisburg Mayor Lastname
- 15 "Biochemical Oxygen Demand" Abb.
- 16 2nd 'S' in "TSS"
- 17 Krause V. this "NE" City

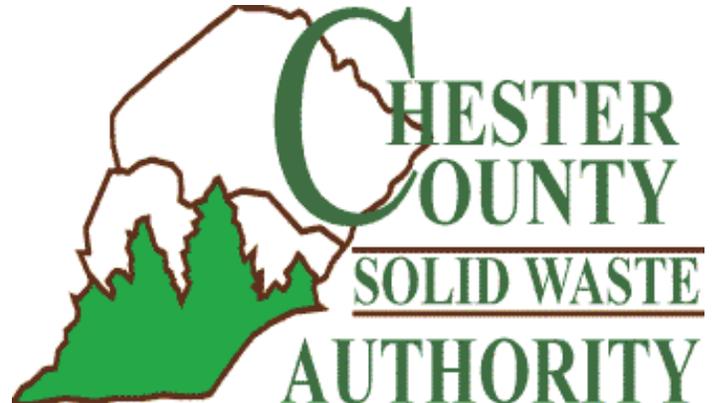
DOWN

- 2 USDA uneaten food percentage in 2010
- 3 Human Waste Nickname in 1800's
- 4 Rockefeller Foundation waste reducer program
- 5 1st 'S' in "TSS"
- 6 Super common toy in NYC trash
- 8 This "non-baby" buried waste in PA
- 9 Adding this makes it a party for Watts
- 10 Latest tech in upcoming Mini-Tech Seminar

See Page 24 for Solution



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Keystone SWANA Safety Summit

Keystone SWANA hosted a full-day Safety Summit on April 12, 2016 at the Best Western Premiere in Harrisburg. David Biderman, the Executive Director of National SWANA and featured guest speaker, kicked off the day talking about how SWANA is placing a greater emphasis

on safety. Waste/recycling collection workers have the 5th highest fatality rate in U.S, and this is likely undercounted since it does include temporary workers and citizens who may be killed as a result of an accident involving a waste collection vehicle. David shared that there are two to three fatal accidents each week involving a solid waste employee or vehicle, hundreds of injuries, and dozens of accidents. To reduce this alarming rate of deaths and injuries,

SWANA has expanded its Safety Program to include webinars, weekly and monthly safety information, establishment of the Safety Ambassador program, and frequent updates to chapters about accidents in their states. More valuable information about safety in the waste industry can be found at: <https://swana.org/safety.aspx>.

The day continued with a presentation by Dave Yesavage from Waste Management, who got us up and moving (yes, there were some moans and groans as we stretched out!). Dave talked about a daily stretch and flex program he's successfully implemented to prevent and minimize injuries, in consideration of the aging workforce in the waste industry.

Don Birnesser gave a presentation on transfer station safety followed by a panel discussion with representatives from Lancaster County Solid Waste Management Authority (Jeff Munster, Transfer Complex Manager) and Northern Tier Solid Waste Authority (Leigh Twoey, Safety Co-

ordinator, and Jim Moyer, Assistant Operation Manager). Other topics included DOT compliance, screening and safety (Tony Cardamone, Concorde, Inc.), fire protection for machines and personnel (Nate Edmondson, AFEX Fire Suppression Systems), and improving maintenance shop safety (Charles Blough, Reliable Safety Solutions).

We also met the Keystone Chapter's new Safety Ambassador,

Allison Yeckel from Westinghouse Plasma Corp., for the first time. Allison spoke about key performance indicators as precursors to accidents and injuries. ▼

The presentations were all outstanding and I know I learned a lot. Copies of most of the presentations are available here:

<http://www.keystoneswana.org/index.aspx?NID=900>.

Article By: Denise Wessels



David Biderman (SWANA Executive Director), Allison Yeckel (Keystone SWANA Safety Ambassador), Bob Zorbaugh (Keystone SWANA President)

Photos From an New York City Sanitation Garage

"Garbage can be beautiful, if sorted correctly."

On the second floor of a nondescript warehouse owned by New York City's Sanitation Department in East Harlem is a treasure trove—filled with other people's trash.

Most of the building is used as a depot for garbage trucks, but there's a secret collection that takes over an entire floor. The space is populated by a mind-bogglingly wide array of items: a bestiary of Tamagotchis, Furbies; dozens of Pez dispensers; female weight lifting trophies; 8-track tapes; plates, paintings, sporting equipment and much more.

This is the Treasures in the Trash collection, created entirely out of objects found by Nelson Molina, a now-retired sanitation worker, who began by decorating his locker. Collected over 30 years, it is a visual explosion, organized by type, color, and size. Recently, Atlas Obscura had the chance to visit the collection with the New York Adventure Club, take some photos, and revel in the vast creative possibilities of trash.

Unfortunately, this isn't a collection that keeps regular hours, so drop-ins are not allowed. However, tours are provided on occasion. For more information on the occasional organized tours, email tours@dsnyc.gov. ▼



Guitars, including an original Fender, surround the Michael Jackson shrine.

New Yorkers would seem to hate pewter tableware considering how much of it they put in the trash.



Art is a particular specialty of the collection. Nelson Molina grabbed any piece that caught his eye.



Even being Superman won't spare you the fate of being thrown in the garbage by New Yorkers with little space to spare.



A relaxing garden area, perfect for relaxing after work.

Every object in the collection comes with a story: including three female body building trophies, all thrown away for reasons we will never know.



Christmas, unsurprisingly, has a place in both the trash and in the Treasures in the Trash collection



A wonderful sense of humor infuses the entire collection.



Nothing is too sacred for the trash. Religious symbols abound.



Even those decorative plates get a second chance here.

Some of the items left in the trash are deeply personal.



The 19th Century Night Soil Man: Carting Away Waste

“Cities used to be literally full of crap.”



The Lower East Side, New York, c. 1900.

On a summer day in 1873, a cart stood on 6th Avenue in New York City filled to the brink with raw human waste. The cart was uncovered—its contents exposed to the air and to the passers-by who retched and

gagged as they scurried away. Excrement dipped off the sides of the cart, and the sidewalks and gutters were smeared with the stuff. The stench was so strong that it could be smelled from more than a block away. It was another day in pre-sewer America.

Before municipal sewer systems, excreta piled up in the privies of people’s homes—essentially a deep hole in the ground. But these poop storage units did not have unlimited capacity.

When the privies were eventually filled, that’s when the night soil men were called in.



An 18th century card advertising the services of a London "nightman and rubbish carter".

“Night soil” was the name euphemistically given to human waste because it was removed from privies under the cloak of darkness so that polite society would be spared from confronting its own feces as the men carted the crap away, leaving a trail of stench in their wake. Each year in cities across the country, thousands of carts brimming with excrement rattled through the night streets. This was an antiquated solution to a modern problem: America’s cities were full of crap.

As cities grew larger and denser in the 19th century, the paltry urban infrastructure could not handle the sheer tonnage of human waste its residents were producing. New York was the dirtiest city of them all. In 1844 it was estimated that Manhattanites alone produced nearly 800,000 cubic feet of excrement—that’s enough poop to fill the trunks of about 53,000 mid-sized cars.



A night soil man in Baltimore.

In New York, the reeking loads were sometimes carted off to country farms to be used as fertilizer. But more often they were hauled through the night to a designated pier and dumped into the Hudson or East Rivers (and sometimes mistakenly onto the private boats below), creating a stinking, festering shoreline. The waste would settle into the slips and city workers would periodically have to

dredge the excrement so that boats could actually dock. In Washington, D.C., one of the city's dumping grounds was a field near the White House, where a marsh of Washingtonian waste putrefied under the president's nose. This suggests that this may have been a contributing factor to President Harrison's untimely death in 1841, since the White House water source was a mere seven blocks downstream.

Night soil collection was big business. Hundreds of men were employed in cities—mostly African-Americans and immigrants who were either independent entrepreneurs or employees of city contractors. The night men, with their “rude carts,” were considered a nuisance at best. Their night work also left them vulnerable to hoodlums who sometimes stoned the men and occasionally shot their horses.



Overcrowding in Manhattan, c. 1900.

At least the pay was decent, even if the work was not. The night soil men used rudimentary long-handled dipper or buckets to scoop the mephitic waste into barrels or tanks on a wagon. A typical privy vault had to be emptied and cleaned 2-3 times a year. And even as toilets began to replace outhouses toward the end of the century, there was still much work to be done as most cities had not yet built enough sewer pipes to connect every house. By 1880, two-thirds of flush toilets still emptied into backyard cesspools, which had to be cleaned sometimes as often as every 10 days to keep from overflowing.

An overflowing privy was a sight to behold. In James D. McCabe's 1882 account of New York street life, he describes one man's yard in which the privy's contents drained down into a street sewer forming a “miniature and loathsome Niagara” of night soil. The cascading sewage flowed right by the window “so that a man sitting on a chair at the window would not have only the odor, but also the view of this loathsome matter circulating at his feet in the pool below.”

In addition to the assault on human senses, this system had disastrous public health consequences. Leaky cesspools and overflowing privies created fetid pools of standing water that leached into the soil and contaminated local water wells. This fueled cholera epidemics well into the nineteenth century, such as the 1849 outbreak, which claimed 5,000 lives in New York City alone.

By the mid- to late 19th century, new understandings about how human waste carried disease compelled cities to crack down on night soil disposal methods. Municipalities doled out stiff fines to night men who lazily dumped their loads in the street as opposed to at sanctioned spots. Technology helped, too: In 1872, New York contracted the Manhattan Odorless Excavating Company to remove all night soil with its state-of-the-art pumping machines and airtight tanks that could be employed at any



Manhattan docks, c. 1890. Waste was often dumped into the Hudson or East Rivers.

Leachate Concerns: A Brief Overview

Publicly owned treatment works (POTW) have been implementing new standards for Leachate based on their effluent quality standards. POTW is a term used in the United States for a treatment plant that is owned and usually operated by a government agency. In the U.S., POTWs are typically designed to treat domestic sewage and not industrial wastewater. Ironically the POTW generates solid waste which is sent to landfills. Recently POTWs have begun rejecting leachate and pressuring landfills to install their own Leachate Treatment Processes (LTPs). After the leachate has been “pre-treated” it can be discharged or hauled to a POTW. Correct pretreatment can reduce one or all of the following:

1. **Total Suspended Solids (TSS)**
2. **Total Dissolved Solids (TDS)**
3. **Biochemical Oxygen Demand (BOD)**
4. **Chemical Oxygen Demand (COD)**
5. **Pathogenic Bacteria & Disease Causing Organisms**
6. **Nutrients, Nitrates and Phosphorous**
7. **Toxic Compounds**

There are many concerns over the impacts of the impurities and contaminants in leachate. For example, TSS and TDS are physical particles that can clog rivers or sewer lines as they settle under gravity. High TSS is a common factor in off-taste and bad odor. High TDS can have an effect on the water clarity, the clogging of fish gills, and increase water temperatures.

Biochemical oxygen demand (BOD) is a test commonly required for WPDES and NPDES discharge permits. It measures how much oxygen is required by bacteria or “bugs” to completely degrade the contamination. Chemical Oxygen Demand (COD) is the measurement of how much oxygen is required for chemicals to completely degrade the contamination. It is important to measure both the BOD and COD levels to make sure that they do not deplete. In addition depletion of oxygen can affect the aquatic life

in the surrounding areas, creating “dead zones” or “fishkills” where fish and other organisms cannot thrive.

Pathogenic bacteria and other disease causing organisms are a concern when being discharged into a body of receiving water. This poses significant risk to the local population when that water is used for drinking and bathing. Nutrients, including nitrates and phosphorous can lead to high levels of unwanted algae, which can become a heavy biodegradable organic load on the waterways and impact the aquatic life.

Leachate treatment processes may also neutralize or remove industrial waste and toxic compounds. This type of treatment should ideally take place at the source itself before disposal at the landfill. However, naturally occurring reactions and decomposition compounds can enter the leachate collection system.

A correct leachate treatment process can dramatically reduce or eliminate your company’s need to haul leachate off site to your POTW, potentially saving hundreds of thousands of dollars. Experienced companies, will help optimize the correct design and provide the most impactful treatment applications for a better and more cost effective solution to today’s leachate concerns. ▼

Article By: [Thomas Coyne, Jr](#)

Published: [May, 2016](#)

Submitted by: [Melanie Morgan](#)

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SWANA Keystone Chapter Calendar of Events



For more Information, event registrations, and updated information please go to the Keystone Chapter's website:

<http://www.keystoneswana.org/>

Some events to plan for include:

JUNE 2016

- Thursday, 6/2, 10 am, **Board Meeting Conference Call**
- Wednesday, 6/29, **YP Technical Seminar & Tour** Lanchester Landfill
- Distribution of Summer Newsletter

JULY 2016

- **No Board meeting planned.**

AUGUST 2016

- Thursday, 8/4, 10 am, **Board Meeting Conference Call**

SEPTEMBER 2016

- **Wednesday and Thursday, 9/7 – 9/8 Annual Fall Conference, Harrisburg Hilton**
- Thursday, 9/8 – immediately following conference **Chapter Annual Business Meeting and Election**
- Chapter Fiscal Year Ends
- Submit all articles by 9/15 for Fall edition of SWANA Newsletter.



The 18th Annual Fall Conference is coming soon to the Harrisburg Hilton, and we want you to be there!

This year's Fall Conference is already starting to fill up, so if you haven't done so yet, be sure to fill out an application and reserve your space today! As a reminder all vendors who sponsor this event will receive a free ad in an upcoming addition of the SWANA Newsletter.

This year's conference features a pre-conference training session with Dr. George Koerner, Director of the Geosynthetic Institute; and Keynote

Speaker, Professor Terry Madonna, Director of the Center for Politics and Public Affairs at Franklin and Marshall College.

A complete list of registration and sponsorship forms can be found on the Keystone SWANA Events webpage at <http://www.keystoneswana.org>. ▼

2016 SEPTEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

www.free-printable-calendar.com

The SWANA Newsletter is published 3 times a year in: **February, June and October**

If you would like an article to be included please submit it by the 15th of the month prior to the scheduled release date.

*As a reminder articles are accepted throughout the year and do not have to be originally written as long as a proper source is cited.

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► This Publication is for the Solid Waste Professionals of the Keystone Chapter of SWANA

The Keystone is published a minimum of three times per year (generally spring, summer, and fall). If you have ideas for future articles, updates, or general suggestions for The Keystone, please contact **Alison D'Airo** at Barton & Loguidice, Newsletter Secretariat Production Services, or any member of the Newsletter Committee listed below:

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Chapter members: please freely share this info with others that you work with or who have an interest in waste news in PA. **Please remember to send Chanda Martino, Chapter Secretariat, your current email address** as all future newsletters, as well as informational broadcast faxes and other communications, will only be sent via email. Her email is: chanda@keystoneswana.org. If you did not receive your copy of this newsletter emailed from Chanda, *you are not on our email list for news.*