

# Spotlight

A publication of Spotts, Stevens and McCoy



APRIL 2020 | SPOTLIGHT

SPOTTS | STEVENS | MCCOY

## Our work touches everyday life.

Spotts, Stevens and McCoy is a family-owned regional engineering, environmental, and surveying firm serving local and global clients. We engineer solutions for a better world. Our work touches everyday life; from the water you drink, to the air you breathe, to the buildings and communities where you live, work and play.

### EXPERTISE

- Building Engineering
- Site and Civil Engineering
- Survey, Data Capture and Modeling
- Water and Wastewater Engineering
- Construction Phase Services

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We're here.

We're working.

We're ready.

## Celebrate What's Around You

This week, we celebrate the Earth. April 22nd, 2020 is not only Earth Day, but Earth Day's 50th Anniversary. That makes fifty years of the world coming together to defend our environment, to mobilize volunteers, to advocate, to educate, and to appreciate the treasure that is our planet Earth.

We wish we had the words to make our world feel normal right now. We wish we had the answers, or the keys, or the secret solutions to unravel all of the things that have knotted in our stomachs, in our heads, and in our hearts. Concerns, worries, the unknown, and just plain feelings of overwhelmed exhaustion- we know that all of these are consuming.

At a time that often feels more disappointing than exciting; through events that look more different now than they did before; at places that dispel different experiences than they ever have; through relationships that have changed in ways unimaginable; and through grit that works just when we all need it to.

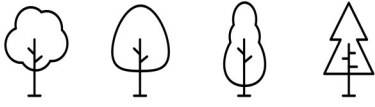
Through all of these things- we think that finding a way to celebrate the world around us is just what we all need right now.

We are proud to be a firm that believes in promoting best environmental practices, contributing to the sustainability of our planet, and celebrating Earth's great treasures. Because one day a year is just not enough. Our work touches everyday life; from the water you drink, to the air you breathe, to the buildings and communities where you live, work, and play.

Today, and everyday, we're celebrating Earth's great treasures. From the large bodies of water that go as far as the eye can see- reminding us of the grandness of Earth's power and presence. To each tiny granular of sand- reminding us of the impact and significance of every small decision in building the world around us.

We encourage you to join us today, this week, this month, and all of those to come, in seeing, enjoying, and celebrating these treasures.





## Pop Quiz: Test your tree knowledge!

Let's say you have a seed- can you explain how a tiny little seed grows to be a huge tree? How does that little seed acquire so much mass? How does it grow?

### Are you smarter than Harvard and MIT grads?

Did you answer "through the roots and the soil" or something similar? Congratulations! You answered the same as graduates from Harvard and MIT! But, you're also incorrect.

In 1997, the Harvard-Smithsonian Center for Astrophysics created video programs documenting the brightest students' understanding of simple science concepts. (Or, we should say, misconceptions). It was all done in an effort to better understand practices in teaching science concepts.

The documentary asked their graduates, "What if we told you that most of the weight comes from carbon dioxide- the gas- in the air?" Many responded with how silly that sounds, air is weightless!

It's a very simple concept- you might have even heard of it before - it's called photosynthesis! Trees take in Carbon Dioxide, or CO<sub>2</sub>. Sunshine helps to pull the CO<sub>2</sub> apart. It give the oxygen back to the world, and holds on to the Carbon Dioxide! What happens when you take in more than you give off? You grow! Surprise- that heavy, mass-filled tree- is primarily carbon dioxide!

## Trees Matter:

### 4 reasons that you might not have known before

"Save a tree!" Have you heard that one before? It's the classic line we say every time one of our coworkers prints too much- or when we put our misprints in a pile and assert that we'll definitely use them as scrap paper.

Why do we save trees? What's the big deal about them anyways?

We bet you're screaming at us now saying "BECAUSE THEY GIVE US OXYGEN!!"

We hear you! Trees are one of Earth's great treasures because of their role in the carbon cycle. Flashback to high school biology! Animals and humans breathe in oxygen and exhale CO<sub>2</sub> while trees, and other plants, do the opposite.

But you knew that already, right? What we want to talk about are a few other ways that trees are one of earth's great treasures. Because, knowing why it matters makes protecting and cherishing them so much easier.

1. **Trees help us to have better health and better air quality.** They actually act as a buffer to toxins. They absorb and trap dust and other air pollutants, preventing them from impacting you! Not to mention, trees offer shade and reduce noise.
2. **Trees and stormwater are friends.** That's right, trees help to eliminate stormwater runoff. That's when stormwater carries pollutants to our bodies of water. Trees intercept (like in football- for those of you missing sports right now) the rainfall and allow it to infiltrate into the ground below, eliminating some runoff. Plus, by absorbing all of this stormwater- trees help prevent flooding and soil erosion!
3. **Trees make the world a better place.** It's not all about nature. There's a lot that these great treasures do in your everyday life. Studies show that neighborhoods with trees and other greenery have lesser incidences of violence. Trees and green spaces also support feelings of community and offer educational experiences. They also boost the economy- research shows that people will pay more for homes that are near trees!
4. **Trees provide great gifts to our world.** The truth is, trees create a *lot* more than just paper. Think about the park bench you sit on, or the wood that you knock on. Trees are all around us in various forms. Parts of trees are even used for some products you wouldn't think of- sponges, latex, rubber, car wax, and even chewing gum. They all depend on trees.

### Think about your tree consumption.

What can you be doing to help conserve this treasure? You may be surprised- there's a lot more you can do than just sprinting to the printer when you realize you made a misprint. And no, we aren't going to ask you to start writing on your hands instead of using paper.

Here are just a few simple changes you can make in your everyday life that will help protect and conserve.

1. **Join a library or switch to digital.** Books take up a lot of paper! Use your resources- instead of purchasing books, share with your community. Or- consider digital books which really save on paper!
2. **Go paperless.** Your banks and credit card companies have probably been offering paperless bills for a long time. It's a quick and easy change that can make a big difference!
3. **Use the scrap paper.** There is a lot of paper that we dispose of- junk mail, misprints, old documents, and more. Next time you have to write a grocery store list- grab your nearest misprint and use it to your advantage!

Remember- the little things go a long way. Make small changes today and see big changes in the future.



## Toes in the Sand

Have you found yourself at work in the middle of winter (or really, any season), wishing you could be surrounded by sand? To your left, to your right, wouldn't it be nice if it was all sand? Do you wish, when you're walking your dog that you actually had your toes in the sand? Holding your phone, typing on your laptop- do you wish it could be sand running through your fingertips?

You're in luck- because all of these things you're imagining- they're reality! The concrete that forms the building around you, the asphalt we walk and drive on, and the computer chips that run your screens and devices- there's one big (or tiny) thing that helps to create them all. You guessed it..... Sand!

Vince Beiser, author of *The World in a Grain* says, "sand is actually the most important solid substance on Earth. It's the literal foundation of modern civilization". This, right here, is why we're celebrating sand as one of Earth's treasures!

Sand, specifically sand that has been eroded by water, serves as one of the most common aggregates to mix with water and cement to make concrete. Concrete builds foundations, buildings, and so many things around you.

Asphalt uses a similar combination of ingredients. Asphalt is made by a mixture of aggregates and a binder to keep it all together. A common aggregate used? Sand.

Even glass comes from sand! It is melted at incredibly high temperatures to become a liquid. Then, it is cooled at very specific rates, completely transforming it into glass. (You may have even seen this before in the popular movie *Sweet Home Alabama!*)

Here's the really fascinating one- computer chips! Specific sand called silica sand is made of silicon dioxide. By filtering and altering through multiple processes, this sand gets broken down to form pure electronic-grade silicon. Further processes cut this silicon down into what we see as small, powerful, computer chips.

## Protecting our Resource

We know the value of sand, and all that it helps us to enjoy in this world. But what about protecting this treasure? Sand is pretty much endless, right? Yes and no. While we're not concerned about completely running out of sand altogether- what is concerning is the processes by which sand is being extracted.

Sand mining is the process of pulling or extracting sand whether through an open pit or through beaches and inland dunes. Due to the high demand of sand in construction and other materials, the sand mining industry is huge...multi-billion dollars huge... But unfortunately, as the industry continues to grow and the demand continues to rise- malpractice also creates its path.

Around the world, sand extraction and illegal mining practices are causing both environmental and social problems. Pursuits for useable sand can cause great damage to rivers, lakes, and other wetlands. Similarly, accelerating rates of use of sand is not proportionate to the extensive amount of time that the natural resource takes to form.

To continue to protect and cherish this great treasure of the Earth, we have to commit to staying informed and knowledgeable about where our resources are coming from. Sand, just like air and water is one of our most used natural resources.

*So, just like we pause to reconsider our oil burning practices and take time to question deforestation- we should also commit to protecting and defending another important treasure- sand.*

## What are you breathing?

We have heard plenty about the importance of keeping air around us free from pollution. There are damaging environmental effects due to air pollution, and damaging public health effects.

But what about once you're inside?

The risks of poor air quality don't stop when you close the door. In fact, 50% of all illnesses are either caused by, or aggravated by, polluted indoor air.

You spend a majority of your day indoors- do you know what you're breathing in there? What are you doing to make sure it's safe for you and the people around you?

There are a number of factors that tend to directly affect air quality. For example, structural, design, and mechanical issues can all affect the health of building occupants.

When it comes to this treasure of the Earth- it's not enough to just celebrate it, we have to keep it clean.

# Mold Investigations: Prioritizing Health and Safety with Quality Air

## Education Buildings

SSM supports school districts in their efforts to assess indoor air quality. Summers and periods of inoccupation are great opportunities for schools to assess, address, and be at the front of Indoor Air Quality (IAQ) / Indoor Environmental Quality (IEQ) management. SSM considers all environmental factors in our IAQ/IEQ management programs to include building structure, materials, construction activities, HVAC systems, as well as the building activities, the cleaning and maintenance of the building and sources originating outside the building that have the potential to impact indoor air quality. Our system is designed to recognize how systems work together within the built environment to improve indoor air quality.



## Hospital Campuses

SSM performed a comprehensive environmental audit of the hospital complex, which consists of five buildings ranging in size from two to six stories. This audit included Phase I and Phase II environmental site assessment, an asbestos survey, a lead survey, a mold survey, and a hazardous materials inventory.

## Seasonal Residences

SSM conducted a visual inspection and walkthrough of a property to assess the extent of mold contamination caused by a water leak in the second floor bathroom of an unoccupied, seasonal residence. SSM provided and reviewed with the remediation crew a written list of immediate actions, detailing removal of damaged materials and drying techniques necessary to avoid further mold growth. SSM prepared a detailed written work plan for the remediation project, outlining procedures and including appropriate clean up methods. During remediation and clean up, SSM provided project oversight during several critical stages to ensure that the work was completed in accordance with available guidelines and the written work plan. After remediation and clean up, SSM collected air and swab samples throughout the dwelling and outdoor samples for comparison. Upon receipt of acceptable sample results, SSM prepared a final written report, which included all the sampling results and deemed the property clear for re-occupancy.

## Building Renovations

SSM performed a detailed mold inspection and sampling prior to initiation of construction and renovation of a building and replacement of the building ventilation systems. This project was initiated due to the age of the building and the building's ventilation system. The inspection, sampling as well as the recommendations and specifications for remediation were completed in accordance with guidelines established by the Environmental Protection Agency for Mold Remediation in Schools and Commercial Buildings. In areas where visible mold was observed, SSM collected swab samples to confirm the presence of mold and air samples for fungi were collected to determine if airborne contamination was present.

## Who to Talk to about Water Protection

Water- it's one of Earth's great treasures. There are two main sources of drinking water- surface water (streams, rivers, and lakes) and ground water (aquifers). Protecting these sources of water not only protect the public from health risks, but it also protects from higher treatment costs from utility systems. You probably already know this value of protecting water sources. (If you don't- check out our August 2019 Spotlight, available on our website).

So- you want to advocate- who do you talk to? Do you know who the major players are in source water protection? And what will you say when you talk to them?

**State Governments:** Individuals, organizations, and committees within state governments are well positioned to support source water protection through development of initiatives and implementation of strategies. For example, Pa DEP (Department of Environmental Protection) frequently coordinates programs and regulations that support source water protection. Similarly, state governments may provide funding resources to water protection programs implemented state-wide. Talk to representatives of your state government- find out what they're doing now and where there is to grow.

**Local Governments:** Find out what your local government is doing to ensure water sources are staying free of contaminants. Find out what zoning practices are in place in your municipality. Local governments without proper zoning laws run the risk of businesses that deal with hazardous materials locating themselves near your precious water sources. If your municipality needs a hand- have them reach out to our Senior Community Planner, Randy Heilman. He helps local planning teams get these types of things in place!

**Water Utilities:** Water authorities in your community are the ones responsible for making sure that water safely and cleanly gets from the source to your faucet. Ask your authorities how they maintain their databases of potential contaminants. This is a database that helps authorities know exactly where they run risks of water sources being contaminated. (We might have helped them create it!) You might also ask them about challenges they face and how else you can help!

**Businesses and Organizations:** What are the businesses around you doing to protect water sources? Start with little steps- take a look at the business you work at and see if you can work with someone to make a few changes.

**United States Environmental Protection Agency (EPA):** The EPA is a federal agency that works to protect human health and the environment. Along with the DEP, they are a great resource for all things water protection! Check out their websites for up to date information on initiatives, things you can do, and resources!

**Local Environmental Groups:** You're not in this alone! Talk to your local environmental agencies or nonprofits. Find out what they're doing and see how you can get involved with them!

**Yourself:** Don't forget to take a look at the decisions you are making. The fight to protect water sources is not left to the large corporations and government leaders. The choices we make as individuals have a great impact on the water around us. Relook at the things you are doing at home- are you unknowingly making a path for stormwater to take contaminants to rivers and streams? Are you neglecting to clean up your pet waste, or ineffectively disposing of hazardous products? Take little steps, doing something new each day that could benefit source water protection!

## Creating and Ensuring Quality Water Sources

Around 30 years ago, a well was drilled to provide water for public use in a township. Since then, the township has stopped using this well due to water quality issues.

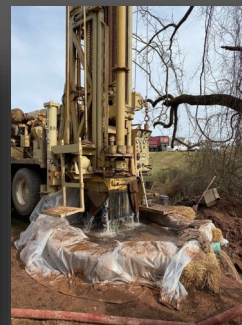
Recently, SSM has taken a lead role in not only finding the reason for the water quality issues, but finding a solution.

SSM sent a camera down the well, took a video, and discovered the issue: there were two water bearing zones attempting to pull water from for one well. Why this became a concern? This causes adverse water quality- what we call nuisance.

After discovering the problem, SSM set to find the solution. SSM directed drilling of a replacement well. Actually, two- one for each water bearing zone. What was once one, unusable well, became two! Not meeting- exceeding.

Intensive water quality testing will further follow on this project, establishing two, public water sources.

SSM continues to be a leader in this project. With drilling coordination complete, next steps include guiding the township through the permitting and quality testing process. And then, SSM can continue to be a resource through the life of the source. Engineering design, treatment, and other needs that the township may encounter- we've got it covered.





## Return on Environment

There are plenty of reasons to invest in Earth's treasures and environmental sustainability. At all levels, leaders are increasingly recognizing a *Return on Environment*- indicating their time, energies, and funds put into Earth's treasures and environmental sustainability are well worth the investment.

For business owners and leaders, research suggests that an organization's commitment to best environmental practices increases recruitment and retention as well as sales and growth. The 2017 Forbes article *ROE (Return on Environment) is the new ROI* cites that "millennials are three times more likely to seek out employment with a sustainably minded company". Similarly, large companies such as Walmart have established their commitment to environmental sustainability, eliminating products with harmful chemicals and revamping its supply chain- all while increasing their sales growth and attracting new, younger demographics.

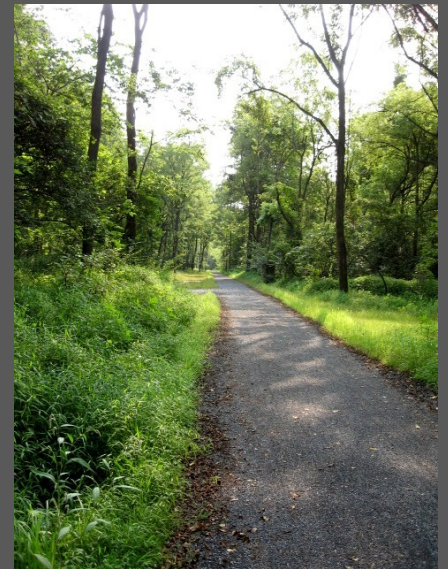
It's not just about for-profit businesses though. Chester County is experiencing similar connections to the *Return on Environment*. Specifically, Chester County's planning commission put out a 2019 report disclosing the economic value of protected open space. Preservation of open spaces such as landscapes, trails, fields, and nature preserves have opened greater benefits in the forms of health, property values, recreation, economic activities, and community cost savings. Through this report, Chester County articulates that investing in protecting environmental open space offers incredible value- certainly offering a return on their environment.

Investment in environmental sustainability offers a number of valuable returns at a variety of measurable levels. The trick to it all? Don't just commit- get it done. What all of these organizations, communities, and businesses have in common is that they didn't stop with a pronouncement of a commitment to the environment. Instead, they followed through- implemented new practices, revamped existing and longstanding systems, and put their commitment into action. Start today and see your return begin to come in.

## Rails to Trails

### North Whitehall Township

SSM prepared construction drawings for the half mile rails to trails project along the former Ironton Railroad right-of-way. The project connected the existing Ironton Rail-Trail already established in Coplay Borough and Whitehall Township. SSM prepared construction drawings and submitted a Joint Permit application to the PADEP for the conversion of a railroad bridge into a multi-use bridge across the Coplay Creek. The trail was improved with compacted gravel and was funded in part by a PADOT Alternative Transportation (TEA21) Grant. SSM also assisted the Township during the construction phase of the project.



### FOR MORE INFORMATION:

Want to know more about Chester County's report on open spaces?

Visit: [www.chescoplanning.org/openspace/roe.cfm](http://www.chescoplanning.org/openspace/roe.cfm)



## Eileen Kaley Named Vice President and Chief Strategy Officer

In this newly created leadership role, Kaley reports to President & CEO Brian Kelly and will oversee execution of the firm's strategic initiatives. She will play a key role in developing SSM's business and growth strategies, identifying market transitions and driving the business strategy to meet the evolving expectations and business needs of the firm's client base. As the CSO, she will utilize her deep understanding of SSM's vision for 2020 and beyond as the foundation for prioritizing key decisions that will shape the firm's future and sustainable competitive advantage.

Previously the firm's Director of Marketing and Organization Development, Kaley brings more than 25 years of experience in developing and implementing initiatives to the role. Her background includes operational roles in marketing and human resources. She is a graduate of The Pennsylvania State University with a BA in Communications.

## Your needs don't stop, so neither will we.

Amid ongoing COVID-19 protocols, we want to take a chance to update you on our firm's current working status.

### We are here. We are working. We are ready.

Our field teams are still serving clients with surveying and data collection. Our engineers are still creating plans, designs, and visiting sites. Our client managers, project designers, planners, geologists, specialists- whoever it is that you need. We are here. We are working. And, we are ready.

As a firm, we have revamped what working "looks like" for the time being. But we have not, and will not, revamp our attitudes about meeting the needs of our communities and our clients.

We are proud to be able to show up for you. Our digital infrastructure is robust and excelling at a time when we need it to. We're grateful for the practices we've previously had in place and proud of those we've been able to expand- all of these have made this transition smooth and effective. Because we don't believe quality care is just getting the job done.

What are we working on? One of our employees said the better question is, "What are we not working on?"

Many organizations we talk to are taking this time to reset- and address needs or projects before "normalcy" returns. For those, we are actively taking on new projects. For others, we are continuing to complete projects that don't stop even when it feels like the rest of the world does. For our clients providing life-sustaining services, we're more active than ever- making sure they can continue to provide their services. And in other cases, we're preparing ourselves to take on new roles, offering services that our clients didn't know they would need, and filling gaps that this situation has opened.

We are proud to be able to continue to offer our communities and our clients the same great service, the same great solutions, and the same great care that we always have and always will. Please reach out to us if there's a way that we can be here, working, and ready for you during this time.

## #SSMworksremote

Like our Facebook page to see more of what working remote looks like for us.

