

PORTSMOUTH PROJECT PRESS

823

From P3 to B3:

Public-Private Partnership is Aiding Ohio Pollinators

Following the path pioneered by the Ohio Pollinator Habitat Initiative and championed by the Ohio Department of Transportation, the Portsmouth Gateway Group and its associated subcontractors are creating pollinator friendly habitats throughout the corridor of the Southern Ohio Veterans Memorial Highway.

Pollination is a vital stage in the life cycle of all flowering plants. As pollen is moved within a flower or carried from one flower to another of the same species it leads to fertilization. The transfer of pollen is necessary for healthy and productive native and agricultural ecosystems. About 75 percent of all flowering plant species need the help of animals to move pollen grains from plant to plant fertilization. Pollinators ensure full harvest of crops and contribute to healthy plants everywhere.

In recent years there has been a drastic decline in bees and other pollinators populations. Multiple factors are attributed to their deterioration, including the usage of neonicotinoid (a type of insecticide used in agriculture), viruses, and the major cause, lack of food. Farms growing acres of one type of crop will not provide enough food for pollinators throughout the season. Bees and other pollinators play a crucial role in the pollination of nearly 80 percent of vegetables and fruits (roughly 1 in 3 bites of food is facilitated by pollinators). In Ohio alone there are about 500 varieties of bee species. Bees, being the most efficient of the pollinators, will travel 2.5 miles to gather food.

Though butterflies are not as efficient at moving pollen from one plant to another, they still play an important role in pollination. More than 40 species of butterflies are found in Ohio. Typically, the life span of a butterfly is generally one month. While the actual distance travelled by most species of butterflies remains unknown, a Monarch butterfly is said to travel 50 to 100 miles in a single day.

The flight of the butterflies is the longest known distance butterfly migration on Earth – and it's been occurring for thousands of years. Monarchs sense certain topographical features, avoiding both large bodies of water and tall mountains. Instead, they choose cool valley passes between mountains.

One might say that bees, butterflies, and other pollinators take the day shift for pollination while bats take their turn in aiding agriculture at night. There are more than 1,200 different known species of bats, and 14 varieties have been identified in Ohio. Though many species of bats aid in the pollination of more than 300 plants, typically those found in Ohio primarily eat an insect diet exclusively. These nocturnal creatures serve as pest control in agriculture, eating insects that destroy plants, such as moths, beetles, flies, gnats, amongst others (eating over 1,000 insects in one hour), cutting back dramatically on the use of insecticides for farmers.



So, working to aid in the population growth of bees, butterflies and bats, the Portsmouth Gateway Group is turning the P3 – public-private partnership – into a B3



native seeding for pollinator friendly habitat



native seeding for pollinator friendly habitat



potential bat habitat

SAVE THE DATE

Upcoming DBE Outreach Events

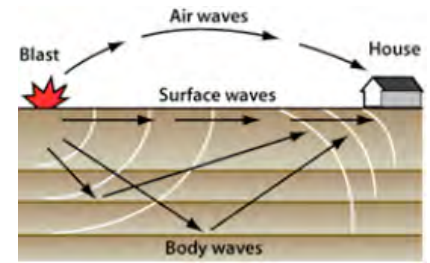
Dayton
Portsmouth
Cincinnati
Columbus

August 24th
August 25th
September 8th
September 15th

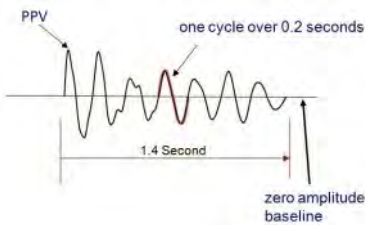
Controlled Blasting – Ground Vibrations

In blasting operations the majority of the explosive energy is focused on rock breakage and movement, though there is always residual energy present to be exerted in the form of ground vibrations and air overpressure, normal by-product from blasting activities.

Ground vibrations from a blast are formed as particles of the earth are displaced, which impact other particles. As the process continues, the energy is transmitted away from the blast area in the form of a wave. An example is found when dropping a rock in pool of water; at the immediate point of impact, the energy displaces the most amount of water, then the energy is transmitted in the form of waves. As the distance from the source increases, the traveling energy diminishes. Generally, the intensity of the vibrations can be expected to decrease by two-thirds for every doubling distance.



Blasting can create a variety of wave types, some traveling within (body waves) and along (surface waves) the Earth's surface. Propagation velocity is the measurement of speed at which the waves travels, typically many thousands of feet per second. Body waves travel the fastest (up to 25000 ft/s, roughly traveling to the top of Mt. Everest in one second) and arrive first at structures, while surface waves travel slower and arrive later.



Both wave types are measured in terms of amplitude and frequency. Amplitude is described as the amount of movement a particle experiences as the energy passes. Commonly blast vibration amplitude is measured as particle velocity (the speed at which a particle vibrates), typically presented as mm/sec (millimeters per second) or in/sec (inches per second). Energy released and the distance from the blast determines the maximum peak particle velocity, the highest value of the three components. Frequency describes the oscillating nature of the vibration, composed of cycles (determined by taking the inverse of the time it takes to complete one cycle), expressed in Hertz (cycles per second). Blasting is occurring on the project almost

everyday and are constantly controlled and monitored to maintain these measured values within ranges that avoid damage to nearby structures. To date no structures have sustained damage although some calls of concern have been received from neighbors to the project. The blasting will continue as the earthwork progresses along the corridor as may be viewed in the aerial photos below.



U.S. 23 interchange looking southeast toward Shumway Hollow
June 2016



Shumway Hollow interchange looking south toward U.S. 52
June 2016



Pier formation for bridge 6 over Little Scioto River
Seg 1/2a



Hitachi 1200 loading CAT 773 with shot rock
Seg. 2b/3a



Drilling rig drilling for pre-split blast
Seg. 3b



Pile driving for bridge abutment
Seg. 4

WWA (Who We Are) ODOT

Orange barrels and construction cones – that’s what most people think about when they think of ODOT, the Ohio Department of Transportation.

Certainly, ODOT is most widely-known for its construction and maintenance efforts across the state, but the department has a rich history that is more than 100 years in the making.



First established as the Ohio Department of Highways in 1905, the department opened its doors when the state legislature reinstated the use of public funds for highway purposes. However, the highway department then did not use the money for road construction. Instead, the department – which was a commission of four people – served as an advisor to local governments to develop a system of state, county and township roadways, distributing money to counties and townships for road construction.

It wasn’t until 1912, though, that the department took an active role in the construction of highways in Ohio; included in this was the development of a continuous and connected inter-county highway system. Moving forward 60 years, the highway department became officially known as the Ohio Department of Transportation in 1972 and became the administrative wing Ohio’s state government responsible for developing and maintaining all state and federal routes in Ohio.

While Ohio ranks 35th in the nation in size, the state is 7th in the nation in population. The state also has the fifth highest volume of overall traffic and the third highest in value of truck freight. And it ranks fourth in the country in the amount of out-bound and in-bound freight.

Moreover, ODOT has the 10th largest highway system in the country, with more than 113,000 miles of highway, and it has the fourth largest interstate highway system at 1,500 miles. ODOT also maintains the country’s second largest bridge inventory, with more than 42,000 bridges under the agency’s care. To care for this vast network of roads and bridges, ODOT has a workforce of approximately 4,900 employees, and it has an annual budget of nearly \$3 billion.

ODOT’s Central Office, the department’s primary headquarters, is located in Columbus, and this office provides for the statewide oversight and guidance of the agency’s programs, projects and initiatives. And while the organization is responsible for the construction, preservation and maintenance of roadways, it also provides for transit, aviation, maritime and a host of safety, enhancement and local programs.

ODOT is comprised of 12 districts, and each of the 12 district offices is divided into four departments: Planning and Engineering; Construction; Highway Management; and Business and Human Resources. The employees of these offices carry out the functions of the department and manage the programs in their respective capacities. There are also full-service maintenance facilities in every county of the state to serve the residents and motorists of a given area on a daily basis.

Working together, ODOT’s employees strive to be a quality-minded, customer-oriented, diverse and innovative team. And more than orange barrels and construction cones, ODOT serves to be a productive, efficient and effective organization that provides for the needs of the residents, the overall transportation system and the traveling public.



Most Valuable Portsmouth Project Player (MVP3)

PGG congratulates Jim Howell (pictured left) and Sam Givens (pictured right) – the Spring/Summer co-recipients of the MVP3 award for the hard work the duo contributes to the project.

Jim Howell with Beaver Excavating is the project’s erosion and sediment control superintendent, and most days he is found throughout the entire corridor ensuring best management practices are in place for sedimentation and erosion control.

Jim is a native of West Portsmouth, following in his father’s footsteps by joining the Laborer’s Union Local 83, transitioning straight out of high school to a construction site.

Throughout his 27 years of experience, Jim has traveled a majority of the time to various states for his work, so having the opportunity to work on such a large-scale project and be closer to home has been a bonus. In addition, two of Jim’s three sons are working on the project, enabling him to pass on his knowledge to the next generation.

Jim says “the culture of construction is changing for the better, though the old school mentality is at times apparent, education is the key in environmental practices. And the project trains everyone that sets foot on the site.”

In Jim’s spare time he enjoys the outdoors and camping, but notes that the best job he has had was being a dad raising five boys. Recently Jim became a grandfather to a beautiful baby girl.

Sam Givens, the environmental compliance specialist with Beaver Excavating, spends her days managing all the permits throughout the 16-mile stretch, ensuring compliance with all environmental regulations.

Sam grew up in northeast Ohio in the small town of Waynesburg, which is outside of Canton. When enrolling in college, Sam originally chose a path toward pre-medicine, though her roots from growing up on a farm and participating in 4-H drew her ultimately to environmental science, receiving her bachelor’s degree from Ohio State University. She joined Beaver Excavating a year ago after working for the city of Lancaster as its storm water specialist, attaining attributes there that have aided in her duties here.

Sam stated “In my project work if you are not uncomfortable, then you are not learning”, which enables a person to get some insight to her go-getter attitude.

In Sam’s spare time she enjoys outdoor activities such as kayaking, skiing, hunting, and watching her favorite team, the Ohio State Buckeyes. Sam recently rescued and adopted two dogs found within the project right of way.

The Portsmouth Gateway Group recognizes Jim and Sam as the Most Valuable Portsmouth Project Players (MVP3) for the spring/summer quarter for their talents toward the success of the project. This dynamic duo can be found throughout the corridor working in adherence with all environmental compliance aspects in the construction of S.R. 823. Both will receive a small token of appreciation for all their efforts.



Big Rigs of the Project

“HOGZILLA” the Tub Grinder

The trees that were removed for the new route have been given new life in the form of mulch. To process the mulch, crews are using tub grinders,(including the one pictured above) which are aptly named for the distinctive infeed hopper - a large round tub, typically 10 to 14 feet in diameter and roughly 6 feet deep.

The amount of mulch produced varies with different sizes of tubs. Typically, smaller grinders produce roughly 20 cubic yards of finished product an hour, though production rates vary depending upon various factors. These factors include the type of material processed, the size of the desired finished product, and the support equipment available.

The base of the tub contains a cylindrical shaped hammermill, which is the primary grinding mechanism. Beneath the hammermill are rolled steel screen plates with 1/2 to 6-inch holes cut in them that allow the material to pass through at the desired size as achieved in the grinding. As the product falls through the screen, it is transported via conveyor belt or auger from the mill to the discharge conveyor that carries the material away from the machine.

One of the many “big rigs” used on the project, the tub grinders are important to the prudent way which our crews are being environmentally efficient. And the result of the mulch production is it potentially being sold at a local store and nestled in flowerbeds in the area!

Project Trivia Fact:

Twenty percent of project right of way acreage acquired for the construction of S.R. 823 was left undisturbed due to project design



SCHEDULE UPDATE:
*Construction for the new
S.R. 823 is nearly halfway complete!*