

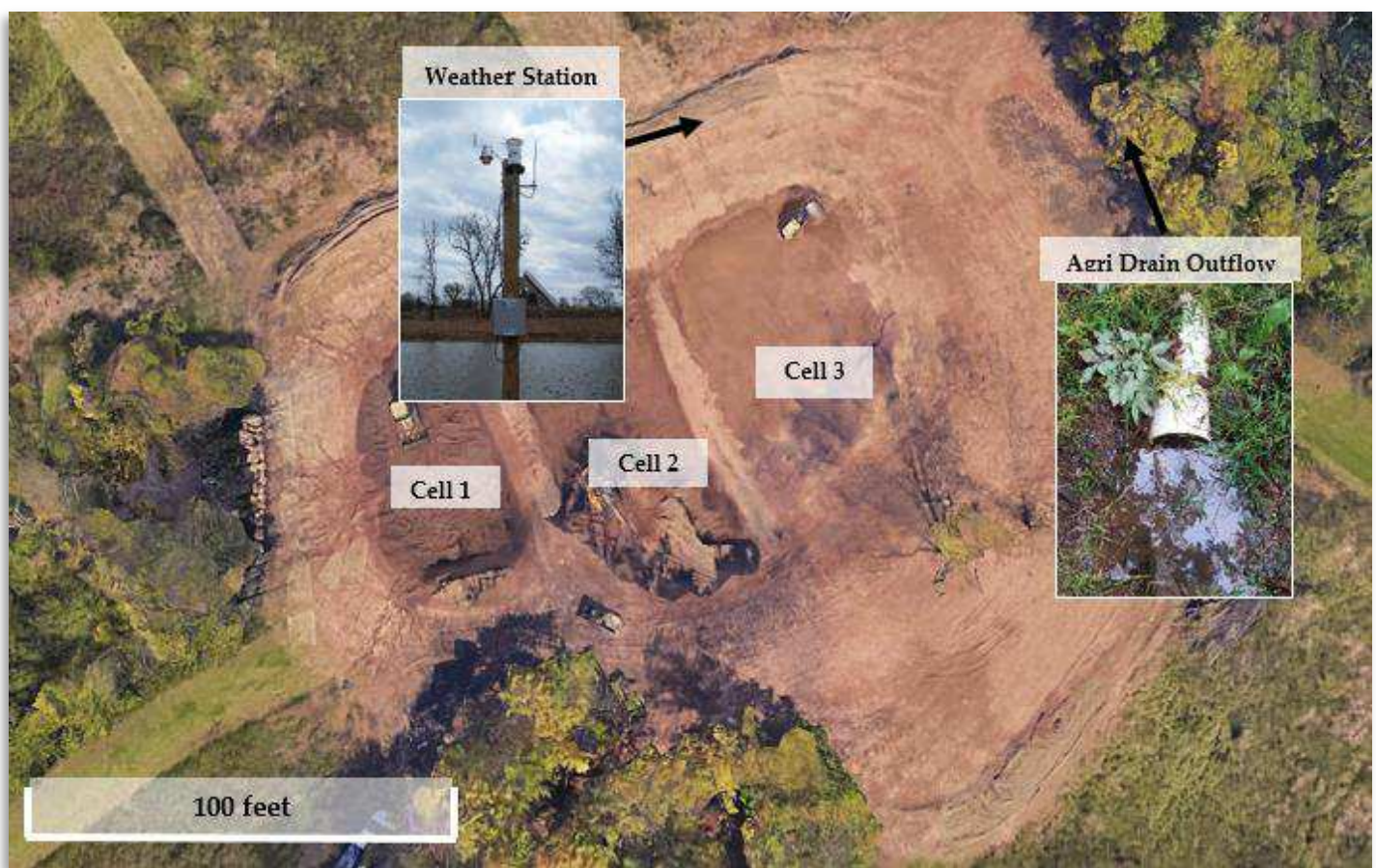
# VILLANOVA URBAN STORMWATER PARTNERSHIP

MONITORING AND MODELING THE HEADWATERS OF THE PENNYPACK CREEK

## BACKGROUND

The William Penn Foundation has awarded a grant to the Villanova Urban Stormwater Partnership (VUSP) to monitor and model stormwater improvements. This includes intensively monitoring and modeling a stormwater control measure (SCMs) that has been at the College Settlement Camp in Horsham, PA. This site is located at the headwaters of the Pennypack Creek, which is part of the Pennypack watershed. The SCM was constructed in October 2015 and consists of three large cells that facilitate stormwater retention and infiltration.

## SITE MAP



(From Left to Right) Cell 1, Cell 2, and Cell 3

## EQUIPMENT

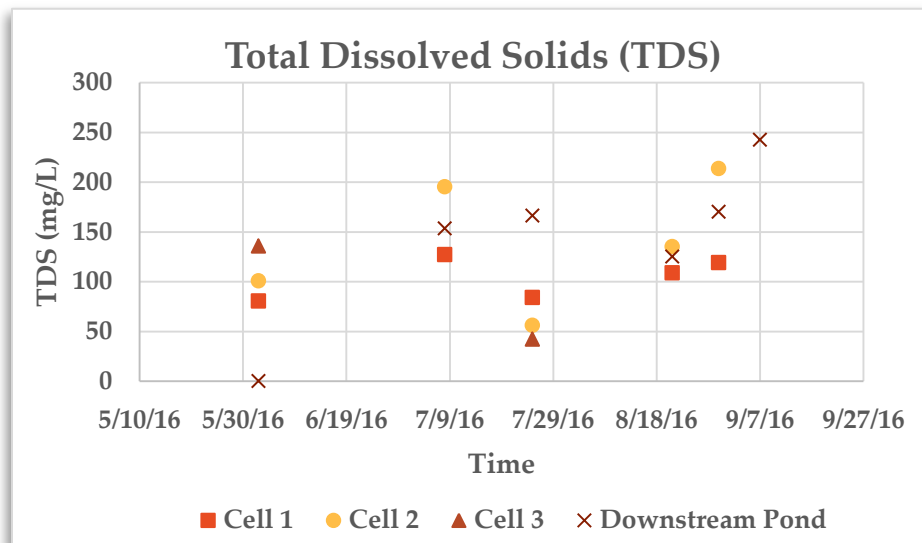
Due to this SCM's unique nature, the College Settlement site presents many unknowns. VUSP plans to use the following equipment to understand how the SCM influences the Pennypack Creek Headwaters.

- **Weather Station:** To measure precipitation, solar radiation, wind speed and direction, temperature, humidity, and barometric pressure. This station enables our team to accurately portray climate conditions in our models.
- **Bubblers:** To measure water height in each of the three cells and the Argri Drain. These pieces of equipment will enhance our team's understanding of how water moves through the SCM.
- **Thel-mar Weir :** To measure the flow of water leaving the SCM through the Agri Drain. This piece of equipment will allow our team to quantify the amount of water leaving the SCM and the rate at which it leaves the SCM.

## QUALITY TESTING

Water quality testing for the site began in June 2016. After both storm events and dry periods, grab samples are collected from each of the three cells, the outflow of the AgriDrain, and a pond downstream of the SCM. A list of the parameters that our team tests for, and a sample of the data that our team has collected are displayed below.

- Total suspended solids (TSS)
- Total dissolved solids (TDS)
- Nitrogen
- Phosphorus



## FOR MORE INFORMATION



THE VILLANOVA URBAN STORMWATER PARTNERSHIP'S MISSION IS TO ADVANCE THE EVOLVING FIELD OF SUSTAINABLE STORMWATER MANAGEMENT AND TO FOSTER THE DEVELOPMENT OF PUBLIC AND PRIVATE PARTNERSHIPS THROUGH RESEARCH.