

RESOLUTION 2018- 110

**A RESOLUTION AUTHORIZING A COOPERATIVE WORKING AGREEMENT FOR
A STORM SEWER RETROFIT PROJECT IN BECHTOLD PARK**

WHEREAS, the Board of Township Trustees wishes to cooperate with the Hamilton County Soil and Water Conservation District, the Hamilton County Department of Planning and Development, the Board of County Commissioners of Hamilton County, Ohio, the United States Environmental Protection Agency National Homeland Security Research Center, and the Ohio State University in the implementation, inspection, maintenance, and monitoring of a storm sewer retrofit project (the "Retrofit Project") to be located in Bechtold Park in Sycamore Township;

NOW THEREFORE, BE IT RESOLVED by the Board of Township Trustees of Sycamore Township, State of Ohio:

SECTION 1. The Board hereby approves a Cooperative Working Agreement for the Retrofit Project in substantially the same form as attached hereto and authorizes the Township Administrator to execute the Cooperative Working Agreement on behalf of the Board.

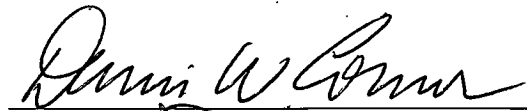
SECTION 2. The Board of Township Trustees of Sycamore Township, by at least two-third vote of all of its members, dispenses with any requirement that this Resolution be read on two separate days and authorizes its passage upon one reading.

SECTION 3. This Resolution shall take effect on the earliest date allowed by law.

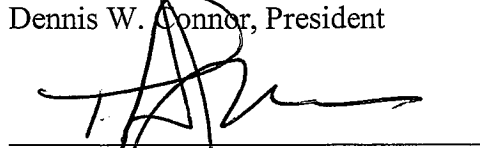
VOTE RECORD:

Mr. Connor Aye Mr. LaBarbara Aye Mr. Weidman Aye

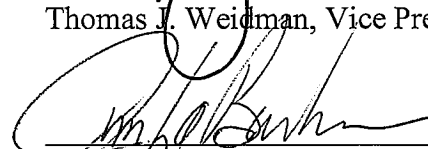
PASSED at the meeting of the Board of Trustees this 4th day of October, 2018.



Dennis W. Connor, President



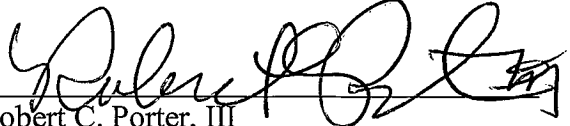
Thomas J. Weidman, Vice President



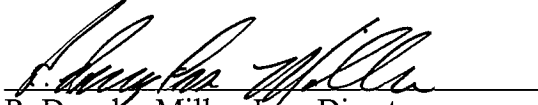
Jim LaBarbara, Trustee

AUTHENTICATION

This is to certify that this Resolution was duly passed and filed with the Sycamore Township Fiscal Officer, this 4th day of October, 2018.


Robert C. Porter, III
Sycamore Township Fiscal Officer

APPROVED AS TO FORM:


R. Douglas Miller, Law Director

Localgovernment/Sycamore/Resolutions/2018/StormSewerRetrofit

Cooperative Working Agreement

Between:

Hamilton County Soil and Water Conservation District,
Hamilton County Department of Planning and Development,
Board of County Commissioners of Hamilton County,
Sycamore Township,
United States Environmental Protection Agency, and
The Ohio State University

This agreement entered into by and among Hamilton County Soil and Water Conservation District (HCSWCD), the Hamilton County Department of Planning and Development (HCP+D), the Board of County Commissioners of Hamilton County, Ohio (BOCC), Sycamore Township (Township), the United States Environmental Protection Agency, National Homeland Security Research Center (USEPA), and the Ohio State University (OSU) for the purpose of implementing, inspecting, maintaining, and monitoring the performance of a storm sewer retrofit project located in Bechtold Park, Sycamore Township, Hamilton County, Ohio.

The purpose of this agreement is to establish a formal understanding of the responsibilities that each organization will assume and the time period over which the organizations will assume each responsibility.

Section 1 – Scope, Timing, and Duration of Responsibilities

A. The Hamilton County Soil and Water Conservation District will:

1. Manage the disbursement of funds (not to exceed \$49,512.50), awarded by the Ohio Environmental Education Fund (OEEF), for design, materials procurement, fabrication, and installation of the retrofit device through a contractor.
 - a. The retrofit device will be installed on or before May 31, 2019.
2. Coordinate with the design contractor, HCP+D, and USEPA to facilitate consensus on the retrofit design.
 - a. A final plan set and application for the project will be submitted to HCP+D in early 2019 or before.
3. Coordinate with Township to install a vehicle gate and pedestrian pathway to facilitate installation, inspection, maintenance, and monitoring of the retrofit device. The vehicle gate and associated hardware will be purchased by HCSWCD, with funds awarded by the OEEF, and provided to Township for installation.
 - a. HCSWCD will provide a vehicle gate to Township within 30-days of execution of this Cooperative Work Agreement.

4. Coordinate with landowners and partner organizations to obtain permission to conduct monitoring activities in various locations within the Upper Cooper Creek Watershed in order to assess the performance of the retrofit device.
5. Assist USEPA in collecting water samples from OSU's autosamplers. HCSWCD will coordinate with USEPA before each targeted sampling rain event, to decide whether HCSWCD or USEPA will collect the samples from that event. Criteria for selecting rain events to be sampled will be agreed upon by OSU, HCSWCD, and USEPA. When HCSWCD collects water samples from the autosamplers, they will be delivered, in person, to a USEPA lab in the Cincinnati area. HCSWCD will not contribute to funds toward the analysis of water samples. When HCSWCD collects water samples from the autosamplers, they will also calibrate the associated flow meter, if practical.
 - a. This responsibility will be conducted until at least 15 rain events have been successfully sampled.
6. Conduct monitoring of macroinvertebrate communities below the retrofit device on an annual (or more frequent) basis and conduct stream channel geomorphic surveys below the retrofit device at the beginning and end of the project. HCSWCD will pay for identification of macroinvertebrate samples and all necessary sampling and survey equipment.
 - a. Biological monitoring will continue at least through 2021.
7. Execute educational initiatives committed to as a condition of OEEF funding. This includes coordinating with Township to install educational signage to be provided to Township by HCSWCD.
 - a. All educational initiatives committed to as a condition of OEEF funding will be completed by the deadline required by OEEF.

B. The Hamilton County Department of Planning and Development will:

1. Perform regular inspections of the retrofit device, via site visit or remote imaging techniques, following rain events in excess of 1-inch. Inspections will include noting of significant amounts of debris caught in the flap gate/low flow orifice, and any damage or inordinate wear to erosion control structures, the flap gate itself, or its connection to the pipe.
 - a. This inspection responsibility will be conducted as long as the retrofit device is installed.
2. Perform maintenance, or removal, on the retrofit device in response to a noted need during inspection. Maintenance activities to be undertaken by HCP+D will include removing debris caught in the flap gate/low flow orifice, maintaining erosion control structures (e.g. rip rap and the concrete channel) within the sewer easement, and maintaining the flap gate itself and its connection to the pipe.
 - a. This maintenance responsibility will be conducted as long as the retrofit device is installed.

C. Sycamore Township will:

1. Install a chain link vehicle gate, to be provided by HCSWCD, and maintain a pedestrian pathway cleared of woody vegetation as necessary to provide access for installation, ongoing inspection, maintenance, and monitoring of the retrofit device. The pedestrian pathway will extend from the headwall of the outfall to be retrofitted to the newly installed vehicle gate directly south of the headwall.
 - a. The vehicle gate will be installed within 30 day of being provided by HCSWCD.
 - b. The pedestrian pathway will be installed no later than thirty (30) days after provision of the vehicle gate by HCSWCD.
 - c. The pedestrian pathway will be maintained for as long as the retrofit device is installed.
2. Provide site access to HCP+D, USEPA, OSU, and HCSWCD for maintenance, performance monitoring, and educational site tours of the retrofit device, installed monitoring equipment, and the receiving stream within Bechtold Park. Access locations will include the entire length of the stream within Bechtold Park, the pedestrian pathway referenced above, the retrofitted outfall, and the manhole located at the southeast corner of the park by the baseball diamond.
 - a. Site access will be provided for as long as the retrofit device is installed.
3. Provide a backhoe and operator to lower the flap gate into place to facilitate installation of the retrofit device by HCSWCD's contractor.
 - a. Township will make itself available within 30 days of HCSWCD's request to schedule the installation of the retrofit device.
4. Install one permanent educational sign to educate the public about the project. The sign will be installed at Bechtold Park in the vicinity of the stream receiving discharge from the retrofitted outfall. The signage will be provided by HCSWCD.
 - a. This sign will be installed within 30 day of being provided by HCSWCD.

D. The Board of County Commissioners of Hamilton County, Ohio will:

1. Maintain its ownership of the storm sewer and the accompanying retrofit device to be installed in same; and to the extent required by law, will accept responsibility for all claims, demands, damages, costs, actions, causes of action or suits in law and equity of whatever kind or nature for injuries to persons and property resulting from the installation, operation, maintenance, performance, or removal of the storm sewer and the retrofit device described herein

E. United States Environmental Protection Agency will:

1. Provide, install, and maintain a flow sensor, and associated mounting equipment, in a manhole above the retrofitted outfall and near the retrofitted outfall below the pollution absorption media.

- a. Flow monitoring equipment will be installed by November 30, 2018, or within 30-day of HCSWCD obtaining property access thereafter. Efforts will be made to “winterize” the equipment but it may be necessary to temporarily shut down sampling in extreme cold weather periods when the sample equipment cannot keep the water from freezing.
 - b. USEPA will maintain this flow monitoring devices at least through September 30, 2021.
2. Provide, install, and maintain visual flow verification equipment in three locations: at the retrofitted outfall, within the “control” storm sewer outfall (on the north side of Galbraith Road), and in association with an unspecified culvert downstream of Bechtold Park, as facilitated by permitting and property access obtained by HCSWCD. Visual flow verification equipment will also sever to monitor the position of the flap gate (when it opens and how much it opens). Software will be developed, by USEPA or its contractors, to alert project personnel when the flap gate is in the open position.
 - a. Visual flow verification equipment will be installed by October 31, 2018, or within 30-days of HCSWCD obtaining property access thereafter.
 - b. Software alerting project personnel when the flap gate is in the open position will be developed and functioning within 30-days of installation of the retrofit device.
 - c. USEPA will maintain visual flow verification equipment deployed at select monitoring locations at least through September 30, 2021.
3. Provide telemetry equipment necessary to wirelessly transmit data associated with flow, flap gate position and autosampler activity, as well as to allow for wireless communication between flow meters and autosamplers. Equipment will be installed to facilitate wireless data transmission from the retrofitted outfall, the “control” storm sewer outfall (on the north side of Galbraith Road), and an unspecified culvert downstream of Bechtold Park, as facilitated by permitting and property access obtained by HCSWCD.
 - a. Telemetry equipment will be installed by November 30, 2018, or within 30-days of HCSWCD obtaining property access thereafter.
 - b. USEPA will maintain telemetry equipment deployed at select monitoring locations at least through September 30, 2021.
4. Provide, install, and maintain pollution absorption media within the installed housing infrastructure provided by HCSWCD. The media shall be contained in a media sock or some other method to transport and install the media within the storm water flow. Other stormwater treatment devices may be installed in association with the retrofit device subject to approval by HCSWCD and HCP+D. USEPA will quantify sediment deposited in the pipe behind any installed stormwater treatment devices/media and record maintenance issues associated with the installed stormwater treatment devices/media.
 - a. Pollution absorption media will be installed for its first test deployment within 60 days of installation of the retrofit device.
 - b. USEPA will maintain a program of deployment and performance evaluation of pollution absorption media at least through September 30, 2021.
5. Build a SWMM model of the Upper Cooper Creek Watershed. This model will be used by USEPA to design retrofit parameters (maximum detention volumes and sizing of the

- low-flow orifices) for within up to 4 storm sewer systems planned for future retrofitting. These retrofit design parameters will be determined based on an iterative analysis of hydraulic grade line in which the final design yields a hydraulic grade line that is no less than that 6-inched below the lowest storm sewer inlet/access point during the 100-year, 24-hour design storm event, and the peak discharge from the low-flow orifice (when the flap gate is shut) is less than the “critical discharge” to entrain the median sized substrate particle in the stream below the retrofit device. The critical discharge values will be provided by to USEPA by HCSWCD. USEPA will also develop a water quality component for the SWMM model (contingent upon availability of sufficient water chemistry sampling data), and a stream routing component as well.
- a. USEPA will complete the modeling efforts required to obtain final design parameters for the Bechtold Park Retrofit project no later than November 30, 2018.
 - b. USEPA will complete remaining modeling efforts no later than May 31, 2019.
6. Provide water quality analysis services including measurements via field sensors and laboratory analysis of grab samples and up to 60 water samples (over 15 rain events) collected via auto samplers (to be provide, install, and maintain by OSU) located in up to four locations within the Upper Cooper Creek Watershed. Parameters to be analyzed from the 60 samples collected from the autosamplers include: nutrients (ammonia, nitrate, total Kjeldahl nitrogen, total phosphorus, and soluble reactive phosphorus); TSS (or similar sediment surrogate); and at least five heavy metals (cadmium, chromium, copper, lead, and zinc). The nutrients and metals may be adjusted as results dictate. Other parameters that may be analyzed from either some of the autosampler samples or additional grab samples may include, but are not limited to: total coliforms and E. coli; BOD/COD; and oil/grease.
- a. USEPA will continue to provide this water sample analysis service until 60 water samples, (over 15 rain events) collected via installed autosamplers, have been analyzed, or through September 30, 2021.
7. Assist HCSWCD in collecting water samples from OSU’s autosamplers. USEPA will coordinate with HCSWCD before each targeted sampling rain event, to decide whether USEPA or HCSWCD will collect the samples from that event. Criteria for selecting rain events to be sampled will be agreed upon by OSU, HCSWCD, and USEPA. When USEPA collects water samples from the autosamplers, they will be delivered to a USEPA lab for analysis. When USEPA collects water samples from the autosamplers, they will also calibrate the associated flow meter, if practical.
- a. This responsibility will be conducted until at least 15 rain events have been successfully sampled.

F. The Ohio State University will:

1. Provide, install, and maintain three Area Velocity Sensors: one within the pipe in the vicinity of a manhole above the retrofitted outfall, one within the “control” storm sewer outfall (on the north side of Galbraith Road) and the other in association with an unspecified culvert downstream of Bechtold Park, as facilitated by permitting and property access obtained by HCSWCD.

- a. Flow monitoring devices will be installed by October 31, 2018, or within 30-day of HCSWCD obtaining property access thereafter.
 - b. OSU will maintain flow monitoring devices deployed at select monitoring locations at least through September 30, 2021.
2. Provide, install, and maintain three surface water autosampler stations: two in association with the Bechtold Park storm sewer outfall retrofit (one above the retrofit and one below) and one at the “control” storm sewer outfall (on the north side of Galbraith Road). HCSWCD will coordinate with landowners to gain permission to install this equipment and access to each site for maintenance.
- a. Autosampler stations will be installed by October 31, 2018, or within 30-day of HCSWCD obtaining property access thereafter.
 - b. OSU will maintain flow monitoring devices deployed at select monitoring locations at least through September 30, 2021.

Section 2 – Data and Publication Rights

A. Data sharing:

All Parties agree to provide the following monitoring data to all other parties upon request to facilitate assessment of retrofit performance and associated publications:

1. Flow
2. Gate position
3. Water chemistry
4. Sediment accumulation behind retrofit
5. Macroinvertebrate communities
6. Geomorphic measurements
7. Inspection records (of the retrofit device and monitoring equipment)
8. Maintenance records (of the retrofit device and monitoring equipment)

B. Publication Rights:

In all future publications resulting from data collected in association with this Agreement, all parties agree to credit each party responsible for collecting data that is utilized those publications. No publications may imply validation/verification/approval of any kind by USEPA for methods, interpretations, or opinions. All publications must go through USEPA’s clearance process.

The following parties reserve the right to lead authorship in the first publication pertaining to the corresponding topics below:

1. HCSWCD
 - a. Performance of the retrofit device at mitigating the flashy urban flow regime
 - b. Response of macroinvertebrate communities to flow control efforts
2. USEPA
 - a. Performance of pollution absorption media deployed within the retrofit device
 - b. Techniques for modeling storm sewer retrofit devices

Section 3 – Withdraw from Agreement

A. Individual Party Withdraw for Convenience

All parties reserve the right to withdraw from this Agreement at any time by issuing written notice to all other parties. After issuing written notice, the withdrawing party may access monitoring locations, following agreed upon procedures for accessing individual properties, to retrieve monitoring equipment owned by that party. Any party electing to withdraw from the Agreement is obligated to fulfill written request to provide data, consistent with the terms of Section 2, submitted within ninety (90) days of the notice of withdraw by any other party to this agreement.

B. Removal of the Retrofit Device

HCP+D retains the right to remove the flap gate, or the pollution absorption media housing infrastructure, at any time due to excessive maintenance requirements or malfunction.

Section 4 – Signatures

The below parties execute this agreement as indicated by their signatures:

Holly Utrata-Halcomb, Director
Hamilton County Soil and Water Conservation District

James Noyes, Director
Hamilton County Department of Planning and Development

Jeffrey Aluotto, County Administrator
Board of County Commissioners of Hamilton County, Ohio

Greg Bickford, Township Administrator
Sycamore Township

Gregory Sayles, Director
National Homeland Security Research Center
Office of Research and Development
United States Environmental Protection Agency

Scott Shearer, Department Chair
Department of Food, Agricultural and Biological Engineering
The Ohio State University