Great Lakes Restoration Initiative Grant Workplan, TRIB17
Ohio EPA—Division of Surface Water

Catalog of Federal Domestic Assistance Number: 66.469 CFDA: Great Lakes Program

Focus Area: #3: Nearshore Health and Nonpoint Source Pollution

Project Title: **Lake Erie Tributary Water Quality Restoration Project**

Submitted by: Ohio Environmental Protection Agency, Division of Surface Water

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GLRI Federal Funding Requested: **$1,909,283**

Project Duration Period: August 15, 2017 through July 15, 2020

Project Description: The Lake Erie Tributary Water Quality Restoration Project is an extension and enhancement of Ohio's nonpoint source program and the state's ongoing efforts to reduce nutrients and improve water quality in tributaries leading to Lake Erie. This suite of projects includes nutrient reduction, stream and wetland restoration and demonstration of green alternatives to traditional stormwater management. This project will result in the restoration of nearly two miles of stream channel using natural channel design methodology and the stabilization of more than 800 linear feet of severely eroding streambanks, 3,000 acres of cover crops, 600 acres of drainage water management and more than 1,600 square feet of vegetated biofilter.

Project Locations: This project consists of 10 nonpoint source management projects that will be locally implemented under subgrants from Ohio EPA. Projects will be implemented in Cuyahoga, Lucas, Lake, and Geauga counties in northeast and northwestern Ohio. All projects are being implemented in Lake Erie tributary watersheds. The following projects are recommended for funding under this proposal by Ohio EPA:

Lucas County Engineers—Tenmile Creek Stream & Riparian Restoration
West Creek Conservancy-Coventry Drive Stream Stabilization Project
Lucas County SWCD—Heilman Ditch Agricultural BMP Incentive Project

Tinkers Creek Watershed Partners—Tenbroeck Restoration Project
Chagrin Watershed Partners—Daniels Park Stream Restoration Plan
Chagrin Watershed Partners—Bessie Benner Park Stream Restoration
Chagrin Falls—Chagrin River Streambank Stabilization and Restoration
West Creek Conservancy—Bigelow Stream Restoration Project
Village of Gates Mills—Gates Mills Village Center Stream Restoration
City of Euclid—Green Infrastructure Nutrients and Natives Project

Timeline: Projects and sponsors were screened for GLRI eligibility. Upon successful funding of this GLRI project, sponsors shall submit full applications to Ohio EPA and will fully execute subgrant agreements within 45 days of notification from US EPA that this proposal has been selected for GLRI funding. Grant projects are "shovel-ready" and scheduled for completion within 12-24 months. We anticipate the implementation period to commence August 1, 2017 and be complete no later than July 15, 2020. *Please be advised that more precise individual project timelines will be required in the subgrant application packages that are submitted to Ohio EPA prior to entering into subgrant agreements.* A general timeline for implementation of this project follows:

Summer-Fall 2017:	Engineering, design and permitting activities completed
Spring-Summer 2018:	Pre-construction baseline monitoring complete
Summer-Fall 2018:	50% of projects constructed, subgrants closed
Spring-Summer 2019:	Remaining projects are completed, subgrants closed
Summer 2019-Spring 2020:	Post-construction effectiveness monitoring complete

Problem Statement and Project Summary and Approach: Sediment and dissolved reactive phosphorus (DRP) loadings into western Lake Erie from the Maumee River continue to occur at very high levels. Traditional conservation practices funded and installed by the US Department of Agriculture (USDA) under programs such as the Lake Erie Conservation Reserve Enhancement Program (CREP) have helped to reduce total phosphorus levels in Lake Erie. However, harmful blooms of the cyanobacteria *Microcystis* have returned to Lake Erie, starting in Maumee Bay during July or August and moving eastward into the central basin as the summer progresses. A recent bloom of *microcystis* resulted in measurable levels of cyanotoxins appearing in the city of Toledo's finished drinking water. More than 400,000 Ohioans had no potable municipal water supplies for several days.

The Lake Erie Tributary Water Quality Restoration Project will implement 10 local nonpoint source projects that will reduce nutrients and other nonpoint source pollutants, restore streams and wetlands and demonstrate green alternatives to traditional stormwater management.

Deliverables: Ohio EPA uses a standardized "universe of deliverables" to ensure consistent project reporting, tracking and enhanced accountability by subgrantees. Projects selected will result in the direct implementation of on-the-ground NPS nutrient reduction, stream and wetland restoration and green alternatives.

Results--Outputs and Outcomes: The Lake Erie Tributary Water Quality Restoration Project will result in the following outputs:

- More than 11,210 linear feet of stream channel restored using Natural Channel Design
- More than 800 linear feet of eroding stream bank stabilized using bioengineering

- More than 3,000 acres of cover crops planted annually
- More than 600 acres of cropland managed by drainage water control structures
- 1,600 square feet of vegetated biofiltration area installed
- One dam removal/stream restoration final design plan completed

These practices will reduce sediment and nutrient loadings to the streams and subsequently to Lake Erie. Stream restoration activities improve stream capacity to assimilate NPS pollutants such as nutrients and sediments and stream bank stabilization projects prevent large loadings of silt and sediment. Agricultural practices such as cover crops and drainage water management play important roles in reducing the rate and amount of runoff which in turn reduce nutrient and sediment loading from cropland runoff.

Where appropriate, Ohio EPA Ecological Assessment Unit (EAU) staff will conduct pre and post project monitoring to measure water quality improvements resulting from the proposed subgrant projects. Water quality monitoring protocol will deploy the standard biometrics that Ohio EPA uses on all waters of the state. These include fish (IBI), macroinvertebrates (ICI) and habitat (QHEI) measures designed to evaluate attainment status of a waterbody.

Finally, load reductions for nitrogen, phosphorus and sediment will be measured and/or determined for each installed practice. These will be reported to US EPA in the respective information management systems.

Lake Erie Tributary NPS Project Summaries

Tenmile Creek Stream and Riparian Corridor Restoration ($200,000 GLRI funds requested)

The Lucas County Engineer is proposing to restore and enhance instream and riparian habitat along Tenmile Creek within the Maumee River watershed. The project will restore more than 6,800 linear feet of the 7,500 linear feet length of Tenmile Creek. GLRI funding requested will also enable in-stream habitat features to be installed. It is expected that this project will improve QHEI (habitat) scores for Tenmile Creek by as much as 3.5 points. Scores for this site currently are currently in the 50-point range; water quality standards require a score of 60 points. ***The Lucas County Engineer is a willing and able partner. Ohio EPA has worked with Lucas County Engineer several times in previous years with successful outcomes.***

West Creek-Coventry Drive Stream Stabilization Project ($149,254 GRLI funds requested)

The West Creek Conservancy is proposing to reduce large sediment loadings to West Creek by stabilizing and restoring more than 200 linear feet of severely eroding stream bank using bioengineering methods and techniques. The stream will be moved aware from a recent large landslide area and more than 300 linear feet of riparian floodplain will be regraded to improve natural flow and dramatically reduce sediment loading to the creek. ***West Creek Conservancy owns this project site and is a willing and able implementer. West Creek Conservancy has a proven record of successful project implementation.***

Heilman Ditch-Swan Creek Agricultural Nutrient Reduction Incentive Project ($58,050 GLRI funds requested)

Lucas County Soil & Water Conservation District proposes to provide cost-share incentives to agricultural producers within the critical areas to plant more than 1,500 acres of overwintering cover crops and to install drainage water management structures to control cropland runoff from 300 acres. As part of a robust education and outreach component to this project the SWCD will

host field days, coordinate media outreach and develop farm signs, barn signs and other supplies to support "peer outreach". ***Lucas County SWCD is a willing and able implementer of this project.***

Tinkers Creek-Hudson Tenbroeck Restoration Project ($191,500 GLRI funds requested)
The Tinkers Creek Watershed Partners propose to restore 3,100 linear feet of Tinkers Creek by improving sinuosity, improving instream habitat, reconnecting the floodplain and replanting the area with native woody species. The project proposes to use Lake Erie dredge materials to create a floodplain bench and restore hydrologic connection to adjacent wetlands and the floodplain. Four modified Newbury rock riffle grade control structures will be installed to improve in-stream habitat and maintain channel elevation and natural flow conditions. Restoration and in-stream work will be followed by extensive riparian plantings with native woody species, including hardwood trees. ***The Tinkers Creek Watershed Partners are willing and able implementers with a proven track record.***

Daniels Park Stream Restoration Project Planning ($15,000 GLRI funds requested)
The Chagrin River Watershed Partners (CRWP) are working in partnership with the city of Willoughby to assess current stream restoration options for the confluence of the East Branch of the Chagrin River with the mainstem. The project site is located within Daniels Park, a city of Willoughby recreational facility. The Daniel Parks dam previously impounded this area until it breached in 2005. The structure and remnants of the structure continue to impede habitat recovery and stream flow. There is a 9-element watershed action strategy in place in the Chagrin River. This project will allow CRWP and the city of Willoughby to contract with an environmental firm to assess current conditions, identify and document any restoration constraints, develop a conceptual plan for restoration and final cost estimates for final design and construction of this important restoration project. CWRP will facilitate public meetings and opportunities for stakeholder and public input into the process. ***CWRP and the city of Willoughby are willing and able implementers. CWRP has a long history of successful project implementation with Section 319 subgrants.***

Chagrin River Bessie Benner Metzenbaum Park Stream Restoration
Griswold Creek through Metzenbaum park is entrench. The Chagrin River Watershed Partners (CRWP) are proposing to restore more than 1,100 linear feet of Griswold Creek. By raising the stream grade, the creek will reconnect with historic floodplain and restore the hydrologic connection between the stream and the adjacent wetland complex. Completing this project will also improve floodplain function and provide natural filtering and storage for stormwater runoff. ***The Geauga County Park District and CWRP are both willing and able partners.***

Chagrin River Streambank Stabilization and Restoration ($148,000 GLRI funds requested)
The village of Chagrin Falls proposes to stabilize and restore more than 250 linear feet of severely eroding streambanks and 0.4 acres of riparian habitat at RM 28.5 along the mainstem of the Chagrin State Scenic River. Restoration and stabilization work will restore appropriate bank full width channel, reduce erosive velocity by constructing a small floodplain bench followed by extensive plantings of native hardwood tree and shrub species. Educational and outreach activities will be completed by the Chagrin River Watershed Partners. ***Chagrin Falls and CRWP are both willing and able implementers with a successful track record with Section 319 subgrants from Ohio EPA.***

West Creek at Bigelow Stream Restoration Project ($356,373 GLRI funds requested)
The West Creek Conservancy is proposing to restore 700 linear feet of the West Creek. West Creek is an urban stream that has been previously channelized and riparian habitat denuded.

This project will use natural channel design methods to add sinuosity and improve in-stream habitat conditions. Riparian plantings of native woody tree and shrub species will also occur. West Creek will also be reconnected to its natural floodplain because of this project. The project will be supported with education and outreach activities such as signage, website and other deliverables. ***West Creek Conservancy is a willing and very able implementer with an excellent track record.***

Chagrin River-Gates Mills Village Center River Restoration Project ($349,578 GLRI funds requested)

The village of Gates Mills in partnership with the Chagrin River Watershed Partners proposes to restore stabilize and restore more than 360 linear feet of currently eroding streambank using bioengineering methods and the adjacent modified riparian area(s). The village will contract with a qualified firm to install 4 bendway weirs to redirect the river thalweg toward the center of the channel to reduce near bank velocities and reduce the concentration of flow to reduce erosion and silt and sediment loadings to the Chagrin River. The bank will be graded to a stable 2:1 or 3:1 slope where needed and deep-rooted woody shrub and tree species will be planted. The project will be supported with a robust education and outreach component that will be implemented by the Chagrin River Watershed Partners. ***CWRP and the village of Gates Mills are willing and able implementers. Both have previously implemented successful projects funded under section 319 and/or Surface Water Improvement grants.***

Euclid Green Infrastructure Nutrients and Natives ($15,000 GLRI funds requested)

The city of Euclid is currently engaged in an $11.5 million waterfront redevelopment project that will improve public access, stabilization of eroding shoreline bluffs, and restore and/or recreate natural nearshore habitat. The city is wanting to include a large vegetated biofiltration area as an enhancement to stormwater management and to serve as a green area for the public. The proposed biofiltration area will be 1600 ft^2 and filter runoff from an adjacent bluff area totaling 60,000 ft^2 via a storm drain that will carry stormwater runoff to the biofiltration area. ***The city of Euclid is a willing and able implementer of this projec****t.*

Consistent with federal nonpoint source and GLRI program guidelines, the following table depicts the load reductions that are anticipated to be realized from this project:

Total Expected Load Reduction Estimates

Practices Implemented	Estimated Load Reductions		
	Nitrogen Pounds/Year	Phosphorus Pounds/Year	Sediment Tons/Year
3,000 acres of Cover Crops Planted	11.346	942	209
600 acres of Drainage Water Management	4,538	377	42
11,210 linear feet of Stream Restoration	2,332	452	341
800 linear ft. of eroding Streambank Restored	122	61	71
1,600 square feet of Vegetated Biofilter	N/A	N/A	N/A
Total Project Load Reduction Estimate	**7,003**	**1,832**	**663**

Collaboration, Partnerships and Overarching Plans: Ohio EPA will collaborate with multiple local partners, the Geauga County Metroparks, city of Euclid, villages of Gates Mills and Chagrin Falls, the Lucas County SWCD, Lucas County Engineer, West

Creek Conservancy, Chagrin River Watershed Partners, and the Tinkers Creek Watershed Partners. Ohio EPA Nonpoint Source staff will provide oversight, administrative monitoring and Ohio EPA's Ecological Assessment Unit will perform ecological monitoring of project sites and streams. Ohio EPA also works very closely with local watershed coordinators within the project areas and others engaged in nonpoint source management activities within the Lake Erie watershed. The Lake Erie Tributary Water Quality Restoration Project will maintain and enhance such collaboration and partnerships through the life of this project.

This project will accelerate implementation of recommended nonpoint source management actions included in the Lake Erie Collaborative, Domestic Action Plans, TMDL's and the approved 9-element watershed action plans from which these projects were identified. The individual projects identified in this proposal are consistent with recommendations in the state of Ohio's approved Nonpoint Source Management Plan (2014), the conditionally approved Ohio Coastal Nonpoint Source Management Plan and general recommendations within the Lake Erie LAMP, Lake Erie Collaborative, and the Lake Erie Restoration & Protection Plan. These respective documents may be found at the following web sites:

Lake Erie LAMP: http://www.epa.state.oh.us/dsw/ohiolamp/index
Ohio NPS Management Plan: http://wwwapp.epa.ohio.gov/dsw/nps/NPSMP/index.html
Coastal NPS Plan: www.dnr.state.oh.us/Portals/12/programs/coastalnonpoint/cnpcp/finalcnpcp.pdf
Lake Erie Restoration Plan: http://lakeerie.ohio.gov/Portals/0/Reports/2008LEPRplan.pdf

As a state agency member of the Ohio Lake Erie Commission, we are committed to participating in planning and reporting meetings as necessary, sharing our project results, and assisting in reviewing outreach materials. The products of such coordination will benefit our future work to better manage Lake Erie and its associated resources.

Sub-Granting: Ohio EPA will distribute GLRI funding received for this project as subgrants to local governments, park districts and others to implement local nonpoint source management water quality projects. All subgrants will be administered by Ohio EPA using staff and processes consistent with those in place under Ohio's section 319 grants program and successfully used to manage subgrants awarded under previous GLRI grants such as the FY10 and FY12 Cuyahoga County GLRI-SWIF grants previously received by Ohio EPA. All subgrantees are required to execute a GLRI subgrant agreement with Ohio EPA that contains all requisite federal assurances and state of Ohio grant requirements. Subgrant funds will be administered consistent with updated federal cost principles and all applicable uniform administrative requirements. Subgrant agreements will remain in effect for a period of two years from their date of execution.

When Ohio EPA successfully receives GLRI funds, local sponsors will be advised to submit full sub-grant applications and project plans that will be reviewed in detail by Ohio EPA to insure full compliance with state and federal grant guidelines prior to executing grant agreements. It is our expectation that a minimum of 10 subgrants will be awarded for local nonpoint source management projects under this project and subgrant agreements will be fully executed within 45 days of GLRI awards.

Grant Management & Administration: Project oversight and grant administration will be conducted by nonpoint source program and fiscal staff within Ohio EPA's Division of Surface Water to insure the alignment of GLRI funding with federal and state of Ohio grant guidelines. Grants management and administration activities shall include:

- Preparing sub-grantee work plans, grant agreements and other documents necessary to insure efficient, effective and appropriate use of GLRI grant funds.
- Providing technical assistance to subgrantees to ensure that projects are implemented effectively, on budget and on time and successfully.
- Maintaining all necessary updates to project files in the appropriate state and federal project tracking and grant database system(s).
- Preparing and submitting all required fiscal, technical and progress reports to US EPA-GLNPO as required in our GLRI workplan and grant agreement.

Project Effectiveness Monitoring and Federal Grants Compliance:

Project effectiveness monitoring will be conducted through semi-annual project site visits and delivery of technical assistance (as needed) by members of Ohio EPA's Nonpoint Source Program. In addition, all sub-grantees are subject to financial and compliance audits. Project effectiveness and grants compliance/audit activities will be provided by Ohio EPA. using existing staff and capabilities.

- All sub-grantees are required by executed grant agreements to comply with all state and federal grant requirements. Non-compliance will result in refunding any inappropriately managed federal grant funds and/or termination of the subgrant agreement when necessary.

Community Based Focus and Environmental Justice Impacts:

This project recognizes adverse economic and environmental conditions within Cuyahoga, Lake, Lucas and Geauga counties in northeast and northwest Ohio. The local projects that are proposed in this workplan provide valuable assistance to neighborhoods and communities by implementing cost-effective, environmentally beneficial and aesthetically pleasing alternatives to existing conditions within the project areas.

Programmatic Capability and Past Performance:

Ohio EPA routinely receives four to eight federally funded assistance agreements each year from US EPA. These agreements help support Ohio's water pollution control, nonpoint source, and water quality monitoring and assessment programs. This proposal is similar in size and scope to several of the assistance grants that Ohio has administered recently. For example, we have recently completed projects performed under FY10 and FY12 GLRI grants that were awarded to Ohio EPA for similar projects. We have a history of successfully completing projects on time, on budget and meeting all reporting requirements. US EPA's annual evaluations of Ohio EPA's water programs are consistently very positive.

This project will be managed by Ohio EPA's Nonpoint Source Program and is administered by the Ohio EPA—Division of Surface Water. Since FFY2001, we have successfully administered more than 145 locally implemented watershed projects totaling more than $37 million in federal section 319 funding and $8 million in federal Great Lakes Restoration Initiative funding. We maintain a vigorous subgrant oversight protocol resulting in an exceptional level of accountability, efficiency and accomplishment. Ohio EPA contracting methods were improved in 2005 with the development and implementation of a standardized universe of "grant" deliverables. This system has resulted in much improved communication of expectations and greatly enhanced project reporting. This process is also the framework that will be used for all subgrants awarded under this proposal project.

Principal Program Staff & Qualifications: Ohio EPA's NPS program staff will be managing the GLRI project. The principal program personnel responsible for implementing this project are:

- **Russell Gibson, NPS Program Manager**—Mr. Gibson has managed Ohio EPA's NPS and Section 319 Programs since 2005. Previously, he worked for more than 20 years with Ohio's Department of Natural Resources in a variety of positions including manager of permitting, hydrology & bonding for Mineral resources; northwest Ohio scenic rivers coordinator; community grants administrator for the Division of Recycling and as a preserve manager and park ranger. Mr. Gibson has a bachelor's degree in Natural Resources Management from Ohio State University as well as extensive graduate coursework in Public Administration. He has extensive experience in program development and evaluation, strategic planning and organizational design and has completed four federal grants training courses offered by Management Concepts, Inc., including "Awarding & Monitoring Sub-awards under Federal Grants" and "Federal Cost Principles".

- **Martha Spurbeck, Grants Administrator**—Ms. Spurbeck is the grants administrator for Ohio's NPS and Section 319 programs since 2000 and will be the primary responsible party for administering GLRI subgrants. She has a bachelor's degree in Business Management from Ohio University and has completed four federal grants training courses offered through Management Concepts, including "Awarding & Monitoring Sub-awards under Federal Grants" and "Federal Cost Principles".

- **Jeff DeShon, Ecological Assessment Manager**—Mr. DeShon will supervise and organize the environmental assessment component of this project. Jeff is the manager of Ohio EPA's Ecological Assessment Section and supervises the assessment and biological surveys conducted on all of Ohio's surface waters. He has a M.S. degree in Biology and more than 30 years of experience organizing, conducting and managing environmental assessments. He has been manager of the Ecological Assessment Section since 2000.

Job Creation: The Lake Erie Tributary Water Quality Restoration Project will provide contracting opportunities for environmental and construction firms. The project will also expand and enhance local technical capacity for designing and implementing green stormwater projects into the future.

Funding and Project Budget:

95% of all GLRI funds requested will be passed through to local governments and other organizations to complete locally based stream restoration and stabilization project, agricultural best management practices and to demonstrate green alternatives to traditional stormwater management practices. Ohio EPA will support these 10 locally implemented projects with a combination of GLRI grant funds and state Surface Water Improvement Grant funds. Approximately 5% of GLRI requested funding will be used by Ohio EPA to administer the subgrant monitoring, oversight and reporting processes. Effectiveness monitoring activities are being provided by Ohio EPA at no cost to the GLRI grant. Ohio EPA subgrant guidelines are crafted to minimize local administrative and management costs. This project is funding primarily on-the-ground nonpoint source project improvements.

Outreach: Subgrantees receiving funding under the Lake Erie Tributary Water Quality Restoration Project are required to include locally conducted project-specific education and outreach, including activities such as issuing local news releases, media events, project signs, brochure and/or fact sheet development, public site visits, tours and other activities designed to improve the public's awareness of the importance of watershed management and specific benefits of each project. For example, in previously funded GLRI subgrant funded projects multiple site visits and tours have been conducted with Ohio EPA officials, US EPA Regional staff and leadership, Ohio State Parks program staff and numerous local government officials.

In addition, statewide outreach efforts will be robust and include working closely with Ohio EPA's Public Involvement Center to prepare and release project specific news releases at the time of funding identifying the US EPA-GLRI funding source as well as how the projects comprise a network of Lake Erie restoration ongoing activities. We also will organize and implement project media events and the preparation of a full color GLRI annual program report consistent with US EPA program and accountability requirements.