

Attachment C, Part I - White Clay Creek Watershed Management
Plan Implementation, Budget and Work Plan Summary, 2016 Funds

Cooperative Agreement Number CA_P13AC01266

Modification #3

1. Program Administration and Support (\$56,565.68)

Funding under this category covers services provided by the Management Plan Coordinator to implement and oversee implementation of the White Clay Creek Watershed Management Plan. This includes time required to administer the Cooperative Agreement; manage approved projects; and provide staff assistance to the White Clay Creek Management Steering Committee. A portion of the Management Plan Coordinator's time; a portion of the operating expenses; continuing education (preauthorized workshops, professional membership dues, and conference fees), WCWA insurance coverage are included as indirect costs. Technical and student assistance provided by the University of Delaware Water Resources Agency are part of this budget category.

2. Restoration (\$21,592.10)

Water Quality Monitoring and Improvement Projects, Ecological Restoration Projects, and Historical & Cultural Resource Preservation projects are all represented under restoration. Resource protection and enhancement and restoration of habitat and water quality in the White Clay Creek are primary goals of the White Clay Creek Wild & Scenic Watershed Management Plan. These projects often require multiple funders whose requirements and funding levels never match completely. This budget is geared toward covering the "gap" between funding requirements to insure completion of implementation projects.

Planned project outputs include:

Water Quality Monitoring and Research

Utilize microbial source tracking (MST) to identify potential bacterial sources in the White Clay Creek (Pennsylvania portion) to target best management practices (BMPs) and implementation strategies. Collection and analysis of 120 stream water samples as part of water quality monitoring of sites within the PA portion of the White Clay for E. coli and enterococcus levels. Real-time PCR (qPCR) assay for host-specific bacterial groups (e.g., *Bacteroides*) will be performed on 10 samples to sort out the potential FIB sources (human, bovine, equine, poultry etc.) and their contribution to specific samples/sites. Samples of potential sources of fecal indicator bacteria in the watershed will also be collected and used to build a library of local sources in the study watershed, so that we can compare the microbial communities in unknown samples to references/sources. A library of local sources could potentially provide us the capability of differentiating among pollution sources (such as farms) within a watershed and benefit future wastewater management and watershed restoration. Partner: Stroud Water Research Center.

Restoration and Green Stormwater Infiltration Pilot Project

This project facilitates implementation of a suite of green infrastructure best management practices including riparian buffer plantings, stormwater retention/filtration practices such as

tree trenches and rain gardens, rainwater storage such as barrels and cisterns, and removal of impervious paving within the watershed, targeting suburban developments. The *Resource Management Goals and Key Actions* outlined in The White Clay Creek Watershed Management Plan include, under *Existing Water Quality*, the proposed action to “develop strategies . . . to reduce soil erosion into the streams, which comes from constructions disturbance, urban runoff . . . and streambank erosion.” And in *Land-Use Effects-Key Actions*, the Plan proposes “work with communities...to develop innovative strategies for stormwater management and promote infiltration. . .” In addition to meeting these goals and key actions, Green Stormwater Infiltration projects can reduce nonpoint source pollution and help White Clay municipalities meet challenging new MS4 stormwater and TMDL permit requirements.

Planned project outputs include: 2 public workshops, a web-based program describing the step by step construction of the green infrastructure projects in a suburban context including applications, landowner soil and percolation tests, sourcing options for construction labor and materials, construction details for installation, a site specific plan, follow-up/maintenance requirements, and BMP cost share incentives. Partner: Brandywine Conservancy

Potential project outputs include:

Riparian Buffer Plantings utilizing the Riparian Gap Analysis Maps developed by Brandywine Conservancy.

Assistance with development of a pilot target area in a suburban cluster involving multiple municipalities along with private, non-profit, and government partners, to design collaborative, regulatory compliant, equitable and affordable, water quality restoration programs to bring impaired streams to unimpaired status in the White Clay watershed. Partners: Brandywine Red Clay Alliance, Chester County Water Resources Authority, Gaadt Perspectives.

3. Education & Outreach (\$3700.00)

Education funding will be used for School Programming and Community Outreach. Community Outreach will be supported by graphic design and marketing assistance. As the WCCWSP program grows and implements more projects, there is a growing need for graphic design support to assist in efforts to introduce and educate the public about the White Clay watershed. The objective is a professional looking, consistent branding and messaging associated with the White Clay Creek National Wild & Scenic River.

Planned projects:

- Coordination with Delaware Nature Society and Stroud Water Research Center to provide Stream Field Study programs for schools in the watershed. The goal is to raise awareness of the program funding and get 3 schools (fourth through twelfth grades) to participate this year. WCWA will send letters to the principals at all schools in the watershed at the start of the school year (2016-17) notifying them of the potential for scholarships. Transportation will be included as part of the program fees unless the schools can provide their own.
- Event planning and hosting of the annual White Clay Creek Fest in May of 2017. This is the WCCWSP's largest outreach event, co-sponsored with Delaware State Parks and SUEZ (formerly United Water Delaware) and focusing on the tremendous natural, cultural and recreational assets of the White Clay Creek Valley. WCCWSP will reach approximately 1,000-1,200 residents of the Newark area and watershed at large with information and handouts on the Wild & Scenic

designation, significant watershed resources, WCCWSP activities, and ways residents can help protect the creek.

- Support for lectures, workshops, municipal newsletters, and outreach materials and promotion of education efforts in the White Clay. WCWA distributes approximately 50 emails per year for our partners announcing events and activities that promote awareness of White Clay's natural and cultural resources and encourage action and stewardship on the part of the audiences.

4. Land Preservation

Natural Lands Trust (NLT) and Brandywine Conservancy (BC) will initiate potential land preservation projects within the White Clay Creek Wild and Scenic program area through outreach to appropriate landowners. This includes initial meetings with private landowners to discuss direct preservation through conservation easement or fee purchase. In addition, this project allows NLT and BC to evaluate potential funding scenarios for acquisition including grant writing to secure necessary funds.

Planned project outputs include:

1. Meet with four new landowners and initiate new projects with two of them.
2. Submit grant applications to Chester County and/or PA DCNR for two new projects

Potential projects include:

1. NLT: 34 acres in New Garden Twp; 13 acres in New Garden Twp; 9 acres in New Garden Twp; 4 acres in New Garden Twp
2. BC: Jackson and Shepard properties

5. Land Transactions

Conservation transactions are challenging in requiring multiple funders whose requirements and funding levels never match completely. The White Clay Creek land preservation funds are geared toward covering the "gap" between funding requirements to ensure completion of acquisition projects.

Planned project outputs include:

1. Closing on at least one project approved by the White Clay Creek Management Committee
2. Advancing negotiations on at least two priority projects

Priority parcel targeted for conservation include, but are not limited to:

1. NLT: Reynolds (178 acres, New Garden Twp)

BUDGET WORKSHEET:

Personnel		Federal	Nonfederal	Total
	1272 hrs @ \$32.19	\$40,945.68	\$0	\$40,945.68
Fringe Benefits		\$0	\$0	\$0
Travel	~3965 miles @\$0.54/mile	\$2141.40	\$0	\$2141.40
Equipment		\$0	\$0	\$0
Supplies	Operating expenses - \$1500 Water Quality - \$3400 Green Infrastructure -\$3212.10 Education/creek fest \$654.32	\$8,766.42	\$0	\$8,766.42
Contractual	Operating expenses - \$1600 UD WRA Tech. Assist - \$5000 UD WRA Intern - \$3000 Water Quality - \$10,180 Green Infrastructure - \$4800 School Projects - \$3000 Community Outreach – \$200 Land Preservation- \$5312.20 Land transactions - \$7454.30	\$40546.50	\$0	\$40546.50
Construction		\$0	\$0	\$0
Other	WCWA Insurance	\$2,600	\$0	\$2,600
Total Direct Costs		\$90,258.60	\$0	\$90,258.60
Indirect Costs		\$4,741.40	\$0	\$4,741.40
Total		\$95,000.00	\$0	\$95,000.00