

Academic Network to Support Urban Water Resilience (ANSUWR) Request for Proposals for Year 2024 (Cohort #2)

2024 ANSUWR RFP release:	Wednesday, May 1, 2024
Pre-application meeting:	Wednesday, May 15, 2024 via Zoom* Zoom link: https://drexel.zoom.us/j/88645606620 <i>*To request the pre-application meeting recording, please contact np868@drexel.edu</i>
Schedule a proposal consultation call:	Email np868@drexel.edu
Proposal submission deadline:	Friday, June 14 th , 2024 by 11:59PM
Selection decisions announced:	Friday, June 28 th , 2024
Questions and proposal submission:	Email environmentalcollab@drexel.edu
Anticipated number of 2024 awards:	Three (3)
Limit on Number of Proposals per applicant:	One (1)

ANSUWR Overview

Working in partnership with local stakeholders, the Academic Network to Support Urban Water Resilience (ANSUWR) will explore multifunctional strategies for making Philadelphia more resilient to climate change. The focus will be on community-defined projects that explore how climate change will alter conditions in the city's neighborhoods, with a focus on flood mitigation, cloudburst management¹, water quality improvement, tree canopy and vegetation cover, green stormwater infrastructure (GSI), and climatic conditions. Through a collaborative approach and technical assistance model, ANSUWR will bring together extensive industry knowledge, applied research, service learning, design, and stakeholder engagement activities of three local universities (Drexel, Penn, and Villanova) to address this multifaceted problem.

How Does it Work?

After attending the recommended pre-application meeting, potential community partners propose specific projects in their responses to a Request for Proposals (RFP) process. We also invite potential partners to schedule an optional 30-minute consultation call with one of the ANSUWR team members to talk through ideas, ask questions, and receive feedback prior to submitting proposals. Submitted proposals are reviewed by ANSUWR staff and a Project Advisory Committee (PAC). Technical Assistance Plans (TAPs) are developed for each winning proposal, and a Community Advisory Board (CAB) is established by the community partner to oversee the work. Technical assistance will be delivered through a variety of possible modalities (See Table

¹ Cloudburst management refers to a combination of methods to absorb, store, and transfer stormwater to minimize flooding from cloudburst events (i.e., when a lot of rain suddenly falls in a short amount of time). Source: <https://www.nyc.gov/site/dep/environment/cloudburst.page>

1). Projects timelines should not be less than 10 weeks (one academic quarter) and not exceed 2 years.

Each project's TAP will specify a set of interim and final deliverables. These deliverables may include oral presentations, workshops, meetings, written reports, websites, or other forms as appropriate for the project. ANSUWR deliverables do NOT constitute professional services and may NOT be used by ANSUWR community partners for design purposes or to establish policy or procedures, formal or informal. Rather, the work and deliverables from this process should be considered a strong foundation for further assessment and study, partnership building, and yielding information to support future grant applications. Each deliverable will be shared with the CAB and PAC when it is approximately 25%, 50%, and 75% complete for feedback, with final deliverables submitted to the community partner at the conclusion of the TAP period.

Table 1: Duration, Modality, and Description of ANSUWR service delivery mechanisms

Duration	Modality	Description
Academic quarter/semester	Problem-based learning class	Faculty agree to build the project into problem-based, experiential service-learning projects incorporated into existing courses
	Independent-study course offered for 1-3 credits	Faculty agree to mentor, supervise, and grade students who apply skills and knowledge learned in traditional classes and/or undertake new research to address problems identified by external partners through the RFPs.
	Design studio course	Teams of students develop conceptual designs for the external partner while also learning the fundamentals of the design process
	Workshops, webinars, town hall meetings & other convenings	Teams of faculty and students plan, implement, and document events to focus discussion on the needs of the external partner
0.5-1 year engagement	Senior capstone project, required practicum experience (e.g. senior design)	Students incorporate the needs of the external partner into required capstone projects undertaken under the supervision of faculty advisors
	Research coop project / internship	Students are hired directly by the external partner
1-2 year engagement	Thesis or dissertation research	The project is incorporated directly into published MS thesis or doctoral dissertation work

Subject Area Focus and Project Tracks

Climate change will bring higher temperatures, more precipitation, and more frequent storms to Philadelphia. As outlined in the City's Climate Action Playbook, these changes present significant challenges with respect to equity, health, costs, and the overall viability of certain neighborhoods. In 2024, ANSUWR has a ***special focus on flooding and GSI***. Philadelphia's vulnerability to flooding was demonstrated vividly in 2020 when Tropical Storm Isaias inundated the Eastwick neighborhood, and in 2021 when Hurricane Ida flooded several neighborhoods, damaged infrastructure, and completely inundated the Vine Street Expressway. To develop flood resilience strategies, work is needed to evaluate present and future flood risks in different neighborhoods, understand local knowledge about potential approaches to risk reduction, and inventory and explore the viability of national and international best practices in a Philadelphia context.

Accordingly, ANSUWR will accept proposals for collaborative projects within the following tracks:

- **Design Track: *Projects focusing on Climate Resilient Development strategies*** – Through place-based investigations, literature reviews, and design studio classes, develop integrated flood risk reduction strategies, which could include GSI, that integrate a broad range of community-defined goals and objectives, also considering feasibility from a technical, policy, regulatory and planning context. Identifying next steps and potential funding sources for future phases of study or implementation could also be explored. The deliverables could include conceptual designs and renderings, and rough cost estimates.

Sample Project: After reviewing case studies from around the world, organizing a design charette with local residents, and reviewing local, state, and federal funding opportunities, ANSUWR workers develop conceptual and multifunctional building, landscape, and infrastructure designs that are socially, economically, and ecologically sustainable and resilient to historical and future flood conditions. These include nature-based solutions such as GSI integrated at scale into the neighborhood.

- **Simulation Track: *Projects focusing on modelling of impacts under present and future climate change conditions*** – Using hydrologic and hydraulic (H&H) models, the latest climate projections for Philadelphia, and various open-source geospatial data sets, explore how a changing climate will result in shifting flood risks. The deliverables could include a summary of results that are understandable to community members in formats such as presentations, maps & visuals, and reports.

Sample Project: Using modeling tools such as SWMM and HEC-RAS, ANSUWR workers simulate the estimated area and depth of flooding under a variety of precipitation and Delaware river levels that consider climate change as well as both existing, and a conceptual future landscape and infrastructure build-out configuration. The simulations could look at flooding patterns with and without GSI in place.

- **Data Acquisition Track: *Projects focusing on monitoring and data collection*** – Using sensors, workshops, surveys, interviews and a suite of other methods, collect different kinds of complimentary data that can empower evidence-based decision making regarding resilient flood risk reduction strategies and improve our understanding of existing and future flood risk.

Sample Project: Based on observed or simulated flood depths, develop flood depth monitoring strategies using crowd-sourced data, sensors, and their combination and potential ways for the data to be managed, quality controlled, and shared.

Commitments

ANSUWR provides staff support and other services to ensure a successful partnership for community partners, faculty, and students. The ANSUWR employs one full-time Program Coordinator to manage the program, including the RFP process, project development, and matchmaking with ANSUWR faculty and courses, and media promotion. The Program Coordinator, along with ANSUWR's Director, works with multiple faculty members, to ensure that resources are available to address community partner projects, depending on the capacity of the community and the scope of the partnership. ANSUWR staff has experience in project management, community relations and sustainability, ensuring high-quality project outcomes that meet community needs. The Program Coordinator also serves as a go-to person to troubleshoot problems should any arise throughout the partnership.

The **Project Advisory Committee (PAC)**, consisting of representatives from the Philadelphia Water Department, the Office of Sustainability, and the William Penn Foundation funded Resilient City Stormwater Initiative, will a) assist the ANSUWR staff in defining the scope and bounds of the research, b) identify key partners and stakeholders, c) solicit and select projects, d) keep the academic team apprised of relevant work undertaken by other teams of practitioners and researchers, and e) review interim and final project deliverables.

Community partners are expected to identify one community coordinator who will champion the ANSUWR partnership in the community or region and serve as the central point of contact. The coordinator will serve as a liaison between the community and ANSUWR and will work directly with the ANSUWR program coordinator to oversee the project. The coordinator will be engaged enough in the partnership to understand local community involvement, project scope and current status. Identifying an energetic and dedicated community coordinator is a key element of a successful ANSUWR partnership. It is fine to identify two individuals that could serve as co-coordinators for the community. The coordinator will also be the primary point of contact for students and faculty working on that project. Project leads should expect to spend between 2 – 4 hours per week on the project while the project is in progress. This work may include preparing background materials, communicating with students and faculty via e-mail, phone calls or videoconferencing or meeting in person, participating in reviews of student work on the projects, and participating in the kick-off and end-of-year events. The coordinator will also lead the establishment of the **Community Advisory Board (CAB)** within two weeks of project selection. The CAB will be engaged throughout the project period to a) define specific project goals and deliverables, b) evaluate interim progress, and c) read, review, and endorse the final project deliverables. CAB participation is viewed as essential to ensuring that ANSUWR research is aligned with community needs with respect to sustainability and climate resilience. The community partner will be expected to sign a Memorandum of Understanding (MOU) that clarifies these responsibilities and terms.

Application Components

ANSUWR proposals should include the components listed below. The ANSUWR team will remain available to answer questions and provide technical assistance in producing application materials.

- **Organization Information:** Please provide the name of the organization and the name and contact information (email, phone, mailing address, department, and staff role) of the primary contact person for your proposal.

- **Project Summary:** This summary should briefly describe the project in 1-2 paragraphs, including the project's impacts in one or more of the three Tracks (i.e., climate resilient development, modeling of impacts under present and future climate change conditions, and monitoring and data collection), and the designated Project Lead for the project.
- **Details of Each Project:** Provide any relevant details for the project. This could include a map showing the project site (if applicable), information about staff involved in the project, and the role of potential partner organizations. Please include a brief description of project goals, economic, social, or environmental issues addressed by the project, specific problems that students may be able to address, and suggested deliverables from the ANSUWR courses.
- **Letters of Support:** Please include letters of support from identified or proposed partner organizations. If you have an action plan, strategic plan, or other relevant documents showing the partner's commitment to ANSUWR's goals (as described above), you may want to include or reference this document in your proposal.

E-mail your completed application in PDF format to environmentalcollab@drexel.edu.

Selection Criteria

To get the most benefit from the partnership, the ANSUWR team is looking for the following qualities and characteristics in prospective community partners and proposals:

- Consistency with ANSUWR RFP goals - Projects with a clear sustainability, climate resilience, and/or flooding focus that address at least one of the three Tracks
- Project relevance and impact – Projects should directly relate to community goals and demonstrate the potential for having a positive impact on the community.
- Participatory approach – Proposed work would engage community members meaningfully and appropriately both as a means of integrating local knowledge into resilience decision-making and as a strategy of community capacity building
- Compatibility with available university resources – Projects should fit within the capacity of ANSUWR universities faculty and students and involve appropriate research and/or technical assistance needs.
- Partnerships – Projects that involve multiple organizations such as transportation districts, school districts, non-profit organizations, business or professional organizations, government agencies or research or educational institutions are encouraged

Benefits of the Academic Network to Support Urban Water Resilience (ANSUWR)

ANSUWR provides numerous benefits:

- Efficient approach to building resilience capacity for community partners
- Conduit for developing relationships between experts in sustainability, resilience, climate change and water, and community stakeholders
- A high rate of return on investment, with large number of hours of concentrated student work on community-identified projects
- Access to an interdisciplinary group of researchers with first-hand knowledge of cutting-edge sustainability, resilience, climate and water resource-related research and practice
- Data collection, analysis, research, and other recommendations that can energize staff, increase the range of options available, and get “stuck” projects moving

- Concept plans and designs that can energize staff and community members around projects tied to partner goals. Students can explore and innovate in directions that are sometimes unavailable to partner staff or consultants due to constrained project budgets or political conditions.
- Greater support from local stakeholders for proposed solutions vetted through university engagement in the local community.
- Publicity in local, state, regional, and national publications, and venues, highlighting your community as a forward-thinking community in Philadelphia.
- Students who engage with ANSUWR projects gain valuable on-the-ground knowledge making them ideal candidates for future internships or staff positions. Students may also become informal ambassadors for the community partner, describing their successful collaborations with the partner in presentations, community meetings, future academic courses, and job interviews.