



**CONTRACT ROUTING FORM**(for internal use only)  
2 Original Contracts must accompany this form if this is for final review.

MORPC Contract No.: 23066

Staff Originator is responsible for completing items within the box.

Contract with: <b>Ohio Water Development Authority</b>		<input checked="" type="checkbox"/> <b>Draft</b> ?	<input type="checkbox"/> <b>Final</b>
REQUIRED for Subcontracts or Vendor Contracts: DBE (Disadvantaged Business Enterprise), MBE (Minority), WBE (Woman-Owned) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown			
Staff Originator:	<b>David Rutter</b> <small>(Primary MORPC Contact Person on Contract)</small>	Date:	<b>11/7/12</b>
Prepared by:	<b>Garth Weithman</b>	Requested back from Finance <b>11/21/2012</b>	
<b>Please provide as much of the following as possible/applicable:</b>			
Project Name	<u>Preparing Central Ohio for the Hydrological Consequences of Climate Change – Phase 3</u>		
Project Description	<u>Research and Development Grant</u>	<input checked="" type="checkbox"/> <b>New Contract</b>	
Grant/Funding Source and/or Project Number	<u>86101</u> <u>OWDA</u>	CFDA # (if Federal)	<input type="checkbox"/> Amendment
Resolution #	<u>AC-03-11 / AC-16-11</u> <u>AC-09-12</u>	<input type="checkbox"/> Subcontract	
Procurement process summary, the RFP/RFQ if applicable, and the winning proposal attached		<input checked="" type="checkbox"/> <u>MA</u>	
Previous Contract #	<u>23064 / 23065</u>		
Contract Amount \$142,332.00	Begin Date <u>1/1/13</u> <u>upon signature</u>	End Date <u>7/31/12</u> <u>2 years later</u> <u>1/1/2015</u>	
<b>Additional Notes:</b>			
<input checked="" type="checkbox"/> <u>NA</u> Transportation Only: DBE Coordinator Approval			
<input type="checkbox"/> Reviewed and approved by Department Head <u>[Signature]</u>			

- SA Shari Saunders – Review for Completion SAH Shawn Hufstедler MA Bricker & Eckler (If Needed)
- RL Robert Lawler for signature
- LA Loretta Akers – Enter into Contract Database **Certificate of Insurance** Yes  No
- TB Tim Bates – Project/Task Set Up TF Teresa Fry – Contract Review
- LA Loretta Akers – Update Contract Database

- Distribution of signed contracts (NOTE: Finance Department will retain original for 15 years)
- 1. Original to Finance Department (The Finance Department **MUST** have original.)
  - 2. Second Original to Contractor/Grantor
  - 3. Copy to Administrative Assistant
  - 4. Scan / Email Info to Staff & Finance Dept.

Out for Sign – Staff and Date: Garth 12-7-12 Returned Date: 1/2/13

<b>For Finance Department Use:</b>		<input type="checkbox"/> Payable (O) <input type="checkbox"/> Purchase Req. <input type="checkbox"/> F.P. Recovery <input type="checkbox"/> EPLS Debarment	
<input checked="" type="checkbox"/> Receivable (I)		<input type="checkbox"/> Customer ID <u>OWDA-23066</u>	
Dynamics#	<u>8604</u>	<u>23066</u>	<u>86103</u>
	Program	Grant	Project
			<u>VARIOUS</u>
			Task
Invoice/Reporting Notes		<input type="checkbox"/> Flag for Fixed Assets	
		<input checked="" type="checkbox"/> Flag for Prepaid	

**OHIO WATER DEVELOPMENT AUTHORITY**  
**RESEARCH AND DEVELOPMENT GRANT**  
**PARTICIPATION AGREEMENT**

WHEREAS, the **Mid-Ohio Regional Planning Commission** (Applicant) requested a Research and Development Grant (Grant) from the Ohio Water Development Authority (Authority), for a project titled **Preparing Central Ohio for the Hydrological Consequences of Climate Change – Phase 3** a summary of description of which is attached hereto (Exhibit A); and

WHEREAS, the Authority under its powers in section 6121.04 (O) of the Ohio Revised Code, by Resolution No. **86-12** dated **October 25, 2012**; approved such request and authorized the Executive Director to execute a participation agreement to implement the requested grant;

NOW THEREFORE, the Applicant and the Authority agree as follows:

1. The Authority shall grant **\$142,332** to the Applicant to be used solely to carry out the described research and development project, payable by the Authority as a reimbursement of the eligible costs of the project as they are incurred and submitted to the Authority. Prior to making the initial disbursement, the Authority may require evidence that any local share is available for this purpose. Further, all expenditures of OWDA grant funds shall be subject to existing federal, state, and local MBE and WBE requirements.
2. Requests for reimbursement of grant funds may be submitted to the Authority's Chief Engineer at any time, but should be at intervals of one month or more. All requests for reimbursements should include a letter from you summarizing the expenses. Include copies of all applicable documents to verify the requested amount and reference your account number **6290**. OWDA will reimburse to the limits set forth in the grant agreement.
3. This Grant has a two year time limit that begins when the Authority's Executive Director signs the agreement. Unless otherwise approved by the Authority, requests for reimbursement must be received within this specified time limit. After that time, the Grant account will be closed and any residual funds will revert back to the general Grant account. Any extension to the project or reimbursement time limit shall be made in writing and directed to the Authority's Chief Engineer. The reasons for the extension and the proposed amount of time extension should be a part of that request.
4. The Applicant shall obtain the proper permits from the Ohio Environmental Protection Agency to install and operate any facilities related to this Grant.
5. The Applicant will submit quarterly program and financial reports, as of April 30 (Jan-Mar), July 31 (Apr-Jun), October 31 (Jul-Sep), and January 31 (Oct-Dec), describing the status of the project and giving a breakdown of the costs incurred and pending disbursements. Continued disbursement of Grant funds is contingent upon the timely submittal of these reports.

6. Upon completion of the project or upon earlier demand by the Authority, the Applicant will submit a report describing the results of the project and how the benefits derived wherefrom fulfilled a general need in Ohio, plus a complete final accounting of the project costs. NOTE: A sum of 10% of the Grant amount will be retained by the Authority until the final report has been accepted and reviewed by the Authority.
7. Neither the Applicant nor any other person or organization shall acquire a proprietary interest in any technique, process, or other benefit created solely by the research and development under this Grant, but such technique, process, or benefit shall be available to the public without restriction. This restriction of proprietary interest shall not apply to future technology or processes which may develop from the original concept for which the Grant was awarded.
8. If ownership of any derived project facility or process is transferred to a non-governmental entity within four years of its completion and/or the facility is operated at a profit, the Authority will be repaid 50% of the annual profit each year until the Grant amount has been repaid or until the end of the four-year period, whichever comes first. "Profit" for the purposes of this paragraph means excess of revenues over expenses.
9. Any administration or supervision that may be required in the implementation of the Agreement shall be by the Director of the Ohio Environmental Protection Agency or his/her representative.

For the Ohio Water Development Authority:

  
\_\_\_\_\_  
Steven J. Grossman, Executive Director

Date: 1/2/13

For the Mid-Ohio Regional Planning Commission:

  
\_\_\_\_\_  
Robert E. Lawler, Executive Director

Date: 16 Nov 2012

Ohio Water Development Authority  
Research and Development  
2012 Grant Application

<b>Applicant Information</b>			
Name	Mid-Ohio Regional Planning Commission		
Contact Person	Jerome Tinianow		
Title	Director, Center for Energy and Environment		
Mailing Address	111 Liberty St., #100, Columbus, OH 43215		
Phone Number	614-233-4178	E-mail	jtinianow@morpc.org
<b>Project Title</b>	Preparing Central Ohio for the Hydrological Consequences of Climate Change		
<b>State Agency Providing Oversight</b>	Ohio EPA		

<b>Source of Funds</b>		
	Amount	Percent of total project costs
OWDA Grant Request	142,332	50.0
Applicant Contribution		
Cash	34,765	12.2
In-kind		
Other: City of Columbus	71,166	25.0
Other: USGS	20,698	7.3
Other: Del-Co	15,703	5.5
<b>Total Project Cost</b>	<b>284,664</b>	<b>100.0</b>
<i>Note -OWDA grant request can not exceed 50% of the total project cost. Applicant must show exceptional circumstances to request a grant greater than \$200,000.</i>		
Contact at State Agency (if any)		

<b>Project Schedule</b>		
	Start Date	Completion Date
Project set-up	Completed in previous term	Completed in previous term
Data Collection	Completed in previous term	Completed in previous term
Data Evaluation	1/1/13	7/31/13
Final Report	4/1/15	5/31/15
<i>Note - A final report must be submitted within five years following initial award date. In addition to the above dates applicant can attach a detailed list of tasks and time schedule.</i>		

<b>Have you previously applied for OWDA grant funding for this project? If yes please provide date of submission.</b>	6-1-10 6-1-11
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<b>Permit Information</b>			
Permits (list all required permits for the project; EPA, ODNR, others)	Scheduled Submitted Date	Actual Submittal Date	Approval Date
None known			

**Statement of Problem to be Solved (one page max)**

This proposal seeks a continuation of the project initially funded by OWDA pursuant to Resolution No. 93-10 dated November 9, 2010 as well as subsequent funding pursuant to Resolution No. 87-11 dated October 27, 2011. Resolution 93-10 provided \$200,000.00 in funding for the period April 1, 2011 to September 30, 2012 and resolution 87-11 provided \$148,555 in funding for the period October 1, 2012 to July 31, 2013 in response to a four-year total request of \$690,887.50. The present request seeks to provide funding to continue that work through December 31, 2013. We anticipate one more grant application in June of 2013 to fund completion of the project from January 2014 to the spring of 2015.

The overall project seeks to help central Ohio water systems and communities determine the effect that climate change will have on the long-term hydrological cycle and on extreme runoff events. Since MORPC made its initial proposal, there has been rapidly-increasing recognition of the need for such regional projects. The nature of the problem to be solved was best summed up by a policy statement issued by the American Water Works Association (AWWA) in 2010 (after MORPC made its initial proposal):

*The American Water Works Association recognizes that global climate changes will have major impacts on the hydrologic cycle and, therefore, have the potential to significantly affect water supplies. AWWA supports the development of more refined global climate models and tools to better understand and address these impacts at a water utility-relevant scale. AWWA encourages water utilities to: support regional climate change modeling; respond proactively to anticipated climate changes; develop adaptation and mitigation responses for a range of predicted climate change impacts; and reduce energy consumption and greenhouse gas emissions as reasonably feasible.*

MORPC's proposed project is designed to undertake the actions that AWWA recommends for regions throughout the United States.

MOPRC wishes to stress that this project does not seek to explain the causes of climate change, affix blame or attempt to prevent climate change from happening. Whether climate change is occurring due to man-made causes, or is simply another in a series of natural shifts in climate that have occurred over eons of time, is irrelevant to this project. There is widespread agreement including recent statements by Governor Kasich, that there are problems with climate change. For whatever reason, our climate is getting warmer and though no single weather event can be exclusively attributed to climate change March 2012 has gone into the books as the hottest month on record for North America by NOAA since measurements began in 1895 and the first three months are the warmest January to March. These extremes continue a trend of observed weather following predicted patterns suggested by climate models. Such changes will have profound effects on the hydrologic cycle. There is also widespread agreement that these effects will vary from region to region. The objective of our project remains to use sophisticated computer modeling to project how climate change will affect our own water systems and to assist central Ohio communities in adapting.

**Description of Research Proposal (one page max)**

MORPC's present grants under Resolution No. 93-10 and Resolution 87-11 cover the first seven "tasks" under a research proposal submitted by the U.S. Geological Survey, covering a time frame of 28 months. Our current proposal would fund Tasks 8, 9, 10, and the start of 11 as well as the continuing work of the consultant on phase II plan development, covering a period of five months from August 2013 through December 2013.

Task 8 will involve finalization of the modeling with scenario results. Finalization will include running of final sets of scenarios leading to interpretation and refining of the results. These results will then be prepared for presentation in the final report.

Task 9 will result in preparation of a draft final report. This will include the report text, tables, graphs, illustrations and maps needed for the report. This preliminary draft will be available to OWDA for review. The final step in this task will be the assembly of review teams.

Task 10 includes in-house technical reviews with comments as well as cooperator reviews of the draft report. These comments will be compiled and used to prepare a final manuscript as part of Task 11.

The USGS research will inform development of a series of adaptation management strategies based on integrated water management for effective water resource management. The present application would fund the continuation of strategy development, using the compiled information on water needs (agricultural, industrial and drinking water), water quality concerns, flood problems and sensitive local infrastructure in conjunction with the preliminary results of modeling. This combined information will inform discussions of a stakeholder group that will also be established during this phase to develop an adaptive management plan.

Oversight for this project is being handled by a stakeholder steering committee. Funds for continued coordination of the steering committee are included in this application. Our eventual objective – to be completed in phases of this project after the period covered by the present application – will be to develop adaptive management strategies based on the water supply projections that were developed through the modeling effort. This plan will consider all uses and requirements for water as needed to maintain a level of safety in operation and regulation of the supply sources. Actions to respond to flood or drought conditions will be developed in flood and drought management plans. Adaptation measures may include demand management, supply operational changes and infrastructure protection.

**Description of Statewide Benefit (1/2 page max)**

The proposed project is focused initially on central Ohio, but has statewide implications. The regional rainfall-runoff model we are creating can be adapted to other portions of the state that wish to make similar projections for their region. The issues we address and the solutions we adopt as part of our adaptation strategy similarly can be adopted with little change in other regions. More than half of all Ohioans draw their drinking water from surface sources, and the entire state needs to address storm water runoff and drought issues. Even in communities drawing their drinking water from Lake Erie, the issues of storm water resulting from increased extreme precipitation events will be the same. Ohio is sufficiently compact that the precipitation changes our model will predict for central Ohio will likely be similar to those that will be found in other parts of the state.

**Statement of Dissemination of Research Results (1/2 page max) (How will the research results be available for public use, i.e. publications, seminars, etc.)**

Members of the steering committee referred to above will have immediate access to reports of the progress and findings of this project. Our modeling and planning studies will be peer-reviewed and we will seek publication in professional journals. To ensure dissemination to the water system and agricultural communities most in need of the results of this project, however, we are creating and will maintain a project web site, continue to seek opportunities to make presentations at professional conferences at various interim stages of the project (such as our presentation on May 12, 2011 at the Ohio Stormwater Conference), and then host a statewide conference and publish a detailed final report upon conclusion of the project.

MORPC is co-hosting the international EcoSummit 2012 conference to be held in Columbus in early October 2012, with over 1,400 people representing 75 countries registered as of May. A major presentation on this project has been incorporated into that event, as part of a larger workshop on climate change and water system work that is going on in several countries. This will of necessity be a mid-term report on our proposed project, as the conference will occur near the mid-point of the four years we have proposed for this project.

Along with the application provide the following:

1. Written assurance that the proposed research does not duplicate previously completed or on-going research.

*We are not aware of any such research and in fact it is the absence of such research in the face of the ongoing progression of climate change that prompts this grant application and underscores the exceptional circumstances that motivate it. As noted above, the OWWA has urged regions around the country to undertake research of this nature.*

2. Written explanation if the proposed research is a continuation or subsequent phase of a previous OWDA grant.

*We have discussed the connection between this application and our current grants above.*



3. Letters of support from State Agencies.

*We do not have letters of support from the two state agencies with direct interest in this project, Ohio EPA and Ohio DNR, because they have representatives on the ODWA subcommittee that reviews research grant applications. In 2010 we submitted a letter from the Columbus Division of Public Utilities, which continues to support and participate in this project. Last year we included a letter of support from Del-Co Water Company, which joined the City of Columbus as a participant in our project and continues to support it.*

4. A project budget showing expenses such as salaries, travel, reproduction, computer, supplies, etc.

*Budget with incorporated narrative is attached.*

5. Written evidence that matching funds are available for the proposed research.

*Matching funds will come from the following sources: (a) a grant of \$100,000 in matching funds from the U.S. Geological Service, which was attached to our previous application; (b) the City of Columbus' previous letter of support; (c) Del-Co's previous letter of support; and (d) MORPC's commitment to make up any shortfall in matching funds from its own funds.*

6. Qualifications of primary investigators conducting the research

*Statement of qualifications was attached to our previous application. Please note that, as a public agency, MORPC needs to go through a bidding process to select the consulting firm that will handle the planning study. As a result we are not currently able to supply qualifications for that part of this project, as we will not proceed with this bidding process until the end of this year. We have supplied qualifications for the modeling study, which has commenced. We have also supplied a biographical statement from Jerry Tinianow, the Director of MORPC's Center for Energy and Environment, and in our Additional Information in our previous application we have included background on MORPC's involvement in water resource issues.*

7. Additional information that the applicant feels is necessary to evaluate the application. This information could include discussion why current practices and technologies have not been adequate to solve the current problem.

*Additional information is attached.*



Mid-Ohio Regional Planning Commission

## Memorandum

**TO:** Mid-Ohio Regional Planning Commission  
Administrative Committee

**FROM:** David Rutter, Watershed Coordinator  
Center for Energy and Environment

**DATE:** November 30, 2012

**MORPC STRATEGY:** Advancing Sustainable Prosperity

**SUBJECT:** Proposed Resolution AC-09-12: "AUTHORIZING THE EXECUTIVE DIRECTOR TO ENTER INTO AN AGREEMENT TO RECEIVE \$142,332 FROM THE OHIO WATER DEVELOPMENT AUTHORITY TO SUPPORT MID-OHIO REGIONAL PLANING COMMISSION'S CLIMATE CHANGE ADAPTATION PROJECT"

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Suite 100  
Columbus, Ohio 43215  
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TDD 1.800.886.2663  
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This grant is the third of four rounds of funding from the Ohio Water Development Authority (OWDA) to support a project undertaken in partnership between MORPC, the U.S. Geological Survey (USGS), the City of Columbus Department of Public Utilities, and Del-Co Water Company, Inc.

The project includes a sophisticated computer model developed by USGS to project potential changes to water runoff in the Upper Scioto River basin due to climate change, and to develop an adaptive management plan to identify infrastructure changes that the region may need to adapt to the changes.

Due to annual limitations on funding requests by OWDA, the total request for \$690,887 from OWDA was divided into four years. The two previous grants were approved by the MORPC Administrative Committee (Resolution AC-03-11 for \$200,000 and AC-16-11 for \$148,555). The fourth and final request will be made in 2013 for the final \$200,000.

Additional support for this project comes from the Columbus Department of Public Utilities, Del-Co Water Company, Inc., USGS and MORPC's Greenways program. Additional support from other sources is being sought to reduce the local share of investments for this study.