WATER RESOURCES RESEARCH INSTITUTE (WRRI) OF THE UNIVERSITY OF NORTH CAROLINA URBAN WATER CONSORTIUM – STORM WATER GROUP

GROUP OPERATING PROCEDURES

ADOPTED MARCH 10, 2011 UPDATED DECEMBER 6, 2012

1. Statement of Purpose

The Urban Water Consortium-Stormwater Group (UWC-SWG) was established in 1998 as a subgroup of the overall Urban Water Consortium (UWC) within WRRI, to focus on the vast array of stormwater management and related surface water quality issues facing UWC member cities and counties. The fundamental purpose of the UWC-SWG is to carry out a program of research and technology transfer that will support and promote high quality and more cost-effective stormwater management services for urban residents. While not necessarily limiting the potential range of urban stormwater management and surface water quality issues which UWC-SWG might address, priority will be given to the efficient, cost-effective, and technically sound management of urban stormwater runoff.

In meeting that purpose, the UWC-SWG will serve other purposes as well. By focusing on a set of research priorities and activities on urban stormwater management, the UWC-SWG hopes to maintain and enhance the quality of faculty and graduate students in North Carolina in this field. In turn, excellence in education and training will likely assist cities and counties in attracting and retaining highly qualified stormwater professionals. As such, operational objectives are to:

- identify needs in urban stormwater management, research, and technology transfer;
- conduct research in response to identified priorities and needs;
- facilitate through training and education the transfer of the latest urban stormwater technology;
- provide a continuing flow of current information on urban stormwater management issues of concern to cities and counties in North Carolina.

2. Scope of Activities

The overall program of the UWC-SWG will consist of four (4) sets of activities; namely:

- 1. research and development
- 2. technology transfer
- 3. review and comment on federal and state laws, rules, and regulations, when appropriate
- 4. information sharing on individual members' stormwater programs
- 1. General priority areas for research and development:
 - Stormwater BMP design and evaluation
 - Long-term stormwater BMP performance and maintenance

- Surface water quality limitations and use assessment
- Sources of stormwater pollutants and their fate and transport in urban streams
- Land use regulations and watershed management
- 2. Technology transfer activities:
 - Conferences and workshops
 - Developing reports and other selected media materials
 - Training programs for use of new technologies
 - Other forums for the transfer of technology and information from researchers to stormwater managers and among stormwater managers, such as invited speakers to UWC-SWG meetings
- 3. Review and comment on federal and state laws, rules, and regulations:
 - Review and discussion of new and proposed laws, rules, and regulations
 - Review and discussion of processes utilized in rule making
 - Preparation of joint comments to rule making agencies, when deemed appropriate
- 4. Information sharing on individual UWC-SWG members' stormwater programs:
 - Presentations, by members hosting UWC-SWG meetings, on stormwater programs and projects of interest within their overall stormwater programs
 - Optional field trips, conducted by members hosting UWC-SWG meetings, to stormwater projects of interest within their service areas

3. Membership

Any city or county in North Carolina is eligible for membership in the UWC-SWG if it is both a current paid member in the Urban Water Consortium and an NPDES MS4 designated Phase I or Phase II municipality. While not a city or county, the North Carolina DOT is, as a NPDES MS4 Phase I entity, eligible for membership in the UWC and UWC-SWG.

With regard to the UWC-SWG, the term "member" as used in this document refers to a paying NPDES MS4 entity (membership dues are explained below) that is either one of the original 8 charter members or another NPDES MS4 entity accepted for membership under the process outlined below. The charter members of the UWC-SWG at the inception of this document were (in alphabetical order):

- City of Charlotte
- City of Durham
- City of Fayetteville
- City of Greensboro
- City of High Point
- City of Raleigh
- City of Wilmington
- City of Winston-Salem

The City of Burlington was added as the ninth member in 2012.

If an eligible NPDES MS4 entity desires membership in the UWC-SWG, it must first submit a letter of interest stating such to WRRI, and may be invited to be an observer at a UWC-SWG meeting. Upon review of the letter of interest, UWC-SWG members will discuss the matter at their next quarterly meeting and subsequently make a recommendation to the Director of WRRI who will make the final decision to accept or reject the membership. Membership may be denied if, in the opinion of the Director, the overall capabilities and resources of the UWC-SWG would be insufficient to meet the needs of the NPDES MS4 entity, or if the entity's goals for membership seem inconsistent with the stated objectives of the UWC-SWG.

4. Fees

Annual fees for membership in the UWC-SWG will be \$5,000 per year for the membership period from July 1st through June 30th, coinciding with the state and local government fiscal year. Fees will be billed to each member NPDES MS4 entity by WRRI during July or August of each year. Fees will be due and payable by each member to WRRI by September 30th of each year.

If a new NPDES MS4 entity is approved for membership in the UWC-SWG, and they join during the fiscal year (rather than as of July 1), they will be billed by WRRI for a pro-rated amount of the annual membership fee. The new member will then be billed for the annual \$5,000 membership fee at the start of the next annual membership period. If the new member joins as of July 1, which begins the annual membership period, they will be billed the annual membership fee of \$5000. This fee will be due and payable by the new member to WRRI within 30 days of receipt of bill. The purpose for these fees is to underwrite the basic research program of the UWC-SWG, which funds research projects of common interest to the UWC-SWG members.

5. Roles

Role of WRRI

WRRI serves important oversight and management functions for UWC-SWG, and will perform the following roles:

- Provide financial management and reporting for UWC-SWG funds
- Provide oversight on UWC-SWG funded projects (including enhancement projects funded by individual members)
- Issue calls for proposals, obtain peer reviews for proposals, and make the awards of project funding for successful proposals
- Develop meeting agendas, meeting materials, and meeting minutes, in coordination with the UWC-SWG member host of each UWC-SWG meeting
- Schedule guest speakers and other logistics as necessary for meetings, in coordination with the UWC-SWG meeting host and other members
- Facilitate quarterly meetings in coordination with the meeting host
- Call for, tally, and record votes for approval of UWC-SWG business items
- Provide follow-up on outstanding meeting items

• Facilitate communication and information exchange among members by maintaining UWC-SWG listserv and website

All financial accounting and record keeping for UWC-SWG business will be performed by WRRI, consistent with established N.C. State University policies and procedures and subject to audit under state statutes and regulations.

Role of UWC-SWG Members

The UWC-SWG members, in particular the "voting representatives" (see below) and meeting hosts, will perform the following roles:

- Host quarterly meetings at their facilities, on a schedule that rotates among members
- Provide input on development of quarterly meeting agendas in coordination with WRRI staff
- Participate in quarterly meetings
- Co-facilitate quarterly meetings in coordination with WRRI staff (generally the meeting host)
- Work together in defining/revising research priorities
- Work together to synthesize feedback from members on final reports and other issues with funded projects, especially in cases where feedback is complex and spans a broad range
- Work together to review and comment on federal and state laws, rules, and regulations, when appropriate
- Collectively determine and assign leads for special tasks and projects as needed

6. Voting

Voting Representatives

The term "voting representative" as used in this document refers to the individual person designated by a UWC-SWG member to officially speak for and represent that member in all discussions and decisions of the UWC-SWG members. The group of all voting representatives is essentially equivalent to the "Advisory Committee" mentioned in the original UWC bylaws from the 1980s. The term "non-voting representative" refers to any other member employee whose job functions are stormwater-related and who may interact with the UWC-SWG (by attending UWC-SWG meetings, participating in UWC-SWG discussions or presentations, assisting the voting representative, etc.).

Each UWC-SWG member will appoint one of its employees (usually the Stormwater Manager or other designated staff member) as a voting representative to the UWC-SWG. Each voting representative will be responsible for conveying and representing the interests of his/her member NPDES MS4 entity within the business and activities of the UWC-SWG, and for voting on business items and decisions of the UWC-SWG. WRRI will maintain a current list of the UWC-SWG voting representatives. Should a member's voting representative change, the member must

notify WRRI in writing as soon as possible, designating the new voting representative and providing all contact information for the new person. The voting representatives will as a group:

- Cooperate with WRRI to establish and make appropriate changes to this document, the Group Operating Procedures of the UWC-SWG
- Provide general guidance to WRRI and oversight of the operations of the UWC-SWG
- Decide by simple majority vote all business items before the UWC-SWG, including setting research priorities and approving expenditures of funds contributed by UWC-SWG members
- Serve as a first point of contact for other UWC-SWG member non-voting representatives and WRRI on communications, special tasks, or projects.

The voting representative may designate a proxy to vote in his or her place in the event that the voting representative cannot attend the quarterly meeting to participate in the vote. To designate a proxy, the voting representative should inform WRRI by e-mail in advance of the meeting, including the name of the person who will stand in as proxy (though in practice, if no notification is sent in advance of a meeting, members will generally allow a representative from a member to act in place of an absent voting representative from that same member entity).

Approval of Business Items

Each UWC-SWG member is allowed one vote per each business item and that vote must be made by the member's voting representative or proxy. Approval of all business items (including any revisions to these UWC-SWG Group Operating Procedures) before the UWC-SWG must be by a simple majority vote of the voting representatives physically in attendance at the meeting, with the call for vote being conducted, tallied and reported by WRRI. Sending absentee votes by e-mail after a meeting is discouraged, in part because the individual casting the vote will not have been present during discussion of the issue, but this may be allowed from time to time (by majority vote of the voting representatives present) if there are special circumstances; in this case, the absentee e-mail vote should come to WRRI within 3 days of the corresponding vote at the meeting. The normal approach to handling absenteeism of a voting representative is for the absent voting representative to name a proxy to attend the meeting.

Approval of UWC-SWG business items are normally voted on during quarterly UWC-SWG meetings. However, it may be necessary from time to time to vote on pressing business items outside the scheduled quarterly meetings. In this case, the UWC-SWG voting representatives may elect to conduct a vote via e-mail (or other electronic means), which will be tallied and reported by WRRI.

7. Meetings

Meeting Schedule

The UWC-SWG will meet on a quarterly basis, typically in the second week of March, June, September, and December. Alternative meeting dates from this schedule may be set from time to time based on the needs of and by mutual agreement of WRRI and the members. UWC-SWG

members will take turns providing the location and hosting the quarterly meetings, typically using the following meeting rotation:

- City of High Point
- City of Greensboro
- City of Raleigh
- City of Charlotte
- City of Durham
- City of Fayetteville
- City of Wilmington
- City of Burlington
- City of Winston-Salem

In the event new members are added, the UWC-SWG will discuss and decide if changes to the above meeting rotation are warranted.

Meeting Logistics

The hosting member will coordinate with WRRI and will be responsible for providing the meeting space, parking, audio/visual equipment, lunch, and any other on-site logistics, as well as arranging for a local guest speaker if desired. WRRI will facilitate the meeting (in coordination with the meeting host or other member representatives, who may facilitate certain portions of the meeting such as local guest presentations), as well as prepare meeting materials, take meeting minutes, and record votes.

Meeting Attendance

Members should strive to have their voting representative or proxy attend each quarterly meeting (particularly the December meeting, at which decisions are normally made concerning funding for stormwater-related proposals from the annual WRRI call for proposals), but at a minimum must attend at least 50% of the meetings during each membership year (starting July 1st). As a financial consideration to the UWC-SWG member hosting the meeting, and to keep the group to a manageable and productive size, members should normally limit their staff attendance. In the event a member wants to bring a large number of staff to a meeting for a particular reason, that member should arrange this directly with the hosting member in advance of the meeting.

In order for decisions to be made at each quarterly meeting, a quorum of 50% (or 4) voting representatives must be present at the meeting. If a voting representative cannot attend the meeting, the member's designated proxy will count towards the quorum.

Meeting Agenda

WRRI and the meeting host will be responsible for co-developing the meeting agendas. They will begin drafting an agenda forty five (45) days prior to the scheduled quarterly meeting date. After initial discussion of the draft agenda between WRRI and the host, WRRI will forward the draft agenda to the members with a call for comments or additional agenda items (e.g., topics for

round table discussion, see below). Thereafter, WRRI will provide a finalized agenda to the members approximately fourteen (14) days prior to the scheduled quarterly meeting date. A typical meeting agenda may contain all or most of the following topics:

- Presentations by the hosting UWC-SWG member on various aspects of their stormwater program
- Optional field tours by the hosting UWC-SWG member of various stormwater projects within their stormwater program
- Presentations and updates by researchers on projects funded by the UWC-SWG and/or other sponsors
- Presentations by federal, state, or local agency officials on various stormwater or water quality issues
- Discussion of regulatory issues, rulemaking, and/or EMC actions that may affect the UWC-SWG members
- Financial report from WRRI (UWC-SWG funds received, spent, and obligated under ongoing projects)
- Roundtable discussion among the members
- Discussion of agenda items for the next meeting

8. Funding of Research Projects

Funding for activities and projects conducted by the UWC-SWG will come primarily from annual membership fees paid by the members. Decisions to fund or not fund a project with UWC-SWG membership funds will be based on a simple majority vote by the voting representatives present at the discussion of the proposal, normally at a quarterly meeting of the UWC-SWG. On occasion a vote may be taken by e-mail if warranted by some time-sensitive circumstance or other factor.

From time to time UWC-SWG members may wish to undertake projects, or tasks within projects, which require "enhanced" financial contributions from one, some, or all members (beyond the \$5,000 annual membership fee) because: (1) project or task costs exceed the amount of funds available in the annual fees account, and/or (2) the project or task is of interest to only a minority of the membership and those members are willing to bear the cost of the project. Members who request these "enhancement" projects or tasks will pay the extra costs, the distribution of which will be determined on a case-by-case mutually satisfactory basis. A majority vote is not required for a member or members to pursue an enhancement project. Additional procedures for the funding of enhancement projects are outlined below.

The UWC-SWG may in some cases partially support a research project, with the balance of support in those cases coming from state or federal appropriations to WRRI, or other external funds (e.g., grants to WRRI). The UWC-SWG may also compete for federal, state, or local research funds in order to supplement its other funds available for support of research projects.

The UWC-SWG is not obligated to award its funding budget within the fiscal year it was collected and may elect to retain its funding budget over a period of years in order to have the ability to fund larger research projects.

Establishment of Research Priorities

The UWC-SWG will establish a set of research priorities to guide its research needs, and will review them annually and update them if necessary. The review will generally take place at the March meeting in order for any changes to be incorporated in the WRRI call for proposals. This will be based on review of current and previous UWC-SWG research priorities, the latest issues of concern and mutually beneficial research needs identified by the members.

Research Proposals: Solicitation, Evaluation, and Award Decisions

The basic elements by which UWC-SWG and WRRI decide whether to fund a research project are evaluation of a brief pre-proposal, invitation of a proposal if the pre-proposal seems sound and has support, peer review of the proposal, evaluation of the proposal and reviews by the UWC-SWG members and WRRI, and a joint decision by the UWC-SWG voting representatives or proxies and WRRI to fund or not fund the project. The details of the process differ slightly depending on whether the pre-proposal is Type 1 or Type 2, as described below.

Type 1: A type1 pre-proposal is a written pre-proposal in response to WRRI's annual call.

The annual WRRI call for pre-proposals includes a brief list of research priorities (water resource topics of particular significance for NC), and the UWC-SWG is invited to contribute its own research priorities, decided by its voting representatives, to that list. Pre-proposals received at WRRI in response to the annual call are evaluated by the WRRI Advisory Committee, and at least two voting representatives of the UWC-SWG are invited to serve on that committee to involve the UWC-SWG in review and evaluation of pre-proposals. (Actual representation of the UWC-SWG on the WRRI Advisory Committee depends on the responses to these invitations.)

Using the input from its Advisory Committee concerning the relevance and quality of the preproposals, WRRI invites proposals from a subset (generally about 50%) of the pre-proposal authors. Upon receipt of the proposals, WRRI arranges for peer reviews of each proposal by research scientists and engineers with appropriate expertise. Then, the WRRI Technical Committee (a group of academic researchers in water resources) convenes at WRRI to evaluate both the proposals and peer reviews together. After the Technical Committee meeting, WRRI will identify those proposals which seem relevant to the mission and interests of the UWC-SWG and which scored highly for technical merit in the evaluation process described above (peer reviews and Technical Committee). WRRI will then forward these proposals (and their associated peer reviews and Technical Committee summaries) to the UWC-SWG members for their review prior to the December meeting of the UWC-SWG. The December meeting will include time for discussion of these proposals and decisions regarding which, if any, to fund. The UWC-SWG is under no obligation to fund proposals in any given year (for example, if the proposals submitted are not of strong interest to the members). In some cases, a project may be partially funded by UWC-SWG, with the balance of support coming from other funds (WRRI or the UWC).

Type 2: A type 2 pre-proposal is an "ad-hoc" pre-proposal which occurs outside WRRI's annual call, and may be a written pre-proposal or an oral proposal in the form of a presentation by a researcher at a UWC-SWG meeting

Research of potential interest may come to the attention of the UWC-SWG through means other than and outside the schedule of WRRI's annual call for pre-proposals. At such times the UWC-SWG may consider funding a research project, based on and subject to the basic elements outlined above. The process should begin with a pre-proposal, either in the form of a brief (about 2 pages) written document from the researcher to WRRI and the UWC-SWG, or a brief oral presentation by the researcher at a UWC-SWG meeting. After consideration of the pre-proposal, the voting representatives of the UWC-SWG will decide whether or not they have interest in seeing a full proposal on the topic. WRRI will communicate this decision to the researcher, in some cases with feedback from the UWC-SWG. Upon receipt of the proposal, WRRI will obtain peer reviews, and will share the proposal and peer reviews with the UWC-SWG. Normally a decision on whether or not to fund the proposal will be taken at the next UWC-SWG meeting.

Enhancement Projects

UWC-SWG members may wish to fund research projects or contract services with investigators with utility funds that are separate from UWC-SWG funds. Enhancement projects may be single-party or involve multiple members. These projects may be in the form of a traditional research proposal that tests a hypothesis, or may be in the form of a service that a researcher is providing to the utility, such as the development of a tool or testing a new technology for performance. In order for proposals to be processed by WRRI, enhancement projects shall follow the procedures below:

- The UWC-SWG member(s) initiating the project should notify WRRI as soon as feasible when it begins negotiating a project or proposal with a researcher; the member should also notify the full UWC-SWG by email in order to provide an opportunity for other members to provide assistance, assess whether a proposal could become a larger consortium project, or ask questions as appropriate on a case-by-case basis.
- Proposals and projects funded as UWC-SWG enhancements should have some relationship to the research priorities and/or mission of the UWC-SWG and/or WRRI
- Proposals should follow WRRI Guidelines for proposals submitted outside the annual call
- Upon development of a proposal, the utility or researcher should send the proposal to WRRI and allow up to 30 days for in-house review of the proposal
- All proposals must include a letter to WRRI from the utility (utilities) involved indicating that the proposal, as submitted, is acceptable and indicating a commitment of funding from the utility (utilities)
- Following in-house review WRRI will advise on whether the proposal should have outside technical peer review (generally not needed in the case of applied utility-specific projects that are not typical research projects); if WRRI feels peer review is needed and the parties are not willing to allow time for it (up to 60 days), the parties are free to pursue an arrangement outside of WRRI
- Proposals funded in this manner will carry an additional F&A fee of 10% as required by NCSU SPARCS for consortium enhancement projects

- Upon completion, all projects are required to submit a final report that meets WRRI guidelines. Proposals for contracted services may generate a report that is shorter than a standard research proposal, but a report is required. Projects exceeding six months in duration may be required to submit a progress report in addition to the final report. The member(s) negotiating with the researcher should inform them of this requirement, and the requirement will also be included in the award paperwork provided by WRRI.

Award Decisions: UWC-SWG and WRRI recognize that decisions regarding funding are necessarily joint, in the sense that both entities should approve in order to make an award.

UWC-SWG members know best what research areas and topics are of interest to them as a group and which align with their individual missions. WRRI has expertise in the execution, evaluation, and oversight of academic research, and an obligation to the UNC system and state of NC to dedicate funds only to high quality proposals with strong promise, identified with the help of peer review. UWC-SWG funds should be used to support research projects based on proposals that are: (1) highly rated by WRRI for technical merit (considering peer reviews and WRRI Technical Committee input), and (2) also highly rated and of strong interest to the UWC-SWG members. In discussions of research proposals at UWC-SWG meetings (particularly the December meeting), WRRI will communicate its support (or lack thereof) for funding specific proposals. The UWC-SWG voting representatives will decide by simple majority vote on behalf of the members whether the UWC-SWG supports funding specific proposals. Awards will be made on proposals receiving joint support (UWC-SWG and WRRI) for funding.

No-Cost Extensions

WRRI occasionally receives requests from researchers for no-cost extensions (NCEs) of UWC-SWG funded research projects, whereby a researcher requests additional time for the completion of research objectives without a request for additional funds. Handling such requests is part of WRRI's normal administrative oversight of research projects. NCE requests are reviewed by the WRRI Business Officer and Associate Director for Research to check for adequate justification and whether any technical issues may arise by the extension, and to see if the researcher is up-to-date on required progress reporting. After review, WRRI will e-mail the UWC-SWG voting representatives to inform them of the request and our recommended action, which is normally to approve the extension, at least for the first request per project. WRRI will provide a brief comment period during which UWC-SWG members can ask for more information or raise concerns about the NCE. If there are any objections to the recommended action, WRRI will work with the member(s) to address concerns. Once any questions are answered, WRRI will inform the researcher of the decision regarding the request.

Project Reports

Final reports are required of all research projects funded through WRRI. In addition, final presentations at a UWC-SWG meeting are expected following all projects funded with UWC-SWG membership dues. Presentations for enhancement projects will be at the discretion of the member(s) providing the enhanced funds and based on interest of other UWC-SWG members. Final reports received at WRRI are reviewed for format and content. In some cases WRRI will

interact with a report author to effect changes to the final report. For projects supported with UWC-SWG funds, the report will then be forwarded to the UWC-SWG voting representatives and other member staff for their information and evaluation. Before formally accepting the final report, WRRI will allow the UWC-SWG members 4 weeks to evaluate the report and make comments. If the members have significant concerns with the report, the UWC-SWG voting representatives and will help as needed to synthesize and clearly articulate these concerns to WRRI. WRRI will in turn communicate the concerns to the researcher and make efforts to obtain a revised report and that addresses the concerns. Once the final report is completed and accepted by WRRI and the UWC-SWG, the researcher will then be invited to make a formal presentation on the research to the UWC-SWG at its next quarterly meeting.