



## Project Funding Agreement #5151

### Titled

### “Impact of UV Treatment on Microbial Communities in a Full-Scale Drinking Water Distribution System”

This Project Funding Agreement (“PFA”) is entered into on \_\_\_\_\_, (the “Effective Date”) by and among **The Water Research Foundation** (“WRF”), a Colorado non-profit corporation, whose place of business is located at 6666 W. Quincy Ave., Denver, Colorado 80235, and **City of Ann Arbor** (“Sub-recipient”), whose principal place of business is located at 301 E. Huron Street, Ann Arbor, Michigan 48104. WRF and Sub-recipient are each a “Party” and together the “Parties.”

WRF has selected Sub-recipient to receive a research and development grant as more specifically detailed in this PFA, which includes the following Exhibits attached hereto:

Exhibit A – Project Plan

Exhibit B – Task, Timelines & Contacts

Exhibit C – Budget Summary

Exhibit D – Invoice Form

Exhibit E - Copyright Assignment Form

Exhibit F – Federally Funded Project – NOT APPLICABLE

Exhibit G – Webtool Deliverables – NOT APPLICABLE

The parties mutually agree as follows:

- I. **DEFINITIONS.** The following defined terms shall apply in this PFA:
  - A. “Code” means the U.S. Code of Federal Regulations Title 2 (Grants and Agreements) Part 200: Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards (a/k/a/ Uniform Grants Guidance or UGG).
  - B. “Cost Share” means the portion of allowable costs that Sub-recipient or Subcontractor funds in kind toward completing the Project. All Cost Share accounting must comply with the Code.
  - C. “Deliverables” are the items required to be delivered to WRF as listed in Exhibit B, including all Reports and all Work Product.

- D.** “Expenses” means any WRF approved expenses incurred by Sub-recipient in performing under this PFA.
- E.** “Intellectual Property” or “IP” is all rights to copyrights, trademarks, service marks, patents, inventions, trade secrets, know how, and confidential information, including the right to enforce, divest, license, seek registration, prosecute infringers, and commercially or otherwise exploit such rights.
- F.** “Principal Investigator” or “PI” is Sub-recipient employee identified in Exhibit B, who is primarily responsible for ensuring that all terms and conditions of this PFA are met and to whom WRF shall give all notices intended for Sub-recipient. If more than one PI is designated in Exhibit B, the additional PIs shall be referred to as a Co-PI(s), though the PI shall remain the primary point of contact under this PFA
- G.** “Project” is the work to be completed by Sub-recipient, as described more specifically in the Project Plan attached hereto as Exhibit A.
- H.** “Project Coordinator” is the WRF staff member who supports the Research Program Manager.
- I.** “Project Funds” is the aggregate maximum amount of cash award which WRF agrees to provide to Sub-recipient to fund its performance of the Project pursuant to this PFA.
- J.** “Project Plan” is the description in Exhibit A of the tasks and Deliverables to be completed by Sub-recipient for the Project, for which WRF will disburse the Project Funds and monitor progress pursuant to this PFA.
- K.** “Proposal Guidelines” are the WRF’s written guidelines, currently maintained at <http://www.waterrf.org/funding/ProposalDocuments/GuidelinesForResearchPriorityAreaProgramProposals.pdf> in which the procedures, criteria and requirements for eligibility, proposal, performance, administration, reporting, and other matters governing the proposal of and performance of the Project are set forth. The Proposal Guidelines were provided to Sub-recipient prior to its submission of a Project Proposal, and its terms and requirements are incorporated in this PFA by this reference. The terms “Deliverable”, “Periodic Report”, “Draft Report”, and “Final Report” appearing in this PFA shall have the definitions, and be governed by the requirements applicable thereto, as set forth in the Proposal Guidelines.
- L.** “Reports” are the Periodic Reports, Draft Report, and/or Final Report, individually or collectively.
- M.** “Research Program Manager” is the WRF staff member identified in Exhibit B who will be the primary point of contact for WRF and will oversee the Principal Investigator’s performance of the Project.
- N.** “Subcontractor” is any third party identified by Sub-recipient in the Project Plan as assisting in the performance of the Project under this PFA.
- O.** “Sub-recipient Funds” is any portion of the Project Funds, if so, identified in Exhibit C, as being provided by Sub-recipient to fund the Project under this PFA.

- P. "Subject Data" shall mean all non-patented original and raw research data, originated or assembled by Sub-recipient in performance of this PFA, but specifically excluding WRF Intellectual Property or Sub-recipient Intellectual Property as defined within this PFA. Subject Data also excludes financial reports, receipts, costs, analysis, and similar information incidental to contract administration. Subject Data is copyrightable database Work Product and IP under this PFA.
- Q. "Work Product" is copyrightable works of authorship created by Sub-recipient or its Subcontractors in the course of performing under this PFA or the Project, including, without limitation, the Project Plan, all Reports and other Deliverables, all interim drafts of the foregoing, and any computer software and related documentation developed under the Project.

## II. GENERAL OBLIGATIONS OF THE PARTIES

### A. Sub-recipient.

1. Sub-recipient agrees to employ diligent efforts to complete the research, prepare and deliver written Reports, deliver all Deliverables to WRF, and perform such other functions, all in accordance with the schedules and other requirements set forth in the Exhibits and this PFA. Sub-recipient shall itself, and shall require all its Subcontractors to, perform the Project and all related activities in full compliance with all laws, regulations, ordinances, and other requirements governing them. All Reports shall be sent to the Research Program Manager with a copy to the Project Coordinator.
2. Sub-recipient may not use any portion of the Project Funds for any purpose other than as expressly detailed in the Project Plan as necessary to perform the Project.
3. Sub-recipient shall be solely responsible for payment of any Subcontractors, and for procurement of all equipment, materials, and other resources necessary for performance of the Project, out of the Project Funds it receives from WRF.
4. Sub-recipient agrees to pay WRF their respective co-funder funds Effective Date by company check.

### B. WRF. WRF will disburse the Project Funds to Sub-recipient as detailed in this PFA and Exhibit C.

## III. DISBURSEMENT OF PROJECT FUNDS

- A. Project Funds. WRF will disburse the Project Funds in installments directly to Sub-recipient. The amount of the Project Funds was set based on Sub-recipient's budget attached in Exhibit C and is a "not to exceed" amount. WRF will not make any payments in excess of such amount. Disbursement of all Project Funds is subject to Sub-recipient's compliance with this Section III and Exhibit C. Any increase in a budget line item by more than 10% of such line item's stated budget shall require the prior written approval of WRF to be reimbursable, even if other budget decreases offset such increase and there is no overall increase to the required Project Funds
- B. Advance Payment. Following the Effective Date, WRF will advance to Sub-recipient 10% of the Project Funds. All invoices submitted by Sub-recipient must reflect a credit equal to the advance

payment and may only invoice WRF to the extent Expenses exceed such advance payment. No invoice is required from the Sub-recipient; the advance is paid upon full execution of this PFA.

**C. Invoicing and Payments.**

1. Beginning three (3) months after the Project Start Date identified in Exhibit B, and every three (3) months thereafter during the term of this PFA, Sub-recipient shall submit to WRF a detailed invoice itemizing the Expenses incurred by Sub-recipient in the three (3) months prior to the invoice date in the performance of the Project and identifying all Cost Share and third-party in-kind contributions as well as the contributing parties. The invoice shall be sent to the Research Program Manager with a copy to the Project Coordinator.
2. Each invoice shall reference the line items in Exhibit B, and be in the form required in the link provided on Exhibit D. Only Expenses actually incurred by Sub-recipient, in accordance with the Code, may be invoiced under this PFA.
3. WRF will disburse Project Funds based upon Sub-recipient timely submitting Deliverables meeting the requirements of this PFA. No portion of the Project Funds will be disbursed unless and until WRF receives, approves, and accepts each corresponding invoice and Deliverable. If WRF approves and accepts the invoices and Deliverables, Sub-recipient will be paid as follows:
  - (a) The ten percent (10%) advance payment must be shown on all invoices, including the final invoice, as an advance payment received by Sub-recipient. Subject to the hold back provision below, invoices will be paid to the extent Expenses incurred exceed the advance payment.
  - (b) Regardless of the actual amounts invoiced, WRF will at all times during this PFA hold back twenty percent (20%) of the Project Funds and will only disburse same as follows: Ten percent (10%) of the Project Funds will be disbursed to Sub-recipient when WRF receives and accepts the Draft Report. The remaining held back ten percent (10%) of the Project Funds will be disbursed to Sub-recipient after Sub-recipient has completely and adequately responded to all of WRF's queries on the Final Report, has made all revisions reasonably requested by WRF to finalize the Final Report, submitted a final invoice, and Assignment of Copyright, a form of which is attached in Exhibit E, is executed by all those who prepared or contributed to Work Product under this PFA.
  - (c) No conditions, notations, acknowledgements, comments, or terms other than the items required to be included and itemized on Sub-recipient's invoice shall be binding on WRF.
  - (d) WRF may deduct amounts or withhold payments if Sub-recipient fails to comply with any requirement in this PFA.

**IV. COMPLIANCE MONITORING**

- A. Financial Management System.** Sub-recipient shall maintain an accounting system and accurate and complete accounting records that, at a minimum but without limitation, allow for the identification, tracking, and verification of Expenses, Cost Share, invoiced items, and funding received, all in a manner that is segregated and allocable solely to performance of the Project. All Expenses incurred must be supported by receipts and be made available to WRF upon request.
- B. U.S. Federal Administrative, Cost and Audit Requirements.** Regardless of the nature or funding source for the Project, WRF is categorized as a Pass Thru Entity (PTE) because of the federal funding it receives. To stay in procurement compliance, WRF must comply with applicable federal regulations and requirements governing federal funding and must pass through compliance to its funding recipients. Accordingly, Sub-recipient represents and certifies that the budget disclosures in the Project Plan were prepared by Sub-recipient in full compliance with The Water Research Foundation Guidelines and all relevant U.S. laws, regulations and agreement terms and conditions related to U.S. Federal Financial Assistance including, but not limited to, the Code. Cost Principles specifically applicable for awards to for-profit organizations are set forth in the Federal Acquisition Regulations System (FARS, at 48 CFR 31.2) to determine allowable costs under WRF project funding agreements. Sub-recipient shall throughout the Project, and in the preparation of every invoice, report, and maintenance of its accounting system, remain in compliance with the above regulations. It shall be Sub-recipient's obligation to determine and comply with its governing cost principles, including, without limitation, those governing survey costs, and to ensure all of its Subcontractors' invoices are equally in compliance with these requirements.
- C. Indirect Costs and Allocation of Costs.** If Sub-recipient proposes to invoice for indirect costs, substantiation of those charges must be in compliance with WRF's "Research Priority Area Proposal Guidelines," which include compliance with the applicable cost principles referenced in Section IV.B above.
- D. Record Retention.** Sub-recipient shall retain all original books and records pertinent to this PFA and the Project for at least three (3) years from the termination of this PFA.
- E. Audit and Monitoring.**
1. Sub-recipient's use of the Project Funds under this PFA shall be in compliance with the Code, including its Subpart F, Audit Requirements, and may be audited by WRF and its designee. Furthermore, WRF shall have the right, itself or through a designee, to visit Sub-recipient premises or anywhere else performance of the Project takes place, to observe, review, and monitor performance of the Project, as well as application and use of the Project Funds. Accordingly, following a two (2) business day prior notice from WRF, Sub-recipient shall provide WRF and its designee access to its premises, technical staff, supervisors, knowledgeable personnel, computer systems and databases, assistance, original documents, including those required to be maintained under this PFA, and any information related to Sub-recipient's use of the Project Funds and performance under this PFA, to enable the WRF's audit and monitoring. The WRF's audit rights shall survive termination of this PFA by three (3) years.
  2. WRF will keep any proprietary financial, technical and/or scientific information obtained in the course of performing an audit under this Section in confidence, provided that such material (a) is appropriately marked as "Confidential," (b) is not already generally known to the public, (c) is not required to be disclosed as a result of a legal proceeding, or applicable legal requirement, (d)

is not already known to WRF or others without a confidentiality obligation, and (e) is not a Deliverable or Work Product under this PFA.

3. Any deficiencies or non-compliance in Sub-recipient's systems, procedures, record keeping, finances, and performance of other obligations under this PFA discovered in the audit, review or monitoring process, or discovered otherwise, shall be a material breach of this PFA subject to the procedures and remedies in Section VII below.

## V. PROCUREMENT STANDARDS

A. Procurement Standards. Sub-recipient will follow standards governing procedures for procurement for its organization type and shall at all times remain in compliance with Subpart D, Procurement Standards, of the Code. Sub-recipient represents and warrants that it is familiar with and able to comply with these standards, which include but are not limited to:

1. Sub-recipient's procurement policies must adhere to the Uniform Grants Guidance
2. Sub-recipient shall maintain and enforce with its officers, employees, and agents (including Subcontractors) a code of conduct designed to enhance goodwill, ethics, and compliance with laws while performing under this PFA; and
3. Sub-recipient shall conduct all procurement transactions in a manner that maximizes open and free competition and in compliance with the restrictions and limitations in this PFA.
4. Sub-recipient shall ensure that its Subcontractors comply with the requirements and restrictions in this Section and in this PFA generally.
5. Sub-recipient shall notify WRF, within two (2) months of the Project Start Date, of all Subcontractor agreements executed between Sub-recipient and the Subcontractors identified in the Project Plan.

## VI. IP RIGHTS AND PUBLICATION

A. Work Product.

1. Copyrights. WRF shall own all worldwide copyrights in all the Work Product, including the Project Plan, all Deliverables, and all interim drafts of the foregoing. Sub-recipient shall and hereby does assign exclusively to WRF all right, title, and interest in and to the Work Product and the copyrights embodied therein. The Sub-recipient may use without restrictions all data from the Work Product such as innovations, creations, processes, designs, methods, formulas, plans, technical data, and specifications. The use of this Intellectual Property will not be utilized by the Sub-recipient, if applicable, before WRF has released the final Work Product (see VI.A.2) regarding permission of use.
2. Distribution Permission. Upon request, WRF will provide Sub-recipient with five (5) hardcopies of the Final Report and a PDF. If WRF publishes the Final Report in PDF format only, Sub-recipient will receive the Final Report in PDF format only. The Work Product may not be copied, published, adapted, modified, transferred, posted on an intranet or website, or

disclosed in any manner except with WRF's prior written approval. WRF's approval will not be unreasonably withheld, though it may be conditioned. No permission will be granted before WRF has published the Final Report. Sub-recipient shall utilize the WRF's Permission Request Form located at <https://www.waterrf.org/project-report-guidelines> to request WRF's approval.

3. License Granted to Sub-recipient. WRF hereby grants Sub-recipient a non-exclusive, irrevocable, world-wide, perpetual, royalty free license to create derivative works, including the use of the Subject Data, provided that Sub-recipient does not publish or otherwise disclose or publicize the Subject Data prior to WRF's publication of the Final Report.
4. WRF PI Intellectual Property Guidelines are available at: <https://www.waterrf.org/project-report-guidelines>
5. PI guidelines for Periodic Report Format/Content and Preparation of Research Reports are available at: <https://www.waterrf.org/project-report-guidelines>

**B. Inventions and Patents.**

1. All proprietary or patentable ideas, devices, methods, formulations, designs, and other inventions developed or conceived by or on behalf of Sub-recipient during performing under the Project, including, but not limited to, the right to apply for patent protection thereon and all patents issuing on such applications (collectively, "Inventions"), shall remain the property of Sub-recipient.
2. Sub-recipient shall not withhold any information on or descriptions of Inventions, whether or not patentable, from Work Products or any Deliverable. Sub-recipient's rights in Inventions shall not limit, delay, restrict, or in any other manner interfere with WRF's right to own, publish, and exercise all other copyrights in the Work Product.
3. All IP rights that were owned and developed by Sub-recipient or third parties prior to the Project Start Date and outside the scope of the Project (collectively, "Preexisting IP"), and which Sub-recipient will use in the performance of the Project or incorporate in whole or in part into any Deliverables, has been fully disclosed and identified by Sub-recipient in the Project Plan. Sub-recipient represents that all Preexisting IP is used with full authorization and permission from its respective owner, and copies of such permissions and licenses shall be provided to WRF by the Project Start Date. Sub-recipient shall obtain all appropriate permissions on WRF's behalf to the extent necessary to enable WRF to exercise its ownership and publication rights in the Work Product, including the Final Report, such right shall be transferable, sublicense able, and shall not be subject to any payment, restriction, or other obligation on the part of WRF. Such agreements to procure rights for WRF shall be subject to the WRF's prior review and approval, in its sole discretion.
4. Sub-recipient hereby grants WRF a fully paid-up, royalty free, perpetual, irrevocable, world-wide, nonexclusive license, with the right to grant sublicenses, to utilize the Inventions and Preexisting IP for educational or other non-profit purposes.

- C. Publication. As the owner of Work Product, all rights to publish, distribute, publicly perform, publicly display, and publicly present the Work Product belong solely to WRF. Sub-recipient may publish or present based on the Work Product, in whole or in part, only after providing WRF with the opportunity for prior review. Any such request for prior review must be made to WRF at least three (3) weeks prior to the requesting party's proposed date of publication or presentation based on any portion of the Work Product, and the request must be accompanied by copies of the proposed publication or presentation material. All copies of or presentations based on the Work Product authorized to be made by WRF shall furthermore conspicuously display the following notice:

*Source: Author, Title of The Water Research Foundation Work  
Copyright [year of publication],  
The Water Research Foundation. Reproduced with permission.*

- D. Student Thesis. In the event a college or graduate student is a part of Sub-recipient work on the Project contemplated by this PFA, and that student completes a thesis, dissertation, or report relating to this Project, solely as part of such student's college or graduate course work submitted to the instructor or educational institution, and in no event for publication, the student may utilize Subject Data, and/or WRF Intellectual Property.

- E. Acknowledgement. Any public presentation or publication by Sub-recipient, including a student writing a thesis, dissertation, or report, based on the Inventions or any portion of the Work Product, if permitted by WRF, shall include a statement substantially as follows:

*“City of Ann Arbor gratefully acknowledges that The Water Research Foundation are funders of certain technical information upon which this publication [manuscript] [presentation] is based. City of Ann Arbor thanks The Water Research Foundation, for their financial, technical, and administrative assistance in funding the project through which this information was discovered. This material does not necessarily reflect the views and policies of the funders, and any mention of trade names or commercial products does not constitute the funders’ endorsement or recommendations thereof.”*

- G. Return of IP. Sub-recipient shall provide to WRF legible copies of all Work Product (including unencrypted source code and object code of any computer software program and programmer's notes and documentation) in a format reasonably designated by WRF within thirty (30) days of any Party's delivery of a notice of termination hereunder, whether or not a cure period is provided. Further, at the same time, Sub-recipient shall provide copies and originals in whatever medium and format is reasonably designated by WRF. No further payments will be made unless Sub-recipient fully complies with the foregoing requirements.

- H. Originality. Sub-recipient represents, that it, and its Subcontractors, are the sole creator(s) and originator(s) of all Work Product, Inventions, if their own and Preexisting IP; none of those rights have been bargained, sold, encumbered, licensed or otherwise transferred to any other party in a manner that would limit or interfere with the requirements and covenants of Sub-recipient under this PFA. Further, Sub-recipient represents that no portion of this Project, including any portion completed by Subcontractors, knowingly infringes upon the IP rights of any other person or entity or violates the common law or statutory right, title, or interest of any person or entity. Sub-recipient, shall execute and deliver to WRF, and shall cause its Subcontractors and agents to execute



and deliver to WRF, all documents and instruments reasonably requested by WRF, including, without limitation, the Assignment of Copyright attached in Exhibit E, to further evidence or memorialize the assignment of rights to WRF set forth in this PFA.

## VII. TERM AND TERMINATION

- A. **Term.** This PFA is effective as of the Effective Date and shall continue for the duration of the Project, ending on WRF's delivery to Sub-recipient of the final disbursement of the Project Funds in accordance with Section III.B above. The term of this PFA governing only Sub-recipient's obligations and WRF's rights may be extended beyond final disbursement of the Project Funds, if expressly so stated in an Exhibit to this PFA. This PFA may be terminated earlier for the following reasons:
1. WRF may terminate this PFA by written notice to Sub-recipient at any time in the event of Sub-Recipient's or a Subcontractor's material breach of this PFA or any requirements or timelines in the Project, which breach is not cured within thirty (30) days of WRF's written notice of such breach.
  2. WRF may terminate this PFA by a thirty (30) day written notice to Sub-recipient if WRF reasonably determines that the Project is no longer feasible or its performance desired, or that if Sub-recipient is not likely to complete the Project on time.
  3. If Sub-recipient, after reasonable consultation with WRF and sufficient exploration of other options and possible mutual agreements to amend this PFA, determines that circumstances beyond its control prevent it from continuing the Project, Sub-recipient may terminate this PFA at any time by written notice to WRF.
  4. Any change in legal requirements or entitlements which materially alter Sub-recipient's performance under this PFA, or any change in the availability of funds to WRF, shall warrant good faith renegotiation of the provisions of this PFA impacted by such change. If the Parties cannot agree to an amendment to this PFA, at WRF's option Sub-recipient's performance of the Project may be suspended, or this PFA may be terminated by WRF effective by a thirty (30) day written notice.
  5. If termination occurs under this Section, Sub-recipient shall cease all work as of the effective date of termination and shall prepare and submit to WRF a final invoice and accounting of expended and non-cancellable funds as of the effective date of termination. Any portion of the Project Funds that was prepaid to Sub-recipient, but which remains unspent, or which corresponds to Deliverables rendered unusable by Sub-recipient's material breach or termination of this PFA, shall be returned to WRF with the final invoice. WRF shall pay any amount owed under the final invoice, if reasonably accepted by WRF. Sub-recipient shall be entitled to compensation for all satisfactory and authorized work completed as of the termination date, provided that all Work Product corresponding to the invoiced amounts have been delivered to WRF, and further provided that funds are available (i.e., subject to any reduction in granted funds as stated above).

## DISPUTE RESOLUTION

The Parties agree to settle disputes by good faith negotiation. Any dispute not able to be settled by good faith negotiation may be entered into a competent court of a mutually agreed upon jurisdiction or other form of dispute resolution as mutually agreed upon by the Parties.

## VIII. STANDARD TERMS AND CONDITIONS

- A. Survival. All terms which by their nature and intent are required to be performed after termination of this PFA shall survive to the extent necessary to enable their fulfillment.
- B. Quality Assurance. Sub-recipient shall use its best efforts to ensure that all data and test results, regardless of the source of such data and test results, developed or collected during this PFA and included, or relied upon, in the Final Report, are verified and accurate to the best of its knowledge, information, and belief.
- C. Standard of Performance. At all times, all obligations performed by Sub-recipient or by any Subcontractors pursuant to this PFA shall be performed in a manner consistent with the professional and industry standards, and in compliance with all laws, regulations, and other requirements governing such activities by like institutions.
- D. Indemnification. Sub-recipient shall be responsible for, and shall hold harmless and indemnify WRF, all other co-funders of the Project, and their officers, directors, affiliated organizations, employees, agents, volunteers, and publisher, if any, from any and all liability, obligation, damage, loss, cost, claim, lawsuit, cause of action, or demand arising from Sub-recipient's negligence or willful misconduct, which may include, but is not limited to, reasonable attorneys' fees and costs ("Claims"), arising from (i) any negligent actions, or omissions, or willful misconduct of Sub-recipient, its officers, directors, Subcontractors, employees, independent contractors, agents, or other related entities or individuals, (ii) any uncured breach of this PFA by Sub-recipient. If Sub-recipient or any Subcontractor is a governmental or quasi-governmental entity that is by law prohibited from indemnifying others, this Sections VIII.C and VIII.O are modified to the extent that will impose the maximum available liability and responsibility on Sub-recipient. Sub-recipient shall require all parties involved in the performance of this PFA that are not prohibited from indemnifying others to so indemnify WRF through a written agreement acceptable to WRF. Nothing in this Section VIII.D waives or limits, or shall be construed to waive or limit, the governmental immunity of a party.
- E. Insurance. Sub-recipient shall maintain a financially sound program of self-insurance or commercially purchased liability insurance in the amount of one million dollars (\$1,000,000.00). Proof of such insurance shall be presented to WRF pursuant to the schedule detailed by Exhibit B. The proof of insurance document shall clearly specify the Project by number and title on the insurance certificate.
- F. Worker's Compensation. Sub-recipient and all Subcontractors shall maintain Worker's Compensation Insurance which complies with the applicable state laws. Proof of such insurance shall be presented to WRF pursuant to the schedule detailed by Exhibit B.

- G. Authority.** The individuals executing this PFA on behalf of their respective Parties hereby represent and certify that they have the right, power, legal capacity, and appropriate authority to enter into this PFA on behalf of the entity for which they sign below.
- H. Modifications.** No provision, requirement, or term of this PFA may be modified, supplemented or amended, nor may it be waived or discharged, except in writing, signed by authorized representatives of all Parties. A written waiver of a breach of one provision in this PFA shall not operate as a waiver of a subsequent breach of the same provision.
- I. No Assignment.** Sub-recipient shall not assign this PFA in whole or in part, including by operation of law, merger, reorganization, or change in ownership or control. Any unauthorized assignments shall be void.
- J. Sub-Contracting:** Sub-recipient may only utilize Subcontractors under this PFA that have been disclosed in the Project Plan and are pre-approved by WRF.
1. Sub-recipient shall require any and all Subcontractors to comply with all applicable qualifications and terms of this PFA prior to working on the Project in any manner. All obligations of Sub-recipient apply equally to the Subcontractor(s). Sub-recipient shall at all times remain primarily responsible and liable to WRF for the acts and omissions and performance of this PFA by its Subcontractors, and their agents, employees, officers, directors, affiliates, and other representatives.
- K. Integration.** This PFA, including all attachments hereto and the documents and requirements referenced herein, contains the entire understanding between the parties relating to this PFA. This PFA supersedes all prior and contemporaneous understandings, representations, negotiations, and agreements between the parties whether written or oral. In the event of a conflict between the terms of an Exhibit or other document referenced herein and this PFA, the terms of this PFA shall control.
- L. Severability.** The provisions of this PFA shall be severable, and the invalidity, illegality or unenforceability of any provision of this PFA shall not affect the validity or enforceability of any other provisions. If any provision of this PFA is found to be invalid, illegal, or unenforceable, such provision shall be modified to the extent necessary to render it enforceable, and as modified, this PFA shall remain in full force and effect.
- M. Notices.** Any notice, request, demand, or communication required or allowed under this PFA shall be sent in writing to the addresses and contact information for the Parties set forth in Exhibit B, and shall be deemed sufficiently given upon delivery, if delivered by hand (signed receipt obtained), or three (3) days after posting if properly addressed and sent certified mail return receipt requested, or upon receipt if sent via facsimile or email, if delivery can be confirmed by the sender.
- N. Force Majeure.** No Party will be liable for any delay or default in performance caused by conditions beyond its control, including, but not limited to, acts of God, Government restrictions, continuing domestic or international problems such as wars, threats of terrorism, or insurrections, strikes, fires, floods, work stoppages and embargoes; provided, however, that any Party will have the right to terminate this PFA upon thirty (30) days prior written notice if another Party's delay or default due to any of the above-mentioned causes continues for a period of two (2) months.

- O. Limitation of Liability. Subject to the provisions of Section VIII.D, IN NO EVENT SHALL EITHER PARTY OR ANY OF ITS OFFICERS, DIRECTORS, EMPLOYEES, AFFILIATES, AGENTS OR REPRESENTATIVES BE LIABLE TO ANY OTHER PARTY, OR ANY THIRD PARTY FOR ANY SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR LOSS OF GOODWILL OR EXPECTED PROFITS OR REVENUES, IN ANY WAY RELATING TO THIS PFA, INCLUDING, WITHOUT LIMITATION, THE FAILURE OF ESSENTIAL PURPOSE, EVEN IF IT HAS BEEN NOTIFIED OF THE POSSIBILITY OR LIKELIHOOD OF SUCH DAMAGES OCCURRING, AND WHETHER SUCH LIABILITY IS BASED ON CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, STATUTE, PRODUCTS LIABILITY OR OTHERWISE. IN NO EVENT SHALL WRF'S LIABILITY HEREUNDER EXCEED THE FUNDING ALREADY MADE UNDER THIS PFA.
- P. Applicable Law/Venue. Each party believes its home state laws and home city/county/state venues are to be applied to any dispute between the parties. As the parties are unable to agree, this PFA will remain silent as to choice of law and venue, which will be the first issues to be resolved should a dispute arise between the parties. The terms of this Paragraph will survive the termination of this PFA.
- Q. Counterparts. This PFA may be executed and delivered in counterparts, and by facsimile and email, and each shall be valid as if all Parties had executed the same document.
- R. Relationship. The Parties are independent contractors, and no agency, employer-employee, partnership, or joint venture relationship is intended or created by this PFA. No Party shall have any right or authority to assume or create any obligation, commitment or responsibility for or on behalf of the others except as the other may expressly authorize in writing. No Party shall be eligible to participate in another's benefit program. Sub-recipient shall be solely responsible for the performance and compensation of its employees, for withholding taxes and providing unemployment and other benefits.

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**Project 5151**

**Title: Impact of UV Treatment on Microbial Communities in a Full-Scale Drinking Water Distribution System**

IN WITNESS, WHEREOF, the parties have caused this PFA to be signed and dated as shown below.

**The Water Research Foundation**

**City of Ann Arbor**

\_\_\_\_\_  
By: Christopher Taylor  
Title: Mayor  
Date: \_\_\_\_\_

\_\_\_\_\_  
By: Jacqueline Beaudry  
Title: City Clerk  
Approved as to substance  
Date: \_\_\_\_\_

\_\_\_\_\_  
By: Milton Dohoney Jr.  
Title: Interim City Administrator  
Date: \_\_\_\_\_

\_\_\_\_\_  
By: Craig A. Hupy  
Title: Public Services Area Administrator  
Date: \_\_\_\_\_

\_\_\_\_\_  
By: Peter C. Grevatt, PhD  
Title: Chief Executive Officer

Date: \_\_\_\_\_

\_\_\_\_\_  
By: Brian Steglitz  
Title: Manager, Water Treatment Services

Date: \_\_\_\_\_

**The Water Research Foundation**

**City of Ann Arbor**

\_\_\_\_\_  
By: H. Grace Jang, PhD  
Title: Research Program Manager

Date: \_\_\_\_\_

\_\_\_\_\_  
By: Becky Lahr  
Title: Principal Investigator

Date: \_\_\_\_\_

\_\_\_\_\_  
By: Stephen K. Postema  
Title: City Attorney  
Date: \_\_\_\_\_

Above signed has read and understands the terms, conditions, and deliverables of this PFA.

Above signed has read and understands the terms, conditions, and deliverables of this PFA.

**DRAFT AGREEMENT DO NOT SIGN**

**EXHIBIT A**  
**PROJECT PLAN**

**Project 5151**

**NOTE:** EXHIBIT A WILL CONSIST OF THE PROJECT PLAN IN THE FINAL DOCUMENT, IT IS NOT INCLUDED IN THE DRAFT DOCUMENT]

**Title: Impact of UV Treatment on Microbial Communities in a Full-Scale Drinking Water Distribution System**

Project Plan, & all subsequent correspondence including but not limited to compiled PAC comments, Sub-recipient's responses, and in-kind contribution letters.

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**EXHIBIT B**  
**TASKS AND SCHEDULE**

**Project 5151**

**NOTE:** EXHIBIT B SHOWN IS THE STANDARD DRAFT SCHEDULE; ACTUAL SCHEDULE WILL BE MUTUALLY DECIDED UPON BETWEEN THE RPM AND PI AT THE FINAL AGREEMENT STAGE.

**Title: Impact of UV Treatment on Microbial Communities in a Full-Scale Drinking Water Distribution System**

| <b><u>TASK</u></b>   | <b><u>DUE DATE (1<sup>st</sup> or 15<sup>th</sup> of Month)</u></b> |
|--|---|
| Project Start Date   | May 1, 2022   |
| Project Information Summary  | 30 days after start date  |
| Proof of Insurance   | 30 days after start date  |
| Periodic Report 1 – electronic copy & Invoice                      | 3 months after start date   |
| Periodic Report 2 (Technical Summary & Web Update) & Invoice       | 6 months after start date   |
| Periodic Report 3 & Invoice  | 9 months after start date   |
| Periodic Report 4 (Technical Summary & Web Update) & Invoice       | 12 months after start date  |
| Periodic Report 5 & Invoice  | 15 months after start date  |
| Periodic Report 6 (Technical Summary & Web Update) & Invoice       | 18 months after start date  |
| Periodic Report 7 & Invoice  | 21 months after start date  |
| Periodic Report 8 (Technical Summary & Web Update) & Invoice       | 24 months after start date  |
| Draft Report & Invoice   | 27 months after start date  |
| Final Report   | 5 months after draft report   |
| Exhibit E - Assignment of Copyright                                | 5 months after draft report   |
| Letter of Confirmation from each participating utility review & IK | 5 months after draft report   |
| Final Invoice  | 5 months after draft report   |
| (End of Deliverables)  |   |
| Publication Date & Project End Date                                | 12 months after draft report  |

**Note: Please submit one electronic copy of each Periodic Report and Draft Report. Submit the Final Report in electronic copy in *MSWord format*. For each report an invoice shall be submitted for payment using the link posted in Exhibit D – such invoice to be printed on your company letterhead. All Reports and Invoices should be sent to the Research Program Manager with a copy to the Project Coordinator identified in Exhibit B WRF Key Contacts.**



## CONTACTS

### WRF Key Contacts:

The Water Research Foundation  
 6666 West Quincy Avenue  
 Denver, CO 80235

| <b>Name:</b>          | <b>Function:</b>            | <b>Phone:</b> | <b>Email:</b>  |
|-----------------------|-----------------------------|---------------|--|
| H. Grace Jang,<br>PhD | Research Program<br>Manager | 303.347.6112  | <a href="mailto:hjang@WaterRF.org">hjang@WaterRF.org</a>         |
| Corina Santos         | Project Coordinator         | 303.347.6125  | <a href="mailto:csantos@WaterRF.org">csantos@WaterRF.org</a>     |
| Christine Conville    | Contracts Manager           | 303.734.3424  | <a href="mailto:cconville@WaterRF.org">cconville@WaterRF.org</a> |
| Connie Schonlau       | Contracts Assistant         | 303.347.6211  | <a href="mailto:cschonlau@WaterRF.org">cschonlau@WaterRF.org</a> |

### Sub-recipient Key Contacts:

| <b>Name/Title:</b>                                  | <b>Project Role:</b>        | <b>Organization/Address:</b>  | <b>Phone:</b>           | <b>Email:</b>  |
|---|-----------------------------|---|-------------------------|--|
| Becky Lahr  | PI                          | City of Ann Arbor<br>919 Sunset Rd<br>Ann Arbor, MI 48103   | 734.794.6000<br>x-43903 | <a href="mailto:rlahr@a2gov.org">rlahr@a2gov.org</a>         |
| Brian Steglitz,<br>Mngr Water<br>Treatment Svcs     | Authorized<br>Rep,<br>Co-PI | City of Ann Arbor   | 734.794.6426<br>x-43905 | <a href="mailto:bsteglitz@a2gov.org">bsteglitz@a2gov.org</a> |
| Ed Ader,<br>Budget &<br>Finance Supvr               | Accounting                  | City of Ann Arbor<br>Public Services<br>Administration<br>301 E. Huron St.<br>Ann Arbor, MI 48104 | 734.794.6000<br>x-43913 | <a href="mailto:EAder@a2gov.org">EAder@a2gov.org</a>         |
| Jennifer<br>Richards,<br>Assistant City<br>Attorney | Contracts                   | City of Ann Arbor   | 734.794.6000<br>x-41875 | <a href="mailto:JRichards@a2gov.org">JRichards@a2gov.org</a> |

**Co-Principal Investigator(s):**

| <b>Name/Title:</b>      | <b>Organization/Address:</b>   | <b>Phone:</b> | <b>Email:</b>  |
|-------------------------|--|---------------|--|
| Lutgarde Raskin,<br>PhD | University of Michigan<br>1351 Beal Avenue<br>107 EWRE<br>Ann Arbor, MI 48109-2125 | 734.647.6920  | <a href="mailto:raskin@umich.edu">raskin@umich.edu</a>     |
| Sarah Potgieter         | University of Michigan<br>1351 Beal Avenue<br>211 EWRE<br>Ann Arbor, MI 48109-2125 | 734.846.1762  | <a href="mailto:spotgiet@umich.edu">spotgiet@umich.edu</a> |
| Krista Wigginton        | University of Michigan<br>1351 Beal Avenue<br>181 EWRE<br>Ann Arbor, MI 48109-2125 | 734.763.9661  | <a href="mailto:kwigg@umich.edu">kwigg@umich.edu</a>       |

Each Party shall provide written notice of changes in contact persons, addresses, telephone, and email addresses. The Principal Investigator, Co-Principal Investigator, or any Subcontractor may only be changed with the prior written approval of WRF.

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**EXHIBIT C**  
**BUDGET SUMMARY**

**Project 5151**

|                       |                          |
|-----------------------|--------------------------|
| <b>Sub-recipient:</b> | <b>City of Ann Arbor</b> |
|-----------------------|--------------------------|

**Title: Impact of UV Treatment on Microbial Communities in a Full-Scale Drinking Water Distribution System**

WRF shall not have any obligation for payment of invoices for costs incurred by Sub-recipient after the foregoing end date. All report and invoice submittals shall be sent to the Research Program Manager with a copy to the Project Coordinator identified as WRF Key Contacts in Exhibit B.

Payments to Sub-recipient will be issued to Sub-recipient organization and mailed to the address shown in the first paragraph of this funding agreement. If payment of an invoice requires a purchase order number Sub-recipient agrees to provide such number.

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Project Start Date 

|     |
|-----|
| TBD |
|-----|

End Date: 

|     |
|-----|
| TBD |
|-----|

**Financial Obligations for Project**

- a. WRF agrees to provide Award Funds: \$100,000.00
- b. Co-funder(s) agree to provide to WRF: \$100,000.00
- c. Sub-recipient agrees to provide Cost Share: \$21,622.00
- d. Sub-recipient agrees to provide in-kind: \$228,460.00
- e. Total Project budget is: \$450,082.00

*All amounts are in U.S. dollars.*

| ORGANIZATION                         | Award Amount        | Cost Share         | In-Kind Amount      |
|--------------------------------------|---------------------|--------------------|---------------------|
| <b>Participants</b>                  |                     |                    |                     |
| Trojan                               | \$0.00              | \$0.00             | \$9,000.00          |
| <b>Co-PI</b>                         |                     |                    |                     |
| University of Michigan               | \$0.00              | \$0.00             | \$219,460.00        |
| <b>Sub-recipient</b>                 |                     |                    |                     |
| City of Ann Arbor                    | \$100,000.00        | \$21,622.00        | \$0.00              |
| <b>The Water Research Foundation</b> | \$100,000.00        | \$0.00             | \$0.00              |
| <b>TOTALS</b>                        | <b>\$200,000.00</b> | <b>\$21,622.00</b> | <b>\$228,460.00</b> |
| <b>Total Project Budget</b>          | <b>\$450,082.00</b> |                    |                     |

- Award Funds Not To Exceed:** \$200,000.00
- 10% of Project Funds Advance:** \$20,000.00
- Draft Report & Invoice Retainage:** \$20,000.00
- Final Report & Invoice Retainage:** \$20,000.00

**EXHIBIT D**  
**INVOICING REQUIREMENTS**

**Project 5151**

**Title: Impact of UV Treatment on Microbial Communities in a Full-Scale Drinking Water Distribution System**

Invoices must be submitted in the form posted at the following link:

[https://www.waterrf.org/sites/default/files/file/2019-07/Invoice\\_ExhibitD.pdf](https://www.waterrf.org/sites/default/files/file/2019-07/Invoice_ExhibitD.pdf)

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