



STATE OF MICHIGAN
CENTRAL PROCUREMENT SERVICES
Department of Technology, Management, and Budget
525 W. ALLEGAN ST., LANSING, MICHIGAN 48913
P.O. BOX 30026 LANSING, MICHIGAN 48909

CONTRACT CHANGE NOTICE

Change Notice Number **2**

to

Contract Number **171180000000135**

CONTRACTOR	KWR WATER B. V. PLC. 2724 E. 2nd Street Duluth, MN 55812 Ruurd Schoolderman (218) 251-6174 ruurd@dutchconsulting.net CV0138794
-------------------	--

STATE	Program Manager Scott Hiipakka 517-373-9497 HiipakkaS1@Michigan.gov	DTMB
	Contract Administrator Lisa Spitzley (517) 249-0440 spitzley4@michigan.gov	

CONTRACT SUMMARY

SCIENTIFIC OVERSIGHT, QUALITY ASSURANCE AND CONSULTING SERVICES

INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE
January 1, 2018	December 31, 2018	4 - 1 Year	December 31, 2018
PAYMENT TERMS		DELIVERY TIMEFRAME	
NET 30		N/A	
ALTERNATE PAYMENT OPTIONS		EXTENDED PURCHASING	
<input type="checkbox"/> P-Card <input type="checkbox"/> PRC <input type="checkbox"/> Other		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

MINIMUM DELIVERY REQUIREMENTS

N/A

DESCRIPTION OF CHANGE NOTICE

OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input checked="" type="checkbox"/>	3 months	<input type="checkbox"/>	N/A	March 31, 2019
CURRENT VALUE	VALUE OF CHANGE NOTICE			ESTIMATED AGGREGATE CONTRACT VALUE
\$1,087,109.00	\$0.00			\$1,087,109.00

DESCRIPTION

Effective December 5, 2018, This Contract is amended as follows:

1. The State is exercising three months of one option year. The revised contract expiration date is March 31, 2019.
2. The State Program Manager (Standard Contract Terms, Section 4) is hereby updated to Scott Hiipakka.

All other terms, conditions, specifications and pricing remain the same. Per Contractor and Agency agreement, and DTMB Procurement approval.

**Program Managers
for
Multi-Agency and Statewide Contracts**

AGENCY	NAME	PHONE	EMAIL
DTMB	Scott Hiipakka	(517) 373-9497	HiipakkaS1@michigan.gov



STATE OF MICHIGAN ENTERPRISE PROCUREMENT

Department of Technology, Management, and Budget
525 W. ALLEGAN ST., LANSING, MICHIGAN 48913
P.O. BOX 30026 LANSING, MICHIGAN 48909

CONTRACT CHANGE NOTICE

Change Notice Number **1**

to

Contract Number **171180000000135**

CONTRACTOR	KWR WATER B.V.	STATE	Jeff Bankowski	DTMB
	P.O. Box 1072		517-373-9497	
	3430 BB Nieuwegein, The Netherlands		bankowskij@Michigan.gov	
	Drs. P.G.G. Slaats		Lisa Spitzley	DTMB
	3(130) 606-9524		(517) 249-0440	
	nellie.slaats@kwrwater.nl		spitzley4@michigan.gov	
	CV0138794			

CONTRACT SUMMARY

SCIENTIFIC OVERSIGHT, QUALITY ASSURANCE AND CONSULTING SERVICES

INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
January 1, 2018	December 31, 2018	4 - 1 Year	December 31, 2018

PAYMENT TERMS

Net 30

DELIVERY TIMEFRAME

N/A

ALTERNATE PAYMENT OPTIONS

P-Card Direct Voucher (DV) Other Yes No

MINIMUM DELIVERY REQUIREMENTS

N/A

DESCRIPTION OF CHANGE NOTICE

OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>		<input type="checkbox"/>		

CURRENT VALUE

VALUE OF CHANGE NOTICE

ESTIMATED AGGREGATE CONTRACT VALUE

\$737,109.00

\$350,000.00

\$1,087,109.00

DESCRIPTION

Effective April 20, 2018 the following changes are incorporated into the Contract:

- Schedule C to reflect additional activities to be performed by the Contractor;
- this Contract is increased by \$350,000.00;
- Schedule B is modified to reflect the additional funds (\$254,167.00) necessary to perform additional scientific activities; the remaining amount of increase, \$95,833.00 is allocated for conference expenses and expenses for services for potential litigation hearings.

All other terms, conditions, specifications, and pricing remain the same. Per Contractor and agency agreement, and DTMB Procurement approval.

STATE OF MICHIGAN

Contract No. 171 180000000135
Scientific Oversight, Quality Assurance and Consulting Services

SCHEDULE C Amendment of STATEMENT OF WORK CONTRACT ACTIVITIES

The parties agree that all references in the Contract to "Statement of Work", "Contract Activities" and "Schedule A" will now also apply to Schedule C in the same manner as if the Contract specifically referenced Schedule C along with Schedule A, including for purposes of incorporation by reference.

Summary

The changes reflected in this document of changes are:

- Withdrawal of FACHEP from the Project;
- Study by the Contractor on review of data use, designed as a retrospective outbreak investigation;
- Target group for communication activity changed from citizens into healthcare facilities;
- Commission with independent expert reviewers.

The essence of these changes is that the Contractor will do the data evaluation and epidemiological research instead of overseeing FACHEP's research.

Background information

The goal of the project Scientific oversight FACHEP was to generate Scientific oversight of the FACHEP project in order to achieve a constructive finalization of the project 'Enhanced disease surveillance and environmental monitoring in Flint, Michigan', including Legionella Disease (LD). As indicated in the original description of activities, the Contractor would require further insight into the project in order to make a more in-depth plan (time, budget, deliverables) for activities 3 to 5. The activities of the Contractor have shifted from oversight towards data evaluation and epidemiological research, whereas review and outreach activities have also shifted focus. This document describes the amendment and addendum on the State of Michigan Contract No. 171 180000000135.

Activities

The Contractor must provide the following Project Activities:

1. The status of deliverables part of the current project ending December 2017

Review of the status of research and expected deliverables compared to the project plan, done through interviews and data and documentation review. This activity has been finished in February 2018. Results are reported in the progress report of February 2018, provided to the Program Manager.

2 Identify promising FACHEP output that needs strengthening with additional data collection

This activity is also used to identify the changes and arrange the necessary requirements for a retrospective outbreak investigation. Progress of this activity is reported in the progress report of February 2018, provided to the Program Manager.

Duration: January 2018 - April 2018

3. Retrospective outbreak investigation (majorchange)

The Contractor will start an activity on the review of data use, designed as a retrospective outbreak investigation. The objective of this study is to investigate connection(s)/cluster(s) of the LD cases in Genesee County in 2014 and 2015 (and beyond) and to determine the strength of association with possible Legionella sources. For the protection of human subjects, the Contractor will adhere to the US Department of Health and Human Services' policy and the Michigan Department of Health and Human Services (DHHS) Institutional Review Board (IRB). Available clinical, epidemiological, demographic, laboratory and other data about each of the cases must be collated in a systematic database and analyzed.

Other available data on the occurrence of Legionella in environmental samples, on water systems in Genesee County and any other available information that is relevant must be collated in a similar fashion. Independent expert reviewers must be invited to evaluate the design of this study, the transparency, the strength of evidence and completeness of the investigation and the results, conclusions and recommendations. These independent reviewers will jointly discuss the study in the design phase and the outcome phase of the research. The feedback must be accommodated transparently, to the best of the Contractor's ability and as far as the available data allow.

The steps in the research are:

1. Assemble an outbreak investigation team

The Contractor must assemble a team with expertise on epidemiology and outbreak investigation as well as Legionella microbiology and ecology in water systems.

2. Protocol development

The Contractor must develop a protocol for the processing, documentation and analysis of the data.

3. Process and analyze all case data

The Contractor must collate available demographic, clinical, microbiological and epidemiological data from the questionnaires that were conducted during the outbreak in 2014 and 2015 and other data of each of the cases. The Contractor must document these data in a systematic database and analyze them for clusters. The Contractor must analyze information to deduce LD onset date and exposure history to possible Legionella sources.

4. Outbreak confirmation

The Contractor must collate data from disease surveillance from 2009-2017 and evaluate disease surveillance method for LD to confirm the occurrence of the LD outbreak in Genesee County in 2014 and 2015. If the outbreak is not confirmed, the study will be completed in this phase.

5. Incorporating independent review panel recommendations

The Contractor must submit research protocol for review to the independent experts, meet with experts to discuss protocol and data (see Activity 4, Scientific quality assurance). The Contractor must incorporate recommendations about study design and data analysis in the study protocol.

6. Develop a case definition, verify cases and determine case clustering

The Contractor must develop a case definition and conduct case findings, identify confirmed and probable cases and examine the occurrence of clustering in space and time of the LD cases.

7. Descriptive epidemiology

The Contractor must summarize data by key demographic variables; prepare epidemic curve(s), line list, GIS map, clinical features, outcomes of the LD cases and establish demographic distributions and presence of risk factors.

8. Analyze trends/clusters

The Contractor must analyze trends over time and geographic distribution of LD cases, with emphasis on the incubation period (14 days) prior to the date of onset of LD symptoms to identify exposure of LD case clusters to

possible Legionella sources.

9. Formulate and investigate hypothesis/hypotheses

The Contractor must formulate hypothesis about the source of the LD case cluster(s) and compare this with the clinical, laboratory, environmental, and/or epidemiologic and other types of evidence, (sequence-based) typing of Legionella from LD cases and environmental samples and evaluate the strength of the evidence and association. Water system records and water quality data must be inspected to collate the evidence on failure in design, operation and/or maintenance of the water system. Depending on the hypothesis, collecting additional open source information must be considered. Depending on the type and strength of the outcome of the investigation new hypotheses may be established and tested. Due to the retrospective nature of the outbreak investigation and the available information no analytical epidemiology (cohort or case-control study) is envisaged.

10. Conclusions and recommendations

The Contractor's conclusions will describe the association of one or more possible sources of Legionella with the occurrence of the LD outbreak in Genesee County in 2014 and 2015. The conclusions must be accompanied with an evaluation of the strength of the association between source and outbreak given the available information and an evaluation of the completeness of the investigation. The investigation is likely to give clues towards recommendations for the prevention of future outbreaks of LD in Genesee County and beyond. These conclusions must be translated into practical and feasible recommendations for control of Legionella in and Legionella transmission via the associated (type of) water system(s).

Deliverables: manuscript for submission to a high-quality, peer-reviewed scientific journal for review by independent review panel (see Activity 4. Scientific Quality Assurance). Practical guidance document for improved Legionella control by outbreak-associated water system(s).

11. Present results to the State

The Contractor will present findings, conclusions and recommendations to the State.

12. Addressing reviewers' comments and submit for publication

After submitting the research findings for review to the independent experts and a meeting with experts to discuss findings, conclusions and recommendations (see Activity 4. Scientific Quality Assurance), the review panels recommendations will be incorporated in the manuscript for publication as best as possible.

Deliverable: manuscript for submission to a high-quality, peer-reviewed scientific journal.

Duration: April – December 2018

4. Scientific quality assurance (extended and major change)

4.1 Scientific review of new scientific output of FACHEP (extended activity)

The results of the FACHEP project are shared with the scientific community by presentations at scientific conferences and publications in scientific journals. More scientific output is intended and expected from the different studies that were on-going in FACHEP. In this activity the Contractor must conduct and organize a review of the scientific quality of each of the intended outputs. For presentations, the Contractor will provide review comments within a time window that has to be agreed upon. For written publications, before submission to a scientific journal, the Contractor will provide review comments and, if necessary, ask external, independent, recognized subject experts to conduct blind (not identifying the research groups) peer review. The Contractor must adhere to the international standards for scientific integrity and quality.

4.2 Independent review of the retrospective outbreak investigation (additional requirement)
Independent expert reviewers will be invited to evaluate the design of the outbreak investigation (activity 3) study, the transparency, the strength of evidence and completeness of the investigation and the results, conclusions and recommendations. These independent reviewers will jointly discuss the study in the design phase and the outcome phase of the research. The feedback will be accommodated transparently, to the best of our ability and as far as the available data allow.

Output:

4.1 Highest possible quality scientific output of FACHEP, independently reviewed.

Precondition: the current contract allows for review, but not enforcing of the uptake of/response to review comments before submission.

4.2 Highest possible quality of the outbreak investigation design and output.

Duration: April – December 2018

5. External communication: healthcare outreach (major change)

The focus of this communication activity is changed from communicating to citizens into healthcare facilities. Healthcare facilities pose a significant risk and are a potential source of past outbreaks. There are a number of stakeholders with fragmented interests and responsibilities to work on legionella prevention measures. These include a.o. healthcare facilities, public agencies with public health oversight responsibilities, the insurance sector, and the scientific community. The Contractor must assist DHHS in establishing an outreach program for the health sector focusing on water management and legionella prevention. This will take place parallel to the retrospective analysis. This is intended to help create greater awareness of risks, solutions to address the risks of legionella in healthcare facilities and to create broad-based support for solutions (technical as well as policy and oversight).

The outreach activities aim to facilitate a dialogue between the stakeholders and co-creation of a shared strategy to take pro-active measures to prevent future healthcare facilities related legionella outbreaks. The following activities are required:

5.1. Strategic partner mobilization and goal setting (May) Output:

- The Contractor will complete the Health sector water management and LD prevention outreach plan which includes strategic objectives, partner commitments, stakeholder identification, implementation plan.

5.2. Working conference with stakeholders (September) Output:

- Contractor must lead a one day working conference with 30-40 participants in which the stakeholders (a.o. representatives from the healthcare facilities, public agencies with public health oversight responsibilities, insurance sector, and scientific community) will be engaged in a series of keynote lectures that focus on increasing awareness of risks at the healthcare facilities and water management recommendations of the Center of Disease Control (CDC).
- Through this working conference the Contractor will gain insight in the different stakeholder perspectives in terms of awareness, openness to solutions, barriers and insights in how to take a more pro-active approach to legionella prevention. It is envisioned that following this working conference, 2 or 3 workgroups are formed that will work on concrete strategies and recommendations to improve legionella prevention for the sector. Workgroups must include Technical, Policy & regulatory oversight, Education & Awareness.
- The Contractor must complete a report of the conference results.

5.3. Working groups and consensus building (September-October)

This step builds on the results/outcomes produced at the working conference. Following the working conference, 2 or 3 working groups will be formed around focused topics. Each working group should be chaired/facilitated by a representative of the strategic partners.

Output:

- The objective is to co-create with the stakeholders, measures or a strategic agenda geared towards legionella prevention. These recommendations can be presented, discussed and formalized at the second working conference.
- Draft joint strategic agenda document.

5.4. Second working conference focusing on strategic agenda recommendations (October) Output:

- The Contractor will organize a second working conference which will create an opportunity for the working groups to present their findings and recommendations. Facilitated discussion sessions will be held with the aim to build consensus and support for a set of strategic agenda recommendations aimed at legionella prevention. This agenda can form the basis for future funding requests, research, technical assistance, education & outreach, changes in policy and regulatory oversight etc.
- The Contractor will submit a final conference report or joint statement (to be determined based on outcome and level of support from the stakeholders).

Duration: January - December 2018

6. The Contractor must participate and/or represent the State at public meetings, legislative hearings, regulatory meetings and litigation hearings, etc. This includes addressing legislative and regulatory requirements of the recommendation(s). The funds listed on the cover page of Change Notice 1 of this Contract are allocated for these services.

7. Time schedule

The timeline is provisional

8. Security

1. The Contractor must ensure the security of State facilities.
2. The Contractor must perform background checks.
3. The State may require the Contractor's personnel to wear State issued identification badges.

9. Project Management

9.1. Meetings

The Contractor must attend quarterly meetings, via communication between program managers. The State may request other meetings, as it deems appropriate.

9.2. Reporting

The Contractor must submit monthly status reports to the Program Manager.

10. Ordering

10.1. Authorizing Document

The appropriate authorizing document for the Contract will be a delivery order (DO).

11. Invoice and Payment

11.1. Invoice Requirements

All invoices submitted to the State must include: (a) date; (b) delivery order; (c) quantity; (d) description of the Contract Activities; (e) unit price; (f) shipping cost (if any); and (g) total price. Overtime, holiday pay, and travel expenses will not be paid. The invoices will be based on actual spending in the project. The Contractor will send invoices as follows:

- 60% of the estimated total costs of this project after having received the order confirmation;

- 20% in September 2018;
- 20% after finalization of the project.

Payments should be received within 30 days after the date of invoice.

11.2. Payment Methods

The State will make payment for Contract Activities by EFT.

12. Liquidated Damages Late or improper completion of the Contract Activities will cause loss and damage to the State and it would be impracticable and extremely difficult to fix the actual damage sustained by the State. Therefore, if there is late or improper completion of the Contract Activities caused by the Contractor, the State is entitled to collect liquidated damages in the amount of \$5,000 and an additional \$100 per day for each day Contractor fails to remedy the late or improper completion of the Work.

13. Staffing

13.1 Contractor Representative: Nellie Slaats will remain the Contractor Representative.

13.2 Key Personnel and Disclosure of Subcontractors: The Contractor will hire one or two junior epidemiologists sub-contractors to work on the retrospective outbreak investigation. The Contractor has contracted Vera Arntzen and Anya Smith for this purpose.

To strengthen the expertise on the area of epidemiology the Contractor will hire sub-contractors, also referred to as, additional organizations/experts are listed below, and their biographies are listed in Appendix A.

- University of Utrecht - IRAS, the experts Dick Heederik and Anke Huss are involved.
- Mirna Robert Epidemiology, Mirna RobertMD
- Davies Public Health Consulting, LLC.

Megan Davies MD

Appendix A: Biographies of Sub-Contractors (Additional Organizations/Experts)

Vera Arntzen

Vera Arntzen is a recently graduated epidemiologist, with a master's in Statistical Science for the Life and Behavioural Sciences and a master's in biomedical sciences. She has done her master internships at the Department of Medical Microbiology of Radboud University Medical Center (Nijmegen) in cooperation with GGD Gelderland-Zuid (Nijmegen) and RIVM (Bilthoven), the Netherlands on the subject Geographical clustering patterns of MRSA carriage in a livestock-dense region in the Netherlands.

Her second internship was at the programme Influenza and Respiratory Pathogens, World Health Organization Regional Office for Europe, Copenhagen, Denmark on the subject: *The Start of the 2016-17 Influenza Season in the WHO European Region* – comparison of the timing of influenza, virus types circulating and impact of influenza in hospitalized cases for the last 5 years.

Anya F. Smith

Anya F. Smith currently works in public health at the First Nations Health Authority, where she provides epidemiological expertise and leads indicator selection, analysis and reporting processes for the First Nations Regional Health Survey. She has a research background in the epidemiology of waterborne, enteric parasites (Giardia spp. and Cryptosporidium spp.). She aims to remain working in public and population health and remain active in public or private health research initiatives.

Dr. Anke Huss (Utrecht University - IRAS)

Dr Anke Huss is an assistant professor in environmental epidemiology with a special focus on spatially distributed environmental exposures and their effects on health. She is involved in advanced methods of exposure assessment including modelling of these exposures. She has evaluated potential effects of such exposures on a range of health outcomes including sleep quality, neurodegenerative and neurodevelopmental effects using different study designs such as case-control and cohort studies. She is also involved in the Dutch VGO study that evaluates in particular respiratory effects (pneumonia) of presence of livestock farms on the health of residents living nearby.

Prof. dr. Dick Heederik (Utrecht University - IRAS)

Prof Dick Heederik is chair of health risk analysis and director of the Institute. His research has focused in recent years on antimicrobial resistance and (infectious) respiratory disease and allergies resulting from human animal contact and livestock production. In the first major line, research focused on epidemiological studies among farmers, family members and veterinarians to assess transmission from animals to humans using observational epidemiological study designs in combination with molecular techniques to assess the presence and type micro-organisms. These studies were embedded in intervention studies in livestock production. These studies are being combined with risk assessment modelling studies for instance for MRSA and ESBL producing micro-organisms. The work on respiratory diseases and allergies focused on the role of exposure to micro-organisms in the development of allergic responses, in particular the role of specific microbial markers such endotoxins, glucans, extracellular polysaccharides, in epidemiological studies in adults and children with microbial exposures. This has moved toward application of molecular techniques in epidemiological studies to explore the diversity of microbial exposure and its relation to the development of respiratory disease.

Mirna Robert-Du Ry van Beest Holle (Mirna Robert Epidemiology)

Mirna Robert-Du Ry van Beest Holle is a Dutch MD (1999) with clinical experience in travel and occupational health, an MPH from LSHTM (2002) and alumna of the EPIET fellowship for which she was based at the Robert Koch institute in Berlin (2002-2004). At the Dutch RIVM and subsequently Novartis/GSK, she worked on a diversity of infectious disease studies, and outbreak prevention and control activities in international settings. Mirna has 10 years of working experience in public health, 5 years in vaccine industry and in 2016 she made the plunge to freelancing. Recent projects cover a variety of topics: Q-fever data security, development of influenza training materials for WHO, HIVDR surveillance for ECDC, scientific consultancies, and reviewer of proposals and abstracts. She is fluent in Dutch, German and English. In her private time, Mirna runs a foundation to support children in education and health on Mt. Kilimanjaro, Tanzania (www.childrenofkilimanjaro.com), and she supports cancer advocacy groups.

Dr. Megan Davies (Davies Public Health Consulting, LLC)

Dr. Megan Davies is a public health consultant with a focus in public health decision making, public health surveillance, and outbreak response. Two examples of recent consultant work include leading a project of the CDC and CSTE (Council of State and Territorial Epidemiologists) to advance injury surveillance and advising a large private university on its response to a mumps outbreak.

Dr. Davies served as the State Epidemiologist and Chief of the Epidemiology Section of the North Carolina Division of Public Health from August 2009 until August 2016, overseeing communicable disease, occupational, and environmental epidemiology activities, as well as public health preparedness and response for natural and manmade events. In her role as state epidemiologist, Dr. Davies oversaw numerous outbreak responses caused by a variety of pathogens in a wide range of settings.

Dr. Davies received her MD from the University of North Carolina, Chapel Hill. Her epidemiology training was in CDC's Epidemic Intelligence Service (EIS 1998), following which she served as a staff epidemiologist with the Centers for Disease Control. Dr. Davies was deployed on CDC response teams to the anthrax attacks of 2001 and to Hurricane Katrina in 2005.

Comparison cost breakdown April 12, 2018 versus November 10, 2017**Attachment for Schedule B – Pricing – for CN1****Project: Scientific oversight project FACHEP****Project manager: Nellie Slaats****Project number/ reference: 402172**

	Cost breakdown per activity November 10, 2017		Cost breakdown per activity April 12, 2018		Difference in budget per activity
	Budget (US Dollars)		Budget (US Dollars)		Budget (US Dollars)
Activity 1	The status of deliverables part of the current project ending December 2017	66655	The status of deliverables part of the current project ending December 2017	80938	14283
Activity 2	Identify promising FACHEP output that needs strengthening with additional	110603	Identify promising FACHEP output that needs strengthening with additional data collection	149058	38455
Activity 3	Review of data use	73247	Retrospective outbreak investigation	238786	165538
Activity 4	Scientific QA	108406	Scientific QA incl. Commission with expert reviewers	156016	47610
Activity 5	External communications	40286	External communication: Health care outreach	105476	65190
Subcontracting		146494		238053	91559
Provisional sum		217300			
Contingencies				48831	-168468
Total sum		\$762,991.00		\$1,017,158.00	\$254,167.00

(*1 US Dollar = 0.82 Euros)



STATE OF MICHIGAN ENTERPRISE PROCUREMENT

Department of Technology, Management & Budget
525 West Allegan, Lansing, MI 48933

NOTICE OF CONTRACT

NOTICE OF CONTRACT NO. **171 180000000135**

between

THE STATE OF MICHIGAN

and

CONTRACTOR	KWR WATER B.V.
	P.O. Box 1072
	3430 BB Nieuwegein, The Netherlands
	Drs. P.G.G. Slaats
	+31306069524
	Nellie.slaats@kwrwater.nl
	Tax ID XX-XXX7802

STATE	Jeff Bankowski	DTMB
Program Manager	(517) 373-9497	
	bankowskij@michigan.gov	
Contract Administrator	Lisa Spitzley	DTMB
	(517) 284-7039	
	spitzleyl4@michigan.gov	

CONTRACT SUMMARY

DESCRIPTION: Scientific Oversight, Quality Assurance and Consulting Services

INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
1/1/2018	12/31/2018	4, 1-year	

ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION	\$737,109.00
<p>FOR THE CONTRACTOR:</p> <p><u>KWR Water B.V</u> Company Name</p> <p><u>Authorized Agent Signature</u></p> <p><u>Prof. Dr. W. van Vierssen</u> Authorized Agent (Print or Type)</p> <p><u>Date</u></p>	<p>FOR THE STATE:</p> <p><u>Signature</u></p> <p><u>Name & Title</u></p> <p><u>Agency</u></p> <p><u>Date</u></p>



STATE OF MICHIGAN
STANDARD CONTRACT TERMS

This STANDARD CONTRACT ("Contract") is agreed to between the State of Michigan's Department of Technology Management and Budget (DTMB) (the "State") and KWR WATER B.V. ("Contractor"), a Dutch research limited liability company. This Contract is effective on January 1, 2018, and unless terminated, expires on December 31, 2018.

This Contract may be renewed for up to four Renewal Option years. Renewal is at the sole discretion of the State and will automatically extend the Term of this Contract. The State will document its exercise of renewal options via Contract Change Notice.

The parties agree as follows:

- 1. Duties of Contractor.** Contractor must perform the services and provide the deliverables described in **Schedule A – Statement of Work** (the "Contract Activities"). An obligation to provide delivery of any commodity is considered a service and is a Contract Activity.

Contractor must furnish all labor, equipment, materials, and supplies necessary for the performance of the Contract Activities, and meet operational standards, unless otherwise specified in Schedule A.

Contractor must: (a) perform the Contract Activities in a timely, professional, safe, and workmanlike manner consistent with standards in the trade, profession, or industry; (b) meet or exceed the performance and operational standards, and specifications of the Contract; (c) provide all Contract Activities in good quality, with no material defects; (d) not interfere with the State's operations; (e) obtain and maintain all necessary licenses, permits or other authorizations necessary for the performance of the Contract; (f) cooperate with the State, including the State's quality assurance personnel, and any third party to achieve the objectives of the Contract; (g) return to the State any State-furnished equipment or other resources in the same condition as when provided when no longer required for the Contract; (h) not make any media releases without prior written authorization from the State; (i) assign to the State any claims resulting from state or federal antitrust violations to the extent that those violations concern materials or services supplied by third parties toward fulfillment of the Contract; (j) comply with all State physical and IT security policies and standards which will be made available upon request; and (k) provide the State priority in performance of the Contract except as mandated by federal disaster response requirements. Any breach under this paragraph is considered a material breach.

Contractor must also be clearly identifiable while on State property by wearing identification issued by the State, and clearly identify themselves whenever making contact with the State.

- 2. Notices.** All notices and other communications required or permitted under this Contract must be in writing and will be considered given and received: (a) when verified by written receipt if sent by courier; (b) when actually received if sent by mail without verification of receipt; or (c) when verified by automated receipt or electronic logs if sent by facsimile or email.

If to State:	If to Contractor:
Lisa Spitzley 525 W. Allegan 1 st Floor Lansing MI 48913 spitzley4@michigan.gov (517) 284-7039	Drs. P.G.G. Slaats P.O. Box 1072 3430 BB Nieuwegein THE NETHERLANDS Nellie.slaats@kwrwater.nl +31306069524

- 3. Contract Administrator.** The Contract Administrator for each party is the only person authorized to modify any terms of this Contract, and approve and execute any change under this Contract (each a "Contract Administrator"):

State:	Contractor:
Lisa Spitzley 525 W. Allegan 1 st Floor Lansing MI 48913 spitzley4@michigan.gov (517) 284-7039	L.P.M. Rosenthal P.O. Box 1072 3430 BB Nieuwegein THE NETHERLANDS Loet.rosenthal@kwrwater.nl +31306069633

- 4. Program Manager.** The Program Manager for each party will monitor and coordinate the day-to-day activities of the Contract (each a "Program Manager"):

State:	Contractor:
Jeff Bankowski 111 South Capital Ave 8 th Floor Lansing MI 48909 bankowskij@michigan.gov (517) 373-9497	Ruurd Schoolderman 2724 E. 2nd Street Duluth, MN 55812 ruurd@dutchconsulting.net cc: Nellie.slaats@kwrwater.nl (218) 251-6174

- 5. Performance Guarantee.** Contractor must at all times have financial resources sufficient, in the opinion of the State, to ensure performance of the Contract and must provide proof upon request.

- 6. Insurance Requirements.** Contractor must maintain the insurances identified below and is responsible for all deductibles. All required insurance must: (a) protect the State from claims that may arise out of, are alleged to arise out of, or result from Contractor's or a subcontractor's performance; (b) be primary and non-contributing to any comparable

liability insurance (including self-insurance) carried by the State; and (c) be provided by a company with an A.M. Best rating of "A" or better, and a financial size of VII or better.

Required Limits	Additional Requirements
Commercial General Liability Insurance	
<u>Minimal Limits:</u> \$1,000,000 Each Occurrence Limit \$1,000,000 Personal & Advertising Injury Limit \$2,000,000 General Aggregate Limit \$2,000,000 Products/Completed Operations <u>Deductible Maximum:</u> \$50,000 Each Occurrence	Contractor must have their policy endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds using endorsement CG 20 10 11 85, or both CG 2010 07 04 and CG 2037 07 0.
Professional Liability (Errors and Omissions) Insurance	
<u>Minimal Limits:</u> \$3,000,000 Each Occurrence \$3,000,000 Annual Aggregate <u>Deductible Maximum:</u> \$50,000 Per Loss	

If any of the required policies provide **claims-made** coverage, the Contractor must: (a) provide coverage with a retroactive date before the effective date of the contract or the beginning of Contract Activities; (b) maintain coverage and provide evidence of coverage for at least three (3) years after completion of the Contract Activities; and (c) if coverage is canceled or not renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, Contractor must purchase extended reporting coverage for a minimum of three (3) years after completion of work.

Contractor must: (a) provide insurance certificates to the Contract Administrator, containing the agreement or purchase order number, at Contract formation and within 20 calendar days of the expiration date of the applicable policies; (b) require that subcontractors maintain the required insurances contained in this Section; (c) notify the Contract Administrator within 5 business days if any insurance is cancelled; and (d) waive all rights against the State for damages covered by insurance. Failure to maintain the required insurance does not limit this waiver.

This Section is not intended to and is not be construed in any manner as waiving, restricting or limiting the liability of either party for any obligations under this Contract (including any provisions hereof requiring Contractor to indemnify, defend and hold harmless the State).

7. Extended Purchasing Program. This contract is extended to MiDEAL members. MiDEAL members include local units of government, school districts, universities, community colleges, and nonprofit hospitals. A current list of MiDEAL members is available at www.michigan.gov/mideal. Upon written agreement between the State and Contractor, this contract may also be extended to: (a) State of Michigan employees and (b) other states (including governmental subdivisions and authorized entities).

If extended, Contractor must supply all Contract Activities at the established Contract prices and terms. The State reserves the right to impose an administrative fee and negotiate additional discounts based on any increased volume generated by such extensions.

Contractor must submit invoices to, and receive payment from, extended purchasing program members on a direct and individual basis.

8. Independent Contractor. Contractor is an independent contractor and assumes all rights, obligations and liabilities set forth in this Contract. Contractor, its employees, and agents will not be considered employees of the State. No partnership or joint venture relationship is created by virtue of this Contract. Contractor, and not the State, is responsible for the payment of wages, benefits and taxes of Contractor's employees and any subcontractors. Prior performance does not modify Contractor's status as an independent contractor. Contractor hereby acknowledges that the State is and will be the sole and exclusive owner of all right, title, and interest in the Contract Activities and all associated intellectual property rights, if any. Such Contract Activities are works made for hire as defined in Section 101 of the Copyright Act of 1976. To the extent any Contract Activities and related intellectual property do not qualify as works made for hire under the Copyright Act, Contractor will, and hereby does, immediately on its creation, assign, transfer and otherwise convey to the State, irrevocably and in perpetuity, throughout the universe, all right, title and interest in and to the Contract Activities, including all intellectual property rights therein. Issued reports of Contractor may only be published verbatim and in their entirety by the State and the name of Contractor must be mentioned. Publication in any other form is only permitted after Contractor has granted permission.

9. Subcontracting. Contractor may not delegate any of its obligations under the Contract without the prior written approval of the State. Contractor must notify the State at least 90 calendar days before the proposed delegation, and provide the

State any information it requests to determine whether the delegation is in its best interest. If approved, Contractor must: (a) be the sole point of contact regarding all contractual matters, including payment and charges for all Contract Activities; (b) make all payments to the subcontractor; and (c) incorporate the terms and conditions contained in this Contract in any subcontract with a subcontractor. Contractor remains responsible for the completion of the Contract Activities, compliance with the terms of this Contract, and the acts and omissions of the subcontractor. The State, in its sole discretion, may require the replacement of any subcontractor.

10. Assignment. Contractor may not assign this Contract to any other party without the prior approval of the State. Upon notice to Contractor, the State, in its sole discretion, may assign in whole or in part, its rights or responsibilities under this Contract to any other party. If the State determines that a novation of the Contract to a third party is necessary, Contractor will agree to the novation and provide all necessary documentation and signatures.

11. Change of Control. Contractor will notify, at least 90 calendar days before the effective date, the State of a change in Contractor's organizational structure or ownership. For purposes of this Contract, a change in control means any of the following: (a) a sale of more than 50% of Contractor's stock; (b) a sale of substantially all of Contractor's assets; (c) a change in a majority of Contractor's board members; (d) consummation of a merger or consolidation of Contractor with any other entity; (e) a change in ownership through a transaction or series of transactions; (f) or the board (or the stockholders) approves a plan of complete liquidation. A change of control does not include any consolidation or merger effected exclusively to change the domicile of Contractor, or any transaction or series of transactions principally for bona fide equity financing purposes.

In the event of a change of control, Contractor must require the successor to assume this Contract and all its obligations under this Contract.

12. Terms of Payment. Invoices must conform to the requirements communicated from time-to-time by the State. All undisputed amounts are payable within 30 days of the State's receipt. Contractor may only charge for Contract Activities performed as specified in Schedule A, according to the Pricing Matrix in Schedule B. Invoices must include an itemized statement of all charges. The State is exempt from State sales tax for direct purchases and may be exempt from federal excise tax, if Services purchased under this Agreement are for the State's exclusive use. Notwithstanding the foregoing, all prices are inclusive of taxes, and Contractor is responsible for all sales, use and excise taxes, and any other similar taxes, duties and charges of any kind imposed by any federal, state, or local governmental entity on any amounts payable by the State under this Contract.

The State has the right to withhold payment of any disputed amounts until the parties agree as to the validity of the disputed amount. The State will notify Contractor of any dispute within a reasonable time. Payment by the State will not constitute a waiver of any rights as to Contractor's continuing obligations, including claims for deficiencies or substandard Contract Activities. Contractor's acceptance of final payment by the State constitutes a waiver of all claims by Contractor against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still disputed.

The State will only disburse payments under this Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at <http://www.michigan.gov/SIGMAVSS> to receive electronic fund transfer payments. If Contractor does not register, the State is not liable for failure to provide payment. Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract.

13. Stop Work Order. The State may suspend any or all activities under the Contract at any time. The State will provide Contractor a written stop work order detailing the suspension. Contractor must comply with the stop work order upon receipt. Within 90 calendar days, or any longer period agreed to by Contractor, the State will either: (a) issue a notice authorizing Contractor to resume work, or (b) terminate the Contract or purchase order. The State will not pay for Contract Activities, Contractor's lost profits, or any additional compensation during a stop work period, but the State will pay for Contract Activities performed until the stop work order.

14. Termination for Cause. The State may terminate this Contract for cause, in whole or in part, if Contractor, as determined by the State: (a) endangers the value, integrity, or security of any location, data, or personnel; (b) becomes insolvent, petitions for bankruptcy court proceedings, or has an involuntary bankruptcy proceeding filed against it by any creditor; (c) engages in any conduct that may expose the State to liability; (d) breaches any of its material duties or obligations; or (e) fails to cure a breach within the time stated in a notice of breach. Any reference to specific breaches being material breaches within this Contract will not be construed to mean that other breaches are not material.

If the State terminates this Contract under this Section, the State will issue a termination notice specifying whether Contractor must: (a) cease performance immediately, or (b) continue to perform for a specified period. If it is later determined that Contractor was not in breach of the Contract, the termination will be deemed to have been a Termination for Convenience, effective as of the same date, and the rights and obligations of the parties will be limited to those provided in Section 15, Termination for Convenience.

The State will only pay for amounts due to Contractor for Contract Activities accepted by the State on or before the date of termination, subject to the State's right to set off any amounts owed by the Contractor for the State's reasonable costs in terminating this Contract. The Contractor must pay all reasonable costs incurred by the State in terminating this Contract for cause, including administrative costs, attorneys' fees, court costs, transition costs, and any costs the State incurs to procure the Contract Activities from other sources.

15. **Termination for Convenience.** The State may immediately terminate this Contract in whole or in part without penalty and for any reason, including but not limited to, appropriation or budget shortfalls. The termination notice will specify whether Contractor must: (a) cease performance of the Contract Activities immediately, or (b) continue to perform the Contract Activities. If the State terminates this Contract for convenience, the State will pay all reasonable costs, as determined by the State, for State approved Transition Responsibilities.

16. **Disclosure of Litigation, or Other Proceeding.** Contractor must notify the State within 14 calendar days of receiving notice of any litigation, investigation, arbitration, or other proceeding (collectively, "**Proceeding**") involving Contractor, a subcontractor, or an officer or director of Contractor or subcontractor, that arises during the term of the Contract, including: (a) a criminal Proceeding; (b) a parole or probation Proceeding; (c) a Proceeding under the Sarbanes-Oxley Act; (d) a civil Proceeding involving: (1) a claim that might reasonably be expected to adversely affect Contractor's viability or financial stability; or (2) a governmental or public entity's claim or written allegation of fraud; or (e) a Proceeding involving any license that Contractor is required to possess in order to perform under this Contract.

17. **Non-Disclosure of Confidential Information.** The parties acknowledge that each party may be exposed to or acquire communication or data of the other party that is confidential, privileged communication not intended to be disclosed to third parties. The provisions of this Section survive the termination of this Contract.

- a. **Meaning of Confidential Information.** For the purposes of this Contract, the term "**Confidential Information**" means all information and documentation of a party that: (a) has been marked "confidential" or with words of similar meaning, at the time of disclosure by such party; (b) if disclosed orally or not marked "confidential" or with words of similar meaning, was subsequently summarized in writing by the disclosing party and marked "confidential" or with words of similar meaning; and, (c) should reasonably be recognized as confidential information of the disclosing party. The term "Confidential Information" does not include any information or documentation that was: (a) subject to disclosure under the Michigan Freedom of Information Act (FOIA); (b) already in the possession of the receiving party without an obligation of confidentiality; (c) developed independently by the receiving party, as demonstrated by the receiving party, without violating the disclosing party's proprietary rights; (d) obtained from a source other than the disclosing party without an obligation of confidentiality; or, (e) publicly available when received, or thereafter became publicly available (other than through any unauthorized disclosure by, through, or on behalf of, the receiving party). For purposes of this Contract, in all cases and for all matters, State Data is deemed to be Confidential Information.
- b. **Obligation of Confidentiality.** The parties agree to hold all Confidential Information in strict confidence and not to copy, reproduce, sell, transfer, or otherwise dispose of, give or disclose such Confidential Information to third parties other than employees, agents, or subcontractors of a party who have a need to know in connection with this Contract or to use such Confidential Information for any purposes whatsoever other than the performance of this Contract. The parties agree to advise and require their respective employees, agents, and subcontractors of their obligations to keep all Confidential Information confidential. Disclosure to a subcontractor is permissible where: (a) use of a subcontractor is authorized under this Contract; (b) the disclosure is necessary or otherwise naturally occurs in connection with work that is within the subcontractor's responsibilities; and (c) Contractor obligates the subcontractor in a written contract to maintain the State's Confidential Information in confidence. At the State's request, any employee of Contractor or any subcontractor may be required to execute a separate agreement to be bound by the provisions of this Section.
- c. **Cooperation to Prevent Disclosure of Confidential Information.** Each party must use its best efforts to assist the other party in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limiting the foregoing, each party must advise the other party immediately in the event either party learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Contract and each party will cooperate with the other party in seeking injunctive or other equitable relief against any such person.
- d. **Remedies for Breach of Obligation of Confidentiality.** Each party acknowledges that breach of its obligation of confidentiality may give rise to irreparable injury to the other party, which damage may be inadequately compensable in the form of monetary damages. Accordingly, a party may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies which may be available, to include, in the case of the State, at the sole election of the State, the immediate termination, without liability to the State, of this Contract or any Statement of Work corresponding to the breach or threatened breach.
- e. **Surrender of Confidential Information upon Termination.** Upon termination of this Contract or a Statement of Work, in whole or in part, each party must, within 5 calendar days from the date of termination, return to the other party any and all Confidential Information received from the other party, or created or received by a party on behalf of the other party, which are in such party's possession, custody, or control; provided, however, that Contractor must return State Data to the State following the timeframe and procedure described further in this Contract. Should Contractor or the State determine that the return of any Confidential Information is not feasible, such party must destroy the Confidential Information and must certify the same in writing within 5 calendar days from the date of termination to the other party. However, the State's legal ability to destroy Contractor data may be restricted by its retention and disposal schedule, in which case Contractor's Confidential Information will be destroyed after the retention period expires.

18. **Data Privacy and Information Security.**

- a. **Undertaking by Contractor.** Without limiting Contractor's obligation of confidentiality as further described, Contractor is responsible for establishing and maintaining a data privacy and information security program, including physical, technical, administrative, and organizational safeguards, that is designed to: (a) ensure the security and confidentiality of the State Data; (b) protect against any anticipated threats or hazards to the security or integrity of the State Data; (c) protect against unauthorized disclosure, access to, or use of the State Data; (d) ensure the proper disposal of State Data; and (e) ensure that all employees, agents, and subcontractors of Contractor, if any, comply with all of the foregoing. In no case will the safeguards of Contractor's data privacy and information security program be less stringent than the safeguards used by the State, and Contractor must at all times comply with all applicable State IT policies and standards, which are available to Contractor upon request.
- b. **Right of Audit by the State.** Without limiting any other audit rights of the State, the State has the right to review Contractor's data privacy and information security program prior to the commencement of Contract Activities and from time to time during the term of this Contract. During the providing of the Contract Activities, on an ongoing basis from time to time and without notice, the State, at its own expense, is entitled to perform, or to have performed, an on-site audit of Contractor's data privacy and information security program. In lieu of an on-site audit, upon request by the State, Contractor agrees to complete, within 45 calendar days of receipt, an audit questionnaire provided by the State regarding Contractor's data privacy and information security program.
- c. **Audit Findings.** Contractor must implement any required safeguards as identified by the State or by any audit of Contractor's data privacy and information security program.
- d. **State's Right to Termination for Deficiencies.** The State reserves the right, at its sole election, to immediately terminate this Contract or a Statement of Work without limitation and without liability if the State determines that Contractor fails or has failed to meet its obligations under this Section.

19. Records Maintenance, Inspection, Examination, and Audit. The State or its designee may audit Contractor to verify compliance with this Contract. Contractor must retain, and provide to the State or its designee and the auditor general upon request, all financial and accounting records related to the Contract through the term of the Contract and for 4 years after the latter of termination, expiration, or final payment under this Contract or any extension ("Audit Period"). If an audit, litigation, or other action involving the records is initiated before the end of the Audit Period, Contractor must retain the records until all issues are resolved.

Within 10 calendar days of providing notice, the State and its authorized representatives or designees have the right to enter and inspect Contractor's premises or any other places where Contract Activities are being performed, and examine, copy, and audit all records related to this Contract. Contractor must cooperate and provide reasonable assistance. If any financial errors are revealed, the amount in error must be reflected as a credit or debit on subsequent invoices until the amount is paid or refunded. Any remaining balance at the end of the Contract must be paid or refunded within 45 calendar days.

This Section applies to Contractor, any parent, affiliate, or subsidiary organization of Contractor, and any subcontractor that performs Contract Activities in connection with this Contract.

20. Warranties and Representations. Contractor represents and warrants: (a) Contractor is the owner or licensee of any Contract Activities that it licenses, sells, or develops and Contractor has the rights necessary to convey title, ownership rights, or licensed use; (b) all Contract Activities are delivered free from any security interest, lien, or encumbrance and will continue in that respect; (c) the Contract Activities will not infringe the patent, trademark, copyright, trade secret, or other proprietary rights of any third party; (d) Contractor must assign or otherwise transfer to the State or its designee any manufacturer's warranty for the Contract Activities; (e) the Contract Activities are merchantable and fit for the specific purposes identified in the Contract; (f) the Contract signatory has the authority to enter into this Contract; (g) all information furnished by Contractor in connection with the Contract fairly and accurately represents Contractor's business, properties, finances, and operations as of the dates covered by the information, and Contractor will inform the State of any material adverse changes; (h) all information furnished and representations made in connection with the award of this Contract is true, accurate, and complete, and contains no false statements or omits any fact that would make the information misleading; and that (i) Contractor is neither currently engaged in nor will engage in the boycott of a person based in or doing business with a strategic partner as described in 22 USC 8601 to 8606. A breach of this Section is considered a material breach of this Contract, which entitles the State to terminate this Contract under Section 14, Termination for Cause.

21. Conflicts and Ethics. Contractor will uphold high ethical standards and is prohibited from: (a) holding or acquiring an interest that would conflict with this Contract; (b) doing anything that creates an appearance of impropriety with respect to the award or performance of the Contract; (c) attempting to influence or appearing to influence any State employee by the direct or indirect offer of anything of value; or (d) paying or agreeing to pay any person, other than employees and consultants working for Contractor, any consideration contingent upon the award of the Contract. Contractor must immediately notify the State of any violation or potential violation of these standards. This Section applies to Contractor, any parent, affiliate, or subsidiary organization of Contractor, and any subcontractor that performs Contract Activities in connection with this Contract.

22. Nondiscrimination. Under the Elliott-Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, *et seq.*, and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, *et seq.*, Contractor and its subcontractors agree not to

discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, marital status, or mental or physical disability. Breach of this covenant is a material breach of this Contract.

23. **Unfair Labor Practice.** Under MCL 423.324, the State may void any Contract with a Contractor or subcontractor who appears on the Unfair Labor Practice register compiled under MCL 423.322.
24. **Governing Law.** This Contract is governed, construed, and enforced in accordance with Michigan law, excluding choice-of-law principles, and all claims relating to or arising out of this Contract are governed by Michigan law, excluding choice-of-law principles. Any dispute arising from this Contract must be resolved in Michigan Court of Claims. Contractor consents to venue in Ingham County, and waives any objections, such as lack of personal jurisdiction or *forum non conveniens*. Contractor must appoint agents in Michigan to receive service of process.
25. **Non-Exclusivity.** Nothing contained in this Contract is intended nor will be construed as creating any requirements contract with Contractor. This Contract does not restrict the State or its agencies from acquiring similar, equal, or like Contract Activities from other sources.
26. **Force Majeure.** Neither party will be in breach of this Contract because of any failure arising from any disaster or acts of god that are beyond their control and without their fault or negligence. Each party will use commercially reasonable efforts to resume performance. Contractor will not be relieved of a breach or delay caused by its subcontractors. If immediate performance is necessary to ensure public health and safety, the State may immediately contract with a third party.
27. **Dispute Resolution.** The parties will endeavor to resolve any Contract dispute in accordance with this provision. The dispute will be referred to the parties' respective Contract Administrators or Program Managers. Such referral must include a description of the issues and all supporting documentation. The parties must submit the dispute to a senior executive if unable to resolve the dispute within 15 business days. The parties will continue performing while a dispute is being resolved, unless the dispute precludes performance. A dispute involving payment does not preclude performance.

In the event of any controversy or claim arising out of or relating to this agreement, or a breach thereof, the parties hereto shall first attempt to settle the dispute by mediation, administered by the American Arbitration association under its Mediation Rules.

Litigation to resolve the dispute will not be instituted until after the dispute has been elevated to the parties' senior executive and either concludes that resolution is unlikely, or fails to respond within 15 business days. The parties are not prohibited from instituting formal proceedings: (a) to avoid the expiration of statute of limitations period; (b) to preserve a superior position with respect to creditors; or (c) where a party makes a determination that a temporary restraining order or other injunctive relief is the only adequate remedy. This Section does not limit the State's right to terminate the Contract.

28. **Media Releases.** Unless otherwise required by law (e.g. Michigan's Freedom of Information Act, news releases (including promotional literature and commercial advertisements) pertaining to the Contract or project to which it relates must not be made without prior written State approval, and then only in accordance with the explicit written instructions of the State. The State will inform Contractor on issuing news releases, preferably beforehand.
29. **Website Incorporation.** The State is not bound by any content on Contractor's website unless expressly incorporated directly into this Contract.
30. **Entire Agreement and Order of Precedence.** This Contract, which includes Schedule A – Statement of Work, and expressly incorporated schedules and exhibits, is the entire agreement of the parties related to the Contract Activities.
31. **Severability.** If any part of this Contract is held invalid or unenforceable, by any court of competent jurisdiction, that part will be deemed deleted from this Contract and the severed part will be replaced by agreed upon language that achieves the same or similar objectives. The remaining Contract will continue in full force and effect.
32. **Waiver.** Failure to enforce any provision of this Contract will not constitute a waiver.
33. **Survival.** The provisions of this Contract that impose continuing obligations, including warranties and representations, termination, transition, insurance coverage, indemnification, and confidentiality, will survive the expiration or termination of this Contract.
34. **Contract Modification.** This Contract may not be amended except by signed agreement between the parties (a "Contract Change Notice"). Notwithstanding the foregoing, no subsequent Statement of Work or Contract Change Notice executed after the Effective Date will be construed to amend this Contract unless it specifically states its intent to do so and cites the section or sections amended.

STATE OF MICHIGAN

Contract No. 171 180000000135
Scientific Oversight, Quality Assurance and Consulting Services

SCHEDULE A STATEMENT OF WORK CONTRACT ACTIVITIES

BACKGROUND

This is a Contract for Scientific Oversight, Quality Assurance and Consulting Services for enhanced disease surveillance and environmental monitoring project. Services include scientific data collection, data analysis, quality assurance and project oversight with organizational expertise in diseases and water sources.

KWR Watercycle Research Institute (KWR) generates scientific findings and practical innovations that contribute globally to sustainable water provisions in the urban water cycle. KWR specializes knowledge into applicable, practical solutions for end-users in the international water sector to contribute to high-quality drinking water provision. KWR provides the latest knowledge about factors that stimulate the growth of micro-organisms in water environments, the management of this growth, and measures needed to prevent the associated health risks from the drinking water environment. KWR has gained experience in the field of Legionella growth factors and typing, preventing growth, tracking sources and combating this organism in the drinking water environment.

KWR will perform an evaluation of the current FACHEP research data against the objectives A through K, from the Statement of Work (Attachment A from: Contract #: 20163753-002. Amendment No. 2 to the Agreement Between the Michigan Department of Health and Human Services and Wayne State University for Enhanced Disease Surveillance and Environmental Monitoring, Phase II – 2016).

SCOPE

The goal of this project is to generate scientific oversight of the extension, in project period and budget, of the FACHEP project in order to achieve a constructive finalization of the project Enhanced Disease Surveillance and Environmental Monitoring, Phase II – 2016. The extension of the FACHEP project itself is not part of the contract of KWR and DTMB (Contract No. 171 180000000135).

REQUIREMENTS

1. General Requirements

1.1. Identify promising FACHEP output that needs strengthening with additional data collection

Activity #1 and Activity #2 provide an overview of the state of the FACHEP data collection and analysis and (intended) output for each of the objectives of the project. In these activities the data collected and analyzed thus far will be compared against the research objectives, assumptions and intended data collection in the FACHEP Phase II project to identify FACHEP research objectives where current objectives where current data are relevant and promising, and:

- (i) where the data collection up to December 31, 2017 does not allow drawing conclusions based on a sufficiently strong evidence-base, and
- (ii) where additional data collection and/or analysis in 2018 is feasible and can be expected to strengthen this evidence-base sufficiently.

This does require sufficient insight into the data collected by the FACHEP partners up to now and the (intended) data analysis.

KWR will do scientific oversight on behalf of the State of Michigan, under the condition that the above-mentioned issues will be addressed in a prolongation of the research.

After Activity 1 and Activity 2, KWR will be able to make a more in-depth plan (time, budget, and deliverables) for activities 3 to 5. The description of these activities hereafter is therefore subject to further insight in the project.

Output:

1. Evaluation of the current FACHEP research data against the objectives A through K, from the Statement of Work (Attachment A from: Contract #: 20163753-002. Amendment No. 2 to the Agreement Between the Michigan Department of Health and Human Services and Wayne State University for Enhanced Disease Surveillance and Environmental

Monitoring, Phase II – 2016

2. Identification of research objectives of FACHEP where additional data collection or analysis would strengthen the existing data significantly
3. Agreed (FACHEP and KWR) research plans for additional data collection with smart study design, planning and deliverables and required budget, followed up by a research contract between the State of Michigan with FACHEP for this additional data collection and analysis.

Duration: January 2018 - April 2018

1.2. REVIEW OF DATA USE

Activity #3: In the FACHEP project, data use agreements (DUAs) have been submitted in the application to the Institutional Review Board for the Protection of Human Research Subjects (MDHHS IRB), particularly for the use of data from the Michigan Disease Surveillance System (MDSS). Also for the additional research activities it is possible that (additional) data will be needed and hence review on data use will be needed. For additional data requests, monitoring will be conducted on these data:

1. whether requested data are of sufficient quality to appropriately test the research hypotheses, and
2. whether the subject identifiers will be used with sufficient care.

Deliverables produced by FACHEP will be subjected to review against the DUAs submitted with the IRB applications prior to publication, meaning:

1. Reviewing current data use;
2. Reviewing necessity of subject identifiers;
3. Use this information in activities 4 and 5.

These activities should assure matching of data quality with data use, as well as assuring subject privacy, which should improve the overall quality of existing and forthcoming FACHEP output (see also previous section).

Output:

1. FACHEP output meets the DUA.

Duration: March - December 2018

1.3. SCIENTIFIC QUALITY ASSURANCES

Activity #4; The results of the FACHEP project are shared with the scientific community by presentations at scientific conferences and publications in scientific journals. Examples of presentations are available, as well as two manuscripts intended for publication in a scientific journal (for which we provided review comments in our report of the Scoping Mission). More scientific output is intended and expected from the different studies that are on-going in FACHEP. In this activity KWR will conduct and organize a review of the scientific quality of each of the intended outputs. For presentations, we will provide review comments within a time window that has to be agreed upon. For written publications, before submission to a scientific journal, we will provide review comments and, if necessary, ask external, independent, recognized subject experts to conduct blind (not identifying the research groups) peer review. KWR will be considered to already have permission to hire subcontractors on the aforementioned base of a blind peer review. KWR will adhere to the international standards for scientific integrity and quality.

Output:

1. High quality scientific output, independently reviewed.

Precondition: the current contract allows for review, but not enforcing of the uptake of/response to review comments before submission. Recognizing this is responsible scientific conduct, we will arrange this in an agreement with FACHEP.

Duration: March - December 2018

1.4. EXTERNAL COMMUNICATIONS

Activity #5: KWR will review and/or organize an external review of all written scientific output and press releases by FACHEP team members. KWR is responsible for final approval of submission of scientific publications and press releases by FACHEP. MDHHS will be included in the review process. In order to set up a review process that helps to assure high quality communication in the most effective way, taking into account the roles and responsibilities of all parties involved, we foresee two workshops with FACHEP and MDHHS representatives.

Output:

1. High quality communications, independently reviewed.

Duration: February - December 2018

1.5 Time schedule

The project will start no later than the January 1, 2018 and will end on December 31, 2018.

1.6 Conditions

- The FACHEP project period shall be extended until end 2018;
- The project budget shall be extended, (1) conditional budget for additional research FACHEP, (2) budget for KWR scientific oversight activities;
- The KWR scientific oversight activities will only be conditional for the allocation of the additional budget for the FACHEP project, not for the remainder of the original budget;
- KWR intends to create a constructive working relationship with FACHEP. Our mutual goal should be to successfully complete the FACHEP project. KWR and FACHEP must accept and acknowledge each other's role and responsibilities;
- The time path to start the project is critical; we need to make appointments on short notice (see activity #1). Therefore, it is necessary that the KWR-project can start no later than January 1, 2018 and that written confirmation of the order from the State of Michigan to KWR is received by that date;
- Other independent oversight parties will be hired by KWR;
The parties mutually guarantee confidentiality in respect of third parties of all business and other information originating from one of them or both, which in any way comes to or is brought to their knowledge and in respect of which the parties specifically state that the relevant information is covered by this paragraph. This confidentiality is to be observed both during the term of the Agreement as well as after termination of the Agreement.
- The State will ensure its staff and contractors work in close cooperation with the KWR team throughout this engagement.

1.7. Transition

KWR will perform an evaluation of the current FACHEP research data against the objectives A through K, from the Statement of Work (Attachment A from: Contract #: 20163753-002. Amendment No. 2 to the Agreement Between the Michigan Department of Health and Human Services and Wayne State University for Enhanced Disease Surveillance and Environmental Monitoring, Phase II – 2016). This will be done through interviews and data and documentation review. Based on this evaluation KWR will identify research objectives of FACHEP where additional data collection or analysis would strengthen the existing data significantly. FACHEP and KWR will then agree upon research plans for additional data collection with smart study design, planning and deliverables and required budget, followed up by a research contract between the State of Michigan with FACHEP for this additional data collection and analysis.

1.8. Training

The Contractor must provide the following training:

The Contractor must provide documentation and training materials. May be applicable to Section 1.4 External Communications regarding workshops.

2. Acceptance

The State Program Manager will confirm acceptance of the Contract activities and deliverables provided by the Contractor.

3. Staffing

3.1. Contractor Representative

The Contractor must appoint a Contractor Representative specifically assigned to State of Michigan accounts, that will respond to State inquiries regarding the Contract Activities, answering questions related to ordering and delivery, etc. (the "Contractor Representative").

The Contractor must notify the Contract Administrator at least 14 calendar days before removing or assigning a new Contractor Representative.

Contractor Representative:

Nellie Slaats MSc is a team leader of the Water Infrastructure team and project manager.

3.2. Reserved.

3.3. Reserved.

3.4. Key Personnel

1. The Contractor must appoint individuals who will be directly responsible for the day-to-day operations of the Contract ("Key Personnel"). Key Personnel must be specifically assigned to the State account, be knowledgeable on the contractual requirements, and respond to State inquires within 2 business days.
2. KWR will hire a local anchor, Ruurd Schoolderman of Dutchconsult LLC, who will act as a senior advisor to coordinate the management of the oversight activities on behalf of KWR.

3. To strengthen the expertise on the area of epidemiology KWR will hire experts for this purpose. These experts are Gert Doeke and Bert Brunekreef of IRAS, University of Utrecht and Samuel Dorevitch of the University of Illinois at Chicago (UIC).
4. **Dr. Anthony Verschoor MSc** is researcher within the team Microbial Water Quality and Health.
5. **Dr. Paul van der Wielen** is an expert researcher in microbiology in drinking water.
6. **Prof. dr. Gertjan Medema** is the chief science officer and principal microbiologist.
7. **Prof. dr. Annemarie van Wezel** (MSc in Biology, PhD in Environmental Chemistry and Toxicology) has 25 years' experience as a scientific researcher in risk assessment, toxicology and environmental chemistry, and environmental policy assessment.
8. **Dr. Laurens Hessels** Laurens Hessels researches knowledge and innovation. He advises organizations in the water sector about knowledge management, learning processes and implementation of research results.
9. **Hans Ruijgers MSc** as a team leader and press spokesperson, Hans Ruijgers is responsible for KWR's corporate profiling and is the first point of contact for press questions.
10. **Loet Rosenthal MSc** is Manager of the research group Water Quality and Health and member of the Management Team of KWR. He is responsible for KWR's leading chemical and microbiological laboratories and for KWR's role as WHO Collaborating Centre on Water Quality and Health and accredited test laboratory for household water treatment systems.
11. **Idsart Dijkstra MSc MBA** has developed 23 years of experience in the field of water supply and sanitation, of which 3 years abroad. Idsart is Manager of the research group Water Systems and Technology and member of the Management Team of KWR. He managed several research projects on drinking water supply, waste water treatment and solid waste.
12. **Nellie Slaats MSc** is a team leader of the Water Infrastructure team and project manager of the projects this team carries out.
13. **Dr. Gert Doeke (University Utrecht)** is assistant professor and senior staff member of the division Environmental Epidemiology, Institute for Risk Assessment Sciences (IRAS) of the University Utrecht. His research activities have focused on exposure assessment for biological agents (microbial agents like endotoxins, fungal pro-inflammatory agents, and allergens) in the home and work environment, and use of serologic and other immunological methods to assess health effects in population studies on asthma and allergy.
14. **Prof. dr. Bert Brunekreef MSc (University Utrecht)** Professor of Environmental Epidemiology and Director of the Institute for Risk Assessment Sciences (IRAS).
15. **University of Illinois at Chicago, Samuel Dorevitch, MD, MPH** Samuel Dorevitch, MD, MPH is an Associate Professor and Director of the Division of Environmental and Occupational Health Sciences at the University of Illinois at Chicago School of Public Health.
17. The State has the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor will notify the State of the proposed assignment, introduce the individual to the State's Project Manager, and provide the State with a resume and any other information about the individual reasonably requested by the State.
18. Contractor will not remove any Key Personnel from their assigned roles on this Contract without the prior written consent of the State. The Contractor's removal of Key Personnel without the prior written consent of the State is an unauthorized removal ("Unauthorized Removal"). An Unauthorized Removal does not include replacing Key Personnel for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation, or for cause termination of the Key Personnel's employment. Any Unauthorized Removal may be considered by the State to be a material breach of this Contract, in respect of which the State may elect to terminate this Contract for cause under Termination for Cause in the Standard Terms. It is further acknowledged that an Unauthorized Removal will interfere with the timely and proper completion of this Contract, to the loss and damage of the State, and that it would be impracticable and extremely difficult to fix the actual damage sustained by the State as a result of any Unauthorized Removal.

The Contractor must identify the Key Personnel, indicate where they will be physically located, describe the functions they will perform, and provide current chronological résumés.

3.5. Disclosure of Subcontractors

1. If the Contractor intends to utilize subcontractors, the Contractor must disclose the following except for the purpose of blind peer review, then KWR will be considered to already have permission to hire subcontractors on the aforementioned base of a blind peer review.

The legal business name; address; telephone number; a description of subcontractor's organization and the services it will provide; and information concerning subcontractor's ability to provide the Contract Activities.

The relationship of the subcontractor to the Contractor.

Whether the Contractor has a previous working experience with the subcontractor. If yes, provide the details of that previous relationship.

A complete description of the Contract Activities that will be performed or provided by the subcontractor.

2. Subcontractors

A. IRAS

IRAS, the Institute for Risk Assessment Sciences, is an interfacultary research institute within the faculties of Veterinary Medicine, Medicine and Sciences of Utrecht University. IRAS provides education and research on the human health risks of exposure to potentially harmful agents in the environment, at the workplace and through the food chain. Effects on ecosystems are also considered. See also:

<https://www.uu.nl/en/organisation/faculty- of-veterinary-medicine/about-the-faculty/departments/iras>

B. Dutch Consulting LLC, Ruurd Schoolderman

Ruurd Schoolderman is an experienced project manager with international (U.S., Europe, Caribbean) experience in the areas of water, climate and innovation programs.

- Process manager experienced in stakeholder management and community involvement.
- Capable of managing complex multi-interest and multidisciplinary environments

Experienced project manager with in depth knowledge and experience in the development and management of collaborative efforts in complex (political) environments and ability to bridge technical and non-technical aspects.

C. University of Illinois at Chicago, Samuel Dorevitch, MD, MPH

Samuel Dorevitch, MD, MPH is an Associate Professor and Director of the Division of Environmental and Occupational Health Sciences at the University of Illinois at Chicago School of Public Health.

3.8. Security

1. The Contractor must ensure the security of State facilities.
2. The Contractor must perform background checks.
3. The State may require the Contractor's personnel to wear State issued identification badges.

4. Project Management

4.1. Meetings

The Contractor must attend quarterly meetings, via communication between program managers. The State may request other meetings, as it deems appropriate.

4.2. Reporting

The Contractor must submit monthly status reports to the Program Manager.

5. Ordering

5.1. Authorizing Document

The appropriate authorizing document for the Contract will be a delivery order (DO).

6. Invoice and Payment

6.1. Invoice Requirements

All invoices submitted to the State must include: (a) date; (b) delivery order; (c) quantity; (d) description of the Contract Activities; (e) unit price; (f) shipping cost (if any); and (g) total price. Overtime, holiday pay, and travel expenses will not be paid.

The invoices will be based on actual spending in the project. We will send invoices as follows:

- o 40 % of the estimated total costs of this project after having received the order confirmation;
- o 20 % in March 2018;
- o 20% in September 2018;
- o 20% after finalization of the project.

Payments should be received within 30 days after the date of invoice.

6.2. Payment Methods

The State will make payment for Contract Activities by EFT.

7. Liquidated Damages Late or improper completion of the Contract Activities will cause loss and damage to the State and it would be impracticable and extremely difficult to fix the actual damage sustained by the State. Therefore, if there is late or improper completion of the Contract Activities caused by the Contractor, the State is entitled to collect liquidated damages in the amount of \$5,000 and an additional \$100 per day for each day Contractor fails to remedy the late or improper completion of the Work.

STATE OF MICHIGAN

Contract No. 171 180000000135
 Scientific Oversight, Quality Assurance and Consulting Services

SCHEDULE B PRICING MATRIX

Project number/ reference: 402172

1. Price proposals must include all costs, including but not limited to, any one-time or set-up charges, fees, and potential costs that Contractor may charge the State (e.g., shipping and handling, per piece pricing, and palletizing).
2. The Contractor certifies that the prices were arrived at independently, and without consultation, communication, or agreement with any other Contractor.

Activity, time schedule and effort	Total budget (USD)	Specification (working days and number of travels)	Budget details	Scheduled for Experts (USD)
<hr/>				
1. The status of deliverables part of the current project	\$64,347			
Duration: January - February 2018				
Activities The Netherlands (1800 Euro/pp/per day)	17	\$36,059		
Activities US including traveling (1800 Euro/pp/per day)	10	\$21,231		
Flights and stay US (3000 Euro/per per person)	2	\$7,077	Jan-18	Loet Rosenthal/Anthony Verschoor
2. Identify promising FACHEP output that needs strengthening with additional data collection	\$106,844			
Duration: January - April 2018				
Activities The Netherlands (1800 Euro/pp/per day)	22	\$46,665		
Activities US including traveling (1800 Euro/pp/per day)	20	\$42,462		
Flights and stay US (3000 Euro/per per person)	5	\$17,693	Feb/March-18	Gertjan Medema/Loet Rosenthal
			Apr-18	Gertjan Medema/Idsaart Dijksta/Nellie Slaats
3. Review of data use	\$70,785			
Duration: March - December 2018				
Activities The Netherlands (1800 Euro/pp/per day)	20	\$42,462		
Activities US including traveling (1800 Euro/pp/per day)	10	\$21,231		
Flights and stay US (3000 Euro/per per person)	2	\$7,078	May-18	to be discussed
4. Scientific QA	\$104,752			
Duration: March - December 2018				
Activities The Netherlands (1800 Euro/pp/per day)	18	\$38,221		
Activities US including traveling (1800 Euro/pp/per day)	23	\$48,836		
Flights and stay US (3000 Euro/per per person)	5	\$17,694	Jul-18	to be discussed
			Sep-18	to be discussed
			Nov-18	to be discussed
5. External communications	\$38,927			
Duration: February - December 2018				
Activities The Netherlands (1800 Euro/pp/per day)	7	\$14,861		
Activities US including traveling (1800 Euro/pp/per day)	8	\$16,984		
Flights and stay US (3000 Euro/per per person)	2	\$7,077	Feb/March-18	Laurens Hessels
			Apr-18	Laurens Hessels
<hr/>				
Hiring external experts and consultant				
IRAS (activities NL and US including travel costs)	\$53,070			
University of Illinois at Chicago (UIC) (activities NL and US including travel costs)	\$29,485			
<hr/>				
Dutchconsult LLC (activities US including travel costs)	\$58,971			
<hr/>				
Provisional sum	\$209,936			
<hr/>				
Total budget (Euro)	\$737,109			