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To:	AG-PFASProposal
Cc:	Vic Sher; Matt Edling; Richard S. Lewis; Patrick Parenteau
Subject:	Response to Request for Proposal for PFAS Manufacturer Litigation
Date:	Wednesday, June 5, 2019 4:47:21 PM
Attachments:	2019-06-05 Michigan PFAS RFP Response.pdf

Good Afternoon -
Please find attached the Response to the Request for Proposal for PFAS Manufacturer Tort Litigation, submitted by Sher Edling LLP, Hausfeld LLP, and Patrick Parenteau.
Thank you.

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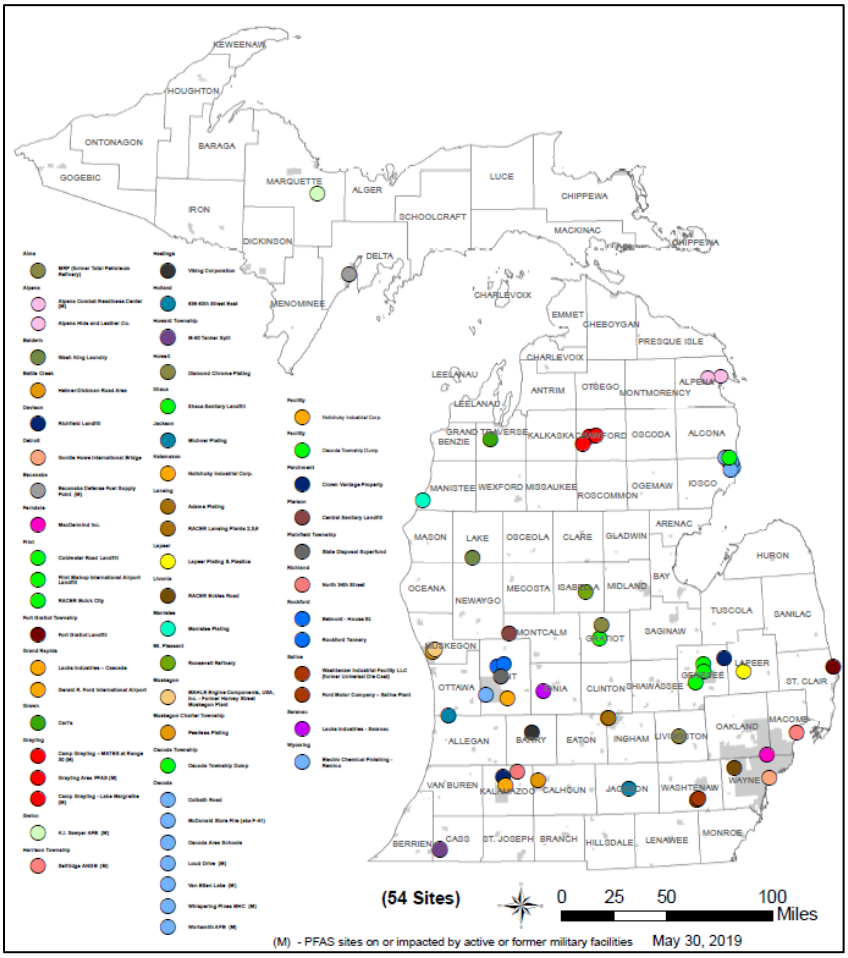
HIGHLY CONFIDENTIAL
IN ANTICIPATION OF LITIGATION

STATE OF MICHIGAN
Office of the Attorney General

Response to Request for Proposals for PFAS Manufacturer Tort Litigation



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2.4 Identify the practice group area, if applicable, proposed to handle the work. 5

2.5 Explain any partnerships and strategic relationships you have that would bring significant value to the State. 5

2.6 If you intend to use subcontractors to perform the work, disclose (1) the subcontractor's legal business name, website, address, phone number, and primary contact person; (2) a description of the subcontractor's organization; (3) a complete description of the services or products it will provide; (4) information concerning subcontractor's ability to provide the services; (5) whether the bidder has a previous working experience with the subcontractor; and if yes, provide details of that previous relationship. 5

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could give rise to potential actual or apparent conflicts of interest. Disclose such information for both the bidder and any proposed subcontractors. *10*

4.2 Disclose any actual, apparent, or potential conflict of interest between the bidder and the State of Michigan. *10*

4.3 With respect to any information provided in response to the questions above, provide an explanation of why an actual, apparent, or potential conflict of interest would not arise, or the measures that would be taken to avoid such a conflict. *11*

5. SAAG CONTRACT **11**

5.1 Bidder must affirm agreement with the terms of the SAAG Contract. If you do not agree, you must provide redline edits to the SAAG Contract with your proposal, and include justification for requesting deviation from the terms. *11*

6. FEE AGREEMENT **11**

6.1 Bidder must submit a proposed Fee Agreement which: (1) aligns with the SAAG Contract and (2) clearly sets forth how the bidder proposes to address payment in the event of recovery. See also SAAG Contract (Attachment A), Section 3, Compensation and Cost Reimbursement *11*

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EXECUTIVE SUMMARY

Sher Edling LLP ("SELLP"), Hausfeld LLP, and Patrick Parenteau ("Counsel") propose to assist the Michigan Attorney General in its investigation and potential litigation to recover the costs of removing perfluorochemicals, including perfluorooctane sulfonate ("PFOS"), perfluorooctanoic acid (PFOA), and other related harmful per- and polyfluoroalkyl substances ("PFAS," also referred to as perfluorinated compounds, "PFCs") from the State's natural resources. The lawsuit will focus particularly on assuring that drinking water delivered to the people of Michigan is free of PFAS; on recovering the costs to the State of restoring its soil, groundwater, and surface water resources to their pre-contamination condition; and on compensating the State for its loss of use of those resources.

PFAS are pervasive and persistent synthetic compounds used in a myriad of industrial processes and products, including Teflon and other fluoropolymers, Scotchgard, medical devices, carpet coatings, architectural resins, stain- and water-proof fabrics, cooking utensils, industrial de-misters, welding equipment, coated fiberglass, wax removers, floor polish, defoamers, wetting agents, and many others. While aqueous film-forming foam ("AFFF") used in firefighting has received significant media attention, AFFF is in fact a relatively minor and localized contributor to overall PFAS contamination.

Because they are highly soluble in water and resist degradation, PFAS are extremely mobile and persistent in the environment. People exposed to these manmade substances through drinking water or other means accumulate PFAS in their blood. Classified as likely carcinogens, PFAS are correlated with a variety of illnesses, even at very low concentrations, and are considered particularly pernicious for women and young children. Studies indicate that exposure to PFAS may cause testicular cancer, kidney cancer, liver, and autoimmune and endocrine disorders in adults, as well as developmental effects to fetuses during pregnancy or to breastfed infants. Michigan has positioned itself as a leader in responding to these risks by issuing PFOA and PFOS water quality screening and cleanup criteria for groundwater used in drinking water, and has begun the process of developing enforceable drinking water standards for PFOA, PFOS, and other PFAS.

As explained more thoroughly in **Section 7** below,

- As the State identified in its Request for Proposals, investigation and litigation should focus on the **chemical manufacturers** responsible for PFAS and PFAS-related products, rather than the point-source contributors, because of the manufacturers' superior knowledge and their **wrongful promotion and marketing of products** they knew (or reasonably should have known) would contaminate drinking water supplies and pose widespread health risks to people around the nation, as well as their failures to warn about those risks. Legal claims include common law **nuisance** and **trespass**, as well as potential statutory causes of action including under the **Michigan Environmental Protection Act** and **Michigan Products Liability Act** (**design defect and failure to warn).**
    - The primary manufacturer of PFOA/PFOS was historically the **3M Company ("3M")**. In the early 2000s, 3M phased out PFOS/PFOA production due to the associated environmental and health risks. Starting in 2002, **E.I. DuPont de**

Nemours & Company ("DuPont") began producing its own PFOA to replace 3M's production, for use in its own manufacturing processes.

- PFOA and PFOS are linked to a variety of **industrial uses**, including as surfactants, coatings, wetting agents, mist suppressants, and others; and in a massive range of consumer products, including for example, fluoropolymers such as **DuPont's "Teflon"-branded polytetrafluoroethylene ("PTFE")**; consumer coatings used to repel water and grease, such as **3M's Scotchgard** products, Gore-Tex, and others; food wrapping and packaging; medical products ranging from prosthetics to syringes to dental floss; and many others. Thus, the presence of these chemicals likely results from the **widely dispersed use and disposal of products containing PFAS**.

- One other significant use of PFAS is as a component of **aqueous film forming foam ("AFFF")**, which is widely used at airports, military bases and fire departments for firefighting and explosion drills. If investigation indicates AFFF-related PFAS impacts, we would expect to name as defendants the producers of AFFF: **3M, Chemguard Inc.**, **Buckeye Fire Equipment Co.**, **Tyco Fire Products LP,** and **National Foam, Inc**.

- Given the differing modes of contamination and the consolidation of AFFF-based PFAS cases in a federal multi-district litigation ("MDL"), we recommend a two-pronged approach to litigation:

  1. Because of the comprehensive and state-wide indivisible injury and the generally commingled nature of PFAS in Michigan's environment, the State should pursue a **state-wide, aggregate proof of injury** quantifying PFAS injuries to drinking water, natural resources and the attendant damages attributable to PFAS contamination. Vic Sher and his team successfully pursued this approach—which **obviates piecemeal delineation and litigation at the innumerable individual PFAS contamination sites** in Michigan (many of which are currently unknown)—in the State of New Hampshire's MTBE litigation. *See State v. Hess Corp.*, 20 A.3d 212, 221 (N.H. 2011) (allowing claim by State of New Hampshire for costs of "investigating, monitoring, treating, remediating, replacing, or otherwise restoring" private domestic wells affected by MTBE contamination); *State v. Exxon Mobil Corp.*, 126 A.3d 266, 307–08 (N.H. 2015) (affirming verdict of "more than $300 million in damages for the costs of testing private wells for possible MTBE contamination, [and] $150 million to treat whatever contamination is found in the wells in the future," as well as clean-up costs at known and currently unknown sites, because "[t]he State is entitled to be fully compensated for the harm resulting from ExxonMobil's legal fault"). **This lawsuit would focus on 3M and Dupont**.

  2. We also recommend the State bring a similar but separate suit against **the AFFF manufacturers** on a state-wide basis for injuries arising out of AFFF use.

- Since the State began assessing PFAS contamination in 2017, it has embarked on a program of both **state-wide** and **site-specific investigations of PFAS contamination,** including in public and private water systems and suspected release sites across the State, respectively. These investigations have revealed crucial information about the types of point sources that contribute to the State's PFAS problem, and have been **instrumental in inciting responsive actions**—most notably the creation of the **Michigan PFAS Action Response Team** ("MPART") and the recently announced **drinking water health screening levels for several PFAS**. As we successfully accomplished for the State of New Hampshire in its MTBE case, we propose here using litigation to **shift back to the parties responsible for PFAS pollution in Michigan the costs of these site-specific and state-wide response actions, including the comprehensive, state-wide testing, monitoring, and treatment programs that will detect and remove PFAS from the State's affected drinking water and natural resources**.

- The State should seek at least six categories of damages in its suit:

    1. the costs of investigating (testing) and monitoring public and private drinking water wells, surface water, and other environmental receptors, in order to determine the actual, full extent of the PFAS problem;
    2. the current and future costs of treating PFAS at public and private drinking water wells where PFAS are detected in order to remove PFAS from drinking water, minimize further human exposure to this dangerous carcinogen, and restore drinking water to its pre-contamination condition;
    3. the past costs expended by the State in remediating PFAS soil and groundwater contamination at release sites;
    4. the costs of screening for the presence of PFAS in the full panoply of potentially impacted natural resources at potential release sites where there is a high likelihood of PFAS contamination;
    5. the future costs of characterizing and remediating PFAS at known, high priority, high-risk PFAS release sites, as well as those future costs associated with restoring those sites to their pre-contamination condition; and
    6. compensatory damages for Michigan's citizens' lost use of natural resources during the period between initial contamination and restoration.

1. BIDDER CONTACT INFORMATION

1.1 ***Identify the bidder's contact person for the RFP process. Include name, title, address, email, and phone number.***

Matthew Edling
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matt@sheredling.com
Tel: (628) 231-2500

1.2 ***Identify the person authorized to sign a contract resulting from this RFP. Include name, title, address, email, and phone number.***

Victor Sher
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vic@sheredling.com
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2. COMPANY BACKGROUND INFORMATION

2.1 ***Identify the companies' legal business names, addresses, phone numbers, and websites.***

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Patrick Parenteau
Vermont Law School
Chelsea Street
South Royalton, VT 05075
Tel: (802) 763-8303

2.2 ***Identify the State your business is organized in.***

Sher Edling LLP is organized in California.
Hausfeld LLP is organized in Washington, D.C.
Patrick Parenteau is based in Vermont.

2.3 Identify the location (city and state) that would have primary responsibility for this work if awarded a contract.

Sher Edling LLP would have primary responsibility for this work, and thus the primary location would be San Francisco, CA.

2.4 Identify the practice group area, if applicable, proposed to handle the work.

As described in Section 3 below, Sher Edling LLP has a deep focus representing public entities—States, counties, cities, and public agencies—in high-impact, high-value environmental litigation, combining decades of top-level litigation and trial experience with an unwavering dedication to holding polluters accountable for the damage they cause.

Hausfeld LLP's Environmental Threats Practice Group, led by Richard Lewis, handles complex environmental litigation matters on behalf of communities, families, and workers, both in the U.S. and abroad, who have been exposed to hazardous chemicals in neighborhoods, workplaces, or in food and water supplies. For more information: https://www.hausfeld.com/practice-area/environmental-threats.

2.5 Explain any partnerships and strategic relationships you have that would bring significant value to the State.

The partnership among the responding law firms brings significant value to the State. In addition, Matt Edling of Sher Edling and Rich Lewis of Hausfeld hold significant leadership roles with the Plaintiffs' Leadership Committee in *In re: Aqueous Film-Forming Foams Products Liability Litigation*, MDL No. 18-2873 (the "AFFF MDL"), a national Multi-District Litigation concerning certain AFFF-related cases recently assigned to Judge Richard Gergel in Charleston, South Carolina.

In addition, the Firms have established working relationships with leading experts and consultants in hydrogeology, toxicology, remediation, treatment, and related disciplines.

2.6 If you intend to use subcontractors to perform the work, disclose (1) the subcontractor's legal business name, website, address, phone number, and primary contact person; (2) a description of the subcontractor's organization; (3) a complete description of the services or products it will provide; (4) information concerning subcontractor's ability to provide the services; (5) whether the bidder has a previous working experience with the subcontractor; and if yes, provide details of that previous relationship.

We do not anticipate using any subcontractors to perform any of the legal work involved in these matters. As noted in the response to question 2.5, the Firms have established working relationships with leading experts and consultants who we expect will assist in preparing the technical case, including for trial.

2.7 Identify the name and title of the individuals you propose as key personnel. Attach resumes or CVs for each person.

2.7(a) Sher Edling Legal Team

Victor M. Sher has brought landmark environmental litigation on behalf of plaintiffs for nearly 40 years. His primary focus has been representing public water suppliers and other public agencies, cities, and states in lawsuits against the polluters of drinking water. He has litigated some of the nation's most prominent groundwater contamination cases on behalf of public agencies, involving a number of different compounds. A further description of Mr. Sher's experience can be accessed here: https://www.sheredling.com/team/vic-sher, and his resume is included in Exhibit A.

Matthew K. Edling has more than 12 years of experience representing public agencies in complex litigation, including environmental litigation, groundwater contamination, drinking water contamination, and similar cases. Mr. Edling is a member in good standing of the New York State Bar and the California State Bar. He also has been admitted *pro hac vice* to trial and appellate courts around the country. A further description of Mr. Edling's experience can be accessed here: https://www.sheredling.com/team/matt-edling, and his resume is included in Exhibit A.

Corrie Yackulic is a tenacious and effective trial lawyer and negotiator who has yielded results for her clients totaling in the tens of millions of dollars. During her career, which has spanned more than 30 years, Ms. Yackulic has focused on environmental tort cases involving toxic dumping, drinking water contamination, corporate polluting, and catastrophic environmental disaster. A further description of Ms. Yackulic's experience can be accessed here: https://www.sheredling.com/team/corrie-yackulic, and her resume is included in Exhibit A.

Victor Sher, Matthew Edling, and Corrie Yackulic will have overall responsibility for directing the attorneys and paralegals in the case, including setting strategy, directing discovery and motions practice, pretrial preparation, and trial.

Adam Shapiro, **Stephanie Biehl**, **Meredith Wilensky**, **Katie Jones**, **Timothy Sloane**, and **Martin D. Quiñones** (associates) will assist with case management, discovery, all phases of pretrial practice and trial, and will be principally responsible for law and motion work. Each associate has extensive background in complex environmental litigation. A further description of their experience can be accessed here: https://www.sheredling.com/team, and their resumes are included in Exhibit A.

A detailed description of the firm and its experience and qualifications is attached as Exhibit B.

2.7(b) Hausfeld LLP Legal Team

Hausfeld LLP's attorneys have a long history of success, recognized by *Legal 500*, *Chambers and Partners*, *Financial Times*, and many others. Since its inception in November of 2008, Hausfeld LLP has achieved billions of dollars in settlements and verdicts on behalf of plaintiffs. Indeed, courts across the country have selected Hausfeld LLP's high caliber of attorneys, trusting them to be lead counsel in over 40 cases. This is because Hausfeld LLP has expertise and

significant experience litigating environmental matters, including cases involving health, scientific, and medical monitoring, environmental exposure, and in particular, pollutant and water contamination. Hausfeld LLP recently concluded a massive settlement in South Africa against the entire goldmining industry there to recover compensation for tens of thousands of South African goldminers who suffered occupational lung disease going back 50 years. *Bongani Nkala and 69 others v. Harmony Gold Mining Co., Ltd., et al.,* In the High Court of South Africa, Johannesburg (May 13, 2016). As co-counsel with Sher Edling LLP, Hausfeld LLP also represents the largest public groundwater supplier in the country, the Suffolk County Water Authority, in two water contamination cases, *Suffolk County Water Authority v. The Dow Chemical Company et al.*, 17-6980 (E.D.N.Y.) and *Suffolk County Water Authority v. The 3M Company et al.*, 17-6982 (E.D.N.Y.). The cases are filed against the manufacturers of toxic chemicals that have polluted the Authority's public supply wells. Additional information about Hausfeld LLP's Environmental Threats team can be found here: https://www.hausfeld.com/practice-area/environmental-threats.

Richard S. Lewis is a founding partner and Chair of Hausfeld LLP's Environmental Threats practice group located in the firm's Washington, D.C. office. Mr. Lewis has over 30 years of legal experience, specializing in the areas of environmental law, public health, mass torts, and product liability. Mr. Lewis has tried four environmental mass tort cases (three to verdict) and argued dozens of motions for class certification and summary judgment. He has concentrated his work in these cases on working with experts. A further description of Mr. Lewis' experience can be accessed here: https://www.hausfeld.com/our-people/richard-s-lewis, and his resume is included in Exhibit C.

Scott Martin is a partner in Hausfeld's New York Office with over 25 years of legal experience (more than twenty of which were on the defense side, including in mass and toxic tort cases). Mr. Martin is consistently recognized as one of the leading litigators in New York and the U.S. in his principal practice area of antitrust. Mr. Martin's practice extends to bench and jury trials in both federal and state courts, *parens patriae* cases, complex federal multidistrict actions, class actions, and other regulatory actions. A further description of Mr. Martin's experience can be accessed here: https://www.hausfeld.com/our-people/scott-martin, and his resume is included in Exhibit C.

Katie Beran (recently recognized by the National Law Journal as an Energy & Environmental Trailblazer) and **Jeannette Bayoumi** have significant experience in complex civil and environmental litigation. They are both involved in *In re: Aqueous Film-Forming Foams Product Liability Litigation*, MDL 18-2873 and another groundwater contamination suit in the Eastern District of New York on behalf of the Suffolk County Water Authority. A further description of their experience can be accessed here: https://www.hausfeld.com/our-people, and their resumes are included in Exhibit C.

2.7(c) Patrick Parenteau

Patrick Parenteau is currently Professor of Law and Senior Counsel to the Environmental and Natural Resources Law Clinic at Vermont Law School. Professor Parenteau has been involved in drafting, litigating, administering, teaching, and writing about environmental and natural resources law for over four decades. Among other positions, he has served as Regional

Counsel to EPA Region One and Commissioner of the Vermont Department of Environmental Conservation. He has handled major pieces of litigation under several federal statutes including the Clean Water Act, Clean Air Act, Resources Conservation and Recovery Act, Endangered Species Act, and Superfund. He has experience dealing with natural resources damages (NRD) and oversaw litigation and settlements of NRD claims in hazardous waste cleanups during his time with EPA.

Professor Parenteau is a fellow in the American College of Environmental Lawyers and a Fulbright Scholar. He has received a number of awards for his contributions to conservation of natural resources and development of public interest law. Professor Parenteau's *curriculum vitae* is attached hereto as Exhibit D.

3. EXPERIENCE AND REFERENCES

3.1 Describe at least 3 relevant experiences supporting your ability to successfully perform the work set forth in the SOW. Include a description of services provided and results obtained. Include contact information for the clients you represented.

3.1(a) Experience

Sher Edling LLP represents states, cities, and other public agencies in high-impact, high-value environmental cases. Sher Edling has a deep specialty representing public agencies and water suppliers in lawsuits against the manufacturers and suppliers of toxic chemicals that pollute drinking water. The firm has assembled a unique team with both legal and technical expertise that, coupled with its detailed and extensive experience in groundwater contamination litigation, assures its clients of the strongest case and highest possible recovery.

The Sher Edling team has litigated cases involving many chemical contaminants and has deposed hundreds of experts in the technically intricate fields of hydrogeology, chemistry, toxicology, groundwater remediation, drinking water treatment, and related subjects. Our extensive experience with these kinds of cases means that we are well acquainted with the factual, scientific, technical, legal, and strategic aspects of each litigation. This depth of knowledge and experience assists when we are asked to come in and lead a matter through trial and appeal, as was the case for the City of New York in its MTBE litigation, discussed below, or more recently when the cities of San Francisco and Oakland retained Sher Edling to replace their outside counsel in those cities' climate change litigation. Altogether, SELLP is assisting public counsel, including the State of Rhode Island, in ten pending lawsuits against the fossil fuel industry seeking damages for the costs of adapting to and mitigating climate change.

Vic Sher served as lead trial counsel for the City of New York in its landmark MTBE case, which led to a total recovery of about $130 million, including a $105 million federal jury verdict against Exxon that was affirmed by the U.S. Court of Appeal for the Second Circuit in *In re MTBE Product Liability Litigation (New York City)*, 725 F.3d 65 (2nd Cir. 2013). Mr. Sher was also lead outside counsel for the State of New Hampshire in its prosecution of the first state-wide case to recover the costs of MTBE contamination. From 2003 until 2012, Mr. Sher guided the case as it prepared for trial. Ultimately, the State recovered more than $140 million in pretrial settlements,

and, in the largest trial ever held in the State of New Hampshire, the jury awarded more than $236 million against ExxonMobil. The New Hampshire Supreme Court affirmed the jury verdict in 2015 (and the U.S. Supreme Court declined to review). *State of New Hampshire v. ExxonMobil*, 168 N.H. 211, 126 A.3d 266 (N.H. 2015).

Currently, SELLP and Hausfeld lawyers have leadership roles in *In re: Aqueous Film-Forming Foams Products Liability Litigation*, MDL No. 18-2873 (the "AFFF MDL"), a national Multi-District Litigation concerning certain PFAS-related cases recently assigned to Judge Richard Gergel in Charleston, South Carolina.

SELLP currently represents the following public entities in pending or imminent litigation over PFAS and related compounds:

PFAS

- Suffolk County Water Authority (NY)
- Port Washington Water District (NY)
- South Farmingdale Water District (NY)
- Roslyn Water District (NY)
- Bethpage Water District (NY)
- Village of Garden City (NY)
- Village of Mineola (NY)
- Water Authority of Western Nassau County (NY)
- Ridgewood Water (NJ)
- Atlantic City Municipal Utilities Authority (NJ)

3.1(b) References

- City of New York: Susan Amron
  - Former head of environmental department, New York Corporation Counsel
  - (212) 720-3500
  - samron@planning.nyc.gov
- Suffolk County Water Authority (PFAS and 1,4-dioxane contamination): Tim Hopkins
  - General Counsel
  - (631) 563-0236
  - Tim.Hopkins@SCWA.com
- State of Rhode Island: Adi Goldstein
  - Deputy Attorney General
  - (401) 274-4400 (Ext. 2502)
  - agoldstein@riag.ri.gov
- Ridgewood Water (PFAS contamination): Rich Calbi
  - Director of Operations
  - (201) 670-5521
  - rcalbi@ridgewoodnj.net
- San Diego Unified Port District: John Carter
  - Deputy General Counsel, Office of the General Counsel
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  - jcarter@portofsandiego.org

- City and County of San Francisco: Matthew Goldberg
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- City of Baltimore: Andre Davis
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- County of Marin, California: Brian Washington
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  - bwashington@marincounty.org
- County of San Mateo, California: John Beiers
  - County Counsel
  - (650) 363-4775
  - jbeiers@smcgov.org

4. COUNSEL HAVE NO CONFLICTS OF INTEREST

4.1 Provide detailed information regarding any prior, current, or anticipated future relationship with any manufacturer of PFAS or PFAS-containing products that could give rise to potential actual or apparent conflicts of interest. Disclose such information for both the bidder and any proposed subcontractors.

Counsel have no existing or possible relationship with any manufacturer of PFAS or PFOAS-containing products that could give rise to potential, actual, or apparent conflicts of interest. Counsel are already adverse to these entities in other PFAS litigation.

4.2 Disclose any actual, apparent, or potential conflict of interest between the bidder and the State of Michigan.

Counsel have no existing or possible conflicts with the State of Michigan. Additionally, no applicant has made any campaign contributions to the current Attorney General or is a registered lobbyist or lobbyist employer with the State.

As referenced above, Counsel do represent other public agencies engaged in litigation against the same responsible parties identified in this Proposal. Damages collected from one or more of the same defendants in other suits prosecuted by Counsel could, theoretically, reduce the amount of money available from these same defendants. Counsel believe our experience would benefit the State and disclose this concurrent representation to err on the side of completeness.

4.3 With respect to any information provided in response to the questions above, provide an explanation of why an actual, apparent, or potential conflict of interest would not arise, or the measures that would be taken to avoid such a conflict.

As noted, there are no limitations, problems, conflicts, or other issues impacting retention of this matter. SELLP and Hausfeld are currently adverse to PFAS and AFFF manufacturers in existing litigation and will never represent them. That said, if any potential conflict does arise, Counsel will promptly notify the State and adhere to all ethical duties.

5. SAAG CONTRACT

5.1 Bidder must affirm agreement with the terms of the SAAG Contract. If you do not agree, you must provide redline edits to the SAAG Contract with your proposal, and include justification for requesting deviation from the terms.

Counsel affirm agreement with the terms of the SAAG contract.

6. FEE AGREEMENT

6.1 Bidder must submit a proposed Fee Agreement which: (1) aligns with the SAAG Contract and (2) clearly sets forth how the bidder proposes to address payment in the event of recovery. See also SAAG Contract (Attachment A), Section 3, Compensation and Cost Reimbursement

Counsel are well capitalized and have significant experience litigating actions similar to what is proposed herein on a contingent basis. We propose representing the State on a contingency fee basis. A draft legal services agreement, which aligns with the SAAG Contract and clearly sets forth payment in the event of recovery, is attached hereto as Exhibit E.

7. LITIGATION APPROACH

A. PFAS: An Overview

Per- and poly-fluoroalkyl substances—collectively referred to as PFAS or PFCs—are manmade chemicals that have been manufactured and used in the United States since the 1940s. PFAS are found in a variety of products, most notably Teflon (PTFE), a ubiquitously marketed plastic product, but also in food and food packaging, aqueous film-forming foam ("AFFF"), textiles, cosmetics and many other household products. Major PFAS release sites include locations where PFAS were manufactured, used, and disposed to the air and ground and surface water. Figure 1 shows the PFAS life cycle, and shows major pathways to environmental release of these chemicals.

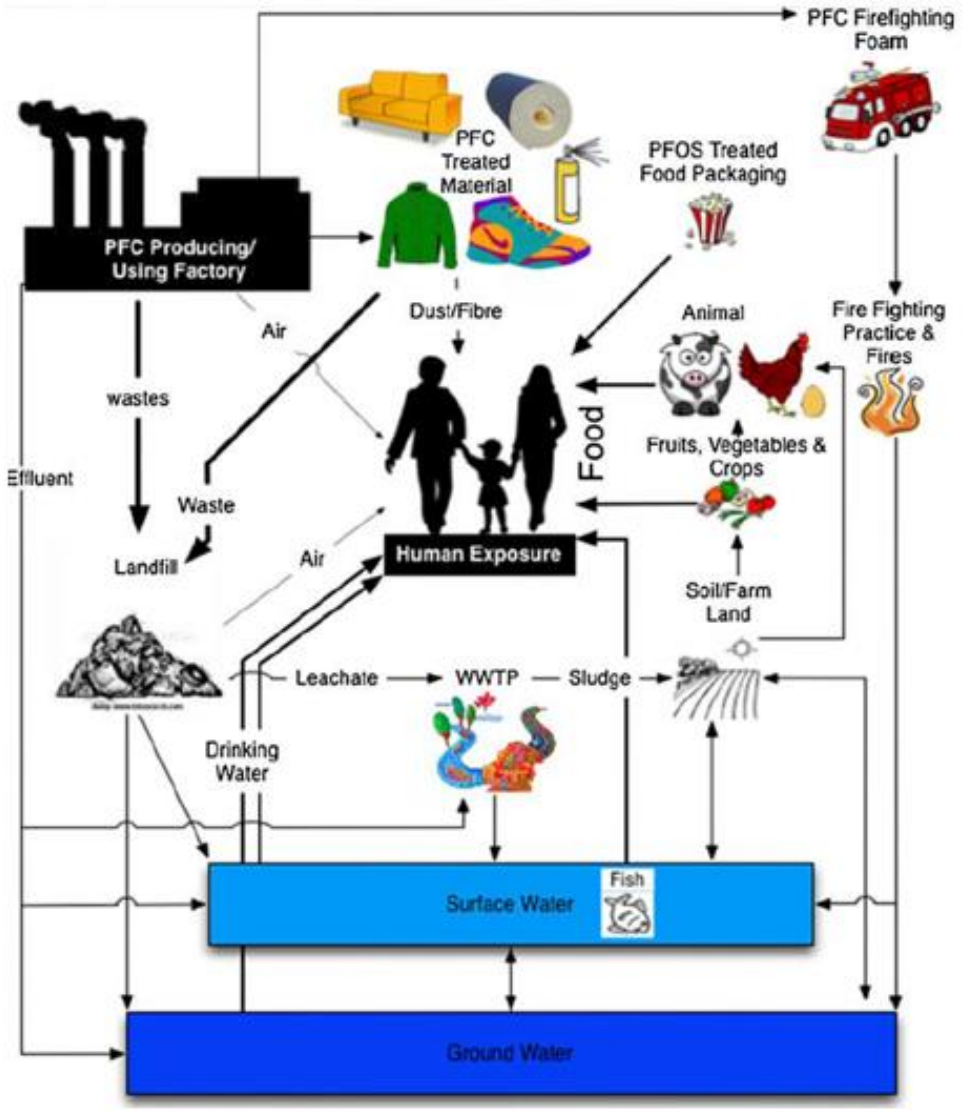

Figure 1: PFAS Life Cycle

PFAS are highly soluble in water, not easily biodegradable, and incredibly mobile. They are well documented to "have become widely distributed in the environment and have accumulated in the blood and tissue of humans, wildlife, and fish."[1] PFAS released to the environment bioaccumulate in living organisms, where they cause dangerous health and long-term environmental effects. PFAS and/or their persistent degradation products, have been found in living organisms, PFAS are also retained in soil and absorbed in agricultural crops.

PFAS are toxic at extremely low levels. Scientists and government experts have linked PFAS exposure to a range of serious illnesses, including cancer of the kidneys and testicles, thyroid

[1] Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate, 81 Fed. Reg. 101, at 33250 (May 25, 2016).

and liver disease, asthma, lower fertility in women, higher cholesterol, weakened immune systems, high blood pressure or pre-eclampsia in pregnant women, and lower birth weights. A study released by the Centers for Disease Control's Agency for Toxic Substances and Disease Registry (ATSDR) in June 2018 calculated that the limit for PFOA and PFOS in drinking water should be around 7 and 11 ppt, respectively.[2] For example, exposure to PFAS may cause decreased antibody response to vaccines and increased risk of asthma.[3]

Because of these widespread and lasting impacts, PFAS have drawn the concern of environmental authorities worldwide and led to both regulatory and non-regulatory actions to reduce environmental releases. The focus of these actions has been on fluorochemicals that contain eight carbons ("C8") or more, such as PFOS (C8), PFOA (C8), and PFNA (C9). These are among the most toxic manmade chemicals of the PFAS family.

Michigan has announced health screening levels for certain PFAS in drinking water listed in Table 1, below.[4] These screening levels establish a conservative baseline for considering potential health effects for citizens exposed to PFAS through drinking water, and will set the stage for promulgation of PFAS MCLs for the same five contaminants. Governor Whitmer has directed the Department of Health and human services to establish those MCLs by Spring, 2020.[5] In parallel, the State embarked on a state-wide sampling program in public and private water systems that has demonstrated widespread PFAS impacts impacting over 2 million of the state's residents; and undertaken at least 50 site-specific investigations at suspected PFAS release sites across the state. Despite these aggressive measures, approximately 25% of the State's water systems, mostly representing private wells servicing approximately 2.5 million residents, remain untested.[6]

Table 1: Michigan PFAS Health Screening Levels

PFAS	**Screening Level (ppt)**
PFOA	9
PFOS	8
PFNA	9
PFHxS	84
PFBS	1,000

[2] *See* ATSDR, Toxicological Profile for Perfluoroalkyls, Draft for Public Comment (June 2018), https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf.

[3] *Id.* at 25.

[4] Michigan Dept. Health & Human Services, Division of Environmental Health, Public Health Drinking Water Screening Levels for PFAS (February 22, 2019) *available at* https://www.michigan.gov/documents/pfasresponse/MDHHS_Public_Health_Drinking_Water_Screening_Levels_for_PFAS_651683_7.pdf.

[5] MLive.com, Michigan Sets New Health Screening Limits for 5 Types of PFAS (April 4, 2019) *available at* https://www.mlive.com/public-interest/2019/04/michigan-sets-new-health-screening-limits-for-5-types-of-pfas.html.

[6] MLive.com, Michigan Sets New Health Screening Limits for 5 Types of PFAS (April 4, 2019) *available at* https://www.mlive.com/public-interest/2019/04/michigan-sets-new-health-screening-limits-for-5-types-of-pfas.html.

Michigan's taxpayers should not foot the bill for these expensive investigations and response measures, which is why we recommend that the State include the costs of its past and future comprehensive state-wide PFAS testing, monitoring, and treatment programs as part of its claim for damages. As discussed *supra*, our team has successfully realized this strategy in previous litigation over state-wide groundwater contamination on behalf of the state of New Hampshire. *See State v. Hess Corp.*, 20 A.3d 212, 221 (N.H. 2011) (allowing claim by State of New Hampshire for costs of "investigating, monitoring, treating, remediating, replacing, or otherwise restoring" private domestic wells affected by MTBE contamination); *State v. Exxon Mobil Corp.*, 126 A.3d 266, 307–08 (N.H. 2015) (affirming verdict of "more than $300 million in damages for the costs of testing private wells for possible MTBE contamination, [and] $150 million to treat whatever contamination is found in the wells in the future" because "[t]he State is entitled to be fully compensated for the harm resulting from ExxonMobil's legal fault").

1. Michigan Has Serious and Widespread PFAS Contamination.

The State's aggressive PFAS response, led by MPART and its constituent agencies, has documented PFAS impacts at a large number of release sites across the State.[7] Investigations to date have focused on PFAS impacts to drinking water, groundwater, surface water, soil, sediment, and fish and wildlife[8]—natural resources for which the State should seek recovery. Further investigation has been undertaken at known PFAS release sites, including those where AFFF was released; and in wastewater treatment facilities.[9]

Water quality sampling in the State pursuant to EPA's Unregulated Contaminant Monitoring Rule 3 ("UCMR3"), which began in 2013, returned only three PFOS detections. However, UCMR3 test results significantly understated the presence of PFAS (especially PFOA and PFOS), because of the high detection limits employed. The State's 2018 public water system sampling program returned over 115 detections of total PFAS greater than 10 ppt; 62 systems had combined PFAO and PFOS detections between 10 and 70 ppt.[10] Table 2 below shows the results of that sampling.

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[7] *See generally* State of Michigan, PFAS Response: Taking Action to Protect the Public's Water, (last visited June 1, 2019) *available at* https://www.michigan.gov/pfasresponse/.

[8] State of Michigan, PFAS Response: Testing and Treatment (last visited June 1, 2019), *available at* https://www.michigan.gov/pfasresponse/0,9038,7-365-88059---,00.html.

[9] *Id.*

[10] State of Michigan, PFAS Response: Testing and Treatment: Phase I (2018) (last visited June 1, 2018) available at https://www.michigan.gov/pfasresponse/0,9038,7-365-86510_88061_92549_92526-495899--,00.html.

Table 2: Michigan Public Water Supply PFAS Testing Summary (2018)

Type of Supply	Supplies Sampled	Non-Detect Total PFAS	Detections < 10 ppt Total PFAS	Detections Between 10 – 70 ppt PFOS+PFOA (and/or Detections ≥ 10 ppt Total PFAS)	Detections > 70 ppt PFOS+PFOA
Community Water Supplies	1,114	994	84	35	1
Schools on Wells	461	420	21	19	1
Tribes	17	17	0	0	0
Child Care / MI Head Start	152	134	10	8	0
Total	**1,744**	**1,565**	**115**	**62**	**2**

While the drinking water contamination associated with these sites has only recently been revealed, it has likely been present for much longer. The elevated minimum reporting levels used in the UCMR3 testing—20 ppt for PFOA and 40 ppt for PFOS—tended to mask pervasive PFAS contamination below those levels. Counsel currently represents clients in New York and New Jersey where the rates of PFAS detection in drinking water wells went from apparently negligible under UCMR3 to, in some cases, nearly 100% of tested wells, after new testing methods enabled detections below the UCMR3 reporting levels.

Indeed, since UCMR3, the State has documented widespread PFAS impacts on groundwater from a variety of sources, including industrial operations, landfills, wastewater treatment facilities ("WWTF") and sites where AFFF was used. These investigations are consistent with nationwide patterns of PFAS contamination: an extensive study lead by researchers at Harvard showing that these same PFAS sources, along with fire training sites, are strongly correlated spatially to PFAS contamination of drinking water throughout the United States. Given the presence of these types of facilities across the State, and coupled with PFAS' extreme persistence and mobility in the environment, it is no surprise that PFAS have impacted drinking water sources state-wide. Figure 2 below shows facilities where the State is already investigating PFAS impacts, and illustrates that no virtually part of the State remain untouched from this widespread contamination.

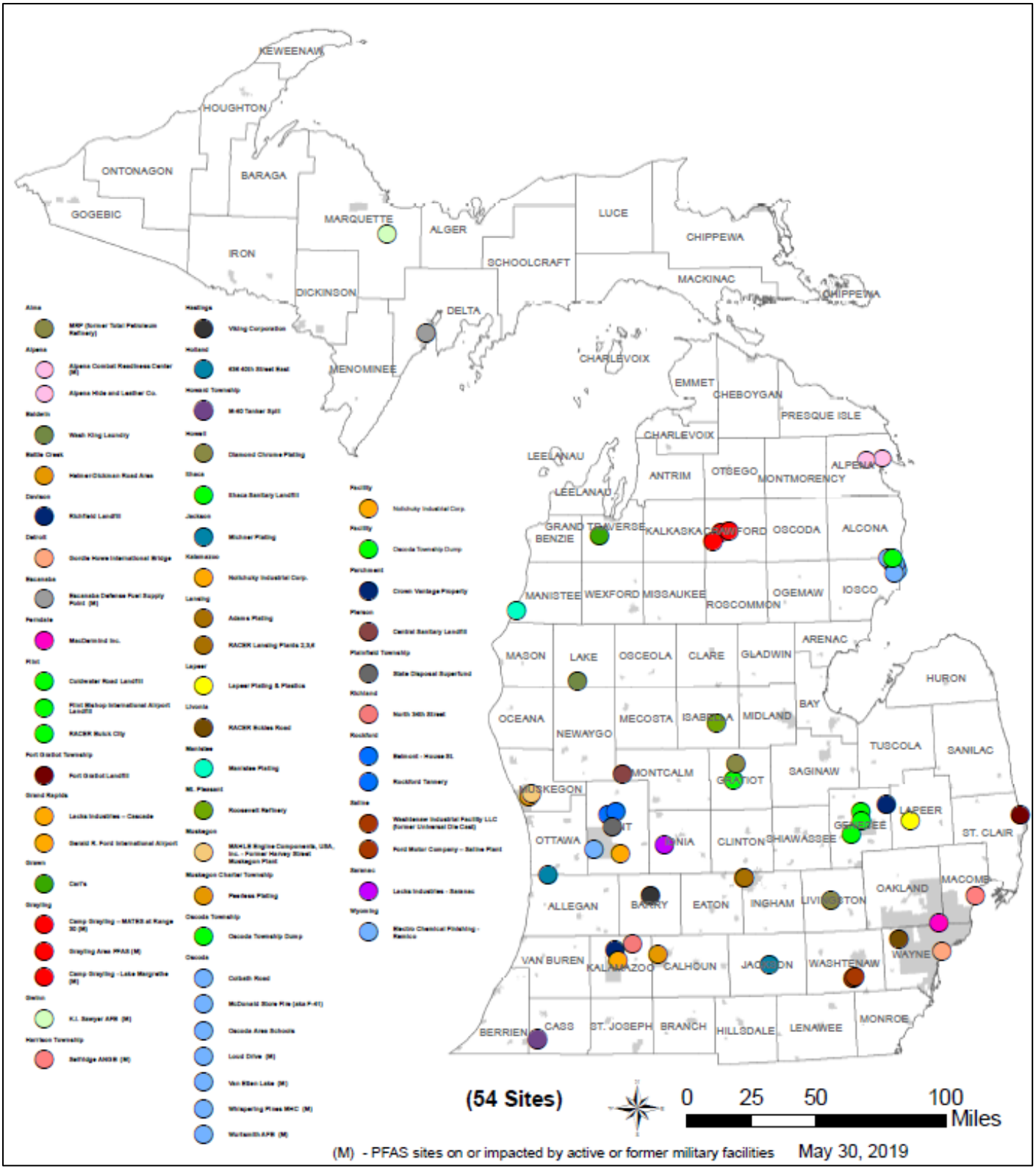

Figure 2: PFAS Investigation/Release Sites in Michigan

In addition to these sites, there are myriad other potential sources of PFAS contamination within the State that likely have not been, but should be, investigated. Industrial and aircraft-oriented military facilities, municipal airports, and fire training facilities are all well-documented sources of PFAS contamination in the local environment, and particularly groundwater contamination from the use of AFFF. While Michigan has diligently investigated many such sites, Figure 3 below shows just how many of these potential sources are located in the State. Our approach, described below, would provide for a landscape-based investigation of these and other potential release sites not pictured (such as industrial areas where perflourinated compounds were manufactured or used in other industrial or commercial processes).

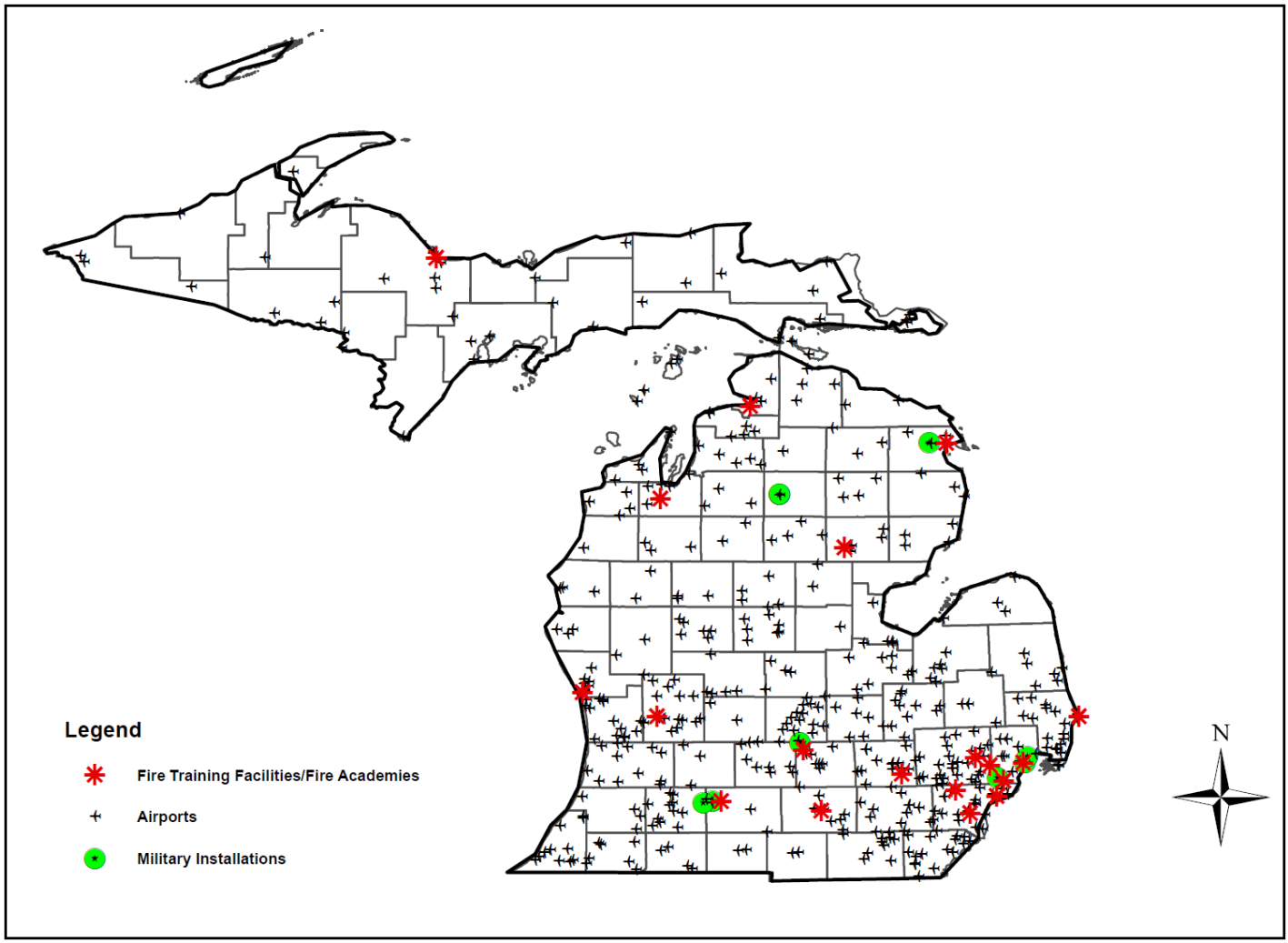

Figure 3: Michigan Military, Fire, and Aircraft Facilities

Surface water resources are also subject to PFAS contamination, which poses a significant public health concern. The discovery in 2011 of very high levels of PFOS (up to 9,580 ppb) in fish from a pond near the former Wurtsmith Air Force Base resulted in intensive state-wide sampling of Michigan rivers in 2013 and 2014. The State's site-specific surface water and aquatic biota sampling has demonstrated high concentrations of PFAS in waterways that convey those compounds around Michigan. The results of that effort and subsequent sampling have shown

several rivers had PFAS concentrations above background levels in either water, fish, or both. Sampling has shown PFAS contamination in the following watersheds due to plating operations, wastewater treatment, landfills, AFFF discharges and other industrial sources: the Clinton River and Lake St. Clair, the Raisin River, the Flint River, and the Huron River.

Michigan has hundreds of municipal wastewater treatment facilities, which release both treated and untreated (due to combined sewer overflows) effluent into streams and rivers throughout the State. PFAS come into WWTFs with wastewater, landfill leachate, and domestic waste, and leave untreated via effluent, air emissions and sludge. Studies across the nation have shown PFAS levels in WWTF effluent well above the Michigan health screening levels.[11] Because WWTFs typically do not remove PFAS, and because they typically discharge effluent to local surface waters, they act as effective redistribution systems for PFAS. Figure 4 shows the locations of landfills and WWTFs across the State and illustrates that these potential PFAS release sites are ubiquitous in Michigan.

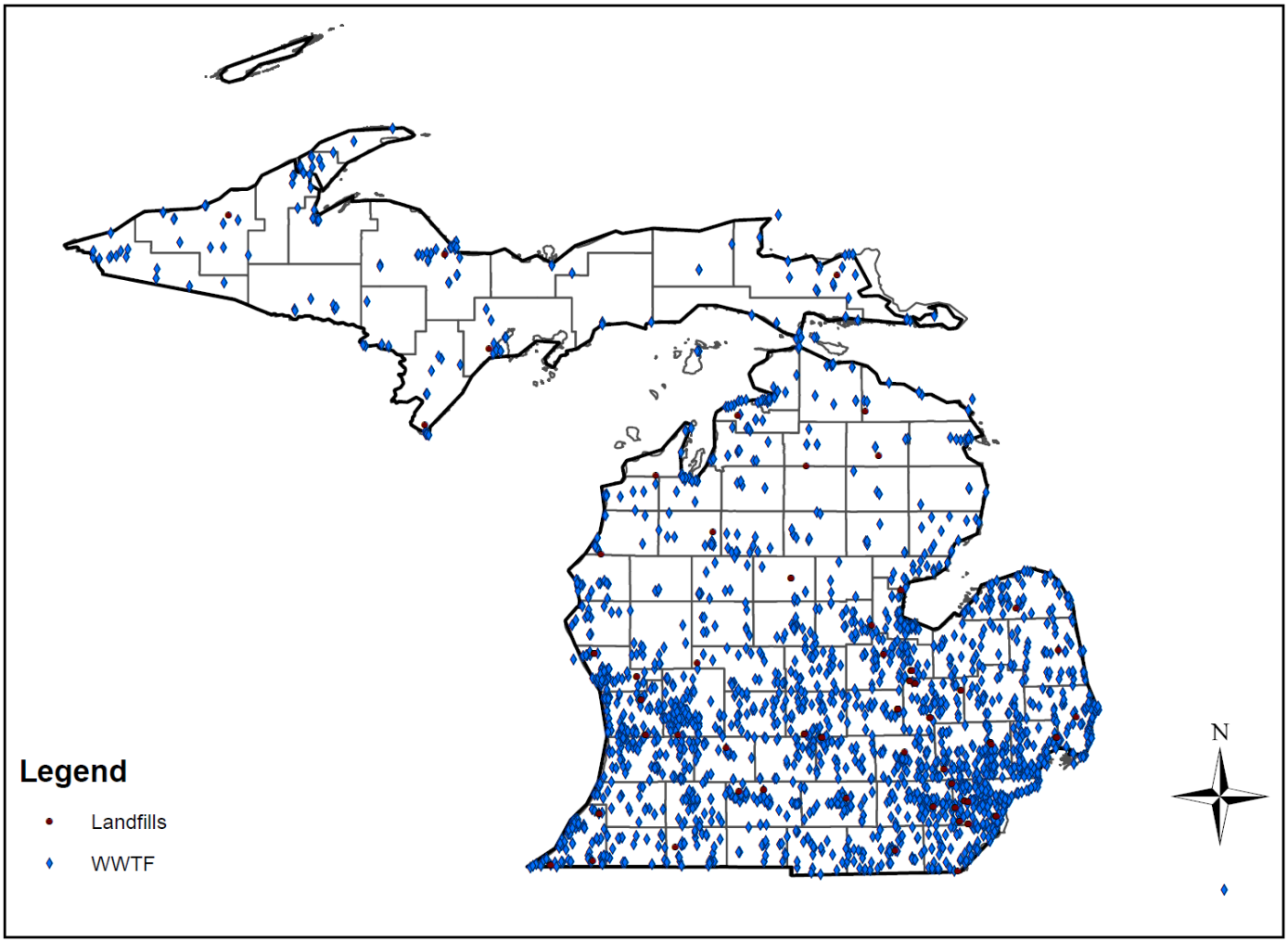

Figure 4: Michigan WTTFs and Landfills

[11] *Id.*

Surface water and groundwater resources are closely connected, and streams and rivers generally act as points of groundwater discharge. Therefore, localized contamination of either these resources can compromise drinking water on a much broader scale. Coupled with PFAS' extreme resistance to degradation and mobility—conditions which enable these chemicals' dispersion in aquatic systems—it is likely that the State will find more contaminated drinking water resources than UCMR3 and site-specific sampling have revealed, and potentially at levels that would trigger expensive responsive measures for public water suppliers under the soon-to-be promulgated MCLs.

Investigations to date have demonstrated PFAS' virtual ubiquity in the State's natural environment. Removing these chemicals from the State's natural resources will be an expensive endeavor that should be funded by those responsible for PFAS pollution.

We turn now to our proposal for putting the costs of investigating and remediating that pollution where they belong: on the culpable parties.

2. Overview of Approach

We recommend pursuing common law trespass and nuisance claims, and potentially statutory claims under the Michigan Product Liability Act ("MPLA") for defective design and failure to warn, as well as claims under the Michigan Environmental Protection Act ("MEPA"). Subject to further investigation and discussions with the Attorney General's office, we recommend a dual-pronged approach comprising two separate cases:

- First, a landscape-based prosecution against 3M, DuPont, and Solvay Solexis, the manufacturers of PFOS, PFOA, PFNA, and other PFAS for industrial and consumer products. This case will be pleaded on a landscape basis, as opposed to against "direct spillers." This is the most effective way to tackle the state-wide PFAS contamination presently known and yet to be identified, and not be forced into redundant multiple site-by-site litigations.

- Second, an action targeting AFFF-related contamination similarly pleaded as a state-wide matter against the AFFF manufacturers. Because AFFF cases are subject to transfer to the AFFF Multi-District Litigation pending in the South Carolina District Court, we would carve AFFF contamination out of the main landscape case to keep the bulk of the State's claims in Michigan state court.

We have litigated similar state law claims successfully on behalf of numerous public water suppliers in cases involving many different contaminants. Although the elements of each claim are different, all of the legal theories rest on the themes that defendants, large chemical companies with extensive knowledge and research capabilities, knew or should have known that their products were toxic, would inevitably contaminate the State's natural resources, and would cause the State to incur major expenses removing PFAS.

We recommend emphasizing the recovery of ***damages*** (i.e., the costs of investigating, monitoring, and removing PFAS contamination), rather than *injunctive relief* (i.e., a court or

administrative order to abate and clean up the contamination). This approach maximizes the State's financial recovery, while also ensuring that the State retains control over how to spend the money recovered in the litigation. Any injunctive relief obtained under our recommended approach would be carefully focused to increase the State's leverage in recovering costs and maximize the State's control over expenditure of funds.

i. Identifying Culpable Parties: PFAS Producers and PFAS Product Manufacturers

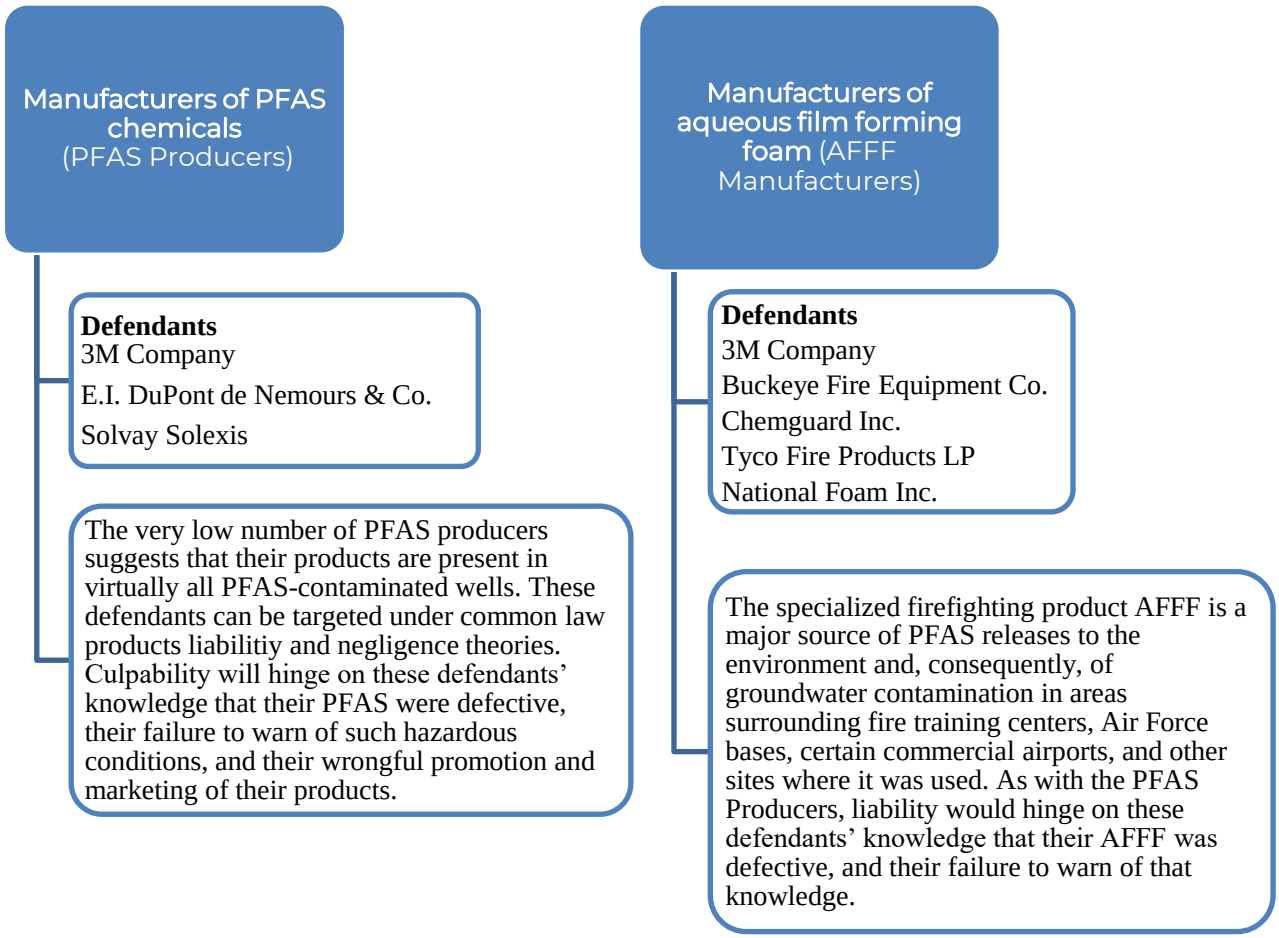

Figure 5: PFAS Manufacturer and AFFF Manufacturer Liability

As explained in Figure 7 and discussed below, PFOS and PFOA for use in downstream industrial processes and consumer products were manufactured in this country virtually exclusively by the 3M Company ("3M") and DuPont. AFFF manufacturers compose a second class of potentially responsible parties. As discussed here and below, we recommend a separate lawsuit with respect to AFFF sites, which have contributed to the State's contamination.

Below, Figures 6 and 7 illustrate the typical pathways certain of 3M, DuPont, and the AFFF

manufacturers' PFOA and PFOS[12] products from manufacture through industrial and consumer use and eventually to environmental release.

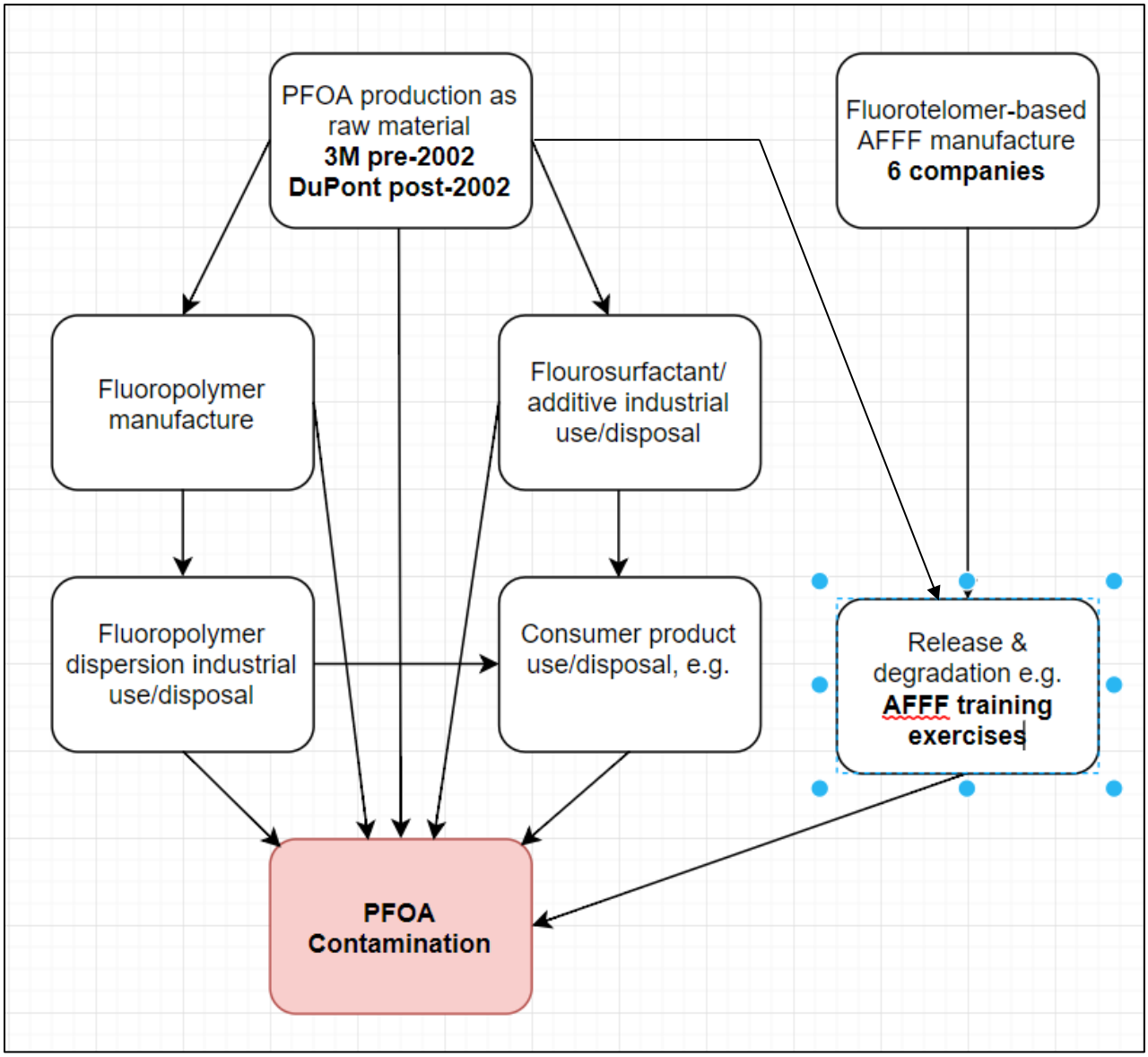

Figure 6: PFOA – Manufacture to Release

[12] Note that PFOS releases are a function of the manufacture and use of *POSF*-based products, with "POSF" being the precursor compound to the subject contaminant, PFOS. 3M controlled virtually the entire market for POSF-based products.

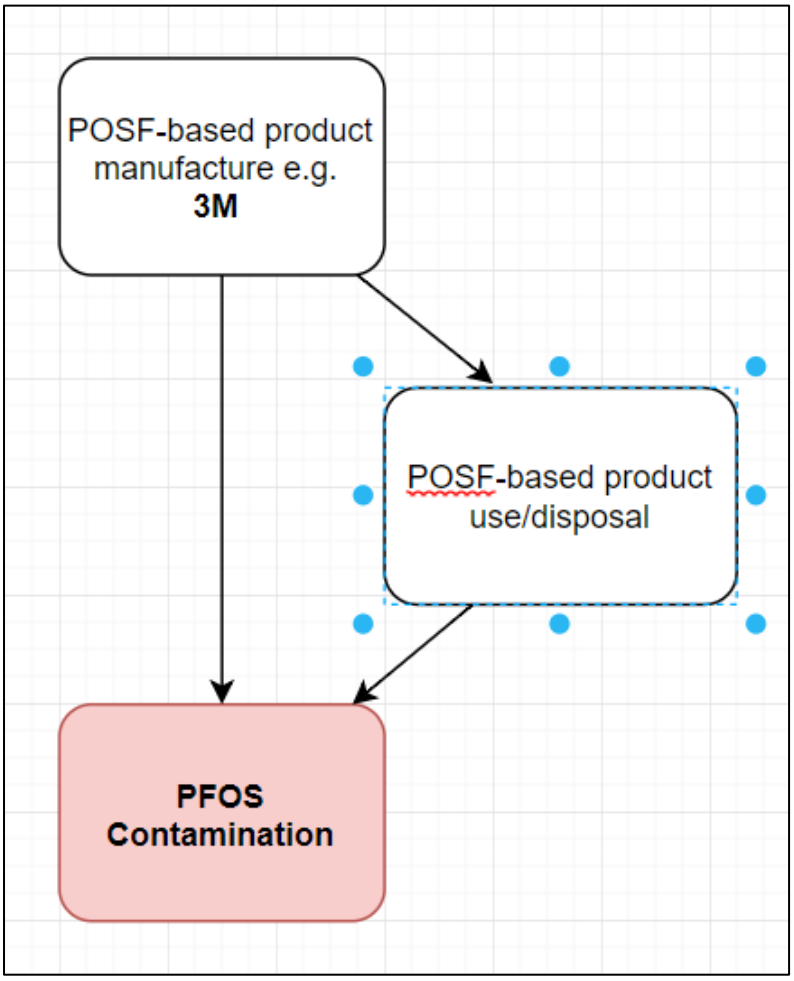

Figure 7: PFOS – Manufacture to Release

ii. The 3M Company

From the time it first developed PFOA and PFOS in the 1940s, 3M was the sole U.S. manufacturer and supplier of PFOA and PFOS until it phased out production between 2000 and 2002, following pressure from the EPA. As such, most PFOS and PFOA released in Michigan and nationwide from the 1940s until 2002 likely is traceable to 3M's Minnesota plant.

Our investigation and current litigation have revealed that 3M carefully studied the effects of PFAS exposure among their employees beginning in the early 1960s. Behind closed doors, 3M discovered that PFOS and PFOA are stable and persist in the environment and do not degrade; that they accumulate in the human body; and that they were related to significant health problems. 3M failed to disclose that information to its customers, the government, or the public. Recognizing as early as the 1970s that PFAS were even "more toxic than was previously believed," 3M undertook an extensive campaign to "command the science" by distorting and suppressing scientific research into the potential harms associated with its PFAS.

iii. E.I DuPont de Nemours & Co.

After 3M discontinued PFOA production in 2002, DuPont started producing PFOA at its plant in Fayetteville, North Carolina. DuPont used PFOA as a solvent during the manufacture of Teflon and other products. Although virtually all PFOA is burned off during the process of manufacturing solid Teflon, a class of Teflon products called "fluoropolymer dispersions" can contain residual PFOA at parts per *thousand* concentrations. Downstream industrial users of these dispersion products are likely sources of significant environmental releases of PFOA and other PFAS via their waste streams, both directly to the environment and from landfill leachate.

As with 3M, documents uncovered in previous PFAS lawsuits reveal the depths of DuPont's corporate malfeasance and disregard for human health in their use, marketing, and disposal of PFAS. DuPont employees complained to management as far back as the 1960s of injuries due to PFOA, including suspected birth defects that prompted DuPont management to remove pregnant women from the PFOA manufacturing lines. Indeed, DuPont's Toxicology Section Chief around that time opined that such products "handled with extreme care," and that contact with the skin should be "strictly avoided." By the 1980s, DuPont was well-versed on PFAS' toxicity and knew that PFOA was accumulating in Americans' blood. Despite that knowledge, it determined that it should proceed with business as usual, and even embarked on a campaign to suppress and sanitize scientific research into the health effects of PFOA.

iv. AFFF Manufacturers

Another source of PFAS in the environment is AFFF, a specialized firefighting agent used to extinguish Class B fires, which are fueled by flammable liquid and particularly difficult to fight with water alone. AFFF was used in routine drills at hundreds of airports and military bases across the country, where it was sprayed directly on the ground and able to migrate to groundwater. There are already dozens of lawsuits targeting the manufacturers of AFFF, which have been consolidated into the multi-district litigation being heard in federal district court in South Carolina.

As in the production of PFOA and PFOS themselves, 3M is also the leading historical manufacturer of AFFF. After 3M stopped manufacturing PFAS, AFFF continued to be produced by other companies. Based on our investigation and current litigation, the additional companies include: **Chemguard Inc.**, **Buckeye Fire Equipment Company**; **National Foam, Inc.**, and **Tyco Fire Products L.P. (**the parent corporation to the **Ansul Company**). From our perspective, it is preferable to assign liability for AFFF contamination to the manufacturers, rather than the direct spillers, given that most spillers were local fire departments or other state or federal entities.

With respect to AFFF products, our investigation has revealed that the AFFF manufacturers' customers (1) did not know of the presence of or harms of PFAS in AFFF; (2) used AFFF as instructed; (3) sprayed AFFF foam directly on the ground during fire training exercises; and (4) unknowingly contaminated groundwater across the country, including in Michigan.

With these general principles in mind, we turn to our analysis of proving causation and the State's potential legal claims.

3. Proving Causation on a Landscape Basis

A key issue—if not *the* key issue—in litigating the State's case efficiently and successfully will be linking the defendants to the State's injury, that is, proving *whose* PFAS and related compounds have contaminated the State's natural resources. Our burden will be to prove that it is more likely than not that each defendant has substantially contributed to the contamination in each of the affected resources. *See, e.g.*, *In re Methyl Tertiary Butyl Ether (MTBE) Prods. Liab. Litig.*, 725 F.3d 65, 116 (2d Cir. 2013) ("*NY MTBE*") (MTBE contamination in New York City public drinking water wells); *State of New Hampshire v. Exxon Mobil Corp.*, 126 A.3d 266, 297–98 (N.H. 2015) (plaintiffs showed "but-for" causation of state-wide groundwater contamination; liability allocated via market share) ("*NH MTBE*"). "Substantial" does not mean sole or even major cause; rather, it means "the act or omission 'had such an effect in producing the injury that reasonable people would regard it as a cause of the injury.'" *NY MTBE*, 725 F.3d at 116.

The traditional manner of asserting and proving liability in contamination cases is to identify particular release sites near individual impacted sites, and then link the releasor as a responsible party via contaminant fate and transport principles to the contamination present in the well or soil. Where there are multiple potentially responsible parties present and a commingled plume, the judicial resolution usually leads to an allocation of responsibility among them. This is the approach embodied in the federal Superfund law.

The are many potential sources of PFAS in Michigan's environment. *See, e.g.*, Figures 2–4, *supra*. Barring the presence of known contamination plumes with robust administrative or regulatory clean-up records, identifying all potential sources and allocating relative contribution would be extremely difficult and costly, if it could be done at all. Similarly, the persistence and mobility of PFAS in the environment make identification of individual site contributions difficult, time consuming, and expensive. In addition to sites where PFAS were manufactured or used as an industrial processing aid, other documented environmental release sites include wastewater treatment plants, landfills, textile manufacturing, carpet treating, electroplating operations, paper mills, packaging facilities, individual fire incidents, coating formulators/applicators and others. These widespread smaller point sources are likely to become commingled in stormwater, in the sewer collection/treatment system, or within groundwater. Because of the complex nature of fluid flow and contaminant transport through fractured media, determination of contaminant sources is exceedingly difficult.

Because of the State's indivisible injury and the likely commingled nature of PFAS in the groundwater, landscape-based theories of causation provide a significantly more efficient means to establish liability as to the relatively small number of culpable parties. This strategy was applied to great success in the New Hampshire MTBE litigation, as well as the City of New York MTBE litigation, and multiple court decisions uphold the use of aggregate proof of injury and damages in cases like this.[13]

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[13] *See State v. Hess Corp.*, 20 A.3d 212, 221 (N.H. 2011) (allowing claim by State of New Hampshire for costs of "investigating, monitoring, treating, remediating, replacing, or otherwise restoring" private domestic wells affected by MTBE contamination); *State v. Exxon Mobil Corp.*, 126 A.3d 266, 307–08 (N.H. 2015) (affirming verdict of "more

Given the relatively small number of manufacturer defendants, their far greater knowledge of the likely consequences of the normal use and disposal of their products, and their greater ability to pay a substantial judgment in the State's favor all support focusing the litigation on them.

Consistent with Michigan's tort reform statutes, which effectively abrogated joint and several liability and made it exceedingly difficult, if not impossible to obtain a judgment against a particular defendant absent a direct causal link between their tortious conduct and the State's injury,[14] we propose here establishing direct causation between the defendants identified above and PFAS contamination in the state.

First, it may be possible to directly attribute particular PFAS to the specific manufacturers, to the extent the released PFAS are known to be industrial or consumer products (and not AFFF). 3M was the sole manufacturer of these chemicals to employ a process known as electrochemical fluorination (ECF) in their production. ECF results in a unique chemical signature on the structure of the PFAS molecules, namely that the isomers are both branched and linear. All other manufacturers used a process called telomerization to manufacture their PFAS, which resulted in isomerically pure, linear products. Using ratio analysis, it may be possible to determine what quantity of a commingled plume of straight and branched isomers are attributable to 3M and DuPont, respectively.[15]

Differentiating between other potential defendants will involve purchase records and potentially market share analysis obtained during discovery. To the extent proving a direct connection between a particular PFAS producer or AFFF manufacturer and a particular affected natural resource is unduly burdensome, another theory of direct causation is available.

In the City of New York's MTBE litigation—in which Vic Sher served as lead trial counsel—we used the evidence of Exxon's market share as strong circumstantial evidence that Exxon's MTBE was in *every plume*. That is, we used market share evidence to support direct causation.[16] *NY MTBE*, 725 F.3d at 115–17. The circumstances in that case that made this approach

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than $300 million in damages for the costs of testing private wells for possible MTBE contamination, [and] $150 million to treat whatever contamination is found in the wells in the future" because "[t]he State is entitled to be fully compensated for the harm resulting from ExxonMobil's legal fault"); *See In re Pharm. Industry Average Wholesale Price Litig.*, 582 F.3d 156, 197-198 (1st Cir. 2009) ("[t]he use of aggregate damages calculations is well established"); *In re Mid-Atlantic Toyota Antitrust Litig*., 525 F. Supp. 1265, 1284-85 (D. Md. 1981) (holding in *parens patriae* actions that aggregate "methods of proof are commonly accepted and constitutionally sound").

[14] *See* MCL §§ 600.2956, 600.6304(1); see also *Napier v. Osmose, Inc.*, 399 F. Supp. 2d 811, 814 (W.D. Mich. 2005) (discussing viability of alternative liability and concert of action theories after Michigan tort reform).

[15] *See, e.g*., JP Benskin, Isomer Profiling of Perfluorinated Substances as a Tool for Source Tracking: A Review of Early Findings and Future Applications, Review of Environmental Contamination and Toxicology 208:111-60 (2010), available at https://www.ncbi.nlm.nih.gov/pubmed/20811863. This is true to the extent that other telomer-based PFAS product manufacturers are ruled out as potential sources, such as by ruling out AFFF as a contributing source.

[16] This approach is distinct from the market share theory of liability, in which evidence of market share stands in for evidence of direct causation. Michigan has never adopted market share liability, and its viability in the State is questionable in view of Michigan statute requiring apportionment of liability against defendants. *See Napier v. Osmose, Inc.*, 399 F. Supp. 2d 811, 814 (W.D. Mich. 2005).

appropriate included (1) MTBE, like most PFAS, is fungible (that is, a PFAS compound manufactured by Tyco is indistinguishable in the groundwater from PFAS manufactured by National Foam); (2) we proved that MTBE gasoline was commingled such that—on average—every plume contained MTBE roughly in the proportions of each refiner's market share. In sum, we used market share data as "proof that sufficient quantities of Exxon gasoline were delivered to gas stations in the vicinity of [the City's wells] to make it more likely than not that Exxon gasoline played a substantial role in bringing about the City's injury." *Id*. at 116.

Here we would seek to prove that, on average across the landscape, it is more likely than not that every plume contains, for example, a substantial share of 3M-related PFAS. We would base this on 3M's market dominance, which—in combination—makes it more likely than not that 3M-linked PFAS are present throughout the landscape in substantial amounts.

B. Applicable Legal Theories

We would likely assert claims under common law torts of trespass and nuisance, and supplement those claims with statutory causes of action. As noted in the background materials about our firms, we have litigated similar claims successfully on behalf of numerous public water suppliers in cases involving many different contaminants.

1. Common Law Claims

i. Trespass

Recovery for trespass to land in Michigan is available "upon proof of an unauthorized direct or immediate intrusion of a physical, tangible object onto land over which the plaintiff has a right of exclusive possession." *Adams v. Cleveland-Cliffs Iron Co.*, 237 Mich. App. 51, 67 (Mich. Ct. App. 1999) (determining that homeowners' complaints of dust, noise, and vibrations from nearby mine did not support a trespass action). The actor must "intend" to intrude on another's property. *See Cloverleaf Car Co.*, 213 Mich. App. at 195 (affirming trial court's dismissal of plaintiff's trespass claim because plaintiff failed to plead that the defendant petroleum company intended to intrude upon plaintiff's property). Additionally, a "direct or immediate" intrusion in the context of a trespass "is accomplished by any means that the offender knew or reasonably should have known would result in the physical invasion of the plaintiff's land." *Adams*, 237 Mich. App. at 71. Once an intrusion is proved, the tort of trespass is established, and the plaintiff is entitled at least to nominal damages. *Id*. Moreover, a plaintiff may recover other, actual damages proved. *Id*. at 67.

There are no reported trespass decisions in Michigan where the defendant is a manufacturer of a dangerous product used by a third party leading to the trespass. This theory has been recognized in other states in the context of groundwater contamination linked to the conduct of a manufacturer.[17] It is an unsettled question in Michigan as to whether the conduct of a manufacturer

[17] *See e.g. MTBE,* 725 F.3d 65, 119 (2d Cir. 2013) (manufacturer of MTBE-containing gasoline liable for trespass under New York law for contamination of city's groundwater wells because it was substantially certain that company's

—such as 3M and DuPont's manufacture, sale, and distribution of PFAS and AFFF with inadequate safety warnings—meets the trespass requirements of "intentional" conduct and "direct invasion"[18] Since we expect discovery will allow us to establish that the defendants knew of the risks of use of these compounds and did not adequately warn of their dangers, then it is likely these requirements can be met.

Michigan cases involving private landowners, not the State, show that private landowners cannot base a trespass claim solely on groundwater contamination because such landowners do not have ownership of exclusive possession of the groundwater. *See e.g., Postma v. Cty. of Ottawa*, No. 243602, 2004 WL 1949317, at *9 (Mich. Ct. App. Sept. 2, 2004) (stating (in *dicta*) that contaminants in groundwater constituted intangible objects that would not support an action in trespass; "even if plaintiff could prove the groundwater under his property is contaminated and that groundwater contaminants equate to physical, tangible objects" a claim of trespass would be without merit because "one does not have ownership or exclusive possession over water beneath one's property"); *see also Abnet v. Coca-Cola Co.*, 786 F. Supp. 2d 1341 (W.D. Mich. 2011) (noting that "one does not have ownership or exclusive possession over water beneath one's property, and citing Mich. Comp. Laws § 324.4101(z) for the notion that the statute "defin[es] groundwater as 'waters of the state'").

However, the State stands in very different shoes than private landowners when it comes to the natural resources of groundwater and drinking water. For example, in *Kelley for and on Behalf of the People of the State of Mich. v. United States*, the court recognized that part of a state's quasi-sovereign interest under the doctrine of *parens patriae* is its interest in the "health and well-being—both physical and economic—of its residents in general." 618 F. Supp. 1103, 1109 (W.D. Mich. 1989) (citing *Alfred L. Snapp & Son.*, 458 U.S. 592, 607 (1982)). Although the court ultimately found that the Michigan Attorney General could not represent private parties such as a Township and the Township's residents and businesses against the federal government based on the Coast Guard's release of contaminants into groundwater, it underscored that the State "may of course proceed on behalf of its people of the State of Michigan and recover its response costs, etc." *Id*.

Further, under Michigan's Natural Resources and Environmental Protection Act ("NREPA"), Mich. Comp. Laws § 324.3101(aa), certain sources of water, including groundwater, fall within the State's authority. *See* Mich. Comp. Laws § 324.3101 (aa) ("'Waters of the state' means groundwaters, lakes, rivers, and streams and all other watercourses and waters, including the Great Lakes, within the jurisdiction of this state.").[19] Under the NREPA, Mich. Comp. Laws §

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gas would leak and enter the groundwater); *MTBE*, 379 F. Supp. 2d 348, 389-90 (S.D.N.Y. 2005) (finding under Florida law, a public water utility could pursue a trespass claim against producers of gasoline containing MTBE for groundwater contamination); *Id*. at 400-401 (finding under Iowa law that municipal water authority could proceed under a trespass claim against producers of gasoline containing MTBE for groundwater contamination).

[18] *See Cloverleaf Car Co.*, 213 Mich. App. at 195 (actor must intend to intrude on the property of another); *Adams*, 237 Mich. App. at 71 (relying on the Restatement (Second) Torts § 158 to state that "[i]t is enough that an act is done with knowledge that it will to a substantial certainty result in the entry of the foreign matter").

[19] Prior to enactment of P.A. 1949, No. 117, the words "waters of the state" designated lakes, rivers and streams upon the surface of the earth, not subterranean percolating or other underground waters. Op. Atty. Gen. 1949-50, No. 821, p. 7.

324.3109(1), the direct or indirect discharge of any substance into the waters of the State is prohibited when it is or may become injurious to: (a) "the public health, safety, or welfare"; (b) "domestic, commercial, industrial, agricultural, recreational, or other uses that are being made or may be made of such waters"; (c) "the value or utility of riparian lands"; (d) "livestock, wild animals, birds, fish, aquatic life, or plants or to their growth, or propagation"; and (e) "the value of fish and game." Mich. Comp. Laws § 324.3109(1). And under the Michigan Safe Drinking Water Act, the intent of the legislature in creating the Act was to ensure that "the state may assure long-term health of its public water supplies and other vital natural resources." Mich. Comp. Laws § 325.1001a.

Thus, it is clear that the State has a superior possessory interest in natural resources including groundwater and drinking water than do private landowners, particularly where there is a claim of the trespass contaminating water and threatening the public health and safety. Not only does the state have a superior possessory interest in groundwater compared to a private landowner, but the State is the *only* suitable plaintiff to bring claims to recover for damages to contaminated groundwater, and to bring claims to protect this resource. *See* Mich. Comp. Laws §§ 324.3101(aa); 325.1001a

ii. Nuisance

A public nuisance involves the unreasonable interference with a right common to all members of the general public. *See Adkins v. Thomas Solvent Co.*, 440 Mich. 293, 304 n. 8 (Mich. 1992). "Unreasonable interference" relates to conduct that "(1) significantly interferes with the public's health, safety, peace, comfort, or convenience; (2) is proscribed by law; or (3) is known or should have been known by the actor to be of a continuing nature that produces a permanent or long-lasting significant effect on these rights." *State v. McQueen*, 293 Mich. App. 644, 674 (Mich. Ct. App. 2011) (reversing in favor of the State, holding that the "public is presumed harmed" when a "violation of a statute enacted to preserve public health, safety and welfare" occurs).[20]

Moreover, a defendant is liable for a public nuisance when "(1) the defendant created the nuisance, (2) the defendant owned or controlled the land from which the nuisance arose, or (3) the defendant employed another person to do work from which the defendant knew a nuisance would likely arise." *Cloverleaf Car Co. v. Phillips Petroleum Co.*, 213 Mich. App. 186 (Mich. Ct. App. 1995) (concluding no evidence linking the defendant to the leak existed despite determining that leak interfered with public's health due to spread of gasoline from defendant's tank system into the ground water).

Under the Restatement and the general view of public nuisance, states have recognized that manufacturers may be held liable for end-uses of their products, regardless of the manufacturer's control over the instrumentality at the time of injury. For example, in the City of New York's MTBE litigation, the jury found – and the Second Circuit affirmed (applying New York law) –

[20] The Michigan Safe Drinking Water Act makes it unlawful for any persons "directly or indirectly" to "discharge into the waters of the state any substance which is or may become injurious to the public health, safety or welfare." Mich. Comp. Laws § 325.1001 *et seq.* Accordingly, under Michigan's common law public nuisance, a violation of this statute would give rise to an "unreasonable interference."

that Exxon's promotion and marketing of gasoline containing MTBE, coupled with its failure to warn of MTBE's pernicious and toxic threat to drinking water, constituted participation in creating a public nuisance. *In re Methyl Tertiary Butyl Ether (MTBE) Prods. Liab. Litig.*, 725 F.3d 65, 121 *et seq.* (2d Cir. 2013) ("*NY MTBE*). Other states such as California and Wisconsin have also recognized that the doctrine of public nuisance can be applied to the tortious conduct of manufacturing and selling a dangerous product and not properly instructing its users on safe use. *See e.g., People v. Conagra Grocery Prods. Co.*, 17 Cal. App. 5th 51 (Cal. App. 2017) (finding lead paint manufacturers liable under public nuisance); *City of Milwaukee v. NL Indus., Inc.*, 278 Wis. 2d 313 (Wis. App. Ct. 2004) (reversing trial court's dismissal of City's public nuisance claim because a genuine dispute of fact existed as to whether conduct of lead paint manufacturers in promoting the use of lead paint and their sales were substantial factors causing the nuisance).

However, the Michigan Court of Appeals has on three occasions, all in the 1990s, found that manufacturers of hazardous products (asbestos, PFBs, industrial solvents) cannot be held liable in public nuisance because they lack control over the instrumentality of the nuisance and they consequently cannot abate this nuisance.[21] The same courts have noted that such a claim sounds in products liability and breach of warranty, not nuisance. *Id*. One of these courts left open the possibility that the public nuisance doctrine could be applied to the conduct of a manufacturer of a product, *Detroit Bd. of Educ.*, 196 Mich. App. at 712, but did not suggest any particular fact pattern that would allow public nuisance to apply to a manufacturer. *Id*. The Michigan Supreme Court has not addressed the question of whether the public nuisance doctrine can be applied to manufacturers of products. It is likely that a public nuisance claim against DuPont, and 3M for the manufacture, sale, and distribution with inadequate safety warning of PFAS and AFFF would not be allowed by lower courts in Michigan, and one would need to take the issue to the Supreme Court to argue for a more liberal and updated application of the doctrine, as that which exists in New York, California, and other states such as Wisconsin.[22] Alternatively, full relief may be available under the Michigan Products Liability Act. Our tentative recommendation would be not to allege public nuisance because its application against manufacturers is not presently recognized, and full relief against PFAS and AFFF manufacturers is available under other claims

[21] *See e.g., McCroy ex rel. Jones v. Ford Motor Co.*, 1996 WL 33323948, at *1 (Mich. Ct. App. 1996) (affirming denial of nuisance claim because court found that Ford and GE – the manufacturers of transformers leaking PCB – gave up ownership to a third party which controlled the nuisance site); *Gelman Sciences, Inc. v. Dow Chem. Co.*, 202 Mich. App. 250, 252 (Mich. 1993) (reversing and holding that buyer could not recover from sellers of industrial solvent on a nuisance theory absent evidence that sellers controlled nuisance at the time of injury); *Detroit Bd. of Educ. v. Celotex Corp.*, 196 Mich. App. 694, 710 (Mich. Ct. App. 1992) (reasoning that defendants did not have control over their asbestos-containing product at the time of injury, and thus, could not abate the hazards that their product might pose).

[22] *See e.g., NY MTBE*, 725 F.3d at 121 *et seq.*; *Conagra Grocery Prods. Co.*, 17 Cal. App. 5th at 51; *City of Milwaukee v. NL Indus., Inc.*, 278 Wis. 2d at 313.

2. Statutory Claims

i. Michigan Product Liability Act ("MPLA")

In 1995, the Michigan legislature passed tort reform legislation, taking effect in 1996 and overhauling Michigan's tort system with respect to product liability and negligence claims. In addition to abolishing joint and several liability, product liability claims in Michigan are now founded on statute, under the Michigan Product Liability Act. *See* Mich. Comp. Laws § 600.2946a, *et seq*. To establish a prima facie case of product liability under Michigan law, a plaintiff must show that the defendant "supplied a product that was defective and that the defect caused the injury," either through design defect failure to warn, or misrepresentation or fraud. *Avendt v. Covidien Inc.*, 262 F. Supp. 3d 493, 518 (E.D. Mich. 2017) (quoting *Auto Club Ins. Ass'n v. Gen. Motors Corp.*, 217 Mich. App. 594, 604 (1996)). *Id*.[23]

Based on a preliminary review of the cases, there does not appear to be any environmental contamination cases brought under the MPLA, whose legislative history indicates that it was primarily enacted to address medical and pharmaceutical-related claims. We recommend further investigation regarding whether to proceed on the bases of negligent design, failure to warn, and misrepresentation or fraud.[24]

ii. Negligent Design

Michigan's Products Liability Act codifies negligent design defect and failure to warn claims similar to those recognized in the precedent setting groundwater contamination MTBE litigation.[25] In Michigan, under a theory of negligent design—also referred to as a "risk-utility" analysis—a manufacturer has a duty to design its product to eliminate any "unreasonable risk of foreseeable injury." *Prentis v. Yale Mfg. Co.*, 421 Mich. 670, 693 (Mich. 1984) (adopting a "pure negligence, risk-utility test in products liability actions against manufacturers of products, where liability is predicated upon defective design"); *Kaminski v. Libman Co.*, 748 F. App'x 1, 4 (6th Cir. 2018) (noting that the Supreme Court's framework in *Prentis* was eventually codified in Mich. Comp. Laws § 600.2946(2)). The risk-utility test asks the trier of fact to consider alternatives and risks faced by the manufacturer, and in the face of these whether the manufacturer exercised

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[23] Michigan does not recognize strict liability. *See Prentis v. Yale Mfg. Co.*, 421 Mich. at 682 n.9; *Phillips v. J.L. Hudson Co.*, 79 Mich. App. 425, 427 (Mich. Ct. App. 1977) ("Michigan does not recognize 'strict liability' as a theory of recovery.").

[24] Because implied warranty often requires the same elements and proofs as negligent design, "in design defect cases against a manufacturer, only a negligence cause of action is cognizable." *Fleck v. Titan Tire Corp.*, 177 F. Supp. 2d 605, 613 (E.D. Mich. 2001); *Prentis*, 421 Mich. at 693.

[25] *See e.g., In re Methy Tertiary Butyl Ether ("MTBE") Prod. Liab. Litig.*, 725 F.3d 65 (2d Cir. 2013) (applying New York law and affirming trial court's jury instruction on design-defect claim); *MTBE*, No. 08 CIV. 312 SAS, 2014 WL 840955, at *3 (S.D.N.Y. Mar. 3, 2014) (finding that states and municipalities whose drinking water was contaminated by MTBE stated negligence claims against gasoline refiners for failing to warn of those risks associated with the use of MTBE in gasoline); *see also MTBE*, 175 F. Supp. 2d 593, 623–27 (S.D.N.Y. 2001) (opinion on motion to dismiss, applying California law).

reasonable care in making its design choices. Mich. Comp. Laws § 600.2946(2); *see also Croskey*, 532 F.3d at 516 (quoting *Hollister v. Dayton Hudson Corp.*, 201 F.3d 731, 738 (6th Cir. 2000)).

In practice, liability most frequently turns on the availability of a "reasonable alternative design" and whether the alternative would have reduced the risk of foreseeable harm.[26] A plaintiff's showing of a proposed alternative design requires that the plaintiff provide "compelling, empirical evidence of an alternative design" objectively showing utility and feasibility.[27] For example, a plaintiff cannot simply present evidence showing that a safer design could have been used without presenting evidence that such an alternative design exists. *See e.g.*, *Peck v. Bridgeport Machines, Inc.*, 237 F.3d 614, 618 (6th Cir. 2001) (plaintiff's expert insufficiently testified that he would have designed the lathe differently, but that he had never fabricated such a design and had never seen the design proposed anywhere).

Here, Michigan would be able to show that manufacturers of AFFF and PFAS-containing products knew (and have known for some time) the dangerous characteristics of PFAS chemicals and marketed those products anyway, satisfying the first two elements. As to elements three through six, the State will be able to argue that the human health risks of PFAS outweigh their utility. While a challenge, the State may also be able to present evidence of feasible design alternatives that would have avoided or minimized reliance on PFAS. For example, the existence of the telomerization process that the non-3M companies eventually used obviated the need to include PFOS in AFFF; additionally, manufacturers currently produce AFFF with "shorter chain" PFAS that do not accumulate for as long in the human body and may have reduced toxicological effects. Ultimately, the success of this claim will turn on well-conceived and executed expert testimony, especially in light of the timing of availability of alternative designs.

iii. Failure to Warn

Under a failure to warn theory, a plaintiff can show that a product was made defective by a manufacturer's failure to warn about the dangers of the products intended uses, *as well as*, foreseeable misuses—*i.e.*, the product may be defective even if the design does not make the product defective. *Avendt*, 262 F. Supp. 3d at 519-20; *Gregory v. Cincinnati Inc.*, 450 Mich. 1, 11 (1995). A plaintiff can establish a prima facie case of negligent failure to warn by showing "(1) the defendant owed the plaintiff a duty to warn of the danger, (2) the defendant breached that duty, (3) the defendant's breach was the proximate and actual cause of the plaintiff's injury, and (4) the plaintiff suffered damages as a result." *Tasca v. GTE Prods. Corp.*, 175 Mich. App. 617, 622

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[26] *See e.g.*, *Hollister*, 201 F.3d at 738-39 (holding plaintiff failed to establish a prima facie case of design defect because plaintiff did not present a "proposed alternative design" with any specificity, and instead, recommended that the weight of the fabric of her shirt which ignited upon contact with a hot stove burner should have been heavier); *Johnson v. Jenkins*, 2017 WL 4699753, at *4-5 (Mich. Ct. App. Oct. 19, 2017) (plaintiff's evidence of a printout about an alternative item designed to prevent a shooter's fore-grip fingers or thumb from migrating above the flight deck while shooting a crossbow was not supported with evidence or expert testimony that such a design would have actually prevented injury or was feasible at the time of production).

[27] *See Fisher v. Kawaski Heavy Indus., Ltd.*, 854 F. Supp. 467, 471 (E.D. Mich. 1994) (granting defendant's motion for summary judgment on plaintiff's design defect claim because alternative designs for a fuel system in products liability suit against manufacturer for burn injuries sustained when gasoline leaked from fuel system were not shown to be feasible).

(Mich. Ct. App. 1988); *Avendt*, 262 F. Supp. 3d at 520. Whether a manufacturer has a duty to warn is to be decided by the court. *See Mitchell v. City of Warren*, 803 F.3d 223, 230–31 (finding no duty to warn as a matter of law, nothing that a jury cannot speculate that a manufacturer should have known about one risk because a separately known risk revealed the possibility of the first).

Here, Michigan will be able to show that manufacturers of AFFF and PFAS-containing products knew long ago the dangerous characteristics of those products and failed to warn about their attendant environmental and human health risks. *See, e.g.*, *Mitchell*, 803 F.3d at 229 (under Mich. Comp. Laws § 600.2948(3), before a manufacturer's duty arises, a plaintiff must first show that the manufacturer knew or should have known its product posed the "*particular* risk at issue in the case"); *Gregory*, 450 Mich. at 11 (even if manufacturer is not aware of the defect until after the manufacture or sale of the product, it still has a duty to warn upon learning of the defect); *id*. (a manufacturer's duty to warn extends to warning about dangers associated with the intended uses of the product, as well as foreseeable missuses); *but see Greene v. A.P. Prods., Ltd.*, 475 Mich. 502, 508 (Mich. 2006); Mich. Comp. Laws § 600.2948(2) (no duty to warn of (1) obvious risks or (2) risks that should be a matter of common knowledge); *Mitchell*, 803 F.3d at 226–27 ("A company does not have a duty to warn of *all* theoretically possible dangers.").

One potential obstacle that the State is likely encounter on a failure to warn claim is the sophisticated user doctrine. Under this doctrine, a manufacturer is not liable in a products liability action "for failure to provide adequate warning if the product is provided for use by a sophisticated user." Mich. Comp. Laws § 600.2947(4). Under the Products Liability Act, a "sophisticated user" is "a person or entity that, by virtue of training, experience, a profession, or legal obligations, is or is generally expected to be knowledgeable about a product's properties, including a potential hazard or adverse effect. An employee who does not have actual knowledge of the product's potential hazard or adverse effect that caused the injury is not a sophisticated user." Mich. Comp. Laws § 600.2945(j). For example, in *Bearup v. General Motors Corp.*, the owner of a metal fabricating plant was a "sophisticated user" barring former plant employee's product liability and failure to warn claims against the manufacturer of chemicals used at the plant. No. 272654, 2009 WL 249456, at *11 (Mich. Ct. App. Feb. 3, 2009). The court found that the plant owner operated the largest stamping and metal forming operations in the continent and was the largest automotive manufacturer in the world, but that it had also been involved in numerous studies involving the health effects of exposure to chemicals at manufacturing plants. *Id*.

Further, under the actual knowledge exception, the sophisticated user doctrine is inapplicable "if the court determines that at the time of manufacture or distribution the defendant had actual knowledge that the product was defective and that there was a substantial likelihood that the defect would cause the injury that is the basis of the action, and the defendant willfully disregarded that knowledge in the manufacture or distribution of the product." Mich. Comp. Laws § 600.2949a.

Here, however, the State could address the sophisticated user doctrine by underlining that unlike the situation in *Bearup*, PFAS[28] users and purchasers including the State had no significant involvement in studies regarding the health effects of exposure to chemicals. In fact, the State can likely claim that it falls within the exception to the sophisticated user doctrine upon a likely determination that defendants had actual knowledge of the adverse effects of PFAS, but nonetheless, continued to manufacture, advertise, and distribute their PFAS-containing products.

iv. Misrepresentation or Fraud

There are six elements that a plaintiff must prove to sustain a claim of fraudulent misrepresentation:

(1) The defendant made a material representation.

(2) The representation was false.

(3) When the defendant made the representation, it knew it was false, or the defendant made the representation recklessly, without any knowledge of its truth, and as a positive assertion.

(4) The defendant made the representation with the intention that it should be acted on by the plaintiff.

(5) The plaintiff acted in reliance on the representation.

(6) The plaintiff suffered injury due to his reliance on the representation.

Hord v. Envtl. Research Inst. of Michigan, 463 Mich. 399, 404 (2000).

Here, the State can show that defendants, through their advertising and promotion of AFFF and PFAS-containing products, knew of the dangers associated with PFOS and PFOA, and deceptively claimed that their AFFF products were safe and/or did not present a threat to the environment or human health. Further, through the discovery process in the AFFF MDL, we expect that the plaintiffs will be able to develop evidence to show that the purchasers of AFFF relied on these misrepresentations in purchasing defendants' products.

v. Comparative Fault

Under the Michigan Products Liability Act, joint and several liability is unavailable (except in cases involving medical malpractice claims and where the defendant's conduct constitutes a crime), and instead has been replaced with several liability. Accordingly, a party may generally not be held liable for damages in an amount greater than its percentage of fault. Mich. Comp. Laws §§ 600.2956; 600.6304(4). As a result, the trier of fact will allocate fault in direct proportion to a

[28] The defendants are likely to assert that the U.S. Department of Defense (DOD) was a "sophisticated user" who did have some knowledge of the risks of PFOA, PFOS and AFFF. This will be an issue that needs development in discovery, and the same discovery will be relevant to an anticipated "federal officer" defense that defendants may raise as to the use of AFFF at military bases and federal airports. Preliminary review of discovery materials indicates that 3M did not share its knowledge of the hazards of AFFF with the government.

party's percentage of fault—referred to in Michigan as "fair share liability."[29] *See* Mich. Comp. Law § 600.6304. This is unlikely to pose any significant bar to the State's recovery in these cases, however, because the manufacturer defendants represent all of the potential shares of liability.

3. Michigan Environmental Protection Act ("MEPA")

In general, MEPA applies to all natural resources, both public and private, and is not limited to resources affecting land in which there is a public trust or a right of public access.[30] *Stevens v.* Creek, 121 Mich. App. 503 (1982). It imposes on public and private actors a duty "to prevent or minimize degradation of the environment." *Ray v. Mason Co. Drain Cmm'r*, 393 Mich. 294 (1975). MEPA applies to water pollution, including the pollution of surface waters and groundwater contamination. *See* Mich. Comp. Laws § 324.1701(1) *et seq*.; *Attorney General v. Thomas Solvent Co.*, 146 Mich. App. 55, 59 (1985) (applying MEPA to groundwater contamination).

To maintain an action under MEPA, a plaintiff must make a prima facie case that the defendant has or is likely to pollute, impair, or destroy the air, water, or other natural resources. *Michigan Citizens for Water Conservation v. Nestle Waters N. Am. Inc*., 269 Mich. App. 25, 89, 709 N.W.2d 174, 213 (2005), *aff'd in part, rev'd in part*, 479 Mich. 280, 737 N.W.2d 447 (2007) (noting that "MEPA does not have specific standards" or requirements, and instead "provides for de novo review in Michigan courts, allowing those courts to determine any adverse environmental effect and to take appropriate measures"); *Ray,* 393 Mich. at 309; Mich. Comp. Law § 324.1703(1). In determining that a plaintiff has made a prima facie MEPA violation, the trial court can either:

(1) Make detailed and specific findings that the defendant's conduct has polluted, impaired, or destroyed, or is likely to pollute, impair, or destroy, the air water or other natural resources, or
(2) Find that the defendant violated an applicable pollution control standard.[31]

Once a prima facie case is made, the burden then shifts to the defendant, who may rebut by presenting its own prima facie case with evidence to the contrary. *Mich. Citizens for Water Conservation*, 269 Mich. App. at 89. A defendant may also assert an affirmative defense by proving "that there is no reasonable and prudent alternative to defendant's conduct and that his or her conduct is consistent with the promotion of public health, safety and welfare in light of the state's paramount concern for the protection of its natural resources from pollution, impairment or destruction." Mich. Comp. Laws § 324.1703(1).

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[29] *See Gerling Konzern Allgemeine Versicherungs AG v. Lawson*, 472 Mich. 44, 71, 693 N.W.2d 149, 163 (2005) (Kelly, J. dissenting) ("Sections 2956, 2957, and 6304 replaced the notion of common liability, which also has been referred to as joint and several liability, with "fair-share liability.").

[30] MEPA, Mich. Comp. Laws § 324.1701 *et seq*, is part 17 of the NREPA, Mich Comp. Laws § 324.101 *et seq*.

[31] *Michigan Citizens for Water Conservation*, 269 Mich. App. at 89; *see also Ray*, 393 Mich. at 309; *Preserve the Dunes, Inc. v. Dep't of Environmental Quality*, 471 Mich. 508 (2004).

Here, in a landscape-based action for AFFF and PFAS releases, the defendants have polluted the State's groundwater and surface waters by manufacturing, selling, and distributing a hazardous product with insufficient warnings as to their PFAS and AFFF products and unreasonably withholding information about the dangers inherent in their PFAS products. That tortious conduct proximately caused the release of PFAS and AFFF into the environment, which has damaged the State's water supply, and this is actionable under MEPA.

Moreover, under the second possible prima facie case, a pollution control standard may be "fixed by rule or otherwise, by the state or an instrumentality, agency, or political subdivision", Mich. Comp. Laws § 324.1701(2); statutes do not need to contain the words "pollution control standard" to be considered as containing pollution control standards, but are sufficient if the purpose of the statute is to protect natural resources or to prevent pollution and environmental degradation. *See Pres. the Dunes, Inc.*, 471 Mich. at 516 (holding that MEPA did not apply because alleged violation in obtaining permit under the Sand Dune Mining Act did not contain an antipollution standard); *Mich. Citizens for Water Conservation*, 269 Mich. App. at 89 (determining that the Inland Lakes and Streams Act and the Wetlands Protection Act were not pollution control standards because neither had a purpose of preventing pollution, and the WPA allowed for the DEQ to permit potentially harmful or polluting activities when balance was in favor of the benefits). Michigan may have an applicable claim under the current health screening standards for PFOA and PFOS, established under advisory guidelines in April of this year, because the standards seek to prevent the "pollution" of PFAS.

Under MEPA, the State may seek declaratory and equitable relief, and limited response costs may be recovered.[32] MEPA does not provide for monetary damages, but rather is a legislative recognition of the court's power to recognize anticipated harm and to fashion remedies accordingly.

C. Addressing Potential Defenses to the State's PFAS Cases

We can expect the defendants to resist the State's cases vigorously. Past experience indicates we can expect them to assert that there is no liability for contamination at low levels (in particular, below applicable regulatory standards), or in the absence of federal or state regulatory standards; that the owners/operators of the facilities that actually released the compounds are the

[32] *See e.g., Wayne Cty Dep't of Health, Air Pollution Control Division v. Olsonite Corp.*, 79 Mich. App. 668 (Mich. Ct. App. 1977) (granting injunctive relief against manufacturer's discharge of paint fumes into atmosphere during painting of flexible plastic parts; manufacturer was required at its own expense to conduct pilot testing of protype order control systems for purpose of compiling odor data and to select a supplemental odor control system and install); *Cipri v. Bellingham Frozen Foods, Inc.*, 235 Mich.App 1 (1999) (restoration costs may be available; expert testimony that lake into which sweet corn silage leachate was discharged supported fish life and posed no threat to safety, and that he could not estimate the quantitative effects that his proposed $250,000 restoration program would have on lake's oxygen level or fish population supported conclusion that lake was recovering naturally and therefore restoration was not "required" under the Michigan Environmental Protection Act (MEPA)); Mich. Comp. Laws § 324.1701(1) (authorizing the court to direct the adoption of antipollution standards); Mich. Comp. Laws § 324.1701(2) (allowing the court to impose conditions on a defendant to protect the environment); Mich. Comp. Laws § 324.1704 (allowing the court to impose conditions on the defendant to protect the environment).

exclusive causes of the contamination; and that the State's claims are both premature and too late. These defenses should not prove insurmountable.

1. Contamination Below or In Absence of State or Federal Regulatory Levels

Defendants universally argue in drinking water contamination cases that the plaintiff cannot recover for contamination at levels below—or in the absence of—state or federal regulatory standards. Such standards may include drinking water Maximum Contaminant Levels ("MCLs"), action levels, or other standards. The defendants will argue that there is no injury to the State's water unless or until it exceeds a regulatory standard, as nothing restricts the right of the State (or water purveyors) to use and deliver the water. This argument fails.

The Second Circuit explained in our New York City MTBE case that the relevant question is whether "a reasonable water provider … would treat the water to reduce the levels or minimize the effects of the [contamination] … in order to use [its] water." 725 F.3d at 107. To establish injury there must be more than *de minimis* contamination, but "a public water provider may be injured by contamination at levels below the applicable MCL." *Id*. at 108. The court concluded:

> [W]e reject Exxon's contention that the New York MCL … determines whether the City has been injured…. We decline Exxon's invitation to adopt a bright-line rule that would prevent a water provider from either bringing suit or prevailing at trial until its water is so contaminated that it may not be served to the public. *The MCL does not convey a license to pollute up to that threshold*.

Id. at 109 (emphasis added).

Nor does the absence of a currently enforceable state or federal regulatory standard limit the State's right to protect its citizens from toxic contamination. We have frequently litigated the right of public water suppliers to recover the costs of treating unregulated compounds—and have always prevailed on this issue. For example, we successfully prosecuted early cases involving MTBE, TCP and DBCP before states adopted MCLs for those compounds. As with low-level contamination, the issue is the reasonableness of the plaintiff's conduct in undertaking responsive measures. And, in any event, the existence of health screening levels for PFAS-compounds in drinking water,[33] and the likely issuance of an MCL for PFAS chemicals in 2020 should dispose of this defense altogether.

2. The Chemical Manufacturers Will Not Succeed in Shifting Blame to Local Polluters.

The chemical manufacturers will undoubtedly argue that blame for environmental contamination and, in particular, for spills and leaks of PFAS-related compounds should rest with

[33] Michigan's health screening standards were issued in April 2019, and include standards lower than the EPA's lifetime health advisory limit of 70 ppt: PFOA and PFOS in Michigan are now set at health screening levels of 9 ppt and 8 ppt, respectively.

the local businesses that actually handled and released them. This may be particularly true given that Michigan's Product Liability Act proscribes comparative negligence when more than one party may be at fault. *See* Mich. Comp. Law § 600.6304; *Riddle v. McLouth Steel Prods. Corp.*, 440 Mich. 85, 98 (Mich. 1992).

Factually, the evidence of the manufacturers' own culpability in creating the problem is the most effective response. In this case, we will focus on the manufacturers' knowledge of the threats to drinking water posed by their products, their marketing and promotion of these products despite this knowledge, and their failures to warn anyone and especially the users of their products about those risks and the special care and handling needed to mitigate or avoid contaminating drinking water supplies.

We have successfully applied this approach against chemical manufacturers with great effect in many cases like the State's. Most notably, in our New York City MTBE case, the jury found Exxon liable for nuisance, trespass, negligence and failure to warn; the Second Circuit affirmed on appeal. *NY MTBE*, 725 F.3d at 117–19 (negligence), 119–20 (trespass), 121–23 (nuisance), 123–25 (failure to warn). In *South Tahoe PUD v. Atlantic Richfield Co., et al.*, the jury rendered a special verdict finding that MTBE and gasoline containing it were defective products; the jury also found "clear and convincing" evidence of "malice" on the part of a chemical manufacturer (Lyondell) and a gasoline refiner (Shell). And we have litigated successfully against manufacturers under these theories in other cases involving MTBE, as well as DBCP, TCP, and other compounds. In particular, we have litigated several cases against Dow and Shell Chemical over public water well contamination by DBCP and TCP, all of which led to substantial settlements.

3. Ripeness and Statute of Limitations

Defendants will likely raise ripeness arguments in conjunction with their position that no recovery can be obtained where detection levels do not meet an applicable MCL or other regulatory level, or before treatment/remedial measures are taken. But the New York City *MTBE* case provides a persuasive counterargument. The jury (and the Second Circuit) rejected the defendants' argument, finding that the presence of contamination in the affected wells constituted a present injury, and that Exxon "mistakenly conflate[d] the nature of the City's claimed damages with its injury." *NY MTBE*, 725 F.3d at 110. Once the plaintiff establishes an injury—contamination significant enough that a reasonable water provider would take responsive action—it may "recover past, present, and future damages flowing from" the defendants' conduct. *Id*. at 111. Indeed, finding such claims unripe "would effectively foreclose the possibility of relief—hardship and inequity of the highest order." *Id*.

Defendants typically raise statute of limitations arguments at the outset of litigation and throughout the life of these contamination cases. Michigan courts follow the doctrine of *nullum tempus*, which shields the State from the operation of the statute of limitations and laches, unless there is a statute expressly providing otherwise. *Crane v. Reeder*, 21 Mich. 24, 44 (1870). Mich. Comp. Laws Ann. § 600.5813 subjects government plaintiffs, including the State, to a six-year statute of limitations for public nuisance claims seeking injunctive abatement. Mich. Comp. Laws Ann. § 600.5821 provides, "[t]he periods of limitations prescribed for personal actions apply

equally to personal actions brought in the name of the people of this state, or in the name of any officer, or otherwise for the benefit of this state." M.C.L. § 600.5821. As a result actions the State brings in rem are provided immunity from the statute of limitations, whereas actions the State brings in personam are not. *City of Detroit v. 19675 Hasse*, 671 N.W.2d 150, 161 (Mich. 2003). Because the proposed claims are in personam, the typical six-year statute of limitations for public nuisance actions seeking injunctive abatement applies, and the three-year statute of limitations for claims seeking damages applies. *See Twp. of Fraser v. Haney*, No. 337842, 2018 WL 7149994, at *4 (Mich. Ct. App. Dec. 20, 2018) (applying six-year statute of limitations under Mich. Comp. Laws Ann. § 600.5813; for public nuisance action); *Terlecki v. Stewart*, 278 Mich. App. 644, 650 (2008) (trespass action seeking damages subject to three-year statute of limitations from Mich. Comp. Laws § 600.5805(10)).

Pursuant to Mich. Comp. Laws § 600.5805(12), the period of limitations in product liability actions in Michigan is three years. Notably, under the discovery rule—applied when latent injuries in a product liability action exists—a plaintiff's claim begins accruing "when the plaintiff discovers, or through the exercise of reasonable diligence, should have discovered, an injury and the causal connection between the plaintiff's injury and the defendant's breach." *Bearup*, 2009 WL 249456, at *4 (citing *Moll v. Abbott Laboratories*, 444 Mich. 1, 16 (Mich. 1993)). The term "should have known" is determined under an objective standard based on an examination of surrounding circumstances, and thus, a cause of action may accrue "even if a subjective belief regarding the injury occurs at a later date." *Moll*, 444 Mich. at 18. The discovery rule applies to the discovery of an injury and "not to the discovery of a later realized consequence of the injury." *Id*.

Here, Defendants will presumably make arguments similar to those made in *MTBE*—that when regulation commenced, so too does the accrual of the State's claims relating to PFAS contamination. However, Michigan currently only has health screening levels concerning PFAS that do not require remedial action; formal and binding regulatory standards are in process but have not yet been adopted by the State. On these facts, defendants should not prevail on a statute of limitations defense.

Finally, we have prevailed on both ripeness and statute of limitations defenses at the motion to dismiss stage in related emerging contaminant litigation and, as detailed above, successfully tried the New York City *MTBE* matter overcoming these affirmative defenses.

EXHIBIT A

Vic Sher has spent his career developing and prosecuting unparalleled legal strategies to protect people and the planet. Over the past 35 years, he has achieved exceptional success—as a litigator, a consultant and as the leader of the world's largest public interest environmental law firm—on behalf of communities and non-governmental organizations against the world's most powerful polluters and largest law firms. Beyond representing public agencies and organizations in active lawsuits, Vic consults on effective litigation strategies with government agencies, national and local non-profit organizations, and attorneys around the country.

From 1998 through 2011, Vic's practice focused solely on representing public water suppliers and other public agencies in lawsuits against the manufacturers of toxic chemicals polluting drinking water sources. He was a partner with Miller & Sher in Sacramento from 1998 through 2002, then founder and principal litigator with Sher Leff LLP in San Francisco from 2003 through 2011. In 2009, Vic served as New York City's lead trial counsel in City of New York v. ExxonMobil, a federal jury trial over MTBE contamination in Queens that resulted in a verdict for the City of $104.7 million. His team was recognized as a Public Justice Trial Lawyer of the Year finalist. In a federal multidistrict litigation, *In Re: MTBE Litigation*, involving hundreds of public water agencies around the country, Vic was designated by the court as national co-lead counsel for the plaintiffs. He also represented numerous public water agencies and utilities in matters involving a variety of chemicals including MTBE, TCP, DBCP, PCE, and DDT.

Vic practiced with the public interest law firm Earthjustice (then known as the Sierra Club Legal Defense Fund) from October 1986 until June 1997, including as its President from 1994 to 1997. As President, he acted as the CEO for the world's largest public interest environmental law firm, with 50 lawyers in ten offices. The American Lawyer called some of his work during this period among the "most important public lands management litigation in this country's history." The ABA Journal noted that Vic's lawsuits caused a "dramatic new direction in forest policy" for tens of millions of acres of federal forests, "forcing an end to business as usual". He also litigated many cases to protect communities from toxic chemicals, preserve endangered ecosystems and species, conserve public lands, and improve air and water quality.

Named a 2011 LawDragon 500 lawyer and a Northern California Super Lawyer since 2005, Vic received a Pew Scholarship in Conservation and the Environment in 1992, and shared the Natural Resources Council of America Award of Achievement for Policy Activities in 1993. The American Lawyer Magazine named him for its 1997 "Public Sector 45," a list of "45 young lawyers outside the private sector whose vision and commitment are changing lives" . Vic is a 1976 graduate of Oberlin College, where he was Phi Beta Kappa, received high honors, and was awarded the Comfort-Starr Award for excellence in the study of government. He received his law degree in 1980 from Stanford Law School, where he was a member of the Law Review.

As a frequent public speaker and author, Vic has appeared regularly in local and national print, radio and television media

Court Admissions

Vic is a member of the California bar and is admitted to practice before the United States Supreme Court, the United States Court of Federal Claims, and the United States Court of Appeals for the Ninth Circuit, Federal Circuit, and District of Columbia Circuit. He is also admitted to the United States District Court for the Northern, Eastern, Central, and Southern Districts of California.

Matt Edling has dedicated his career to litigating socially just actions. He has prosecuted cases against the largest oil and insurance companies, financial institutions and multinational corporations, and won.

Matt typically represents public entities in large individual actions, as well as plaintiffs in complex class actions. He has been appointed lead or co-lead counsel in multiple class actions in state and federal courts, as well as primary counsel in multiparty actions throughout the country.

Over his career, Matt has recovered hundreds of millions of dollars for clients in environmental, securities, insurance bad faith, consumer, and contract claims. Recently, he served as lead counsel for several cities and counties against the accounting firm, banks and upper management arising out of the Lehman Brothers bankruptcy (In Re: Lehman Bros. Sec. and ERISA Litig., 09-md-02017 (SDNY)). Matt's clients recovered more than $100 million and were the only parties to recover from Lehman Brothers' directors and officers individually. In the Lehman Bros. action, he was designated by the court as national liaison counsel for all plaintiffs in nationwide federal multidistrict litigation.

Matt's successes led to The Recorder naming him as one of the top fifty California attorneys with under ten years of practice (2012), and he has been named among the highest class of attorneys for professional ethics and legal skills, with an AVPreeminent rating by Martindale Hubbell.

Matt is a 2002 graduate of California Polytechnic State University, San Luis Obispo, where he was awarded the University's highest academic honor and named class Valedictorian. He is a 2007 graduate of Hastings College of the Law where he was a member of the Law and Policy Review and the Civil Justice Clinic.

Court Admissions

Matt is a member of the California, New York, and District of Columbia bar. He is admitted to practice before the United States Court of Appeals for the Second Circuit, Ninth Circuit, and Federal Circuit and the United State Court of Federal Claims. He is also admitted to the United States District Court for the Northern, Eastern, Central, and Southern Districts of California and the Eastern and Southern Districts of New York.

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Corrie Yackulic is a tenacious and effective trial lawyer and negotiator, with a deep commitment to bringing justice to her clients. She joins Sher Edling as Of Counsel on the firm's climate change cases. Recognized as a Top 100 Super Lawyer in the State of Washington, Corrie was named one of Washington's Top 50 Female Attorneys from 2017-18. Corrie is a Fellow of the American College of Trial Lawyers and has served as an instructor for the National Institute for Trial Advocacy (NITA). Corrie is Preeminent AV rated (Martindale Hubbell) by her peers for her legal skill and legal ethics. Her abilities have yielded results for her clients totaling in the tens of millions.

During her career, Corrie has focused on environmental tort cases involving toxic dumping, drinking water contamination, corporate polluting, and catastrophic environmental disaster. In one recent example, Corrie was highlighted in 2017 SuperLawyers magazine as a lead attorney in the nation's deadliest landslide, which killed 43 people, left survivors and loved ones forever impacted, and forced new State regulations regarding logging in landslide-prone areas. The Oso Landslide case, which settled moments before opening statements in trial were to begin, yielded a $60 million-dollar settlement.

Corrie has practiced law since 1986. She graduated cum laude from Harvard Law School.

Court Admissions

Corrie is a member of the Washington bar and is admitted to practice before the United States Court of Appeals for the Ninth Circuit and the United States District Court for the Western and Eastern Districts of Washington.

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Adam Shaprio has a range of litigation experience representing consumers, workers, and environmental interests. Adam has also successfully represented whistleblowers in a number of actions, including a California qui tam action which resulted in a multi-million dollar settlement by a large oil company.

Before joining Sher Edling, Adam worked at The Nature Conservancy and for both plaintiff- and defense-side civil litigation firms. Adam clerked for the Honorable Samuel Conti at the Northern District of California, and was a staff attorney at the California Court of Appeal, First Appellate District.

Adam received his law degree from Stanford University in 2009, where he was an editor of the Stanford Environmental Law Journal and externed at NRDC. Prior to attending law school, Adam earned a public policy degree from Harvard University, and focused on environmental policy at the Government Accountability Office. He is 2000 graduate of the University of Rochester.

Court Admissions

Adam is a member of the California bar and is admitted to practice before the United States District Court for the Northern, Central, and Eastern Districts of California.

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Stephanie Biehl has dedicated her career to advocacy on behalf of communities and individuals taking on prodigious and powerful adversaries in complex, high-stakes litigation. She has a variety of experience prosecuting cases from investigation through trial and appeals and has been named a Super Lawyers Rising Star consistently throughout her practice.

Before joining Sher Edling, Stephanie was successful in obtaining multi-million-dollar recoveries through complex cases in the business, consumer, employment, securities, derivative, and class action fields. She and her teams were routinely appointed Lead Counsel and Class Counsel in a variety of state and federal cases.

Stephanie was a judicial extern for Senior District Judge Charles R. Breyer for the Northern District of California, and she graduated *cum laude* from UC Hastings College of the Law. While at Hastings, she earned her concentration in Civil Litigation and Alternative Dispute Resolution, was an award-winning member of the nationally-renowned Hastings Trial Team, and was the Executive Notes Editor of the Hastings Business Law Journal.

Prior to law school, Stephanie attended Notre Dame de Namur University (NDNU) where she received her B.S in Business Administration and her B.A. in Spanish Studies. She graduated *summa cum laude*, as the valedictorian of her class. Stephanie also had the honor of being the Undergraduate Commencement Speaker and receiving the highest leadership and excellence awards from her academic schools, the Cross Country team, multiple student life groups, the NDNU Board of Trustees, and the City of Belmont.

Court Admissions

Stephanie is a member of the California bar and is admitted to practice before the United States Court of Appeals for the Ninth Circuit and the United States District Court for the Northern District of California.

Marty Quiñones has dedicated his career to serving consumers, workers and other individuals injured by bad corporate conduct. He has worked extensively on consumer protection cases in California against major retailers who allegedly advertised fictitious sale pricing to entice bargain-hunters, litigating those cases through class certification and settlement. In 2014 and 2015, Marty took two jury trials to verdict against major tobacco companies on behalf of the families of smokers who died from tobacco-related diseases. Both trials resulted in liability verdicts for the plaintiff, and significant monetary recoveries through jury award or settlement post-verdict.

Marty also successfully represented a transgender civilian employee of the Army pro bono who was wrongfully barred from the public women's restroom facilities in her workplace (Lusardi v. Dept. of the Army Appeal No. 1201133395). The decision in Ms. Lusardi's favor is the first ruling in any jurisdiction that declares preventing a transgender employee access to gender-appropriate restrooms is discrimination and violates Title VII. This was a significant victory for the trans rights community.

In 2013, Marty earned his law degree from the University of California, Berkeley, School of Law where he was the supervising editor for the California Law Review, the marketing editor for the Berkeley Journal of Gender, Law and Justice, the treasurer of the Boalt Hall Queer Caucus and a chapter board member of Law Students for Reproductive Justice. He received his BA in Linguistics from Brown University in 2008. He currently serves on the board of directors for the Pride Law Fund.

Court Admissions

Marty is a member of the California bar and is admitted to practice before the United States Court of Appeals for the Ninth Circuit and the United States District Court for the Northern, Central, and Southern Districts of California.

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Katie Jones grew up surrounded by the redwoods of far-northern California, she has long worked to preserve our environment and safeguard it for future generations to enjoy. Before joining Sher Edling, Katie was an attorney at the Sierra Club Environmental Law Program, where she worked on a wide variety of environmental matters, including challenges to new fossil fuel infrastructure and cases to improve government transparency and to reduce exposure to toxic chemicals. Previously, she clerked for Colorado Supreme Court Justice Gregory J. Hobbs, Jr.

Katie received her law degree in 2014 from the University of California, Berkeley, School of Law, where she earned a certificate in environmental law and was awarded the Landis Prize for Water Law. During law school, Katie served as an editor for the *California Law Review* and *Ecology Law Quarterly*. Prior to attending law school, Katie worked as a Fulbright Fellow in an indigenous community in Mexico, focusing on learning from traditional environmental knowledge to diversify local agriculture. She is a 2008 graduate of Georgetown University's School of Foreign Service.

Court Admissions

Katie is a member of the California bar and is admitted to practice before the United States Court of Appeals for the Ninth Circuit and the United States District Court for the Northern and Eastern Districts of California.

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Meredith Wilensky has committed her legal practice to environmental advocacy. Before joining Sher Edling, Meredith represented community and labor organizations in environmental litigation and administrative proceedings as an associate attorney at Lozeau Drury LLP. Previously, Meredith clerked for Judge Claudia Wilken of the United States District Court for the Northern District of California. Meredith was the 2013-2014 fellow and associate director of Columbia Law School's Sabin Center for Climate Change Law (SCCCL), where her work focused on climate change litigation, mitigation of greenhouse gas emissions from the shipping sector, and climate change implications of the Trans-Pacific Partnership. Prior to SCCCL, Meredith was a Public Interest Law Fellow at the Environmental Law Institute in Washington D.C.

Meredith graduated from UC Berkeley School of Law in 2012 with a certificate in environmental law. As a law student, Meredith served as an editor for the Environmental Law Quarterly and president of the Environmental Law Society. Before attending law school, Meredith was a Princeton in Latin America fellow stationed at the Los Amigos Biological Research Station in the Peruvian Amazon. Meredith received her B.A. in Environmental Studies and Dance from Washington University in St. Louis, where she graduated summa cum laude and was a member of Phi Beta Kappa.

Court Admissions

Meredith is a member of the California and Georgia bars and is admitted to practice before the United States District Court for the Northern, Central, Eastern, and Southern Districts of California.

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Tim Sloane has committed his career to fighting for the health of the environment and the livelihoods of those who sustainably utilize natural resources. Before joining Sher Edling, LLP as an associate, Tim was the Executive Director of the nonprofit Pacific Coast Federation of Fishermen's Associations and Institute for Fisheries Resources (PCFFA/IFR). At PCFFA/IFR, he advocated for sustainable natural resource management and habitat protection for commercially valuable marine fish species. Tim's work bridged the legal and political gap between conservation and consumptive use.

Prior to taking over at PCFFA/IFR, Mr. Sloane was an associate at Laughlin, Falbo, Levy and Moresi in Oakland, California. In 2013, he earned his law degree with honors from Golden Gate University, where he was a member of the Environmental Law Journal and GGU's National Environmental Law Moot Court Competition team. He is a 2006 graduate of the University of California, Berkeley.

Court Admissions

Tim is a member of the California bar and is admitted to practice before the United States Court of Federal Claims and the United States District Court for the Northern, Eastern, Central, and Southern Districts of California.

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EXHIBIT B

SHER EDLING LLP MISSION

Sher Edling LLP represents states, cities, and other public agencies in high-impact, high-value environmental cases. We combine decades of top-level litigation and trial experience with an unwavering dedication to holding polluters accountable for the damage they cause. Our work arises out of our conviction that the courts provide the last even playing field to take on the biggest polluters. We want to change the behavior of the world's largest corporations so that they can no longer make everyone else pay for the damage caused by their pollution. Our team signed up for this work to make a difference for our clients and the world.

EXPERIENCE IN GROUNDWATER LITIGATION

Sher Edling has a deep specialty representing public agencies and water suppliers in lawsuits against the manufacturers and suppliers of toxic chemicals that pollute drinking water. Where appropriate, we also undertake litigation against large industrial facilities. The firm has assembled a unique team with both legal and technical expertise that, coupled with its detailed and extensive experience in groundwater contamination litigation, helps assure its clients of the strongest case and highest possible recovery.

The Sher Edling team has litigated cases involving many chemical contaminants and has deposed hundreds of experts in the technically intricate fields of hydrogeology, chemistry, toxicology, groundwater remediation, drinking water treatment, and related subjects. Our extensive experience with these kinds of cases means that we are well acquainted with the factual, scientific, technical, legal, and strategic aspects of each litigation.

Sher Edling is well-positioned to assist the State. For example, Vic Sher served as lead trial counsel for the City of New York in its landmark MTBE case, which led to a total recovery of about $130 million, including a $105 million federal jury verdict against Exxon that was affirmed by the U.S. Court of Appeal for the Second Circuit in *In re MTBE Product Liability Litigation (New York City)*, 725 F.3d 65 (2nd Cir. 2013). Mr. Sher was also outside counsel for the State of New Hampshire in its prosecution of the first statewide case to recover the costs of MTBE contamination. From 2003 until 2012, Mr. Sher guided the case as it prepared for trial. Ultimately, the State recovered more than $140 million in pretrial settlements, and, in the largest trial ever held in the State of New Hampshire, the jury awarded more than $236 million against ExxonMobil. The New Hampshire Supreme Court affirmed the jury verdict in 2015 (and the U.S. Supreme Court declined to review). *State of New Hampshire v. ExxonMobil*, 168 N.H. 211, 126 A.3d 266 (N.H. 2015).

ENVIRONMENTAL/PUBLIC WELL CONTAMINATION LITIGATION EXPERIENCE

Current Representations

PFOA/PFOS:

Sher Edling currently represents ten public water providers in New York and New Jersey in cases seeking damages for PFOA/PFOS contamination of drinking water wells caused by off-site pollution from airports, manufacturing facilities, and other sources. Plaintiffs assert a variety of state law tort claims against the manufacturers of PFOA, PFOS, and the products that contain or are manufactured with those toxic perfluorinated compounds.

- Suffolk County Water Authority (NY; 2017)
- Roslyn Water District (NY; 2018)
- Port Washington Water District (NY; 2018)
- Ridgewood Water (NJ; 2018)
- South Farmingdale Water District (NY; 2019)
- Water Authority of Western Nassau (NY; 2019)
- Village of Garden City (NY; 2019)
- Atlantic City Municipal Utilities Authority (NJ; 2019)
- Carle Place Water District (NY; 2019)
- Village of Mineola (NY; 2019)

In addition, SELLP has a leadership role in *In re: Aqueous Film-Forming Foams Products Liability Litigation* (the "AFFF MDL"), a national Multi-District Litigation concerning certain PFAS-related cases recently assigned to Judge Richard Gergel in Charleston, S.C. Judge Gergel has appointed Matt Edling of SELLP to the Executive Committee, where he co-chairs the Public Water Supplier Committee of the Plaintiffs' Steering Committee in that MDL.

1,4-Dioxane:

Sher Edling represents 23 public water providers on Long Island, including Suffolk County Water Authority, the nation's largest supplier of public drinking water from groundwater, in litigation to recover damages for 1,4-dioxane contamination of drinking water wells. The lawsuits all assert claims against the manufacturers of 1,4-dioxane and products containing 1,4-dioxane; several also assert claims under the Resources Conservation and Recovery Act (imminent and substantial danger) against Northrop Grumman Corporation for its decades-long discharges of industrial solvent containing 1,4-dioxane (*see Bethpage Water District v. The Dow Chemical Co.*, et al. (E.D.N.Y) (filed March 7, 2019) & *South Farmingdale Water District v. The Dow Chemical Co*., et al. (E.D.N.Y.) (filed March 11, 2019)).

- Suffolk County Water Authority (NY; 2017)
- Roslyn Water District (NY; 2018)
- Garden City Park Water District (NY; 2018)
- Port Washington Water District (NY; 2018)
- Bethpage Water District (NY; 2018)
- Manhasset-Lakeville Water District (NY; 2018)
- Oyster Bay Water District (NY; 2018)
- Jericho Water District (NY; 2018)
- Locust Valley Water District (NY; 2018)
- Albertson Water District (NY; 2018)
- Westbury Water & Fire District (NY; 2019)

- Water Authority of Western Nassau
- West Hempstead Water District (NY; 2018)
- Carle Place Water District (NY; 2018)
- Water Authority of Great Neck North (NY; 2018)
- South Farmingdale Water District (NY; 2018)
- Plainview Water District (NY; 2019)
- Village of Mineola (NY; 2019)
- Village of Williston Park (NY; 2019)
- Village of Garden City (NY; 2019)
- Town of Huntington/Dix Hills Water Department(NY; 2019)
- Greenlawn Water District (NY; 2019)
- South Huntington Water District
- Village of Hempstead

*South Huntington Water District and the Village of Hempstead have all passed Resolutions retaining SELLP and are currently in the process of executing formal Retainers.

Transboundary Water Pollution:

City of Imperial Beach et al. v. IBWC, Veolia North America (S.D. Cal. no. 18-cv-457-JM-JMA (filed March 2, 2018). Sher Edling represents the cities of Imperial Beach and Chula Vista California, as well as the Port of San Diego, which seek equitable relief and damages related to transboundary water contamination against the International Boundary Water Commission and Veolia Water North America.

Hexavalent Chromium:

Sacramento Suburban Water District v. United States, Court of Federal Claims no. 17-860 C (filed June 23, 2017); *Rio Linda Elverta Community Water District v. United States*, Court of Federal Claims no. 17-859 C (filed June 23, 2017); *Sacramento Suburban Water District v. Elementis Chromium, Inc.*, E.D. Cal. no. 2:17-cv-01353-TLN-AC (filed June 30, 2017); *Rio Linda Elverta Community Water District v. United States*, E.D. Cal. no. 2:17−CV−01349−KJM−GGH (filed June 30, 2017). Sher Edling represents these water districts who seek damages for hexavalent chromium contamination of drinking water wells suffered by public water district resulting from off-site contamination of a former U.S. Air Force Base. Plaintiffs assert claims against the U.S. Government under the Resource Conservation & Recovery Act (imminent and substantial danger), the Federal Tort Claims Act, and in the Court of Federal Claims for an unconstitutional taking of property. Plaintiff also asserts state law tort claims against the manufacturers of products containing chromic acid.

Prior Representations

- *In re MTBE Products Liability Litigation (City of New York*) *v ExxonMobil,* 725 F.3d 65 (2nd Cir. 2013). In 2008, the City of New York asked Vic Sher to assume the lead trial counsel role in the City's case against the oil industry over MTBE contamination of wells in Queens, the first to proceed to trial in a nationwide multidistrict litigation. In 2009, a four-month federal jury trial resulted in a verdict for the City of $104.7 million, with a total recovery of more than $125 million. The Second Circuit affirmed in all respects in 2013. Mr. Sher also was designated by the court as national co-lead counsel for the plaintiffs in the related federal multidistrict litigation, *In Re: MTBE Products Liability Litigation*.

- *State of New Hampshire v. ExxonMobil*, 168 N.H. 211, 126 A.3d 266 (N.H. 2015). In 2003, the New Hampshire Attorney General retained Vic Sher as lead outside counsel to prosecute the first statewide case to recover the costs of MTBE contamination. Over most of the next decade, Mr. Sher guided the case as it prepared for trial. First, the oil companies tried to transfer the case to federal court; Mr. Sher argued the case in the U.S. Court of Appeals for the Second Circuit that sent the matter back to state court where it belonged. Then, Mr. Sher prepared the expert and legal approach that allowed the State to prove its case against the oil companies on a landscape basis without getting bogged down in impossible intricacies of individual sites. The oil companies challenged virtually every aspect of the case, including the State's rights to recover costs related to private wells and the ability to prove its case based on expert evidence of the extent of contamination. Ultimately, the State recovered more than $140 million in pretrial settlements, and, in the largest trial ever held in the State of New Hampshire, the jury awarded more than $236 million against ExxonMobil. The New Hampshire Supreme Court affirmed the jury verdict in 2015 (and the U.S. Supreme Court declined to review).

- *In re MTBE Products Liability Litigation* (S.D.N.Y. 2003 – 2011). This multi-district litigation over public well contamination by the gasoline additive MTBE included more than 150 cases from around the country. The District Court designated Vic Sher as one of three co-lead counsels for the plaintiffs. Most of the cases settled against most of the defendants in 2008 for an aggregate $423 million cash payment plus a "safety net" for future well impacts. Mr. Sher's clients –public water agencies located in California – received more than $108 million from the group settlement.

- *City of St. Louis (MI) v. Velsicol Corp.* In 2006, the City retained Vic Sher to address DDT-related contamination leaking from a failed Superfund remedy at the former Velsicol facility in St. Louis, Michigan. Investigation revealed that pCBSA had already reached many of the City's wells. The case settled in 2011 with the City recovering $26.5 million to fund a new water system.

- *In re Methanex* (NAFTA Tribunal). In 2004 the U.S. Department of State retained Vic Sher as a consultant on the environmental and expert aspects of an international trade case brought by Methanex, a Canadian manufacturer of MTBE that claimed California's ban of MTBE because of concern over groundwater contamination violated NAFTA's free trade provisions. The matter was resolved against Methanex in 2005.

- *South Lake Tahoe Public Utility District v. Atlantic Richfield Co., et al.* Vic Sher was a senior member of the trial team on this landmark MTBE case, which settled in August 2002. The Utility District brought an action against a manufacturer of MTBE (Lyondell), the California refiners who supplied gasoline containing MTBE, and several local gasoline station owner/operators. The case went to trial starting in September 2001 against six non-settling defendants. In April 2002, the jury returned a special verdict on refiner/manufacturer liability, finding that MTBE and gasoline containing MTBE were defective products, and that Shell and Lyondell Chemical had acted with "malice" by failing to disclose the significant hazards associated with the use of MTBE in gasoline. The matter finally settled in August 2002 for a total of more than $69 million.

- *City of Santa Monica v. Shell, et al.* Vic Sher served as lead outside co-counsel in the MTBE lawsuit relating to the City's Charnock well field, which provided about 40% of the City's drinking water (a total of about 7,500 gallons per minute ("gpm") peak capacity). MTBE contamination forced the City to shut down the wells and well field in 1996. Government agencies identified about thirty potential source sites (current or former retail gasoline stations and two oil company pipelines) within a one and one-quarter mile radius of the well field. The City filed suit in June 2000 against the manufacturers of MTBE and the refiners of gasoline containing MTBE based upon causes of action for products liability, negligence, nuisance, and trespass. In 2003 the City achieved a landmark settlement with all but one defendant, Shell, which settled in 2006. Under the settlements, the City received approximately $130 million in cash plus the full costs of constructing, operating, and maintaining an MTBE treatment facility to clean Santa Monica's water, with a total overall settlement value of about $500 million.

- *City of Pomona, CA v. SQMNA*. The City retained Vic Sher to address perchlorate contamination from historic use of Chilean nitrate fertilizer on surrounding citrus crops. Mr. Sher argued the successful appeal of the trial judge's exclusion of expert testimony on stable isotopic analysis and related issues, *City of Pomona v. SQM North America Corp.*, 750 F.3d 1036 (9th Cir. 2014), and helped try the case in 2015 (the Ninth Circuit recently reversed a defense verdict).

- *County of Maui Board of Water Supply v. Dow Chemical et al.* (DBCP). DBCP, a soil fumigant used widely in Hawaii (and elsewhere) on pineapple and other crops, contaminated and threatened the County of Maui's public drinking water wells located around the Island. Vic Sher (with his then firm Miller & Sher) represented the plaintiff. A 1999 settlement with the chemical manufacturers resolved the County's lawsuit and provided the County with a 40-year guarantee of all costs associated with designing, building, installing, maintaining and operating granular activated carbon (GAC) facilities on any County well that either is currently contaminated or becomes contaminated during the 40-year life of the settlement.

- *Hawaii Water Service Co. v. Dow Chemical Co. et al.* (DBCP, TCP). In 2003 HWSC retained Vic Sher in connection with DBCP and TCP contamination of the wells that supply the Kaanapali Resort on Maui, HI. DBCP and TCP came from applications of soil fumigants manufactured by Dow Chemical and Shell Chemical to pineapple fields up-country from the Resort's water supply. The matter resolved favorably in 2008. Vic Sher was also lead counsel on a series of TCP cases in California's Central Valley, including on behalf of the communities of Oceanside, Livingston, Shafter, and Bakersfield.

- *City of Riverside v. Shell Oil Co. et al.* (DBCP). Growing plumes of DBCP impacted a large number of wells in the City of Riverside's public water system. In 2001, the chemical manufacturers settled the City's litigation by paying $4.1 million and agreeing to provide all costs associated with treating DBCP-contaminated drinking water in currently contaminated wells or wells that become contaminated in the future. To date, the City has built two large combined GAC treatment facilities under the settlement, treating a combined flow of approximately 15,000 gpm, and the City anticipates needing a substantial number of additional wells treated over the 40-year life of the agreement either individually or in additional centralized treatment facilities.

- *City of Riverside/Lockheed Martin (TCE).* TCE from a Lockheed Martin defense facility impacted wells in the City of Riverside's public water system. Vic Sher helped the City negotiate a settlement (without the need for a lawsuit) under which Lockheed Martin has paid all costs of treating wells contaminated with TCE from this plume.

- *Lake Davis Rotenone Contamination*. A program to eradicate pike from Lake Davis, California, by the California Department of Fish & Game went horribly awry. Vic Sher represented Plumas County in negotiations that ultimately led the Legislature to appropriate more than $9 million for public and private damages suffered from the lake poisoning.

OTHER PUBLIC SECTOR CLIENTS

Water Contamination:

- City of Patterson, CA (2019; TCP well contamination)
- City of Oceanside, CA (2005 – 2011; TCP well contamination)
- California Water Service Company (2003 – 2016; MTBE, TCP, PCE/TCE well contamination)
- City of Bakersfield, CA (2008 – 2016; TCP well contamination)
- City of Livingston, CA (2005 – 2011; TCP well contamination)
- City of Sunnyvale and Sunnyvale Redevelopment Agency, CA (2008 – 2011; PCE/TCE groundwater and soil contamination)

Other Impact Litigation for Public Entities:

- State of Rhode Island (2018; climate change impacts)
- City of Baltimore, MD (2018 climate change impacts)
- City of Richmond, CA (2018 climate change impacts)
- City of San Francisco, CA (2018 climate change impacts)
- City of Oakland, CA (2018 climate change impacts)
- City of Santa Cruz, CA (2017 climate change impacts)
- County of Santa Cruz, CA (2017 climate change impacts)
- City of Imperial Beach, CA (2017 climate change impacts)
- San Mateo County, CA (2017 climate change impacts)
- Marin County, CA (2017 climate change impacts)

- *County of San Mateo v. Chevron Corp., et al.*, No. 17-cv-04929 (N.D. Cal.), *appeal docketed*, No. 18-15499 (9th Cir. Mar. 27, 2018); *County of Marin v. Chevron Corp., et al.*, No. 17-cv-04935 (N.D. Cal.), *appeal docketed*, No. 18-15503 (9th Cir. Mar. 27, 2018); and *City of Imperial Beach v. Chevron Corp., et al.*, No. 17-cv-04934 (N.D. Cal.), *appeal docketed*, No. 18-15502 (9th Cir. Mar. 27, 2018). These three cases assert claims for public nuisance, product liability, negligence, trespass, and failure to warn against members of the fossil fuel industry for injuries arising out of rising sea levels. The cases seek abatement, damages, punitive damages, and disgorgement of profits.

- *County of Santa Cruz v. Chevron Corp., et al.*, No. 3:18-cv-00450 (N.D. Cal. filed Dec. 20, 2017), *appeal docketed*, No. 18-16376 (9th Cir. July 24, 2018); *City of Santa Cruz v. Chevron Corp., et al.*, No. 3:18-cv-00458 (N.D. Cal. filed Dec. 20, 2017), *appeal docketed*, No. 18-16376 (9th Cir. July 24, 2018); and *City of Richmond v. Chevron Corp., et al.*, No. 3:18-cv-00732 (N.D. Cal. filed Jan. 22, 2018), *appeal docketed*, No. 18-16376 (9th Cir. July 24, 2018). These cases assert claims for public nuisance, product liability, negligence, trespass, and failure to warn against members of the fossil fuel industry for injuries arising out of rising sea levels and disruptions to the hydrologic cycle (extreme heat, precipitation, drought, and wildfire). The cases seek abatement, damages, punitive damages, and disgorgement of profits.

- *City and County of San Francisco v. BP, P.L.C., et al.*, No. 3:17-cv-6012, (N.D. Cal.) (filed Sept. 19, 2017), *appeal docketed*, No. 18-16663 (9th Cir. Sept. 4, 2018); and *The People of the State of California, acting by and through the Oakland City Attorney v. BP, P.L.C., et al.*, No. 3:17-cv-6011 (N.D. Cal.) (filed Sept. 19, 2017), *appeal docketed*, No. 18-16663 (9th Cir. Sept. 4, 2018). These cases assert a claim for public nuisance against members of the fossil fuel industry for injuries arising out of global warming and sea level rise. The cases seek abatement.

- *Mayor and City Council of Baltimore v. BP P.L.C., et al.* (filed July 20, 2018). This case asserts claims for public nuisance, product liability, negligence, trespass, and failure to warn against members of the fossil fuel industry for injuries arising out of rising sea levels and disruptions to the hydrologic cycle (extreme heat, precipitation, drought, and wildfire). The case seeks abatement, damages, punitive damages, and disgorgement of profits.

- *State of Rhode Island v. Chevron Corp., et al.* (filed July 2, 2018). This case asserts claims for public nuisance, product liability, negligence, trespass, and failure to warn against members of the fossil fuel industry for injuries arising out of rising sea levels and disruptions to the hydrologic cycle (extreme heat, precipitation, drought, and wildfire). The case seeks abatement, damages, punitive damages, and disgorgement of profits.

EXHIBIT C

Richard S. Lewis

Partner

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Richard Lewis leads the firm's mass torts and environmental threats practice groups. He recently concluded a massive settlement in South Africa to recover compensation for tens of thousands of South African goldminers who suffered occupational lung disease. The settlement is on behalf of a class of goldminers going back 50 plus years to 1965 against the entire goldmining industry in South Africa. *Bongani Nkala and 69 others v. Harmony Gold Mining Co., Ltd., et al.,* In the High Court of South Africa, Johannesburg (May 13, 2016). In the U.S. he has been appointed to serve as co-lead counsel in mass tort and product liability class action cases including *In re StarLink Corn Products* (N.D. Ill) (asserting claims by farmers for genetic modification contamination of the U.S. corn supply) and *In re PPA* (asserting claims by users of unsafe over-the-counter medicines). He has also been appointed to the MDL Steering Committee in *In re Prempro Products (HRT) Liability Litigation, In re NFL Players' Concussion Injury Litigation, In re NCAA Concussions, In re Stryker Rejuvenate And ABG II Hip Implant Products Liability Litigation, In re Bard IVC Liability Litigation, In re Bair Hugger Forced Air Warming Products Liability Litigation,* and in *In re Chinese Manufactured Drywall Products Liability Litigation.* Rich was a member of the Chinese Drywall trial team that obtained a comprehensive remediation and property damages verdict for seven Virginia homeowners. Furthermore, Rich handled various experts in the *Daubert* briefing and argument; and was successful in excluding significant portions of the defense experts' opinions.

In addition, Rich served or presently serves as lead counsel or class counsel in numerous actions to obtain medical monitoring and property damage relief for communities exposed to toxic chemicals, unsafe working conditions, or unsafe drugs. These include the *In re NFL Concussion Injury Litigation, In re NCAA Concussion Litigation, In re Porter Ranch (Methane Gas Leak)* cases, and *In re Diet Drug Litigation* (Fen-Phen), which resulted in a $4 billion settlement providing medical monitoring in addition to individual personal injury awards. In addition, these include *Farnum v. Shell,* an oil spill pollution case in Barbados against international oil companies, that resulted in a settlement providing property damage compensation for 26 farmers and landowners, and *Harman v. Lipari,* a Superfund case that resulted in a

RICHARD S. LEWIS

settlement providing medical monitoring for thousands of residents who lived on or played near a landfill. In addition, he presently serves as co-lead counsel in two environmental cases on behalf of the largest public water board in the country against 3M Company and Dow for contamination of the local public drinking water supply. *SCWA v. Dow,* (EDNY, 2017), and *SCWA v. 3M Company,* (EDNY 2017). He has litigated both individual and class childhood lead poisoning cases and is also handling environmental and workplace safety cases in India, and South Africa.

PRACTICE AREAS

Environmental Threats

Mass Torts and Public Health Threats

Deceptive Business Practices and Consumer Protection

EDUCATION

University of Pennsylvania, J.D., *cum laude,* 1986

University of Michigan, M.P.H., 1981

Tufts University, B.A., *cum laude,* 1976

BAR ADMISSIONS

District of Columbia

AFFILIATIONS & HONORS

Law clerk, post law school, for the Honorable Stanley S. Brotman, U.S. District Court for the District of New Jersey

University of Pennsylvania *Law Review,* Comments Editor

NEWS & PRESS

Mr. Lewis was interviewed by BBC Radio regarding the class certification of the Silicosis case in South Africa in 2016.

Mr. Lewis commented in USA Today, "Hearing on consolidation of NCAA concussion lawsuits." December 2013.

"Manassas Park Woman Sues Drug Company Over Breast Cancer." The Washington Post quotes Richard Lewis regarding a suit against Pfizer. January 3, 2010.

Mr. Lewis interviewed in Fox News story on Prempro cancer case. November 26, 2009. First Chinese drywall class actions filed in Virginia and North Carolina. May 21, 2009.

Comment, "O.C.A.W. v. American Cyanamid: The Shrinking of the Occupational Safety and Health Act," University of Pennsylvania *Law Review* (July 1985)

Scott Martin

Partner

NEW YORK, NY

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Scott Martin has played a major role in defending many of the largest antitrust class action cases of the last two decades and has negotiated resolutions of numerous regulatory investigations and actions on behalf of corporate clients. He has been consistently recognized for years as one of the leading antitrust litigators in New York and the country by every significant ranking organization, including *The Best Lawyers in America* (Antitrust Law and Litigation - Antitrust), *Chambers USA Guide, International Who's Who of Competition Lawyers and Economists and International Who's Who of Business Lawyers,* and *Super Lawyers,* among others. Clients, colleagues, and adversaries have referred to Scott as a "terrifically talented and surefooted" litigator" and "an astute operator who always adds value to proceedings" while also serving as a "business-oriented lawyer who looks to see what the overall issues are and determines how best to approach the representation of those interests, including common sense approaches to exit strategies where feasible."

Scott's practice extends to bench and jury trials in both federal and state courts, complex federal multidistrict actions, class actions involving direct and indirect purchasers, *parens patriae* cases, FTC and DOJ investigations as well as other regulatory actions, and *qui tam* litigation. He also has two decades of counseling experience across a broad range of industries on pricing, distribution, competitive intelligence, joint ventures, and non-compete agreements, among other competition issues, and has designed antitrust compliance programs for some of the world's largest corporations.

Scott is a frequent lecturer and panelist who has also published practical advice on various antitrust topics. In addition to serving on the Editorial Board of *Antitrust Law Developments* and *Competition Law360,* Scott is a co-editor (along with Irving Scher of Hausfeld) of the forthcoming edition of the multi-volume treatise *Antitrust Adviser.* Scott is a member of the Executive Committee of the New York State Bar Association's Antitrust Section, and he has long been active in the leadership of the American Bar Association Section of Antitrust Law (including having served as chair of the Trial Practice Committee and the Business Torts & Civil RICO Committee, among other positions).

SCOTT MARTIN

Having adopted New York as his home for over 20 years, Scott owns a small business in Manhattan and also serves on the Board of Directors of WHEDco, a leading non-profit organization dedicated to creating opportunities in the Bronx.

PRACTICE AREAS

Environmental Threats

Competition Counseling and Compliance

Antitrust Counseling and Compliance

EDUCATION

Stanford Law School, J.D., 1990

Stanford University, A.B., with honors, 1987

BAR ADMISSIONS

New York

District of Columbia

U.S. Court of Appeals for the Second Circuit

Supreme Court of the United States

AFFILIATIONS & HONORS

Fellow, American Bar Foundation

Outstanding Antitrust Litigation Achievement in Private Law Practice (*In re Air Cargo Antitrust Litigation*), American Antitrust Institute, 2016

Listed, *Who's Who in American Law*

Editorial Board (Competition), *Law360*

Member, New York State Bar Association, Antitrust Section

Member, American Bar Association, Section of Antitrust

The Best Lawyers in America, Antitrust Law; Litigation - Antitrust, 2012-2015

Chambers USA Guide, 2006-2015

International Who's Who of Competition Lawyers and Economists, 2013-2014

International Who's Who of Business Lawyers, 2013-2014

Super Lawyers magazine, New York Metro Super Lawyers, 2006-2014

Euromoney's Guide to the World's Leading Competition & Antitrust Lawyers, 2012

The Legal 500 United States, 2009

Recipient, Legal Aid Award, the Legal Aid Society, 2006

NEWS & PRESS

"Settlement Practice from Both a Plaintiff and Defense Perspective, " Chapter, *American Antitrust Institute Handbook on Private Enforcement of Competition Law* (U.S. Edition), 2012, co-author with Joseph Tobacco

After American Needle, Is Everything Old New Again? *Competition Law360,* August 4, 2010

"Can Anyone Keep a Secret Anymore? Beware the differing privilege regimes in the global environment," *New York Law Journal,* November 16, 2009

SCOTT MARTIN

"The linkLine Decision: Section 2 Gets Squeezed Further, " *GCP: The Online Magazine for Global Competition Policy,* April 2009

"Antitrust Injury in Robinson-Patman Cases: What's Left?, " *GCP: The Online Magazine for Global Competition Policy,* November 2008

"One Year Post-'Twombly,' Trends Emerge, " *New York Law Journal,* August 25, 2008

Chapter, "Litigating International Antitrust Cases, " J. von Kalinowski, *Antitrust Counseling and Litigation Techniques,* 2007 and update

"A Rule Of Reason For Vertical Price Fixing - Part II, " *The Metropolitan Corporate Counsel,* Volume 15, No. 11, November 2007, co-author with Fiona A. Schaeffer

"A Rule Of Reason For Vertical Price Fixing - Part I, " *The Metropolitan Corporate Counsel,* Volume 15, No. 10, October 2007

"Antitrust in Distribution - Tying, Bundling and Loyalty Discounts, Resale Pricing Restraints, Price Discrimination - Part I, " *The Metropolitan Corporate Counsel,* Volume 14, No. 4, April 2006

Chapter, "Private Antitrust Litigation, " *Global Competition Review - Getting the Deal Through*, 2005

Chapter, "Advising Foreign Clients on US Antitrust Law, " *Asia Pacific Antitrust & Trade Review,* 2005

Antitrust Adviser (5th ed.), forthcoming, co-editor with Irving Scher

Chapter (Section 5 of the FTC Act), *Business Torts & Unfair Competition Handbook* (3d ed.)

Chapter (New York), *State Antitrust Practice and Statutes* (past three editions)

PUBLICATIONS

Co-Author, "Cartel Damage Recovery: A Roadmap for In-House Counsel," *Antitrust Magazine,* Fall 2017.

Co-Author, "SCWA Pursues Legal Action Against Companies Responsible for PFOS, PFOA and 1,4-Dioxane Contamination," Lexology, November 2017.

Co-Author, "Horizontal conspiracy complaints face different fates under Twombly "plausibility" standard," Lexology, October 2015.

Katie R. Beran

Associate

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Katie is an associate in the firm's Philadelphia office focusing on antitrust, civil and human rights, and environmental litigation. In recent years, Katie has been named a Lawyer on the Fast Track by The Legal Intelligencer, a Rising Star in Antitrust Litigation by Pennsylvania Super Lawyers, and an Energy & Environmental Trailblazer by the National Law Journal.

Katie's active antitrust matters include *In re Thalomid and Revlimid Antitrust Litigation,* No. 14-6997 (D.N.J.), a class action alleging that the defendant's extensive anticompetitive conduct excluded generic alternatives for Thalomid and Revlimid, two drugs used to treat rare but deadly conditions, from entering the market, causing end payors to incur millions of dollars in overcharges. Katie is also a member of the *In re Foreign Exchange Benchmark Rates Antitrust Litigation,* 13-7789 (S.D.N.Y.) team, alleging a conspiracy to fix the prices of foreign exchange instruments among some of the largest banks in the world, in which the firm has secured more than $2.3 billion in settlements.

Katie's environmental law matters include representation of the Suffolk County Water Authority in two water contamination cases, *Suffolk County Water Authority v. The Dow Chemical Company et al.,* 17-6980 (E.D.N.Y.) and *Suffolk County Water Authority v. The 3M Company et al.,* 17-6982 (E.D.N.Y.).

Before joining the firm, Katie served as a federal Law Clerk to the Honorable Gerald A. McHugh in the Eastern District of Pennsylvania during the first two years of Judge McHugh's tenure on the Bench. While clerking, Katie was heavily involved in the Supervision to Aid Reentry ("STAR") Program, where she served as an Adjunct Professor for the inaugural year of the Federal Reentry Court Clinic and received the 2016 Penn Law Toll Public Interest Center Pro Bono Supervisor Award for her work with 3L students. Katie previously worked as a litigation associate at a large firm, where she practiced commercial litigation, health law, and family law.

Katie earned her bachelor's degree, magna cum laude, in sociology and multi-ethnic studies from American University, where she was a member of Phi Beta Kappa and the University Honors Program. Katie graduated, cum laude, from the University of Pennsylvania Law School. While at Penn, she was a Legal Writing Instructor and an Associate Editor of the Journal of

KATIE R. BERAN

Law and Social Change. She was also the director of the Feminist Working Group, and co-founded and served as the managing director of the Civil Rights Law Project.

Katie continues to be involved in the Federal Reentry Court Clinic as a pro bono supervising attorney and was recognized in 2019 for her valuable contributions to the STAR program. Katie also previously served as a Vice President on the Executive Board of the Jewish Social Policy Action Network ("JSPAN"), a progressive non-profit organization.

PRACTICE AREAS

Environmental Threats

Financial Services and Securities

Civil and Human Rights

Antitrust / Competition

EDUCATION

University of Pennsylvania Law School, *cum laude,* 2012

American University, *magna cum laude,* 2009

BAR ADMISSIONS

Pennsylvania

New Jersey

U.S. District Court – Eastern District of Pennsylvania

U.S. District Court – New Jersey

U.S. Court of Appeals for the Third Circuit

AFFILIATIONS & HONORS

Eastern District of Pennsylvania, Supervision to Aid Reentry Program, Recognized Community Partner (2019)

National Law Journal, Energy & Environmental Trailblazer (2018)

Super Lawyers, Pennsylvania Antitrust Litigation Rising Star (2018)

The Legal Intelligencer, Lawyer on the Fast Track (2017)

Penn Law Toll Public Interest Center, Pro Bono Supervisor Award (2016)

American Bar Association

- Vice Chair, Legislation Committee, ABA Section of Antitrust Law (2018-2019)
- Young Lawyer Representative, Legislation Committee, ABA Section of Antitrust Law; Young Lawyer Division Public Service Team (2017-2018)

Philadelphia Bar Association

Philadelphia Bar Foundation

Jewish Social Policy Action Network, Vice President (2014-2018)

Judicial Law Clerk to the Honorable Gerald A. McHugh, United States District Court for the Eastern District of Pennsylvania (2014-2016)

Reentry Court Clinic Adjunct Professor (2015-2016), Temple University Beasley School of Law

KATIE R. BERAN

PUBLICATIONS

Author, Recent Third Circuit Product-Hopping Case Warrants Rehearing, Lexology (Nov. 16, 2016).

Revisiting the Prostitution Debate: Uniting Liberal & Radical Feminism in Pursuit of Policy Reform, Law and Inequality: A Journal of Theory and Practice. University of Minnesota Law Journal, Volume 30, Issue 1 (2012).

Nowhere to Fall: Facing the Economic Crisis in the U.S, Z Magazine (Oct. 2009). Co-author with Professor Celine-Marie Pascale.

PRESENTATIONS & SPEECHES

Moderator, ABA Section of Antitrust Law Legislation Committee Program: Healthcare & Pharma Regulation Through Antitrust Legislation (April 25, 2019)

Moderator, Successful Reentry: Innovative Programs to Reduce Recidivism and Reform the Criminal Justice System, Pursuing Justice 2016: Bend the Arc's First National Conference (June 6, 2016)

Panelist, Transformative Lawyering, Community Partnerships and the Power of Reentry Court, 2nd Annual Conference for Integrating Spirituality, Law and Politics, Drexel University Thomas R. Kline School of Law (June 4, 2016)

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Jeanette Bayoumi is an associate at Hausfeld's New York office. As part of the dynamic litigation team at Hausfeld, Jeanette's work spans a wide array of practice areas, including Hausfeld's Antitrust, Financial Services and Securities, Environmental, and Human Rights practice areas.

Jeanette is currently working on a variety of cases including *In re American Express Anti-Steering Rules Antitrust Litigation,* a multidistrict litigation class action lawsuit consolidated in the Eastern District of New York. In that case, Hausfeld represents a class of merchant plaintiffs alleging that American Express' Anti-Steering Rules, which prohibit merchants from steering consumers towards using other credit and charge cards to pay for purchases, unreasonably restrain interbrand price competition among credit and charge card networks thereby affecting the two-sided market. Jeanette is also involved in cases such as *In re Chicago Board Options Exchange Volatility Index Manipulation Antitrust Litigation,* MDL No. 2842 (N.D. Ill.), a multidistrict litigation class action lawsuit consolidated in the Northern District of Illinois alleging manipulation of the CBOE Volatility Index ("VIX"), known as the U.S. stock market's "fear gauge," and *In re Mexican Government Bonds Antitrust Litigation,* a multidistrict litigation class action lawsuit alleging manipulation of the Mexican Government Bonds market.

In addition, Jeanette is a member of the *Suffolk County Water Authority v. The Dow Chemical Company et al.,* 17-6980 (E.D.N.Y.) and *Suffolk County Water Authority v. The 3M Company et al.,* 17-6982 (E.D.N.Y.) case teams. Filed against the manufacturers of toxic chemicals that have polluted the Authority's public supply wells, these water contamination cases allege that the defendants, who knew or should have known of the environmental risks of their defectively-designed products, must bear responsibility for the costs of treating the contaminated water and protecting the public from harm.

Jeanette is also an active participant in the firm's pro-bono work. Notably, she is part of the Hausfeld team which, in early 2018, filed four separate lawsuits in federal courts located in California, Massachusetts, South Carolina, and Texas, each alleging that the winner-take-all system of the electoral college violates the U.S. Constitution and distorts presidential campaigns. The multiple plaintiffs in these four cases, including the largest Latino membership organization in the U.S., LULAC, seek to establish a

JEANETTE BAYOUMI

more democratic system of voting for the President. *See Rodriguez, et al. v. Brown, et al.,* No. 18-cv-01422 (C.D. Cal.); *Lyman, et al. v. Baker, et al.,* No. 18-cv-10327 (D. Ma.); *Baten, et al. v. McMaster,* No. 18-cv-00510 (D.S.C.); and *League of United Latin American Citizens, et al. v. Abbott, et al.,* No. 18-cv-00175 (D. Tex.).

Prior to joining Hausfeld, Jeanette worked at the Financial Industry Regulatory Authority, where she strove to protect investors trading on the Nasdaq Stock Market and the New York Stock Exchange. During this time, she gained extensive experience in the fields of securities law and securities regulation. Preceding this work, Jeanette was part of the U.S. Securities and Exchange Commission Honor's Program, where she worked with the Office of International Affairs, aiding attorneys on international and securities related issues.

Jeanette attended law school at the Washington College of Law at American University, where she was a member of the American University International Law Review. During law school Jeanette worked as a summer associate with a Turkish law firm, based in Istanbul, Turkey, where she was engaged in resolving European Union competition law challenges. Prior to American University, she graduated from Georgetown University's School of Foreign Service with a B.A. in International Politics. She remains actively involved in Georgetown University's alumni community, serving as part of the school's admissions interviewing program.

PRACTICE AREAS

Environmental Threats

Financial Services and Securities

Antitrust / Competition

Human Rights and Environmental Disputes

EDUCATION

American University Washington College of Law, *cum laude,* 2015

Georgetown University, *cum laude,* 2012

BAR ADMISSIONS

New York

District of Columbia

AFFILIATIONS & HONORS

New York State Bar Association

American University International Law Review (2013-2015)

PUBLICATIONS

Author, "The Ninth Circuit Rules That Supporting Evidence Need Not Be Admissible at the Class Certification 'Preliminary Stage' of a Suit" Lexology (May 22, 2018)

Author, "Are Nationwide Classes at Risk for Overturned Settlements following the Ninth Circuit's Ruling in Hyundai?" Lexology (Feb. 20, 2018)

EXHIBIT D

PATRICK A. PARENTEAU, J.D., L.L.M.

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Residence
1318 Gove Hill Road
Thetford Center, VT 05075
802 785-4131
patrick.parenteau@valley.net

CURRENT POSITION

Professor of Law and Senior Counsel, Environmental and Natural Resources Law Clinic, Vermont Law School

EDUCATION

1975 George Washington University, Washington, DC (L.L.M. in Environmental Law)

1972 Creighton University, Omaha, NE (J.D.)

1969 Regis University, Denver, CO (B.S.)

TEACHING EXPERIENCE

Sept-Dec 2018	Fulbright Scholar University College Cork Ireland
1993- present	Professor of Law, Vermont Law School, South Royalton, VT. Currently teaching: Climate Change and the Law; Water Quality; Extinction and Climate Change; Law of Climate Adaptation (online course). Faculty Advisor, National Environmental Moot Court Team.
1998-2004	Adjunct Professor of Environmental Studies, Dartmouth College, Hanover, NH. .
1999	Visiting Professor, Washington University, St Louis, MO. Ecosystem Approaches to Natural Resource Conservation.
1979-1989	Summer Faculty, Vermont Law School. Wildlife and Forestry.
1986	Lecturer, Boston College Law School, Chestnut Hill, MA. Regulation of Air and Water Quality.
1982	Lecturer, Lewis & Clark Law School. Portland, OR. Wildlife Law.
1977-1978	Lecturer, George Washington University, Washington, DC. Natural Resources Law.
1975-1976	Natural Resources Law Institute Fellow, Northwestern School of Law, Lewis and Clark College, Portland, OR.

TEACHING INTERESTS

Subjects taught: The Administrative Procedure Act; Climate Change and the Law; The National Environmental Policy Act; Regulation of Air and Water Pollution; Hazardous Waste Management and Remediation; The Marine Mammal Protection Act; The Sustainable Fisheries Act; The Endangered Species Act; Water Resources Law; Wetlands Conservation; The National Forest Management Act; The Wilderness Act; The Federal Lands Policy and Management Act; Biodiversity Conservation; Environmental Policy and Management; Environmental Litigation

Teaching methodologies: Socratic dialogue; simulations and role-playing; mock hearings and negotiations; problem-solving exercises; interdisciplinary case studies; field trips; stakeholder interviews; distance learning; web-based courses; power-point presentations.

Educational philosophy: Mastery of environmental law and policy requires literacy in a number of related fields: ecology, economics, ethics, law, and political science. To be a good environmental lawyer, one must first be a good lawyer, a creative problem solver; someone who can bring people together in constructive ways that lead to durable agreements to resolve complex problems. To be a good environmentalist, one must have a strong ethical foundation, a sincere respect for nature, and a commitment to leaving the world a better place, for all its inhabitants.

PROFESSIONAL EXPERIENCE

2003-Present: Professor of Law and Senior Counsel Environmental and Natural Resources Law Clinic, Vermont Law School

2004-2008:Founding Director, Environmental and Natural Resources Law Clinic. ENRLC provides clinical training in environmental litigation, negotiation, and policy advocacy, and represents nonprofit conservation organizations and community groups in federal and state courts, administrative bodies, and legislatures.

1993-1999: Director, Environmental Law Center, Vermont Law School. Responsibilities included curriculum development, recruitment and admissions to masters' programs, faculty hiring and development, fund-raising, marketing and budgeting, career counseling, and outreach/public service. Started several new programs including First Nations Environmental Law Fellowship, Indian Country Environmental Justice Clinic, Environmental Semester in Washington Externship Program, Masters of Environmental Law (LLM) Degree Program, and a dual degree master's program with the Tuck School of Business at Dartmouth College.

1991-1992: Special Counsel to U.S. Fish and Wildlife Service. Received special congressional appointment to represent USFWS in the Endangered Species Act exemption process involving the northern spotted owl controversy in the old growth forests of the Pacific Northwest.

1989-1993: Of Counsel, Perkins Coie, Portland, OR. Counseled and represented clients on wide range of environmental matters before regulatory agencies and state and federal courts. Drafted nation's first environmental audit privilege statute. Chaired Water Quality Advisory Committee for Oregon Department of Environmental Quality; negotiated cleanup of numerous hazardous waste sites.

1987-1989: Commissioner, Vermont Department of Environmental Conservation. Appointed by Governor Madeleine Kunin. Oversaw department that implemented all of the environmental programs in the state of Vermont. Implemented new programs for solid waste management, groundwater protection, wetlands conservation and enforcement. Secured passage of law creating nation's first Environmental Court. Won regional award for outstanding contributions to air quality improvement.

1984-1987 Regional Counsel, U.S. Environmental Protection Agency, Region I, Boston, MA. Senior Executive Service appointment. Responsible for managing legal staff and enforcement program for large regional office of federal regulatory agency. Oversaw development of Boston Harbor cleanup case. Developed cases that set national precedents for criminal enforcement, multi-party hazardous waste cleanups, and wetlands protection.

1980-1984: Vice President for Conservation, National Wildlife Federation, Washington, DC. Responsible for implementing advocacy programs of the nation's largest conservation organization.

Oversaw lobbying and grassroots program that was instrumental in passage of major national environmental laws including Alaska Lands Bill, Coastal Barriers Resources Conservation Act, Superfund; and major amendments to Clean Air Act, Clean Water Act and Endangered Species Act. Supervised active litigation program handling cases of national importance. Oversaw research program that produced influential public policy papers.

1978-1980: Director of Resources Defense Division, National Wildlife Federation. Created innovative approach to conservation by hiring and organizing staff into interdisciplinary teams of lawyers, scientists, economists, and lobbyists assigned to subject matter areas (e.g., energy, public lands, wildlife). Expanded NWF's advocacy and policy research programs in the US and abroad.

1976-1978: Counsel, National Wildlife Federation. Litigated precedent-setting cases under the Endangered Species Act, National Environmental Policy Act, Clean Water Act, and other laws. Established the Platte River Whooping Crane Trust as part of a settlement of major lawsuit; case is now used by the Kennedy School of Government as a case study for resolving natural resources disputes.

1972-1974: Staff Attorney, Legal Aid Society of Omaha, Nebraska. Handled cases for indigent clients; litigated major federal cases involving civil rights, welfare, housing, segregation, consumer protection and prisoner's rights.

INTERNATIONAL EXPERIENCE

2018 Fulbright Scholar University College Cork Ireland

2016 Bejing China. Training program for Chinese judges sponsored by the Supreme People's Court

2015 Bogata Colombia. Training program for faculty of the University of the Andes

2010 Brazil. Created and taught environmental compliance seminar for senior attorneys with Petrobras (state-owned oil company)

2006 Guatemala. Advised Pro Peten, an indigenous Mayan organization helping build sustainable communities in the Peten Region of Guatemala.

2004 Russia-Finland. Participated in International Environmental Law School. Faculty and students from Russia, the U.S., Finland, and Italy. Topic: Comparative Law of Protected Areas.

2004 China. Visit to Sun Yat-sen University in Guangzho for presentations, meetings and faculty colloquia. Led to creation of the VLS-China Partnership, which is now in its seventh year operating on a $1.5 million annual budget

2002 Republic of Karelia Russia. Participated in third annual International Environmental Law Summer School, which included students from Vermont Law School and the U. of Trento, Italy. Also organized and presented papers at a conference for Russian lawyers on citizen enforcement of environmental laws and protection of individual rights to a healthy environment.

2000 Petrozavodsk, Karelia. Helped develop and teach first annual International Environmental Law Summer School, hosted by PSU, which drew students from Republics in Northwest Russia and Scandinavian countries (Barents Sea Region). Advised PSU faculty and administrators on creation of environmental law center, which was launched the next year.

1999 Moscow, Russia and Petrozavodsk, Karelia. Participated in ABA-CEELI Conference on

clinical legal education in Russia. Presented paper on environmental litigation. Met with faculty and administration of Petrozavodsk State University to discuss development of environmental curriculum including potential development of environmental clinic.

1997 Havana, Cuba. Member of multi-country delegation to promote inter-American dialogue on environmental issues. Presented paper at national conference; participated in workshops with government officials on development of Cuban environmental laws; met with Cuban Bar Association and judges.

1995 Visiting Lecturer, Petrozavodsk State University (PSU), Republic of Karelia, Russia. Lectured in several classes of the law faculty. Met with University officials to plan cooperative educational programs between PSU and VLS.

1994 Prague, Czech Republic. Developed and participated in one-week training program for government officials and NGO's on environmental enforcement sponsored by the Institute for Sustainable Communities with funding from USEPA.

PUBLICATIONS

Book Chapters

Cities on Stilts: The Myth of Large Scale Climate Adaptation in **Rethinking Sustainability in and Age of Climate Change** Environmental Law Institute (2015)

Legal Authorities for Ecosystem-Based Management in U.S. Coastal and Ocean Areas (with several co-authors); *Climate Change and the Marine Environment* (with several co-authors), in **Ocean and Coastal Law and Policy 2d Ed**. ABA (2015)

Species and Ecosystem Impacts, in **The Law of Adaptation to Climate Change** ABA 2012

*Go Back it's a Trap: On the Perils of Geologic Sequestration of Carbon Dioxide***,** in **The Climate Reader** Carolina Press 2010

Overview of Wildlife Law in the United States (with Don Baur) in **Wildlife law: A Global Perspective** (ABA 2008)

The Endangered Species Exemption Process and the God Squad, in **The Endangered Species Act: Law, Policy and Perspectives**, American Bar Association (2002)

Vermont Environmental Law, in **Environmental Law Practice Guide: State and Federal Law**, Michael Gerrard (general editor) (Matthew Bender & Co. 2001)

Overview of Federal Wildlife Law (with Don Baur), in **Natural Resources Law Handbook** (Gov't. Institutes Inc. 1994)

Wetlands Regulation under the 404 Program, in **Federal Wetlands Regulation** (Gov't. Institutes Inc. 1991)

Law Review Articles

The Clean Water Rule: Not Dead Yet 48 Environmental Law 377 (Summer 2018)
A Bright Line Mistake: How EPA Bungled the Clean Water Rule, 46 Environmental Law 379-393 (2016)

Carbon Trading in China: Progress and Challenges 46 ELR 10194 (2016)

A Bridge Too Far: Building Off-ramps on the Shale Gas Superhighway (with Abigail Barnes), 49 Idaho Law Rev.325 (2013)

The Other Dam: Grayrocks vs the Whooping Crane, 80 Tenn. L. Rev. 543 (2012)

Come Hell and High Water: Coping with the Unavoidable Consequences of Climate Disruption, 34 Vermont Law Rev. 957 (2010)

Lead Follow or Get Out of the Way: The States Tackle Climate Change with little Help from Washington, 40 Connecticut L Rev. 1453 (2008)

Whatever Industry Wants, Environmental Policy under Bush II, 14 Duke Envt'l Law & Policy Forum 363 (2004)

Citizen Suits under the Endangered Species Act: Survival of the Fittest, 10 Widener Law Rev. 321 (2004)

Unreasonable Expectations: Why Palazzolo Is Not Entitled to Turn Silk Purse into A Sow's Ear, 30 Boston College Environmental Affairs Law Review, 101 (2002)

Rearranging the Deck Chairs: Endangered Species Act Reforms In An Era of Mass Extinction, 22 William & Mary Law & Policy Review 2227 (1999)

Fashioning A Comprehensive Environmental Review Code for Tribal Governments: Institutions and Processes (with Dean Suagee), 21 American Indian Law Review 297 (1997)

Who's Taking What? Property Rights, Endangered Species, and the Constitution, 6 Fordham Environmental Law Review No. 3 (1996)

All You Needed To Know About Environmental Law You Learned In Kindergarten, 23 Environmental Law 223 (1993)

The Big Chill: The Impact of Fleet Factors on Lenders (with Craig Johnston), 20 Chemical Waste Litigation Reporter 380 (1990)

Small Handles, Big Impacts: When Do Corps Permits Federalize Private Development? 20 Environmental Law 747 (1990)

The Effluent Limitations Controversy: Will Careless Draftsmanship Foil the Objectives of the Clean Water Act? (with Nancy Tauman), 6 Ecology Law Quarterly 1 (1977)

Regulation of Nuclear Powerplants: A Constitutional Dilemma for the States, 6 Environmental Law 675 (1976)

Public Assessment of Biological Technologies: Can NEPA Answer the Challenge? (with Robert Catz), 64 Georgetown Law Journal 679 (1976)

Journal Articles

Between a Pebble and a Hard Place: Using §404(c) to Protect a National Treasure, National Wetlands Newsletter Vol. 37, No 2 March-April (2015)

The Carbon Bubble, Fletcher Forum on World Affairs February 2014

Wetlands Conservation and Climate Resilience, National Wetlands Newsletter, Vol. 34 No. 4

(2012)

Reinvigorating the Public Trust Doctrine: Expert Opinion on the Potential of a Public Trust Mandate in U.S. and International Environmental Law(with several authors), Environment: Science and Policy for Sustainable Development, Volume 52, Issue 5, 2010

Last One Standing: The Roberts Court and Article III, ABA Trends (November/December, 2009)

Wetlands and Climate Change, National Wetlands Newsletter, March 2009

The First One Hundred Days: What President Obama should do to Confront the Climate Challenge, Environmental Law Quarterly Currents, January 2009

*Conservation Science, Biodiversity, and the 2005 U.S. Forest Service Regulations (*with Barry Noon and Steve Trombula*k)* Conservation Biology, Vol. 19 No. (5 October 2005)

Preemptive Surrender: How Corps Districts Are Giving Away Clean Water Act Jurisdiction, National Wetlands Newsletter (May-June 2005)

Bushwhacked: The Impact of the President's Polices on Vermont, Vermont Environmental Reporter (May/June 2004)

A Biodiversity Plan for Vermont? Vermont Environment Reporter (Summer 2001)

She Runs With Wolves: In Memory of Mollie Beattie, 14 Trumpeter 4 (1997)

A Bum Rap for Vermont's Endangered Species Act, The Vermont Bar Journal and Law Digest (October, 1995)

Babbitt v Sweet Home: The Court Protects Endangered Species Habitat, 5 Rivers 216 (1996)

NEPA at Twenty, 6 Environmental Forum 14 (1989)

NEPA at Twenty: Disappointment or Success? Audubon, p. 14 (March, 1990)

Opinion Pieces

What Scalia's death means for environment and climate The Conversation (Feb 18, 2016)

The Clean Power Plan Will Survive Law 360 (Sept 28, 2015)

Setting the Record Straight on the FTC Decision, VtDigger February 11, 2015

Don't Gut Environmental Review, Rutland Herald and VtDigger May 13, 2013

In Praise of Public Interest Journalism Huffington Post (October 2011)

Environmental Clinic Works for People Burlington Free Press (November 2004)

Trashing Vermont, The Rutland Herald (November 13, 2003)

Playing Games with Critical Habitat, Northern Woodlands (Sept/Oct 2003)

Leahy's Careful Scrutiny Is Necessary, Valley News (VT) (May 23, 2002)

Don't Squander Best Chance To Clean Up Elizabeth Mine, Valley News (VT)(March 23, 2002)

Opponents Threaten To Unravel Champion Plan, Burlington Free Press (VT)(Jan. 15, 2002)

Court Should Nix Takings Argument, Boston Globe (MA) (Jan. 7, 2002)

Our Wetland Dominoes, National Law Journal (Feb. 26, 2001)

Coming EPA Policy Ruling Gives Court Opportunity to Clear the Air, The Philadelphia Inquirer (PA) (Nov. 3, 2000)

Let Regulation Evolve, Naturally, Legal Times (May 13, 1996)

Twenty Five Years of Environmental Progress Comes to a Screeching Halt, Valley News (VT) (April 23, 1995)

Another Broken Promise? The Oregonian (OR) (Aug. 30, 1994)

Lessons from the Spotted Owl for Vermont, Burlington Free Press (VT) (April 3, 1994)

Court Finds New Basis for Liability (with Craig Johnston and Mary Wood), National Law Journal (May 13, 1991)

Exporting Extinction–Or Building a Future? Legal Times (Mar 4, 1991)

Work to Protect People and Owl, The Oregonian (April 24, 1990)

SELECTED PRESENTATIONS

The Twenty Ninth Day: Confronting Climate Disruption and Winning the Future, Framingham State U, Framingham MA, April 2 2015

Prairie Dogs, The Endangered Species Act, and the Limits of the Commerce Clause, Tulane Environmental Law Summit, New Orleans, February 2015

Dead Zones and the Clean Water Act, Society of Environmental Journalists 24th Annual Meeting, New Orleans, September 2014

Running Out of Atmosphere: How Millennials Will Save Civilization from Runaway Climate Change, Thirtieth Annual Public Interest Environmental Law Conference, U of Oregon February 2014

A Law like No Other: Celebrating the Fortieth Anniversary of the Endangered Species Act, Public Interest Environmental Conference, U of Florida February 2103

Species Conservation in the Anthropocene, ALI/ABA Course of Study Species Protection: Critical Legal Issues, May 2012

Reinvigorating the Public Trust Doctrine, American Assn. for Advancement of Science Annual Meeting, May 2011

Wetlands and Climate Change, Association of State Wetlands Managers Annual Meeting, Portland Oregon September 16, 2008

Is It Just Me or Is It Getting Hot in Here? ABA Mid-Year Meeting, Clean Air Panel, Phoenix, Az. September 19, 2008

The Role of State and Local Planning in Climate Change Mitigation and Adaptation, Windham County Regional Planning Commission, Brattleboro, VT. September 30, 2008.

Ecosystem Effects of Climate Change, Massachusetts School of Law, Andover MA October 11, 2008

Meltdown: Can Law Save the Arctic? Yale School of Forestry and Environmental Studies, October 21, 2008

Defining Waters of the United States after SWANCC, The Association of State Wetlands Managers, Albuquerque, NM (October 2005)

What's in a Name? The Bush Administration's Environmental Record, The Society for Environmental Journalists 15th Annual Conference, Austin, TX (September 2005)

Litigating the ESA Take Prohibition, ALI/ABA Conference on the Law of Protected Species, Washington DC, (April 2004)

Implications of Miccosukee, ABA National Telecast (June 13, 2004)

Clean Water Act Jurisdiction after SWANCC, The Federalist Society, Nat'l Press Club Washington DC February, 2004

The Public Trust Doctrine as a Background Principle of Property Law, Symposium on the Palazzolo Case, Boston College Law School (March, 2002)

Forestry and Biodiversity, International Environmental Law School, Petrozavodsk State University, Karelia, Russia (June, 2001)

Citizen Enforcement of Environmental Laws in the United States, ABA-CEELI Conference, Moscow, Russia (May 1999)

SUPREME COURT *AMICUS* BRIEFS

Massachusetts v EPA, 549 U.S. 497 (2007). Submitted on behalf of climate scientists in landmark climate change case.

Rapanos v United State, 547 U.S. 715 (2006). Submitted on behalf of Association of State Wetlands Managers major Clean Water Act case.

South.Fla. Water Mgt. Dist. v Miccosukee Tribe of Indians, 541 U.S. 95 (2004). Submitted on behalf of Association of State Wetland Managers in major Clean Water Act case.

Borden Ranch Partnerships v U.S. Army Corps of Engineers, 537 U.S. 995 (2002). Submitted on behalf of Association of State Wetland Managers in major wetlands case.

Palazzolo v. State of Rhode Island, 121 S.Ct. 2448 (2001). Submitted on behalf of Dr. John Teal and group of distinguished scientists in a case involving constitutional challenge to state coastal wetlands protection program.

Babbitt v. Sweet Home Chapter of Communities for Greater Oregon, 115 S. Ct. 2407 (1995). Submitted on behalf of Professor E. O. Wilson and group of distinguished scientists in case involving interpretation of the Endangered Species Act.

SELECTED CASES

Center for Biological Diversity v EPA, No. 13-cv-1866 (W.D. Wash. Feb. 19, 2015): (amicus brief on behalf of climate scientists and marine biologists in case challenging EPA failure to designate coastal waters impaired by ocean acidification)

Catskills Mtn. Chapter of Trout Unlimited v City of New York, No 14-1823 (2d Cir 2015) (amicus brief on behalf of Leon G Billings et al in case challenging EPA water transfers rule)

Residents Concerned About Omya v Omya, Inc, (Represented residents living next to mining operation that has contaminated groundwater) (2009)

In re Vermont Yankee NPDES Permit Appeal, Vermont Environmental Court (2008)(Represented Connecticut River watershed Council in appeal of permit to discharge heated effluent to Connecticut River).

Nulankeyutmonen Nkihtaqmikon v BIA, 503 F.3d 18 (1st Cir. 2007)(Represented indigenous people opposed to LNG terminal on tribal sacred site)

National Wildlife Federation v Norton, 386 F.Supp.2d 553 (D. Vt. 2005*).*Represented national conservation organizations in case challenging reclassification of the gray wolf under the Endangered Species Act.

Kootenai Tribe v. Veneman, 313 F.3d 1094 (9th Cir. 2003). Represented conservation interests in defense of the "Roadless Rule" for National Forests..

National Audubon Society v. Hoffman, 132 F.3d 7 (2d Cir. 1997). Represented conservation group in case involving management of roadless areas of National Forests.

Northwest Environmental Advocates v. City of Portland, 11 F.3d 900 (9th Cir. 1993). Represented community groups in case involving cleanup of the Willamette River under the Clean Water Act.

In Re Bureau of Land Management Application for Exemption from the Endangered Species Act Endangered Species Committee (1992). Represented U.S. Fish and Wildlife Service in opposition to an exemption for timber sales in critical habitat of northern spotted owl.

National Wildlife Federation v Gorsuch, 639 F.2d 156 (DC Cir. 1982). Represented NWF in case seeking regulation of dams as point sources under the Clean Water Act.

The Pittston Co. v. The Endangered Species Committee, 14 ERC 1257 (D.DC 1980). Represented NWF in case challenging right of oil refinery to seek exemption from the Endangered Species Act for impacts to the bald eagle and right whale.

North Slope Borough v. Andrus, 642 F.2d 589 (DC Cir. 1980). Represented conservation organizations in challenge to oil and gas development in habitat of the endangered bowhead whale.

Environmental Defense Fund v. Andrus, 596 F.2d 848 (9th Cir. 1979). Represented conservation

organizations as *amici curiae* in case applying Fish and Wildlife Coordination Act to federal water marketing program.

State of Nebraska v. Rural Electrification Administration, 12 ERC 1156 (D.Neb. 1978). Represented national conservation organizations in case challenging water diversions destroying critical habitat of the endangered whooping crane on the Platte River.

National Wildlife Federation v Andrus, 440 F.Supp. 1245 (D. DC 1977). Represented NWF in case challenging legality of hydro-power project on the San Juan River in New Mexico.

AWARDS

Kerry Rydberg Public Interest Environmental Law 2016
American College of Environmental Lawyers Fellow 2015
National Wildlife Federation, National Conservation Achievement Award (2006)
Connecticut River Conservation Council, River Champion (2009)

PROFESSIONAL ASSOCIATIONS
Admitted to practice in Nebraska, Oregon, District of Columbia, Second Circuit and US Supreme Court.
Member, American Bar Association, Society of Conservation Biologists
Board Member, Climate Law Institute

EXHIBIT E

LEGAL SERVICES AGREEMENT

The State of Michigan ("State"), by and through its Attorney General, hereby engages Sher Edling, LLP and Hausfeld LLP ("Attorneys") to provide legal services on the terms and conditions set forth below. The State and Attorneys (the "parties") recognize that this Legal Services Agreement is protected by the attorney-client privilege. The parties will keep this agreement confidential to the fullest extent of the law until the litigation is concluded since it not only meets the elements of the privilege, but also various provision of this agreement could be used tactically and strategically against the parties in the conduct of any litigation, in any negotiations and settlement discussion, and to negatively affect the ultimate disposition of any litigation on behalf of the State.

1. Scope of Engagement: The State requests, and Attorneys wish to perform, the following activities: to investigate, litigate, or negotiate for settlement, actionable claims that may be pursued by the State against individuals and entities related to contamination by the perfluorooctane sulfonate ("PFOS"), perfluorooctanoic acid (PFOA), perfluorononanoic acid ("PFNA"), and related harmful per- and polyfluoroalkyl substances ("PFAS," also referred to as perfluorinated chemicals, "PFCs") from the State's natural resources.

2. Terms of engagement:

   a. State responsibility for fees and costs: Under no circumstances shall the State be liable for any costs, expenses, or attorney fees incurred by Attorneys in preparing and conducting this investigation and/or litigation. All expenses, costs and attorneys' fees, if any, shall be paid from the proceeds of the investigation and/or litigation, as a portion of the recovery in the suit after trial or settlement, from an award by the Court to be imposed upon the defendants, by agreement with the defendants, or some combination thereof.

   b. Attorney General's control of litigation: The Attorney General's Office shall be the ultimate decision maker on all matters relating to the investigation and/or litigation, including whether to file litigation and whether and on what terms to settle such litigation. The Attorney General will retain complete control over the course and conduct of this matter, and will retain veto power over any decisions made by outside counsel. A senior member of the Attorney General's staff will be personally involved in all stages of the litigation. Attorneys shall consult with and obtain the approval of the Attorney General's Office regarding the investigation, litigation, and any settlement, including but not limited to the complaint and dispositive motions, selection of consultants, experts and other professional services, discovery, pre-trial proceedings, trial, and settlement offers, demands, or negotiations. All draft filings shall be provided to the Attorney General's Office sufficiently in advance of filing to permit its review. Regular status meetings shall be held as requested by the Attorney General's Office. The Attorney General's Office also shall designate a point of contact from within the Office to be available to any targets or defendants as appropriate.

3. Attorneys' expenses and fees:

a. Attorneys shall only be entitled to recover such fees, costs, and expenses as are incurred in the investigation and/or litigation from any monetary recovery after judgment or settlement, from an award by the Court to be imposed upon the defendants, by agreement with the defendants, or some combination thereof. In the event there is a judgment or settlement without a monetary payment to the State, the State will not owe anything for costs, expenses, or attorneys' fees, but Attorneys may seek attorneys' fees, costs, and expenses from the Court or from defendants. Expenses and costs shall include, but not be limited to, pre-litigation investigation, discovery, pre-trial proceedings, experts, investigators, consultants and other contractors, travel, copying, freight and postage, communications charges, and any other necessary expenses related to the investigation or litigation. Costs and expenses will be deducted from any monetary recovery remaining after subtracting the contingency fee. All costs and expenses related to the investigation and litigation shall be advanced by Attorneys and will be recovered by Attorneys from any monetary recovery. Expenses of more than $25,000 must be approved in advance by the Attorney General's Office.

b. Contingency fee: The State agrees to pay, as compensation for attorneys' services, sixteen percent (16%) of all claims or recoveries (collectively, "Recovery" or Recoveries") from and against all sources, persons, or entities whether tried before a judge or jury or not. For Recoveries greater than $150 million, Attorneys shall receive nine and one-half percent (9.5%) on the amount of the Recoveries greater than $150 million. The percentage referenced in this paragraph will be calculated on and subtracted from the gross amount of any Recovery obtained before any outstanding expenses incurred by Attorneys or other costs have been deducted. The State agrees that Attorneys may bring in additional lawyers to assist in handling this matter, though the State must approve the selection of additional counsel. Attorneys will be responsible for arranging the division of expenses and fees, if any, with such additional counsel, and the State will not have any role or liability regarding the division of such fees and expenses.

c. Value of injunctive relief: The value of any injunctive relief, financial relief paid to third parties, and / or in-kind services provided as a part of any recovery, both presently and in the future, shall be included in the value of the recovery for which a contingent fee is paid. However, nothing in this provision will require the County to pay the contingency fee except from a financial recovery or as awarded by the Court, provided however that the Firm shall be entitled to the contingency fee based on the value of any injunctive relief or in-kind services obtained by way of a settlement negotiated with the defendants. In other words, the value of such non-monetary relief will be considered part of the total recovery regardless whether or not the recovery is obtained via settlement, but the contingency fee on a recovery obtained pursuant to a contested

judgment (i.e., not a settlement) will not exceed the monetary portion of such recovery. The County and the Firm shall use their best efforts to agree on the value of injunctive relief obtained. In the absence of an agreement between the parties as to the value of relief, the value of such relief shall be determined by consideration of economic models used in the suit, the cost of remediation imposed on the defendants by the Court or the jury, or by other methods agreed upon by the parties. Should the parties fail to agree on the value of the relief obtained, the value shall be determined by a three-member arbitration panel. Each party shall choose one member of the panel and the two members shall choose the third who shall be the chairperson. The non-binding arbitration shall be conducted under the Commercial Rules of the American Arbitration Association and any determination shall not include interest or fees.

d. Fee cap: In the event the investigation or litigation results in an award of monetary recovery, declaratory relief, or injunctive relief or any combination of these awards through judgment or settlement the total amount of the costs, expenses and fees to be paid to Attorneys shall not exceed the amount of the monetary recovery (the fee cap), except under circumstances set forth in subparagraphs (c) above and/or (g) below. If the litigation does not result in an award of monetary recovery, attorneys' fees, costs, and expenses shall only be recoverable through a court award or settlement. If the investigation or litigation is resolved by a judgment or settlement calling for the provision of goods, services, or any other "in-kind" payment rather than a monetary recovery, the State agrees to seek, as part of any such settlement or through a motion, a settlement payment or award of attorneys' fees and costs.

e. Awards of fees and/or costs: Costs will be advanced by Attorneys and then recovered solely from any monetary recovery and only if there is a monetary recovery. Should the Court award the State as prevailing party attorneys' fees, costs, and expenses to be paid by the defendants, the State shall support as an award of reasonable attorneys' fees in an amount not less than the contingency fee amount required by this contract. Any costs, expenses, or fees due the lawyers under this contract shall first be satisfied from funds awarded by the Court from the defendants. Such an award of costs, expenses, and fees shall not be considered as part of monetary recovery and shall not be subject to the lawyers' contingency provision of this agreement.

f. Nothing in this Contract shall limit, and the State shall be entitled to seek, from the Court and/or the defendants its own costs, expenses, and fees in pursuing this investigation or litigation.

g. If Attorneys are terminated by the State from the investigation or litigation, it shall be entitled to a share of any recovery (including injunctive relief) on a *quantum meruit* basis, as agreed to by the parties or determined by an arbitration panel, selected and operating as laid out above. If Attorneys terminate this Agreement at any time, without cause, it shall provide the State not less than sixty (60) days prior written notice of

termination, said notice to specify the effective date of the termination. Where Attorneys terminate this Agreement without cause, Attorneys shall not be entitled to the recovery of any attorney fee or costs, regardless of the status of the action, and regardless of whether any amounts of Recovery have been or are subsequently received by Client.

h. Attorneys shall use best efforts to maximize the ultimate net recovery for the State, including using best efforts to recover costs, expenses, and fees in the first instance from defendants, either through settlement or by petitioning the Court. If attorneys' fees, costs, and expenses are paid directly to Attorneys, the State will receive an equal credit against the contingency fee, costs, and expenses due the lawyers under this Contract. If the Court awards attorneys' fees, expenses, and costs, the State shall be entitled to that portion of the award that is based on services provided by the State.

4. Mediation: If a dispute arises out of or relating to any aspect of this Agreement between the State and Attorneys, or the breach thereof, except for the valuation of injunctive relief under Paragraph 3(c) and following that process, if the dispute cannot be settled through negotiation, Attorneys and the State agree to mediation before resorting to litigation, or any other dispute resolution procedure.

5. Media: The State shall direct public statements.

6. Confidentiality: Attorneys agree to keep all information gained in the course of representation confidential to the full extent allowed by law, including, but not limited to, information pertaining to the investigation or litigation, the State and its officers and employees. Attorneys will not use such information to the detriment of the State nor its officers and employees at any time. It is understood and agreed that any agreement between Attorneys and others providing professional services to the lawyers relating to the suit shall contain a confidentiality clause that conforms to the requirements of this paragraph.

7. Malpractice Insurance: Attorneys maintain reasonable malpractice insurance and agrees to maintain such insurance during the term of this Contract, which shall begin upon execution of the contract by all parties and end upon completion of the litigation.

8. Governing Law**:** The terms and provisions of this Agreement and the performance of the parties hereunder shall be interpreted in accordance with, and governed by, the laws of the State of Michigan.

9. Modification: This Contract may be modified at any time, in whole or in part, by consent of the State and Attorneys. Such modification shall be in writing and signed by all parties to the Contract.

By the State of Michigan
Office of the Attorney General

_____
[Appropriate Signature]
Attorney General for the State of Michigan

Dated: _____

SHER EDLING LLP

_____
Victor M. Sher
Partner

Dated: _____

HAUSFELD LLP

_____
Richard S. Lewis
Partner

Dated: _____