UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND
NORTHERN DIVISION

MAYOR AND CITY COUNCIL OF BALTIMORE
City Hall
100 North Holliday Street
Baltimore, MD
21202,

Plaintiff,

vs

3M COMPANY
3M Center
St. Paul, Minnesota 55144;

E.I. DU PONT DE NEMOURS AND CO.
974 Centre Road
Wilmington, Delaware 19805

DUPONT DE NEMOURS, INC.
974 Centre Road
Wilmington, Delaware 19805;

THE CHEMOURS CO.
1007 Market Street;
Wilmington, DE 19801;

THE CHEMOURS CO. FC, LLC
1007 Market Street
Wilmington, Delaware 19801;

CORTEVA, INC.
974 Centre Road
Wilmington, Delaware 19805;

CHEMGUARD,
INC.
One Stanton St.
Marinette, Wisconsin 54143;

Civil Action: _____

TYCO FIRE PRODUCTS LP
One Stanton St.
Marinette, Wisconsin 54143;

KIDDE-FENWAL, INC.
One Financial Plaza
Hartford, Connecticut 06101;

KIDDE PLC, INC.
9 Farm Springs Road
Farmington, Connecticut 06032;

UTC FIRE & SECURITY AMERICAS CORP., INC.
13995 Pasteur Blvd.
Palm Beach Gardens, Florida 33418;

CARRIER GLOBAL CORP.
13995 Pasteur Boulevard
Palm Beach Gardens, Florida 33418;

RAYTHEON TECHNOLOGIES CORP.
870 Winter Street
Waltham, Massachusetts 02451;

NATIONAL FOAM, INC.
141 Junny Road
Angier, North Carolina 27501;

BUCKEYE FIRE EQUIPMENT CO.
110 Kings Road
Kings Mountain, North Carolina 28086;

ARKEMA, INC.
900 1st Avenue
King of Prussia, Pennsylvania 19406;

BASF CORP.
3000 Continental Drive North
Mt. Olive, New Jersey 07828;

CHEMDESIGN PRODUCTS, INC.
2 Stanton St.
Marinette, Wisconsin, 54143-2543;

CLARIANT CORP.
4000 Monroe Road
Charlotte, North Carolina 28205;

CHEMICALS INCORPORATED
12321 Hatcherville Road,
Baytown, Texas 77521;

AGC CHEMICALS AMERICAS, INC.
5 East Uwchlan Avenue, Suite 201
Exton, Pennsylvania 19341;

DEEPWATER CHEMICALS, INC.
196122 E County Road 735
Woodward, Oklahoma 73801;

DYNAX CORP.
103 Fairview
Park Drive
Elmford, New York 10523;

and

ARCHROMA U.S., INC.
5435 77 Center Dr, #10
Charlotte, North Carolina 28217-0725

Defendants.

COMPLAINT

TABLE OF CONTENTS

Page

Plaintiff Mayor and City Council of Baltimore ("Plaintiff," the "City," or "Baltimore"), by and through its undersigned counsel, brings this action against defendants 3M Company, E.I. du Pont de Nemours and Co., DuPont de Nemours, Inc., the Chemours Co., the Chemours Co. FC, LLC, Corteva, Inc., Chemguard, Inc., Tyco Fire Products LP, as successor-in-interest to the Ansul Co., Kidde-Fenwal, Inc. Kidde PLC, Inc., UTC Fire & Security Americas Corp., Inc., Carrier Global Corp., Raytheon Technologies Corp., National Foam, Inc., Buckeye Fire Equipment Co., Arkema, Inc., BASF Corp., ChemDesign Products, Inc., Clariant Corp., Chemicals Incorporated, AGC Chemicals Americas, Inc., Deepwater Chemicals, Inc., Dynax Corp., and Archroma U.S., Inc. (collectively, "Defendants"), and alleges as follows:

I. NATURE OF THE ACTION

1. Per- and polyfluoroalkyl substances ("PFAS") are ubiquitous, highly toxic environmental contaminants prevalent in Baltimore water systems and natural resources. Exposure to PFAS chemicals is known to cause serious health effects, such as cancer, liver, thyroid, and kidney disease, immune system disruption, and pregnancy-induced hypertension, among other ailments. Due to their uniquely strong chemical bonds, PFAS compounds resist environmental degradation and can persist indefinitely once introduced into waters, soils, and other resources. They are often referred to as "forever chemicals" because they do not break down. PFAS compounds are highly soluble and easily migrate in waterways and aquifers to spread contamination far and wide. When consumed, they build up in the tissue of animals (and humans). In this way, PFAS travel up the food chain and cause chronic poisoning, concentrating to dangerous levels in predators (including humans), even when acute exposure levels are slight. Their physical and chemical properties make PFAS uniquely challenging, and costly, to mitigate, eliminate, reduce, or control in the environment, as the chemicals continue to circulate through

groundwater systems, surface water systems, municipal stormwater and wastewater systems, and the water cycle. PFAS represent a complex, long-term environmental hazard to the City, its residents, and those within the service area of the City's municipal water systems.

2. The City is home to approximately 600,000 residents, and furnishes drinking water to over 1.8 million residential and business consumers in the Baltimore region and neighboring counties and municipalities. The City's drinking water supplies are principally drawn from reservoirs and other surface waterbodies.

3. The City owns and operates a large municipal separate storm sewer system ("MS4") that collects, conveys, processes, and discharges stormwater pursuant to National Pollutant Discharge Elimination System ("NPDES") permits. The City's stormwater system covers the entire geography of the City and adjacent and abutting surface water systems, such as the Inner Harbor and portions of Patapsco River, Back River, and others.

4. The City also provides sewer and wastewater services to approximately 1.6 million people in the Baltimore region. The City owns and operates two large wastewater treatment facilities: the Back River treatment plant and the Patapsco River treatment plant.

5. Pursuant to Maryland law and the Charter of Baltimore City ("Charter"), the City further is empowered and authorized to protect the integrity and quality of natural resources and surface waters that form part of the City's water systems.

6. The City has investigated the presence of PFAS contamination in its water supplies and other public resources and properties under its ownership or management, and continues to conduct monitoring and analysis to protect such resources and to preserve the public health.

7. The City's continuing investigation has demonstrated the presence of perfluorooctane sulfonic acid ("PFOS"), perfluorooctanoic acid ("PFOA"), and other PFAS

chemicals in City resources and properties.

8. Because PFOS, PFOA, and other PFAS compounds are all synthetic industrial compounds that are highly toxic to human and animal health, extremely persistent in the environment, soluble in water and fatty tissue, bioaccumulative, volatile or semivolatile, and difficult to remediate or remove from natural resources, water supplies, and other environmental media, PFAS contamination or pollution of public resources, natural resources, drinking water supplies, and other environmental media represents a public health threat that has and will result in significant costs, losses, and damages to the City.

9. Defendants designed, manufactured, marketed, promoted, distributed, supplied, and/or sold PFAS-based aqueous film-forming foam ("AFFF") products, and certain chemical ingredients incorporated into those products, that were used and released in and near Baltimore and which now contribute to a serious environmental and public health crisis.

10. AFFFs are specialized firefighting foam products that are intended to be mixed with water and applied to liquid-based fires. AFFF products have been widely used in the Baltimore region for decades in training exercises at military and civilian airfields and airports, firefighting training grounds, industrial facilities, and other locations, as well as in responding to actual fires.

11. The intended and ordinary use of AFFF products is to spray them into the air and onto the ground, whether in training exercises or in responding to fire events. Environmental contamination is the inevitable result of this intended and ordinary use, absent the taking of specific precautionary measures to guard against the uncontrolled release of PFAS.

12. Defendants knew that these dangerous chemicals would be released into the environment during the ordinary and intended use of their AFFF products, causing harm to the City, its residents, and those within the service area of the City's municipal water systems, among

others.

13. Defendants could have warned and instructed the users of their AFFF products on precautionary measures to be taken to prevent or minimize environmental contamination, such as advising that the products must not be used without an effective liner or catch basin or water filtration system capable of removing PFAS.

14. Similarly, Defendants could have warned and instructed regulators and the public about the potential hazards of the ordinary and intended use of their AFFF products, and the need to take steps to prevent extensive environmental contamination as a result thereof. Instead, Defendants concealed their knowledge of such hazards in order to prevent regulation and protect their profits.

15. In addition to providing adequate warnings or instructions, Defendants could have elected to make different product design decisions in the formulation of their AFFF products. For example, Defendants could have utilized PFAS compounds that are less toxic and less persistent than PFOA/PFOS, and could have utilized entirely non-fluorinated alternative formulations.

16. Indeed, once regulators began to scrutinize PFOA and PFOS, Defendants began to revise their product formulations to reduce or remove PFOA and PFOS, replacing them with different PFAS compounds that Defendants claim are less toxic, less persistent, and less bioaccumulative than PFOA and PFOS. Defendants could have made these changes much earlier than they did.

17. PFAS-free alternatives to Defendants' AFFF products are available. Certain Defendants, such as National Foam, now market AFFF products that they maintain are PFAS-free. And certain Defendants, like 3M, began conducting research on such non-fluorinated alternatives decades ago, but terminated these efforts because the resulting products would not be as profitable.

18. While Defendants reaped massive profits from the production and sale of PFAS-based AFFF products, they saddled Baltimore and its residents with the burden of cleaning up the mess the ordinary and intended use of those products inevitably caused.

19. Because Defendants concealed the truth about the human health and environmental impacts of their AFFF products and the PFAS chemistries on which those products are based, and otherwise failed to carry out their duties to prevent harm to the City and its residents, the City did not know of the actual or potential contamination of its resources and properties with dangerous PFAS compounds resulting from the ordinary and intended use and disposal of Defendants' AFFF products.

20. The City is entitled to recover compensatory, consequential, and punitive damages; past, current, and future costs or losses relating to the actual or potential presence of PFAS traceable to AFFF products in City drinking water supplies, stormwater and wastewater systems, natural resources in and near Baltimore, and other affected properties or resources under City ownership or management, or for which the City has a responsibility, under Maryland law or the Charter, to protect the integrity or quality of such properties or resources; injunctive relief requiring Defendants to abate injured or impaired City resources and properties; and all other relief available under law.

21. This action addresses only PFAS-related injuries attributable to the Defendants as a result of the design, manufacture, marketing, promotion, distribution, supply, sale, use, and/or disposal of AFFF products and AFFF component products. To the extent the City has suffered or may in the future suffer injuries relating to PFAS associated with a different application or other use of PFAS compounds, such claims are not included in this action, may be pursued in a separate action, and are expressly preserved.

II. PARTIES

22. The Mayor and City Council of Baltimore is a municipal corporation, duly organized and existing by virtue of the laws of the State of Maryland.

23. Pursuant to the Charter, the City has the power and authority, *inter alia*, "to prevent any material, refuse or matter of any kind from being thrown into, deposited in or placed where the same may fall, or be washed into [the Patapsco River] or tributaries…." (art. II, § 10); "to provide for the preservation of the health of all persons within the City … and to prevent and remove nuisances" (art. II, § 11(a)); "to have and exercise within the limits of Baltimore City all the power commonly known as the Police Power to the same extent as the State has or could exercise that power within the limits of Baltimore City" (art. II, § 27); "to establish, maintain, operate and control sewers, drains, and sewage disposal facilities…" (art. II, § 31); "to formulate and adopt a plan or plans to control and regulate within Baltimore City such open natural streams, storm and surface water drains, runs and natural storm and surface water drainage courses, public or private, as in its judgment is desirable…" (art. II, § 32(a)); and "to establish, operate, maintain, regulate and control a system of water supply…" (art. II, § 45).

24. In light of its police power as set forth in the Charter and other legal authority, the City serves in the capacity of *parens patriae* on behalf of its residents insofar as it seeks to protect a quasi-sovereign interest in the health and well-being of a substantial segment of its population. The City proceeds in *parens patriae* in this action.

25. The City will continue monitoring, assessing, investigating, and otherwise responding to PFAS contamination issues in its drinking water supplies and other water systems to protect public health.

26. Defendant 3M Company ("3M") is a Delaware corporation with its principal place of business in St. Paul, Minnesota. 3M designed, manufactured, marketed, sold, and/or distributed AFFF products containing or breaking down into PFOS, PFOA, PFHxS, and other PFAS. Upon information and belief, these 3M products were used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

27. Defendant E.I. du Pont de Nemours and Co. ("Old DuPont") is a Delaware corporation with its headquarters and principal place of business in Wilmington, Delaware.

28. Defendant DuPont de Nemours, Inc. ("New DuPont") is a Delaware corporation with its principal place of business in Wilmington, Delaware.

29. Defendant Corteva, Inc. is a Delaware corporation with its principal place of business in Wilmington, Delaware.

30. Old DuPont, New DuPont, and Corteva are referred to collectively as "DuPont." For decades, DuPont manufactured products containing PFOA and other PFAS, which DuPont obtained from 3M. In the early 2000s, after 3M had ceased the manufacture of PFOS and PFOA, DuPont itself began to manufacture PFOA. DuPont designed, manufactured, marketed, sold, and/or distributed fluorosurfactants containing or breaking down into PFAS for use in the manufacture of AFFF. Upon information and belief, DuPont's fluorosurfactants, including those trademarked Capstone™, were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

31. Defendant the Chemours Co. is a Delaware corporation with its principal place of business in Wilmington, Delaware. Chemours Co. was previously a subsidiary of Old DuPont and

was spun out of Old DuPont into an independent, publicly traded company on July 1, 2015.

32. Defendant the Chemours Co. FC, LLC is a Delaware LLC with its principal place of business in Wilmington, Delaware. Chemours Co. FC, LLC is a wholly-owned subsidiary of Chemours Co.

33. Defendants the Chemours Co. and the Chemours Co. FC, LLC are jointly referred to herein as "Chemours." Chemours designed, manufactured, marketed, sold, and/or distributed fluorosurfactants containing or breaking down into PFAS for use in the manufacture of AFFF. Upon information and belief, Chemours's fluorosurfactants, including those trademarked Capstone™, were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

34. Defendant Chemguard, Inc. ("Chemguard") is a Texas corporation with its principal place of business in Marinette, Wisconsin. Chemguard designed, manufactured, marketed, sold, and/or distributed AFFF products containing or breaking down into PFAS. Upon information and belief, these AFFF products were used and released into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

35. Defendant Tyco Fire Products LP ("Tyco") is a Delaware limited partnership with its principal place of business in Marinette, Wisconsin. Tyco is the parent corporation to Chemguard and successor-in-interest to the Ansul Company ("Ansul"). Tyco designed, manufactured, marketed, sold, and/or distributed AFFF products containing or breaking down into PFAS. Upon information and belief, these AFFF products were used and released into the environment in and around Baltimore, introducing PFAS contamination into City water systems,

drinking water supplies, and natural resources.

36. Defendant Kidde-Fenwal, Inc. is a Delaware corporation with its principal place of business in Hartford, Connecticut.

37. Defendant Kidde PLC, Inc. is a Delaware corporation with its principal place of business in Farmington, Connecticut.

38. Defendant UTC Fire & Security Americas Corp., Inc. ("UTC") is a Delaware corporation with its principal place of business in Palm Beach Gardens, Florida. UTC is a successor-in-interest to United Technologies Corp.

39. Defendant Carrier Global Corp. ("Carrier") is a Delaware corporation with its principal place of business in Palm Beach Gardens, Florida.

40. Defendant Raytheon Technologies Corp. ("Raytheon") is a Delaware corporation with its principal place of business in Farmington, Connecticut. Raytheon acquired United Technologies Corp. and is a successor-in-interest to United Technologies Corp.

41. Defendants Kidde-Fenwal, Inc., Kidde PLC, Inc., UTC, Carrier, and Raytheon are referred to herein as the "Kidde Defendants." The Kidde Defendants designed, manufactured, marketed, sold, and/or distributed AFFF products containing or breaking down into PFAS. Upon information and belief, these AFFF products were used and released into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

42. Defendant National Foam, Inc. ("National Foam") is a Delaware corporation with its principal place of business in Angier, North Carolina. National Foam is a subsidiary of Angus International Safety Group, Ltd. National Foam designed, manufactured, marketed, sold, and/or distributed AFFF products containing or breaking down into PFAS. Upon information and belief,

these AFFF products were used and released into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

43. Defendant Buckeye Fire Equipment Co. ("Buckeye") is an Ohio corporation with its principal place of business in Mountain, North Carolina. Buckeye designed, manufactured, marketed, sold, and/or distributed AFFF products containing or breaking down into PFAS. Upon information and belief, these AFFF products were used and released into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

44. Defendant Arkema, Inc. ("Arkema") is a Pennsylvania corporation with its principal place of business in King of Prussia, Pennsylvania. On information and belief, Arkema was formerly known as Atochem, Inc. and/or is the successor-in-interest to Atochem, Inc. On information and belief, fluorosurfactants manufactured by Arkema and/or Atochem, Inc. were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

45. Defendant BASF Corp. ("BASF") is a Delaware corporation with its principal place of business in Florham Park, New Jersey. BASF is a successor-in-interest to Ciba-Geigy Corp. Upon information and belief, fluorosurfactants manufactured by BASF and/or Ciba-Geigy Corp. or Ciba Specialty Chemicals, including those trademarked Lodyne™, were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

46. Defendant ChemDesign Products, Inc. ("ChemDesign") is a Texas corporation

with its principal place of business in Marinette, Wisconsin. Upon information and belief, fluorosurfactants manufactured by ChemDesign were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

47. Defendant Clariant Corp. ("Clariant") is a New York corporation with its principal place of business in Charlotte, North Carolina. Upon information and belief, fluorosurfactants manufactured by Clariant were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

48. Defendant Chemicals Incorporated ("Chem Inc.") is a Texas corporation with its principal place of business in Baytown, Texas. Upon information and belief, fluorosurfactants manufactured by Chem Inc. were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

49. Defendant AGC Chemicals Americas, Inc. ("AGC") is a Delaware corporation with its principal place of business in Exton, Pennsylvania. Upon information and belief, AGC's fluorosurfactants were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

50. Defendant Deepwater Chemicals, Inc. ("Deepwater") is a Delaware corporation with its principal place of business in Woodward, Oklahoma. Upon information and belief, fluorosurfactants manufactured by Deepwater were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into

City water systems, drinking water supplies, and natural resources.

51. Defendant Dynax Corp. ("Dynax") is a Delaware corporation with its principal place of business in Elmsford, New York. Upon information and belief, fluorosurfactants manufactured by Dynax were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

52. Defendant Archroma U.S., Inc. ("Archroma") is a Delaware corporation with its principal place of business in Charlotte, North Carolina. Upon information and belief, Archroma's fluorosurfactants were used to manufacture AFFF that was used and discharged into the environment in and around Baltimore, introducing PFAS contamination into City water systems, drinking water supplies, and natural resources.

III. JURISDICTION AND VENUE

53. This Court has jurisdiction pursuant to 28 U.S.C. § 1332 because complete diversity exists between Plaintiff and Defendants, and the amount in controversy exceeds the minimal jurisdictional limits of this Court. The Plaintiff is located in Maryland, but no Defendant is a citizen of Maryland.

54. Venue is appropriate in this judicial district pursuant to 28 U.S.C. § 1391(a) because all of the resources and/or property that is the subject of the action are situated in this judicial district.

IV. FACTUAL ALLEGATIONS

A. Defendants' AFFF Products Threaten Human And Environmental Health And Safety.

55. Per- and polyfluoroalkyl substances (PFAS, as defined above) are a group of synthetic chemical compounds containing fluorine and carbon atoms. They are known as "surfactants" in that they reduce the surface tension of water.

56. PFAS are synthetic; they do not occur naturally.

57. The two most widely studied types of PFAS are PFOA and PFOS, both synthetic, fully fluorinated organic acids with eight carbon atoms. Although PFOS and PFOA are the most widely studied types of PFAS, the PFAS family includes thousands of different chemicals.

58. Defendants have incorporated dozens of different PFAS chemicals in their AFFF product formulations, including PFOA, PFOS, and PFHxS, among others.

59. Given the widespread use of Defendants' AFFF products, PFAS chemicals have become incredibly widespread in the environment, contaminating surface waters, groundwater, drinking water supplies, water infrastructure, stormwater systems, water treatment plants, and drinking water delivery infrastructure in Baltimore and beyond.

60. Defendants' AFFF products have long been widely used to suppress and extinguish fires of flammable liquids, such as fuel and oil.

61. In the 1940s, 3M began to experiment with a process called electrochemical fluorination to create the carbon-fluorine bonds that are the key components of PFOA, PFOS, PFHxS, and other PFAS.

62. The other major carbon-fluorine bond producing process, which was used by the remaining Defendants, is called telomerization. This process generally results in PFOA and other carboxylates.

63. Recognizing the compounds' strong surfactant properties described above and building on its earlier experiments, 3M began to develop AFFF containing PFOS in the early 1960s to suppress flammable liquid fires that cannot be effectively extinguished with water alone.

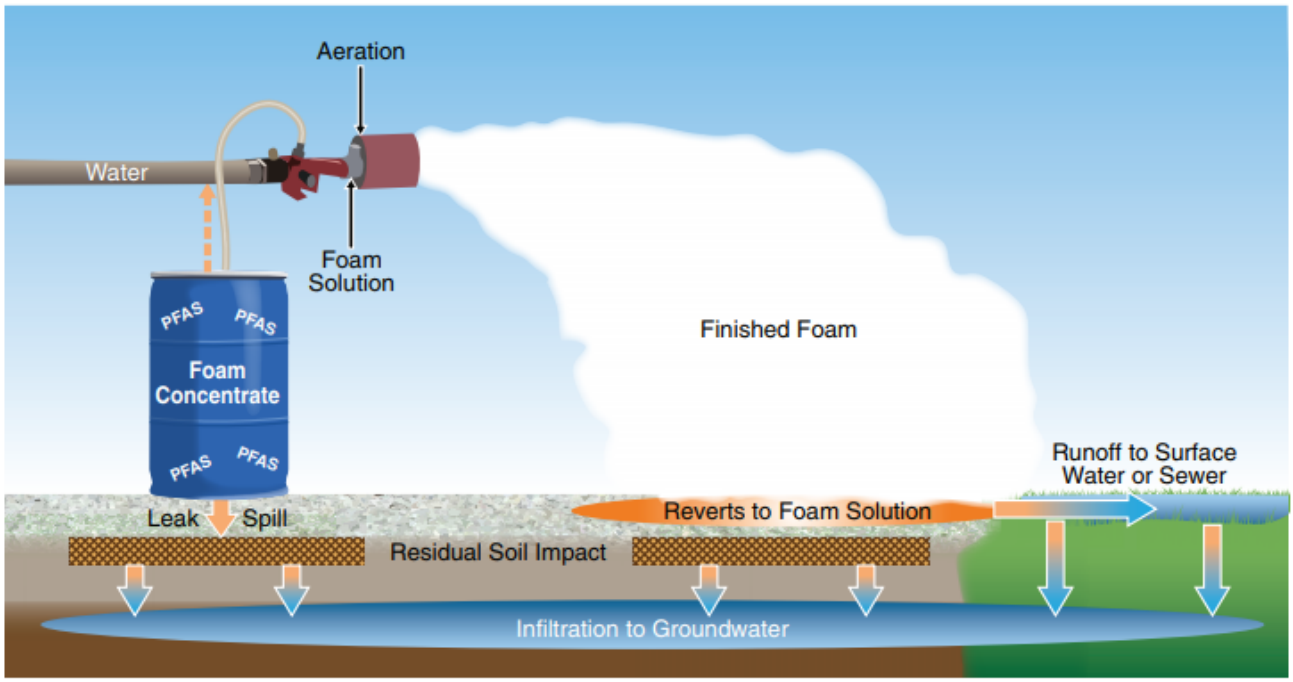
64. In the late 1960s, the United States military issued military specification MIL-F-24385 governing the requirements for AFFF ("AFFF Mil Spec"). It requires that the AFFF concentrate "consist of fluorocarbon surfactants plus other compounds . . ." The AFFF Mil Spec, however, contains no further requirements concerning these fluorocarbon surfactants, such as the length of the fluorine-carbon chain. The AFFF Mil Spec also states that "[t]he material shall have no adverse effect on the health of personnel when used for its intended purpose." In recognition of the dangers of PFAS, the AFFF Mil Spec was amended in September 2017 to state that the Department of Defense seeks "to acquire and use a non-fluorinated AFFF formulation or equivalent firefighting agent to meet [its] performance requirements …." and again in April 2020 to make clear that the AFFF Mil Spec requires only that AFFF "[c]oncentrates shall consist of surfactants plus other compounds…" – not necessarily fluorosurfactants.

65. The United States government has expressly clarified that the AFFF Mil Spec "was a performance military specification (as opposed to a detail military specification); meaning that the product manufacturers [and not the United States government] determine[d] the exact formulation and specific perfluorocarbon surfactants. . . ."

66. From the 1960s to about 1973, 3M was the sole supplier of AFFFs. Beginning in 1973, fluorotelomer-based AFFF manufacturers entered the market.

67. AFFF is applied by firefighters in the field by mixing foam concentrate and water to make a foam solution. When applied to a fire, the foam solution is aerated at the nozzle. The foam solution is sprayed out to coat the fire, blocking the supply of oxygen feeding the fire and

creating a cooling effect and evaporation barrier. A film also forms to smother the fire after the foam has dissipated:



68. In other words, it is intended by, and foreseeable to, the AFFF manufacturer or supplier that AFFF will be mixed with water and sprayed in such a manner that it can freely seep into the groundwater and soil, contaminating the environment.

69. A single firefighting event or training exercise may result in the release of thousands of gallons of foam solution laced with PFAS that then enter and contaminate the environment.

70. For decades, PFAS-based AFFF products have been stored and used for fire suppression, fire training, and flammable vapor suppression at hundreds of locations, such as fire training schools, military installations, and civilian airports, as well as at petroleum refineries, storage facilities, and chemical manufacturing plants in Baltimore and beyond.

71. Additionally, local fire departments have used and maintained quantities of AFFF in their inventories.

72. Fire training exercises involving AFFF are common, particularly on airfields, fire training schools, and military installations, and have been performed many thousands of times since the 1960s, each time releasing vast quantities of toxic chemicals into the environment.

73. AFFF use has been identified as one of the main contributors to the widespread environmental contamination with PFAS.

74. Had Defendants been forthright about their products' chemical properties and the environmental and human health hazards they posed, the Department of Defense, federal and state regulatory agencies, and the City, among others, would have taken steps to prevent, control, or minimize the environmental and human health threats from AFFF containing and/or breaking down into PFOA, PFOS, PFHxS, and other PFAS much sooner, or would never have used them in the first place.

75. Particularly 3M and DuPont knew or, at a minimum, should have known for many decades that PFOA, PFOS, and other PFAS compounds are mobile and persistent, bioaccumulative and biomagnifying, volatile, and above all toxic, rendering their AFFF products and AFFF components unreasonably dangerous.

76. Upon information and belief, the other Defendants, each of which designed, manufactured, marketed, provided, supplied, sold, and/or distributed PFAS-based AFFF and/or AFFF component products, and profited from them, likewise knew of the dangers posed by PFAS through information they obtained as part of their participation in trade industry associations.

77. All Defendants were careful to withhold the most damning information about PFOS, PFOA, and other PFAS from the public and regulators.

78. 3M conducted extensive toxicity studies on PFOS, PFOA, and other PFAS as early as the 1950s, concluding that the chemicals were toxic.

79. Further toxicity studies conducted by 3M scientists in the late 1970s confirmed that the chemicals were even "more toxic than anticipated."

80. In 1978, 3M conducted studies on monkeys and rats, feeding them various dosages of PFOS and PFOA. All monkeys in the study died within the first few days after being given PFOS at a dosage of 4.5 mg/kg/day. Monkeys being given 100 mg/kg/day of PFOA "all died during weeks 2 and 5 of the study." The companies' studies showed that both PFOA and PFOS affected the liver and gastrointestinal tract of the species tested.

81. 3M concluded that PFOS was "the most toxic" of the compounds studied and "certainly more toxic than anticipated."

82. 3M consulted with Harold Hodge, a well-known toxicologist, who emphasized that it was of "utmost importance" to determine whether these chemicals "or its metabolites are present in man, what level they are present, and the degree of persistence (half-life) of these materials."

83. Further, in 1975, 3M was alerted by third-party researchers that PFOS was detectable in human blood serum and thus had obviously spread beyond the immediate site of its applications and was bioaccumulating. 3M's own research confirmed by the next year that the level of fluorochemicals in the blood of its own workers was "1,000 times normal."

84. Conducting research around its manufacturing plants, 3M knew by 1979 that its fluorochemicals "bioaccumulated more readily in the gastrointestinal tract, fat and reproductive system [at least in] channel catfish[.]"

85. By 1979, 3M recognized that fluorochemicals may pose a cancer risk. Indeed, one of its scientists pressed that it was "paramount to begin now an assessment of the potential (if any) of long term (carcinogenic) effects for these compounds which are known to persist for a long time in the body and thereby give long term chronic exposure."

86. 3M never published its toxicity studies and worked actively to stifle research on the adverse effects of PFOA, PFOS, and other PFAS.

87. Indeed, 3M kept John Giesy, Ph.D., Professor and Canada Research Chair in Environmental Toxicology in the Department of Veterinary Biomedical Sciences and Toxicology Centre at the University of Saskatchewan, on its payroll to the tune of millions of dollars for the purpose of influencing independent academic research. It was Prof. Giesy's professed goal to keep unfavorable papers regarding PFAS out of the academic literature, lest plaintiffs find scientific support for legal theories seeking to hold 3M liable for injuries.

88. 3M also advised its employees not to put their thoughts and research concerning PFOS or PFOA to writing, as such communications would need to be disclosed during discovery in likely litigation.

89. 3M also knew full well the environmental implications associated with PFOS, PFOA, and other PFAS, but refused to allow testing to perform precise ecological risk assessments. One of its senior environmental toxicologists, Dr. Richard Purdy, stated in an internal email: "PFOS is the most onerous pollutant since PCB and you want to avoid collecting data that indicates that it is probably worse. I am outrage[d.]"

90. Despite 3M's knowledge of PFAS toxicity and potential carcinogenicity, the mobility and persistence in the environment of such chemicals, and their tendency to bioaccumulate and biomagnify, the company continued to manufacture, sell, and distribute PFAS-based AFFF until at least 2000.

91. Dr. Purdy resigned, exhausted by the company's "roadblocks, delays, and indecision" concerning research on PFAS' environmental effects and failure to address their known environmental harms:

- 3M continues to make and sell these chemicals, though the company knows of an ecological risk assessment I did that indicates there is a better than 100% probability that perfluorooctansulfonate is biomagnifying in the food chain and harming sea mammals. This chemical is more stable than many rocks. And the chemicals the company is considering for replacement are just as stable and biologically available. The risk assessment I performed was simple, and not worst case. If worst case is used, the probability of harm exceeds 100,000%.

Dr. Purdy concluded that he could no longer work for a company "concerned with markets, legal defensibility and image over environmental safety."

92. Dr. Purdy copied the EPA on his March 1999 resignation letter.

93. Shortly thereafter, 3M supplemented its prior submissions to the EPA with critical information referenced by Dr. Purdy. In 2000, 3M "voluntarily" ceased production of certain PFAS compounds, including PFOS and PFOA.

94. In April 2006, 3M paid a penalty of more than $1.5 million to the EPA for its failure to disclose pertinent studies regarding PFOA and PFOS.

95. Much like 3M, DuPont has been aware of the toxicity of PFOA and other PFAS for decades.

96. Documents disclosed during class action litigation involving claims by residents neighboring DuPont's Washington Works plant in Parkersburg, West Virginia, and reported on by news outlets, including The New York Times and The Intercept, reveal that by 1961, DuPont's own researchers had concluded that PFOA was toxic and should be "handled with extreme care." During the 1960s, DuPont also had knowledge that PFOA caused adverse liver reactions in dogs and rats.

97. By 1976, DuPont was also aware of research reports that detected organic fluorine in blood bank samples in the U.S., which the researchers believed to be a potential result of human

exposure to PFOA. In other words, DuPont knew or should have known that PFOA was traveling in the environment and bioaccumulating in other organisms.

98. By 1982, DuPont's corporate medical director, Bruce Karrh, in internal correspondence confirmed that PFOA stays in the blood for a long time and registered his concern that members of the local community may be affected by PFOA releases. DuPont then began a clandestine water sampling program to determine how far a distance from its operations PFOA remained in the waterways at elevated levels. DuPont detected PFOA in water supplies at a distance of at least 79 miles from its Parkersburg plant.

99. In 1979, DuPont further became aware of the PFOA/PFOS toxicity studies 3M had conducted on monkeys and rats described above.

100. About three years later, 3M also shared a study undertaken on pregnant rats, indicating that PFOA led to adverse effects in the unborn. DuPont tested the blood of female workers who had given birth and had been exposed to PFOA, documenting that PFOA moved across the human placenta.

101. DuPont transferred all women out of work assignments with potential exposure to PFOA, but concealed its pregnancy-related study from the EPA and public.

102. During the mid-1980s, DuPont continued to find evidence of toxicity of PFOA. In 1985 and 1986, researchers from DuPont's Haskell Laboratory for Toxicology and Industrial Medicine published two studies on the toxicity of PFOA. One study found PFOA to be "moderately toxic," producing "an increase in liver size and corneal capacity" in rats exposed by inhalation to PFOA; the other studied dermal toxicity in rats and rabbits and found skin irritation in both, and increased liver size in rats.

103. By 1988, DuPont was aware that at least one toxicity study performed on laboratory rats revealed a relationship between PFOA exposure and increased rates of testicular cancer and other types of cancer.

104. In 1988, DuPont internally classified PFOA as a possible human carcinogen.

105. Evidence of PFOA's toxic effects continued to mount. In 1999, DuPont received data from a laboratory study on the effects of PFOA exposure on primates that showed that two of twenty-two monkeys had died, including one that had received the lowest dose of PFOA. And, by June 2000, DuPont was aware that the American Council of Governmental and Industrial Hygienists had designated PFOA as a "confirmed animal carcinogen."

106. Despite its knowledge of PFOA's toxicity and carcinogenicity, its mobility and persistence in the environment, and its tendency to bioaccumulate, however, DuPont continued to use PFOA in surfactants made for use in the manufacture of AFFF (and, beginning in 2002, also manufactured the chemical once its primary source, 3M, had exited that market).

107. Having doubled down on the PFAS business, DuPont continued to actively conceal the risks of PFOA and other PFAS from the public. Beginning in 2003, DuPont paid various consultants, such as The Weinberg Group, thousands of dollars to implement a comprehensive strategy to attack and discredit those who alleged adverse health effects from PFOA, to prevent third parties from connecting DuPont to PFOA health problems, to coordinate media and third-party communications, and to thwart any PFOA-related litigation.

108. In February 2003, a manager at DuPont's Parkersburg plant made knowingly false and misleading statements to the media, that: "[i]n more than 50 years of [PFOA] use by [DuPont] and others, there have been no known adverse human health effects associated with the chemical," that "all" of the available scientific research "has been provided to both state and federal

regulators," that "epidemiological studies of workers do not indicate an increased risk of cancer associated with exposure to [PFOA]," that "[DuPont] has made significant efforts to respond to the public honestly and openly with correct information about [PFOA]," and that "the use of [PFOA] at the Washington Works site has not posed a risk to either human health or the environment."

109. Later, in March and April of 2003, DuPont's Vice President and General Manager of Fluoroproducts, the Director of its Haskell Laboratory, its spokesperson for the Plant, and its CEO made public statements denying that DuPont had seen any negative impacts on human health or the environment caused by DuPont's use of PFOA.

110. DuPont made multiple, additional knowingly false and misleading public statements regarding the toxicity and adverse health effects of PFOA and other PFAS.

111. DuPont settled the Parkersburg resident litigation in 2005, as part of which settlement DuPont would financially support what was dubbed the "C8 Science Panel" made up of three independent epidemiologists from Emory University, Brown University, and the London School of Hygiene and Tropical Medicine, and tasked with researching the health effects of PFOA based on blood samples and other health data taken from almost 70,000 residents of the mid-Ohio Valley.

112. Also in 2005, the EPA fined DuPont $16.5 million, then the largest civil administrative penalty the agency had ever issued, for the company's failure to report possible health risks associated with PFOA.

113. With the writing on the wall and upon invitation by the EPA, DuPont agreed in 2006 to join the "PFOA Stewardship Program" working towards the elimination of PFOA by 2015.

114. In the meantime, however, the company continued to manufacture PFOA, and at least until 2008 the company made fluorotelomers with PFOA byproducts for the express and intended purpose of being used in the manufacture of AFFF.

115. The C8 Science Panel completed its research in 2013, finding likely connections between PFOA and high cholesterol, ulcerative colitis, pregnancy-induced hypertension, thyroid disease, testicular cancer, and kidney cancer.

116. On information and belief, the remaining Defendants also knew, or should have known, that in its intended and common use, PFAS-based AFFF and/or AFFF component products would injure and/or threaten the environment and public health. This information was accessible to each of them as part of their ongoing involvement in various trade associations constituted for the purpose of defending the AFFF franchise, such as the Firefighting Foam Coalition ("FFFC").

117. Additionally, all Defendants knew or, at a minimum, should have known that their PFAS-based AFFF and/or AFFF component products, given their chemical composition, easily dissolve in water (and the products were designed to be mixed with water and sprayed on the ground), are mobile, resist degradation, and tend to bioaccumulate and biomagnify.

118. Despite their knowledge of the harmful properties of PFAS chemicals, following 3M's withdrawal from the PFOA/PFOS market beginning in or around 2000, DuPont and the other Defendants made renewed commitments to protect their lucrative AFFF lines of business.

119. In response to concerns expressed by the EPA regarding the environmental viability of AFFF, the FFFC was formed in 2001, partly to dispel such concerns. DuPont was a founding member. At least Tyco/Ansul, Chemguard, National Foam, and Dynax are current members.

120. The FFFC lobbied hard for AFFF. At conferences, in journals, and in meetings with the military, the EPA, and other regulators, it repeated a key talking point: only one PFAS

chemical, PFOS, had been taken off the market. Since the FFFC members' products did not contain PFOS (but rather PFOA and other PFAS chemicals, which Defendants knew or, at a minimum, should have known were equally harmful to the environment and public health), their products were safe.

121. DuPont and other Defendants eventually transitioned to the use of short-chain fluorotelomers with a maximum of six carbon atoms, claiming those chemicals are safer to environmental and human health.

122. Even if such claims were true, Defendants could have begun much earlier to transition from long-chain to short-chain fluorotelomers. Their failure to avail themselves of what they claim is a feasible alternative to the then-current formulations of PFAS-based AFFF that substantially mitigates the risk of human and environmental harm from AFFF products only confirms that their products based on long-chain fluorotelomers were not reasonably safe for their intended applications.

123. Moreover, effective fluorine-free firefighting foams that do not pose the same risks to human health and the environment as Defendants' products exist and are used in some of the world's largest airports, like London Heathrow, London Gatwick, Copenhagen, Stuttgart and Dubai, amongst others.

124. All 27 of Australia's airports have been using fluorine-free foams for many years.

125. Indeed, leading fire safety and regulatory experts have opined that there are simply no justifications for continued use of toxic foams given this successful, widespread use of the environmentally safe alternative.

126. According to a report issued by a panel of experts of IPEN, a global network of public interest NGOs dedicated to the reduction of toxic chemicals, fluorine-free firefighting (F3) foams are viable alternatives to fluorinated AFFF and comparable by all measures.

127. But unlike fluorinated foams, F3 foams do not pollute the environment indefinitely, or put human or animal health at risk; there is no expensive clean up; remediation costs are negligible or zero; and there are no significant legal and financial liabilities. Public health values such as clean drinking water are not compromised, and, finally, there is no erosion of public confidence in political institutions and government agencies.

128. Defendants failed to adequately research and investigate the design, manufacture, or sale of fluorine-free firefighting foam, or did so and concealed their results. They avoided fluorine-free alternatives to protect their existing, lucrative AFFF lines of business.

129. Defendants' failure to pursue this feasible alternative to PFAS-based AFFF further confirms that their AFFF products were not reasonably safe for their intended applications.

130. Toxicological and epidemiological research is finally catching up to what 3M, DuPont, and other Defendants learned long ago: PFAS are dangerous contaminants. A host of academic and other scientific studies make plain that exposure to or ingestion of PFAS chemicals poses serious health risks to humans and to other organisms.

131. For instance, human epidemiological studies have found associations between PFOA exposure and high cholesterol, increased liver enzymes, decreased vaccination response, thyroid disorders, pregnancy-induced hypertension and preeclampsia, and testicular and kidney cancer. Similar studies of PFOS found associations between PFOS exposure and high cholesterol, thyroid disease, and adverse reproductive and developmental effects such as gestational diabetes,

preeclampsia, and low birth weight. The developing fetus and newborns are particularly sensitive to PFOS-induced toxicity.

132. PFOS and PFOA are toxic to laboratory animals, producing reproductive, developmental and systemic effects in laboratory tests.

133. The World Health Organization's International Agency for Research on Cancer has found that PFOA is possibly carcinogenic to humans.

134. The EPA has found that there is suggestive evidence that PFOS and PFOA may cause cancer in humans.

135. In addition, PFAS compounds have also been shown to affect growth, learning, and behavior of infants and older children, decrease women's ability to become pregnant, and interfere with the body's natural hormones.

136. Such toxicological and epidemiological research on PFAS is ongoing. As more studies become available, regulators, scientists, and the public are learning more about the full scope of harms and risks posed by these chemicals—facts that were known or which should have been known to Defendants long ago.

137. As recently as June 15, 2022, the EPA announced new health advisory levels for certain PFAS compounds. EPA reduced its advisory for PFOA from 70 ppt to 0.004 ppt—reducing the tolerance for this chemical by a factor of 17,500. In other words, EPA has now concluded that PFOA is dangerous to humans at concentrations *17,500* times smaller than previously believed. EPA's current health advisory level for PFOA is thus 4 parts per quadrillion ("ppq").

138. On June 15, 2022, EPA made similar downward revisions in the health advisory level for PFOS, reducing the advisory from 70 ppt to 0.02 ppt. EPA's current health advisory level for PFOS is thus 20 ppq.

139. At the same time that it drastically revised its health advisory levels for PFOA and PFOS, EPA announced new health advisory levels for two other PFAS compounds: GenX and PFBS. GenX and PFBS are short-chain PFAS compounds.

140. EPA's current health advisory level for GenX is 10 ppt. Its current health advisory level for PFBS is 2,000 ppt.

141. EPA's June 2022 revisions of its health advisory levels is based on a series of health studies published in late 2021, which revealed far more serious health risks than were previously understood to be associated with the PFAS chemicals under review.

142. These health advisory level reductions, and the underlying health studies, strongly suggest that *any* detectable level of PFOA or PFOS, or other PFAS, is highly problematic in terms of protecting the public health.

E. Defendants' AFFF Products Have Caused (And Continue To Cause) Widespread Environmental Contamination With PFAS In Baltimore.

143. Defendants' PFAS-based AFFF products have been used for decades at locations and facilities in and around Baltimore and surrounding areas in which Baltimore water and other resources are located, and in locations and facilities in Maryland and surrounding states situated upstream and/or upgradient from Baltimore's resources.

144. As a result, PFAS contamination attributable to the use and disposal of Defendants' PFAS-based AFFF products now afflicts drinking water supplies in City-owned and -managed reservoirs, water collected, conveyed, and discharged through municipal stormwater and wastewater systems, and surface waters in and near Baltimore, such as the Baltimore Harbor and Patapsco River.

145. The scope of contamination of Baltimore resources and properties remains a subject of ongoing investigation. Detection data available to the City confirms elevated levels of PFAS in sensitive City resources.

146. Discovery is required to ascertain the specific locations or facilities at and from which PFAS-based AFFF products have been used and disposed.

147. There are numerous facilities using Defendants' AFFF products in and near Baltimore.

148. For example, Defendants' AFFF products have been used and released at airports and helipads, such as the Martin State Airport, the Carroll County Regional Airport, the Lancaster Airport, and the Baltimore/Washington International Thurgood Marshall Airport; firefighting training grounds; military bases and installations, such as the Aberdeen Proving Ground, Bainbridge Naval Training Center Port Deposit, and George G. Meade Army Base; and industrial refineries and other facilities.

149. During firefighting and firefighting training exercises at or near these and other sites, firefighters sprayed PFAS-based AFFF, per its intended use, directly on or near the ground, caused it to be disposed and spilled it or otherwise caused it to be discharged or released into the environment.

150. These activities resulted in discharges or releases of PFAS from Defendants' AFFF products into nearby surface waters, groundwater, soil, and air, as well as water infrastructure such as the City's stormwater system, wastewater system, water treatment plants, and drinking water delivery infrastructure.

151. In short, the normal, intended, and foreseeable manner of storage, use, and disposal of Defendants' AFFF products directly resulted in the discharge or release of PFAS into, onto, and

near Baltimore's environmental and infrastructural resources, causing injury to the City and its inhabitants.

152. Upon information and belief, PFAS-based AFFF and/or AFFF component products designed, manufactured, marketed, provided, supplied, sold, and/or distributed by each Defendant were discharged or released into the environment at or from such sites.

153. The instructions, labels and/or material safety data sheets that Defendants provided with their AFFF and/or AFFF component products, if any, during the times relevant to the claims in this Complaint did not fully or sufficiently describe the human and animal health and environmental hazards of PFAS-based AFFF about which Defendants knew or should have known.

154. The instructions, labels and/or material safety data sheets that Defendants provided with their AFFF and/or AFFF component products, if any, during the times relevant to the claims in this Complaint did not provide appropriate warnings and instructions concerning the environmentally safe use and disposal of PFAS-based AFFF that were known or should have been known to Defendants.

155. The instructions, labels and/or material safety data sheets that Defendants provided with their AFFF and/or AFFF component products and/or AFFF component, if any, during the times relevant to the claims in this Complaint did not provide appropriate instructions regarding how to design a firefighting testing site, or what precautions are necessary to take at such testing sites, in a manner that would potentially eliminate or limit the release of PFAS into the environment, even though the hazards of failing to appropriately contain PFAS were known or should have been known to Defendants.

156. For example, instructions to install a liner under a testing area or outfitting area test-sites with appropriate water filtration systems could have significantly contained the spread of PFAS into the environment. Defendants knew this, but failed to warn or instruct anyone that their products should only be stored, used, and disposed in conjunction with an effective liner or catch basin, or water filtration system capable of removing PFAS before it could contaminate drinking water supplies and water infrastructure.

157. The instructions, labels and/or material safety data sheets that Defendants provided with their AFFF and/or AFFF component products, if any, during the times relevant to the claims in this Complaint did not provide appropriate warnings of potential groundwater pollution with PFAS nor advised the AFFF user to install appropriate water filtration devices to protect Baltimore's resources and properties, even though Defendants knew or should have known about the inevitability of groundwater, air, and soil contamination through the ordinary and intended use of their PFAS-based AFFF products and consequent adverse effects.

158. Sampling of Baltimore drinking water supplies has revealed the presence of PFOS, PFOA, PFHxS, and other PFAS constituents utilized in AFFF products. The levels of PFOA and PFOS detected in Baltimore's drinking water supplies exceed the current EPA health advisory levels of 4 ppq and 20 ppq, respectively.

159. Such PFAS contaminants are also present in the City's water infrastructure. For example, through natural processes following use of Defendants' PFAS-based AFFF products, such contaminants have entered the City's stormwater system and continually recirculate through storm events, and such contaminants have entered the City's water treatment plants and drinking water delivery infrastructure.

160. PFAS contaminants have also been detected in surface waters and aquatic life in and near Baltimore, such as the Patapsco River and Baltimore Harbor. The City is authorized and empowered under Maryland law and the Charter to pursue remedies to protect and restore such surface water systems, including abatement of nuisances, to protect the public health.

161. PFAS contaminants have also been identified in alarming concentrations in natural resources upstream and/or upgradient from Baltimore and its resources, such as (1) fish tissue in specimens collected from the Susquehanna River, which drains into the same basin from which the Baltimore Harbor is formed; (2) groundwater in and around municipalities proximate to Baltimore and/or hydrologically connected to Baltimore's resources and properties, such as Hampstead, Maryland and Westminster, Maryland; and (3) groundwater and surface water in and around the Martin State Airport and Middle River Complex in Middle River, Maryland.

162. Additionally, the Department of Defense has identified elevated concentrations of PFAS in surficial aquifers and groundwater resources in the Patapsco Aquifer and throughout Maryland.

163. The State of Maryland and the DOD have similarly confirmed the presence of PFAS contamination, and the fact that PFAS have been released into natural resources as a result of AFFF usage, at various locations upstream and/or upgradient from Baltimore and its resources, such as Aberdeen Proving Ground (Aberdeen and Edgewood, Maryland).

164. The City has incurred costs in connection with, among other things, monitoring and analyzing PFAS contamination in City resources and properties. Indeed, the City is collaborating with the State of Maryland in the assessment and analysis of City resources.

165. The City's sampling activities to detect PFAS from AFFF in water supplies, infrastructure, and other resources and properties, are ongoing.

166. As the City continues its investigation, it may discover other locations, sites, and resources that will require ongoing monitoring, remediation, or restoration due to contamination with PFAS from AFFF products.

167. Baltimore and its residents have suffered and will suffer injuries as a result of Defendants' conduct, including without limitation past costs incurred to monitor, sample, evaluate, assess, investigate, and analyze PFAS concentrations in the City's water supplies, infrastructure, and other resources and properties; future costs to monitor, sample, evaluate, assess, investigate, and analyze PFAS concentrations in the City's water supplies, infrastructure, and other resources and properties; costs to control, reduce, or remove PFAS from City drinking water supplies and drinking water systems, stormwater systems, and wastewater systems, and to remediate or restore impacted resources; costs to educate and inform residents about PFAS issues; and loss of use of resources and property, including drinking water supplies and surface waters.

168. PFAS contamination attributable to AFFF threatens the health of Baltimore residents and the viability of Baltimore's ecosystems, resulting in substantial impairment of public use and enjoyment of natural resources now burdened with PFAS.

169. In short, the City and its residents have suffered and will continue to suffer significant injuries as a result of Defendants' conduct.

FIRST CAUSE OF ACTION
PUBLIC NUISANCE

170. Plaintiff realleges and reaffirms each and every allegation set forth in paragraphs 1-169 as if fully restated in this cause of action.

171. Plaintiff brings this cause of action in its governmental capacity. This claim is premised on Plaintiff's legislative responsibility for the maintenance and operation of municipal

drinking water, stormwater, and other water systems, and waterbodies, and is brought solely for the public benefit.

172. Defendants designed, manufactured, distributed, marketed, and promoted PFAS-based AFFF products and/or AFFF component products in a manner that created or contributed to the creation of a public nuisance that is harmful to health and obstructs the free use of the City's water systems, waters, and public resources.

173. Defendants intentionally designed, manufactured, distributed, marketed, and sold PFAS-based AFFF products and/or AFFF component products with the knowledge that they inevitably caused environmental contamination when used as intended.

174. Defendants knew that their PFAS-based AFFF products and/or AFFF component products would end up in the City's water systems, waterways, waterbodies, and other public resources when used as intended.

175. Defendants' conduct and the presence of PFAS contamination in Baltimore water systems, waterways, waterbodies, and other public resources annoys, injures, and endangers the comfort, repose, health, and safety of members of the public.

176. Defendants' conduct and the presence of PFAS contamination in Baltimore water systems, waterways, waterbodies, and other public resources interferes with and obstructs the public's free use and comfortable enjoyment of the City's waters for commerce, navigation, fishing, recreation, and aesthetic enjoyment.

177. The presence of PFAS contamination in Baltimore water systems, waterways, waterbodies, and other public resources also interferes with the City's and its residents' interest in a healthy and ecologically sound environment.

178. Defendants' conduct and the presence of PFAS contamination in Baltimore water systems, waterways, waterbodies, and other public resources is injurious to human, animal, and environmental health.

179. An ordinary person would be reasonably annoyed or disturbed by the presence of toxic PFAS that endanger the health of fish, animals, and humans and degrade water quality and marine habitats.

180. The seriousness of the environmental and human health risk far outweighs any social utility of Defendants' conduct in designing, manufacturing, marketing, distributing, and selling PFAS-based AFFF products and AFFF component products and concealing the dangers posed to human health and the environment.

181. The rights, interests, and inconvenience to the City and general public far outweighs the rights, interests, and inconvenience to Defendants, which profited heavily from the manufacture and sale of PFAS-based AFFF products and AFFF component products.

182. Defendants' conduct caused and continues to cause harm to the City.

183. The City has suffered and will continue to suffer damage from Defendants' PFAS-based AFFF products and AFFF component products.

184. Defendants knew or, in the exercise of reasonable care, should have known that the design, manufacture, marketing, distribution, and sale of PFAS-based AFFF products and AFFF component products causes the type of contamination now found in the City's water systems, waterways, waterbodies, and other public resources.

185. Defendants knew that PFAS would contaminate water supplies and infrastructure, degrade marine habitats and endanger birds and animals, as a result of the ordinary and intended use of their products.

186. In addition, Defendants knew PFAS and PFAS-based products are associated with serious illnesses and cancers in humans and that humans may be exposed to PFAS through ingestion of contaminated water, fish or other foods, and/or dermal contact.

187. Defendants' conduct in designing, manufacturing, distributing, selling and promoting PFAS-based AFFF products and AFFF component products constitutes an unreasonable interference with a right common to the general public, i.e., the right to freely use the City's water systems, waterways, waterbodies, and other public resources without obstruction and health hazard.

188. Defendants are under a continuing duty to act to correct and remediate the injuries their conduct has introduced, and to warn the City and the public about the human and environmental risks posed by its PFAS products, and each day on which they fail to do so constitutes a new injury to the City.

189. The City suffered harm of a kind different from that suffered by members of the general public, such as the costly damage to its municipal water systems, drinking water supplies, and waters, which it operates and/or maintains for the public welfare.

190. As a direct and proximate result of Defendants' creation of a public nuisance, the City has suffered, and continues to suffer, monetary damages to be proven at trial.

SECOND CAUSE OF ACTION
STRICT LIABILITY- DEFECTIVE DESIGN

191. Plaintiff realleges and reaffirms each and every allegation set forth in paragraphs 1-169 as if fully restated in this cause of action.

192. Plaintiff brings this cause of action in its governmental capacity. This claim is premised on Plaintiff's legislative responsibility for the maintenance and operation of municipal

drinking water, stormwater, and other water systems, and waterbodies, and is brought solely for the public benefit.

193. Defendants' PFAS-based AFFF products and AFFF component products were not reasonably safe as designed at the time the products left Defendants' control.

194. The toxicity, solubility, volatility, persistence, bioaccumulative tendency, and inability of PFAS compounds to be contained rendered Defendants' PFAS-based AFFF products and AFFF component products unreasonably dangerous at all times.

195. Defendants' PFAS-based AFFF products and AFFF component products were unsafe as designed.

196. Due to their toxicity, persistence, volatility, solubility, and inability to be contained, among other things, Defendants knew their PFAS products were not safe at the time they were manufactured because, even when used as intended, such products would inevitably produce significant environmental contamination.

197. Defendants knew their PFAS-based AFFF products and AFFF component products were unsafe to an extent beyond that which would be contemplated by an ordinary person because of the overwhelming seriousness of creating pervasive environmental contamination, especially of drinking water supplies, in Baltimore and beyond.

198. Defendants designed, manufactured, distributed, sold, and promoted PFAS-based AFFF products and AFFF component products despite such knowledge in order to maximize their profits despite the known harm.

199. At all times relevant to this action, feasible alternatives to PFAS-based AFFF products were available to Defendants, which could have eliminated, reduced, or mitigated the unreasonable dangers and hazards posed by their products as designed.

200. Any utility allegedly provided by the use of PFAS-based AFFF products and AFFF component products is greatly outweighed by the risks and dangers associated with their use.

201. The PFAS-based AFFF products and AFFF component products were placed in the stream of commerce and sold by Defendants in a defective and unreasonably dangerous condition in that they were toxic, persistent, bioaccumulative, water- and fat-soluble, and volatile (i.e., inevitably escaping their ordinary and intended applications), which resulted in contamination of waterways, wildlife, drinking water supplies, and water systems within the City.

202. The PFAS compounds released from Defendants' AFFF products reached the City's water systems, waters, and other public resources without any substantial change in condition and were in the same condition at the time of the alleged injury to the City's resources.

203. Defendants recklessly disregarded that the PFAS would reach the City's water systems, waters, and other public resources. At a minimum, Defendants should reasonably have foreseen that PFAS released from their AFFF products would reach the City's resources and properties.

204. Contamination of the City's water systems, waters, and other resources occurred because of the defective design and manufacture of the PFAS-based AFFF products and AFFF component products.

205. Defendants' PFAS-based AFFF products and AFFF component products caused and continue to cause injury to the City.

206. Defendants are under a continuing duty to act to correct and remediate the injuries their conduct has introduced, and to warn the City and the public about the human and environmental risks posed by its PFAS products, and each day on which they fail to do so constitutes a new injury to the City.

207. The City has suffered and will continue to suffer damages in amounts to be proven at trial.

THIRD CAUSE OF ACTION
STRICT LIABILITY- FAILURE TO WARN

208. Plaintiff realleges and reaffirms each and every allegation set forth in paragraphs 1-169 as if fully restated in this count.

209. Plaintiff brings this cause of action in its governmental capacity. This claim is premised on Plaintiff's legislative responsibility for the maintenance and operation of municipal stormwater and other water systems and waterbodies, and is brought solely for the public benefit.

210. Defendants' PFAS-based AFFF products and AFFF component products were not reasonably safe because they lacked adequate warnings at the time the products left Defendants' control.

211. At the time Defendants designed, manufactured, distributed, sold, and promoted their PFAS-based AFFF products and AFFF component products, Defendants knew that, even when used as intended, such products would inevitably produce significant environmental contamination.

212. Despite Defendants' knowledge, Defendants failed to provide adequate warnings that their PFAS-based AFFF products and AFFF component products would become a pervasive contaminant and contaminate drinking water supplies, waterways, and wildlife in Baltimore.

213. Defendants could have warned of this certainty but intentionally concealed the certainty of contamination in order to maximize profits.

214. Defendants concealed the dangers of PFAS and PFAS-based products after they designed, manufactured, distributed, promoted, and sold them, and did not issue adequate warnings or instructions to those who had previously purchased their products, and thereafter continued to

design, manufacture, distribute, promote and sell PFAS-based products without adequate warnings or instructions.

215. Without adequate warnings or instructions, Defendants' PFAS-based AFFF products and AFFF component products were unsafe to an extent beyond that which would be contemplated by an ordinary person.

216. Defendants knowingly failed to issue warnings or instructions concerning the dangers of PFAS and their PFAS-based products in the manner that a reasonably prudent manufacturer would act in the same or similar circumstances.

217. The PFAS-based AFFF products and AFFF component products were placed in the stream of commerce and sold by Defendants in a defective and unreasonably dangerous condition in that their design failed to include warnings or instructions sufficient and necessary for the safe and proper use and disposal of the products.

218. The PFAS compounds released from Defendants' AFFF products reached the City's water systems, waters, and other public resources without any substantial change in condition and were in the same condition at the time of the alleged injury to the City's water systems, waters, and other public resources.

219. Defendants recklessly disregarded that the PFAS would reach the City's water systems, waters, and other public resources. At a minimum, Defendants should reasonably have foreseen that PFAS released from their AFFF products would reach the City's resources and properties.

220. Contamination of the City's water systems, waters, and other public resources occurred because of the defective PFAS-based AFFF products and AFFF component products, in

that to be non-defective and reasonably safe for use, the products should have contained or been accompanied by a warning as to their toxicity, persistence, bioaccumulativity, and volatility.

221. Further, such contamination occurred because of Defendants' failure to adequately warn or instruct its customers as to proper disposal techniques and safeguards necessary to prevent environmental contamination resulting from the ordinary use of such products.

222. Defendants' PFAS-based AFFF products and AFFF component products caused and continue to cause injury to the City.

223. Defendants are under a continuing duty to act to correct and remediate the injuries their conduct has introduced, and to warn the City and the public about the human and environmental risks posed by its products, and each day on which they fail to do so constitutes a new injury to the City.

224. The City has suffered and will continue to suffer damages in amounts to be proven at trial.

FOURTH CAUSE OF ACTION
TRESPASS

225. Plaintiff realleges and reaffirms each and every allegation set forth in paragraphs 1-169 as if fully restated in this count.

226. Plaintiff brings this cause of action in its governmental capacity. This claim is premised on Plaintiff's legislative responsibility for the maintenance and operation of municipal drinking water, stormwater, and other water systems, and waterbodies, and is brought solely for the public benefit.

227. As alleged above, Defendants designed, manufactured, distributed, marketed, and promoted PFAS-based AFFF products and AFFF component products in a manner that ensured

that PFAS compounds would invade the City's drinking water, stormwater, and other water systems, waterbodies, and other public resources.

228. As a result of such invasion, the City's public water systems, waterways and waterbodies, and other public resources which the City operates and maintains for the public welfare, suffer contamination with toxic PFAS.

229. Such contamination is harmful to public health and obstructs the free use of the City's water systems, waters, and other public resources.

230. Defendants intentionally designed, manufactured, marketed, and sold PFAS-based AFFF products and AFFF component products with the knowledge that they would inevitably cause pervasive environmental contamination in Baltimore.

231. Defendants knew that PFAS would likely end up in the City's water systems, waterways, water bodies, sediments, fish and animal tissues, when used as intended.

232. Defendants' conduct caused and will continue to cause injury to the City.

233. Defendants are under a continuing duty to act to correct and remediate the injuries their conduct has introduced, and to warn the City and the public about the human and environmental risks posed by its products, and each day on which they fail to do so constitutes a new injury to the City.

234. As a direct and proximate result of Defendants' trespass, the City has suffered, and continues to suffer, monetary damages to be proven at trial.

FIFTH CAUSE OF ACTION
NEGLIGENCE

235. Plaintiff realleges and reaffirms each and every allegation set forth in paragraphs 1-169 as if fully restated in this count.

236. Plaintiff brings this cause of action in its governmental capacity. This claim is premised on Plaintiff's legislative responsibility for the maintenance and operation of municipal drinking water, stormwater, and other water systems, and waterbodies, and is brought solely for the public benefit.

237. Defendants had a duty of care to protect others against unreasonable risks resulting from the use or disposal of their PFAS-based AFFF products and AFFF component products.

238. Defendants breached their duty by failing to conform to the requisite standard of care when they negligently, carelessly, and recklessly designed, manufactured, formulated, handled, stored, labeled, instructed, controlled (or failed to control), tested (or failed to test), marketed, sold and otherwise distributed toxic PFAS-based products that contaminated the City's water systems, waters, and other public resources.

239. Defendants failed to exercise ordinary care because a reasonably careful company that learned of its product's toxicity would not manufacture that product or would warn of its toxic properties.

240. Defendants failed to exercise ordinary care because a reasonably careful company that learned that its product could not be contained during normal production and use would not continue to manufacture that product or would warn of its dangers.

241. Defendants failed to exercise ordinary care because a reasonably careful company would not continue to manufacture PFAS-based products in mass quantities and to the extent that Defendants manufactured them.

242. There is a proximate causal connection between Defendants' breach of their duty of care and the resulting harm to the City's water systems, waters, and other public resources.

243. Defendants' negligence caused and continues to cause injury to the City.

244. Defendants are under a continuing duty to act to correct and remediate the injuries their conduct has introduced, and to warn the City and the public about the human and environmental risks posed by their products, and each day on which they fail to do so constitutes a new injury to the City.

245. The City has suffered and will continue to suffer damages in amounts to be proven at trial.

PRAYER FOR RELIEF

Plaintiff prays for judgment against Defendants, jointly and severally, as follows:

1. Damages according to proof;

2. Punitive or exemplary damages sufficient to punish Defendants' use of fraudulent, malicious, or evil intent or actions and deter or warn others against commission of similar misconduct;

3. Award of the past, present, and future costs to abate the ongoing public nuisance and/or to investigate, assess, analyze, monitor, remediate, and otherwise respond to the contamination and to communicate with City residents and stakeholders regarding such contamination and response efforts, and to restore or replace environmental resources injured or impaired as a result of Defendants' conduct;

4. Declaratory judgment and injunctive relief requiring Defendants to abate and/or pay for abatement of the ongoing public nuisance, including all future abatement techniques necessary to protect the public health and the integrity and quality of public resources in Baltimore;

5. Litigation costs and attorney's fees as permitted by law;

6. Pre-judgment and post-judgment interest;

7. Any other and further relief as the Court deems just, proper, and equitable.

DEMAND FOR JURY TRIAL

Plaintiff demands a jury trial.

Respectfully submitted,

BALTIMORE CITY DEPARTMENT OF LAW

Dated: November 3, 2022

/s/ James L. Shea
James L. Shea
City Solicitor (No. 00142)
Sara Gross
Chief Solicitor, Litigation (No. 27704)
100 N. Holliday Street, Suite 109
Baltimore, MD 21202
Tel.: (410) 396-3947
Fax: (410) 574-1025
James.Shea@baltimorecity.gov
Sara.Gross@baltimorecity.gov

GRANT & EISENHOFER P.A.
Jay W. Eisenhofer (*pro hac vice* to be filed)
Kyle J. McGee (*pro hac vice* to be filed)
Viola Vetter (*pro hac vice* to be filed)
Jason H. Wilson (*pro hac vice* to be filed)
123 S. Justison Street
Wilmington, DE 19801
Tel.: (302) 622-7000
Fax: (302) 622-7100
jeisenhofer@gelaw.com
kmcgee@gelaw.com
vvetter@gelaw.com
jwilson@gelaw.com

GORDON, WOLF & CARNEY CHTD.
Richard Gordon (No. 06882)
Martin Wolf (No. 09425)
100 W. Pennsylvania Avenue, Suite 100
Towson, MD 21204
Tel.: (410) 825-2300
Fax: (410) 825-0066
rgordon@GWCfirm.com
mwolf@GWCfirm.com

Attorneys for Plaintiff Mayor & City Council of Baltimore