CLAIM AGAINST THE CITY OF FOLSOM

Received:

Claims relating to death or injury to person or to personal property or crops shall be presented to the City of Folsom not later than six months after which the incident or event occurred. Claims relating to any other matter for which a claim is required shall be presented not later than one year after the date of the incident or event giving rise to the claim. (See California Government Code Section 911.2). You are encouraged to consult legal counsel of your choosing for advice on submitting a timely claim. The City of Folsom cannot provide you legal advice.

INSTRUCTIONS

The original claim, together with one copy of all attachments, is to be filed with the Office of the City Clerk. Retain one copy for your records. Please send to this address:

City Clerk
City of Folsom
50 Natoma Street
Folsom, CA 95630

NOTICE: The City Clerk's Office is the ONLY office to which claims may be submitted. Claims are NOT to be sent to the City Attorney, or any other City Department.

Please fill out claim form completely. Missing information may delay the processing of your claim. Please print.

PERSONAL INFORMATION

Name of Claimant Harold (first) C (middle initial) Malmquist (last)

Address of Claimant ____ (street) Folsom (city) CA (state) 95630 (zip code)

Home Phone ____ Business Phone ____ Email halvalley102@gmail.com

DOB ____ Driver's License# ____

Name, telephone number and address to which claimant desires notices to be sent if other than above:

CLAIM INFORMATION

Occurrence or event from which the claim arises:

Date August 21, 2020 Time 6:30 AM

Place (exact and specific location) Leak - Pin Hole - Incoming 1" Pressore line (cold water) in Attic Before Hotwater Heater in Garage

How and under what circumstances did damage or injury occur? Describe the particular occurrence, event, act, or omission you claim caused the damage or injury. (use additional paper if necessary)

See Attachment 1

AU-21 21-003

If there were no injuries, state "no injuries"_____

Name and addresses of all witnesses See Attachment 1.

Identify the name(s) of the public employee(s) causing the injury or damages, if known.

See Attachment 1.

Describe the indebtedness, obligation, injury, damage or loss, which you claim you have suffered at the time this claim is submitted.

See Attachment 1.

Total amount claimed. Greater than $10,000 X Less than $10,000 _____. (If the amount claimed is less than $10,000 on the date of presentation, provide the calculation for the amount claimed.)

(Please attach a copy of any receipts you have resulting from this occurrence.)

Any additional information that might be helpful in considering this claim

I, Harold C. Malmquist, bring this claim on behalf of myself and all individuals and entities who own or lease property in the city of Folsom plumbed with Copper Piping receiving water from the City of Folsom.

AUTOMOBILE ACCIDENT

If this claim relates to an automobile accident please answer the following, **AND ATTACH PROOF OF INSURANCE:**

Policy # _____ Insurance Company _____

Agent/Broker _____

Address _____ Phone # _____

WARNING: IT IS A CRIMINAL OFFENSE TO FILE A FALSE CLAIM:
(Penal code §§72, 550; Insurance code §1871.4)

I have read the matters and statements made in the above claim and I know the same to be true of my own knowledge, except as to those matters stated upon information or belief and as to such matters I believe the same to be true. I certify under penalty of perjury under the laws of the State of California that the foregoing is TRUE and CORRECT.

Signed this 6th day of January, 2021 at Folsom, CA
City / State

Signature Harold C Malmquist

Updated January 2019

ATTACHMENT 1 TO CLAIM AGAINST THE CITY OF FOLSOM

CLASS ACTION CLAIM FOR:
1. INVERSE CONDEMNATION; 2. NEGLIGENCE; 3. NUISANCE; 4. BREACH OF CONTRACT; 5. UNJUST ENRICHMENT; AND 6. BREACH OF IMPLIED WARRANTY

Claimant and Plaintiff Harold Malmquist ("Plaintiff" or "Plaintiff Malmquist"), by and through his undersigned counsel, brings this individual and class action claim against defendants THE CITY OF FOLSOM, a municipal corporation (the "CITY") and DOES 1-100, inclusive (collectively, "Defendants"), on behalf of himself and all individuals and entities who own or lease real property in the CITY plumbed with copper piping receiving water from the CITY's Water Treatment Plant ("Plaintiffs" or the "Class").

I. INTRODUCTION AND NATURE OF THE CLAIM

1. The CITY began experiencing pinhole leaks in copper piping at residential and business locations throughout the distribution system in July, 2020. Aggressive, corrosive, and substandard water supplied by the CITY's Water Treatment Plant ("WTP") caused the pinhole leaks thereby damaging properties in the City that are plumbed with copper piping.

2. The CITY, rather than protecting its residents from the dangers of corrosive water, chose to ignore relevant information confirming the corrosive nature of its water and maintained the water at levels that it knew, or should have known, would likely lead to the corrosion of copper pipes.

3. Notwithstanding knowledge to the contrary, the CITY has continually denied responsibility for issues relating to the water supply it delivers and claims that the water is not defective or harmful to property. The CITY was aware that these issues would likely manifest if the CITY water was treated in a manner causing it to become corrosive.

4. Despite longstanding knowledge of the cause of Plaintiff's and Class members' potential water problems due to high pH and low alkalinity levels, among other things, the CITY continued to misrepresent to Plaintiff and the Class members that its water supply is not defective or harmful to property, and damages incurred by Plaintiff and the Class Members was not the result of any action on the part of the CITY.

5. The CITY depends solely on surface water from the Folsom Reservoir for its water supply. The CITY's Water Treatment Division ("WTD") produces and delivers water to the CITY residents and businesses and is responsible for the operations and maintenance of the facilities at the CITY's WTP, which has a capacity to treat and deliver up to 50 million gallons per day. The CITY utilizes 7 pump stations, 12 storage reservoirs, 18 pressure reducing valves, one flow control station and a network of pipelines in their distribution system.

6. There are approximately 700 feet of elevation change throughout the CITY's system. In order to manage that elevation difference, the CITY has established 7 main pressure zones. The Folsom Service Area (FSA) encompasses approximately 11,000 acres with 7,300 acres in FSA West and 3,700 acres in FSA East. Generally, this main service area is bounded by Lake Natomas and the American River to the west, the Sacramento/El Dorado County line to the East, Folsom Lake, and the Folsom State Prison

to the north and Highway 50 to the south. The FSA was divided into West and East zones because of the elevation differences and other geographic features in the CITY. Water from Folsom Reservoir is treated at the CITY's WTP and is delivered to the system by gravity and via pump stations located throughout the system.

7. The WTP's chemical feed systems include aluminum chlorohydrate (ACH) for coagulation, sodium hypochlorite for disinfection and lime addition to adjust the finished water pH to a stated target of 8.0 to 8.7.

8. After the pinhole leaks were reported to the CITY, the CITY hired consultants to confirm the cause of the pinhole leaks. In August, 2020 the CITY retained Black & Veatch and Virginia Tech to perform investigation. In September, 2020 the CITY retained HDR Engineering to perform further investigation. As set forth herein, the reports issued to the CITY by their consultants concluded and confirmed that the likely cause of the pinhole leaks was the aggressive, corrosive, and substandard water supplied by the CITY. Specifically, the consultants confirmed that the water supplied by the CITY had a pH greater than 8, low alkalinity, soft water with chlorine residual leads to copper pitting in plumbing.

II. GENERAL ALLEGATIONS

9. Plaintiff Harold Malmquist is a citizen of the State of California and a resident of the County of Sacramento, City of Folsom. Plaintiff Malmquist has owned and lived in his Folsom home for more than 20 years. During the relevant time period, Plaintiff Malmquist was unaware of the corrosive nature of the water supplied to him by the CITY, and regularly used the water for certain, normal household purposes. Plaintiff Malmquist paid the CITY for the water it supplied to him on a monthly basis. As a result of Defendants' actions and/or inactions, as set forth herein, the water supplied from the CITY to his home has corroded copper pipes in Plaintiff Malmquist's home causing pinhole leaks to occur in the copper pipes, including a pinhole leak in a cold water copper pipe line in or about August, 2020, damaging his property. The CITY, through its misrepresentations and/or omissions, led Plaintiff to believe that the water supplied by the CITY was noncorrosive and would not damage his copper pipes or his property. Plaintiff Malmquist has been required to pay more than $7,645 to replace portions of his piping and to repair property damage caused by the leaks. Plaintiff Malmquist has suffered significant harm including, but not limited to the diminution of his property value, other economic harm, ongoing exposure corrosive water, as well as substantial and unreasonable interference with his comfortable enjoyment of life and property.

10. The allegations in this Claim are based upon information and belief, except for those allegations pertaining to the Plaintiff named herein. Plaintiff's information and beliefs are based upon, inter alia, the investigation conducted to date by Plaintiff and his counsel. Each allegation in this Claim either has evidentiary support or is likely to have evidentiary support upon further investigation and discovery. All allegations made herein are pled in the alternative to the extent they present any actual conflict.

11. At all times relevant herein, Defendants, and each of them, concealed and omitted relevant facts that would have allowed Plaintiff and Class members to discover the true nature and degree of the water corrosion issues. As a result of these misrepresentations and omissions, equitable tolling of the statute of limitations applies as to the claims asserted by Plaintiffs and the Class members. Any applicable statute of limitations that might otherwise bar certain of the claims at issue should be tolled because Defendants, and each of them, actively misled Plaintiff and the Class members through affirmative representations and omissions with respect to the true nature, quality, and hazards of use of the water as described herein and above.

ATTACHMENT 1 TO CLAIM AGAINST THE CITY OF FOLSOM

A. THE BLACK & VEATCH WATER QUALITY EVALUATION REPORT

12. The CITY retained consultants Black & Veatch to perform a Water Quality Evaluation relating to the pinhole leaks manifesting in copper pipes within the CITY. Black & Veatch issued a Technical Memorandum ("the B & V Memo") to the CITY on October 16, 2020, which found as follows.

13. The B & V Memo concluded that the purity of the CITY's water source combined with a high pH level and free chlorine for disinfection could contribute to pitting in copper pipe.

14. Over a five-year span the hourly pH ranged from a low of 6 to a high of 10 but was typically in the 8.0-9.0 range on a daily basis, and a pH above 9 can potentially influence corrosive conditions.

15. The CITY's water has limited buffering capacity due to the low levels of alkalinity. Buffering capacity describes the water's ability to resist changes in pH when an acid or base are added. A small concentration of lime can increase the pH of the CITY's water, whereas a water with high alkalinity (i.e., high buffering capacity) would require a higher dosage of lime to raise the pH. The low alkalinity of the CITY's water makes it more responsive to changes in chemical dosages and requires additional monitoring.

16. Due to the purity of the CITY's source water, the alkalinity, calcium and TDS are very low, which results in a negative LSI. A negative LSI indicates that the water is deficient in minerals and could be aggressive towards metallic pipe materials and cement linings of tanks and pipes as the water will try to extract minerals and metals to achieve equilibrium.

17. The CITY adds lime at the WTP to increase pH, alkalinity, and calcium. Due to the purity of the raw water, the CITY typically operates with a negative LSI in the range of -1.4 to -1.7 even after adjusting these three parameters. The CITY has maintained the strategy of adjusting the lime dose to target a finished water pH, while keeping the LSI from decreasing further. Unfortunately, the increase in pH over the last few years, along with impurities in the pipe materials or settled particulate, can potentially contribute to pinhole leaks.

18. Additional lime would be necessary in the summer and fall to keep a consistent pH, which would result in a higher LSI value (a less negative number). The CITY's pH water charts show levels consistently above 9 for most of the time period between July 2017 to July 2020.

19. Based on findings of Dr. Edwards' research at Virginia Tech, pH levels of 9.0 and greater (such as the ones measured in the CITY's Pressure Zones 1, 2 and 3 in 2018, much of 2019, and the start of 2020) combined with the low alkalinity pure water and the use of free chlorine as a disinfectant could have created pitting conditions within copper piping based on research with similar water qualities.

20. Since the CITY uses a relatively low free chlorine residual of approximately 1 mg/L, it could explain why the onset of pinhole leaks occurred approximately two years after increases in pH from the WTP treating the quality of raw water existing at the time in order to meet the LSI targets.

21. Zones 1, 2, and 3 are located closer to the WTP and therefore have slightly higher chlorine residuals than areas further from the WTP, which could be the reason that a significant amount of the reported pinhole leaks have been detected in the areas closer to the WTP.

22. Chlorine is a strong oxidant that is an important factor for corrosion, so it is reasonable that areas with higher chlorine residuals would experience pinhole leaks faster than other parts of the distribution system. As a comparison, chlorine levels near the WTP could average 1.2 mg/L whereas chlorine levels further from the WTP could average 0.8 mg/L.

23. The results of scale analysis indicate that pH increases (over the last few years), low alkalinity pure water treated with free chlorine could potentially contribute to pitting.

24. Daily pH data collected in the distribution system were higher than the daily average pH in the finished water at the entry point in 2019 and 2020. pH can change as the water travels through miles of pipes and interacts with the pipe surfaces and reservoirs. In some distribution system reservoirs, undissolved lime can settle out, which could alter the pH within the distribution system.

25. The source water that the CITY treats contains low levels of alkalinity, calcium and total organic carbon. Waters low in calcium and alkalinity along with a pH above 9 and the use of free chlorine for disinfection could contribute to pitting in copper pipe, especially at sites with impurities in the pipe material or at sites where particulate settled.

26. Research studies have been able to replicate pitting corrosion on copper pipes in laboratory settings when the conditions used a pH above 9, low alkalinity waters (treated with free chlorine). These studies have shown that pitting corrosion can occur on electrolytic copper (i.e., a perfect copper surface with no impurities), which means that while settled particulate or impurities can provide a site to start pitting, their presence is not required in all situations.

27. It was recommended that the CITY determine the necessary steps to begin feeding orthophosphate into the water system, which had not previously been done. On September 18, 2020 the City consulted DDW, and on September 30, 2020, the City received a letter from DDW that granted temporary authorization for emergency operation of orthophosphate treatment process. The addition of orthophosphate forms a protective layer on the interior of the copper pipe. This has shown to inhibit pit initiation and can help slow or even mitigate pit propagation.

B. THE VIRGINIA TECH EVALUATION OF COPPER PITTING REPORT

28. The CITY, through Black & Veatch, retained Virginia Polytechnic Institute and State University ("Virginia Tech") to perform an independent "Evaluation of Copper Pitting in Folsom, California" (the "Virginia Tech Report") which found as follows.

29. A review of the historical water quality data shed some light on the copper pitting issue. In over 10 years of dedicated research, the Edwards research group has only been able to reproduce copper pitting in a laboratory setting with water that exhibited these characteristics: high pH (9.0 or greater), low alkalinity, and high chlorine concentrations.

30. A close look at the pH data for water leaving the Folsom WTP shows that the pH increased from about 7.5 prior to 2017 to around 9.0 beginning in summer/fall of 2017. Additionally, pH exceeded 9.0 on numerous days after this change, and frequently exceeded 9.2. These conditions have made the water at Folsom a candidate for copper pitting based upon Virginia Tech laboratory experience, especially given the pristine condition of Folsom surface water and limited amounts of alkalinity and hardness. Any impurities present on the older copper pipes in this study cannot really explain a sudden outbreak of leaks as impurities are present on all copper pipes.

31. The Virginia Tech Report findings from this study indicate that pH adjustments based on the LSI to reduce corrosivity for general lead and copper corrosion, which complies with the EPA's LCR, could have contributed to conditions that initiated copper pitting corrosion. The lag of about 18-32 months between the pH change and the first reports of pinholes is in the range of expectations. (As an aside, if pH had consistently been controlled around 8.5, in all likelihood pitting would still have occurred eventually, but at a later date and a lower frequency of leaks.) The Virginia Tech Report indicated that in its laboratory studies and in one field test, dosing of an orthophosphate corrosion inhibitor dramatically reduced the incidence of pipe leaks after a period of a few months.

C. HDR'S PINHOLE COPPER LEAK INVESTIGATION SUMMARY MEMORANDUM

32. On December 7, 2020, the consulting firm, HDR Engineering, issued its Pinhole Copper Leak Investigation Summary Memorandum (the "HDR Memo") to the CITY. The CITY retained HDR to review the CITY's historical water quality data and perform a corrosivity analysis to investigate the issues related to the ongoing copper pinhole leaks occurring in customers' premise plumbing. The HDR Memo found as follows:

33. Copper corrosion is categorized by either uniform or localized corrosion. Uniform corrosion is when corrosion is found to occur for most, if not all, of the wetted premise plumbing. In contrast, localized corrosion typically appears at random in premise plumbing and can typically be distinguished based on the water type in which it occurs and based on the morphology on the random pits in the plumbing wall.

34. According to HDR, there are four main types of pitting that take place in copper plumbing, three based on interactions between the water and metal surface and one based on bacteria. These pitting types include:

- Type 1 Pitting – typically associated with cold (<40 deg. C, <104 deg. F), hard, well waters with pH between 7 and 7.8 containing high sulfate relative to bicarbonate.

- Type 2 Pitting – typically occurs in hot (>60 deg. C, >140 deg. F) water piping systems with pH levels below 7.2 with high sulfate relative to bicarbonate.

- Type 3 Pitting – typically associated with cold, soft waters with a pH greater than 8.0 and low alkalinity.

- Microbial pitting – typically associated with biological growth inside the pipe and typically associated in stagnant waters with periods of little to no chlorine.

35. Water quality can play a large role in pitting corrosion of copper. Establishing the main cause of the pinhole leak in a distribution system can be dependent of multiple water quality parameters and 'favorable' conditions for corrosion to happen. Some of the most common water quality parameters that come into play when investigating pinhole leaks include pH, alkalinity, free chlorine, chloride, sulfate, hardness, temperature and dissolved organic carbon.

36. The City monitors water quality throughout the treatment process and at the system entry point. The pH of both the raw water and finished water is monitored continuously. The lime feed is adjusted periodically based on the pH measurements to keep the pH between the City's stated target of 8.0 to 8.7.

37. Based on the data collected, the average pH levels fell above the City's finished water pH target between 8.0 and 8.7, ranging from 8.2 to 9.3, with an average pH of 8.8. Alkalinity in the grab samples taken was low, ranging from 18 to 35 mg/L as CaCO3, with an average of 25 mg/L as CaCO3, which impacts the buffering capacity and ability to maintain pH throughout the distribution system. The samples taken had low chloride and sulfate level and average hardness of 23 mg/L as CaCO3, which would classify the water as being relatively soft. Additionally, the samples had an average chlorine residual of 1.4 mg/L. Initial observation of water quality data indicates water quality that could be categorized under Type 3 copper pitting with a pH greater than 8.0, low alkalinity, soft water with a chlorine residual that could lead to copper pitting in plumbing.

38. Table 2 below presents the water quality data from quarterly grab samples collected at the distribution system entry point between the years 2010 and 2020.

Table 2. Finished Water Quality Grab Samples at Distribution System Entry Point (2010 – 2020)

Parameter[1]	Units	Min	Average	Max
pH	standard units	8.2	8.8	9.3
Alkalinity	mg/L as $CaCO_3$	18	25	35
Chlorine Residual	mg/L	1.31	1.4	1.64
Temperature	DegC	17.7	21.2	23.4
Total Dissolved Solids (TDS)	mg/L	24	47	70
Hardness	mg/L as $CaCO_3$	12	23	33
Chloride	mg/L	3.3	5.3	9.9

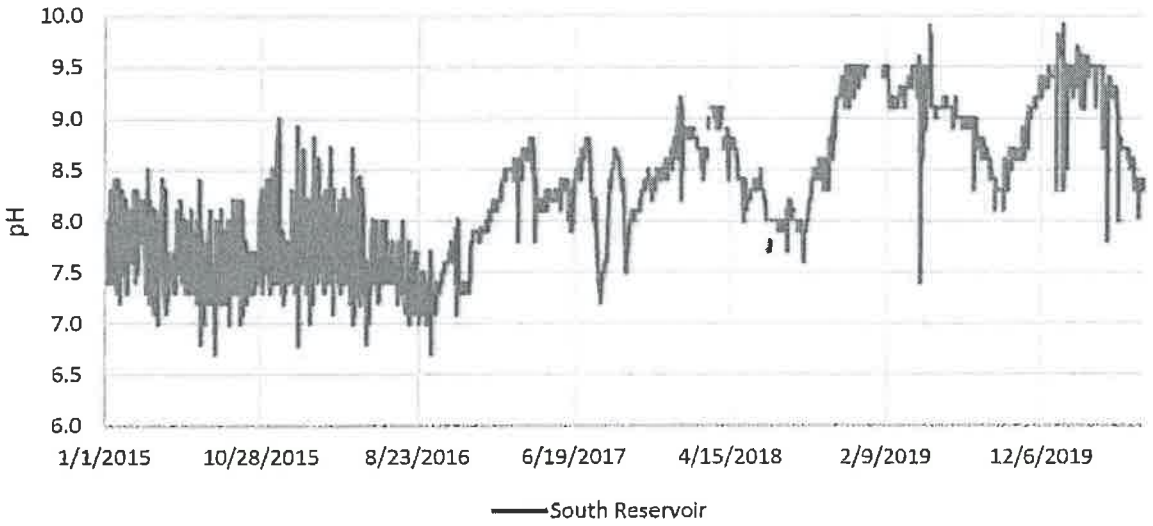
39. The City monitors water quality throughout the distribution system including monitoring of its reservoirs for chlorine, pH, temperature and conductivity on a daily basis. The majority of the copper pinhole leaks found through October 22, 2020 had been in the City's Pressure Zones 1, 2, and 3. Table 3 below presents the average pH levels in the City's reservoirs for the past 5 years.

Table 3. Average Reservoir pH Levels (2015-2020)

Pressure Zone	Reservoir	Average pH (mg/L)					
		2015	2016	2017	2018	2019	2020
1A	Nimbus	7.74	7.38	8.36	8.74	9.08	8.81
1	South	7.70	7.60	8.30	8.63	9.00	8.93
2	East	7.78	7.65	8.18	8.38	8.53	8.42
	Tower	7.79	7.70	8.20	8.45	8.53	8.41
3	Cimmaron	7.79	7.78	8.17	8.93	8.61	8.44
	Foothills	7.76	7.65	8.22	8.46	8.58	8.41
4	Broadstone	7.73	7.64	8.18	8.72	8.53	8.31
5	Carpenter Hill	7.53	7.12	7.94	8.58	8.68	8.39
6	Carpenter Hill	7.71	7.77	8.20	8.41	8.67	8.67

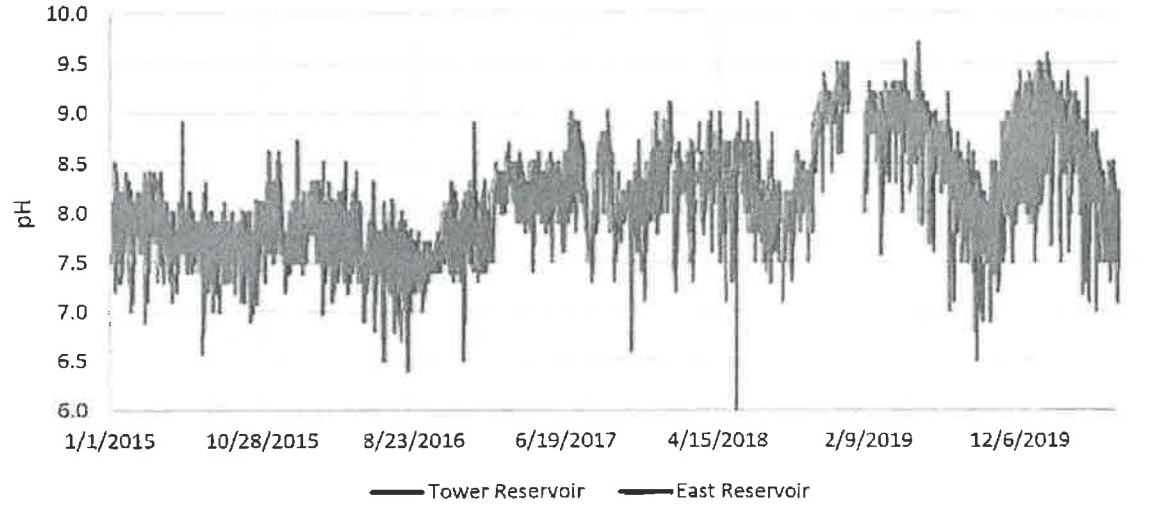
40. Figure 1 below presents the Zone 1 pH levels in the water exiting from the City's South Reservoir. The trend shows similar pH levels in the reservoir from 2015 and 2016 with average pH levels ranging from 7.6 to 7.7. A change in pH levels is noticed starting in 2017 where the pH ranges began to increase to an average pH of 8.3, nearly a 0.6 increase in pH. The trend continues into 2018, where the average pH increased to approximately 8.76. In 2019, the data shows much more fluctuation in the reservoir water pH levels as they increase to between 9.0 and 9.5, with an annual average of 9.0, an overall average increase of 1.3 since 2015.

Figure 1



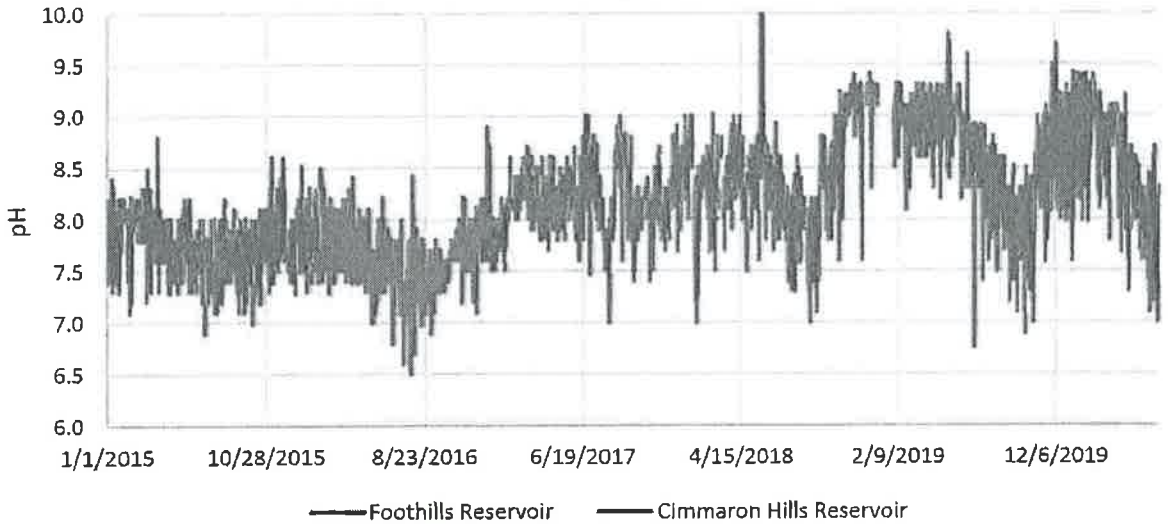
41. Figure 2 below presents the water pH from the City's Tower and East Reservoirs that serve Zone 2. The trend shows similar pH levels in both reservoirs with annual average pH levels the same in both reservoirs from year to year. Similar to South Reservoir (Zone 1), a change in pH levels is noticed starting in 2017 where the average pH ranges began to increase to an average pH of 8.2, a 0.4 increase in pH. The trend continues into the following years, where the annual average pH continued increase. In 2019, the annual average was 8.53, which was less than that of South Reservoir in Zone 1, but still an overall increase of 0.7 in average pH level since 2015.

Figure 2



42. Figure 3 below presents the water pH from the City's Foothills and Cimmaron Hills Reservoirs that serve Zone 3. The trend shows similar pH levels in both reservoirs with annual average pH levels the same in both reservoirs from year to year, and very similar to that of the reservoirs in Zone 2 in Figure 2. Similar to that of the pH trends in Zone 1 and 2, there is an increase in pH after 2017 continuing into 2019, with an overall increase of around 0.8 in pH from 2015 to 2019.

Figure 3



43. Figure 4 and Figure 5 below presents the water pH from the City's Reservoirs that serve Zone 4 and Zone 5 and 6, respectively. Based on the pH data presented in Table 3, the average pH levels from year to year follow similar trends to Zones 2, 3 and 3 with a pH increase in 2017 continuing through 2019.

Figure 4

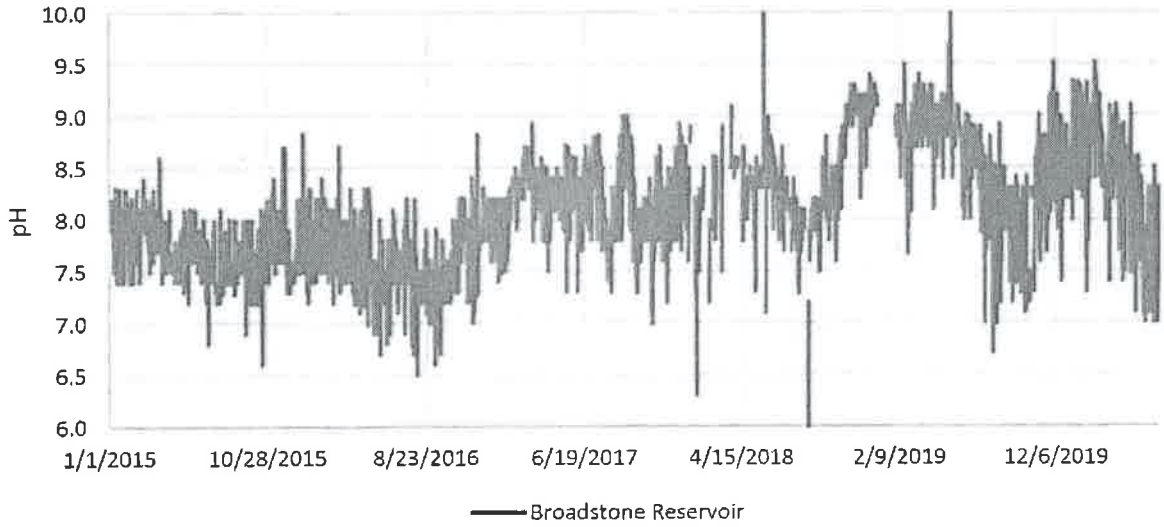
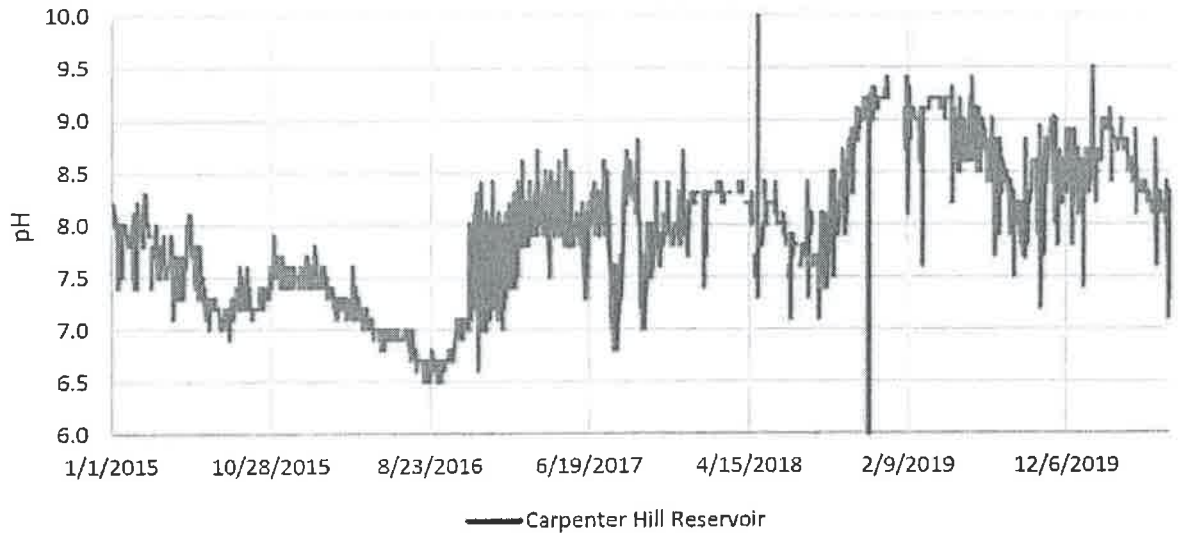


Figure 5



44. Table 4 below presents the distribution system chlorine residual exiting the City's reservoirs that serve each zone from 2015 to 2020. The data shows a trend of increasing average chlorine residuals through all of the City's reservoirs from 2015 to 2017. In 2018, the annual average chlorine levels decreased in all reservoirs and then began increasing again in 2018 and 2019. Zone 2 and 3 had the highest chlorine residuals during these years, averaging between 1.01 and 1.17 mg/L.

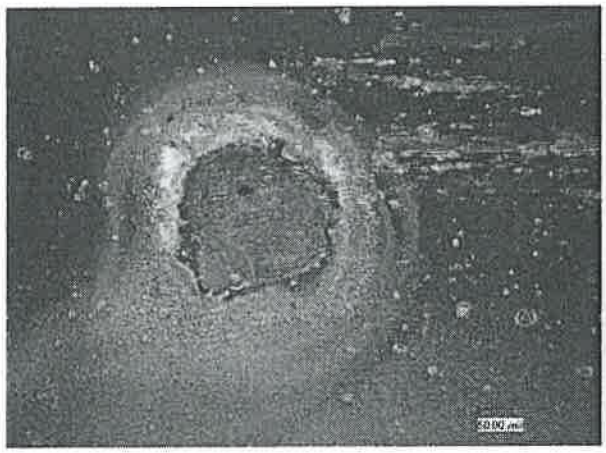
Table 4. Average Reservoir Chlorine Residual Levels (2015-2020)

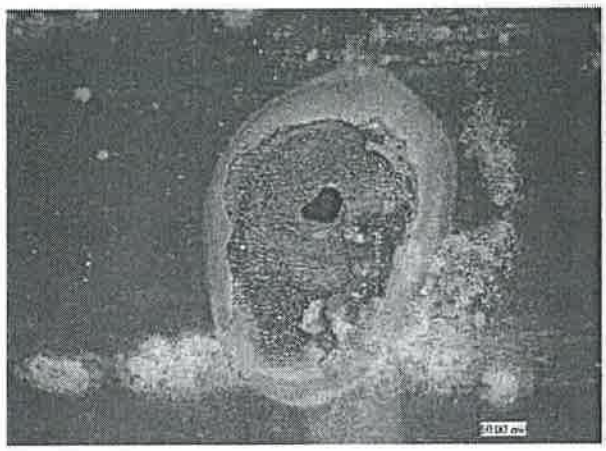
Pressure Zone	Reservoir	Average Chlorine Residual (mg/L)					
		2015	2016	2017	2018	2019	2020
1A	Nimbus	0.79	0.79	0.90	0.75	1.02	0.84
1	South	0.42	0.55	0.67	0.54	0.67	0.63
2	East	0.85	0.87	1.02	0.82	0.93	0.89
	Tower	1.24	1.16	1.09	0.95	1.15	1.17
3	Cimmaron	0.96	1.09	1.03	0.92	1.06	1.02
	Foothills	0.89	0.90	1.05	0.92	1.01	1.01
4	Broadstone	0.44	0.53	0.68	0.69	0.77	0.78
5	Carpenter Hill	0.44	0.53	0.68	0.59	0.77	0.78
6	Carpenter Hill	0.49	0.55	0.71	0.65	0.77	0.83

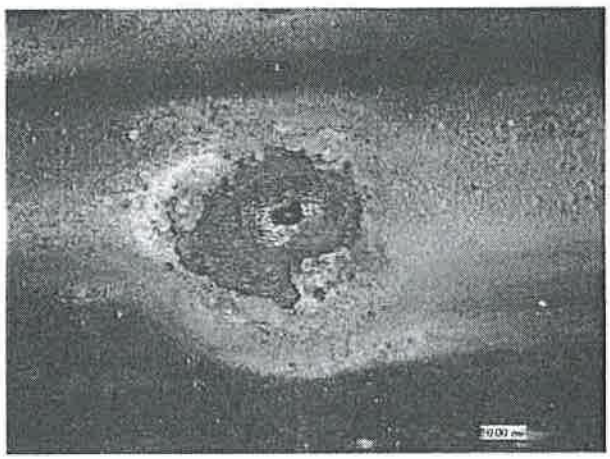
45. On September 30, 2020, a field engineer from HDR visited three residences in the City's service area where pinhole leaks had occurred. The purpose of the visits was to perform onsite water corrosivity testing, collect water samples for laboratory testing, and to collect samples of failed copper

tubing for evaluation. Three samples were taken. The initial pH values measured in the field ranged from 8.4 to 9.8.

46. The interiors of the pipe samples all had greenish-greyish to greenish-blackish films which is consistent with observed copper oxides that form in high pH and low dissolved inorganic carbon. Each of the pinholes inspected by HDR (shown below) are of a shape and morphology consistent with chemical corrosion and lacks the appearance typical of microbial corrosion (i.e. extensive surface pitting around pinhole and irregularity in the pinhole shape):







47. Based on HDR's water quality review and corrosion analysis, HDR found that there were a number of factors that could have contributed to the increased pinhole leaks that have manifested throughout the City. The City's water quality contains low levels of alkalinity and minerals and can be classified as relatively soft, with relatively high pH levels, above 9 in some cases throughout the year, which indicates that the pinhole leaks could be associated with Type 3 cold water pitting corrosion. HDR also found that the presence of carbonate in the corrosion product is also consistent with Type 3 corrosion.

48. Based on the reservoir water quality data, the reservoir water quality is very consistent throughout the system, with varying chlorine residuals as water makes its way through the system. This could indicate that the pinhole leaks could continue into the future in other pressure zones if not changed. The homes in the City's other pressure zones are much newer and were constructed in the 2000's, meaning that they could have been constructed using different plumbing materials. However, if copper plumbing was used, it may be a similar timeframe before pinhole leaks began occurring in those zones in the future.

49. The City's pH was higher than the established goal of 8.0 to 8.7 in the 2017-2020 timeframe, which likely was a contributing factor to the sudden increase of pinhole leaks throughout the City's system.

D. STANDARD INDEXES INDICATED THAT THE CITY'S WATER WAS CORROSIVE

50. The Langelier Saturation Index (LSI), a measure of a solution's ability to dissolve or deposit calcium carbonate, is often used as an indicator of the corrosivity of water. The index is not related directly to corrosion, but is related to the deposition of a calcium carbonate film or scale; this covering can insulate pipes, boilers, and other components of a system from contact with water. When no protective scale is formed, water is considered to be aggressive, and corrosion can occur. Highly corrosive water can cause system failures or result in health problems because of dissolved lead and other heavy metals. An excess of scale can also damage water systems, necessitating repair or replacement.

51. In developing the LSI, Langelier derived an equation for the pH at which water is saturated with calcium carbonate (pHs). This equation is based on the equilibrium expressions for calcium carbonate solubility and bicarbonate dissociation. To approximate actual conditions more closely, pHs calculations were modified to include the effects of temperature and ionic strength.

52. The Langelier Index is defined as the difference between actual pH (measured) and calculated pHs. The magnitude and sign of the LSI value show water's tendency to form or dissolve scale, and thus to inhibit or encourage corrosion. Although information obtained from the LSI is not quantitative, it can be useful in estimating water treatment requirements for low pressure boilers, cooling towers, and water treatment plants, as well as serving as a general indicator of the corrosivity of water.

53. The CITY typically operates with its water being at a negative LSI in the range of -1.4 to -1.7. An LSI in that range (-2.0 to 0.0) is considered to have moderately aggressive corrosive characteristics.

54. The Aggressive Index (AI), originally developed for monitoring water in asbestos pipe, is sometimes substituted for the Langelier Index as an indicator of the corrosivity of water. The AI is derived from the actual pH, calcium hardness, and total alkalinity. Where it is applicable, it is simpler and more convenient than the LSI.

55. An AI of 12 or above indicates nonaggressive (not corrosive) water. AI values below 10 indicate extremely aggressive (corrosive) conditions. Values of 10–11.9 indicate that the water has moderately aggressive corrosive characteristics. The CITY's water was at an AI of between 9.9-11.0 during

the years 2016-2020, which is considered to have extremely to moderately aggressive corrosive characteristics.

III. CLASS ACTION ALLEGATIONS

56. Plaintiff brings this class action individually and on behalf of all others similarly situated pursuant to California Code of Civil Procedure section 382. This action may be brought and properly maintained as a class action because Plaintiffs satisfy the numerosity, adequacy, typicality, and commonality pre-requisites for suing as a representative party pursuant to California Code of Civil Procedure section 382.

57. Plaintiff seeks to represent a Class defined as follows:

All individuals and entities who own or lease real property in Folsom, California, plumbed with copper piping receiving water from the CITY's Water Treatment Plant.

Members of the Class include:

a.) All individuals and entities who own or lease real property in CITY, plumbed with copper piping receiving water from the CITY's Water Treatment Plant who have had pinhole leaks manifest in their copper piping.

b.) All individuals and entities who own or lease real property in Folsom, California, plumbed with copper piping receiving water from the CITY's Water Treatment Plant who have had pinhole leaks manifest in their copper piping and as a result were required to perform repairs to the real property.

c.) All individuals and entities who own or lease real property in Folsom, California, plumbed with copper piping receiving water from the CITY's Water Treatment Plant who have had pinhole leaks manifest in their copper piping and were required to perform repairs to, or replace, their personal property.

d.) All individuals and entities who own or lease real property in Folsom, California, plumbed with copper piping receiving water from the CITY's Water Treatment Plant who have not yet had pinhole leaks manifest in their copper piping.

e.) All individuals and entities who own or lease real property in Folsom, California, plumbed with copper piping who paid for water from the CITY's Water Treatment Plant.

58. At all relevant times, Plaintiff Malmquist was and is within the proposed Class as described above.

59. Excluded from the proposed Class are Defendants; the officers, directors, council members, and employees of Defendants; any entity in which Defendants have a controlling interest; and any affiliate, legal representative, and/or heir or assign of Defendants; also excluded is any judicial officer presiding over this action. Plaintiffs reserve the right to modify the proposed class definition and to add or modify subclasses.

60. Numerosity. The proposed Class is so numerous that joinder of all members is unfeasible and impractical. The CITY has more than 80,000 residents and supplies millions gallons of water per day to thousands of homes in Folsom. As of January 4, 2021, more than 1,342 properties within the CITY have

reported to the CITY a pinhole leak in copper pipes. The proposed Class is sufficiently numerous, making individual joinder of Class members' claims impracticable.

61. Ascertainability. Class members are ascertainable through the CITY's public records. Moreover, the CITY has conducted water testing throughout Folsom, and has sent monthly reports with such information to the State of California. This action is properly suited for class action treatment because a well-defined community of interest in the litigation exists and the proposed class is readily and easily ascertainable.

62. Typicality. Plaintiff's claims are typical of the claims of all members of each Class that Plaintiff seeks to represent because all members of the Class sustained injuries arising out of Defendants' common course of conduct in violation of law and the injuries of all members of the Class were caused by Defendants' wrongful conduct in violation of law, as alleged herein. Plaintiff, like all Class members, has been harmed by Defendants' misconduct and failure to act, and Plaintiffs have suffered harm and incurred damages and losses related to the aggressive, corrosive, and substandard water supplied by the CITY's public water system, which caused the corrosion of copper pipes.

63. Adequacy. Plaintiff is an adequate representative of the Class he seeks to represent and will fairly protect the interests of Class members. Plaintiff's interests do not conflict with Class members' interests. Plaintiff has no interest antagonistic to those of Class members, and Defendants have no defenses unique to Plaintiff. Plaintiff has retained counsel competent and experienced in complex class action litigations, and Plaintiff intends to vigorously pursue favorable resolution of this suit on behalf of himself and the members of the Class.

64. Predominant Common Questions of Law and/or Fact. There is a well-defined community of interest and common questions of law and fact exist as to all members of the proposed Class and predominate over questions affecting only individual Class members; these common questions will drive the resolution of this litigation. Common questions applicable to all classes include:

a.) Whether Defendants engaged in the conduct alleged herein;

b.) Whether the CITY was taking a calculated risk that damage to Plaintiff's and Class members' plumbing and homes may occur;

c.) Whether the CITY owed a duty to Plaintiff and Class members by operating and maintaining the Water Treatment Plant that provides millions of gallons of water per day to thousands of residents in Folsom;

d.) Whether the CITY acted reasonably in the operation and maintenance of the Water Treatment Plant;

e.) Whether the CITY was negligent in its operation and maintenance of its public water system;

f.) Whether the CITY made unlawful, misleading, and false representations or material omissions with respect to the safety of the CITY's public water system;

g.) Whether Defendants' actions and inactions were a substantial factor in causing harm to Plaintiffs and Class members;

h.) Whether Defendants' misconduct constitutes interference with Plaintiff's and Class members' enjoyment of their lives and properties;

i.) Whether Defendants have caused a nuisance;

j.) Whether the CITY's actions or inactions breached its contracts with Plaintiff and Class members for water services;

k.) Whether the CITY was unjustly enriched by their actions or inactions alleged herein;

l.) Whether the CITY breached implied warranties to Plaintiff and Class members by their actions or inactions alleged herein;

m.) Whether Defendants' breaches of duty to Plaintiff and Class members was the actual and proximate cause of Plaintiff's and Class members' damages;

n.) Whether it was reasonably foreseeable that Defendants' failure to properly test, investigate, report, and adjust water quality would result in harm including property damages and economic damages;

o.) Whether Defendants' misconduct, actions, and/or inactions have caused a diminution of Plaintiffs' property values and other injuries; and

p.) Whether Plaintiffs are entitled to injunctive relief against the CITY.

65. Superiority. A class action is superior to any other available method for the fair and efficient adjudication of the claims of Class members because Defendants have acted or refused to act on grounds generally applicable to all Class members, thereby making appropriate final injunctive relief on a class-wide basis. In addition, Plaintiff and Class members will not be able to obtain effective and economical legal redress unless the action is maintained as a class action. Finally, without class certification, the prosecution of separate actions by individual Class members would create the risk of:

a.) Inconsistent or varying adjudications with respect to individual Class members, which would establish incompatible standards of conduct for Defendants;

b.) Adjudications with respect to the individual members which would, as a practical matter, be dispositive of the interests of other members not parties to the adjudication, or would substantially impair or impede their ability to protect their interests;

c.) Defendants necessarily gaining an unconscionable advantage because Defendants would be able to exploit and overwhelm the limited resources of each individual member of the Class with Defendants' vastly superior financial and legal resources; and

d.) Unnecessary delay and expense to all parties and to the court system.

66. Plaintiff does not anticipate any difficulty in the management of this litigation.

IV. CAUSES OF ACTION

FIRST CAUSE OF ACTION

INVERSE CONDEMNATION

67. Plaintiffs re-allege and incorporate herein by reference all of the allegations contained in paragraphs 1-66, inclusive, as though fully set forth herein.

68. Article I, Section 19 of the California Constitution provides that "[p]rivate property may be ... damaged for a public use and only when just compensation ... has first been paid to, or into court for, the owner." The fundamental policy underlying inverse condemnation is that the costs of a public

improvement benefiting the community should be spread among those benefited rather than allocated to a single member of the community.

69. The CITY and DOES 1-100 planned, constructed, operated, maintained, and/or oversaw the WTP for public use and benefit: to supply the CITY'S residents with water.

70. The CITY knew, or should have known, that properties with copper piping would be susceptible to corrosion in their piping if supplied with water from the WTP as maintained by the CITY. The CITY also knew, or should have known this would likely lead to leaks in the copper pipes causing damage to properties within the CITY.

71. Despite the CITY's knowledge that homes with copper piping would be susceptible to accelerated corrosion due to the chemistry of the CITY's water, the CITY nevertheless made a deliberate policy decision to shift the risk of future loss to private property owners, including Plaintiff and Class members. Due to the CITY's decision to deliver corrosive water to its residents and customers, Plaintiff and Class members have suffered legal injuries and damages, including but not limited to physical damage to their properties, the loss of and diminution of value of their properties, the loss of use and enjoyment of their property, ongoing and continued corrosion of their copper piping, and the cost to repair the damages.

72. The CITY has damaged and taken the private property of Plaintiff and the Class members, entitling Plaintiff and the Class members to just compensation under Article I, Section 19 of the California Constitution, and the Fifth and Fourteenth Amendments to the United States Constitution.

73. Plaintiff and the Class members have suffered a taking without just compensation in an amount that exceeds the jurisdictional minimum of this Court. The damages of the Plaintiff and the Class members include, but are not limited to: substantial diminution in the value of property, reduced safety and marketability of property, costs to mitigate the damages, cost of relocation and temporary housing during the repairs, costs of experts and consultants to determine the scope and cost of repair, and attorneys' fees and costs incurred in pursuing this action.

74. The CITY and DOES 1-100 are liable to Plaintiff and Class members for all damages, costs, disbursements, expenses, including expert fees, and attorneys' fees, among other things, arising from their actions and/or inactions, pursuant to Cal. Code Civil Proc. §§ 1021.5 and 1036.

SECOND CAUSE OF ACTION

NEGLIGENCE

75. Plaintiffs re-allege and incorporate herein by reference all of the allegations contained in paragraphs 1-66, as though fully set forth herein.

76. California Government Code § 815.6, provides: Where a public entity is under a mandatory duty imposed by an enactment that is designed to protect against the risk of a particular kind of injury, the public entity is liable for an injury of that kind proximately caused by its failure to discharge the duty unless the public entity establishes that it exercised reasonable diligence to discharge the duty.

77. Further, if a public entity voluntarily assumes a protective duty toward certain members of the public and undertakes action on behalf of those members, thereby inducing reliance, the public entity is held to the same standard of care as a private person or organization. Justifiable reliance giving rise to the duty of care may be based either on a promise, express or implied, to provide a service, or on the conduct of the public employee in a situation of dependency. Under these principles, a public entity may be liable for an omission or failure to act after inducing reliance in the Plaintiffs.

78. The CITY's decision to introduce water with high pH levels, low alkalinity and free chlorine into the water supply without taking known and necessary measures to protect the copper piping systems in Plaintiff's and Class members' homes caused accelerated corrosion and leaks in said pipes.

79. The CITY negligently failed to take into account the standard indexes indicating the corrosive nature of the CITY's water, or to investigate and/or take sufficient system-wide measures to remedy the problem in order to mitigate or prevent further damages to its residents and their properties, all of which has only served to prolong, intensify, and aggravate the degrading of Plaintiffs' copper piping and the exposure of Plaintiffs' and Class members' persons and properties to dangerous corrosive water. The harm Plaintiffs and Class members suffered, and continue to suffer, is a direct result of Defendants' actions and inactions.

80. The CITY breached its duties to Plaintiff and members of the putative class in ways including, but not limited to, the following:

a.) failing to require proper corrosion control treatment of water supplied by the CITY;

b.) failing to implement proper corrosion control treatment of water supplied by the CITY;

c.) failing to require proper testing relating to the standard corrosion indexes for water supplied by the CITY; and

d.) failing to take steps to mitigate the impact of the corrosive nature of the CITY's water on Plaintiff's and Class members' pipes.

81. Plaintiff's and Class members' properties suffered foreseeable harm as a result of the CITY'S breach of its duties and as a result of its negligent operation of its water treatment plant.

82. The CITY knew, or should have known that its failure to abide by their duties to test, investigate, and remediate problems with the water supply, and notify the public of same, could result in corrosion of pipes. The CITY knew or should have known that the failures of the foregoing could, and would cause physical damage to Plaintiff's and Class members' properties.

83. As a result of CITY's breach of its duty to test and investigate problems with the water supply and notify the public of same, Plaintiff's and Class members' properties were, and are, being physically invaded by corrosive water supplied by the CITY.

84. As a result of the CITY's breach of its duties, Plaintiff and Class members suffered property damages as alleged herein, including physical injury to their property, as corroborated by the extensive manifestation of pinhole pipe leaks in copper piping.

85. As a result of the CITY's breach of its duties, Plaintiff and Class members suffered and will continue to suffer the loss of the quiet use and enjoyment of their properties.

86. As a result of the CITY's breach of its duties, Plaintiffs and Class members have suffered legal injury and damages, in an amount to be proven at trial, including, but not limited to, property damage, diminution of value of real estate, the cost to repair the damage, plus the value of their lost use of the property as a result of the CITY's negligence.

87. Pursuant to California Government Code § 815.6, the CITY is liable to Plaintiff and Class members for all damages arising from the breach of their duties, including compensatory and injunctive relief, and attorneys' fees pursuant to Cal. Code Civ. Proc. § 1021.5.

THIRD CAUSE OF ACTION

NUISANCE

88. Plaintiffs re-allege and incorporate herein by reference all of the allegations contained in paragraphs 1-66, inclusive, as though fully set forth herein.

89. Plaintiffs and Class members own or lease property in Folsom, California.

90. Defendants' actions, and the CITY's breach of its duties described above, created a nuisance and substantially and unreasonably interfered with Plaintiff's and Class members' comfortable enjoyment of life and property, by causing known, corrosive water to be delivered to Plaintiff's and Class members' homes, which harmed their properties.

91. Neither Plaintiff nor Class members consented to the invasion of corrosive water that would cause the copper piping in their home to degrade, and cause the copper pipes in their homes to develop leaks damaging their properties.

92. The contamination of Class members' water has interfered with the rights of Plaintiff and Class members to use and enjoy their property. Indeed, this interference is substantial in nature. Defendants' conduct has also substantially interfered with Plaintiff's and Class members' ability to enjoy their respective properties, to avail themselves of their respective properties' value as an asset and/or source of collateral for financing, and to use their respective properties in the manner that each Plaintiff or Class member so chooses.

93. Defendants' negligent, reckless and/or intentional acts and omissions, and the CITY's breach of its duties, were unreasonable and constitute a continuous invasion of the property rights of Plaintiff and Class members.

94. As a result of Defendants' acts and/or failures to act, and the CITY's breach of its mandatory duties, Plaintiffs and the putative class have incurred, and will continue to incur, costs and expenses related to the investigation, treatment, remediation, and monitoring of CITY water and the corrosion of copper pipes at their respective properties.

FOURTH CAUSE OF ACTION

BREACH OF CONTRACT

95. Plaintiffs re-allege and incorporate herein by reference all of the allegations contained in paragraphs 1-66, inclusive, as though fully set forth herein.

96. At all times herein, the CITY, pursuant to Chapter 3.20.130 of the Municipal Code of the CITY, offered services for payment, to provide adequate, potable, clean, safe, non-corrosive and reliable water that to their residents and other customers of the CITY's water.

97. Plaintiff and the Class members accepted the offer by applying to the CITY for water service, utilizing the CITY's water, agreeing to pay for the water, and tendering payment for the water.

98. To receive water services, Plaintiff and Class members were required to, and did, apply for an account, either through the written application process on the CITY's website or through telephone. The application contains terms, including the location of the premises to be served, the person(s) authorized on the water service account, and the date water service is to commence. Plaintiff and Class members were

provided with a monthly bill detailing the amount owed to the CITY, to which they paid and the CITY collected.

99. Thus, Plaintiff, Class members, and the CITY entered into a contract for the purchase and sale of adequate, potable, clean, safe, and reliable, non-corrosive, and nonharmful water.

100. The CITY has admitted that the water provided to Plaintiff and Class members was substandard and corrosive, and therefore not fit for its intended uses in Plaintiff's and Class members' homes.

101. The CITY materially and irreparably breached the contract with Plaintiff and Class members by failing to provide non-corrosive, non-harmful, and safe water, and instead provided substandard and corrosive water unfit for use in Plaintiff's and Class members' homes.

102. As a result of the CITY'S breach, Plaintiff and Class members suffered damages in the amount of all debts and obligations for the water supplied by the CITY, whether tendered or untendered, and as stated throughout this Complaint.

103. The CITY is liable to Plaintiff and the putative class for all amounts billed and/or collected, whether paid or unpaid, for corrosive water that was supplied to Plaintiff and Class members.

FIFTH CAUSE OF ACTION

UNJUST ENRICHMENT

104. Plaintiffs re-allege and incorporate herein by reference all of the allegations contained in paragraphs 1-66, inclusive, as though fully set forth herein.

105. The CITY has received the benefits of the funds paid by Plaintiff and Class members for substandard and corrosive water that was, and is, unfit for use in Plaintiff' and Class members' homes.

106. The CITY has utilized these funds for the operation of the government of Folsom, California.

107. The retention of the benefit of the funds paid by Plaintiff and Class members constitutes unjust enrichment in the amount of all funds paid for water that was corrosive and dangerous to Plaintiff's and Class members' properties.

108. It would be unjust to allow the CITY to retain the benefit they obtained from Plaintiff and the Class members.

109. Plaintiffs seek restitution and restitutionary disgorgement of the CITY'S funds collected for supplying corrosive and dangerous water.

SIXTH CAUSE OF ACTION

BREACH OF IMPLIED WARRANTY

110. Plaintiffs re-allege and incorporate herein by reference all of the allegations contained in paragraphs 1-66, inclusive, as though fully set forth herein.

111. The CITY directly promised to provide to Plaintiff and Class members water that was adequate, potable, clean, safe, reliable, non-corrosive and fit for use in their homes and/or impliedly promised that the water provided to Plaintiff and Class members was non-corrosive and non-harmful when supplied to their homes.

112. The CITY has admitted that the water provided to Plaintiff and Class members was substandard and corrosive and therefore clearly not fit for its intended uses.

113. The provision of water unfit for its intended purpose and/or the admission that the water was not fit for its intended purpose constitute material breaches of an implied warranty and/or contract.

114. As a result of the CITY's breach, Plaintiff and Class members suffered damages in the amount of all debts and obligations for water, whether tendered or untendered, and as stated throughout this complaint.

115. The CITY is liable to Plaintiff and the Class members for all amounts billed and/or collected, whether paid or unpaid, for corrosive water that was supplied to Plaintiff and Class members.

V. PRAYER FOR RELIEF

WHEREFORE, Plaintiff, on behalf of himself and all others similarly situated, pray for compensation from the CITY, and entry of Judgment, as follows:

1. For an order certifying the Class and appointing Plaintiff as the representative of the Class and appointing the undersigned as Class Counsel;

2. For an award of actual damages as against the CITY;

3. For an award of restitution and restitutionary disgorgement as against the CITY;

4. For an award of attorneys' fees and costs under Code of Civil Procedure section 1021.5 and as otherwise allowed by law;

5. For an award of reasonable costs, disbursements, and expenses, including attorneys' fees, pursuant to Code of Civil Procedure section 1036 and as otherwise allowed by law;

6. For an injunction prohibiting the CITY from continuing the wrongful conduct alleged herein;

7. For pre-judgment and post-judgment interest to the extent allowed by law; and

8. For such other and further relief as a Court deems just and proper.

DATED: January 6, 2021

STONEBARGER LAW, APC

By: _____
Gene J. Stonebarger, SBN #209461
Attorneys for Plaintiff and the Class

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