2024 **WATER QUALITY REPORT**

A regional publication on the source, treatment and distribution of water provided by Des Moines Water Works.

lean Water. Made fresh daily.

That's what we do at Des Moines Water Works to ensure we meet our commitment to you: LEADING AND ADVOCATING FOR WATER YOU CAN TRUST FOR LIFE.

We are proud to report to you that the finished water we produce at Des Moines Water Works meets all state and federal requirements for safe drinking water. We are required to prepare this Consumer Confidence Report each year to meet U.S. Environmental Protection Agency requirements under the Safe Drinking Water Act. This report explains raw water sources, detected contaminants and compliance requirements. It also shares educational information about the treatment process so you can better understand how we send clean water to your home or business every day.

You can trust that as central lowa's regional drinking water utility. Des Moines Water Works makes the investments in critical infrastructure to ensure our water treatment experts have the equipment and technology they need to test and treat raw source water so that when you turn on your tap, you are drinking safe, affordable drinking water that meets state and federal drinking water regulations.

We encourage all water users to be environmental stewards and Think Downstream about their actions and the effects they have on our precious natural water resources.





WHERE DOES YOUR WATER COME FROM?

The Raccoon and Des Moines Rivers are used to provide drinking water to 600,000 central lowans. Upstream land use practices – agricultural and urban – have a direct effect on water quality and quantity for downstream users. All lowans should **Think Downstream** and consider how they can help make lowa's water safe for drinking and recreation.

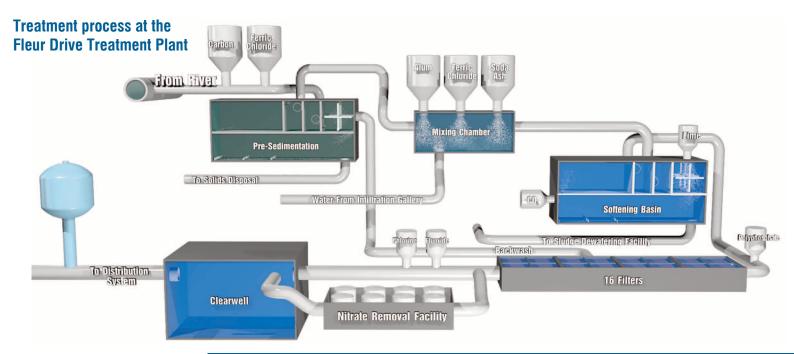
Des Moines Water Works (DMWW) operates three water treatment plants in central lowa. Each treatment plant involves a multi-barrier approach to ensure the safety of your drinking water. This includes source water monitoring, riverbank filtration, treatment processes of softening, filtration and disinfection, as well as distribution system monitoring and maintenance.



The **L.D. McMullen Water Treatment Plant** at Maffitt Reservoir, located southwest of the metro area, treats up to 25 million gallons of water from six radial collector wells and one horizontal well along the Raccoon River, and serves customers in southwest Des Moines, Waukee and parts of Warren Water District, Clive, Urbandale and West Des Moines. The collection elements are located in the coarse sand and gravel formation beneath the river. The shallow groundwater receives natural filtration prior to entry into the wells.

Saylorville Water Treatment Plant, located in northern Polk County, serves water to residents north of Des Moines. This facility treats up to 10 million gallons of water from two radial collector wells along the Des Moines River and utilizes ultrafiltration and reverse osmosis to soften and treat the water.

All other areas in Des Moines Water Works' service area receive water from the **Fleur Drive Treatment Plant**. This plant treats up to 75 million gallons of water pumped from one of three sources: Raccoon River, Des Moines River and an Infiltration Gallery (a series of underground pipes located throughout Water Works Park adjacent to the Raccoon River).



Once treated, 1,400 miles of underground pipe, 10,800 fire hydrants, 10,900 valves, 10 water storage tanks and 10 booster pumping stations distribute water to homes and businesses in Des Moines and surrounding communities.

HOW WE SAFEGUARD YOUR WATER?

Throughout the treatment process, DMWW's state-certified laboratory performs 100-150 tests each day to ensure the highest quality water is produced. An additional series of 50-60 daily tests on the untreated water sources allows laboratory staff to identify any necessary changes needed in the treatment process before the water enters the treatment plants.

DMWW monitors and tests for emerging and unregulated contaminants to stay ahead of potential health risks, including cyanotoxins produced by cyanobacteria, Per- and Polyfluoroalkyl Substances (PFAS), neonicotinoids, and pharmaceutical and personal care products (PPCP).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring material and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or humans. Contaminants that may be present in raw source water include:



Inorganic Contaminants such as salts and metals, which can occur naturally or come from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Organic Chemicals including synthetic and volatile organic chemicals, which are agriculture, industrial and petroleum process byproducts and can also come from gas stations, urban stormwater runoff and septic systems.

Microorganisms such as viruses and bacteria, which may come from agricultural livestock operations, sewage treatment plants, septic systems and wildlife.

Pesticides and Herbicides which may come from agriculture and urban stormwater runoff.

Radioactive Contaminants which can occur naturally or result from oil and gas production and mining activities.

DEFINITIONS AND ABBREVIATIONS

Action Level (AL) The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Coliform Bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water (RTCR).

E.Coli Bacteria whose presence indicates that the water may be contaminated with human or animal wastes.

Level Found The highest amount found in the water or the average of all samples analyzed, depending on the regulation. If multiple samples were tested in 2022, the lowest and highest detected values are listed under Range of Detections.

LRAA Locational running annual average.

mg/L Milligrams per liter, or parts per million (ppm). Parts of contaminant per million parts of water. One part per million is equivalent to a single penny in ten thousand dollars.

MCL The maximum contaminant level, the highest level of a substance allowed in drinking water.

MCLG The MCL Goal, the level of a substance where there is no known or expected health risk. MCLGs allow for a margin of safety. MCLs are set as close to MCLGs as feasible using the best available treatment processes.

N/A Not applicable.

ND Not detected.

ng/L Nanograms per liter, or parts per trillion (ppt). Parts of contaminant per trillion parts of water. One part per trillion is equivalent to a single penny in ten billion dollars.

NTU Nephelometric turbidity units.

pCil Picocuries per liter, a measure of radioactivity.

RTCR Revised Total Coliform Rule

TT Treatment Technique. Certain treatment processes are required to reduce the level of turbidity in the drinking water. Turbidity must not ever exceed 1 NTU, and must be less than 0.3 NTU 95% of the time.

Turbidity Turbidity is a measure of cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

μg/L Micrograms per liter, or parts per billion (ppb). Parts of contaminant per billion parts of water. One part per billion is equivalent to a single penny in ten million dollars.

2023 WATER QUALITY RESULTS

Water Treatment Plant Monitoring

Before water can be delivered to your home, it must first be analyzed by certified laboratories at Des Moines Water Works' Fleur Drive Treatment Plant and the State Hygienic Laboratory. Results for 2023 in this report include samples taken as water leaves Des Moines Water Works' three treatment plants and from samples obtained from the various water distribution systems supplied with water by Des Moines Water Works.

2023 LAB				Т	Fleur Dr reatment			. McMulle Treatment		Saylorville Water Treatment Plant			
RESULTS	UNITS	MCL	MCLG	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	YEAR TESTED	LEVEL Found	RANGE OF DETECTIONS	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	COMMON SOURCES OF CONTAMINANT
WATER CLARITY													
Turbidity	NTU	TT	N/A	2023	0.18	0.04-0.18	2023	0.21	0.04-0.21	2023	0.10	0.02-0.10	Soil runoff
ORGANIC CONTAMINAN	TS												
Atrazine	μg∕L	3	3	2022	0.2	N⁄A	2022	ND	N/A	2023	ND	N/A	Agriculture activity
Cis-1,2 Dichloroethylene	μg∕L	70	70	2023	0.5	N⁄A	2022	ND	N/A	2023	ND	N⁄A	Discharge from industrial chemical factories
Metolachlor	μg∕L	N/A	N/A	2022	0.2	N⁄A	2022	ND	N/A	2023	ND	N⁄A	Agriculture activity
Dalapon	μg∕L	200	200	2022	ND	N∕A	2022	0.2	N/A	2023	ND	N⁄A	Herbicide usage
INORGANIC CONTAMINA	NTS		<u>'</u>										
Fluoride	mg⁄L	4	4	2023	0.90	0.56-0.90	2023	0.94	0.09-0.94	2023	0.83	0.60-0.83	Additive for strong teeth; erosion of natural
Nitrate [as N]	mg⁄L	10	10	2023	7.15	ND-7.15	2023	5.61	0.06-5.61	2023	1.64	ND-1.64	deposits; discharge from fertilizer factories Agriculture activity; leaching from septic tanks; sewage; erosion of natural deposits
Sodium	mg⁄L	N/A	N/A	2023	48	15-48	2023	35	14-35	2023	22	14-22	Erosion of natural deposits
Barium	mg⁄L	2	2	2021	ND	N∕A	2021	ND	N⁄A	2020	0.07	N⁄A	Metal refinery and drilling waste discharge; erosion of natural deposits
TREATMENT PLANT				YEAR TESTED	ANNUAL Removal Ratio	MINIMUM Removal Requirement		ANNUAL Removal Ratio	MINIMUM Removal Requirement		ANNUAL Removal Ratio	MINIMUM REMOVAL REQUIREMENT	COMMON SOURCES OF CONTAMINANT
Total Organic Carbon	mg/L	TT	N/A	2023	3.08	1	2023	2.96	1	2023	3.49	1	Naturally present in the environment

DES MOINES WATER WORKS operates three Aquifer Storage and Recovery (ASR) wells and the **CITY OF ANKENY** operates two ASR wells. Treated drinking water is injected into wells during low demand cold weather months, and recovered for use during high demand warm-weather months to help limit the use of poor quality source water and meet customer demand. Testing data unique to this water can be seen on the chart below.

2023 ASR					L	Duise P. ASR W			ואסואו .ע ASR W		Aı	rmy Post ASR W			Anken ASR We	•		Anker ASR We	
LAB RESULTS		INITS	MCL	MCLG	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	YEAR TESTED	LEVEL Found	RANGE OF DETECTIONS	YEAR TESTED	LEVEL	RANGE OF DETECTIONS	YEAR	LEVEL	RANGE OF DETECTIONS	YEAR TESTED	LEVEL	RANGE OF DETECTIONS
PARAMETER																			
Alpha Emitters		рСі⁄Ц	15	0	2023	2.3	N/A	2023	5.1	N/A	2023	9.0	N/A	2023	1.8	N/A	2023	9.0	3.7-9.0
Arsenic		µg∕L	10	0	2023	ND	N/A	2023	ND	N/A	2023	2	ND-2	2023	0.001	N/A	2023	0.001	ND-0.001
Atrazine		μg/L	3	3	2023	ND	N/A	2023	ND	N/A	2023	ND	N/A	2023	ND	N/A	2023	ND	N/A
Combined Radium	ľ	Ci/L	5	0	2023	ND	N/A	2023	1.7	N/A	2023	1.8	N/A	2023	1.2	N/A	2023	2.0	N⁄A
Fluoride		mg⁄L	4	4	2023	1.39	0.72-1.39	2023	0.94	0.60-0.94	2023	1.60	0.93-1.60	2022-23	1.20	0.81-1.20	2022-23	1.30	0.73-1.30
Nitrate [as N]		mg⁄L	10	10	2023	3.34	0.88-3.34	2023	5.21	0.09-5.21	2023	1.65	0.22-1.65	2023	1.15	0.10-1.15	2022-23	1.05	0.60-1.05
Sodium		mg⁄L	N/A	N/A	2023	80	21-80	2023	35	16-35	2023	105	26-105	2022-23	58	23-48	2022-23	53	23-58
PARAMETER Alpha Emitters Arsenic Atrazine COMMON SOURCES OF CONTAMINANT Erosion of natural deposits Erosion of natural deposits Agriculture activity				PARAME Combine Fluoride	ned Radium Erosion of natural of Additive for strong			eposits Nit teeth; erosion of natural		Nitrate [as N] Agriculture ac		URCES OF CONTAMINANT tivity; leaching from septic tanks; ion of natural deposits tural deposits							

Water Distribution System Monitoring

Once the water leaves Des Moines Water Works' water treatment facilities, it is regularly monitored throughout the numerous distribution systems served by Des Moines Water Works for disinfectant, disinfection byproducts, bacteria, lead and copper. The table below shows the results of this monitoring.

2023 DISTRIBUTION RESULTS	Byproducts MCL:	nethanes (TTHM) µg/L) of chlorination : 80 µg/L no limit set	Bypr chlo MCL	Acids (HAA5) µg/L) oducts of orination : 60 µg/L no limit set	Lead (µgL) From plumbing corrosion 90% of all samples must be below Action Level of 15 µg/L				Coppe (mg/L) om plumbing f all samples ction Level of)	(po Naturally the env	m Bacteria sitive) y present in vironment atment ique (TT)	Chlorine Disinfectant (mg/L) Added to prevent bacterial growth Maximum limit for annual average: 4 mg/L	
SYSTEM	Level Found	Range of Detections	Level Found	Range of Detections	Year Tested	90% of test levels were less than	Range of Detections	Year Tested	90% of test levels were less than	Range of Detections	Monthly Samples	Positive Samples	Running Annual Average	Range
Des Moines*	77	68-84	15	12-19	2021	ND	ND-251	2021	ND	ND-0.022	151	3 ²	1.11	0.05-2.50
Ankeny	57	26-73	11	8-13	2022	ND	ND	2022	ND	ND-0.028	70	1 ²	1.00	0.15-1.91
Bondurant	54	42-61	17	14-20	2021	4.0	ND-9	2021	0.012	0.005-0.014	8	0	2.20	1.05-2.56
Clive	64	57-71	12	7-17	2022	ND	ND	2022	ND	ND-0.032	20	0	1.00	0.33-1.45
East Dallas Water	41	34-47	9	7-13	2021	ND	ND	2021	ND	ND	1	0	2.41	2.10-2.90
Earlham	49	N/A	10	N⁄A	2023	2.0	ND-2	2023	0.010	ND-0.010	2	0	1.90	1.60-2.30
Johnston	55	34-76	16	8-23	2022	ND	ND-5	2022	0.117	0.006-0.177	20	12	0.80	0.18-1.39
New Virginia	59	54-70	15	12-16	2022	ND	ND	2022	ND	ND	1	1 ²	1.99	1.80-2.30
Norwalk	69	59-78	12	9-14	2022	ND	ND	2022	ND	ND-0.050	10	0	0.90	0.41-1.56
SE Polk Rural Water**	74	64-83	13	8-21	2021	ND	ND	2021	ND	ND	9	0	0.67	0.15-1.61
Urbandale	72	59-99	13	9-15	2021	ND	ND-10	2021	ND	ND	50	0	0.95	0.36-1.69
Warren Water District	62	50-74	14	12-15	2023	ND	ND-10	2023	0.02	ND-0.050	20	1 ²	2.50	1.70-3.00
Waukee	66	53-83	13	9-16	2021	ND	ND	2021	ND	ND	25	0	1.00	0.33-1.72

^{*}Includes water supplied to Alleman, Berwick, Cumming, Pleasant Hill, Unincorporated Polk County and Windsor Heights. ** Includes water supplied to Runnells and eastern portions of Pleasant Hill. ¹ One sample exceded the Action Level (AL) of 15 ug/L. ² Sample tested positive for coliform bacteria. Repeat samples indicated bacteria were not present, and the water was determined to be safe to consume.

Unregulated Contaminants

The U.S. Environmental Protection Agency required some water systems and cities to take samples in 2023 for an assessment monitoring program for the Unregulated Contaminant Monitoring Rule 5 (UCMR5). The EPA will review the findings of this nationwide assessment to determine if any new regulations are needed.

SOURCE ENT	RY POINT WW	BONDU	IRANT
Lithium (µg/L) Level Found	PFHx\$ (µg/L) Level Found	Lithium (µg/L) Level Found	PFHxS (μg/L) Level Found
ND-28	ND	9.5-14.8	ND-0.0035

DRINKING WATER AND HEALTH INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. Information about contaminants and potential health effects can be obtained by contacting the **Safe Drinking Water Hotline**.

EPA Safe Drinking Water Hotline

(800) 426-4791 or http://water.epa.gov/drink

NITRATE

Nitrate in drinking water at levels above 10 parts per million (ppm) is a health risk for infants less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. If you are caring for an infant, you should ask for advice from your healthcare provider. Nitrate levels may rise quickly for short periods of time because of groundwater conditions and agricultural activity. Des Moines Water Works uses a variety of strategies to keep the treated tap water below 10 ppm. These strategies include source water blending, and if necessary, removal of nitrate using a treatment process known as ion exchange. Ion exchange is an expensive water treatment technology used only in extraordinary situations when nitrate or other pollution is particularly threatening. Despite frequently elevated nitrate levels in the Raccoon and Des Moines Rivers, Des Moines Water Works' treated water has not exceeded the 10 ppm standard since nitrate removal was implemented in 1992.

LEAD

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Des Moines Water Works minimizes the potential for exposure to lead in drinking water by following a corrosion control program approved by the lowa Department of Natural Resources. Lead in drinking water is primarily from materials and components associated with private service lines and home plumbing. When your water has been sitting for several hours, you can further minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available from the Safe Drinking Water Hotline.

LITHIUM

Naturally occurring metal that may concentrate in brine waters; lithium salts are used as pharmaceuticals, used in electrochemical cells, batteries, and in organic syntheses.

PFAS

PFAS are a group of synthetic chemicals used in a wide range of consumer products and industrial applications including: non-stick cookware, water-repellent clothing, stain-resistant fabrics and carpets, cosmetics, firefighting foams, electroplating, and products that resist grease, water and oil. PFAS are found in the blood of people and animals and in water, air, fish, and soil at locations across the United States and the world

SOURCE WATER ASSESSMENT

Des Moines Water Works obtains water from one or more surface waters. Surface water sources are susceptible to sources of contamination or pollution within the Raccoon and Des Moines River watersheds.

Surface Water Name	Susceptibility
Crystal Lake	High
Des Moines River	High
Maffitt Reservoir	High
Raccoon River	High

Water is also obtained from aquifers. The Alluvial Aquifer was determined to be highly susceptible to contaminations because the characteristics of the aquifer and overlying materials provide little protection from contamination at the land surface. The Alluvial wells will be highly susceptible to surface contamination such as leaking underground storage tanks, contaminant spills, and excess fertilizer application.

The Cambrian-Ordovician Aquifer was determined to have low susceptibility to contamination because the characteristics of the aquifer and overlying materials provide natural protection from contaminants at the land surface.

To obtain a copy of the Source Water Assessment, call (515) 283-8700 to request a printed copy.



PUBLIC MEETING AND UTILITY CONTACT INFORMATION

Some public meetings have been moved to virtual or hybrid formats. Check with the city/entity for the most up to date information.

CITY OF ALLEMAN

Public Meeting:

2nd Monday of the month at 7:00 pm Alleman City Hall 14000 NE 6th Street · Alleman, IA 50007

Contact Information:

Alleman City Hall (515) 685-3666

CITY OF ANKENY

Public Meeting:

1st & 3rd Monday of each month at 5:30 pm Kirkendall Library 1250 SW District Drive · Ankeny, IA 50023

Contact Information:

Customer Service

220 West 1st Street · Ankeny, IA 50023 (515) 963-3565 · customerservice@ankenyiowa.gov

BERWICK WATER ASSOCIATION

Public Meeting:

Annual meeting and as needed 5825 NE Berwick Drive - Berwick, IA 50032

Contact Information:

Des Moines Water Works Customer Service (515) 283-8700 · customerservice@dmww.com

CITY OF BONDURANT

Public Meeting:

1st & 3rd Monday of each month at 6:00 pm Bondurant City Hall 200 2nd Street NE · Bondurant, IA 50035

Contact Information:

Patrick F. Collison

(515) 971-6856 · pcollison@cityofbondurant.com

CITY OF CLIVE

Public Meeting:

2nd & 4th Thursday of each month at 6:00 pm Clive City Hall 1900 NW 114th Street · Clive, IA 50325

Contact Information:

Jeff May, Public Works Director 2123 NW 111th Street · Clive, IA 50325 (515) 223-6231 · jmay@cityofclive.com

CITY OF CUMMING

Public Meeting:

2nd & 4th Monday each month at 7:00 pm **Cumming City Hall** 649 N 43rd Street · Cumming, IA 50061

Contact Information:

Cumming City Hall (515) 981-9214

Des Moines Water Works Customer Service (515) 283-8700 · customerservice@dmww.com

DES MOINES WATER WORKS

Public Meeting:

4th Tuesday of each month at 3:30 pm Des Moines Water Works 2201 George Flagg Parkway · Des Moines, IA 50321

Contact Information:

Des Moines Water Works Customer Service (515) 283-8700 · customerservice@dmww.com

CITY OF EARLHAM

Public Meeting:

2nd Monday of each month at 7:00 pm Earlham City Hall

140 South Chestnut Avenue · Earlham, IA 50072

Contact Information:

Gary Coffman, Public Works Supervisor (515) 758-2281 earlhamcityhall@mchsi.com

CITY OF JOHNSTON

Public Meeting:

1st & 3rd Monday of each month at 7:00 pm Johnston City Hall

6221 Merle Hay Road - Johnston, IA 50131

Contact Information:

Shane Kinsev

6400 NW Beaver Drive - Johnston, IA 50131 (515) 278-0822 · skinsey@cityofjohnston.com

NEW VIRGINIA WATER WORKS

Public Meeting:

1st Monday of each month at 7 pm Fire Station meeting room 506 West Street · New Virginia, IA 50210

Contact Information:

Jennifer Baughman, City Clerk (641) 449-3492 · cityclerk@newvirginia.com

CITY OF NORWALK

Public Meeting:

1st & 3rd Thursday of each month at 6:00 pm Norwalk City Hall 705 North Avenue · Norwalk, IA 50211

Contact Information:

Wayne Schwartz, P.E., Public Works Director (515) 981-9527 · wschwartz@norwalk.iowa.gov

CITY OF PLEASANT HILL

Public Meeting:

2nd & 4th Tuesday of each month at 6:00 pm Pleasant Hill City Hall 5160 Maple Drive, Suite A Pleasant Hill, IA 50317

Contact Information:

Pleasant Hill Public Works (515) 262-9465

Des Moines Water Works Customer Service (515) 283-8700 · customerservice@dmww.com

CITY OF RUNNELLS

Public Meeting:

2nd Tuesday of each month at 7:00 pm Community Center 108 Brown Street · Runnells, IA 50237

Contact Information:

Runnells City Hall (515) 966-2042

Des Moines Water Works Customer Service (515) 283-8700 · customerservice@dmww.com

URBANDALE WATER UTILITY

Public Meeting:

Meets monthly · Call 278-3940 for information Urbandale Water Utility 3720 86th Street · Urbandale, IA 50322

Contact Information:

Neil Weiss, General Manager (515) 278-3940 · nweiss@urbandalewater.org

WARREN WATER DISTRICT

Public Meeting:

3rd Monday of each month at 6 or 7 pm, as posted Warren Water District 1204 East 2nd Avenue · Indianola, IA 50125

Contact Information:

Stan Ripperger, System Manager (515) 962-1200 · wwd@warrenwaterdistrict.com

CITY OF WAUKEE

Public Meeting:

1st & 3rd Monday each month at 5:30 pm Waukee City Hall 230 W. Hickman Road · Waukee, IA 50263

Contact Information:

Rudy Koester, Public Works Director/City Engineer (515) 978-7920 · rkoester@waukee.org Waukee Utility Customer Service (515) 978-5502

CITY OF WINDSOR HEIGHTS

Public Meeting:

1st & 3rd Monday each month at 6:00 pm Windsor Heights City Hall 1133 66th Street · Windsor Heights, IA 50324

Contact Information:

Windsor Heights City Hall (515) 279-3662 Des Moines Water Works Customer Service (515) 283-8700 · customerservice@dmww.com



