

Answers to DWSD concerns/reasons for not allowing fire hydrant(s) for Urban Agriculture are given below. A city official, experienced individual, or member of the Water Department in the 7 cities of Lansing, Flint, Philadelphia, Chicago, Cleveland, New York, and Minneapolis responded to the DWSD concerns to the best of their knowledge. If the city is not included in the response to a question, none was given or known. (Research was supported through a grant from SARE)

1. The primary function of the fire hydrant is to fight fires; it should be immediately accessible when needed.
  - a. Flint
    - i. There are multiple outlets (3) on each hydrant. Water meters are designed to be removable by a grower or demolition crew and screw on easily. In addition, firefighter wrenches can be used to remove stuck/tight fit meters.
    - ii. In addition to the multiple outlets/design hydrant meters are expected to be with the agreement holder and not left on a hydrant when not in use. The water meter rental fee is high, \$600 plus an applicable water usage rate, and includes a deposit fee of \$500 that is returned to the grower when the water department receives the meter back in good condition.
  - b. Lansing
    - i. There are 3 outlets on each hydrant and we're only using one of the smaller ones. and all firefighters carry the wrench to remove our RPZ quickly.
  - c. Philadelphia
    - i. In an effort to control unauthorized use and its consequences, the Water Department has an ongoing program of installing Center Compression Locks (CCL) on hydrants. These locks require the use of a unique key not readily available to the general public.
  - d. Chicago
    - i. The same is often stated in Chicago—that hydrants are for fighting fires, not urban agriculture.
  - e. Cleveland
    - i. The Cleveland Department of Community Development provides Community Garden Permits to urban farmers participating in the Ohio State University Summer Sprout Community Garden Program during the growing season, from May to October. The permit allows urban farmers to use approximately 2 MCF of water per summer, with 1 MCF equivalent to about 7,480 gallons of water.
  - f. New York
    - i. The RPZ/vacuum breakers and associated materials community gardeners use to access the hydrants are easy to quickly remove in the rare instance that a community garden is actively accessing the water and a fire occurs.
  - g. Minneapolis (Erma)
    - i. Minneapolis policy makes no reference to this issue

## 2. Water quality and safety.

### a. Flint

Water meters are outfitted with RPZ (backflow prevention) on meter to reduce likelihood of contamination from meter to water supply.

### b. Lansing

- i. That's what an RPZ does, and also what a sanitary yard hydrant does - prevents back flow so there is no chance of contamination

### c. Philadelphia

- i. When picking up your permit, include a copy of the receipt or physical proof for your backflow preventer. A permit will not be issued without proof of the necessary backflow preventer, e.g., a cellphone photo of the assembly.
- ii. Water Line Safety Procedures In order to avoid dangerous cross connections please do the following: • Store hoses in hose rack and do not allow hoses to sit on the ground. When hoses are left laying out, they can create puddles where bacteria and chemicals can pool. These contaminants can work their way up your garden hose and into your hose bib. • Don't submerge garden hoses. If you are filling a bucket or rain barrel, keep the end of the garden hose out of the bucket as this provides an air gap. If you leave the hose submerged and backflow occurs, anything in the container can get back into your drinking water. • Disconnect hose after use. • We strongly recommend following the organic gardening practices outlined in the annual Neighborhood Gardens Trust (NGT) Garden Agreement; the prohibition of the following substances reduces the risk of cross-contamination: non-organic pesticides and weed-killing sprays, powders and other substances, non-organic fertilizers and hazardous substances. • If using drip irrigation, ensure your system has a check valve. Check valves or pressure vacuum breakers can prevent bacteria from entering your water line. • Backflow preventers must be tested annually by a City Certified Backflow Technician. A list of technicians is available at [water.phila.gov/backflow/](http://water.phila.gov/backflow/). You may choose any technician from the list.

### d. Chicago

- i. It is stated in the hydrant policy document that “[h]ydrant water is non-potable; it must not be used for cooking, drinking, or final washing of produce.” Many, however, use it for exactly those purposes. I have gotten mixed answers to the query about use for washing and post-harvest handling. Specifically, if water is further treated by growers (I use Tsunami 100 to sanitize water), would it be considered adequate for washing produce.
- ii. In Chicago, a reduced pressure zone valve (RPZ), also known as a backflow prevention device, is required to get a Hydrant Use Permit (HUP). This prevents water that has left the hydrant from returning to the municipal water supply. It must be inspected by a licensed and bonded plumber and a city plumber the first year it is used, and by the licensed and bonded plumber every successive year.

### e. New York

- i. The use of an RPZ/vacuum breaker ensures water cannot flow back into the hydrants.

### Water quality and safety. (cont.)

- f. Minneapolis
    - i. Minneapolis allows access to fire hydrants; requirements and processes are outlined on their website. An adapter is placed onto the hydrant.
3. Overuse of hydrants/water. Improperly operated hydrants can easily cause leaks or water main breaks.
- a. Flint
    - i. Has not been an issue. All farms with water meter lease agreements have been taught how to attach, detach, and turn on the water meter at the beginning of each lease.
  - b. Lansing
    - i. Never been a problem in my 10 years of doing it. It's only a 1" garden hose opening, it can only draw so much water. That's what we pay for the Bulk Water Permit, to cover usage. Operation is easy, I have brand new seasonal employees do it every summer.
  - c. Philadelphia
    - i. PWD recognizes that, with proper instruction, certain hydrant uses provide a sufficient public benefit. Certain uses of fire hydrants are expressly prohibited, including, but not limited to, cleaning streets, recreational activities, and potable use.
  - d. Chicago
    - i. I'm certain that that is possible, though I doubt that the way growers use hydrants would contribute to or outright cause such issues. The more likely culprit would be contractors in construction or demolition, illegal commercial use, or traffic accidents.
    - ii. In Chicago, we are allowed to use only  $\frac{3}{4}$  in hoses, and the majority of "misuse" (as deemed by the city's Leak Desk) of hydrants likely occurs when people use one without a permit. I have personally never heard of a grower damaging a hydrant, water lines, or mains intentionally or unintentionally. I would ask for examples of growers doing this for clarity on the city's concerns.
  - e. Minneapolis
    - i. Minneapolis requires participants to pay a \$160 fee, \$100 - a water deposit fee and \$60, a fee to install and disconnect the adapter. At the end of the season, the City will either: 1. issue a refund if you have a remaining balance on your water deposit or 2. send a bill for water use in excess of \$100. As such, it is the best interest of the gardener/farmer to carefully monitor usage, leakages and breaks.

#### 4. Misuse and water theft.

- a. Flint
  - i. Water rates are monitored by the water department and lease holders are billed according to water use. Haven't had theft issues with lease holders and the associated hydrants- think it's the high meter lease deposit.
- b. Lansing
  - i. Our utility just charges a flat fee per month for bulk water.
- c. Chicago
  - i. See answer above. The only misuse I have ever heard about was using hydrants without a permit. Typically, growers are using water to irrigate and wash produce. I have never been given examples of misuse or theft by any city or DWM representative outside of this. I would ask for examples of growers misusing hydrants.
- d. Cleveland
  - i. Anyone applying for the permit is responsible for any damages to the fire hydrant or any other Cleveland water equipment infrastructure.
- e. Minneapolis
  - i. Similar to the last concern, adapters are installed and usage is monitored. Farmers/gardeners are required to pay for water used.

#### 5. DWSD does not have personnel/resources to install/inspect the reduced pressure backflow preventer and monitor its safe use.

- a. Flint
  - i. Water department employee inspects meters at the end of each season. Practice is in place due to the high use associated with housing demolitions so it is already an existing practice.
- b. Lansing
  - i. A plumber is paid each year to inspect and certify each RPZ device
- c. Philadelphia
  - i. Proof of backflow preventer is required for a permit
- d. Chicago
  - i. It would require the city to inspect on an annual basis with the busiest season happening between April and August.
  - ii. About 40 farms applied for HUPs in Chicago in 2023. I can't speak to Detroit's capacity, but there aren't as many growers applying for hydrant use as one may think.
- e. Minneapolis
  - i. The Minneapolis fire hydrant access program is handled through its Public Works Treatment and Distribution Services. Farmers/gardeners are paying customers. In Minneapolis, charges are assessed for installation and water usage. These funds along with potential grants or other funding could be collaboratively explored. The Minneapolis Public Works Treatment and Distribution Services telephone number is

612-673-5600. They might be a good resource in regards to industry to industry conversations and sharing of best practices.

## 6. Integrity of drinking water system.

- a. Flint
  - i. The installation of RPZ is there to protect integrity of drinking water system. After the last decade- this has been the least concern of drinking water quality issues...
  - ii. No water quality issues linked to use on massive amounts of demolitions would expect that to be higher risk than agriculture related activities
- b. Chicago
  - i. I have heard stories of the misuse of city water resulting in food safety crises. The RPZ does mitigate (though not solve) this issue. I would point to construction and demolition contractors' use of hydrants as a wayfinder for how hydrant use can safely be extended to growers in Detroit. In Chicago, the form for contractor use, grower use, and festival/daily use in nearly the same.
- c. Minneapolis
  - i. If there were issues along this line, the program would likely not exist.

## 7. Can cause reductions in water pressure in other water system sections.

- a. Flint
  - i. Not to their understanding. Similar answer to Lansing.
- b. Lansing
  - i. Nope, not even close. RPZ reduces pressure and flow to that of a standard garden hose.
- c. Philadelphia
  - i. residents are educated on use
- d. Chicago
  - i. It is true that water pressure is affected by hydrant use. Again, the city has mitigated this issue by requiring farmers to use an RPZ with a  $\frac{3}{4}$  in opening as opposed to larger diameters. Additionally, there were only a total of about 40 total applicants for HUPs and only about 25 total HUPs issued. It just isn't likely that agricultural usage at this scale is going to render municipal water for a city this size unusable.
- e. Minneapolis
  - i. Similarly, issues with system integrity and reduction in water pressure is not likely, or the program would not be available. Also, it is my understanding that with fewer customers in Detroit due to population loss that there is capacity for more users. The farmers/gardeners would be customers like anyone else. There are device(s) that allow this water access to occur similar to allowing any customer or developer access to water.

8. Public use can cause damage to the fire hydrant and may not be available for use when needed in an emergency.
  - a. Flint
    - i. A lease holder will meet the water department employee on-site at the beginning of the lease to learn proper hydrant installation, turn-on, and removal procedures. Have not had a problem with damage associated with hydrant rentals
  - b. Lansing
    - i. Never happened in 10 years
  - c. Chicago
    - i. I haven't heard of any grower intentionally damaging hydrants, water lines, or mains. The misuse often referred to by city/DWM representatives is using a hydrant without a permit.
  - d. Minneapolis
    - i. If these problems existed, the program would not continue.
  
9. Piping leading from the hydrant to an irrigation system is normally exposed and can easily be kicked or broken leading to leaks and breaks.
  - a. Flint
    - i. No pipes exposed, backflow prevention in place on meter, hose hooks to meter- no infrastructure is exposed. Hoses are expected to be removed when not in use and taken care of when in use.
  - b. Lansing
    - i. RPZ prevents backflow, so who cares if some water is spilled
  - c. Chicago
    - i. There are some rules for use in Chicago noted [here](#). Namely that a hose should be covered if it crosses a sidewalk, and that hoses cannot cross streets. I would add that traffic cones should be used in front of the RPZ which can hang out into the street. My RPZ has been struck twice by cars parking.
    - ii. It is possible, but the damage would be to your irrigation system, not the hydrant. The risk should be your own.

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Additional questions thought of by Katie B. from the Water Consortium.

## 1. What is the process for accessing water from hydrants?

- a. Flint
  - i. Contact the City of Flint Water Department. They have hydrant meter request paperwork as well as a request form for the City of Flint Fire Department
  - ii. After lease paperwork is filled out by lessee/organization all paperwork is taken to City of Flint Fire Department for approval.
  - iii. After approval and signature from fire department, paperwork is submitted with \$600 fee (includes turn on-fees and deposit) to water department for final approval
  - iv. If approved- lease dates set and agreement signed.
  - v. Lease holder meets water department employee at the hydrant for training
  - vi. Hydrant is returned at the end of season to water department
  - vii. Deposit returned to grower
  - viii. Notes: this can take up to 4 months when first building the relationship with the water department. After a few years of continued renting-the city will contact you first to see if you need a lease for the season and the process takes two weeks tops.
- b. Lansing
  - i. [Asked by Katie: Am I right that you fill totes for growers when that is needed? Did you have to be trained by someone in the fire department or the water department?] Yes we tap into fire hydrants with a device called a RPZ. It's been so many years that I don't even remember how I was initially taught to do it, I think it was from my predecessor and not the utility itself.
- c. Chicago
  - i. Check out the links to the city's online [application](#) or to the [document](#) we at AUA created. The Grower's Guide (the document we created) outlines in detail the process. It was created in early 2023 and there will be few amendments for 2024.
- d. Cleveland
  - i. The Cleveland Department of Community Development provides Community Garden Permits to urban farmers participating in the Ohio State University Summer Sprout Community Garden Program during the growing season, from May to October. The permit allows urban farmers to use approximately 2 MCF of water per summer, with 1 MCF equivalent to about 7,480 gallons of water. Anyone applying for the permit is responsible for any damages to the fire hydrant or any other Cleveland water equipment infrastructure.
- e. Minneapolis

- i. A community garden must qualify for a City garden lease. To obtain access, they must contact the Public Works - Water Treatment and Distribution Service, pay a \$160 fee, which includes a \$100 water deposit fee and a \$60 fee to install and disconnect an adapter. At the end of the season, the city will either issue a refund, if you have a remaining balance on your water account or send a bill for water use in excess of \$100.

## 2. What are the costs for growers? Standard water rates?

- a. Flint
  - i. \$600 up front fee that includes- water turn on rate and \$500 water meter deposit that is returned to lease holder when meter returned to the city.
  - ii. Standard water rates apply to water use.
  - iii. Water rates do not include sewer and any special assessment fees.
- b. Lansing
  - i. We don't charge our gardeners anything for the water. We do charge them \$50 for the totes themselves but once they buy the tote, we keep filling it in perpetuity for free. We fill them by request only, not on a regular schedule. They can't get their tote filled any more often than once every 2 weeks. If they need more than 300 gallons over 2 weeks, they simply need to buy additional totes. We will fill as many totes at a site as they have purchased. We pay a little under \$500 each year to the utility, for a "Bulk Water Permit". Our permit lasts for 4 months from mid May to mid September. We also have to pay a plumber each year to re-certify each of our 2 RPZ devices to prove that they are functioning correctly. This is required by the utility to get the permit. Philadelphia (Tee)
- c. Chicago
  - i. The HUP cost for 2023 is \$126.72 for the first 3000 square feet and \$54.36 for each additional 3000 square feet (up from \$120.72 in 2022) that is applicable to both farms and gardens. (This rate is expected to increase annually.) Additionally, costs include equipment at \$300.00 on the low end. In some cases, the grower will need to have a custodian cap--a magnetic lock located on the top of a hydrant--removed. This year it was about \$1000.00. The cost for removal differed in previous years.
- d. Cleveland
  - i. Farmers must be a designated "Garden Leader" who has completed the 'Dig In! Training' prior to applying. The course is \$50. The garden must be within Cleveland.
- e. Minneapolis
  - i. Farmers/gardeners pay a \$160 fee, which includes a \$100 water deposit fee and a \$60 fee to install and disconnect an adapter. At the end of the season, the city will either issue a refund, if you have a remaining balance on your water account or send a bill for water use in excess of \$100.



3. Are there any tips or recommendations you would have for another city trying to connect farmers to water using hydrants?
  - a. Flint
    - i. The high deposit cost has increased rental return
    - ii. Make the meters designed with backflow prevention
    - iii. Make the meters so they are designed to only be on the hydrant during times of use and communicate this with all lease holders.
  - b. Lansing
    - i. The ppl who are serious about farming ditch the IBC totes pretty quickly and instead get their own yard hydrant installed, so their water supply is pressurized and infinite. There is a big upfront cost, which the utility partially subsidizes for the Land Bank as part of their community grants, to “give back” to the community. Usually the utility pays for the installation of the water line to the meter pit, and the installation of the meter pit and meter. From there, it’s up to the farmer to buy one of the approved hydrants (frost free sanitary hydrants) and pay a plumber to hook it up.
    - ii. Once it’s all hooked up, they start just paying a monthly water bill based on metered usage, just like a house would. You could go to any utility company and ask them to make a donation in the same fashion. It sometimes involves tearing up and then restoring a portion of the road or sidewalk, so it can cost thousands if not subsidized.