

Memorandum

To: **City Manager – Thomas Sheridan**

From: **Robert L McNutt, PE – Senior Project Manager CT Consultants, Inc.**

Subject: **Hudson – Water rate consultation Outside municipal boundaries – user class rates & fees**

Date: **April 21, 2023**

EXECUTIVE SUMMARY - RECOMMENDATIONS

1. Develop user class titled: Outside User Class
 2. Since this new User Class is being created, we recommend including all customers outside the City municipal corporation limits without grandfathering any current customers outside the City. The only caveat is the City should verify that no special agreements are already in place that would prevent including any such customer into this new User Class.
 3. Approve user rate schedule and fees for this class to be at 150% higher of either the Hudson rate schedule or the Cleveland Water District (CWD) rates charged to the City.
 4. Utilize the CWD Backup Booster Pumping Station for peak demand shaving and/or for capacity instead of increasing the Water Treatment Plant WTP. Furthermore, City should attempt to convert this Backup BPS into approved additional capacity for the water system. This would provide Hudson with “Approved capacity” which means that additional available capacity could be used for new future users.
- A. **Background:** Hudson has been approached by Summit County to extend water service to the Village of Peninsula by extending the water main that currently serves the Boy Scouts of America along SR 303, west of the City.
1. Hudson Water Rate Experience
 - a. CT completed an update for the Hudson Water Rate in October of 2022.
 - b. On page 9 of the Rate Study, subparagraph e. CT introduced the idea of developing a new user classification for “Outside User Class”.

- c. Hudson currently has seven (7) customers outside city boundaries, i.e., Cuyahoga Valley National Park and Boy Scouts of America (added in 1997). Hudson does not currently surcharge outside users.

2. CT Utility Rate Experience and Observations

- a. CT has vast experience with utility rate studies as well as a variety of other financial and feasibility studies, including the author who has an extensive rate study background. From our experience we offer the following trends regarding surcharging utility rates and fees that we have observed over the years.
 - i. Regional, county, quasi-governmental or private utilities: CT (and/or the author) have worked on at least ten such utility rates over the past decade. These generally do not charge surcharges based strictly on being inside vs outside of a specific municipality. There are tiered rates, such as Cleveland Division of Water CWD for different "Pumping Districts" to account for additional operational costs for serving further away from the Utility home base. Others have specific Agreements that establish the surcharge percentages and justification.
 - ii. Municipal utility rates: CT (and/or the author) have worked on a minimum of 20 utility rate studies within the last five years. Literally we have performed more than 100 over the past 20 years. In addition, as part of reviewing "nearby utilities" in conducting these studies, we have further noted many more utility rate structures across Ohio. By far, and likely greater than 80%, municipalities charge a 50% surcharge to outside users, whether they are a consecutive system or individual customers. Surcharges lower than 25% typically have other considerations such as a JEDD or other special agreements. We rarely see surcharges that exceed 50% but have seen a few at or above 60%. For surcharges exceeding 50% there generally is some additional justification provided within the Agreements for Water Service.
- b. My background: I have performed rate studies for more than 32 years for many water, wastewater, stormwater, and sanitation utilities across Ohio and in some other states. Not having counted lately, but I am probably closing in on 100 total rate studies over my career. In addition, I have worked on many projects with the City of Hudson since 1993. These projects have included water, sanitary and other municipal related work. This included water & sewer systems such as modeling and analyzing the water system, design and construction at the water treatment plant (WTP), water towers, pumping stations, and water

mains, and sewer system designs; financial studies including Water Utility Rates in 1999 and again in 2022, feasibility studies, water system investment fee, and related financial studies.

B. Experience of surcharges for utility rates

As with many philosophical issues, there are many schools of thought. The predominant approach for extending water or sewer utilities outside corporate boundaries is to include a surcharge to customers that do not live inside the municipal borders i.e., outside customer rate class. This is generally justified as noted below. Other approaches, such as City of Akron, is to provide water at lower surcharged rates in exchange for Joint Economic Development Districts (JEDDs) or other similar benefits. Private water utilities and regional water utilities (such as County run systems) generally surcharge much less – or none at all based on location of the water customer.

Other mega utilities, such as CWD, Columbus, Toledo, and similar utilities, develop a very complex “rate model” to develop tiered water rates for various “districts” instead of using more general surcharges. These rate models utilize complex calculations to determine “cost of service” to the various user classes across the utility. These rate studies are very extensive and thus very expensive.

The percentage surcharged to “outside” customers ranges from 15% to 60% in our experience. The City of Hudson Finance Department collected information of nearby utilities, which showed various percentage increases from 0% to 206+%. The amount of surcharge depends on many factors that will be discussed below. But the most typical surcharge of 50% is used across Ohio and billed at the point of master meter for consecutive systems, with the water purveyor performing no operation and maintenance (O&M) on the “outside water infrastructure”, other than reading the master meter for billing purposes. For “direct outside customers” (not a consecutive system) services are the same as all other city customers.

Justification for Surcharges are based on many factors including:

1. General Considerations with surcharging
 - a. Outside customers are not paying municipal taxes but benefiting from municipal services. Historically municipalities had required annexation into the City as a requirement for receiving city services. Townships were disappearing; and, as a concession, surcharges were widely adopted as a trade-off vs. annexation.

- b. Surcharges help cover costs for non-revenue water (losses, flushing, slow meters, etc.) outside of purveyor control.
 - c. A utility typically requires new service areas (whether consecutive systems or just extending mains into unserved areas) to cover all capital costs attributed to the extension (treatment, transmission, distribution, storage, and metering). Cost for capital or upsizing facilities are paid by the benefiting areas.
- 2. As a master meter customer, typically purveyor responsibility ends at the master meter:
 - a. Only reads the master meter at the point of connection.
 - b. Not performing O&M, sampling, testing or regulatory issues beyond the master meter
 - c. When extending service to areas not managed by a consecutive system (thus without a master meter) the purveyor provides full services to the areas in the same way other customers are served.
- 3. When other required services – surcharge percentages may increase.
 - a. O&M of other WDS infrastructure may impact surcharge percentages, sometimes Purveyor offers additional support to consecutive systems or “outside customers.”
 - b. Reading and billing individual meters in these areas impacts surcharges.
 - c. Regulatory compliance responsibilities & reporting
- C. **CAPITAL NEEDS:** Some capital improvements are required to extend water services, such as source water, treatment, pumping & storage, and/or transmission to point of master meter.
 - 1. Service to Boston Heights: Resolution No. 08-147 - Memorandum of Understanding between Boston Heights and Hudson (2008) regarding joint cooperation to serve an area of the Village of Boston Heights. This area could include some income tax support – such as a JEDD which brings some additional benefit to the City, unlike areas without income tax support. Currently no JEDD has been developed as part of this MOU. A rough estimate of potential area for development is approximately 300 acres (existing businesses and available land). At 500 gpd/acre = 150,000 gpd of potential demand at full build-out. This is not likely to occur at full buildout, and not likely to develop over

the next 20 years. Thus, likely demands will be significantly less over the next 20 years, more likely about 1/3 of the build-out, or 50,000 gpd.

2. Service to Peninsula: water demands, as determined by Arcadis: Phase 1 Average Daily Demand (ADD) = 16,700 gallons per day; Phase 2 ADD = 64,900 gallons per day; thus, a combined ADD = 81,600 gpd. Similar to Boston Heights it is unlikely that 100% of potential customers will abandon their private wells until they are required to do so. This too is likely to take more than 20 years.
 3. Capacity in the Hudson Water System, Table 5 ("Hudson Water System Extension: Phase 2 Evaluation" by Arcadis shows the limiting regulatory process is the WTP filters with available capacity of 224 gpm (ADD) which would equal 322,560 gpd. Using Peninsula full usage of 64,900 gpd and Boston Heights Chittenden area (included in the MOU) buildout of 150,000 gpd (total = 214,900 gpd) there would still be a surplus capacity of 107,660 gpd (74.8 gpm). And for residential ADD as noted by Arcadis report (and we agree it is reasonable) at 0.19 gpm/equivalent residential user (ERU) the City would have remaining capacity to serve 394 residential customers. As noted above we do not project these outside customers will fully build out – and would anticipate a remaining 100,000 gpd for City expansion (69.4gpm) which equates to another 365 potential customers on the existing Hudson system. For maximum daily and/or peak hour demand, shaving the CWD emergency interconnection could be utilized vs. upgrading the WTP as the demand starts to materialize.
 4. CWD Emergency interconnection and potential to offset growth – if needed – through this facility at CWD rates of \$4.26 per HCF vs. Hudson Rates of \$3.25 per HCF – which would be a surcharge of 31%, which is less than the 50% typical surcharge. The Hudson Water System has capacity to provide (at least for several years) the needed water without offsetting demand with this booster pumping station. But, utilizing this facility a little more often actually provides some additional benefit to the City for exercising the larger pumps and readiness to operate more fully in the event of an emergency. In addition, this BPS could be utilized to shave peak hour and/or maximum daily demands whenever the existing plant starts to become fully utilized. This BPS is sized for a pumping rate of 1.87 mgd. This is capable of providing about 4,800 ERUs for peak hour demands. We do not see this being exhausted over the next 20 to 40 years at the historical rate of growth on the Hudson water system. We recommend reviewing the opportunity to add this BPS capacity as part of the approved Hudson water capacity, which will take approval by the OEPA and CWD.
- D. **RECOMMENDATIONS:** From our experience in this matter as noted above, we offer the following recommendations for the City's consideration. All figures are based on Year 2023 rates as they are presently known.

1. Service to Boston Heights should not require additional capital improvements other than water mains to reach the properties. Such capital improvements should be borne by the entity directly benefitting from the water main – such as the property owners or the Village. This area could include some income tax support, such as a JEDD which brings some additional benefit to the City. However, currently no such JEDD exists. Therefore, for simplicity of Outside Hudson Rates, we would recommend including Boston Heights, Peninsula, Summit County, and any other existing or future customers and areas as one new User Class called “Outside User Surcharges and Consecutive Systems.”
2. Service to Peninsula (though Summit County) will require extensions of water mains. The Arcadis report(s) have recommended capital improvements to transport the water to customers in Peninsula. The cost of these capital improvements would be borne by Summit County for the Peninsula service areas. In addition, the softeners at the WTP may need a different media to permit higher flow rates and thus additional softening capacity. This could address the existing softener media capacity restrictions noted in the Arcadis report. The softener capacities are not a regulatory requirement, but rather an aesthetic treatment utilized by the City. CT has been reviewing alternative media options for City consideration. We are currently awaiting the manufacturer’s response for media options.
3. Any service agreements for “Outside User Class” customers should detail if the new area is part of a consecutive water system or if it will be an extension of the Hudson Water Utility. For service areas that will remain the Hudson Service Area, the Service Agreements need to address several issues and costs including:
 - a. Cost for O&M, meter reading and billing, master meters vs. individual meters, managing water quality in the extended service area, and related concerns.
 - b. Water systems that provide fire protection are a very real benefit to homeowners and businesses, whether they connect or not to the system. Any water system extensions that provide this benefit to properties should appropriately be compensated for the benefit. Thus, we recommend that any property within 1,000 feet from a hydrant that does not connect to the water system should be charged a Fire Hydrant Availability Charge.
3. Hudson commodity rates at a 50% upcharge would be \$4.875 per HCF used. Hudson Base Minimum Charge for a 3-inch diameter meter or larger of \$408.34 (per month) x 1.5 = \$612.51 per month (equivalent to about 126 HCF consumption at the increased rate of 50%). These rates and fees are recommended to be adopted for a new user class called “Outside User Class” as noted in the 2022 Water Utility Rate Study, by CT

Consultants. We recommend charging both the water usage rates and all included fees in the rate schedule by the 150% of the City or CWD rates and fees, whichever is greater.

4. Hudson should review with OEPA and CWD the opportunity to convert this backup BPS into part of the overall capacity of the City's water system. This would provide excess capacity for many years to come.