



IMPACT FEES – PART I
METER SIZE TO SFUE
METHODOLOGY
PRESENTATION

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AGENDA

- Background
- Previous Ordinance changes
- Existing Meter size methodology for impact fee determination
- Proposed methodology, development, and example calculations
- Conclusions
- Next steps

BACKGROUND

- Current impact fees determined based upon water meter size (both City customers and non-City residents).
 - Residential meter ($\frac{3}{4}$ "")
 - Water = \$2,089.00 + tap installation (meter only or complete installation)
 - Sewer = \$3,544.00 + tap installation (tap in place or not in place)
- Meter size is not an equitable capture of the impacts to the system based upon wastewater flow received in the collection system and water reclamation facility and the level of required treatment.
- **Impact fees (formerly access fee & system development fee) not increased in 13-years – Ordinance 2007-120**

PREVIOUS ORDINANCE CHANGES

■ Ordinance 2007-120 (SEWER)

- Changed access fee from \$1,470 for ¾” meter to \$2,100 for ¾” meter.
- System development fee remained the same.
- Installation fee, tap in place is \$263.00 – the same amount in the 2020 Municipal Code.
- Installation fee, tap not in place is \$1,240.00 – the same amount in the 2020 Municipal Code.
- Introduces the ability for recapture from resident for additional work not covered in the above installation fees.
- Effective March 1, 2008.

■ ORDINANCE 2018-26

- Combined system development and access fee into impact fee.

EXISTING METER SIZE METHODOLOGY FOR IMPACT FEE DETERMINATION

	WATER	SEWER
Meter Size	Impact Fee	Impact Fee
3/4" and 5/8"	\$2,089.00	\$3,544.00
1"	\$8,358.00	\$14,175.00
1 1/2"	\$20,009.00	\$34,020.00
2"	\$26,745.00	\$45,360.00
3"	\$58,506.00	\$99,225.00
4"	\$83,580.00	\$141,750.00
6"	\$200,592.00	\$340,200.00
8"	\$250,740.00	\$425,250.00

- Current methodology by meter size incentivizes installation of an undersized meter rather than water usage determined from actual occupancy.
- Discourages the use of fire suppression systems.
- How do we accurately predict the impact to the system?
 - Increased maintenance costs
 - Increase treatment costs
 - Stringent NPDES permit limits

PROPOSED METHODOLOGY

- How to accurately predict wastewater loading to the system?
- Proposed structure based on Single Family Unit Equivalent (SFUE).
 - Provides equitable assessment of fees based on projected demands by the developer as verified through City Staff.
 - Fees tied to projected demands that drive capital investments and planning.
 - Encourages meter sizing based on demands; eliminates meter sizing decisions based on fees.
 - Encourages the use of fire suppression systems.
- Single Family Unit Equivalent (SFUE) = 350 gallons/day
 - One single family residential house = One SFUE
 - Multi-family units, commercial buildings, other uses = Multiple SFUEs

METHODOLOGY

- Review of adopted 2018 International Building Code to determine actual occupancy of buildings and who/what would be contributing to the collection system/water reclamation facility.
- Selected various structure uses within the City for comparison (school, office building, assisted living facility, gas station, restaurant, church, etc.)
- Reviewed historical water consumption, compared existing impacts to observed impacts, compared existing impact to occupancy loading.
- Use these data points to determine protocol for SFUE determination to eliminate meter size methodology.

METHODOLOGY DEVELOPMENT

- Using the building plans submitted during the Plan Review process, the square footage of usable spaces was determined.
- Those usable spaces correlated with the International Building Code (IBC) occupancy classes
 - Examples include storage, business occupancy, hazardous, mercantile, assembly, institutional, transient residential, etc.
- Occupancy classes then correlated with the Occupancy Load Factor (OLF = # of occupants/sq. ft) based on usage groups as outlined in the IBC.
- Demand factor pulled from Projected Flow Examples (current availability application) or other flow scenarios (DF = gallons/day/OL).
- Building sq. ft divided by OLF times the DF = Total Demand
- Total Demand / 350 gallons/day = # SFUEs

STANDARD VALUES

Occupancy Groups	Occupancy Factor (Occ load/sq-ft)	Demand Factor (gal/person)
A = Assembly	20	3.25
B = Business	100	25
B2 = Business Heavy	3	4.25
E = Educational	50	4
F = Factory	500	25
H = High Hazard	200	5
I = Institutional	100	7
M = Mercantile	30	7
R = Residential	1	350
R2 = Residential	1	100
S = Storage Group	300	25
U = Utility	300	25

- 2018 International Building Code (adopted by BNS)
- Modified to define more appropriate values for certain structures.

SFUE METHODOLOGY CALCULATION - I

OCCUPANCY EXAMPLE 1	Occupancy Load Factor (sq-ft/person)	Building Square Footage	Demand Factor (gal/people)	Total Demand	# SFUE's
Business	100	2,000	25	500	1.43
Residential	1	5 ★	350	1750	5.00

- Total Demand = (Bldg Sq. Ft. / OLF) x DF
- Total Demand / (350 gallons/day) = # SFUEs
- Single building can have multiple uses summing a total of SFUEs
- Impact fee based off 6.43 SFUE demand on system
- ★ denotes a single family unit equivalent number

SFUE METHODOLOGY CALCULATION - 2

OCCUPANCY EXAMPLE 2	Occupancy Load Factor (sq-ft/person)	Building Square Footage	Demand Factor (gal/person)	Total Demand	# SFUE's
Educational	50	183,020	4	14,642	41.83

- $\text{Total Demand} / (350 \text{ gallons/day}) = \# \text{ SFUEs}$
- Single building can have multiple uses summing a total of SFUEs
- Impact fee based off 28.14 SFUE demand on system
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SFUE METHODOLOGY CALCULATION - 3

OCCUPANCY EXAMPLE 3	Occupancy Load Factor (sq-ft/person)	Building Square Footage	Demand Factor (gal/person)	Total Demand	# SFUE's
Mercantile	30	20,377	7	4,755	13.58
Business	100	20377	25	5,094	14.56

- Two-story building, bottom floor commercial and top floor office.
- Total Demand = (Bldg Sq. Ft. / OLF) x DF
- Total Demand / (350 gallons/day) = # SFUEs
- Single building can have multiple uses summing a total of SFUEs
- Impact fee based off 28.14 SFUE demand on system

CONCLUSIONS

- Meter size is not an equitable capture of the impacts to the system based upon wastewater flow received in the collection system and water reclamation facility and the level of required treatment.
- Increased maintenance costs, increased treatment costs, and more stringent permit limits equate to a significant impact to the collection system and water reclamation facility (WRF).
- Occupancy Load Factor calculates water and sewer contribution based upon the use of the building, taking into account various uses.
- Standard factors allow for consistent usage across all types of structures, while allowing WMD discretion through the process.

NEXT STEPS

- February 9, 2021 worksession to present proposed costs for move to the SFUE calculations.
- Subsequent Ordinance change, revision to Municipal Code – Title 18 and Appendix A (three BOMA readings).
- Implementation July 1, 2021.

- Questions / Discussion