



**New Tennent - Vibalogics**  
Project #12995

**Existing Building**  
**1414 Massachusetts Avenue**  
**Boxborough, MA**  
(Estimated Maximum Daily Sewage Flows)

1-Apr-21  
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Checked by: NB

### ESTIMATED DAILY SANITARY SEWER FLOWS SUMMARY TABLE

Flow Calculations based on square footage of Office Space and Employees received March 31, 2021 from Owner

**Calculation based on USE: Title 5**

USE	GROSS SF AREA	Staff/Employees	Process Water*	Other	DESIGN FLOW <sup>2</sup>	ESTIMATED SEWER FLOWS
<b>Tennent A - Vibalogics</b>						
Office Space	18,875	Included in 200	0	n/a	75 GPD/1000 sf	1,416
Support - Office Space	11,553	Included in 200	0	n/a	75 GPD/1000 sf	866
Research including Germfree Modules, Labs, Loading Docks Warehouse, Utilities, GMP (Title 5 - Factory, Industrial Plant, Warehouse with cafeteria)	235,810	200	0	n/a	20 GPD/Person	4,000
Subtotal	266,238					6,282
<b>Tennent B - Future - Assumed Similar Facility</b>						
Office Space	20,000	Included in 200	0	n/a	75 GPD/1000 sf	1,500
Support - Office Space	15,000	Included in 200	0	n/a	75 GPD/1000 sf	1,125
Research including Germfree Modules, Labs, Loading Docks Warehouse, Utilities, GMP (Title 5 - Factory, Industrial Plant, Warehouse with cafeteria)	231,238	200	0	n/a	20 GPD/Person	4,000
Subtotal	266,238					6,625
Cafeteria*					Included in flows above	
<b>TOTAL</b>						<b>12,907</b>

\*Process water will be collected and disposed in accordance with MASSDEP regulations. Process water will not be discharged to WWTP.

**Calculation of Historical Sewer Flows Based on Historical Water Use - for Previous Single Tennent**

Year	Gallon per Year	Gallons per day	Gallons per week	Weighted Average for Weekday -assume 5 days - i.e. divide GPW by 5 (GPD)	Estimated Sewer Flows based <b>ACTUAL</b> historical water usage (GPD)	Estimated <b>DESIGN</b> Sewer Flows based on 2 times historical water usage (Title 5)
2010	2,481,100	6,798	47,713	9,543	9,543	19,085
2011	2,132,900	5,844	41,017	8,203	8,203	16,407
2012	1,925,200	5,275	37,023	7,405	7,405	14,809
2011	2,376,700	6,512	45,706	9,141	9,141	18,282
2014	1,659,900	4,548	31,921	6,384	6,384	12,768
2015	2,366,600	6,484	45,512	9,102	9,102	18,205
2016	1,927,000	5,279	37,058	7,412	7,412	14,823
2017-2020 - Reduced occupancy - not included						

**NOTES:**

- Flow is based on m Title V 310 CMR 15.203.
- Historical water usage is based on Annual Water Records (from well data).
- The intent of this spreadsheet is to use various sources to estimate sewer flows from existing building based on tenant under agreement for space.