

# **Replacement of Automatic Flush Toilets on Pitt Campuses**

## **Project Proposal**

### **Abstract:**

This proposal seeks funding for the replacement of motion-sensor, automatic flush toilets with more sustainable, high efficiency toilets. Research shows that automatic flush toilets waste an unnecessary amount of water to function. Pitt Sustainability recognizes the cost, time, and effort put in providing toilets with ample water, and therefore chooses to use it sparingly. Our mission is to discontinue automatic flush toilets from Pitt campus buildings, and invest in more sustainable toilets for the sake of water conservation and environmental efficiency.

### **Background:**

#### **1. Problems with Automatic Flush Toilets:**

Automatic flush toilets tend to use large amounts of water to function because they flush in response to motion. Misinterpreted motion in the restroom stall can cause multiple unnecessary flushes with each use! American toilet standards contribute to this waste. For example, American toilets use about 3.5 gallons per flush while Europeans manage to use 1.6 gallons or less. This means that compared to a standard European toilet, a motion-sensitive toilet is capable of wasting 14 gallons of water with one use compared to 1.6. That makes water consumption nearly nine times worse than achievable.

An additional problem we see with these toilets is that they cause the habit of not flushing at all. With a mix of standard and automatic flush toilets on campus, people tend to forget to manually flush if they are used to automatic flushing. We do not want unintentionally-unflushed toilets to displease any person using campus restrooms.

#### **2. Alternate Options:**

Pitt Sustainability believes that high efficiency toilets can drastically reduce water consumption. A high efficiency toilet minimizes the amount of water per flush, and stays consistent in its capability of flushing as needed. We propose a “dual flush” system to solve this problem. Dual flush systems give two flush options to users: the “1” button initiates a light flush, and the “2” button triggers a stronger flush. This limits water usage by using an appropriate amount of water for each flush.

### **Project Description:**

With the funds for this project, Pitt Sustainability will manage all future toilet installation and regulation. Replacement and installment may take place during the summer months of 2023 if

funds are satisfied. We plan to adopt a dual flush system explained above. We also plan for the light flush to use about 1.3 gallons of water per flush, while the strong flush will use about 2. This configuration reduces toilet water consumption on campus by 63%!

### **Conclusion:**

Pitt Sustainability encourages active environmental consciousness from the university. The introduction of higher efficiency toilets to campus buildings adheres to this mission. This effort expects to save a considerable amount of water from being wasted, especially when other areas need it more.

### **References**

- Mohsenin, A. (Year, Month Day). *Why Wasting Water Is A Much Bigger Problem Than You Think*. Forbes. <https://www.forbes.com/sites/quora/2016/07/19/why-wasting-water-is-a-much-bigger-problem-than-you-think/?sh=113058ff5af2>
- Morin, M. (2014, March 3). *Americans use twice as much water as they think they do, study says*. Los Angeles Times. <https://www.latimes.com/science/sciencenow/la-americans-underestimate-personal-water-usage-study-says-20140227-story.html#:~:text=Americans%20use%20twice%20the%20amount%20of%20water%20they,on%20a%20daily%20basis%2C%20according%20to%20new%20research>.
- Weiser, S. *5 Common Complaints About Automatic Flush Toilets*. Mental Floss. <https://www.mentalfloss.com/article/63207/5-common-complaints-about-automatic-flush-toilets>