**Project:** Rain Barrels
**Name:** Harry Steinberg
**School:** Engineering
**Role:** Student
**Description:** We propose a project that would create a system of rain barrels on the Medford-Somerville campus, which would collect and sequester rainwater for use in watering the Tufts lawns and/or community gardens, as well as other potential water-providing applications. This rain barrel system would: - Provide additional water supply to Tufts, thereby reducing our public water intake and the energy necessary to pump and distribute the water. -Provide beautification and activism opportunities for student groups on campus (Ideas include: designating a barrel for each activist group on campus to be able to decorate, painting the barrels with art/information pertaining to water conservation awareness campaigns, highlighting the work of Tufts maintenance workers through art, etc.) - Provide an educational enrichment opportunity to Tufts Civil and Environmental Engineers
**People Involved:** Over the course of the project's phases, we would need to work with: - Tufts facilities managers/workers - Tufts Civil Engineering department to provide insight/guidance to location, design, and installation of rain barrels - Potentially the Cities of Somerville and Medford to discuss water use scheduling - Potential partnership with Tufts Eco-Reps to provide long-term rain barrel maintenance - Potential partnership with the Activism Coalition to offer rain barrels as public art and/or informational display to provide history and context to water movements. - Other institutions to see how they have implemented large-scale rain barrel systems, especially on college campuses. Example: https://www.luther.edu/sustainability/assets/Campus_Rain_Barrel_Project__Phase_II.pdf
**Budget:** Total Request Amount: $10,000 Cost Breakdown Necessary Expenses: 10-15 rain barrels of size to be determined: $1500 - $3000 Gravel/crushed stone for water infiltration: $300 - $500 Tubing/faucets/piping to distribute the water: ~$2000 Materials (paint, sealant, etc.) for decoration of exterior: ~$250 Additional/Potential Expenses (for project enhancement): Installation costs -- TBD (barrels could be installed by project team) Platforms for barrels -- $2000 - $2500 Other/unforeseen expenses -- ~$1000
**Timeline:** Project Timeline: Research phase - General research of efficacy and impact with regard to determining rain barrel size and location. Includes a detailed analysis of the amount of potential water and energy saved - Meet with members of the Civil Engineering Department to discuss and plan technical features - Consult with other institutions with similar size, ecological and geographical characteristics as Tufts to be used as models for already-existing rain barrel systems. Adaptation phase - Work with the facilities department to ensure barrels can be adapted and incorporated into existing water systems at Tufts Test phase - Install and monitor a single test barrel, adapting/changing broader implementation plan in response to observations; include community feedback. Implementation phase - Requisition of materials - Installation of barrels and system structure - Decoration of barrels Maintenance phase - Continuous work with the facilities staff on the success of barrel incorporation into the water system - Monthly check-ins on the physical integrity of barrels by the project team
**Benefit to Tufts Community:** The primary benefit of the rain barrels would be to provide an alternative source of water for the campus. According to the Office of Sustainability's Campus Report Update from 2019, the Tufts Medford-Somerville campus used 80,000,000 gallons of water last year. Our goal is to replace one percent of the university's annual water needs with recycled/captured water -- saving 800,000 gallons of freshwater. This would simultaneously save

money and energy while also harnessing an existing resource for the fulfillment of campus facility needs. Using water collected by the barrels for the watering of grass and gardens could promote enhanced growth of these plantings, as rainwater is free of the chemical additives in tap water, such as chlorine. Additionally, rain barrels mitigate stormwater runoff, which can carry trash, fertilizers, and other pollutants into local rivers and streams. The presence and proposed decoration of the rain barrels would raise campus awareness of sustainable rain collection methods, activism initiatives, and the historical and cultural significance of water movements. We hope that this project can establish Tufts as a leader in campus water conservation, sustainability, and ecojustice.