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Design Review: Reflection #2

INTRODUCTION

Implementing an irrigation system for the ASP Piles at the University of California Cooperative Extension (UCCE) in Santa Clara County may raise concerns with composting regulations and public policy considerations. In this reflection, we will discuss the role of public organizations, both governmental and non-governmental, in civic life as related to our project. We will explore how these organizations play a role in public policy problems raised by our project, identify relevant regulatory agencies and professional societies, consider tangentially related organizations, address civic issues by our design, and identify the policies and regulations by which our project has to follow.

RELEVANT REGULATORY AGENCIES AND PROFESSIONAL SOCIETIES

The irrigation system for UC Cooperative Extension's ASP Piles intersects with many organizations' roles in shaping public policy. Our irrigation system for composting addresses waste management, environmental sustainability, and resource conservation. Public organizations are involved in policy oversight and development making it essential to understand who these organizations are and what roles they play.

The Santa Clara County Department of Environmental Health (DEH) regulates majorit of the composting operations. The DEH sets the guidelines and conducts inspections to make sure that our composting projects follow the health guidelines. Since the ASP Piles involve aeration, the Bay Area Quality Management District (BAAQMD) is responsible for air quality standards and emission regulations. The Santa Clara Valley Water District manages the water resources within Santa Clara County. They may be responsible for regulating water use for composting and ensuring that UC Cooperative Extension's ASP Piles comply with water quality standards and resource management policies.

The California Department of Resources Recycling and Recovery (CalRecycle) is a state-level agency responsible for waste management and recycling regulations. CalRecycle's guidance and requirements influence composting practices and organic materials management.

Local professional organizations, such as the California Compost Coalition, offer resources and support in navigating composting in California. These organizations provide practices that can help us stay updated on the latest regulatory changes and sustainability standards.

TANGENTIALLY RELATED ORGANIZATIONS

In the context of our project at UCCE, located within Martial Cottle Park, it is essential to acknowledge the variety of organizations that share space in this public park. Martial Cottle Park falls under Santa Clara County Parks, which imposes certain restrictions and responsibilities on the programs and initiatives operating within its bounds. Martial Cottle encompasses a considerable amount of land, and UCCE occupies only a fraction of this space. Consequently, it is crucial to recognize the presence of similarly related organizations that coexist and collaborate in the park. These organizations play diverse roles, with their activities ranging from agriculture and conservation to recreation, all of which contribute to the park's goals and themes. Other programs alongside the UCCE in the park are demonstration gardens and community education. The presence of demonstration gardens and the education center alongside UCCE within the Park significantly amplifies UCCE's impact on education and community engagement. These programs serve as crucial educational resources for the local community, offering hands-on learning experiences in sustainable gardening practices and waste management. Surrounding gardens complement UCCE in working towards sustainable agricultural and environmental practices. This collaborative approach not only enhances UCCE's educational outreach but also contributes to addressing issues such as waste and over-consumption by promoting sustainable urban agriculture and creating a strong sense of community within the park and its surroundings.

CIVIC ISSUES ADDRESSED BY OUR DESIGN

Our design for the Aerated Static Pile (ASP) composting system addresses several civic issues, acting as a driver for sustainable community development. By enhancing the efficiency and user-friendliness of the ASP system, we tackle environmental degradation. The system promotes the adoption of composting, reducing landfill waste and associated greenhouse gas emissions, a critical step towards ecological responsibility. This initiative aligns with broader environmental goals, like soil fertility enhancement and carbon capture, relevant to communities, cities, and California. Furthermore, our design serves an educational purpose, raising awareness of composting's environmental benefits and investing in a culture of sustainability. By simplifying and automating the composting process, we enable broader community engagement.

This is crucial for instilling environmental consciousness among citizens, students, and small farmers, empowering them to take actionable steps toward waste reduction.

Economically, the automated ASP system introduces cost and time efficiency into the composting process. This aspect benefits small-scale operations and homeowners, where resource allocation can be challenging. The system's economic sustainability supports community members in maintaining environmentally friendly practices without imposing significant financial or labor burdens. Social equity is another civic issue our project addresses. The open-source nature of our design allows access to sustainable knowledge, ensuring that all community members, including those from marginalized backgrounds, can benefit from our system. This approach fosters inclusivity, allowing a diverse demographic to engage with and contribute to sustainable practices. Lastly, the ASP system offers an example of how environmentally conscious waste management can be incorporated into modern urban planning, encouraging greener infrastructure and neighborhood initiatives.

POLICIES AND REGULATIONS

Santa Clara County has various recommendations and policies to ensure efficient water usage and compliance with local water conservation efforts. Especially because California is subject to droughts and a fairly dry climate, they emphasize responsible irrigation to reduce wasted water. First and foremost, the irrigation system must be designed to deliver water efficiently, avoiding waste or overspray onto adjoining areas. To safeguard against emergencies and routine repairs, manual shut-off valves are strongly recommended [1]. These valves should be positioned as close as possible to the point of connection of the water supply, reducing water loss in case of incidents such as water line breaks. In larger installations, the use of reclaimed water is encouraged when available and feasible to promote sustainability [1]. Additionally, to minimize evaporation and comply with the Valley Water's Water Waste Ordinance, irrigation should occur between 9 p.m. and 6 a.m., avoiding the hottest times of the day when water demand is highest, and irrigation outside of these times is prohibited [2]. These regulations collectively aim to promote responsible water usage and conservation in Santa Clara.

References

[1] "Installation - Sustainable Landscape Management - County of Santa Clara," County of Santa Clara, https://slm.sccgov.org/learn-landscaping/implement/installation (accessed Nov. 7, 2023).

[2] "Sprinklers & Irrigation," Sprinklers & Irrigation | Santa Clara Valley Water, https://www.valleywater.org/saving-water/outdoor-conservation/sprinklers-irrigation (accessed Nov. 7, 2023).