

# 1 Abstract

This Request for Proposal (RFP) addresses the opportunity of having more control over the clay dehydration process during the clay reclamation process. Clay reclamation, while considered a tedious process, reminds us of the beauty of the circularity of pottery<sup>1</sup>. This process allows potters to reuse clay that had been dried out, become too wet, or been discarded after trimming and any other processes.

The clay reclamation process is tedious due to large time consumption, manual labour, and little room for error. After identifying and confirming this issue with *Clay with Me*, a pottery studio in Toronto that actively uses this process and applies other means to reduce their carbon footprint<sup>2</sup>, the root cause can be pinpointed to the dehydration process within the entire reclaiming process.

The opportunity aims to optimize the clay dehydration process by allowing for more control over the process. Currently, *Clay with Me's* dehydration process involves pouring wet clay onto a plaster tray and letting it sit until the excess moisture is absorbed and the clay has reached an optimal consistency. However, this process is unpredictable since the exact duration is influenced by various external factors like temperature and humidity<sup>3</sup>, thus it requires someone to check on the clay daily to determine if the process is complete. Missing the time interval when the clay is at its optimal consistency necessitates adding more water and restarting the reclaim cycle, resulting in more manual labour and wasted resources. Having greater control over the dehydration process will minimize the risk of over drying the clay, thus optimizing the overall efficiency of the reclaim process.

Success in this opportunity requires an understanding of the main stakeholders, *Clay with Me*, and their commitment to connection, community, and minimizing their environmental impact as a pottery studio<sup>2</sup>. The negative environmental impact from restarting the reclaim cycle, in addition to increased manual labour and decreased efficiency, are the main issues highlighted by the community. Secondary stakeholders such as clay producers and the overall pottery community who are also impacted by this opportunity are discussed in this RFP as well.

Stakeholder statements are integrated in the requirements framework, which focuses on design for efficiency, reliability, safety, sustainability, and durability. Current reference designs such as egg incubators and soil moisture sensors do not satisfy the community's needs because they do not address the entire opportunity on their own. The design requirements provide an opportunity for teams to combine and generate designs to optimize the existing clay dehydration process and reduce the overall negative impact on the studio's efficiency and environmental impact.

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<sup>1</sup> Clay, "Athene - Ceramics by Abi Lawrence," *Athene - Ceramics by Abi Lawrence*, Sep. 16, 2023. <https://www.atheneceramics.com/blog/embracing-the-circle-of-pottery-reclaiming-your-clay>

<sup>2</sup> "Sustainability at CWM," *Clay With Me*, 2025. <https://claywithme.ca/pages/sustainability-at-cwm>.

<sup>3</sup> Yu, H., Chen, Z., Wan, Y., & Sun, X. (2024). Temperature-humidity-density dependent evaporation behaviour of clay and sandy clay. *European Journal of Soil Science*, 75(2), e13484. <https://doi.org/10.1111/ejss.13484>