URBAN ROADSIDE NATURALIZATION PILOT PROJECT

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Figure 1. West view of roadside conditions prior to site preparation and seeding (May 2021).

Figure 2. View of annual cover crop of flowering species in Year 1 (September, 2021).

Earthmaster was retained by the City of Calgary to conduct an urban roadside naturalization pilot project along a busy roadway in Calgary, Alberta. The goal of the project was to demonstrate proof of concept for using an alternative landscaping treatment to replace the manicured turfgrass with mixes of wildflowers and native grasses in an urban setting. Earthmaster worked with the project group to select and source seed (based on City of Calgary seed selection guides) for the mix of annual and perennial wildflowers and native grasses. The site was prepared, and the seed sown with minimal soil disturbance.

PROJECT BACKGROUND

The project site was located within NE Calgary along a busy urban roadway (the Trans-Canada Highway) which transected a residential area. The site, which was covered in thick thatch and emerging manicured turfgrass (Kentucky bluegrass), required dethatching and turfgrass eradication to make it suitable for seed installation (Figure 1). The soil at the project site was deficient in nitrogen and phosphorous, some areas showed elevated salinity. The pilot project required that the site was neither fertilized nor irrigated.

NATURALIZATION OBJECTIVES

The project objective was to demonstrate proof of concept for naturalization of roadside vegetation to increase plant diversity by replacing manicured turfgrass with mixes of wildflowers and native grasses. Two seed mixes were chosen for the site. One seed mix was selected for use immediately adjacent to the roadway where elevated soil salinity may be encountered, and a second mix was selected for areas away from the roadway. Each seed mix consisted of a variety of native grasses as well as annual and perennial wildflowers. The seed mixes were installed into the eradicated

turfgrass stubble using a no-till seed drill to minimize soil disturbance and protect seedlings from harsh conditions. Weed control was conducted as needed by spot spraying of herbicide.

RESULTS

In Year 1, several species of annual flowers successfully germinated in the non-viable turfgrass stubble which facilitated the quick establishment of flowering species (Figures 2 and 3). The annual species provided a cover crop in Year 1 which allowed the slower growing perennial wildflower species to establish. Year 2 saw the natural progression of the perennial flowering species replacing the annual species (Figure 4). Numerous species of native grasses were also successfully established on the site.

Figure 3. Examples of flowering species in Year 1.

Figure 4. View of perennial flowering species in Year 2 (July, 2022).

CONCLUSIONS

Proper site preparation and species selection were critical to the successful establishment of the annual and perennial wildflowers and native grasses on the project site. Replacing manicured turfgrass with native grasses and flowers provides an aesthetically pleasing and low maintenance option for urban roadsides. In addition, vegetation diversification is critical to supporting pollinator populations and climate resiliency in urban settings. Learnings from this project can be used to establish naturalized areas as part of reclamation strategies in urban settings.

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