

Soil Profile In Bell Gardens – Group C, Site 2

Includes Soil Map Units 1124, 1125, 1130, 1138, corresponding to Windfetch, Centinela, Azuvina, Montebello, typic Xerorthents, and typic Haploxerolls features

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This poster is the first in a series of four designed to showcase the diversity of soils studied within the Safe, Clean Water Project: Ground Truth Study and to illustrate the general heterogeneity of soils in urban areas. This variability arises from both differences in human impact (patterns, intensities, and the history of land use) and local environmental factors such as climate, organisms, landforms, parent material, and both short-term and long-term environmental changes.

This diversity and heterogeneity influence soil hydrological properties and must be studied to improve urban soil water management. Additionally, understanding 3D soil morphology—its “architecture”—is essential for recognizing other key ecological functions of urban soils, including:

- Acting as a sink, filter, and detoxifier of pollutants
- Serving as a carbon sequestration compartment, mitigating climate change by reducing atmospheric CO₂
- Decomposing organic matter and recycling nutrients, which are essential for ecosystem balance
- Providing habitats for living organisms, supporting urban biodiversity

Beyond their critical ecological roles, soils have a unique ability to record environmental changes. Even simple field morphological studies provide valuable insights into both local and global soil and environmental histories. In urban areas, soils not only document natural environmental changes but also serve as archives of human impact and its evolution over time.

