

Project: California Academy of Sciences

Green Roof and Surrounding Landscape

Location: Golden Gate Park, San Francisco, California

Purpose

To create a state-of-the-art public space to house the California Academy of Sciences with as little impact on the environment as was reasonably feasible and while achieving a platinum LEED rating.

The most apparent feature of the green design is the 2-1/2 acre green roof. With seven dome-like hills representative of the seven hills of San Francisco. The roof is planted with four perennial plants and five wildflowers, and mimics the meadows and rolling hills one can experience on a Sunday drive through the Northern California countryside.

Whether viewed from the observation terrace on the roof, looking up through the glass from the Piazza below in the center of the building, from the adjacent Music Concourse, or from the observation tower at the new de Young Museum, the living roof is an amazing creation that must be experienced in person to fully appreciate.



Role of Irrigation Consultant

Our role was to design an irrigation system capable of efficient application of water to the landscape while taking into consideration all of the unique conditions and requirements - environmental, architectural, horticultural, and managerial.

Collaboration with the landscape architect, the building architect, and the horticultural consultants was imperative.

Irrigation method, installation and maintenance were key factors in the design process due to the unique requirements of each design and consulting discipline.

Significance

Being located in one of the most famous parks in the country, Golden Gate Park, and the impact the construction of a project this size has on the ground plane, preservation and restoration of surrounding landscaping required significant consideration.

Working in collaboration with the landscape architecture and building architecture teams, we designed new irrigation systems for not only the roof landscape and landscape areas directly surrounding the new CAS building, but also the adjacent lands affected by the construction process.

Restoration of the landscape between the new CAS building and the highly revered Shakespeare Garden to the west, and restoration of Sunbathers' Meadow to the east (which was used as a construction staging area), were important to the community. Providing efficient irrigation to the areas impacted by the construction will enhance the appearance and function of these areas, considering much of the park is still irrigated with impact sprinklers on six-foot-tall portable sprinkler stands fed by hoses.



Irrigation Control Systems

Irrigation control is managed via two RainMaster DX2 central control systems with two separate weather stations.

One computer and weather station is for the ground plane, and the other computer and weather station is for the roof irrigation.



The systems are separated for management reasons.

The roof system is expected to be managed by CAS personnel as a scientific exhibit. The ground plane irrigation system may be managed by Golden Gate Park personnel.

The ground plane system can be expanded upon to accommodate additional park area as the park district is able.