Case Studies

Cambria Elementary – Designed for Self-Sustainability

Cambria is a 12 acre elementary school campus with 130,000 sq. ft. of EPIC turf in six strategic areas to collect limited stormwater, provide an 85,000 sq. ft. community soccer field, and athletic fields for the children. The entire campus was designed to collect all available hardscape runoff and to direct the water for storage in large five foot diameter storage pipes placed side by side under the EPIC soccer field. The complex can store more than 2,000,000 gallons primarily collected during the few wet winter months which is then reused during the remaining dry summer months as free irrigation water. Without the EPIC design the project would not have been able to be built because the community could not supply the pressure or the water demands for a conventional sprinkler system. The project mitigates all storm runoff issues in the sensitive coastal community, and simultaneously reuses the water to provide irrigation.

If during the dry season rainfall is insufficient to fill the underground reservoirs, then system is replenished with effluent from the municipal sewage treatment facility. In this way, Cambria has completely eliminated the need for a fresh water irrigation source.

Key Benefits:

- Completely self-sufficient irrigation
- Containment of runoff during rainy season
- Reduced annual irrigation expenses
- An ecological model

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Case Studies

Bookmen Stacks – The Elegance of Efficiency

Bookmen Stacks is a new 10-story residential lofts development in downtown Minneapolis. The owner wished to provide a beautiful green park area for the new residents, and had Rehbein Environmental Solutions install an 8750 square foot green roof over the garage. Like all new developments, the roof has very sensitive weight restrictions. RESI used their Muellner™ Green Roof System to reduce the weight of a traditional 12" sand profile by over 40% and provide an efficient stormwater management tool that can support pedestrian traffic and use.

To make the rooftop more functional as a green park area, reflex mesh elements were incorporated into the turf sod profile allowing heavy use without damage to the grass. Additionally, the use of grass provides insulation and prolongs the life of the roof, while increasing oxygen production and reducing carbon dioxide.

The use of the Environmental Passive Integrated Chamber (EPIC) System saves 50%–85% in typical water usage and provides sub-surface irrigation for the turf. Shut-off floats and recycling reservoirs will minimalize the loss of water from the system. Also, EPIC eliminates or reduces the risk of building stains and wind effects on irrigation patterns. Since the grass is watered below the surface, the turf is always available as useful activity space, even while it is being irrigated.

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