

Greywater Recovery



Prepared For:
The Los Angeles
Community College District



Reclaimed Water Piping

INTRODUCTION

This paper discusses greywater recovery potential on the LACCD campuses. Greywater recovery potential is affected by the quantity of building greywater generation and by local codes.

DESCRIPTION OF TECHNOLOGY

Grey water is defined as effluent from lavatories, showers, washing machines and drinking fountains. Effluent from water closets, urinals, laboratories and kitchen sinks is considered black water and must be disposed of as sewage to the municipal water district.

Generally, in LEED buildings, which have lower water consumption than typical buildings, only about 20 to 30% of the building's waste water is greywater. In a gym, which has showering facilities, this would be closer to 60%, while a standard classroom building would be closer to 25%. Approximately 80% of a building's greywater can be recovered, treated and reused.

Several LACCD campuses are exploring the potential for a central campus reclaimed water system. For buildings on campuses without a central system, project teams may consider a dedicated greywater recovery system for the project.

In a greywater recovery system, the building's waste piping is double-piped to separate the greywater from the black water. The greywater piping collects the waste from fixtures and routes it to a holding tank. This water is pre-filtered and treated in the tank until needed for use. When needed, it is then pumped through a final filter and on to a drip irrigation system or flush fixtures.

COST CONSIDERATIONS

Greywater recovery for irrigation use is less expensive than for toilet flushing. When greywater is reused for toilet flushing, the building's domestic water supply must be double-piped to separate the non-potable supply to flush fixtures from the potable supply to other fixtures. Additional water treatment and dyeing is also often needed for greywater flushing. For this reason, greywater reuse should first be considered for irrigation, and then flushing if extra greywater is available.

CODE CONSIDERATIONS

Local and state codes are constantly under revision, particularly regarding new sustainable technologies such as greywater recovery. Design teams must review the latest code requirements related to the opportunities and requirements outlined in this Green Paper.

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