

CAUSE-OF-LOSS REPORT · CASE 077 · SAMPLE

Laguna Beach board-formed wall

Mechanism	lateral hydrostatic load
Level	-6 ft backfill
Location	Laguna Beach, California
Prepared by	L3 Energy Construction, The Hydrotech Lab
Engineer of record	named separately where one is engaged

This is a sample report. It shows the form and depth of a Hydrotech Lab cause-of-loss report. The property, readings and outcomes are illustrative and do not describe a real client.

CHAPTER 1 · THE PATHOLOGY

A beautiful wall, leaning an inch and a half toward the terrace.

The wall was the centerpiece of the garden: eighteen inches of board-formed concrete, six feet of retained slope behind it. A hairline crack had opened at mid-height and the cap no longer lined up with the paving. Every wet winter it moved a little more. The soil behind it never dried, because the water that entered had nowhere to go.

OBSERVATION	FINDING
Wall	18 in board-formed concrete, 6 ft retained
Out of plumb	1.5 in at the cap
Weeps	none
Backfill	native clay, saturated to within 1 ft of grade
Surface	planting bed draining toward the wall
Crack	horizontal hairline at mid-height, damp

CHAPTER 2 · DIAGNOSTIC RECONSTRUCTION

How the path was established

A wall designed for soil was carrying soil and water together. The work was to find out how much water, and whether the stem could stay.

METHOD	PROCEDURE / STANDARD	WHAT IT SHOWED
Plumb survey and crack gauges	four stations, read monthly	Movement tracked rainfall, with a two-week lag.

METHOD	PROCEDURE / STANDARD	WHAT IT SHOWED
Test pits	two hand-dug pits behind the stem	Standing water at 14 in. No drain rock, no pipe.
Moisture probes	backfill at three depths	Saturated from 1 ft down through the dry season.
Structural review	by the engineer of record	Stem serviceable once the water load is relieved.

Recommended scope of repair

- 1 Backfill excavated in sections; free-draining rock and a perforated drain placed at the heel.
- 2 Weep relief cored through the stem at the base.
- 3 Positive-side waterproofing on the retained face.
- 4 Low-permeability cap and regraded bed to shed runoff away from the wall.

CHAPTER 3 · RESTORED STATE

Verification

The wall has not moved since. The weeps run after rain and stop a day later, which is what a draining wall does.

MEASURE	READING	STATE
Crack gauges	no change, two winters	stable
Backfill	draining; weeps clear after rain	active
Retained face	membrane and drain rock	stable
Surface water	shed away from the wall	stable

Scope and limits. This report states the cause of water intrusion as established by the field methods listed, and a scope of repair a licensed contractor can bid from. It is not an engineering report. Structural, geotechnical or coastal engineering conclusions are the work of the engineer of record.