

Alchatek

CASE STUDY
SOIL STABILIZATION & SLAB LIFT

BRIDGE APPROACH SLAB SAN FRANCISCO, CALIFORNIA

Bridge Approach Slab *Leveling*

A settled bridge approach slab on a busy San Francisco roadway was stabilized and releveled using Deep Lock® soil stabilization and AP Lift 475 instead of full replacement.

OF SETTLEMENT IN THE BRIDGE APPROACH SLAB
2.5 to 3 *inches*

PRODUCT
AP Lift 475

01 What made this job *difficult.*

BRIDGE APPROACH SLAB
SAN FRANCISCO, CALIFORNIA

A critical infrastructure issue emerged on a four-lane road near downtown San Francisco. Soil erosion caused a bridge approach slab to settle 2.5 to 3 inches over time. The affected area had an asphalt surface with a thin sleeper slab underneath. California Department of Transportation (Caltrans) engineers initially advocated for complete replacement.

Full replacement would have required closing the entire roadway and replacing a 40x12 foot area of asphalt and sleeper slab.

THE CONSTRAINT

40x12 *foot*

AREA OF ASPHALT AND SLEEPER SLAB THAT WOULD NEED REPLACEMENT

KEY CONDITION

Soil erosion caused a bridge approach slab to settle 2.5 to 3 inches over time. The affected area had an asphalt surface with a thin sleeper slab underneath.

AT A GLANCE

4 ft centers	**6 to 10** ft	**40** lbs per tube	**10-15** sec
INJECTION TUBE SPACING	INJECTION DEPTHS	MATERIAL INJECTED	SHOT DURATION

02 What was specified, *and how it went in.*

AP LIFT 475

Bay Area Underpinning and Alchatek proposed an alternative: Deep Lock® soil stabilization and concrete leveling. DOT engineers approved the approach to reduce traffic disruption and cut costs compared to full replacement.

THE MATERIAL

AP Lift 475

AP LIFT 475

The material penetrates and fills voids, addressing the underlying cause of settlement rather than just resurfacing.

THE METHOD

01
Test
DOT engineers performed soil borings and a DCP test to identify soil types and areas of weak density.

02
Install
The team installed injection tubes on four-foot centers at six- and 10-foot depths.

03
Inject
They injected about 40 pounds of material per tube in 10-15-second shots for controlled distribution.

04
Monitor
The team monitored the lift with a rotary laser and zip-level altimeter to ensure even raising to the target level.

03 What the result was, *and what confirmed it.*

TOTAL TIME TO COMPLETE LEVELING

The modular repair approach minimized traffic disruption on this busy thoroughfare. Only two of four lanes closed at any time, so traffic continued to flow. Compared to full replacement, the method cut labor, disruption, and cost.

TOTAL TIME TO COMPLETE LEVELING

4eight-hour shifts

The team completed the entire leveling process in four eight-hour shifts.

START THE CONVERSATION

Send us the job.
We will send back an approach.

Request a free site consultation and specification review for your next slab leveling or soil stabilization project.

TECH SUPPORT

404 · 618 · 0438

WWW.ALCHATEK.COM

Alchatek manufactures polyurethane resins, chemical grouts, and injection equipment for infrastructure repair: leak sealing, soil stabilization, concrete lifting, and seawall repair. Headquarters in Tucker, Georgia, with a bonded warehouse in Reno, Nevada.

Information in this document is believed accurate at the date of publication. Product performance depends on site conditions and application; consult the current Technical Data Sheet, which is the controlling document.

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