Kirkland's maintenance crews repair damaged sections of pavement

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CAPITAL PROJECTS



CARING FOR YOUR INFRASTRUCTURE TO KEEP KIRKLAND HEALTHY, SAFE AND VIBRANT



Many of the homes on Goat Hill have south-facing views similar to this one. Through some collaborative planning, City of Kirkland is helping residents manage the access and drainage challenges that come along with their views.

City works with residents, developers and topography to improve access on Goat Hill

oat Hill rises 400 feet above Lake Washington like an intermediate ski slope. Some of its postage stamp lots are as steep as black diamond ski runs, ascending 50 feet within their platted .17 acre of space.

This kind of gradient is what produces Puget Sound's most theatrical views: the Olympics to the west, Mount Rainier to the southeast and Lake Washington—framed by the Seattle skyline—cradled below.

But the gradient that delivers

these views also produces a series of challenges for those who build homes there and live in them.

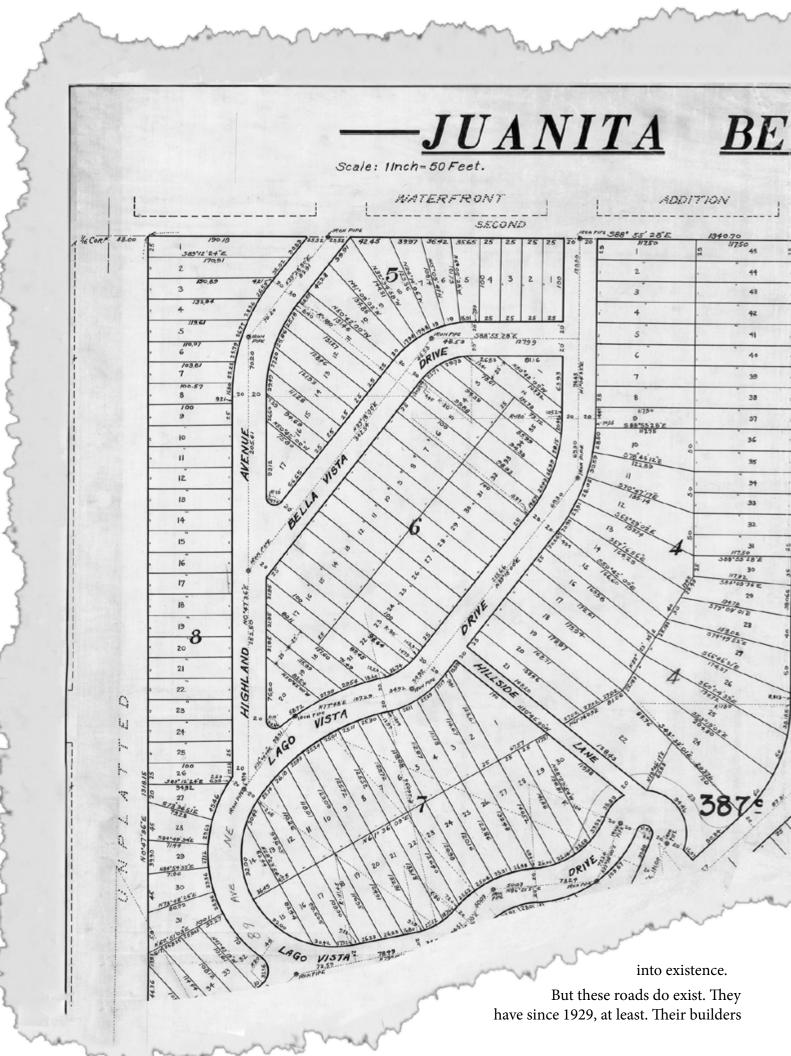
Stormwater seeps out of exposed slopes, puddles and drains down the hill, tearing away precious soil.

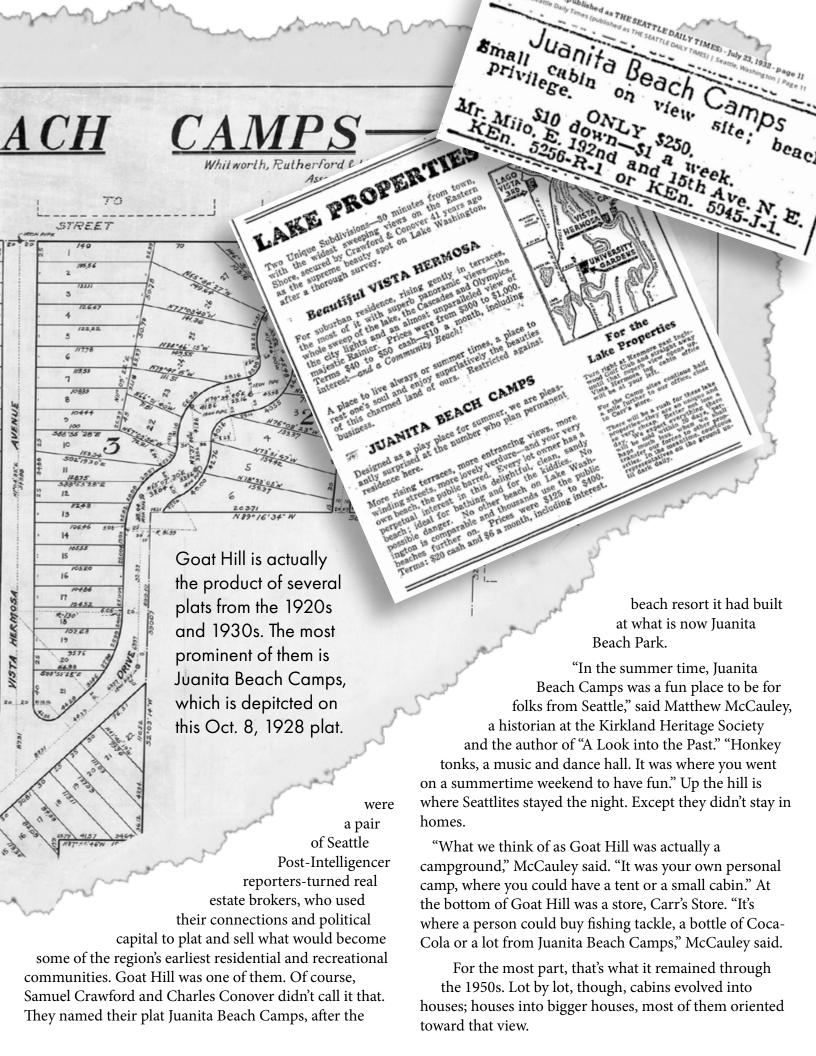
The entire hill—all 150 lots—is within a landslide hazard area.

The one-lane roads that zig-zag up the hill from Juanita Drive are narrow, belly-ticklingly steep in some places and contort sharply around exposed corners that no modern agency would permit

TO LEARN MORE

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At Carr's Store, a visitor could buy groceries, fishing tackle and property in Juanita Beach Camps.

"That was never the intent for that area," McCauley said.

Doug Dobkins is now King County's product-line manager for residential construction. But in the late 1980s and early 1990s, he reviewed and issued building permits; 10 of them on Goat Hill.

"They were very challenging because they wanted to put the biggest house possible on their lots," he said. "But we had to figure out drainage, and make sure what they were doing wasn't going to mess up downstream drainage. They were very tight lots and steep. It was basically building a ship in a bottle."

The City of Kirkland is now the agency managing Goat Hill—its winding roads, its seeping groundwater and stormwater, and its new houses.

Kirkland is dealing with the same topographic characteristics that challenged King County's management of the area.

But it has a closer view of the hill than King County did and a more comprehensive understanding of its challenges.

Part of that understanding derives from a 2014 study of Goat Hill's drainage, which the City commissioned a few years after annexing North Juanita, Kingsgate and Finn Hill in 2011. That report resulted in a pair of stormwater projects—aimed primarily at reducing flood potential by re-routing stormwater flows and increasing capacity for stormwater conveyance.

The first project—which the City completed in fall 2019—increased stormwater capacity on 116th Place

"We can mitigate some of the problems bit by bit."

—John Burkhalter, City of Kirkland's manager for development engineering Northeast at its intersection with Juanita Drive by installing a stormwater system of pipes, catch-basins and an outfall, from which stormwater now flows into Lake Washington. That project also repaired damaged pavement along 116th Place Northeast.

The second project focuses on Northeast 117th Place. There, the City will upgrade a stormwater conveyance system of pipes, culverts and catchbasins. It will also stabilize a drainage swale with a rockery below the culvert. Design on this project began in spring 2022. Project engineers expect to begin construction on it in summer 2023 and to complete it by winter 2023.

These projects will help. But Kirkland's storm- and groundwater management strategy relies directly on individual homeowners to collect and convey the storm- and groundwater they convey.

"It's a fundamental part of the citizen-and-city

partnership," said John Burkhalter, Kirkland's development engineering manager.

Access is another challenge on Goat Hill. Currently, residents' ability to come or go from their homes is cut off as soon as a delivery truck stops in their path. But the City of Kirkland is implementing a series of development practices on Goat Hill that, combined, can improve access.

First, the City is requiring developers to widen their sections of roadway first; then build their houses. Second, the City is requiring project-coordination conferences between developers, residents and utility providers, such as Waste Management. Meanwhile, the City's maintenance division is more frequently repairing damaged sections of pavement and maintaining gravel pull-outs by increasing its level of service to Goat Hill.

"Goat Hill is one of those unique places to live,"
Burkhalter said. "Often what makes spectacular views
possible—its steep topography—is also what makes
development so challenging. So unfortunately, there's no
panacea for Goat Hill. But by being agile and by working
directly with homeowners, we can mitigate some of the
problems bit by bit."