MOVING AND SHAKING

A UNIVERSITY IN THE NORTHWEST BUYS A LANDFILL TO RECLAIM A FORMER PUMICE MINE.

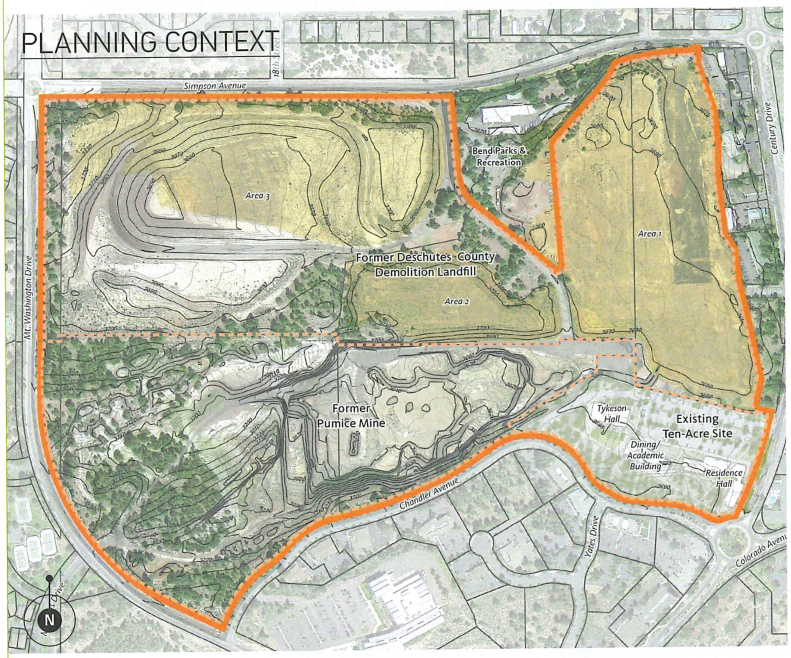
BY KATHARINE LOGAN

Where the ponderosa pine forest of the eastern Cascade Range transitions to the juniper and sagebrush of central Oregon's high desert, two sites scar the landscape. A 56-acre parcel on the edge of the small city of Bend consists largely of a hole, formerly a pumice mine, with exposed faces up to 110 feet high. Beside it stretch 72 acres of unremediated landfill. Impaired sites like these can languish for decades, blighting their communities. But Oregon State University, which owns the mine and has just inked a deal for the landfill, developed a plan to use one landscape to remedy the other, and in the process generate developable land for the expansion of the university's Cascades campus.

The effort differs from what is conventionally thought of as landscape architecture, says Curtis Riley, a landscape architect with Maul Foster & Alongi, the environmental engineering firm leading the reclamation effort. "We have the opportunity to step in early in the story and advise on the minimum-effort approach to recyling the land," he says.

ABOVE
The expansion of Oregon State University's Cascades campus will heal side-by-side brownfield sites in Bend.

RIGHT
Cleaned fill from an adjacent dump will be used to regrade this former pumice mine.



LEGEND

- CITY PARCEL
- SITE BOUNDARY
- MAJOR SITE AREAS
- FORMER LANDFILL AREAS
- 10-FOOT CONTOUR
- 2-FOOT CONTOUR

AN INNOVATIVE RECLAMATION STRATEGY AIMS TO BRING 118 UNUSABLE ACRES BACK INTO PRODUCTIVE USE.

RIGHT
The redevelopment master plan organizes campus buildings, recreational uses, and a solar park around a central open space on the site of the former mine.

The plan is to sort and clean the landfill material, which consists mainly of wood waste and construction debris, and use it to regrade the mine. Converting one site's detritus into fill for the other will eliminate the need to import fill—an estimated 29,600 truckloads. That will translate into reduced noise, road wear, and air-quality impacts in the community.

A key challenge will be the wood waste. Organic material needs to be kept out of the structural fill, and even for topsoil, the site samples' 22 percent organic content is too high. However, at least one common separation method—the use of vibrating shaker tables—proved too violent in test runs and pulverized the wood. A gentler method, the use of roller screens along with a vacuum hood to capture organic particles that do break away, should prove more successful. The remediation team is currently studying site samples to inform the sizing of screens and types of rollers that will be tried in an on-site pilot project once the purchase of the landfill goes through. "We're very aware of what's going on under the soil and how best to maximize the potential of an impaired site," Riley says.