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# FACILITIES MANAGEMENT

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Dear Facilities Management Team,

This week's topic is an update regarding the progress of the Moby Complex Geoexchange (GeoX) project. For those not familiar with the term "geoexchange," this project will employ geothermal energy (also called ground source heat pump) for heating and cooling to reduce energy consumption and costs. This project is being delivered by our Capital Construction team through a design-build contract, and when completed, will be the largest ground-source heating and cooling system in Colorado—and one of the largest in the western United States.

The planning for this project has been nearly a decade in the making as the University was faced with aging infrastructure (end of useful life for mechanical equipment and an outdated steam heating system). Lifecycle costs were evaluated and a data-driven decision was made by FM to invest in the GeoX system technology, which had the lower lifecycle cost (capital investment, operations, and maintenance). As the local electrical grid heads toward 100% renewable energy in 2030, the GeoX system will dramatically reduce the Greenhouse Gas (GHG) footprint of the Moby Complex. FM Energy Engineer Carol Dollard was quoted in [SOURCE](#), saying, "Once completed, this system will not only remove a large section of our main campus from the outdated and more carbon-intensive steam heating and chilled-water cooling systems, but this project also aligns well with the University and City of Fort Collins' commitment to using 100% renewable electricity by 2030."

So how does it work? Geothermal energy systems take advantage of the constant temperature below ground (approximately 50 degrees Fahrenheit) by circulating water through a field of underground pipes. The contractor drilled 342 wells, late spring and early summer, to a depth of 550 feet below the existing ground. These "wells" were incased in a slurry compound, meaning the GeoX system is a "closed-loop" water system and does not interface with the groundwater below the athletic fields, south of the Moby Complex. In total, 70 miles of underground pipe were installed in the bore field. FM partnered with the CSU Drone Center to capture [images of the bore field construction](#). A majority of the HVAC systems in Moby were original equipment from the 1960s, so replacing the energy-intensive systems were a significant part of the project as well.

The \$22M project is on schedule for substantial completion by October 1. With the recent restoration of the turf in the athletic fields, once the fence is removed, the campus community will never know they are standing atop 70 miles of underground pipe. "It will be a comprehensive system of renewable energy production using the Earth as the source," said FM Project Manager Tony Flores in [SOURCE](#). "It will be saving money for the University and saving the planet's resources."

Please join me in thanking our FM team who have planned and delivered this legacy project for CSU.

Sincerely,



Tom Satterly, P.E.  
Associate Vice President for Facilities Management

<https://www.fm.colostate.edu/fmNews>  
[fac\\_news@mail.colostate.edu](mailto:fac_news@mail.colostate.edu)