

A History & Purpose of Fill at the Winter Brothers Property (An explanation of the use of “Surcharge Piles”)

In the 70's and 80's, as part of the sand and gravel mining operation at the Winter Brothers site, fill was placed under the lots now proposed to be the Winter Industrial Park. While placed and compacted using suitable materials and sound construction practices, fill was placed outside the purview and inspection of a licensed, geotechnical engineer with the State of Missouri.

When planning for the development of this land, Winter Brothers wanted to place additional fill in order to raise the land above the higher flood elevation. Once grading was complete, they would need for a geotechnical engineer to be able to state, to them or a prospective buyer, that the land was capable of supporting the buildings anticipated for future development. That led to an issue to where even with a comprehensive soils investigation, the geotechnical engineer was not willing to state that the fill placed decades ago, would support a building. This was due to a lack of documentation that the material was placed with required compaction.

Several options were presented to resolve this issue. The most effective option was to construct what is called a “surcharge pile” that mimics the weight of a new building on top of this fill. This surcharge pile would be monitored for ground settlement while in place. The concept was to insure the additional weight of the surcharge pile would consolidate any fill material that might not have been placed with adequate compaction.

This surcharge pile, ten feet in height, was placed on Lots 1 & 2 where Winter Brothers anticipated future development. A geotechnical engineer monitored ground elevations under the surcharge pile. Over the course of the last few months, it was confirmed that the area would support a building.

Winter Brothers now plans to move the surcharge pile from Lots 1 & 2 to Lot 7 and repeat this surcharge pile compaction process there. Once the geotechnical engineer determines the surcharge pile on Lot 7 achieves consolidation of the old and new fill, it will be removed. Development of Lot 7 can then proceed after the geotechnical engineer's approval.

The grading and filling for the Winter Industrial Park, as well as the proposed surcharge pile, were all shown with quantities on the site construction plans approved by the City and MSD.