

Date : 05/15/2024
Project No : 2024G169
Client Company : Pulte
Arrival Time : 05/15/2024
Onsite Hours :

ASEC Report ID : 66496
Name of the Project : Cedarcrest Village Way
Project Location : Acworth
Weather : overcast
Departure Time : 05/15/2024
ASEC Technician Name : Russell Hendrix

As requested, the site was visited by our AS Engineering and Consulting (ASEC) representative for the purpose of observing the excavation of above-ground test pits in a large stockpile located near boring B-01 (from the geotechnical investigation). The following observations were observed on site this day.

1. **Introduction** A request was made to investigate the contents of a material of unknown origin located centrally on the property at boring #1 location. This report outlines the methods employed and findings obtained during the investigation. Please see attached photos of the day's operation.
2. **Methods**
 - A trench was excavated (east to west) through the center of the mound using a Caterpillar 318C excavator. The trench was approximately 30 feet wide and excavated to the original grade or lower (or a depth of 15 feet).
 - Test pit locations were excavated on the northeast, south, and southwest sides of the mound to obtain soil samples to determine if these materials could be used as structural or rock fill.
 - Soil samples were collected and analyzed for composition and characteristics.
3. **Findings**
 - The circular stockpile measured approximately 200 feet x 200 feet and 15 feet tall at its highest point.
 - The soil excavated from the mound was found to be uniform in nature and mostly void of organics, burnt wood, etc. These soils roughly consisted of approximately 60% silty sand mixed with approximately 40% rock of various diameters.
 - The majority of rocks encountered were 12 inches or less in diameter, although some larger rocks measuring 2 or 3 feet in diameter were also present.
 - Possible bedrock was encountered at or less than 5 feet below original grade throughout the mound area.
4. **Discussion**
 - The composition of the soil and our discussions with you suggests that the material comprising the mound may have been stockpiled during development of Phase 1.
5. **Conclusion** The stockpiled soils encountered can generally be used as structural fill. The following criteria should be followed:
 - Maximum rock size within the fill mixture should not exceed four (4) inches in diameter if intended to be used in the top 4 inches of final grades. Rocks larger than this size should be removed.
 - If segregation or removal of larger pieces of rocks is not possible, this material should be used no less than 4 feet below finished grade and should not be placed directly under footings. See below for boulder laden fill/rockfill placement guidelines.
 - In general, if organic/unsuitable materials are encountered they need to be segregated and not be used as structural fill.
 - Boulder laden fill is material comprising of rock larger than 4 inches. Such material will need proper handling. This material may not be ideal for use within proposed utility zones of the development or within 4 feet below planned footings or floor slabs. This material can be used in deeper fill areas.

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See below:

It is very important that all boulder laden fill is placed appropriately and is uniformly well-compacted. Accordingly, a qualified engineering technician working under the direction of the Geotechnical Engineer should monitor fill placement.

The following are a general set of guidelines for rockfill placement and compaction.

- Maximum loose lift thickness shall be no greater than 24 inches with maximum rock sizes limited to two thirds of the lift thickness. Larger rock sizes can be incorporated into the fill provided the rock does not protrude above the fill surface to hinder compaction.
- The most efficient rockfill compactors are vibratory steel drum rollers with vibrations in the range of 1,200 to 1,500 vpm, roller speed of about 2 mph, a minimum static drum weight of 8 tons on level ground, and a minimum operating dynamic force of 15 tons.
- Optimum roller passes are generally between 4 to 6 passes. More than 6 passes tend to crush and pulverize the rockfill surface without adding significant compaction to the lower part of the lift. Each roller pass should overlap the edge of preceding passes for 100 percent roller pass coverage on the surface.
- Moisture conditioning is desirable in the rock borrow areas for better mixing of moisture and materials during excavation, loading, dumping, and spreading for compaction. However, development of rock borrow areas involves blasting or ripping operations that sometimes make the borrow surface too rugged for conventional water trucks with spray bars. In such a situation moisture conditioning can be performed at the fill location.

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Trench refilled for safety.



South side test pit.



East looking west trench



East looking west trench

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North East side test pit



South West test pit



Rock measurements



East to West trench

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Rock pile south of main mound placed previously



South west looking east



South west test pit



Looking west at south side of mound

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excavating south side



another rock placement south of main mound.



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