



San Jose Office  
November 2, 2018  
Report 18-297-0101

Zanker Landscape Materials  
675 Los Esteros Road  
San Jose, CA 95134

RE: Screened Soil received 10/24/18

## Background

The sample processed on October 24, 2018 was identified as representing screened topsoil for landscape use. The sample was analyzed for horticultural suitability, fertility, and physical characteristics. Fertilizer and amendment recommendations were requested. The results of the analyses are attached.

## Analytical Results and Comments

The reaction of the soil is moderately alkaline at a pH of 7.8 with qualitative lime favorably low. This is above the range preferred by most plants. Incorporation of soil sulfur is recommended in order to help decrease the soil pH closer to neutral. Soil sulfur works slowly and most efficiently only to the depth incorporated.

Salinity (ECe) and sodium are safely low. The sodium adsorption ratio (SAR) indicates that sodium is adequately balanced by soluble calcium and magnesium. This balance is important for soil structure quality, which relates to the rate at which water infiltrates this soil. Boron is safely low and nutritionally adequate.

According to the USDA Soil Classification system, the texture of the less than 2mm fraction of this soil is sandy clay loam. Organic matter content is low at 2.3% dry weight. The 31.9% gravel present classifies this soil as gravelly. Based on this information the estimated infiltration rate is a moderately slow 0.19 inch per hour. Infiltration rates may vary due to differences in compaction after the soil has been laid to final grade.

In terms of soil fertility, phosphorus is fair and potassium is low. All of the other major nutrients are sufficient to abundant for proper plant nutrition at this time. Of the micronutrients; copper and zinc are sufficient while manganese and iron are low. After planting, nitrogen is the first nutrient that will require supplementing and this should be applied as a top dressing as recommended under Maintenance beginning as plant color and growth dictates.

## Recommendations

Once the material has been laid to final grade, the following materials should then be evenly spread and thoroughly blended with the top 6 inches of soil to form a homogenous layer:

<u>Amount per 1000 Square Feet</u>	
5 cubic yards	Nitrogen Stabilized Organic Amendment*
2 pounds	Triple Superphosphate (0-45-0)*
8 pounds	Potassium Sulfate (0-0-50)*
15 pounds	Soil Sulfur

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\*The rate may change based on the analysis of the chosen organic amendment. This rate is based on 270 lbs. of dry weight of organic matter per cubic yard of amendment. If a composted greenwaste amendment is selected that contains a significant amount of phosphorus or potassium, the triple superphosphate or potassium sulfate should be reduced or omitted accordingly.

Or prepare the material immediately prior to installation:

3 parts	Screened Soil
1 part	Nitrogen Stabilized Organic Amendment*

Uniformly blended with:

<u>Amount per Cubic Yard of Material</u>	
1/8 pound	Triple Superphosphate (0-45-0)*
1/2 pound	Potassium Sulfate (0-0-50)*
3/4 pound	Soil Sulfur

## Maintenance

Maintenance fertilization may rely primarily on a nitrogen-only program supplemented with a complete fertilizer in the fall and spring. You may begin applying Ammonium Sulfate (21-0-0) at a rate of 5 pounds per 1000 square feet beginning after planting as plant color and growth dictates with refertilization every 45-60 days. Or, slow release Sulfur-coated Urea (43-0-0) may be applied at a 5 pound rate with refertilization scheduled at 3 month intervals. Once the landscape has become well established the frequency of fertilization should be decreased depending on color and rate of growth desired. In the spring and fall substitute a complete fertilizer such as 15-15-15 to help ensure continuing adequate supplies of phosphorus and potassium.

Alternatively, organic sources of fertilizer such as Alfalfa, Blood, Soybean and Cotton Seed Meal may be applied per the label rate. Alfalfa Meal at a rate of 20 pounds per 1000 square feet would provide slow release nitrogen for 2-3 months or a combination of Blood and Feather Meal at a total of 16 pounds per 1000 square feet would provide nitrogen for 3-4 months. Refertilization may be accomplished with a nitrogen only organic fertilizer during the growing season. In the fall and spring, substitute a complete organic fertilizer such as 5-5-5 applied at the manufacturer's label rate. Or, nutrient rich composted greenwaste may be spread in a 1 to 2 inch layer, which generally carries enough nutrition to boost complete nutrition though a source of nitrogen might also be added at a half rate to assure adequate nitrogen availability.

If we can be of any further assistance, please feel free to contact us.



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 Page : 1 of 1

## COMPREHENSIVE SOIL ANALYSIS

Sample Description - Sample ID	Half Sat %	pH	ECe dS/m	NO <sub>3</sub> -N ppm	NH <sub>4</sub> -N ppm	PO <sub>4</sub> -P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
	TEC	Qual Lime		Sufficiency Factors											
Screened Soil	19	7.8	2.4	11	30	16	83	2234	483	1.6	3.6	4	15	2.3	26794
	146	Low		1.1	0.7	0.5	1.0	1.6	0.9	0.5	0.3	0.2			

Saturation Extract Values						SAR	Gravel %		Percent of Sample Passing 2 mm Screen					USDA Soil Classification	Lab No.
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO <sub>4</sub> meq/L		Coarse 5 - 12	Fine 2 - 5	Sand			Silt .002-.05	Clay 0-.002		
								Very Coarse 1 - 2	Coarse 0.5 - 1	Med. to Very Fine 0.05 - 0.5					
18.6	10.1	5.2	0.5	0.25	24.3	1.4	13.9	18.0	13.2	14.4	28.7	21.3	22.3	Gravelly Sandy Clay Loam	26794

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m), Boron (B), Sulfate(SO<sub>4</sub>), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

\* LOW , SUFFICIENT , HIGH