

Greens Renovation- Straight Sand Selection
Data Collection Report
Soil & Water Consulting



CanyonGate Country Club



CANYONGATE CC: GREEN #11



GREENS		Green #11 Core sample	Proposed sand Mesquite, NV	Current Topdressing Indio, CA	<u>USGA Recommendations</u>
	Clay	0.60	0.40	1.30	<= 3.0%
	Silt	1.80	1.40	0.40	<= 5.0%
	Sand	97.60	97.70	98.30	94 - 100%
	Gravel	0.00	0.50	0.00	
	Organic Material	0.78	0.15	0.17	
	<u>Sieve #:</u>				
	Fine Gravel 10	0.00	0.50	0.00	2.0mm <= 3.0%
	Very Coarse Sand 18	7.30	8.90	6.00	2.0mm + 1.0mm <= 10%
	Coarse Sand 35	32.80	30.40	42.90	
	Medium Sand 60	35.90	40.00	34.10	0.5mm + 0.25mm >= 60%
	Fine Sand 100	15.90	12.70	10.60	0.15mm <= 20%
	Very Fine Sand 140	4.30	3.90	3.20	0.106mm + 0.053mm <= 5.0%
	Very Fine Sand 270	1.40	1.80	0.90	
	Infiltration Rate	2.3"	32"	56.5"	>6 inches per hour



RECOMMENDATIONS



SOIL and WATER CONSULTING

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Re: Greens Sand selection

Dear Zac,

As you can see from the data, the Mesquite sand does not meet USGA recommendations. However, this is a sand I am unfamiliar with in your area and more than one sample collection may prove that this sand would meet USGA recommendations.

If there are no written specifications for this project's greens mix then I believe the straight sand must at least meet USGA guidelines. Also, a source of Organic material should be selected as well as what percentage of sand and Organic material will be in the mix. It is then that the lab can precisely make a mix of the chosen sand and Organic material to a precise ratio (90/10 for example) and then you can take that to a producer/blender to give them your standards for production.

In this report I took the core sample data we collected from #11 green several years ago (part of the SNGCSA Research project) and compared it to your current topdressing sand and the sample you just collected in Mesquite. I think this Mesquite sand is similar in the Very Fines sand fractions to what is in the greens now. I am not sure that you would be "trading up" by using this sand. Also, before I would recommend this sand I would want to see what the infiltration rate falls to with Organic material in the mix and I would want to find out the depth that the sand will work at in the greens. (there is a test to do for that. It doesn't make sense to do that test on straight sand)

There are also other key questions to ask any potential sand supplier:

1. Can they supply you the amount when needed. (trucking, etc)
2. Can they blend materials for you. (on site or at their plant)
3. Do they have at least a 3 year supply of the product. (you will want to top-dress with the same sand that you select for approximately 3 years)

Finally, because this sand is an unknown product for greens construction in your area, a program for quality control testing prior to shipment of the mix to CanyonGate CC is of the utmost importance!

If you have any further questions, please contact me. Thank you.

Sincerely,

Corey Angelo

Soil and Water Consulting