

## Facility Adoption of Cultural Practices BMP's

At Val Halla, multiple types of cultural practices are done throughout the year in order to maintain not only ideal playing conditions but healthy plants and soils as well. These practices consist of many different types of aeration, cultivation, drainage and amending. The main goal is to improve the nutrient uptake of existing turfgrass, relieve compaction, increase infiltration and the O<sub>2</sub>/CO<sub>2</sub> exchange in soils. All of these practices are outlined below.

### Hollow/Core Tine Aeration

This process uses 1/2"-3/4" hollow tines to remove a 3-4" plug of soil from the ground. These plugs are then cleaned up (removed), sand is applied to the area (topdressing) and is then worked into the holes by brushes and drag mats. This form of aeration removes organic matter (thatch) from the soil profile and provides many other benefits as well. It relieves compaction (to help with root development), allows us to remove heavy soils and replace them with material that significantly improves drainage (sand) and also creates a new seed bed when overseeding.



### Solid Tine Aeration

The use of solid tines to aerate allows for the same benefits of core aeration (relieves compaction, opens channels for adding sand to the soil profile, improves drainage and provides a seed bed). Since there are no plugs to clean up, this process is much quicker than using hollow tines, however there is no organic matter removed using this process.



### Needle Tine Aeration

Unlike hollow and solid tine aeration, this type of aeration uses significantly smaller diameter “needle” tines - often referred to as pencil tines. This form of aeration is used primarily in season with the purpose of relieving compaction, venting (allowing noxious gases to escape the root zone and oxygen to enter) and increase water infiltration. It is the primary form aeration on the putting greens in-season, as there is very minimal disruption to the putting surface.



### Deep Tine Aeration

Providing the same benefits as needle tines, deep tine aeration uses slightly larger and significantly longer tines to reach depths of 12-14”. This process dramatically improves drainage and water infiltration while loosening the soil to a greater depth than conventional tines (3-5”). Creating these deep channels also makes it easier for roots to “dive” deeper into the profile. Longer roots allow for more carbohydrate storage and help the plant get through stressful times of the year (summer and winter).

