

Nantucket Public Schools Campus Athletic Improvements

Comparative Costs – Natural Grass / Synthetic Turf Fields

General/Assumptions:

The assessment period is 25 years – extending over two synthetic turf cycles.

The two fields [either natural grass or synthetic turf] are assumed to total approximately 85,000SF each.

Generally, the playing capacity of a synthetic turf field is assumed to be two times what a natural grass field can safely provide.

The natural grass field is assumed be constructed as an amended topsoil, irrigated field. A sand-based system [more expensive] is not included in this comparison. The field's initial grass development is assumed to be a bluegrass/fescue/ryegrass blended sod. The current fields are supplied from Town water, which is included in the overall maintenance costs of each field. Therefore, the irrigation costs do not include the cost of a new water supply well. Standard maintenance equipment is included in overall costs, including mowers, tractors, and miscellaneous equipment.

The synthetic turf field construction is assumed to be constructed including concrete perimeter anchor curb, stone base with perimeter/collector pipe drainage, flat drain panels, an underlayment 'shock' pad, a blended turf fabric product with woven backing, and organic infill similar to BrockFill. Maintenance equipment, including groomers and sweepers, are included in the field overall costs.

No support facilities are included in this assessment for either field, including fencing, gates, lighting, spectator viewing areas, security, audio systems, etc.

The current maintenance activities are based on current maintenance activities [as confirmed by Grounds personnel] and include mowing, striping/painting, trimming, two aerations per year, four applications of fertilizer, one application of grub control, and one overseeding/resodding operation each year. The expanded field maintenance costs are based on an increase in maintenance activities to bring maintenance activities to highest level of natural grass maintenance, and include monthly deep tine/core aeration with two topdressing applications, two additional overseeding/sodding operations and three additional fertilizations per year.

Maintenance costs are based on current practices, and are also compared to the competitive bids recently received for the basic maintenance of other natural grass fields in Nantucket [Nobadeer, Delta, and Tom Nevers fields]. The bid for the maintenance of these fields totaled \$1.4M for a period of three years of maintenance.

Hourly wages/costs for all maintenance services are established at \$75 per hour.

Amended Topsoil Natural Grass Field Costs:

Initial Field Construction:	\$ 1,300,000.
[Borrow topsoil, amendments, sod]	
Irrigation Water costs [\$1000/year]:	\$ 25,000.
Maintenance Equipment:	\$ 80,000.
Current Level of NPS Maintenance Activities	\$ 918,750.
[est. 490 hours/year for 25 years]	
Irrigation System Maintenance [subcontract]	\$ 75,000.
[\$3,000 / year for 25 years]	
Topdressing/Oversodding [subcontract]	\$ 750,000.
[\$30,000 / year for 25 years]	
Expanded Maintenance Activities	
[\$44,000 / year for 25 years]	\$ 1,100,000.
TOTAL ESTIMATED COSTS PER FIELD (25 YEARS)	\$ 4,248,750

Assuming 1000 hours of field usage/year [with the highest Level of Maintenance] =
\$169.95/hour of use

Synthetic Turf Field Costs:

Initial Field Construction:	\$ 2,100,000.
[base construction, drainage stone, pad, turf, infill]	
Specialized Maintenance activities [subcontract]:	\$ 30,000.
[estimated every 4 years – 6 total]	
Turf Maintenance Activities [NPS personnel]	\$ 210,000.
[est. 112 hours/year for 25 years]	
Infill Topdressing supplies/subcontract	\$ 75,000.
[\$3,000 / year for 25 years]	
Replacement Turf Installation @ \$9/SF	
[including recycling of initial turf]	\$ 765,000.
TOTAL ESTIMATED COSTS PER FIELD (25 YEARS)	\$ 3,180,000.

Assuming 2000 hours of field usage/year = \$63.60 / hour of use: