

**Subject:** Follow-up discussion on synthetic turf fields.

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**Turf Infill:** The bullet points below detail the County’s current process for turf infill.

- The original synthetic fields used a grass “carpet” with a recycled rubber infill to create the playing surface.
  - *Note:* On April 16, 2024 the EPA released a multi-agency research report on rubber infill and did not note any significant differences between synthetic fields and natural grass fields for certain chemicals. <https://www.epa.gov/chemical-research/tire-crumb-exposure-characterization-report-volumes-1-and-2>
- Due to perceived concerns over health issues potentially associated with the recycled rubber material, the County several years ago switched to using a “virgin” rubber infill. The advantage to this material is that it does not have a previous use that would bring it into contact with any contaminants.

**Hot Fields:** An issue associated with crumb rubber infill is the increased temperatures found on synthetic fields. To combat the heat island effect of rubberized infills in synthetic fields, the County is testing a newer infill product, which is a plant-based organic infill.

- Whereas rubberized infills do not retain moisture, organic infill materials do retain moisture which has a natural cooling effect for the fields.
- DPR is testing an organic infill at Washington-Liberty High School and Williamsburg Middle School.
- The organic infill being tested by the County is coconut-based and sourced exclusively from pesticide-free crops and blended using natural processing methods and is organic, odor-free and nontoxic.
- The main benefit of this infill is that the ambient temperature of a synthetic turf field is only a few degrees warmer than the air temperature.
- Comparisons between fields with organic infill and the original rubber infill have decreased about 30 degrees in limited measurements taken to date.
- DPR is planning on expanding use of organic infill in the turf replacement for the stadium field at Yorktown High School and possibly future projects like Kenmore Middle School.
- Organic turf infill has a slightly higher cost of installation and replacement.

**Storm Water:** Natural grass and synthetic fields handle stormwater in different ways.

- In ideal health and with limited use that limits compaction, natural grass fields will absorb rainwater and filter it through the field. However, with the large number of hours played on Arlington’s fields, most fields are highly compacted which creates a barrier to infiltration, with the result being sheet flow of stormwater across the field and unmanaged. This is seen in water channels and ponding both on the fields and in the areas adjacent to the fields.
- Synthetic fields are highly engineered stormwater systems to manage rainfall. Synthetic turf is a permeable “carpet” that is placed on top of layers of gravel that either allows the water to hold and then percolate into the ground below the field or has a built-in drainage system that is connected to bio-retention facilities which then filter and absorb the water.