



**WESTTOWN SCHOOL – OAK LANE PROJECT
STORMWATER MANAGEMENT NARRATIVE
FOR CONDITIONAL USE APPLICATION**

The Westtown School's Oak Lane Project is located within two watershed areas, the East Branch Chester Creek (TSF-MF stream classification) and an unnamed tributary to East Branch Chester Creek. An in-depth geotechnical investigation was performed to determine the infiltration capacity of the onsite soils. It was determined that infiltration is generally feasible on the site and as such a combination of infiltration BMPs will be implemented to comply with the applicable ordinance and NPDES Permit requirements for rate control, volume control and water quality.

The proposed stormwater management system will employ the following features/BMPs:

- (2) Subsurface Infiltration Beds to control runoff from the proposed synthetic turf surfaces
- (2) Conventional (surface) Infiltration Basin(s) to de-peak the rate of discharge and reduce runoff volume from the remaining disturbed areas on site.

A general description of the site drainage patterns, and the proposed stormwater management system is as follows:

Runoff from the eastern and southern portions of the project site, to include the proposed synthetic turf fields and the existing grass fields will flow to the southeast towards the unnamed tributary to East Branch Chester Creek. Precipitation that falls on the proposed synthetic turf fields will drain through the turf surface and into the underlying stone base where it will be stored and infiltrated. During large storm events, the excess volume will overflow into an infiltration basin located in the southeastern corner of the project area. Runoff from the majority of the remaining disturbed area within this watershed will flow overland and/or via storm sewer to the infiltration basin as well.

Runoff from the proposed parking area will flow west/southwest where it will be directed to an above ground infiltration basin. The basin will discharge to an existing roadside swale which ultimately discharges beneath Westtown Road to the East Branch Chester Creek.

Implementation of the proposed PCSM BMPs will reduce the post development runoff volume to the receiving watercourses for all storms up to and including the 2-yr/24-hr event and will also reduce the rate of runoff for all storms up to and including the 100-yr/24-hr event. The combination of volume/rate reduction and inclusion of vegetated BMPs will provide water quality benefits to the receiving watercourses both by reducing the potential for erosion and through infiltration of "first flush" runoff.