CEDARVILLE
Engineering Group, LLC
Sustaining Communities by Design

February 22, 2017

Westtown Township Board of Supervisors
Attn: Rob Pingar, P.E., Township Manager
1039 Wilmington Pike
West Chester, PA 19382

RE: Conditional Use Application Review
Crebilly Farm
Westtown Township, Chester County, PA
WTT-17-065

Dear Members of the Board,

As you are aware, Westtown Township has been under the permitting regulations of the Federal National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) since 2003. The basis of the permitting requirements administered by the Pennsylvania Department of Environmental Protection (PA DEP) is authorized by the Federal Clean Water Act of 1972 and supported further by the Pennsylvania Clean Streams Law. During the initial phase of the permitting program, the Township's responsibilities were to identify the infrastructure owned and maintained by the Municipality; to develop an inspection schedule; identify pollution sources; create good housekeeping protocols; educate the general public on the importance of the program; and the commitment to uphold the erosion and sedimentation control regulations from Chapter 102 of the Pennsylvania Code.

Westtown Township is required to submit a Pollutant Reduction Plan (PRP) with the 2018 NPDES MS4 Individual Permit Application to reduce sediment pollution to all waters impaired for sediment in which the Township has at least one (1) regulated MS4 outfall discharging to it. The PRP is required to demonstrate that a minimum of ten (10) percent reduction in sediment pollutant loading will be achieved in the five (5) year permit term.

Our review of the Township's mapping and the PA DEP MS4 Requirements Table (last revised 2/8/2017) indicate that the following receiving waters are listed as impaired for sediment on the Section 303(d) List in the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report and will be included in the PRP:

- Radley Run and Unnamed tributaries (UNTs)
- UNTs to Plum Run
- Chester Creek
- East Branch Chester Creek and UNTs
- Hunter Run and UNTs
- Westtown Run
- Ridley Creek

In order to meet the required pollutant reductions, the Township will have to undertake stormwater management Best Management Practice (BMP) projects, which may include existing basin retrofits, wetlands creation, and riparian buffer creation. These projects may be on Township-owned land or private land, with an Operations and Maintenance (O&M) agreement in place to identify parties responsible for the long-term maintenance.

CREBILLY FARM

The Crebilly Farm property is located in the northwest corner of West Street Road and Wilmington Pike and has a gross site area of 322.4 acres. Toll Brothers is proposing to construct a 319-unit residential development consisting of two (2) existing homes, 200 single family homes, and 117 townhouses. Internal streets, utilities, stormwater management facilities, landscaping, community recreation facilities, along with other improvements are also proposed.

The project is located entirely within the Radley Run Watershed. Radley Run and its tributaries are classified as a Warm Water Fishery (WWF), per Chapter 93 of the Pennsylvania Code. Radley Run is also listed on the Section 303(d) List as impaired due to the following:

Table 1. Radley Run Impairment Listings

Cause of Impairment	Source of Impairment
Siltation	Urban Runoff/Storm Sewers
Siltation	Agriculture
Water/Flow Variability	Urban Runoff/Storm Sewers

As this proposed development is being considered, we implore the Township to consider this application as having significant impact to the already impaired Radley Run watershed. Urban stormwater runoff has been identified as one (1) of the prime sources of impairment to the stream.

The stormwater management design of the proposed development must meet the requirements of the Westtown Township Stormwater Management Ordinance. Stormwater is proposed to be managed primarily through the installation of infiltration basins. However, any proposed development will contribute to the further impairment of Radley Run.

There are several BMPs that can reduce sediment entering Radley Run, both improving surface water quality and aiding the Township meet its regulatory requirements in the Pollutant Reduction Plan (PRP). BMPs that would be applicable to the Crebilly Farm development include:

- Stream Restoration - An annual mass nutrient and sediment reduction credit for qualifying stream restoration practices that prevent channel or bank erosion that otherwise would be delivered downstream from an actively enlarging or incising urban stream.

  According to the PA DEP BMP Effectiveness Values table, the net reduction of pollutants for this BMP are: 44.88 lb/ft of streambank/year of sediment. The attached map shows approximately 17,000 linear feet (LF) of stream (34,000 LF of total streambank) on the Crebilly Farm property (appx. 4,000 LF for Radley Run and 13,000 LF for its tributaries). While some reaches are stable, there are many reaches that exhibit severe bank erosion and scour. These streams should be assessed for appropriate restoration opportunities. Any stream restoration activities would have significant positive impacts on water quality and meet the goals of its PRP.

- Forested Riparian Buffer - An area of trees at least 35 feet wide on one side of a stream, usually accompanied by trees, shrubs and other vegetation that is adjacent to a body of water. The riparian area is managed to maintain the integrity of stream channels and shorelines, to reduce the impacts of upland sources of pollution by trapping, filtering, and converting sediments, nutrients, and other chemicals. Per the PA DEP BMP Effectiveness Values table, the reduction of sediment is 50% for the volume of water that passes through this buffer.

The development is designed to avoid stream crossings, so these areas are generally not being directly impacted. Per the Overall Open Space Plan dated October 7, 2016, it appears that a buffer is proposed to be maintained as "Natural Areas" around the existing streams and wetlands. We would recommend that the applicant explore ways in which to enhance the proposed buffer with trees and shrub plantings for creating a minimum 35-ft forested riparian buffer around the streams.

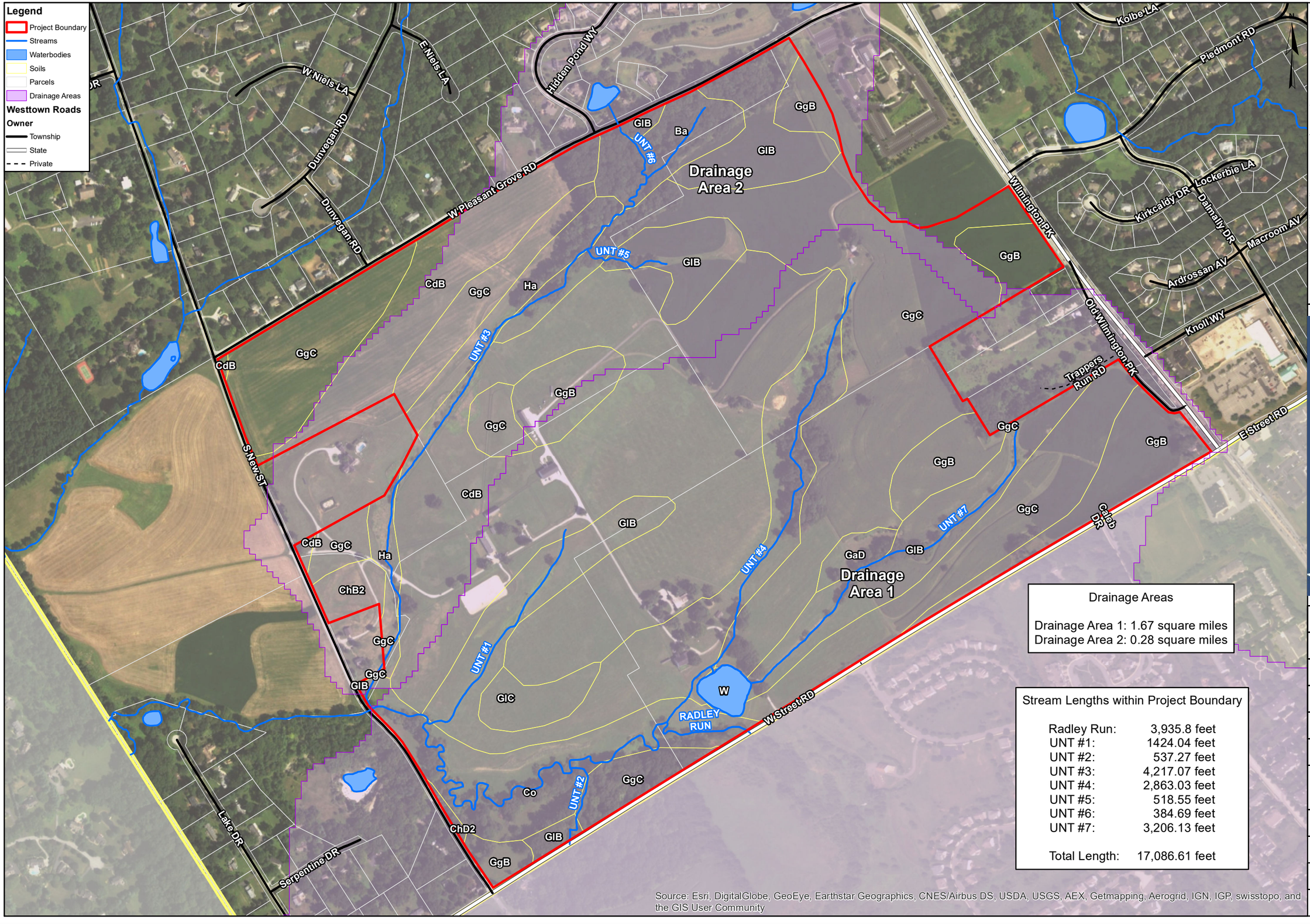
We request the Township consider requiring the Applicant utilize the above-mentioned BMPs for this proposed development by Conditional Use. These BMPs will prevent the further impairment of Radley Run, provide surface water quality benefit, and address the Pollutant Reduction Plan (PRP) requirements. For streambank restoration, the applicant would be required to conduct a stream assessment and complete a restoration design, including applying for and obtaining the necessary PA DEP permits.

The increase in density, change in land cover, and impact of urban/suburban and human activity on the landscape will continue to increase the Township's burden for water quality and quantity mitigation unless projects are designed specifically to address those concerns and obligations. This project offers an opportunity for the partnering with the development community that has historically impacted water resources to be part of the solution and the Township MS4 Program moving forward.

Thank you in advance for your consideration. Please do not hesitate to contact me with any questions.

Best Regards,
CEDARVILLE Engineering Group, LLC

Stephen Dadio
Environmental Manager



NOTES:
1. Parcels and base road layer provided by the Chester County GIS (2016).
2. Stream data obtained from FEMA.
3. Road not identified as Township or State are assumed to be Private.

DISCLAIMER:
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Drainage Areas

Drainage Area 1: 1.67 square miles
Drainage Area 2: 0.28 square miles

Stream Lengths within Project Boundary

Radley Run:	3,935.8 feet
UNT #1:	1424.04 feet
UNT #2:	537.27 feet
UNT #3:	4,217.07 feet
UNT #4:	2,863.03 feet
UNT #5:	518.55 feet
UNT #6:	384.69 feet
UNT #7:	3,206.13 feet
Total Length:	17,086.61 feet

WESTTOWN TOWNSHIP
Chester County, Pennsylvania, United States

Crebilly Farms Proposed Development

WESTTOWN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

Date: 02/21/2017

CEDARVILLE Engineering Group, LLC

CEG Proj #: WVT-16-069

DRAWN BY: HR

0 137.5 275 550 Feet

1 inch = 500 feet