Project Details
Green Infrastructure on School Grounds
For full project proposal – NOT necessary for the letter of interest

Rain and snow flow over streets, roofs, parking lots, and other hard surfaces, before directly entering a storm drain or waterbody. As the water travels, it picks up fertilizer, waste, and other pollutants along the way. The water can flow directly into a storm drain or waterbody, without the opportunity for a water treatment facility or soil and plants to filter out excess nitrogen. A goal of the Long Island Nitrogen Action Plan is to better protect and improve the quality of surface and groundwater by addressing nitrogen pollution on Long Island.

Green Infrastructure refers to a wide array of actions that restore, protect, and imitate the natural water cycle. Green Infrastructure uses soil, vegetation, and other natural resources to better control where rainwater falls and reducing stormwater runoff which can pick up and carry pollutants directly into storm drains and waterbodies. By incorporating natural processes onto school grounds, green infrastructure can play a role in improving water quality on Long Island.

The following are examples of Green Infrastructure that can make an impact in reducing nitrogen pollution on school grounds. Please keep in mind that these are just a few elements and that teams can choose to build off one of the below ideas or create their own Green Infrastructure innovation.

Rain Gardens - Rain gardens are areas of plantings that collect stormwater runoff from roofs, streets, and sidewalks, absorbing the water into the land to reduce stormwater runoffs.

Planter Boxes – Planter boxes are urban rain gardens with vertical walls and either open or closed bottoms that perform the same function.

Green Roofs – A green roof system is the covering of a rooftop with plantings and vegetation that absorbs rainwater before it has a chance to become stormwater runoff.

Permeable Pavement – Many parking lots and sidewalks are built of solid surfaces that do not allow water to infiltrate through, and therefore create runoff. Alternatives to traditional pavement (such as porous asphalt and concrete, interlocking pavers, and plastic grid pavers) can help reduce runoff and filter out pollutants by allowing rain to seep through the surface down to underlying layers of soil and gravel.

Rainwater Harvesting – Rainwater harvesting is the slowing of stormwater runoff by collecting, storing, and reusing rain for landscape irrigation or other uses. Rainwater harvesting systems can capture runoff from small buildings using rain barrels or through larger storage units called cisterns.

Bioswales – Bioswales are narrow channels (such as the space between the road and sidewalk) that consist of plantings, vegetation, and mulch that slow and filter stormwater runoff.

Identifying Current Practices on School Grounds

- What traditional stormwater infrastructures such as drains, pipes, and gutters are currently on school grounds?
- Is the stormwater currently being collected and/or treated?
- Are there any current practices that your school uses to address nitrogen pollution from stormwater?
- Where does the stormwater go? Does it travel off school property, flood certain areas of the school grounds or parking lots?

Collection and Treatment

- How and where could stormwater collection be improved on school grounds?
- How could the current practices of treating stormwater be improved?
- How are these suggestions better for the environment and lead to a reduction in nitrogen pollution?

Green Infrastructure Design

- What is the green infrastructure practice being proposed?
- How does the proposed idea support the goals and objectives of the Long Island Nitrogen Action Plan (LINAP)?
- What specific area of the school grounds will be targeted?
- What materials will be needed to create the green infrastructure (plantings, building materials, etc.)?
- What are the costs involved? And does the benefit of the green infrastructure outweigh the cost involved?
- How will a reduction in nitrogen pollution and stormwater runoff be measured?
- Were any experiments conducted or prototypes developed for your design? If so, please provide details and results.
- If the project team had the ability to install the Green Infrastructure, include the following information:
  - Who would install the infrastructure?
  - What would the timeline be for installation?
  - What is the ongoing maintenance and cost for the project? Who will do the maintenance work in the future?
  - Are approvals or permits needed to install the project?
  - How would the installation of the project benefit the school community?
  - How could the installation be used to educate students about stormwater and nitrogen pollution?

- In what ways could the project be used to increase awareness of nitrogen pollution and the Long Island Nitrogen Action Plan both in school and with the broader community?