



**ENGAGING STUDENTS AND TEACHERS IN  
BUILDING ECOLOGICAL SOLUTIONS TO COASTAL COMMUNITY HAZARDS (BESCCH)**

**Project Site and Scenario: Secaucus  
Tidal Stream Restoration and Enhancement Project**

**Location:** 1 – 45 Meadowlands Parkway  
Secaucus, New Jersey  
Hudson County

**Habitat Type:** Urban tidal wetlands

**Physical Description of Site:** This project involves three critical tidal drainage ditches that were damaged by Superstorm Sandy. Each of these drainage ditches must be cleared of debris, inappropriate vegetation and soils, and then restored to proper flow levels. The removal activities must be performed from the adjacent parking areas and/or upland properties, with minimal disturbance on the surrounding banks and wetlands. **For this Design Challenge you will focus only on Ditch #2.**

**GPS Coordinates:** Latitude 40°47'56.4000"  
Longitude -074°03'57.6000"

**Goals for Site:** The goals for these sites (including ditch #2) include:

- Stabilizing the shoreline;
- Creating or restoring habitat;
- Reducing or managing tidal flood waters;
- Conducting public outreach and education (about the ecological solutions being used on- site); and
- Strengthening or increasing resiliency for the upland area beyond the site.

**Your Design Challenge:** To create a plan (for ditch #2) with ecological engineering design elements that addresses the goals for the site.

**Your Plan Should Include:**

1. What are your solution(s) for stabilizing the shoreline and reducing flooding (against future superstorms, high tides and high winds?) Why did you select these?
2. What are your solution(s) for creating and maintaining shoreline habitat? What plants, animals and ecological conditions will you create and/or consider? Why?
3. What structural features, if any, will you put into place to protect the upland area where human activities are being conducted? Where will these structural features be placed, and why?
4. What types of ecological monitoring practices will you use to study the site (over time) and determine if your resiliency solutions were successful and effective? Why would you use each of these practices?

**Photographs: Secaucus  
Tidal Stream Restoration and Enhancement Project**



**Existing conditions at ditch #2**



**Aerial photograph/map showing showing all three ditches (including ditch #2)**