

**RECONSTRUCTION AND RESILIENCE – STUDENTS PLANNING FOR A SAFER LONG ISLAND**  
**An Engineering & Architecture STEM Hub Regional Industry Council Initiative**

**REQUEST FOR EXPRESSIONS OF INTEREST**

**Project Goals**

The *Reconstruction & Resilience Challenge* has been established by the Engineering & Architecture STEM Hub Regional Industry Council (RIC) to promote project-based learning of Science Technology, Engineering, and Mathematics (STEM) in Long Island's K-12 schools. Members of the Engineering & Architecture RIC include Long Island consulting engineering companies, architectural design firms, representatives from both Counties' Departments of Public Works, and our academic and institutional partners from area schools, the New York Institute of Technology, and Brookhaven National Lab. Engineering & Architecture RIC members recognize the need for greater interaction between the design industry and our schools to generate excitement about STEM learning and stimulate interest in STEM careers.

**Project Objectives**

The Long Island STEM Hub *Reconstruction & Resilience Challenge* will run in parallel with the State's post-Hurricane Sandy *New York Rising Community Reconstruction Program*. Sandy recovery is news as the storm directly affected many of Long Island's students and their families. The STEM Hub *Reconstruction & Resilience Challenge* will engage teachers and their students in the efforts taking place all over Long Island to plan for a more resilient future. Specifically, student teams will focus on how we might make our homes or the homes of our more vulnerable neighbors better able to withstand future storms. Selected student teams will choose a specific *Reconstruction & Resilience Challenge* that is meaningful to them and their community. Schools and their teams are encouraged to explore the [NY Rising Community Reconstruction Program](#) website and specifically the *Guidance for Plans* document available there for project ideas. Final project presentations will be made by students to peers from the other teams and to an industry panel.

**Project Mentors**

Engineering and architecture industry mentors will assist team leaders with technical concepts and resources and will be available to respond to questions. An undergraduate 'mentoring assistant' will be available from the New York Institute of Technology (NYIT) to assist each team with digital research methods and assist the teacher. All communication with mentors will be conducted through a secure network (eg., ED MODO, Big Campus, Schoolology, Sophia) and no direct communication will be permitted between students and mentors. Remote visits between mentors and the teams will be encouraged via conference or video call.

**Request for Expressions of Interest**

The Engineering & Architecture RIC welcomes Letters of Intent (LOI) to participate in the STEM Hub *Reconstruction & Resilience Challenge* for projects that focus on the following topics related to climate change.

1. Improving the safety and/or resilience of private homes.
2. Improving the safety and/or resilience of structures housing vulnerable populations (children, the infirm, the elderly).
3. Improving the safety and/or resilience of whole neighborhoods, including public infrastructure.



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**Expectations and Recognition**

The final project submission may be a presentation, video, report, model, device, or other submission as agreed upon by the school and mentor. At the completion of the project, the Engineering & Architecture RIC will recognize selected teams for *innovation, oral and digital communication, sustainability, collaboration*. The recognition event format and potential award types will be announced soon after the project start.

**Eligibility**

Any NYS accredited public educational institution in Nassau or Suffolk County that serves students in grades K-12 is eligible to submit a LOI. Each school may submit up to two teams of any size. Final presentations, however, will be limited to 6-10 students per team. Schools should identify a faculty lead for each team or one lead for both teams. Schools are encouraged to create collaborations with other schools in the district or across districts. For example, schools in north shore communities that experienced limited direct impacts from Hurricane Sandy may benefit from collaboration with south shore schools whose students experienced the storm more directly. The Engineering & Architecture RIC will select this school year's participating teams.

**Schedule and Due Dates**

October 4, 2013:	Letter of Intent due
October 11, 2013:	Participants notified regarding acceptance into the Challenge
November 1, 2013:	Project starts
November 15, 2013:	Project details and mentor needs identified
February 14, 2014:	Classroom work completed and project submitted
March 2014:	Project presentations (date TBD)

**Submission Requirements**

Letters of Intent (LOI) are due October 4, 2013 and should be signed by the principal or district administrator and submitted to David Berg at Cameron Engineering & Associates, LLP at [dberg@cameronengineering.com](mailto:dberg@cameronengineering.com). The LOI should be submitted on institutional letterhead, is not binding, and should include the following: 1) a brief description of the district's STEM Hub programming and the existing programs that will be leveraged for this project, 2) which grades will participate, 3) how students will be selected for participation, 4) the designated faculty representative (including contact information) for the program at the school, and 5) the preferred project focus area.