



**Engineers for a Sustainable World**  
DESIGN • EDUCATE • BUILD

# **Resilient CommUnity Design Challenge**

**2015-2016 Request for Proposals**  
**Rules, Regulations, and Scoring Guide**

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# Resilient CommUnity Design Challenge

## Challenge Brief

Resilience and sustainability refer to a community's ability to handle shocks (socioeconomic or environmental) while not over-consuming available resources or depriving people of their needs. A community requires both physical and socioeconomic infrastructure to thrive, including energy, water, businesses, public spaces, and transportation. Many communities are weak in one or more of these areas, and while higher education institutions may have new ideas for strengthening physical or intangible infrastructure, connecting with community leadership to share these ideas is unfortunately uncommon. At the same time, communities have their own rich histories, and the ideas of academia may not make sense, and may even actively harm, individual communities. Listening to local stories and understanding the current system is part of building a more resilient place.

The idea is to engage students with their local communities and the larger ESW network. Students can put to use their technical skills while also learning throughout the process in an authentic and hands-on way, thereby gaining valuable experience. Students will have the ability to support a unique change locally while allowing all parts of the ESW network to work towards a central topic. This Resilient CommUnity Design Challenge (CommUnity) is the first of the individual programs to support ESW's "Big Idea" of resilient and sustainable communities.

CommUnity teams are challenged to assess the state of a local community around five key topic areas, and propose a specific vision for one area that will improve the overall sustainability and resilience of the community, as well as the quality of life of its residents. Core topic areas teams may examine are energy, food, transportation and public spaces. Teams are strongly encouraged to assess four of the core areas and propose one topic area of local concern (i.e., water in southwestern communities, affordable housing and homelessness, eutrophication from agricultural runoff). Topics of local concern should be

submitted to the challenge organizers for approval.

ESW hopes that participating in this challenge will build bridges between participating teams and their communities that will last beyond this year. It is hoped that these connections will spark new ideas between teams and their local partners that can be carried forward as positive change beyond the life of the challenge. ESW hopes to fundraise to support the specific ideas generated through this challenge, and wants to invest in longer term commitments to the communities where our members live and work.

## Challenge Goals:

- Challenge participants to utilize their technical skills to produce an actionable vision that meets community needs:
- Identify projects to be undertaken with community partners in future years
- Provide students with hands-on educational experience from working with local professionals on real issues faced by that community
- Build lasting relationships between students, community stakeholder groups, and professionals
- Advance ESW's vision locally in various communities and share strategies, lessons learned, and plans at the 2016 Annual Conference.

## Challenge Specifics

The challenge will run from November to April (see Challenge Schedule below). Teams must register with ESW in order to be considered for the challenge prizes. The challenge will then occur in two phases. Over the first three months of 2016, ESW will host three digital sessions with the challenge organizers and professional members to answer questions about the challenge and the format. Interested members and potential teams are encouraged to participate and ask

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questions.

## First Steps/Registration

Teams should start by identifying a local champion involved with one or more community organizations to work with, and submit their initial registration in partnership with staff from partner organizations. The local champion should become a partner in the project who will help ensure continuity and implementation beyond this year. Partners provide points of contact within the community and initial respect from community members. Good partners also have their own sense of what the community needs, in addition to connecting you to local voices. Checklist of criteria are listed below:

- Identify at least one partner (community corporations, NGOs, nonprofits, and neighborhood associations are all good)
- Background information about community (approximately 500 words)
- Team contact name, team member names (which can change)

Registration ends **December 15**. Earlier registration is encouraged both so teams have a longer period of time to build a relationship with their local champion and also to allow the challenge organizers to provide the highest quality assistance to all teams.

## Phase One: Community Resource Survey

Teams will develop a preliminary assessment (2000 words or less) of strengths and weaknesses in each of the infrastructure baseline topics, **food, energy, public space, transportation, and/or a locally important topic**, for the first deliverable. This assessment will serve as a baseline in which to build upon for the final deliverable and show understanding the existing systems in the community. Maps that visualize existing infrastructure or weak areas, representative images, and stories are all encouraged. Teams should aim to think about equity, social and environmental justice, and safety aspects in all areas.

## Checklist of criteria are listed below:

Assessment (<2000 words) that summarizes existing conditions for 4 of the 5 topics. For each topic include:

- Things the community is doing well surrounding this topic
- Gaps in current infrastructure
- Socioeconomic consequences
- Summary of all the topics with visual component encouraged but not required

Teams will be required to submit their Phase One deliverable to the challenge organizers by **February 10**.

## Phase Two: Deep Dive/Pilot Identification

Teams should focus in on one or two topic area(s) in collaboration with partner organization and community members to create one specific project to improve resilience and sustainability in that area. This document should be thought of as a continuation of the interim document. It should address the thought process behind choosing the main topic and why that issue is the most relevant. Teams should consider how their project will affect the local community - positively and negatively, and how you might assess success. The final deliverable – a 2000-3000 word narrative with accompanying visual component – should allow community members and non-locals – as well as technical academics – to understand where the community's infrastructure is at and how the proposed projects would meet local needs and improve resilience and sustainability. Teams should address socioeconomic and environmental justice concerns

Checklist of criteria:

Identify main area of interest and why it was chosen for the project compared to the other topics

Socioeconomic and environmental justice considerations

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An approximate timeline for completion of the project

Budget

Potential project implementation team and stakeholders

Teams are required to submit their Phase Two deliverable to the challenge organizers by **March 25**.

### Phase Three: Presentation

The challenge finalists will be judged at the ESW Annual Conference at UC Berkeley (April 7-10) at which a winner will be announced. Following the conference, a follow-up conversation will be scheduled with the winning chapter and community partner to identify additional resources needed for implementation of the project. ESW is committed to supporting the winning team to ensure a successful outcome.

### Awards & Recognition

Each finalist team (# TBD) will receive \$500-\$1,000 in travel support to the 2016 Annual Conference. In addition, monetary awards will be given to the finalists and the best individual presenter as follows:

<i>1st Place</i>	<i>\$3,000</i>
<i>2nd Place</i>	<i>\$2,000</i>
<i>3rd Place</i>	<i>\$1,000</i>
<i>Best Presenter</i>	<i>\$250</i>

The awards for 1st, 2nd, and 3rd place will be made payable to the student organization that the team is representing. However, the Best Presenter award will be made payable to the individual. Teams receiving funding will also receive the continued support of the ESW Leadership Team to implement the pilot projects identified in Phase II of the challenge. Winning teams will be asked to schedule a conference call with the challenge organizers and their local champion to discuss next steps and implementation within the

month following the conference. Knowledge support and fundraising support will be available to the winning teams and their local partners as appropriate. Winning teams are expected to pursue one or more of their pilots for implementation.

### Challenge Schedule:

November 4th	RFP and challenge information released
November 23rd	Q&A session 1
November 18th	Challenge registration opens
December 7th	Q&A session 2
December 15th	Registration closes
January 6th	First live event: Thinking Bigger, Tackling Socio-economics and Resiliency
February 10th	Second live event: Project Ideation
February 24th	Travel awards to promising teams
March 10th	Third live event: Designing access for all
April 8-9th	Oral presentations and judging
April 11-May 9	Winner will schedule and host call with project team, ESW HQ and community partner for further project development

### Submission Format

Mid-challenge, Phase I, documents consisting of a 2000 word max document that summarizes 4 of the 5 infrastructure baseline topics are due by 11:59pm eastern time on February 10 through a form on the challenge website (exact URL to be provided to teams at a later date). These documents will be evaluated by members of ESW's Leadership Team, as well as

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industry professionals, and academics and the most promising entries will receive funding assistance for students and community members to attend the 2016 ESW Annual Conference. All teams are encouraged to attend, but only a limited amount of funding is available.

Final deliverables will be judged during ESWCon 2016, with narratives submitted beforehand and visual component brought to the event for oral presentation. Finalists will each be given 15 minutes to present, followed by a 10 minute Q&A session from a panel of judges. The final results of the challenge will be announced at the banquet on Saturday evening.

## Challenge Rules

- All communication about contest rules or clarifications should be directed to Leadership Team member.
- Participation is limited to full-time under graduate or graduate students. However, professional mentorship and guidance is highly encouraged and rewarded.
- A maximum of 5 students per team can present at the Annual Conference
- Teams must register using the online registration form found at [eswusa.org/CNC](http://eswusa.org/CNC) no later than December 15th, 2015 11:55 pm ET.
- Only one entry per ESW student chapter is permitted.

Use of this challenge by a faculty member as an assignment in an existing spring term course is strongly encouraged, with a community partner identified and registered in advance of the start of the term.

## External Input & Client Interaction

The proposal must be original and completed by the student team members. However, teams are expected to seek guidance and feedback from industry professionals, local community organizations, and faculty

members with relevant research interests. Teams are also expected to interact with the relevant members of the local governing body to collect the necessary information about the community's existing conditions, as well as the future plans regarding the community's sustainability initiatives. If a community already has some form of a sustainability master plan, teams are encouraged to build upon those plans, rather than copy them directly.

## Scoring Summary (Draft)

### Project Narrative (45 Points Total)

Evidence of Collaboration and Community Involvement	5
Accessible to a Broad Audience	5
Accurately Describes Communities Current State and Need	5
Clear Description of Proposed Project	5
Evidence of Research to Support Proposal	5
Justification of Chosen Project	5
Consideration of Socioeconomic Impact	5
Consideration of Environmental Justice	5
Proper Formatting and word limit	5

### Visual Component (20 Points Total)

Graphic Design / Style	10
Appropriate Quantity of Info	5
Appropriate Use of Graphs and Diagrams	5

### Supporting Documents(15 Points Total)

Budget & Budget Justification	5
Timeline	5
One paragraph "resume" from key members of the project team	5

### Presentation Style (20 Points Total)

Appropriate Reference to Visual Aids	5
Clarity of Explanation	10
Speaking Style and Enthusiasm	3
Within Time Constraint	2