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Section 1: Mission and Summary

The field of civil engineering is changing at an extraordinary rate due to a number of large-scale and impactful disruptors, including rapid advances in technology and major stressors facing the world and, subsequently, the built environment. American Society of Civil Engineers (ASCE) student competitions, and the students who participate in them, must address these disruptors by providing experiential activities which produce civil engineers able to innovatively address “wicked” problems, existing now and could exist in the future. Some examples of identified problems are shown in the NAE Grand Challenge, ASCE Innovation Contest Topics, ASCE Vision 2025, or UN Sustainable Development Goals. Visionary thinking is necessary to develop competitions which are timely, engaging, innovative, exciting, and beneficial to society. Students can play an important role in the development of these competitions.

“Blue Sky” initiatives are commonly intended to bring together interested people to seek out visionary ideas which can be used to stimulate communities, and fields, pursue new directions, or to address “wicked” problems. Those who participate in these activities are unconstrained in their efforts so revolutionary thoughts are developed, presented, and used to stimulate new activities and directions in areas of interest.

This competition will identify visionary ideas to address engineering challenges and explore ideas for long term student competitions which will transform the future of ASCE’s student conferences. The competition will be judged by a panel of industry and educational experts interested in new concepts for large, multi-dimensional student competitions. Other students will participate in the judging by providing input on the marketing product demonstrating the proposed competition. Ideas which can be described as “radical”, “out-of-the-box”, “transformational”, “unconventional”, or “breakthrough” are encouraged. The proposed competition should be carefully thought out, considering all aspects such as ease of hosting and judging, cost, excitement, and adaptability across student chapters and engineering disciplines, as well as consider various types of “deliverables.”

This is expected to be approached as a student team effort and may include interdisciplinary collaborations. The use of advanced technologies, including those from disciplines outside of engineering such as digital design tools and virtual representations, will be welcome to illustrate the ideas.

Your challenge, should you choose to accept it, is to chart the future of ASCE student competitions.

Section 2: Problem Statement

Student Competitions are not only fun, but essential for experiential and advanced learning outside of the engineering curriculum. Competitions can make the difference between seeing education as conceptual and theoretical, and making complex subject matter come alive. Applied learning not only teaches essential management, leadership, and hands-on technical skills but opens the door for opportunities to more thoroughly explore engineering challenges facing our industry.
The competitions of the future could start with **YOUR** ideas! Your challenge is to create a student competition which addresses a challenge facing our industry and the world, expands learning beyond the college curriculum, makes teaching and learning come alive, and serves as an exciting, engaging opportunity for students throughout the planning and development of the project deliverables.

In addition to requiring creativity, imagination and innovation, this contest will emphasize the effective communication of ideas through a variety of means to a wide range of audiences.

We are challenging you to identify a problem, create a competition which engages students to work toward solutions to the problem or issue, write the rules, demonstrate how the competition works, show us what students will do, and how it will be judged, hosted, and effectively marketed.

*You are the inventors, innovators, and imagineers - what will YOUR competition be, how will YOU make it happen, how will YOU determine what is the future, and how will YOU ensure it adheres to appropriate societal and ethical canons?*

### Section 3: Ethics

According to the ASCE Code of Ethics, Canon 5, “Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others”.

In the context of this contest, “unfair competition” may include conduct such as the following:

- Failure to provide proper credit for past teams, plagiarism, or any other false statements concerning the source of material used in the contest;
- Taking other people’s ideas, artwork, or other creative content without permission (for an overview of Intellectual Property Laws, including Trademark and Copyright, visit [https://fairuse.stanford.edu/overview/introduction/intellectual-property-laws/]; and
- Any false or malicious statements about other teams, members, or others involved in the contest.

### Section 4: Eligibility

The teams shall be led by undergraduate and graduate students in good standing with their ASCE student chapter and be National ASCE student members during all or part of the fall through spring of the current competition academic year. Students from other disciplines and backgrounds are welcome to participate.

4.1. **Levels of Competition**

There are two levels of competition: ASCE annual student conferences and a national level. The national level will be conducted virtually, although some teams may be invited to participate in conjunction with other ASCE national events.

ASCE retains the right to use portions or the entirety of any proposed competition for a future student competition.
4.2. Conference Competitions
Only one entry per college or university may compete in the ASCE Blue Sky Competitions Contest. A college or university may compete in only one ASCE student conference. ASCE rules for eligibility are located on the Website: https://www.asce.org/eligibility_for_national_competitions/

4.3. Required Conduct
All participants shall act professionally and respectful at all times. Failure to act appropriately can result in sanctions, disqualification, and loss of invitations to future competitions or national competitions. The inappropriate use of language, alcohol, materials, uncooperativeness, or general unprofessional or unethical behavior will not be tolerated.

ASCE student chapters hosting conferences can invite teams from colleges or universities which do not have ASCE student chapters or from ASCE student chapters assigned to different conferences. Conference assignments are listed in the ASCE Official Register at www.asce.org/offreg, and conference host chapters are listed at www.asce.org/studentconferences.

Winning teams from the student conferences may be invited to a national event to present their ideas.

The student conference host student chapter shall promptly submit the completed official scoring spreadsheet for a conference competition to Student@ASCE.Org. Teams will not be invited to national events until this spreadsheet is received and eligibility is confirmed.

Section 5: Safety

Safety is the highest priority and risk of personal injury will not be tolerated. Judges are empowered to stop and prohibit any activity which is deemed to be hazardous.

Students should use safe practices in any competition test events, proof of concept exercises, or any activities associated with ideas and exercises related to their competition entries and should seek appropriate instruction and supervision as necessary to maintain health and safety.

Section 6: Scoring

This competition relies heavily on YOUR ability to present original, innovative ideas in a clear, professional, engaging, and persuasive manner. Scoring will be based, not only on the competition idea, but also on YOUR approach to presenting YOUR idea to the panel. As with any professional proposal, you control the message you want to convey.

6.1. Recording Data and Submitting Scores
Scoring data shall be recorded for each team which competes. Official judging forms shall be used which will be provided by February 1, 2019 to student conference host schools. The information from the judge’s data sheets are entered into a spreadsheet which tabulates the official results of the competition. Judges data forms shall be retained by the host student chapter for two weeks after the competition.
6.2. Categories of Competition

Categories of the competition shall be overall submission, written proposal, oral presentation, and graphic marketing display. These categories will go into the evaluation for the best submission.

6.3. Overall submission

The overall submission (written proposal, presentation, and marketing product) will be judged on the following elements.

6.4. Creativity and Innovation

The complete submission will be judged for creativity and innovation. This will be judged on this criterion in reference to the idea behind the competition as well as the proposed competition’s ability to engage student participants in submitting entries which demonstrate their own creativity and/or innovation.

6.4.1. Ability to Address a Societal Need

The proposed competition idea will be judged on its ability to address a “wicked” problem, NAE Grand Challenge, ASCE Initiative or Challenge, or other societal challenges or needs. Ideas linked to the focus of an ASCE Institute will also be considered.

6.4.2. Appeal to Students

The proposed competition should have wide appeal to students. Good competitions should be fun, match student’s interests, and provide a “wow” factor. To demonstrate appeal, entries may share results of testing, surveying, demonstrations, proof of concept, etc. A crowdsourced vote during the Student Conference Level of Competition will be part of the scoring.

6.5. Competition Proposal

The proposal will be judged for its thoroughness and completeness as it describes and explains the proposed competition. The proposal must address the following elements:

- Executive summary,
- Overall idea of competition,
- List how competition ties into or supports any ASCE Institute or Initiative, NAE Grad Challenge or a “wicked” problem,
- Explanation of how it requires innovation or creativity by participating teams,
- Discussion how it will appeal to students—share results of testing, surveying, demonstrations, proof of concept, etc.,
- Anticipated educational value,
- Discussion of resources to participate, is it accessible to all chapters and programs?,
- Explanation of how it is judged,
- Discussion of resources required to host,
- Explain how it fits into a regional conference- national championship format, and
- Appendix with rules.

Proposals should also include:

- Discussion of how this competition takes advantage of modern technology.
- How is this competition unique or related to other past or present competitions.
This written proposal is an opportunity for the team to demonstrate the thought process used for the development of their competition idea. Teams are encouraged to use the written proposal to completely discuss any aspects of their proposed competition which address the problem statement and goals of the competition.

The body and appendices of the written proposal shall be presented on white 8 ½ in. by 11 in. pages in portrait orientation. No background images or watermarks are permitted behind the text in the body or appendices of the paper. Appendix (if used) cover sheets are permitted but are not required. No blank pages shall be inserted into the proposal. All pages of the proposal and appendices shall maintain a minimum of ½ in. margins on all sides.

Body text shall be in English and use 12-point, normal width character spacing, Times New Roman or Arial font, and be at least single spaced. Section headings and subheadings may be of any legible font type or size. The hard copy of the proposal shall consist of a single-sided cover, single-sided pages for the body and appendices (if used), and a back cover.

Body pages, except for the Table of Contents and Executive Summary, shall be numbered beginning with the number one (1). The Table of Contents and Executive Summary shall be numbered with lowercase Roman numerals i and ii, respectively. Pages located in the appendices shall be numbered in such a way that the appendix and page number are clearly listed (e.g., A-1, A-2, B-1, B-2; A1, A2, B1, B2; etc.) as appropriate.

Captions for figures and tables shall be used and shall be no less than 10-point, normal width, and any legible font type. Items such as page numbers, logos, images/designs, section headings, etc. may be incorporated into the header and footer of the pages and are not subject to the font requirements of the body text. The header and footer may be located within the margin itself (i.e., outside of the body text limits).

6.6. Presentation and Interview
A presentation and interview on the approach and theory behind the development of the proposal shall be delivered to an evaluation panel. This will be followed by questions from the panel. Teams are encouraged to use presentation technology as part of this presentation.

An oral presentation of up to ten (10) minutes shall be required for each participating school. All presentations shall be conducted in a professional manner (defined as a presentation which a professional engineer would give to a prospective client). Teams are encouraged to be entrepreneurial in conveyance of their ideas for the proposed competition. Oral presentations shall be presented in English. Teams may use PowerPoint or other appropriate tools in the development of their presentation. Presentation order shall be randomly selected before the competition begins and shall be provided no later than the time of on-site registration. The oral presentations, including the question and answer periods, shall be open to the public for viewing. An additional ten (10) minute period shall be permitted for judges’ questions immediately following the oral presentation. Questions are not to be permitted by members of the audience. The time required to set up equipment shall and take down shall not exceed five (5) minutes each.
As part of the presentation, teams may provide video, props, or physical displays to provide a better understanding or provides additional insight into of the proposed competition idea. Students should consider a smooth transition between any PowerPoint (or other presentation software) and other components of their presentation to maximize use of the allotted time.

6.7. Marketing Product
Each team will create an innovative means to market their competition idea. The marketing item shall clearly convey the intent, excitement, innovation, sense of the competition, and plans for the competition. The target audience is your fellow students!

The marketing material shall be limited to the following dimensions:

- Flat with dimensions of 24” x 36”
- Single sided
- Written in English

Sponsors may be recognized on a separate poster. If English is not the dominant language where the competition is conducted an optional translation poster may be provided.

6.8. Best Submission Scoring
- The score for the overall submission will be 25% of the total, based on the proposed competition’s WOW factor (https://dictionary.cambridge.org/us/dictionary/english/wow-factor).
- Written proposal will be 30% of the total score.
- Presentation and Interview will be 30% of the total score.
- Marketing product will be 15% of the total score.

Each category will receive a score based on evaluation by the judges.

Section 7: Scoring

The host student chapter will recruit judges, 3 to 5 is recommended. The judging panel should include educators and professionals, and individuals with knowledge of students and student activities. Judges have authority over conduct of the competition as well as interpretation of the rules. The host chapter will ensure all judges are fully informed of the rules and procedures and are fully equipped to complete their tasks.

The students are encouraged to use innovative and broad-based ideas in the development and portrayal of the proposed competition. Judging should consider the innovative nature of the completeness and presentation of the ideas. Scoring should address this innovation along with consideration of the applicability across schools with varying capabilities, ability of schools to host the competition, and ease of judging the competition should be considered. In addition, innovative use of technology and other methods of demonstrating the proposed competition should be considered.
Section 8: Host School Requirements

There are three elements of this competition – evaluation of the competition proposal, judging of the marketing product, which includes student peer review of the marketing product, and the presentation of the proposed competition to an evaluation panel. Host schools are required to accommodate these elements.

8.1. Evaluation of Proposal

The student teams are required to submit a written proposal. The host school should set deadlines for these submissions far enough in advance of the conference to allow judges to adequately and fairly evaluate the proposals.

8.2. Presentation of Marketing Product

The presentation of the marketing product should occur at the same time as other display competitions, such as concrete canoe. The host school should provide sufficient space for the school to convey their idea.

8.3. Presentation and Interview

The student teams are encouraged to develop an innovative means of presenting their product to an evaluation panel. Host schools should provide an auditorium or large classroom for this presentation. Schools should also provide a means for PowerPoint (or other presentation software), as well as other multimedia presentations.