Template for Preparing Your Submission to the American Society Of Civil Engineers (ASCE)

Giuseppe Degan Di Dieco[1], Author Two[2], and Author Three[3]

[1]First affiliation address, with corresponding author email. Email: author.one@email.com

[2]Second affiliation address

[2]Third affiliation address

ABSTRACT

The abstract should be a single paragraph (150-175 words long) written in plain language and include a summary of the key conclusions of the manuscript. It should clearly state the purpose of the work, the scope of the effort, the procedures used to execute the work, and major findings. The abstract is the second most important online search discovery element, after the title. Authors should review the abstract to ensure that it accurately reflects the revised paper and should strive to include any applicable keywords that would likely be used during an online search. Mathematics and references are not permitted in the abstract and will be removed by the copyeditors.

INTRODUCTION

This template and class file "`ascelike-new.cls`" produce manuscripts that comply with the guidelines of the American Society of Civil Engineers (ASCE). It has been produced by Overleaf in conjunction with the ASCE, and is based on the unofficial "`ascelike.cls`" developed by Matthew R. Kuhn.

This template provides guidance on how to prepare your manuscript according to the ASCE requirements, including details on how to use various LaTeX commands to achieve the appropriate formatting. Additional template options are given in Appendix II. If you have any questions about

this template, or need help with LaTeX, please contact Overleaf who can provide assistance as required.

Once your work is complete, please use the "Submit to ASCE" option in Overleaf to select the appropriate journal for your manuscript and follow the instructions to complete your submission.

For more information on the ASCE, and to access additional resources for authors, please visit the ASCE Library website.

PREPARING YOUR MANUSCRIPT

Length

For most ASCE journals, the maximum length for technical papers and case studies is 30 double-spaced manuscript pages including references, figures, tables, and captions; 7 double-spaced manuscript pages for technical notes; and 4 double-spaced manuscript pages for discussions and closures. The editor may waive these restrictions to encourage manuscripts on topics that cannot be treated within these limitations. See the "Publishing in ASCE Journals: A Guide for Authors" for information on other article types.

General Flow of the Paper

Sections of the article should not be numbered and use word headings only. Article sections should appear in the following order:

- Title page content (includes title, author byline & affiliation, abstract)
- Introduction
- Main text sections
- Conclusion
- Appendix(es)
- Data Availability Statement
- Acknowledgments
- Disclaimers
- Notation list

- Supplemental Materials
- References

Title

Titles should be no longer than 100 characters including spaces. The title of a paper is the first "description" of a paper found via search engine. Authors should take care to ensure that the title is specific and accurately reflects the final, post-peer reviewed version of the paper. Authors should try to include relevant search terms in the title of the paper to maximize discoverability online. Titles should not begin with "A," "An," "The," "Analysis of," "Theory of," "On the," "Toward," etc.

Author Bylines

Under the title of the manuscript, the full name of each author and his or her affiliation and professional designation, if applicable, must be included. The following academic and professional designations are currently acceptable for all journals: Ph.D., Dr.Tech., Dr.Eng., D.Sc., Sc.D., J.D., P.E., S.E., D.WRE, Hon.D.WRE, D.GE, D.CE, D.OE, D.PE, D.NE, NAE, DEE, P.Eng., CEng, L.S., P.L.S., G.E., P.G., P.H., RA, AICP, and CPEng.

Former affiliations are permissible only if an author's affiliation has changed after a manuscript has been submitted for publication. If a coauthor has passed away, include the date of death in the affiliation line. Any manuscript submitted without a separate affiliation statement for each author will be returned to the corresponding author for correction.

Gender-specific Words

Authors should avoid "he," "she," "his," "her," and "hers." Alternatively, words such as "author," "discusser," "engineer," and "researcher" should be used.

Footnotes and Endnotes

Footnotes and endnotes are not permitted in the text. Authors must incorporate any necessary information within the text of the manuscript.

Exception - Endnotes are only permitted for use in the *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*.

SI Units

The use of Système Internationale (SI) units as the primary units of measure is mandatory. Other units of measurement may be given in parentheses after the SI unit if the author desires. More information about SI units can be found on the NIST website.

Conclusions

At the end of the manuscript text, authors must include a set of conclusions, or summary and conclusion, in which the significant implications of the information presented in the body of the text are reviewed. Authors are encouraged to explicitly state in the conclusions how the work presented contributes to the overall body of knowledge for the profession.

Data Availability Statement

When submitting a new and revised manuscript, authors are asked to include a data availability statement containing one or more of the following statements, with specific items listed as appropriate. Please include one or more of the statements below, deleting those which do not apply. This section should appear directly before the Acknowledgments section.

- Some or all data, models, or code generated or used during the study are available in a repository online in accordance with funder data retention policies (provide full citations that include URLS or DOIs)
- Some or all data, models, or code used during the study were provided by a third party (list items). Direct requests for these materials may be made to the provider as indicated in the Acknowledgements.
- Some or all data, models, or code that support the findings of this study are available from the corresponding author upon reasonable request (list items).
- Some or all data, models, or code generated or used during the study are proprietary or confidential in nature and may only be provided with restrictions (e.g. anonymized data) (List items and restrictions).
- All data, models, and code generated or used during the study appear in the submitted

article.

- No data, models, or code were generated or used during the study (e.g., opinion or data-less paper).

Please also see the guidelines at: https://ascelibrary.org/page/dataavailability.

Acknowledgments

Acknowledgments are encouraged as a way to thank those who have contributed to the research or project but did not merit being listed as an author. The Acknowledgments should indicate what each person did to contribute to the project.

Authors can include an Acknowledgments section to recognize any advisory or financial help received. This section should appear after the Conclusions and before the references. Authors are responsible for ensuring that funding declarations match what was provided in the manuscript submission system as part of the FundRef query. Discrepancies may result in delays in publication.

Mathematics

All displayed equations should be numbered sequentially throughout the entire manuscript, including Appendixes. Equations should be in the body of a manuscript; complex equations in tables and figures are to be avoided, and numbered equations are never permitted in figures and tables. Here is an example of a displayed equation (Eq. 1):

$$E = mc^2 \ . \tag{1}$$

Symbols should be listed alphabetically in a section called “Notation” at the end of the manuscript (preceding the references). See the folliowing section for more details.

Notation List

Notation lists are optional; however, authors choosing to include one should follow these guidelines:

- List all items alphabetically.

- Capital letters should precede lowercase letters.
- The Greek alphabet begins after the last letter of the English alphabet.
- Non-alphabetical symbols follow the Greek alphabet.

Notation lists should always begin with the phrase, "*The following symbols are used in this paper:*"; acronyms and abbreviations are not permitted in the Notation list except when they are used in equations as variables. Definitions should end with a semicolon. An example Notation list has been included in this template; see Appendix I.

Appendixes

Appendixes can be used to record details and data that are of secondary importance or are needed to support assertions in the text. The main body of the text must contain references to all Appendixes. Any tables or figures in Appendixes should be numbered sequentially, following the numbering of these elements in the text. Appendixes must contain some text, and need to be more than just figures and/or tables. Appendixes containing forms or questionnaires should be submitted as Supplemental Materials instead.

SECTIONS, SUBSECTIONS, EQUATIONS, ETC.

This section is included to explain and to test the formatting of sections, subsections, subsubsections, equations, tables, and figures.

Section heading are automatically made uppercase; to include mathematics or symbols in a section heading, you can use the `\lowercase{}` around the content, e.g. `\lowercase{\boldmath$c^{2}$}`.

An Example Subsection

No automatic capitalization occurs with subsection headings; you will need to capitalize the first letter of each word, as in "An Example Subsection."

An example subsubsection

No automatic capitalization occurs with subsubsections; you will need to capitalize only the first letter of subsubsection headings.

FIGURES AND TABLES

This template includes an example of a figure (Fig. 1) and a table (Table 1).

Figure Captions

Figure captions should be short and to the point; they need not include a complete explanation of the figure.

Figure Files

Figures should be uploaded as separate files in TIFF, EPS, or PDF format. If using PDF format, authors must ensure that all fonts are embedded before submission. Every figure must have a figure number and be cited sequentially in the text.

Color Figures

Figures submitted in color will be published in color in the online journal at no cost. Color figures provided must be suitable for printing in black and white. Color figures that are ambiguous in black and white will be returned to the author for revision, and will delay publication. Authors wishing to have figures printed in color must indicate this in the submission questions. There is a fee for publishing color figures in print.

Table Format

The following is a guide to preparing tables as part of your submission

- Vertical rules should not be used in tables. Horizontal rules are used to offset column headings at the top of the table and footnotes (if any) at the bottom of the table and to separate major sections.
- All columns must have a heading. Each table should have only one set of column headings at the top of the table. Using additional column headings within the body of the table should be avoided.
- Photographs, sketches, line art, or other graphic elements are not permitted in tables. Any table that includes graphics must be treated and numbered as a figure.

- Highlighting and shading are also not permitted and will not be reproduced in print. Boldface font should be used for emphasis sparingly.
- Equations are allowed in the table body, but should be avoided if possible. Numbered equations are never allowed in tables.
- Tables should not be submitted in multiple parts (Table 1a, 1b, etc.). Tables with multiple parts should either be combined into one table or split into separate tables.

FIGURE, TABLE AND TEXT PERMISSIONS

Authors are responsible for obtaining permission for each figure, photograph, table, map, material from a Web page, or significant amount of text published previously or created by someone other than the author. Permission statements must indicate permission for use online as well as in print.

ASCE will not publish a manuscript if any text, graphic, table, or photograph has unclear permission status. Authors are responsible for paying any fees associated with permission to publish any material. If the copyright holder requests a copy of the journal in which his or her figure is used, the corresponding author is responsible for obtaining a copy of the journal.

SUPPLEMENTAL MATERIALS

Supplemental Materials are considered to be data too large to be submitted comfortably for print publication (e.g., movie files, audio files, animated .gifs, 3D rendering files) as well as color figures, data tables, and text (e.g., Appendixes) that serve to enhance the article, but are not considered vital to support the science presented in the article. A complete understanding of the article does not depend upon viewing or hearing the Supplemental Materials.

Supplemental Materials must be submitted for inclusion in the online version of any ASCE journal via Editorial Manager at the time of submission.

Decisions about whether to include Supplemental Materials will be made by the relevant journal editor as part of the article acceptance process. Supplemental Materials files will be posted online as supplied. They will not be checked for accuracy, copyedited, typeset, or proofread. The

responsibility for scientific accuracy and file functionality remains with the authors. A disclaimer will be displayed to this effect with any supplemental materials published online. ASCE does not provide technical support for the creation of supplemental materials.

ASCE will only publish Supplemental Materials subject to full copyright clearance. This means that if the content of the file is not original to the author, then the author will be responsible for clearing all permissions prior to publication. The author will be required to provide written copies of permissions and details of the correct copyright acknowledgment. If the content of the file is original to the author, then it will be covered by the same Copyright Transfer Agreement as the rest of the article.

Supplemental Materials must be briefly described in the manuscript with direct reference to each item, such as Figure S1, Table S1, Protocol S1, Audio S1, and Video S1 (numbering should always start at 1, since these elements will be numbered independently from those that will appear in the printed version of the article). Text within the supplemental materials must follow journal style. Links to websites other than a permanent public repository are not an acceptable alternative because they are not permanent archives.

When an author submits supplemental materials along with a manuscript, the author must include a section entitled "Supplemental Materials" within the manuscript. This section should be placed immediately before the References section. This section should only contain a direct list of what is included in the supplemental materials, and where those materials can be found online. Descriptions of the supplemental materials should not be included here. An example of appropriate text for this section is "Figs. S1–S22 are available online in the ASCE Library (ascelibrary.org)."

REFERENCES, CITATIONS AND BIBLIOGRAPHIC ENTRIES

ASCE uses the author-date method for in-text references, whereby the source reads as the last names of the authors, then the year (e.g., Smith 2004 or Smith and Jones 2004). A References section must be included that lists all references alphabetically by last name of the first author.

When used together, `ascelike-new.cls` and `ascelike-new.bst` produce citations and the References section in the correct format automatically.

References must be published works only. Exceptions to this rule are theses, dissertations, and "in press" articles, all of which are allowed in the References list. References cited in text that are not found in the reference list will be deleted but queried by the copyeditor. Likewise, all references included in the References section must be cited in the text.

The following citation options are available:

- `\cite{key}` produces citations with full author list and year (Ireland 1954).
- `\citeNP{key}` produces citations with full author list and year, but without enclosing parentheses: e.g. Ireland 1954.
- `\citeA{key}` produces citations with only the full author list: e.g. (Ireland)
- `\citeN{key}` produces citations with the full author list and year, but which can be used as nouns in a sentence; no parentheses appear around the author names, but only around the year: e.g. Ireland (1954) states that . . .
- `\citeyear{key}` produces the year information only, within parentheses, as in (1954).
- `\citeyearNP{key}` produces the year information only, as in 1954.

The bibliographic data base `ascexmpl-new.bib` gives examples of bibliographic entries for different document types. These entries are from the canonical set in the ASCE web document "Instructions For Preparation Of Electronic Manuscripts" and from the ASCE website. The References section of this document has been automatically created with the `ascelike-new.bst` style for the following entries:

- a book (Goossens et al. 1994),
- an anonymous book (Moody 1988),
- an anonymous report using `@MANUAL` (Federal 1991),
- a journal article (Stahl et al. 2004; Pennoni 1992),
- a journal article in press (Dasgupta 2008),
- an article in an edited book using `@INCOLLECTION` (Zadeh 1981),
- a building code using `@MANUAL` (International 1988),

- a discussion of an `@ARTICLE` (Vesilind 1992),
- a masters thesis using `@MASTERSTHESIS` (Sotiropulos 1991),
- a doctoral thesis using `@PHDTHESIS` (Chang 1987),
- a paper in a foreign journal (Ireland 1954),
- a paper in a proceedings using `@INPROCEEDINGS` (Eshenaur et al. 1991; Garrett 2003),
- a standard using `@INCOLLECTION` (ASTM 1991),
- a translated book (Melan 1913),
- a two-part paper (Frater and Packer 1992a; Frater and Packer 1992b),
- a university report using `@TECHREPORT` (Duan et al. 1990),
- an untitled item in the Federal Register using `@MANUAL` (Federal 1988),
- works in a foreign language (Duvant and Lions 1972; Reiffenstuhl 1982),
- software using `@MANUAL` (Lotus 1985),
- two works by the same author in the same year (Gaspar and Koenders 2001a; Gaspar and Koenders 2001b), and
- two works by three authors in the same year that only share the first two authors (Huang et al. 2009a; Huang et al. 2009b).

ASCE has added two types of bibliographic entries: webpages and CD-ROMs. A webpage can be formated using the `@MISC` entry category, as with the item (Burka 1993) produced with the following `*.bib` entry:

```
@MISC{Burka:1993a,
  author = {Burka, L. P.},
  title = {A hypertext history of multi-user dimensions},
  journal = {MUD history},
  year = {1993},
  month = {Dec. 5, 1994},
  url = {http://www.ccs.neu.edu}
```

```
}
```

Notice the use of the "`month`" field to give the date that material was downloaded and the use of a new "`url`" field. The "`url`" and `month`" fields can also be used with other entry types (i.e., `@BOOK`, `@INPROCEEDINGS`, `@MANUAL`, `@MASTERSTHESIS`, `@PHDTHESIS`, and `@TECHREPORT`): for example, in the entry type `@PHDTHESIS` for (Wichtmann 2005).

A CD-ROM can be referenced when using the `@BOOK`, `@INBOOK`, `@INCOLLECTION`, or `@INPROCEEDINGS` categories, as in the entry (Liggett and Caughey 1998). The field "`howpublished`" is used to designate the medium in the `.bib` file:

```
howpublished = {CD-ROM},
```

APPENDIX I. NOTATION

The following symbols are used in this paper:

D = pile diameter (m);

R = distance (m); and

$C_{\text{Oh no!}}$ = fudge factor.

APPENDIX II. LATEX TEMPLATE OPTIONS

The document class `ascelike-new.cls` provides several options given below. The `Proceedings|Journal|NewProceedings` option is the most important; the other options are largely incidental.

1. Options `Journal|Proceedings|NewProceedings` specify the overall format of the output manuscript.

   `Journal` produces double-spaced manuscripts for ASCE journals. As default settings, it places tables and figures at the end of the manuscript and produces lists of tables and figures. It places line numbers within the left margin.

   `Proceedings` produces older-style camera-ready single-spaced manuscripts for ASCE conference proceedings. The newer ASCE style is enacted with the `NewProceedings` option.

   `NewProceedings` produces newer-style single-spaced manuscripts for ASCE conference proceedings, as shown on the ASCE website (*ca.* 2013). As default settings, `NewProceedings` places figures and tables within the text. It does not place line numbers within the left margin.

   If desired, the bottom right corner can be "tagged" with the author's name (this can be done by inserting the command `\NameTag{`<*your name*>`}` within the preamble of your document). All of the default settings can be altered with the options that are described below.
2. Options `BackFigs|InsideFigs` can be used to override the default placement of tables and figures in the `Journal`, `Proceedings`, and `NewProceedings` formats.
3. Options `SingleSpace|DoubleSpace` can be used to override the default text spacing in the `Journal`, `Proceedings`, and `NewProceedings` formats.
4. Options `10pt|11pt|12pt` can be used to override the default text size (12pt).
5. The option `NoLists` suppresses inclusion of lists of tables and figures that would normally be included in the `Journal` format.
6. The option `NoPageNumbers` suppresses the printing of page numbers.

7. The option `SectionNumbers` produces an automatic numbering of sections. Without the `SectionNumbers` option, sections will *not* be numbered, as this seems to be the usual formatting in ASCE journals (note that the Appendixes will, however, be automatically "numbered" with Roman numerals). With the `SectionNumbers` option, sections and subsections are numbered with Arabic numerals (e.g. 2, 2.1, etc.), but subsubsection headings will not be numbered.
8. The options `NoLineNumbers|LineNumbers` can be used to override the default use (or absence) of line numbers in the `Journal`, `Proceedings`, and `NewProceedings` formats.

REFERENCES

ASTM (1991). "Standard practice for the use of the international system of units (SI) (the modernized metric system)." *E 380-91a*, ASTM, Philadelphia, Pa.

Burka, L. P. (1993). "A hypertext history of multi-user dimensions." *MUD history*, <http://www.ccs.neu.edu> (Dec. 5, 1994).

Chang, T. C. (1987). "Network resource allocation using an expert system with fuzzy logic reasoning." Ph.D. thesis, University of California, Berkeley, CA.

Dasgupta, G. (2008). "Stiffness matrix from isoparametric closed form shape functions using exact integration." *J. Aerosp. Eng.* in press.

Duan, L., Loh, J. T., and Chen, W. F. (1990). "M-P-f-based analysis of dented tubular members." *Struct. Engrg. Rep. No. CE-STR-90-27*, School of Civ. Engrg., Purdue Univ., West Lafayette, Ind.

Duvant, G. and Lions, J. L. (1972). *Les inéquations en méchanique et en physique*. Dunod, Paris, France (in French).

Eshenaur, S. R., Kulicki, J. M., and Mertz, D. R. (1991). "Retrofitting distortion-induced fatigue cracking of non-composite steel girder-floorbeam-stringer bridges." *Proc., 8th Annual Int. Bridge Conf.*, Engineers' Soc. of Western Pennsylvania, Pittsburgh, Pa., 380–388.

Federal Register (1988). 33(No. 146; July 27), 10756.

Federal Highway Administration (FHWA) (1991). *Evaluating scour at bridges*. Rep., Hydr. Engrg. Circular No. 18: FHWA-IP-90-017, Washington, D.C.

Frater, G. S. and Packer, J. A. (1992a). "Weldment design for RHS truss connections. I: Applications." *J. Struct. Engrg.*, ASCE, 118(10), 2784–2803.

Frater, G. S. and Packer, J. A. (1992b). "Weldment design for RHS truss connections. II: Experimentation." *J. Struct. Engrg.*, ASCE, 118(10), 2804–2820.

Garrett, D. L. (2003). "Coupled analysis of floating production systems." *Proc., Int. Symp. on Deep Mooring Systems*, (CD-ROM), ASCE, Reston, VA, 152–167.

Gaspar, N. and Koenders, M. A. (2001a). "Estimates of the shear modulus of a granular assem-

bly using heterogeneous media techniques." *Powders and Grains 2001*, Y. Kishino, ed., A.A. Balkema, Lisse, 389–392.

Gaspar, N. and Koenders, M. A. (2001b). "Micromechanic formulation of macroscopic structures in a granular medium." *J. Engrg. Mech.*, 127(10), 987–993.

Goossens, M., Mittlebach, F., and Samarin, A. (1994). *The LaTeX Companion*. Addison–Wesley Pub. Co., Reading, Mass.

Huang, Y., Bird, R., and Bell, M. (2009a). "A comparative study of the emission by road maintenance works and the disrupted traffic using life cycle assessment and micro-simulation." *Transportation Research Part D*, 14, 197–204.

Huang, Y., Bird, R., and Hendrich, O. (2009b). "Development of a life cycle assessment tool for construction and maintenance of asphalt pavements." *Journal of Cleaner Production*, 17, 283–296.

International Conference of Building Officials (1988). *Uniform building code*. Whittier, Calif.

Ireland, H. O. (1954). "Stability analysis of Congress Street open cut in Chicago." *Géotechnique*, London, England, 4(4), 163–168.

Liggett, J. A. and Caughey, D. A. (1998). "Fluid statics." *Fluid mechanics*, (CD-ROM), ASCE, Reston, VA, Chapter 2, 167–177.

Lotus 1-2-3 reference manual; release 2.01 (1985). Lotus Development Corp., Cambridge, Mass.

Melan, J. (1913). *Theory of arches and suspension bridges*. Myron C. Clark, Chicago, Ill D. B. Steinman, translator.

Moody's municipal & government manual (1988). Moody's Investors Service, New York, N.Y.

Pennoni, C. R. (1992). "Visioning: the future of civil engineering." *J. Profl. Issues in Engrg. Education and Practice*, ASCE, 118(3), 221–233.

Reiffenstuhl, H. (1982). "Das vorspannen von bewehrung auf druck: Grundsaetzliches und anwendungsmoeglichkeiten [prestressing of reinforcing in compression: fundamentals and application possibilities]." *Beton-und Stahlbetonbau*, Berlin, Germany, 77(3), 69–73 (in German).

Sotiropulos, S. N. (1991). "Static response of bridge superstructures made of fiber reinforced

plastic." M.S. thesis, West Virginia Univ., Morgantown, WV.

Stahl, D. C., Wolfe, R. W., and Begel, M. (2004). "Improved analysis of timber rivet connections." *J. Struct. Eng.*, 130(8), 1272–1279.

Vesilind, P. A. (1992). "Discussion of 'Guidance for engineering-design-class lectures on ethics,' by Richard H. McCuen." *J. Profl. Issues in Engrg. Education and Practice*, ASCE, 118(2), 214–215.

Wichtmann, T. (2005). "Explicit accumulation model for non-cohesive soils under cyclic loading." Ph.D. thesis, Institute for Soil Mechanics and Foundation Engineering, Ruhr-Univ. Bochum, Germany, , <www.rz.uni-karlsruhe.de/~gn97/> (2007).

Zadeh, L. A. (1981). "Possibility theory and soft data analysis." *Mathematical frontiers of the social and policy sciences*, L. Cobb and R. M. Thrall, eds., Westview Press, Inc., Boulder, Colo., 69–129.

List of Tables

1 An example table 20

TABLE 1. An example table

Assembly Attribute (1)	Values (2)
Number of particles	4008
Particle sizes	Multiple
Particle size range	$0.45D_{50}^{*}$ to $1.40D_{50}$
Initial void ratio, e_{init}	0.179
Assembly size	$54D_{50} \times 54D_{50} \times 54D_{50}$
$*$ D_{50} represents the median particle diameter	

List of Figures

1 An example figure (just a box). This particular figure has a caption with more information than the figure itself, a very poor practice indeed. A reference here (Stahl et al. 2004). 22

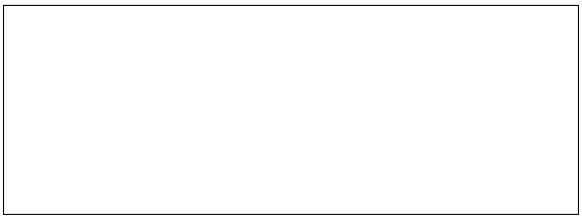

Fig. 1. An example figure (just a box). This particular figure has a caption with more information than the figure itself, a very poor practice indeed. A reference here (Stahl et al. 2004).