

### Criteria for you Full Paper:

- Final papers are to be between 2 and 8 pages in length, including figures and tables. Diagrams, figures, flow charts, and images are highly recommended. Proceedings will be digitally distributed in colour.
- Submissions must be in English, a minimum of 11 point Times New Roman font.
- Manuscripts should conform to the template provided.
- The Oxford English Dictionary is the journal's standard for spelling.
- Documents are to be prepared in Microsoft Word. No pdf documents will be accepted.
- Any graphics included in the document are to separately attached to the final document as jpeg files.
- No headers and footers are to be used.
- Substantial quotations should be indented without quotation marks. Other quotations should be enclosed by single quotation marks. Double quotation marks should be used only as innermost quotation marks within single quotation marks.
- Published works referred to in the text should be in parentheses containing author, date (and page number(s) if necessary).
- Books and journal articles should be listed as follows:

Macpherson, C.B. (1972). *The Political Theory of Possessive Individualism: Hobbes to Locke*. Oxford University Press, London.

Trimble, S. W., Mendel, A. C. (1995). The cow as a geomorphic agent — A critical review, *Geomorphology* 13 (1), 233-253.

For further information about the Full Papers criteria please visit: [www.10asm.org.au/papers](http://www.10asm.org.au/papers)

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- Title – Clyde Creek, how working together pays off
  - A brief synopsis, in the form of 4 dot points (up to 250 words):
    1. *Why did you do it?* – provide context, such as what prompted the work/project/initiative or what was the problem or knowledge gap you were seeking to address?

Clyde Creek, part of Edgebrook Estate in Melbourne has recently been redeveloped to provide run off retention and treatment as well as ecological and aesthetic benefits.

After Civil works were finalised it was noted that sections of the Channel were experiencing higher than intended erosion and deposition. Areas of concentrated flows was encouraging scouring.

The specified biodegradable erosion control matting provided (SureJute Thick) was being “Lifted” and in some areas delaminated by high velocity flows, even during average rainfall events. Water flows in excess of 1.6m<sup>3</sup>/second were being experienced, which is higher than the matting was rated to withhold.

The landscape Contractor (Australian Ecosystems) had concerns that the initial works package may not provide enough scope to satisfactorily prevent ongoing geomorphic changes to the waterway.

2. *What did you do?* – the methodology or process you followed

Australian Ecosystems engaged SureGro TreeMax Australia (Erosion control product Supplier) to provide solutions to issues inherent in narrow stream design, in an Urban setting. The two Organisations worked together to ensure product selection and installation techniques employed were sound and satisfactory to the Client and Statutory Authority.

Australian Ecosystems modified the species list for the channel and banks by increasing the number and diversity of rapid spreading rhizomatous aquatic plants to bind the creekline banks and floor with vegetation over the longer term, complementing other measures taken. The additional protection afforded by the Coir Log arrangements assists in the establishment of the plantings. Species selected included. *Schoenoplectus tabernaemontani* (River Club Rush), *Bolboschoenus medianus* (Marsh Club Rush) and *Lycopus australis* (Australian Gipsywort)

In addition to further strengthening of check dams, susceptible channel banks were further protected with Coir Logs and Coir Matting. Fastened in with a combination of Stakes and wire. Coir logs and matting can withstand the higher rates of velocity.

3. *What have you learned?* – what were the results or outcomes of your work, and how do they relate to the original problem

All parties associated with the Clyde Creek project have a renewed respect for the impact that rainfall can have in development sites. Large catchment areas with high collection rates have direct impacts on the carrying capacity of all waterways, in this case a newly aligned, unstable one. Couple this with restricted room and the need to limit natural meandering and there was a need to increase protections to ensure the successful establishment of Clyde Creek.

4. *Why does it matter?* – reflect on the broader implications of your work and how the learnings from it contribute to the body of knowledge relating to stream management and consider potential opportunities for application of these learnings to other situations

The additional works undertaken by Australian Ecosystems, with assistance from SureGro TreeMax Australia at Clyde Creek demonstrates the benefits that come from partnering in the Natural Resource Management field.

Further, in depth engagement across the board from Authorities, Designers, Landscape Architects, Contractors and Suppliers throughout each stage of the process can really boost efficiencies and overall outcomes of important projects within our Urban and Natural Environments.

- Author and contributor information in the form of a short biography (up to 150 words total)

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