

An Introduction to Sustainable Facilities & Infrastructure

Training Curriculum and Workbook prepared for Air Force Reserve Command Civil Engineering Division, Robins AFB, Warner Robins, GA.

The following documentation describes the objectives and content of the workbook and training materials prepared for this training event. Copies of the workbook are available for purchase from the Sustainable Facilities & Infrastructure Program, Georgia Tech Research Institute, Atlanta, GA. To order the workbook, contact the SFI Program Office at 404-894-8055.

Learning Objectives and Outcomes

The primary objective of this training is to provide an introduction to the concept of sustainability as it pertains to the built environment, along with basic tools and methods for sustainability implementation, assessment and evaluation, and economic analysis. The training consists of three main components: 1) Primer on Sustainable Facilities and Infrastructure; 2) Assessment Tools and Techniques for Sustainable Facilities and Infrastructure; and 3) Economics of Sustainable Facilities and Infrastructure.

Part 1 of the training covers basics of sustainability as it pertains to the built environment. Upon successful completion of Part 1 of the training, participants will be able to:

- Define sustainability as it relates to the built environment
- Identify negative impacts of existing practices in the built environment
- Design a strategy for incorporating sustainability as project objective for facilities and infrastructure projects
- Locate resources for obtaining more detailed information about specific sustainability strategies
- Describe the costs and benefits of sustainability for facility and infrastructure projects

Part 2 of the training deals with assessment tools and techniques for sustainable facilities and infrastructure. Upon successful completion of this portion of the training, participants will be able to:

- Systematically identify the impacts of built facilities and infrastructure
- Identify and select appropriate indicators for quantifying impacts
- Specify appropriate tools and techniques to support the evaluation and assessment of facility impacts
- Design a strategy for evaluating the sustainability of a given built facility

- Use the LEED Green Building Rating System to prioritize sustainability strategies for capital projects

Part 3 of the training covers the economics of sustainable facilities and infrastructure. Upon successful completion of this portion of the training, participants will be able to:

- Identify project design and construction features that are associated with sustainability
- Systematically identify costs and benefits of solution alternatives
- Comparatively evaluate project sustainability features in terms of both quantitative and qualitative cost-benefit data
- Formulate and present the outcome of a sustainability-based cost-benefit analysis
- Develop and present arguments, supported by economic analysis data, for incorporating sustainability features into Air Force capital projects

Education Credits

Course participants will receive 1.6 Continuing Education Units upon completion of the full 16 hours of training. These CEUs are applicable toward Professional Engineer certification requirements in states requiring continuing education for PE registration. Certificates of completion and continuing education transcripts are available upon request from Georgia Tech's Continuing Education Program.

Additional credits are available with 20 days notice of intent from the American Institute of Architects, to meet annual registration requirements. The training provides 16 contact hours for AIA credit, of which 100% meet Health, Safety, and Welfare requirements.

Other credits may be made available on request, including Florida General Contractor License credits. At least 30 days notice is required for additional kinds of credit. For more information about specific training credit needs, contact Dr. Annie R. Pearce at 404-894-8089.

Training Workbook

A copy of all instructional materials is provided to each course participant. The content of the workbook includes, at a minimum, the following material for each training module:

- Presentation slides
- Learning objectives
- Supporting material for presentation slides
- List of topic-specific recommended readings and references

- Participant input sheets for any active learning exercises

A Resources section is included in each workbook, to include the following:

- Annotated list of books, web sites, organizations, and other resources pertaining to sustainable facilities and infrastructure
- Annotated list of sustainability and sustainable development references
- Comparison Matrix and Annotated List of Software Resources for Sustainable Facilities and Infrastructure