

# Integrated Design

Required

## ID Prerequisite 1 Integrated Design Process

### Intent

Establish and implement a multi-stakeholder collaborative goal setting and design process.

### Health Issues

Integrated design leads to understanding the building as a set of interrelated and interdependent systems where a single design decision can trigger multiple systemic improvements. An integrated design process, supported by guiding principles, is instrumental to successfully develop and implement cost-effective green and healthy building strategies. More so than in the commercial sector, conventional health care facility construction, with its myriad technical requirements, is often fragmented. An expanded design team – including contractors, facility managers, building operators and employees – involved throughout the process will support cross-discipline decision making relative to issues such as building siting, configuration, envelope and HVAC design and controls.

### Credit Goals

Use cross discipline design and decision-making starting in the programming and pre-design phase of the project and continuing throughout construction to optimize achievement of sustainable design objectives. At a minimum, ensure the following process:

- Define an integrated design team, including representation from all end user stakeholders, including (as applicable): owner's capital budget manager; development staff; physician and nursing teams; administrators; facility managers; support services; housekeeping staff; engineering/maintenance personnel; functional and space programmers; architect; interior designer; landscape architect; lighting consultant; MEP engineer; energy modeler; life cycle cost analyst; construction cost estimator; construction manager or general contractor; sustainability consultant; and, commissioning agent. Individuals may perform more than one role for the team; ie, the architect may also be the space programmer or the administrator may also manage the capital budget.
- Consider community participation as appropriate.
- Designate an on-site party responsible to oversee the project's environmental and health goals and implement procedures for environmental protection.
- Conduct an initial Integrated Design Charrette with the team to develop the project vision and goals. Document the charrette outcomes, including preparation of the Health Mission Statement (see GGHC ID Prerequisite 2) incorporated in the project's Design Intent Document and/or Owner's Program Requirements.
- Develop and implement a regular meeting schedule for the integrated design team to continue refining the project's sustainable design strategies throughout the design process. Review strategies for synergies between systems and processes, with the goal of linking strategies into a larger design framework.
- Where possible, develop measurable metrics associated with sustainable design goals for the project, using the credits in the *Green Guide for Health Care Construction* section as a guide, where appropriate.

## ID Prerequisite 1 continued

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### Integrated Design Process

- Identify a minimum of one (1) Innovation credit for the project.

#### Suggested Documentation

- Register the project with the *Green Guide for Health Care* (<http://www.gghc.org>).
- Register or document previous registration with the Hospitals for a Healthy Environment Program (<http://www.h2e-online.org>)
- Document the meeting minutes of the Integrated Design Charrette and regular meetings of the integrated design team and regular meetings of the integrated design team including a list of attendees representing each owner and professional discipline noted in the Credit Goals. Indicate in the meeting notes which person will be responsible for each professional discipline.
- Update the GGHC credit checklist online (<http://www.gghc.org>) quarterly, indicating the credits the team intends to pursue (Y), those in question (?), and those that do not apply (N/A).
- At the completion of each phase, revisit and refine the checklist to reflect project development decisions. For credits that are "abandoned" in the process, document the major obstacles that were encountered that prevented the team from realizing the originally identified goals and/or performance targets.
- Compile copies of the Goals Statements, performance checklists, and/or other design tools used in the development of the project's high performance design components.

#### Reference Standards

There is no reference standard for this credit.

#### Potential Technologies & Strategies

- Reinforce corporate/institutional commitments to environmental health and community responsibility.
- Use cross discipline design, decision-making, and charrettes. Use goal-setting workshops and build a team approach to the project.
- Prepare checklists for points and strategies prior to beginning the design process; refer to the checklist at milestones during the design process.
- Engage owner, staff, contractors, user groups and community groups, educating them on the benefits of green design and bringing them into the design process at key points in the decision-making process.
- Participate in peer-to-peer information exchange and problem solving through the *Green Guide* Forum with other project teams implementing sustainable design, construction and operations.
- Apply performance-based incentives to professional contracts that reward achievement of Integrated Design Goals and Project Vision. Incentives may be based on life cycle cost-based equipment and material selection, levels of achievement in the *Green Guide*, comparisons to benchmarks of existing facility performance or combinations of these and other benchmarks.

## ID Prerequisite 1 continued

### Integrated Design Process

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- Contractually apportion professional fees to create specific line items for the Integrated Design Charrette and subsequent monitoring and follow-up meetings. Integrated Design may benefit from re-apportioning design fees to provide a higher percentage early in the process leading to stronger integration and streamlining in subsequent design stages.
- Seek foundation support for integrated design initiatives, such as the Kresge Foundation.

### Resources

Audio Conference of "Introduction to the *Green Guide for Health Care*," <http://www.h2e-online.org>

Audio Conference of "Introduction to the Hospital for a Healthy Environment Program and Data Collection," <http://www.h2e-online.org>

Going Green, A Resource Kit for Pollution Prevention in Health Care, <http://www.noharm.org/goingGreen>

Hospitals for a Healthy Environment, <http://h2e-online.org/about/overview.htm>

"Institutionalizing Environmental Programs," Hospitals for a Healthy Environment. This document includes a description of how to form a multi-disciplinary team, a job description for an environmental manager and a sample health statement. <http://www.h2e-online.org/docs/h2esample.eco.goals80206.pdf>

#### *GGHC Construction Credit Synergies*

- EA Prerequisite 1: Fundamental Commissioning of the Building Energy Systems
- EA Credit 3: Enhanced Commissioning
- EA Credit 5: Measurement & Verification

#### *GGHC Operations Credit Synergies*

- IO Prerequisite 1: Integrated Operations & Maintenance Process
- IO Prerequisite 2: Recertification Process
- WC Credit 3: Performance Measurement: Enhanced Metering
- EE Prerequisite 1: Existing Building Commissioning
- EE Credit 5: Performance Measurement



Required

## ID Prerequisite 2 Health Mission Statement & Program

### Intent

Establish human health as a fundamental evaluative criterion for building design, construction, and operational strategies.

### Health Issues

Prevention is a fundamental principle of health care and public health. Too often, design decisions are driven by limited economic analyses, availability of land and other external factors, rather than improving the health and wellbeing of a building's occupants. The health care industry acknowledges that prevention is preferable to treatment of disease after it has occurred. Even in the face of uncertainty, precautionary action is appropriate to prevent harm. This public health approach makes sense both in the clinical setting and in response to environmental and public health hazards. Similarly, a precautionary and preventive approach is an appropriate basis for decisions regarding health care building design and materials choices and activities. Linking a health mission statement and program to the project's design intent document will ensure that a health-based, precautionary approach to decision making is sustained throughout the process.

### Credit Goals

- Incorporate a health mission statement in the project's design intent document that includes goals to safeguard the health of building occupants, the local community, and the global environment while creating a high performance healing environment for the building's patients, caregivers, and staff. Include consideration of "triple bottom line" values - economic, environmental, and social.
- Express the facility's commitment to implement the health mission statement in present and future design, construction and operations in the design intent document.
- Incorporate the health mission statement and program into the other project documents retained by the facility to assure that future alterations, additions, and program changes are consistent with its intent.

### Suggested Documentation

- Document the inclusion of a health mission statement and program in the project's design intent document.
- Develop the design intent document at an Integrated Design Charrette early in the design or goal-setting process.

### Reference Standards

There is no reference standard for this credit.

## ID Prerequisite 2 continued

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### Health Mission Statement & Program

#### Potential Technologies and Strategies

- Where possible, establish quantifiable strategies. Document progress at the conclusion of each project phase and, where applicable, for at least a year post-occupancy.
- Use the design intent document as a basis for design team selection, design criteria, and construction documents.

#### Resources

Boulder Community Hospital Environmental Stewardship Brochure, <http://www.h2e-online.org/docs/boulder.jpg>

"Institutionalizing Environmental Programs," Hospitals for a Healthy Environment. This document includes a description of how to form a multi-disciplinary team, a job description for an environmental manager and a sample health statement, <http://www.h2e-online.org/docs/h2esample.eco.goals80206.pdf>

St. Mary's Hospital Environmental Stewardship Brochure, <http://www.h2e-online.org/docs/envirostewardship51906.pdf>

#### *GGHC Construction Credit Synergies*

- ID Prerequisite 1: Integrated Design Process

#### *GGHC Operations Credit Synergies*

- IO Prerequisite 1: Integrated Operations & Maintenance Process
- IO Prerequisite 2: Recertification Process