GETTING MORE FROM GREEN BUILDING DESIGN
OBJECTIVES

DEFINE SUSTAINABILITY AND ITS IMPORTANCE TO THE BUILT ENVIRONMENT

REVIEW THE PROCESS OF HIGH-PERFORMANCE DESIGN

LOOK AT THE TOOLS AVAILABLE TO OWNERS WHO WANT TO TAILOR THE DESIGN PROCESS TO THEIR COMPANY’S BRAND, EXPECTATIONS, AND GOALS

QUANTIFY THE ASSESSMENT AND CERTIFICATION PROCESS, AND HOW THEY RELATE TO CONSTRUCTION, CONTRACTS, AND OPERATIONS.

DISCUSS RELATIVE COSTS, FEES, AND RETURN ON INVESTMENT
SUSTAINABILITY

OPTIMIZING

consumption
emissions
impact
waste
SUSTAINABILITY

OPTIMIZING

consumption
emissions
impact
waste

PRIMARY FOCUS

policies, practices, and operations
site selection and design
water efficiency
energy and atmosphere
materials and resources
indoor environmental quality
innovation
SUSTAINABILITY

consumption emissions impact waste

OPTIMIZING

cost optimization positive impact on health less waste, smaller impact identity and branding
SUSTAINABILITY

consumption
emissions
impact
waste

OPTIMIZING

BRANDING
Maryland-District of Columbia Utilities Association

Increase the effectiveness of utility services

Provide increased value to our customers
SUSTAINABILITY

OPTIMIZING

consumption
emissions
impact
waste
Gather
Motivate
Quantify
Plan
Implement
Review

STAKEHOLDERS

BASIS

APPLICATION
PROCESS

Gather
Motivate
Quantify
Plan
Implement
Review

STAKEHOLDERS

MASTERPLAN
BASIS OF DESIGN
PROFESSIONAL SERVICES AGREEMENT
ASSESSMENTS

BASIS

APPLICATION
MASTERPLANNING
THE PROCESS OF PLANNING FOR THE FUTURE BY DEFINING A FRAMEWORK, VISION, AND STRATEGY.

CHARRETTE
THE PLANNING SESSION(S) WHERE PROJECT STAKEHOLDERS SUBMIT AND VET IDEAS AND GOALS

BASIS OF DESIGN
THE PUBLISHED RESULT OF MASTERPLANNING
Stakeholder Committee

Individuals that will guide the charrette planning process and ensure support from key individuals and organizations.

Variety
Ideally, the steering committee represents a variety of interests: Business Leadership; Community; Operations; Management.

Open and organized
Thought-provoking, accepting, and encouraging new ideas in an organized and productive manner.

Energized
Optimistic individuals, focused on publicly delivering the results of the planning process to interested individuals.
PROCESS | CHARRETTE

Gather
Motivate
Quantify
Plan
Implement
Review

STAKEHOLDERS

BASIS

APPLICATION
An intense planning session intended to build consensus, develop design goals, and define motivations for a project.

Gather
Motivate
Quantify
Plan
Implement
Review

STAKEHOLDERS

BASIS

APPLICATION
The cart sent to retrieve the final architecture projects of the students of l'Ecole des Beaux Arts in Paris.
PROCESS | CHARRETTE

STAKEHOLDERS
- Gather
- Motivate
- Quantify
- Plan
- Implement
- Review

BASIS

APPLICATION

CHARRETTE

PRE-REQUISITES
- Defined program
- Narrow focus: site, scope, options
- Available resources
- Leadership
- Pre-defined limits, focus, and intent
PROCESS | BASIS OF DESIGN

STAKEHOLDERS

Gather
Motivate
Quantify
Plan
Implement
Review

BASIS

FUNCTION | PERFORMANCE | MAINTENANCE

Function
Establishes project requirements, technical approach, and design parameters.

Performance
Defined criteria for decision-making.

Maintenance
Establishes regular reviews to gauge performance, re-assess priorities, and ensure performance goals are maintained.
### Basis of Design

**Function | Performance | Maintenance**

- Energy Performance
- Protection and Restoration of Habitat
- Collection and Storage of Recyclables
- Site Selection
- Daylighting and Views
- Indoor Chemical and Pollutant Source Control
- Design Innovation

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**Process | Basis of Design**

- Research
- Selection
- Coordination
- Specification
- Design
- Administration
- Preparation
- Assessment
- Verification

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**BASIC**

**ENHANCED**
PROCESS | AGREEMENT

BASIS OF DESIGN
Function | Performance | Maintenance

RESEARCH
SELECTION
COORDINATION
SPECIFICATION
DESIGN
ADMINISTRATION
PREPARATION
ASSESSMENT
VERIFICATION

FUNCTIONAL
ENHANCED

BASIC
RESEARCH    SELECTION    COORDINATION    SPECIFICATION    DESIGN    ADMINISTRATION    PREPARATION    ASSESSMENT    VERIFICATION

PROCESS | AGREEMENT

BASIC

ENHANCED

BASIS OF DESIGN
Function | Performance | Maintenance

AIA E204-2017
SUSTAINABLE PROJECTS EXHIBIT

6 pages
Supplement to Owner/Architect Agreement
Sets forth performance criteria
Establishes review and accountability standards
Schedule and scope limitations
Includes options for 3rd party certification
PROCESS | IMPLEMENTATION

RESEARCH
SELECTION
COORDINATION
SPECIFICATION
DESIGN
ADMINISTRATION
PREPARATION
ASSESSMENT
VERIFICATION

BASIC

ASSESSMENT AND CERTIFICATION

CODE-REQUIRED INSPECTIONS
Concrete; Structural Steel; Framing & Rough-In; Insulation

BASIC COMMISSIONING / TESTING
IECC duct leak testing; May also include lighting, hot water, energy systems
PROCESS | IMPLEMENTATION

BASIC

ENHANCED

ASSESSMENT AND CERTIFICATION

ENHANCED COMMISSIONING
Systems manual; Personnel Training; Commissioning Specifications and Inspections; Systems Operations Review
PROCESS | IMPLEMENTATION

RESEARCH
SELECTION
COORDINATION
SPECIFICATION
DESIGN
ADMINISTRATION
PREPARATION
ASSESSMENT
VERIFICATION

BASIC

ENHANCED

ASSESSMENT AND CERTIFICATION
SUSTAINABILITY COMMISSIONING
LEED, Green Globes, Living Building Challenge, BREEAM…
There will always be a large variation in the cost of the design and construction of buildings. **The majority of cost is based on project program and site.**

There are low and high cost per square foot buildings that feature green design strategies.

There are low and high cost per square foot buildings that do not feature green design strategies.

The **overwhelming** majority of construction projects already implement sustainable design strategies, regardless of whether they pursue 3rd party certification.
Re-examining the feasibility and cost impacts of sustainable design in the light of increased market adoption
Davis Langdon, 2006

60 Academic Buildings
17 LEED-Seeking; 43 Non-LEED Seeking

70 Laboratory Buildings
26 LEED-Seeking; 44 Non-LEED Seeking

Sustainable design policy and strategy should not be determined on the basis of cost, but on your brand. Don’t let the perception of added cost drive your brand of sustainability.
THE COST OF GREEN

300,000 SF FACILITY

“BASIC” SUSTAINABLE DESIGN SERVICES
$0.35 - $0.45 / GSF

“ENHANCED” SUSTAINABLE DESIGN SERVICES
$0.40 - $0.55 / GSF

“MAXIMUM” SUSTAINABLE DESIGN SERVICES
$0.55 - $0.80 / GSF

QUESTIONS