

Principles of Environmentally Sustainable Design

Fall Course - Class 4

Mid-term Exam

Two-page summary of your design standard – Must include policies, and identify the future items that will be listed in a more detail specification

Resource Management

Identification, Isolation, Containment

Identification

- What are the resources available?
- What resources are not available?
- Are there existing constraints?
- What are the specific climate opportunities?
- What can be conserved inside the envelope?
- What can be conserved outside the envelope?
- Room / Floor / Building / Footprint management

Auditing

- Use & Consumption
- Filtration / Purification
- Materials
- Fuels
- Storage / Inventory / Available Resources
- Leaks / Capture / Loops

Consumption

- What are the necessary resources required?
- How can reserves be protected / conserved?
- Are there existing constraints for consumptions?
- Can there be existing constraints?
- What can be projected for future rates of consumption / growth?
- How will footprint be affected by consumption?

Existing / Planned locations

- What special uses can be identified?
- How can space be utilized to create unique features?
- Where can technology provide best advantages?
- Where can nature provide best advantages?

Defining the footprint

INFORMATION MODELING

Software

- US Department of Energy EERE Information Resources
- GSA
- Project Management Institute
- AIA Architect's Choice
- Software Reviews
- Ask for user recommendations

Isolation

- How can the resource be “locked down”?
- Where is the best capture location ?
- Where is the best distribution channel?
- How do existing constraints limit the isolation?
- Can the resource be showcased?
- Is there a unique advantage that can be captured?

Roof

- Rain Water
- Wind / Solar Resources
- Open Space
- Community Recreation
- Transit point
- Communications

Energy Systems

- Distribution Center – Room / Floor / Building / Outside
- Power Source – Street / Basement / Roof / Room
- Back up Systems – Availability / Purpose
- Controls and Restrictions

Heating Systems

- Fuel Choice
- System Choice
- Distribution Points
- Controls
- Environmental Considerations
- Leaks / Loss / Thermosyphoning

Water Management Systems

- Domestic Hot Water
- Faucet Controls
- Recycling Systems
- Filtration Systems
- Purification Systems
- Distribution Points
- Demand

Waste Management Systems

- Recycling Choices
- Collection Methods
- Use and Purpose – Fuel, Finance, Production
- Gray Water / Black Water Systems
- Ease of Use

Evacuation

- Visible Plan
- Access to Exits
- Identified Leaders
- Identified support agencies
- Communications Plan
- Flow and Traffic
- Breakaways / Giveaways

Parking / Logistics

- Space Requirements / Restrictions
- Convenience / Consideration
- Provision / Purpose / Protection / Prevention
- Advantages / Disadvantages
- Financial Outlook

“If the shoe fits – wear it!” ~ Proverb

BENEFITS

Containment

- System Efficiency
- Tracking Accuracy
- Feedback
- Determine Bottom Line
- Project Life Cycle
- Create Accountability at lowest level – End User

Advantages

- Lower Maintenance
- Lower Consumption
- Lower Casualty
- Lower Destruction
- Stronger Data Collection
- Marketable Proof
- Best Plan for Safety & Security

Marketability

- Better Assurance provides better insurance
- Low maintenance gets faster break-even
- A responsible management plan creates a recognizable marketing plan
- No real downside