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Green Infrastructure/Sustainable Development Approaches for Meeting Infrastructure Needs

Rooftops to Rivers Strategies in Aurora, IL
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The Shaw Group Inc.
A Fortune 500
Company



What is sustainable development?

- Huh?
- Something they do in Europe.
- Something I think they do in Portland.
- Unaffordable.
- Unachievable.

What is sustainable development?

- Sustainable development is integrated solutions that solve real problems.
- Sustainable development solutions define even some of the biggest obstacles as resources.
- Sustainable development optimizes those resources and deploys them to create lasting economic, environmental and community value.

Green Infrastructure & Sustainability

- Green Infrastructure is a key element of sustainable design and provides multiple benefits
 - Pollution reduction
 - Increased stormwater control
 - Cost control
 - Enhanced aesthetics
 - Increased Open Space
- Green infrastructure strategies can be incorporated into both site specific developments and area-wide plans

What are the obstacles to sustainable development?

- Funding and regulatory schemes do not necessarily support integrated, sustainable solutions
- More needs to be done to recognize, quantify and realize the specific values that are created by sustainable development
 - Property values
 - Water quality improvements

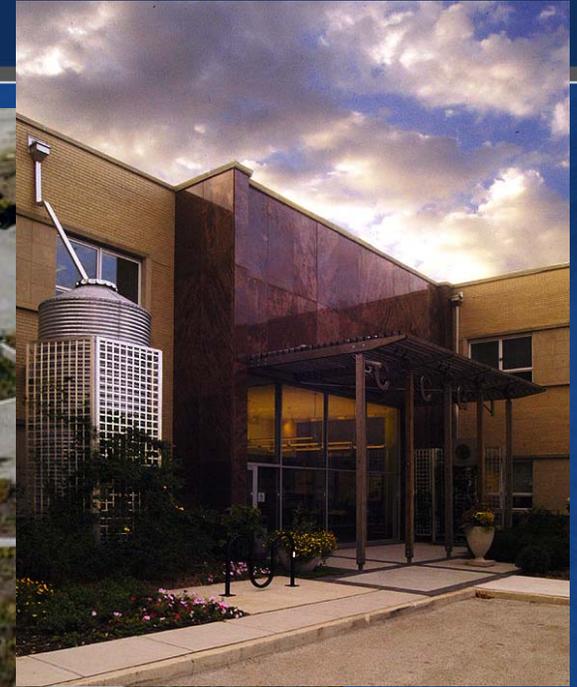
How do you overcome the obstacles?

- Adjusting regulatory and financing requirements can reduce development costs and promote environmental investments.
- Quantification of value can produce new sources of funding for:
 - Green building/Sustainable redevelopment of brownfields
 - Green infrastructure

Chicago Center For Green Technology (CCGT)

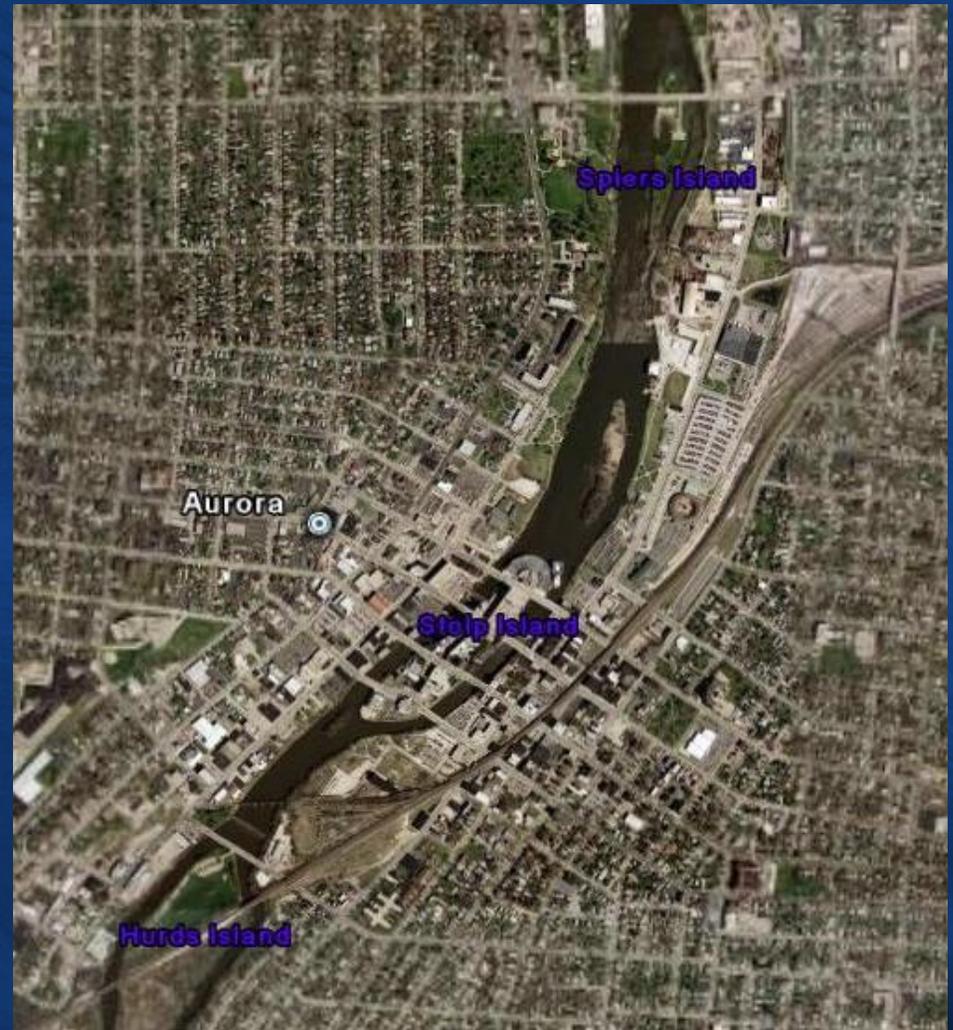


Green Infrastructure and CCGT



Sustainable Development: Aurora, Illinois

- Three goals for Aurora's riverfront corridor redevelopment:
 - Strengthen the downtown economy
 - Improve the City's infrastructure
 - Restore the Fox River



Riverfront Redevelopment: Key Strategies

- Use enhanced riverfront as amenity
- Transform land use and build diverse economy
- Improve water quality
- Remediate brownfields
- Eliminate obsolete infrastructure
 - Combined Sewer Overflows
- Create Sustainability Partnerships

Green Infrastructure and Sustainable Development

- Green Infrastructure solutions support the City's goals and strategies
- Green Infrastructure solutions have leveraged support and created partnerships
 - Illinois EPA
 - USEPA
 - Chicago Metropolitan Agency for Planning
 - Natural Resources Defense Council (NRDC)

Aurora Green Infrastructure Project

- Aurora is working with its partners to implement a Green Infrastructure Project over a 579 acre redevelopment area adjacent to Indian Creek and the Fox River
 - Rooftops to Rivers Stormwater Corridor Plan
 - River Edge Park and Naturalized Treatment Wetland
 - Neighborhood Best Management Practice (BMP) Pilots and Toolkit

Green Infrastructure Project Objectives

- Improve of water quality and reduce non-point source pollution
- Alleviate Combined Sewer Overflows (CSO)
- Increase stormwater detention capacity;
- Decrease of stormwater discharge volumes to the River;
- Create urban wildlife habitat through interconnected greenways;
- Foster environmental education; and
- Develop a replicable green infrastructure model, reflected in policies, practices, and regulations.

Focus on Compelling and Direct Interests

- Site stabilization and site remediation reduce non-point discharge of sediments and contaminants
- Brownfield redevelopment reduces blight, revitalizes communities and reduces subsurface threats to water quality
- Green infrastructure helps manage stormwater, creates open space and enhances property values
- Integrated strategies increase the likelihood of success and reduce funder risk by combining financial resources

Use High-Performance Features to Full Advantage

- Aurora worked with the State to identify new tools for sustainable redevelopment:
 - Illinois Riverfront Redevelopment Zones
 - Total Waste Management Planning
 - Green Infrastructure Financing Strategies combining state and local sources
 - Tax Increment Financing (TIF)
 - Enterprise Fund and General Obligation Debt
 - Open Space Funds
 - State and Federal Clean Water Act and Brownfield Resources

Eliminating Threats to the River



Creating new Green Infrastructure Assets

- River Edge Park and treatment wetland
- Neighborhood BMPs



Lessons Learned – A Sustainable Design Approach

1. Use an integrated process
2. Assess barriers and constraints
3. Start early
4. Involve and educate stakeholders
5. Analyze costs & benefits

Issues to Address

- Regulatory design that supports sustainability
 - Don't over-promise
 - Don't make it more trouble than it's worth
- Measurement and verification of results
- Standardization of approaches
 - Move from pilots to practice
- Transaction Costs and Learning Curve

Questions

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