

# *Park Design for the 21st Century*

## *Presentation for the Design Trust for Public Space*

Center for Architecture

April 22<sup>nd</sup> 2008

### ***Sustainable Stormwater Management***

#### Outline:

- Overview
- Establishing goals
- Perspectives
- Case study

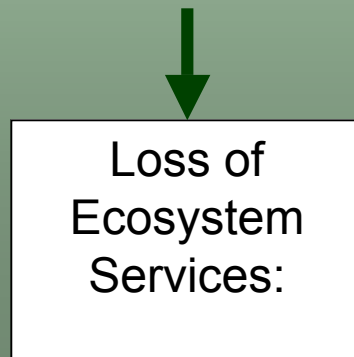
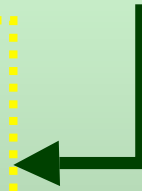
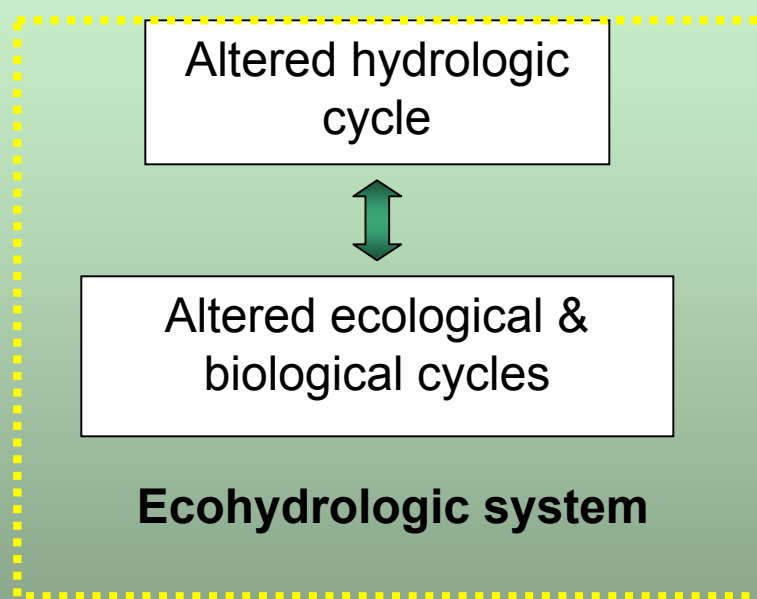
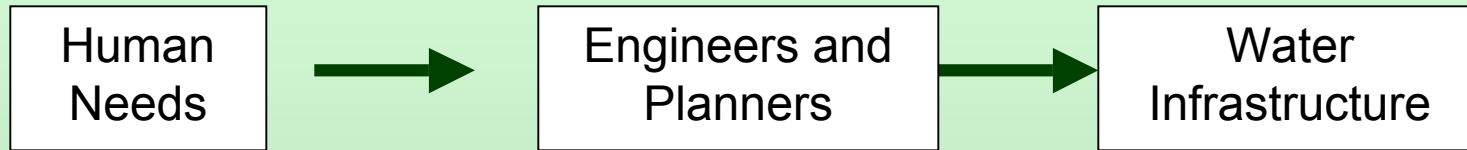


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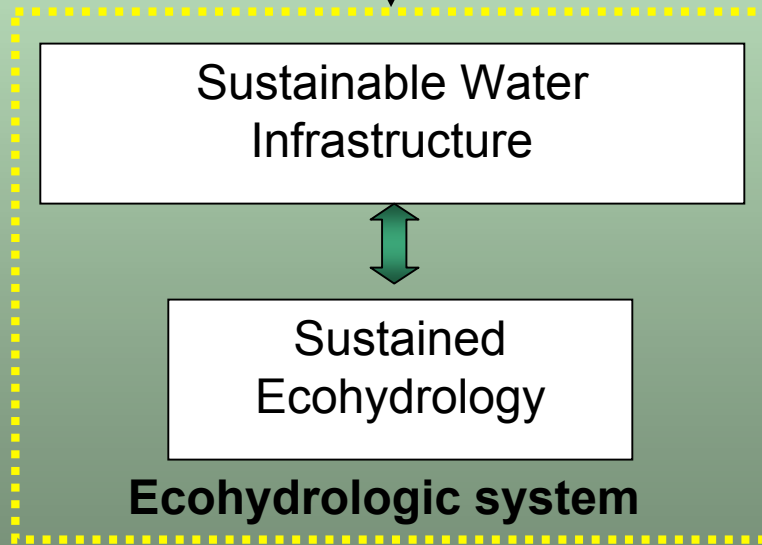
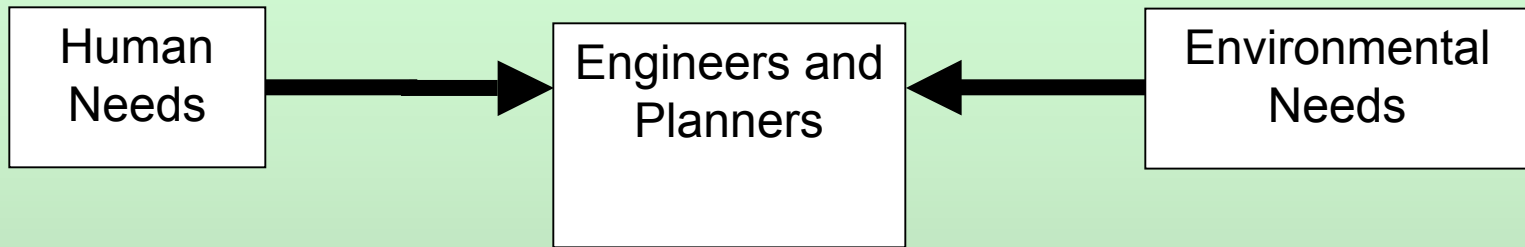
# Park Design for the 21st Century

## Old Paradigm



# Park Design for the 21st Century

## New Paradigm



# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

**Establishing *goals* in concert with off-site/onsite considerations:**

- 1) Good: The educational/pilot project (onsite)
- 2) Better: Multi-tiered integration on a particular site (onsite)
- 3) Better yet: Zero runoff/zero wet weather flow (onsite)
- 4) Better still: Zero runoff and landscape as treatment base for adjacent sewersheds (off-site/onsite)



# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

### **Potential *perspectives* of a Parks landscape site:**

#### 1) Landscape as an ecosystem (The Ecologist):

The opportunity to (re)create ecosystems: stormwater from waste to resource

#### 2) Landscape as watershed or sub-watershed (The Engineer):

Landscape as an engineering resource

#### 3) Landscape as a developed site (The Planner / LA / Architect):

Landscape for programming purposes



# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

**Case Study: Rye Golf Course**

**Rye, NY**



# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

Projects: Rye, NY

***Goal 4: Zero runoff and landscape as treatment base for adjacent sewersheds (off-site/onsite):***

- 1) External/internal stormwater
- 2) Reduce TSS to L.I.S.
- 3) Reduce potable water budget
- 4) Water re-use
- 5) Habitat creation



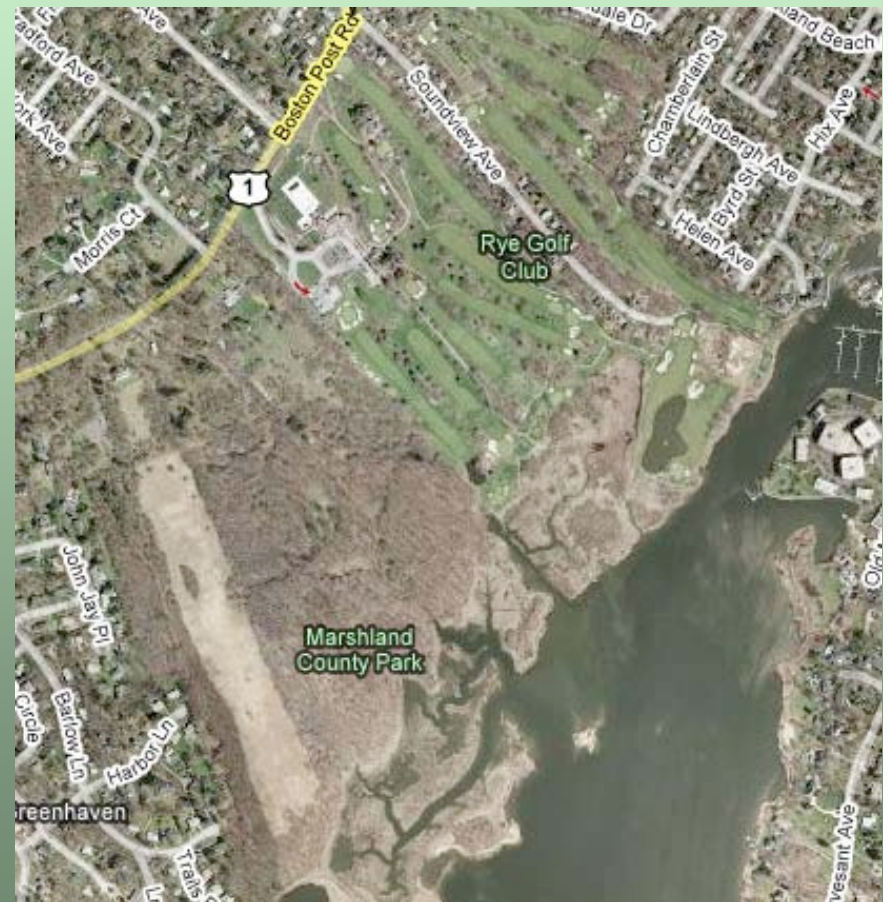
# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

**Projects: Rye, NY**

### ***Ecosystem perspective:***

- 1) Creating freshwater wetland habitat
  - A) Onsite wetland value
  - B) Compliments regional ecosystem
  - C) Dynamic hydrology / floodplain / zonation



Maps.google.com



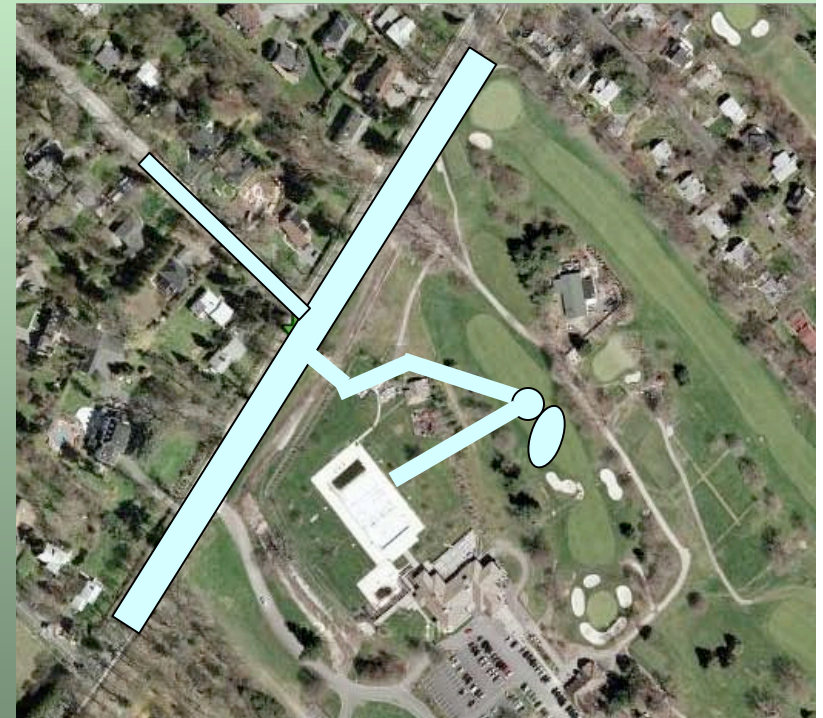
# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

**Projects: Rye, NY**

### ***Engineering perspective***

- 1) Development of water budget
  - A) Irrigation demand
  - B) Water source: integration of stormwater model based on land cover types, soils/surrounding sewershed and groundwater
- 2) Floodplain = Extended detention

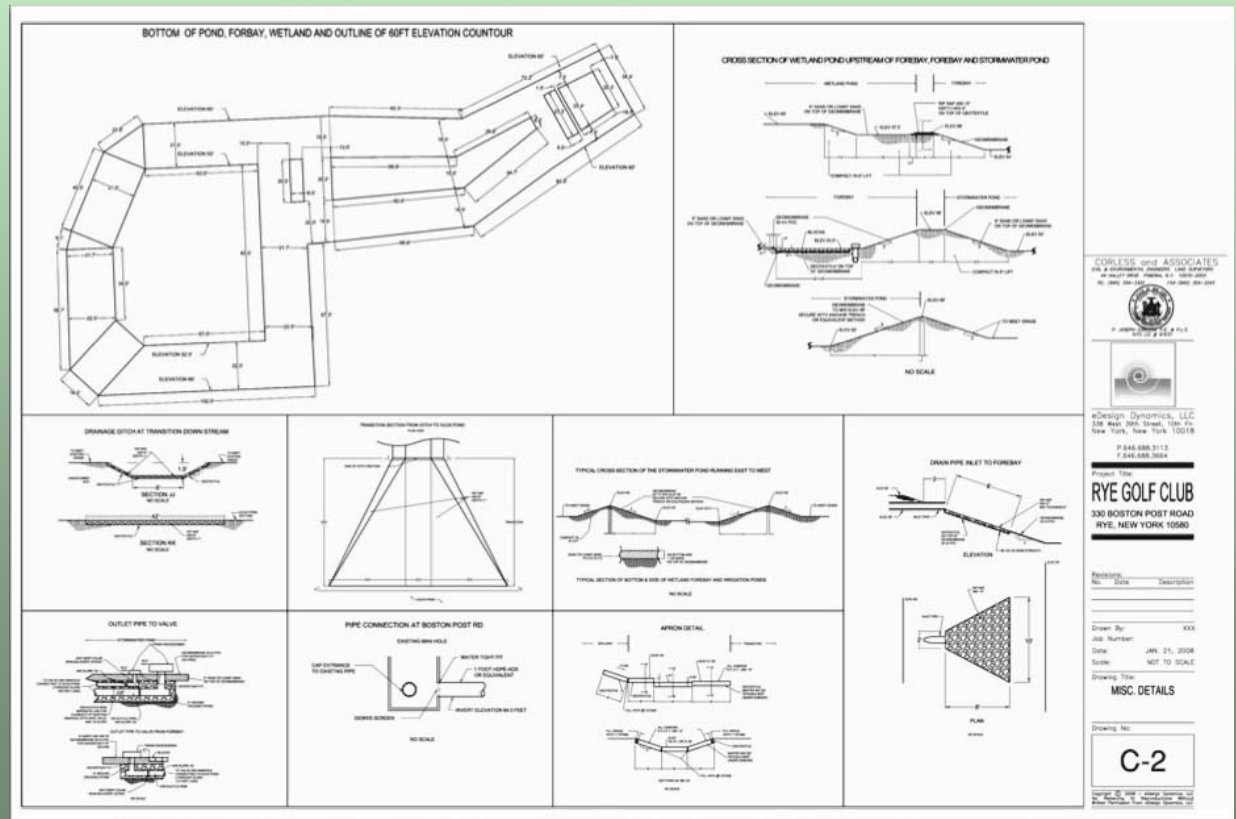


# Park Design for the 21st Century

## Sustainable Stormwater Management

Projects: Rye, NY

Engineering perspective



# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

***Landscape as developed site (beneficial linkages from highly programmed areas):***

- 1) French drain for base flow  
to provide additional irrigation water
- 2) Increase of turnover rate of waterbody,  
improving DO and decreasing risk of  
eutrophication



# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

### **Summary:**

- 1) Establishing hierarchical goals
- 2) Investigation of off-site/onsite relationships



# *Park Design for the 21st Century*

## **Sustainable Stormwater Management**

### **Other concerns:**

- 1) Consideration of O & M issues/procedures
- 2) Ongoing monitoring/instrumentation/data integration requirements
- 3) Educational/outreach potential
- 4) Defining what is replicable
- 5) Collaborating with community groups, NGO's, environmental entities

