



CHATHAM PARK

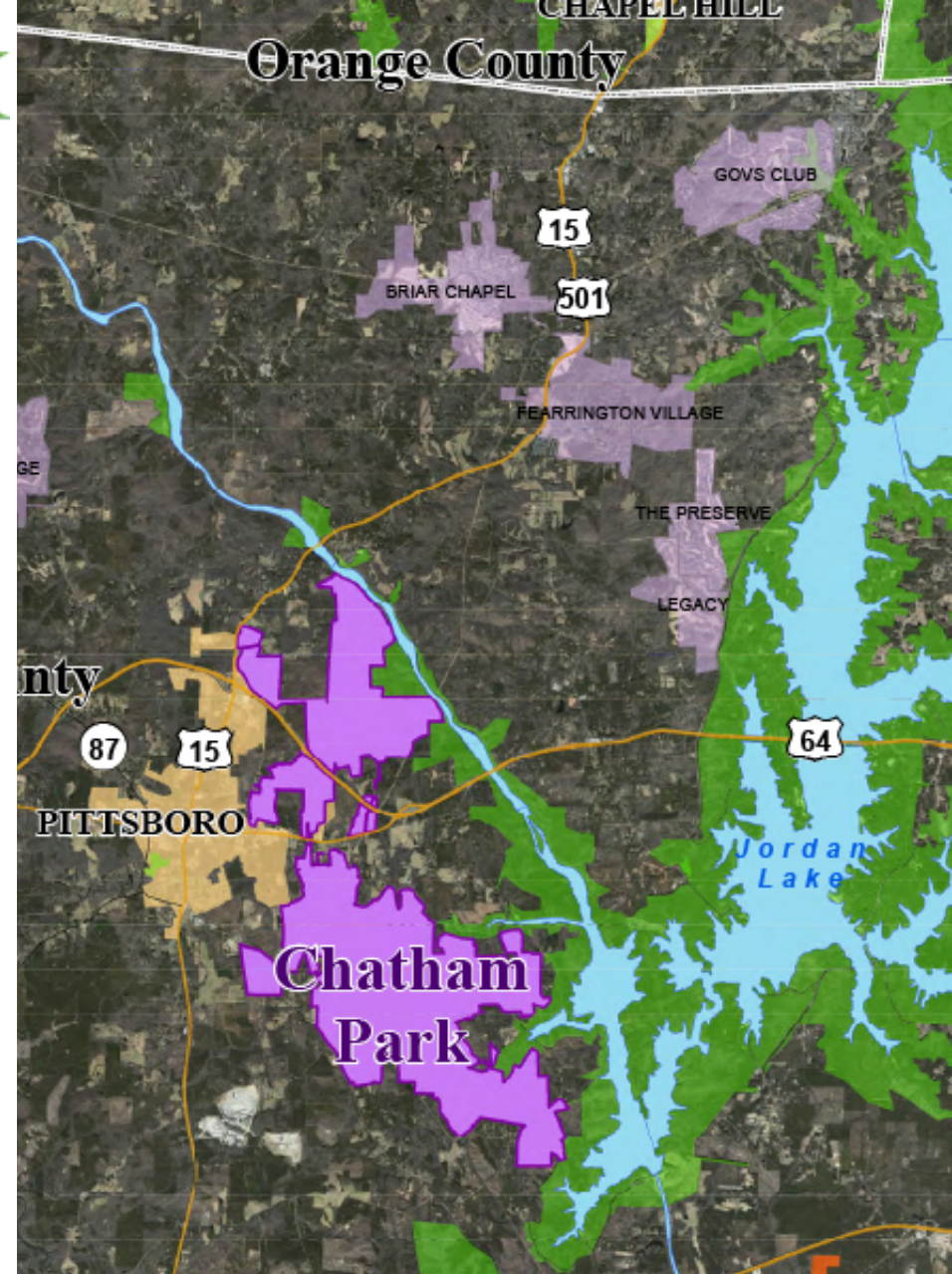
Watershed Evaluation Rating System

EcoStream
August 2018



OVERVIEW

- 7,500+ Acres
- Master Plan Approved August, 2015
 - 30+ Year Development Plan
- 55,000 New Residents (estimated)
- 22M sf Commercial & Research Space
- 2,000+ Acres of Parks & Open Space



Chatham Park Vision



- **Stormwater Management**

- Holistic Approach
- Water Reuse Link
- Adaptable to all types of Development
- Responsive to Planning Decisions
- Challenges
 - Exceptional Design
 - Innovation
 - Performance

Setting the Bar

• Town Ordinances

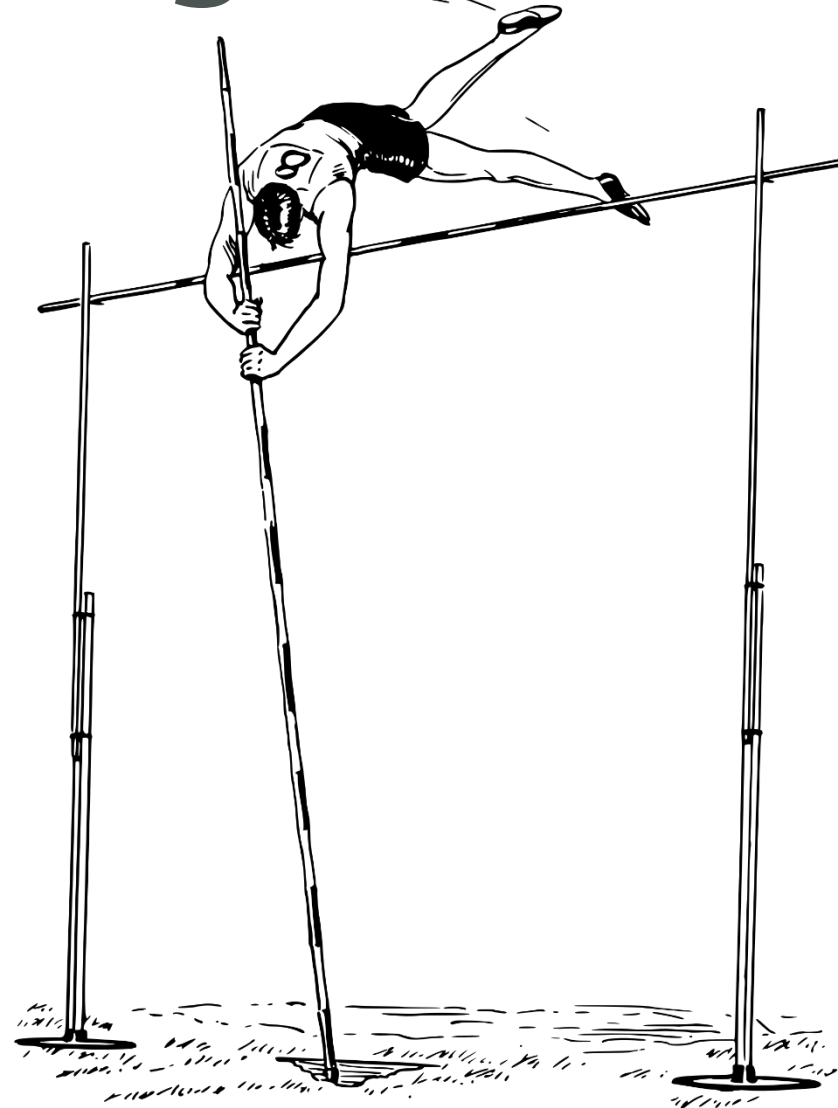
- Water Quality
 - 85% TSS
- Flood Control
 - 1-Yr Attenuation
- Buffers
 - 50' Width
 - Diffuse Flow



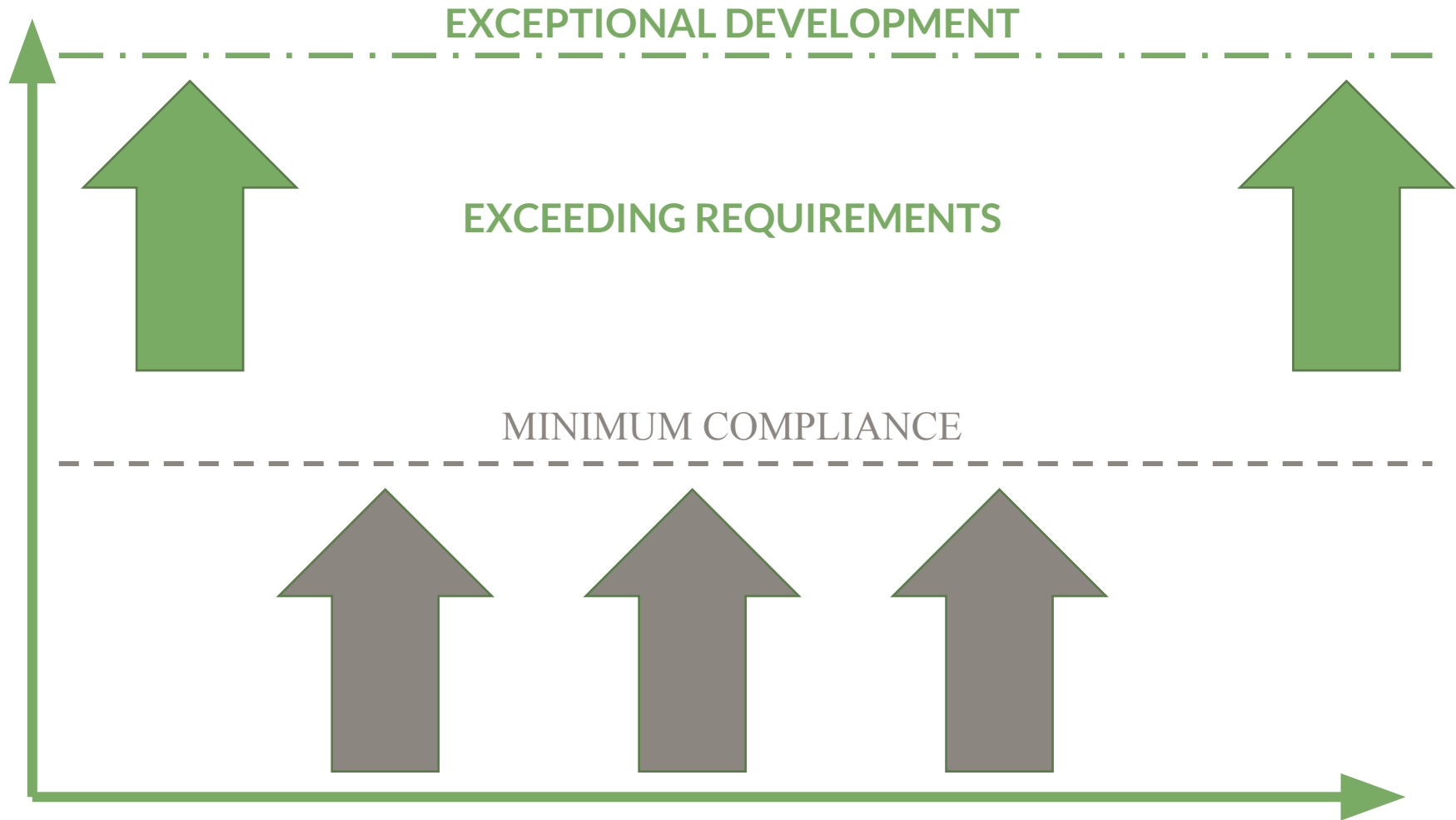
Setting the Bar Higher

• Chatham Park Master Plan

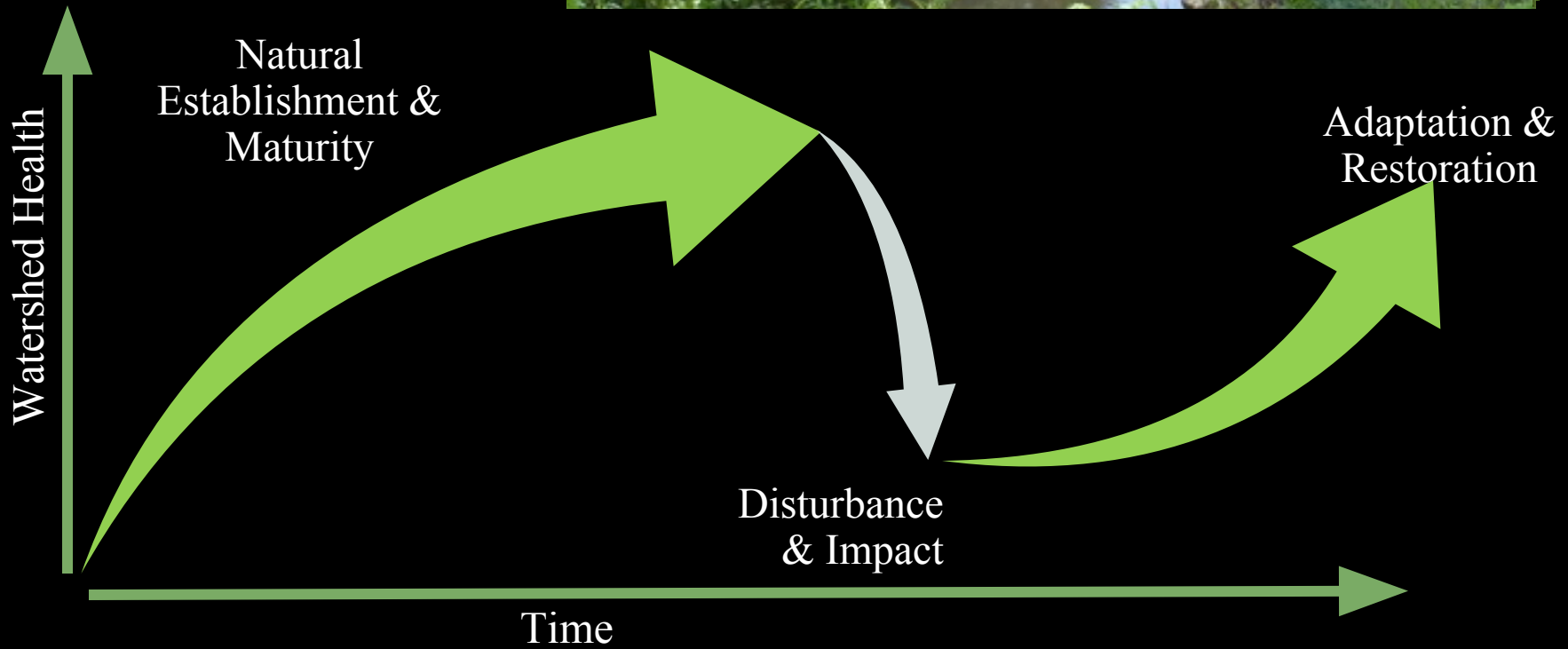
- Water Quality
 - 85% TSS
 - Nutrient Limits
- Flood Control
 - 1, 2, 5, 10-Yr Attenuation
- Buffer Rules
 - 300' Width (Haw River)
 - 100' Width (Perennial)
 - 50' Width (Intermittent)
 - Diffuse Flow
- Exceptional Design Evaluation



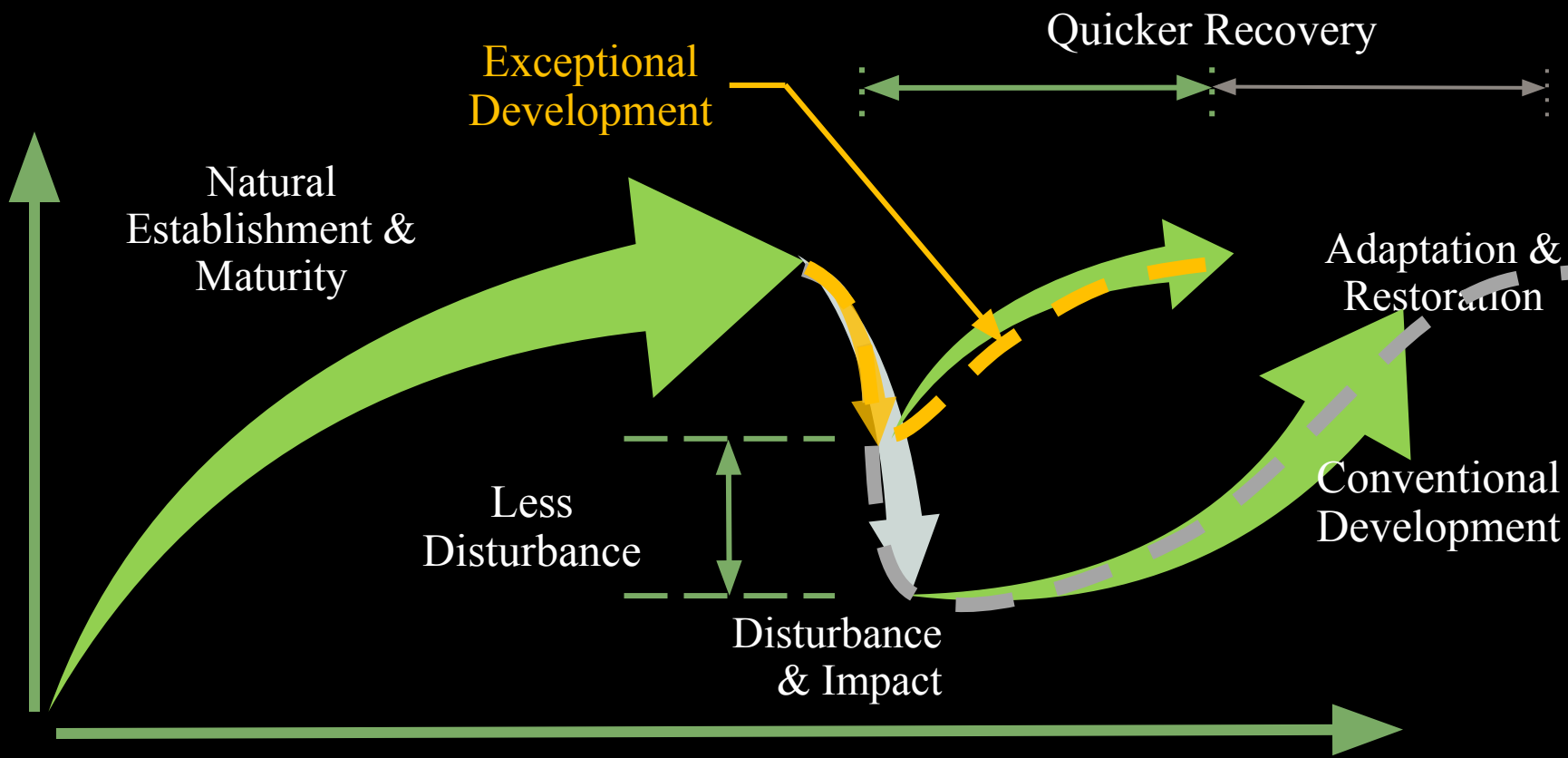
Setting the Bar Higher



Watershed Health Cycle

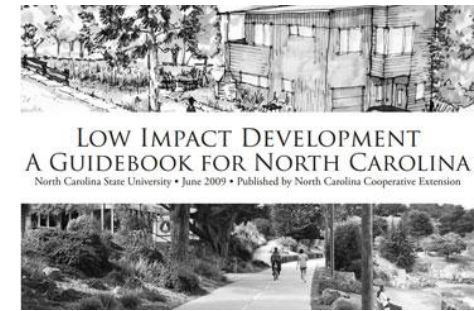


Resilient Development



Exceptional Design

- Quantitative Scoring System
- Target Score
- Watershed Scale
 - Delineated based on where buffered streams cross Chatham Park boundary
- Compliance documents at site plan stage
- As-Built verification



Preserve Critical Natural Resources



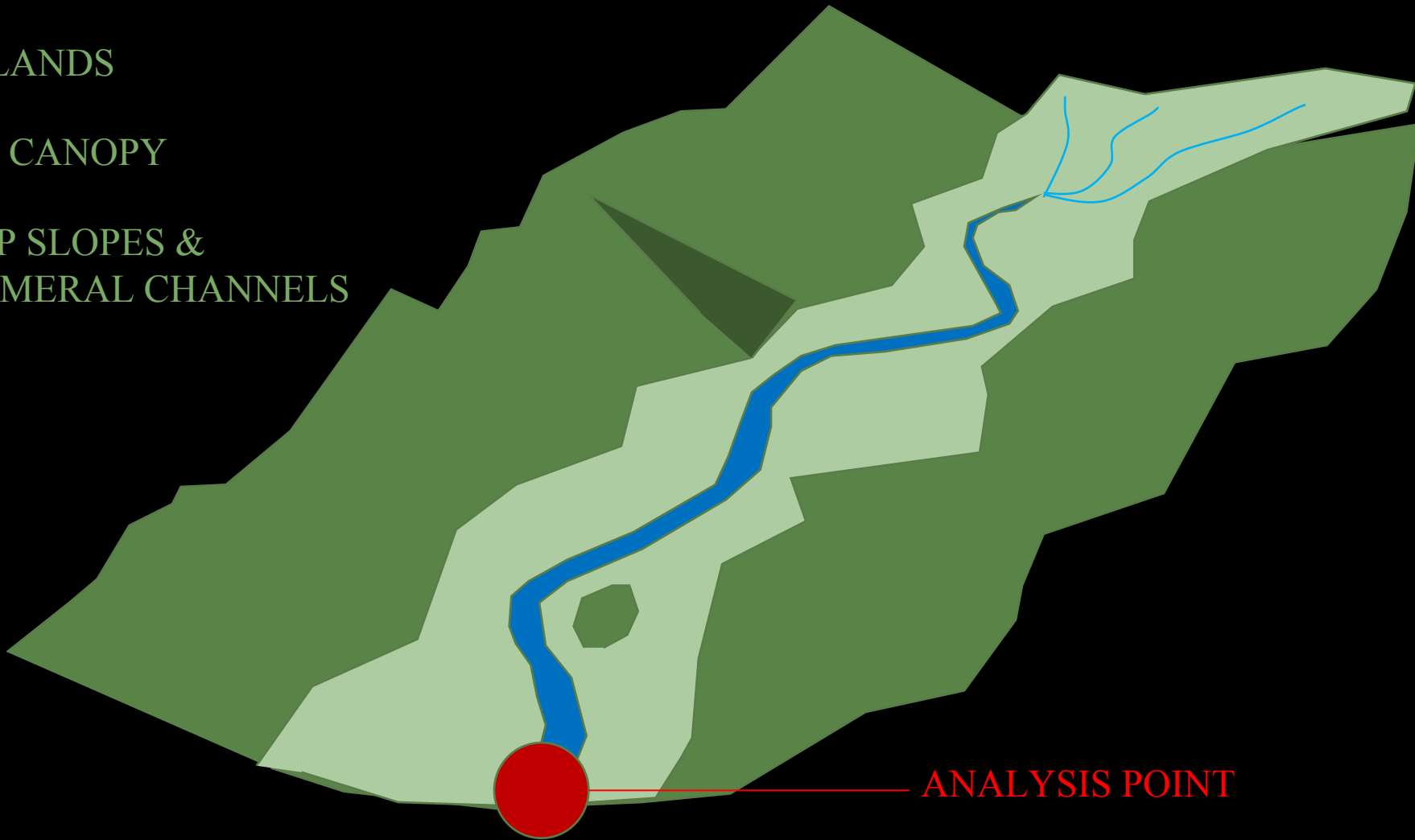
STREAMS & LAKES

BUFFERS & FLOODPLAINS

WETLANDS

TREE CANOPY

STEEP SLOPES &
EPHEMERAL CHANNELS



SOIL PRESERVATION
NATIVE LANDSCAPING
RESTORED CANOPY
TREE ROOT ZONE
AMENITIES

WATER QUALITY VOLUME
FLOOD CONTROL
NUTRIENT REDUCTION

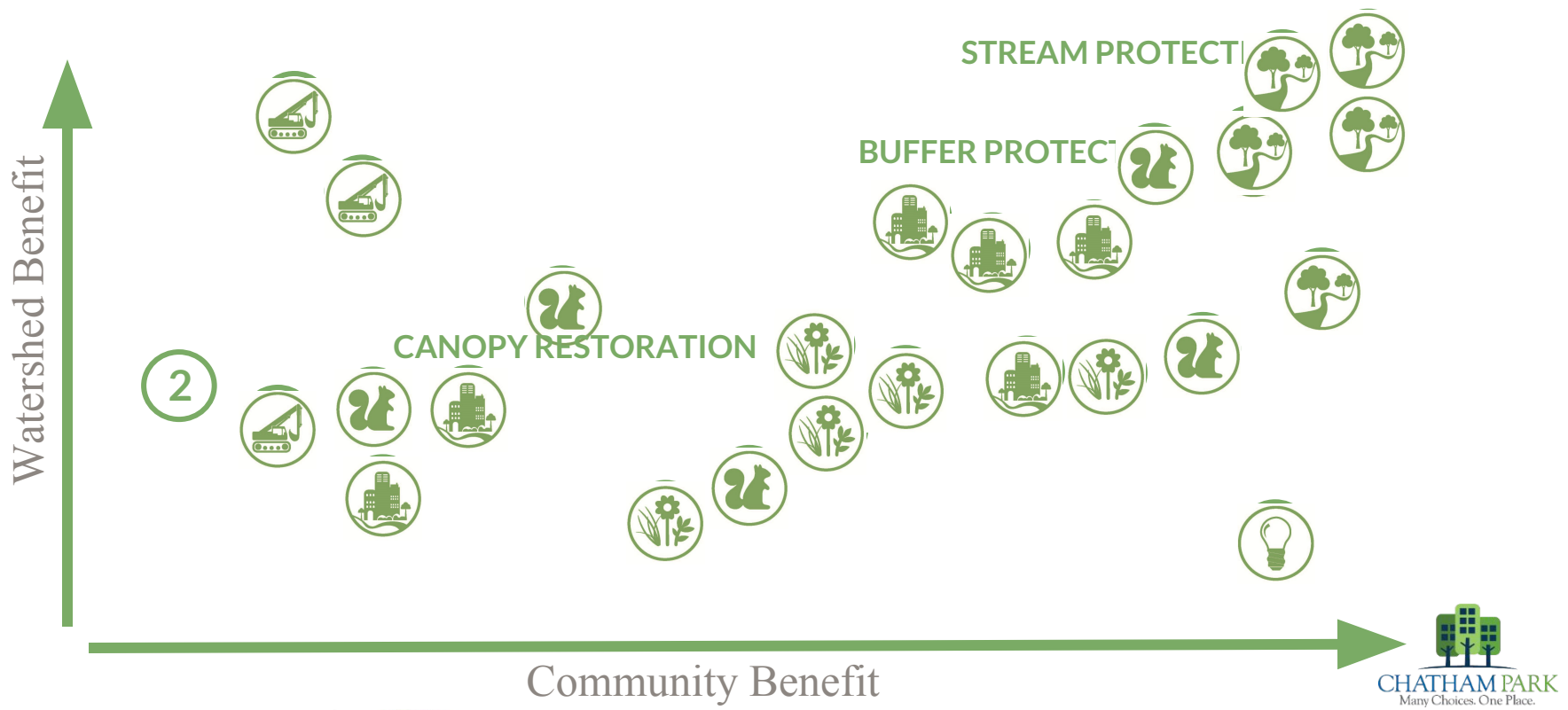
INNOVATION

EDUCATION

IMPERVIOUS COVER
LID / GSI

EROSION CONTROL
DISTURBED AREA
TRAPPING EFFICIENCY

Category Weighting



Compiling a Score

INNOVATION



STORMWATER MANAGEMENT



PLANTINGS



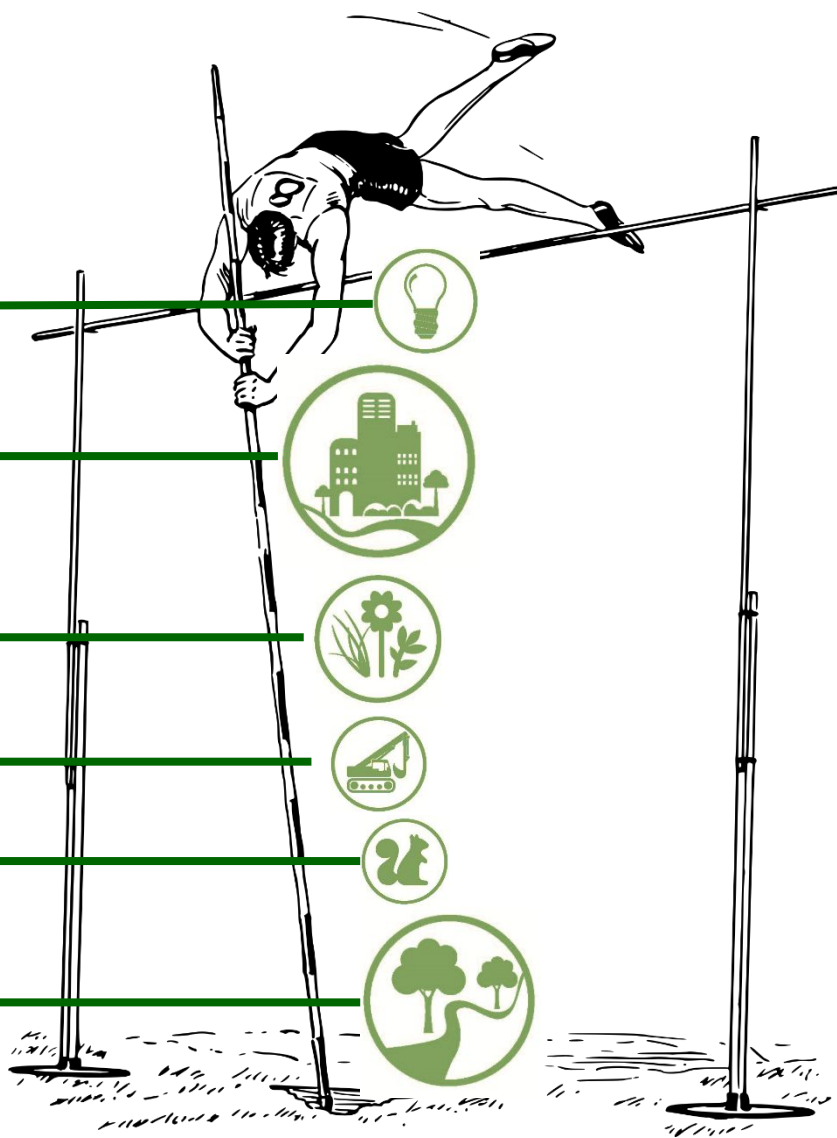
SITE STABILIZATION



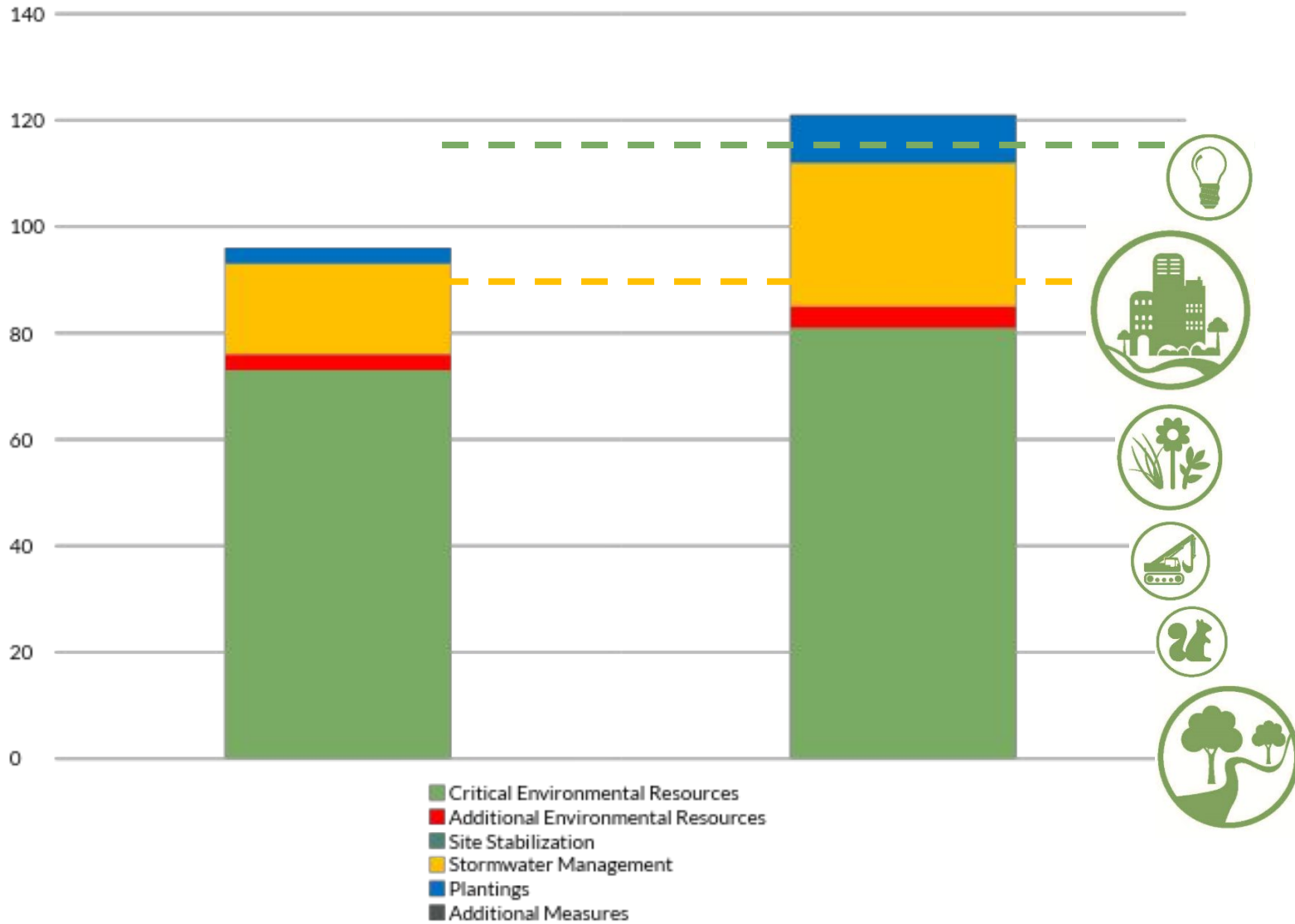
ADDITIONAL NATURAL RESOURCES



CRITICAL NATURAL RESOURCES



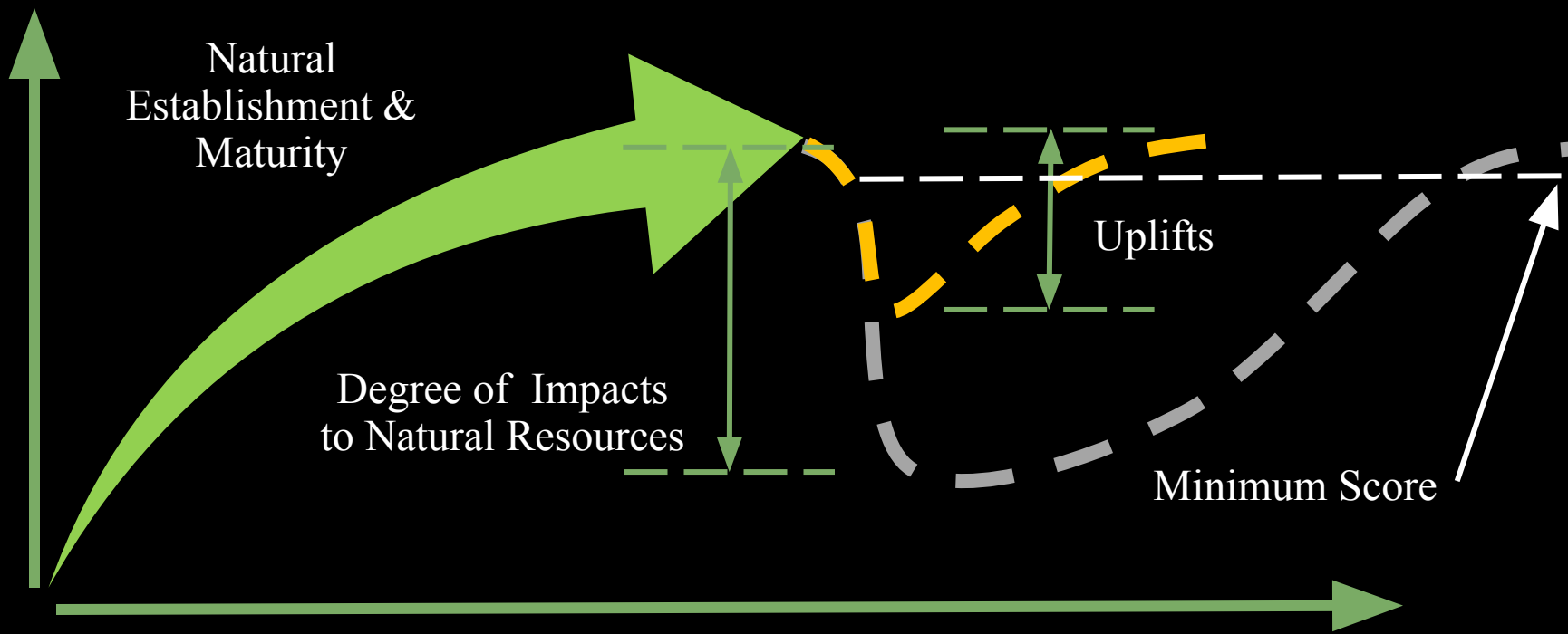
Exceptional Stormwater Design Evaluation Case Study Comparison



Exceptional Development

Standard Development

Scoring Mechanics



A NEW DESIGN APPROACH



DISCUSSION



Categories and Metrics



CRITICAL NATURAL RESOURCES



ADDITIONAL NATURAL RESOURCES

- Streams (Perennial & Intermittent)
- Wetlands & Waterbodies
- Floodplains
- Riparian Buffers
- Tree Canopy
- Additional Buffer Width
- Ephemeral Channels
- Tree Protection
- Impervious Cover
- Steep Slopes



SITE STABILIZATION

- Erosion Control Volume
- Disturbed Area
- Silt Fence
- Sedimentation

Categories and Metrics



STORMWATER
MANAGEMENT

- Runoff Volume
- Flood Control
- Nutrient Loading
- Non-Structural Controls
 - Green Infrastructure
- Water Quality Treatment



PLANTINGS

- Native & Drought Tolerant Landscaping
- Restored Tree Canopy
- Amenities
- Soil Preservation
- Tree Root Zone

- Education
- Pilot Projects



INNOVATION



Exceptional Design



Balancing Act: Water Quality Protection & Quality of Life



AMENITIES

MINIMIZE IMPERVIOUS COVER

NON STRUCTURAL SCMs

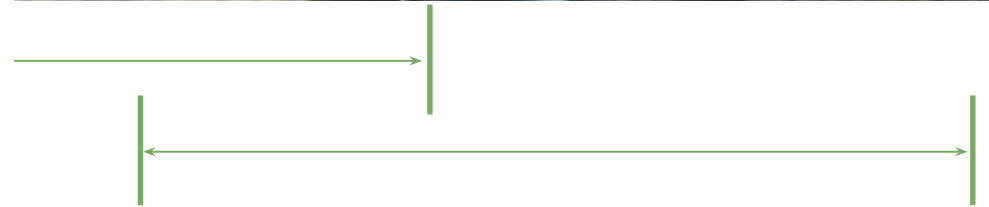
STEEP SLOPE PRESERVATION

NATIVE & DROUGHT TOLERANT

VEG.

ADDITIONAL BUFFERS

EPHEMERAL CHANNELS



NATIVE & DROUGHT TOLERANT VEG.

ADDITIONAL BUFFERS

EPHEMERAL CHANNELS

Community Planning



SOIL PRESERVATION
TREE ROOT ZONE

REGIONAL SCMs
AMENITIES
WATER QUALITY VOLUME
FLOOD CONTROL
NUTRIENT REDUCTION



Urban Districts



AMENITIES
MASTER PLANNING

GREEN INFRASTRUCTURE
RUNOFF VOLUME REDUCTION
WATER QUALITY VOLUME
TREE ROOT ZONE
SOIL AMENDMENTS
SITE STABILIZATION

SITE DESIGN

ARCHITECTURE

LANDSCAPE
ARCHITECTURE

STORMWATER



ROADS



SITES



SPACES

GREEN STREETS

Stormwater Control Measures
within the right of way corridor

DESIGN ADVANTAGES

- Multi-Use Corridors
- Land Use Efficiency
- Distributed Controls
- Retrofits

CHALLENGE

- New “Technology”



PROOF OF CONCEPT



SEATTLE



PORTLAND



ATLANTA





PROOF OF CONCEPT



WILMINGTON



GREENSBORO



NCDOT



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ROADWAY PRIORITIES

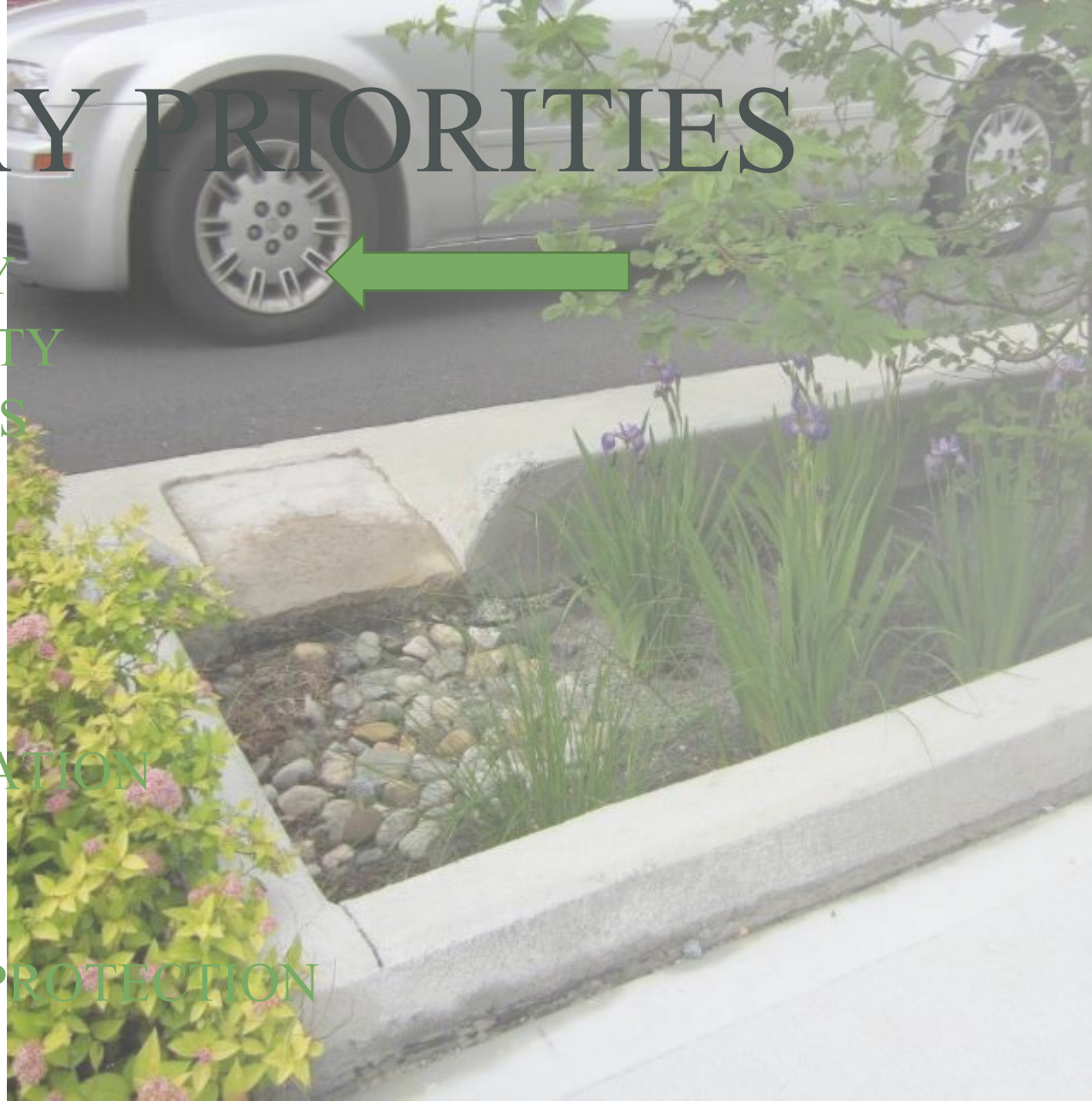
ROADWAY SAFETY
PEDESTRIAN SAFETY
STREETScape USES

- Landscape
- Parking
- Public Works

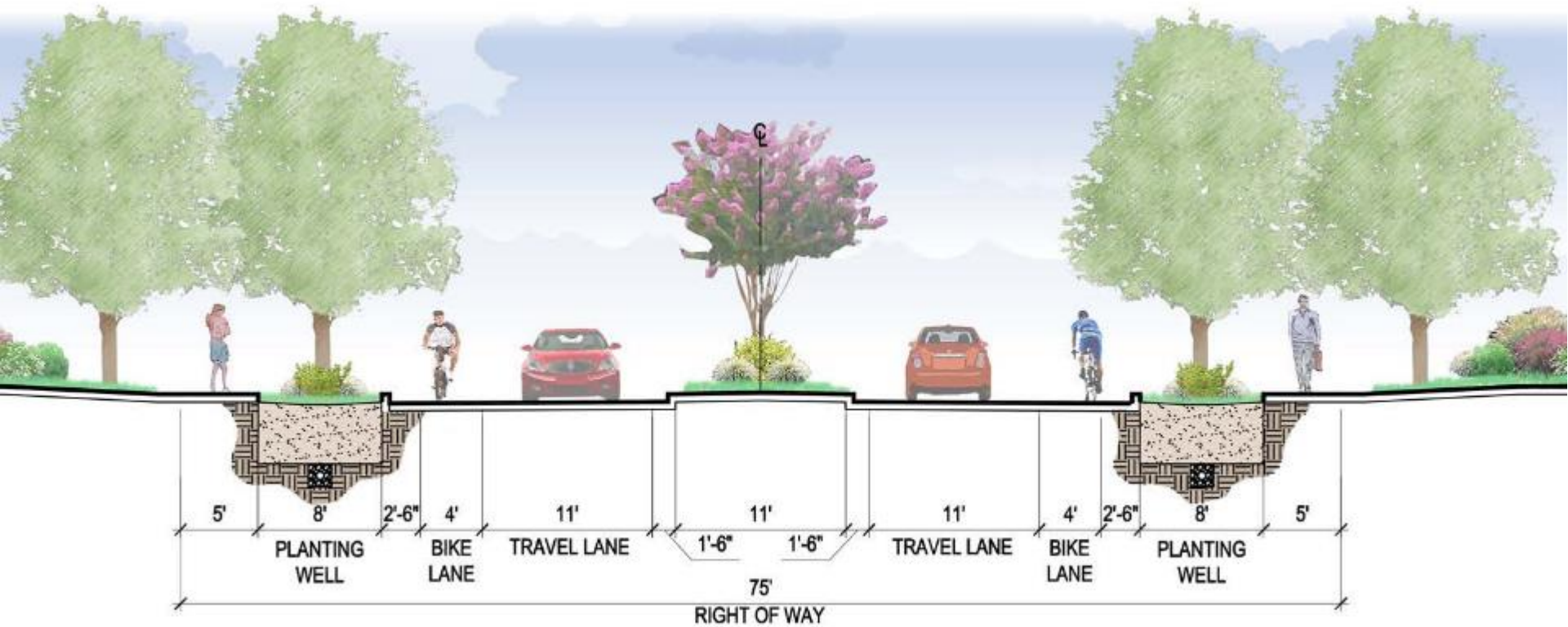
CONSTRUCTION
LONG TERM OPERATION

- Utilities
- Maintenance

ENVIRONMENTAL PROTECTION

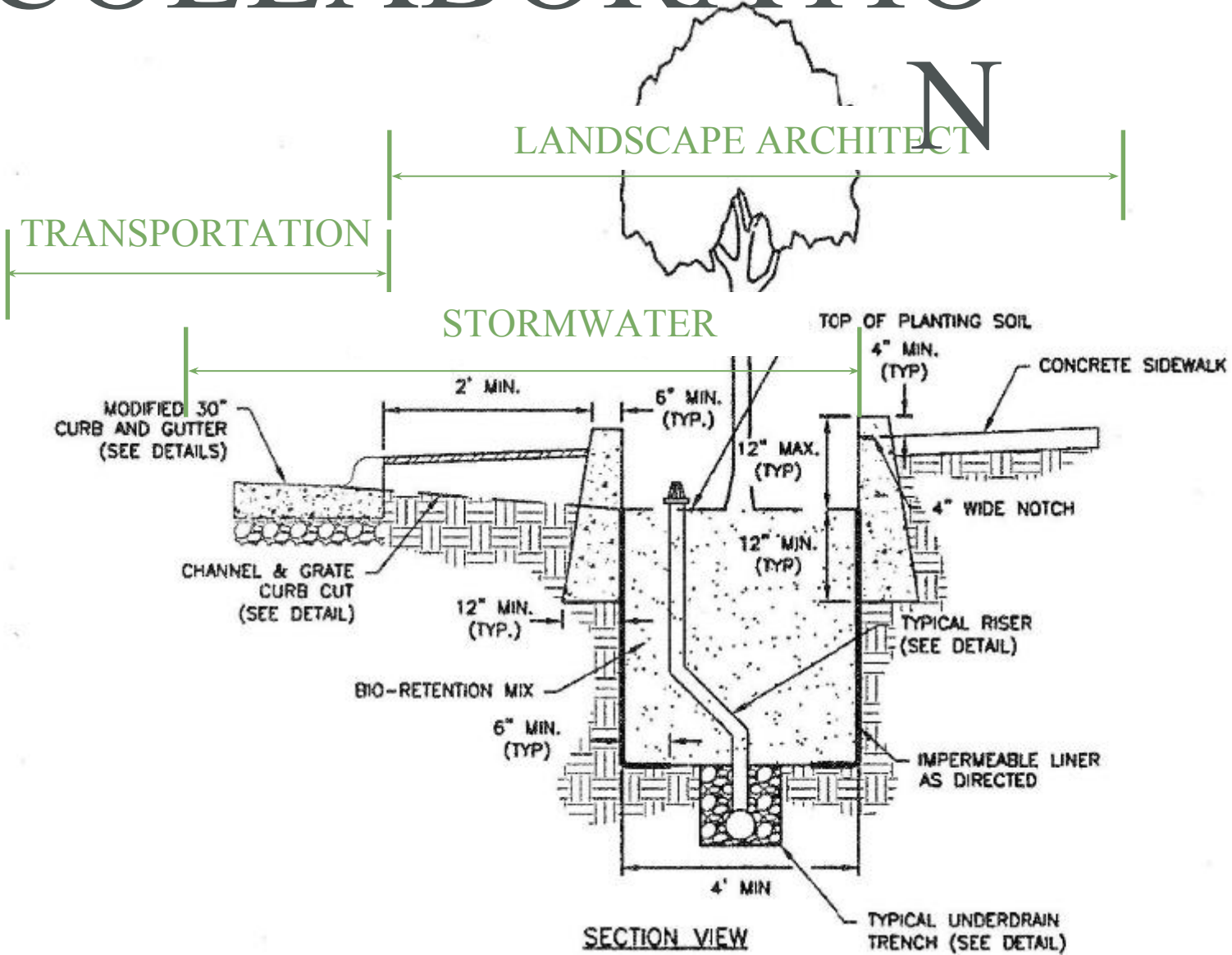


ROADWAY PRIORITIES

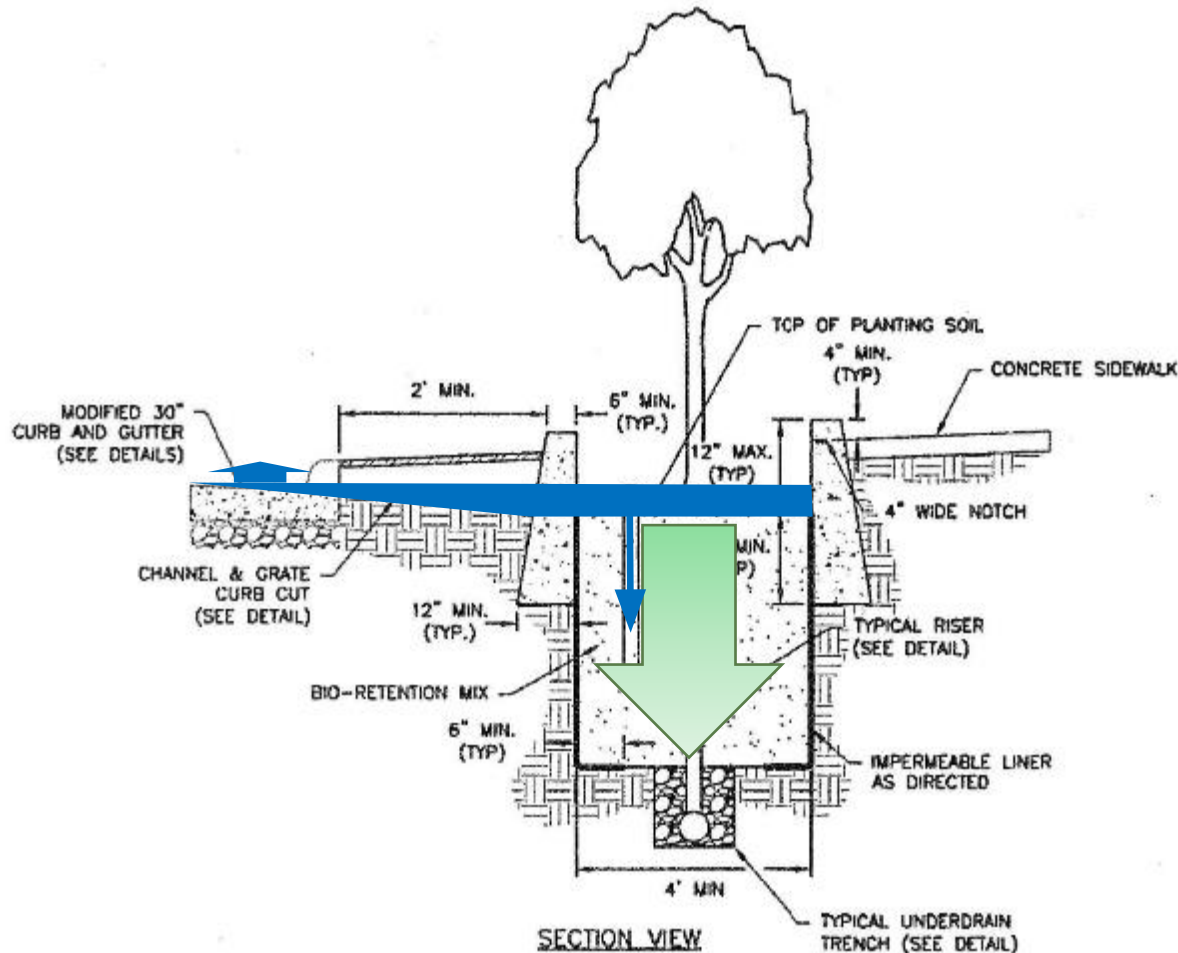


FREEDOM PARKWAY ROADWAY SECTION
49' B/B & 75' PUBLIC R/W

COLLABORATION



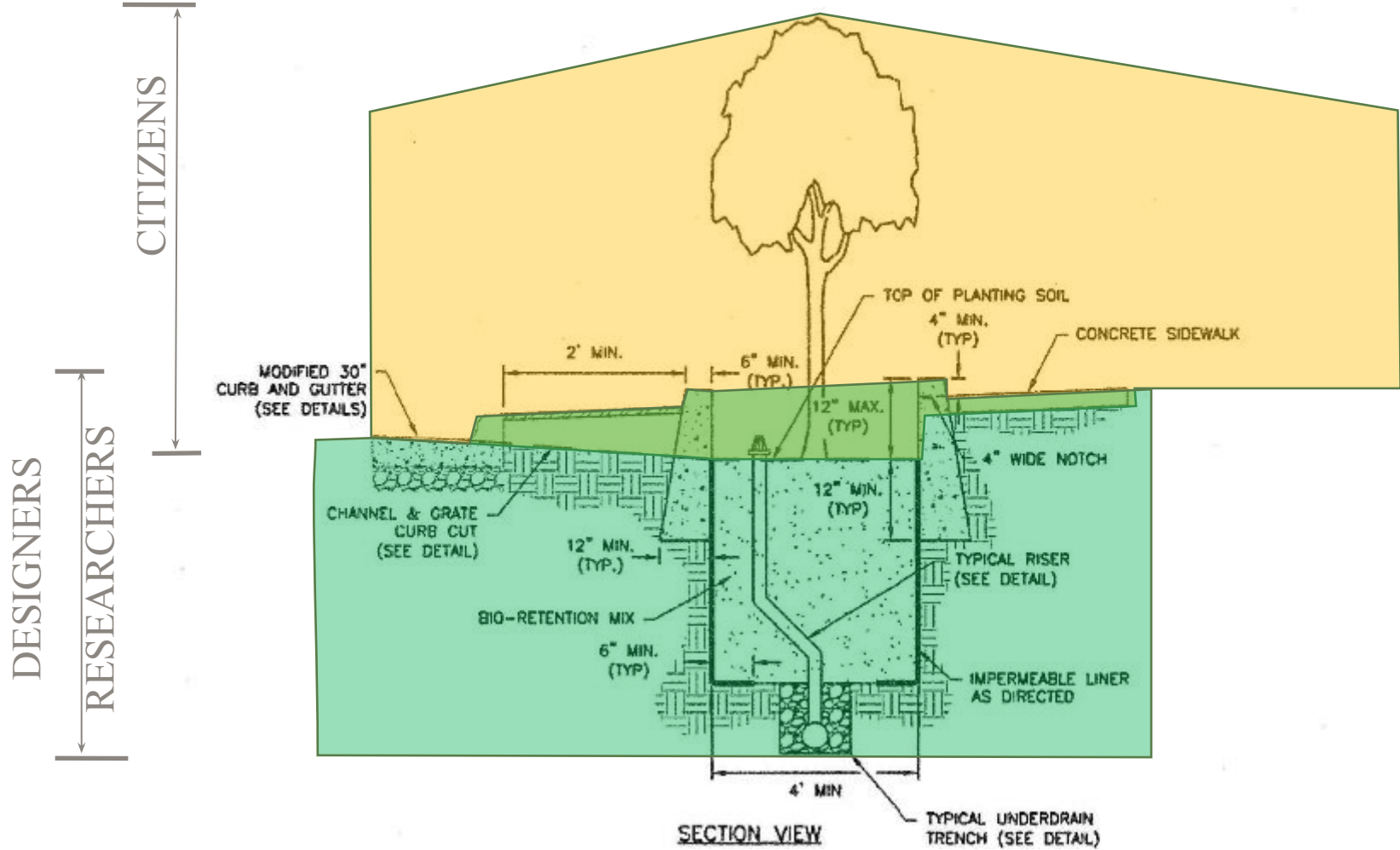
INCORPORATING GREEN



PLANTING MEDIA

- Sandy
 - ...but livable
- High Infiltration
 - ...but retains moisture
- Modified bio-mix

....A SHIFTING DESIGN PARADIGM



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INVESTMENT OPPORTUNITY

COMMUNITY SPACES
RETURN ON INVESTMENT

- Sales / Leasing

DENSITY

- More Efficient Land Use

MARKETING

- Aesthetics
- Sustainability



OPEN SPACES



SITES



PARKS



RECREATION



BLURRING THE LINE BETWEEN FORM & FUNCTION



**FLOOD
CONTROL**



**COMPLIANCE &
PERMITTING**



**FLOOD
CONTROL**



**WATER
QUALITY**

DESIGN CHALLENGES



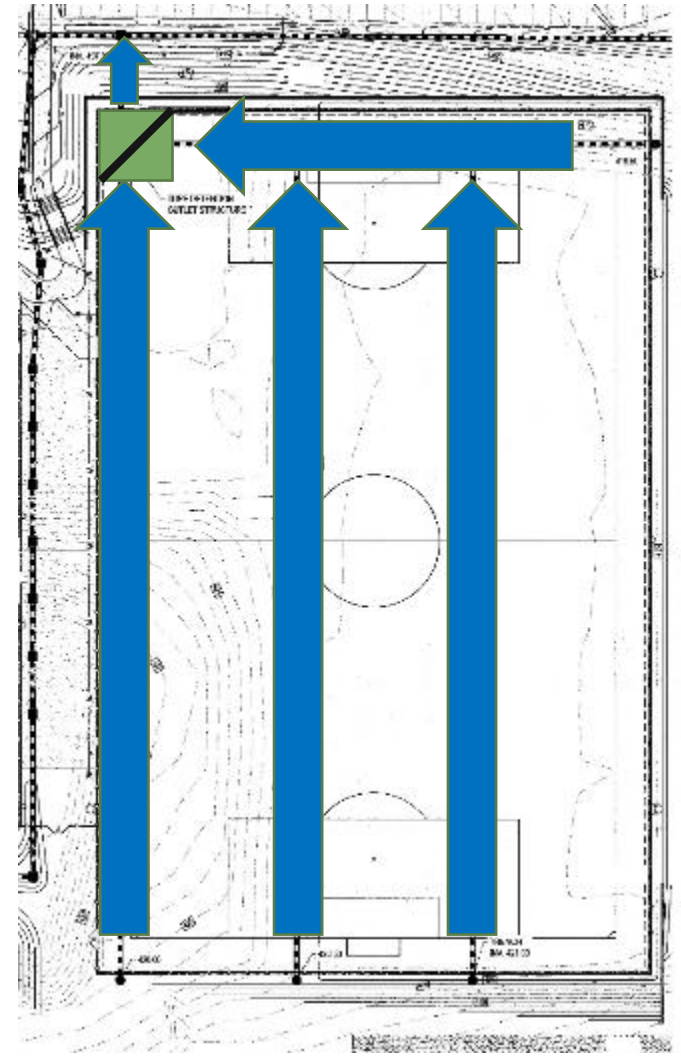
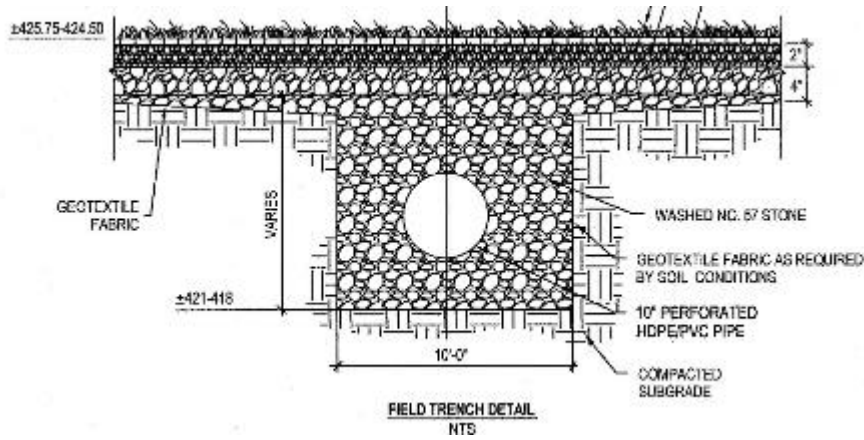
UNKNOWNNS:

- ENVIRONMENTAL PROTECTION
- OVERALL PERFORMANCE
- CONTRACTOR AWARENESS

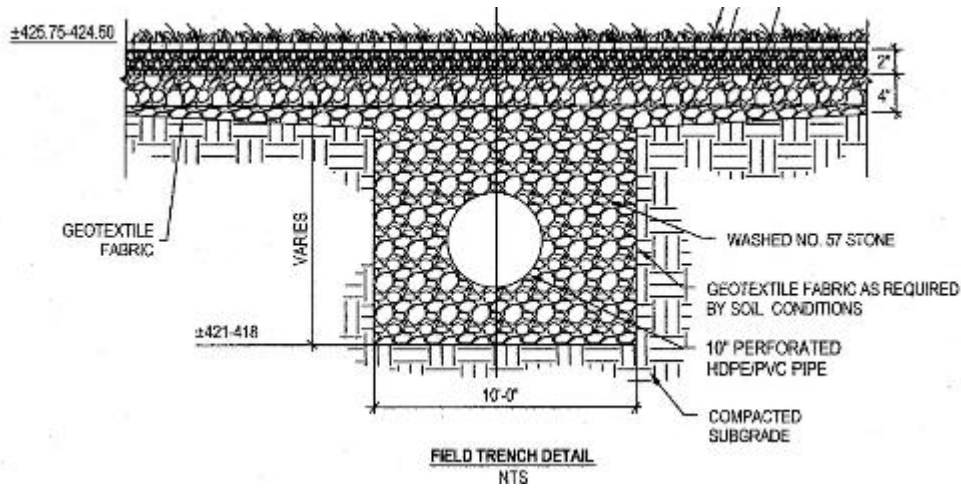
BARRIERS:

- DESIGN & PERMITTING
- CONFIDENCE LEVELS
- OWNERSHIP / MAINTENANCE
- POLITICS
- LAWYERS

EMBRACING INNOVATION



PERMITTING CHALLENGES



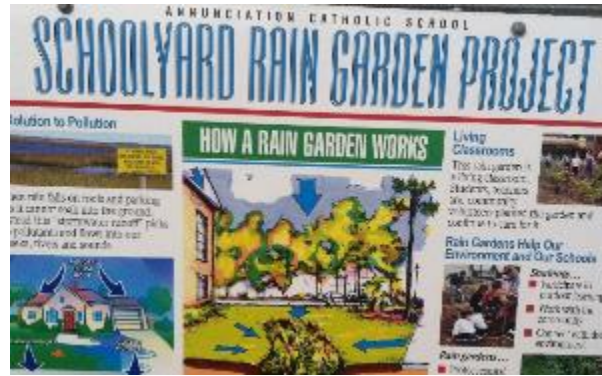
MULTI-FACETED BENEFITS



BEYOND COMPLIANCE



ART



EDUCATION



DESTINATION

... INTANGIBLE VALUES

The logo for DCHD (DeKalb County Health Department) is displayed in white text on a pink square background.

The Pond

The Museum Park is a living laboratory for the exploration of art, contemporary design, and sustainable environmental management. This constructed landscape is designed to manage storm water flow from a 50-acre drainage area starting at the new West Building, housing the Museum's permanent collection of art, and flowing down to the Pond.

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