

# COLLABORATIVE TRANSFORMATION OF AN ULTRA URBAN STREAM

BRANCH AVE PARK STREAM RESTORATION  
D/B/M











# PROJECT BACKGROUND

## Actaeon Team

### Actaeon

- Prime D/B/M
- Construction & Maintenance

(MBE/WOSBE)



### Straughan Environmental

- Design
- Construction Oversight

(MBE/WOSBE)



Small, Contractor Led D/B/M Team

*"If you want to go fast, go alone. If you want to go far, go together." – African Proverb*





# AWARD WINNING DESIGN

## Team Style



Optimize

“How do we set each other up for success?”

Engage

Contractor in design stage

Engineer on site during construction

Client throughout process

*We're all in the ditch together.*



# PROJECT DESCRIPTION

## Client Defined Goals

Improve

erosive forces from stormwater

Provide

higher quantity and quality habitat

Achieve

functional uplift: hydrologic, hydraulic  
geomorphic and physiochemical

Preserve

mature trees and forest

Provide

safe walking trail

Remove/  
Control

invasive plant species

*Joe Arrowsmith standing in channel with a 20-foot rod during stream characterization studies.*





# EXISTING CONDITIONS

## The Ugly



*"That is the most depressing pipe in all of DC." – Josh Burch, DOEE*





# EXISTING CONDITIONS

## The Bad



*"That is the most depressing pipe in all of DC." – Josh Burch, DOEE*





# EXISTING CONDITIONS

## The Good

- *Salvageable native ferns*
- *Salvageable stream bed material*
- *Mature trees for shade, seed, root system.*
- *Spring fed seep.*





# STAKEHOLDER ENGAGEMENT

## Client(s)

DOEE	Project Owner
DPR	Parkland Owner
DDOT	Forestry
DC Water	“Shared” Infrastructure
Public	Residents and Users

*Actaeon Team meeting with clients during preliminary stream design stage.*





# STAKEHOLDER ENGAGEMENT

## Dialogue with Community

3 community presentations

- 2 with neighbors at project site
- 1 Advisory Neighborhood Commission (ANC) mtg

Active listening through D/B/M phases

Incorporating/Responding to  
comments/concerns

*DOEE and Actaeon Team presenting concept design to neighbors and exploring site together as first step of design process.*









# Functional Assessment

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- ✘ 35% impervious drainage
- ✘ Fully entrenched
- ✘ No variety in depth of features
- ✘ Stream incised below gravel = no substrate
- ✘ Presence of sewage
- ✘ No storage of sediment, wood, or other organics
- ✘ No fish, no benthics









# Constraints

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- ✘ Challenging terrain
- ✘ Steep profile (5-10%)
- ✘ Sacred tree canopy
- ✘ Infrastructure









# What does success look like?

- ✓ Respect the community
- ✓ Vertically stable
- ✓ Improve the extent of water on the landscape
- ✓ Provide “floodplain functions”
- ✓ Create a vegetation gradient
- ✓ No sewage



*Create the possibility for aquatic life!*





## *Our approach*

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Introduce *grade control* and fill to create wetland "terraces" with low slope and high storage capacity





# Constructability

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Regular reviews to assess viability and cost

Construction access

Use the channel as primary access to protect mature trees

Work around trees





# SURGICAL CONSTRUCTION

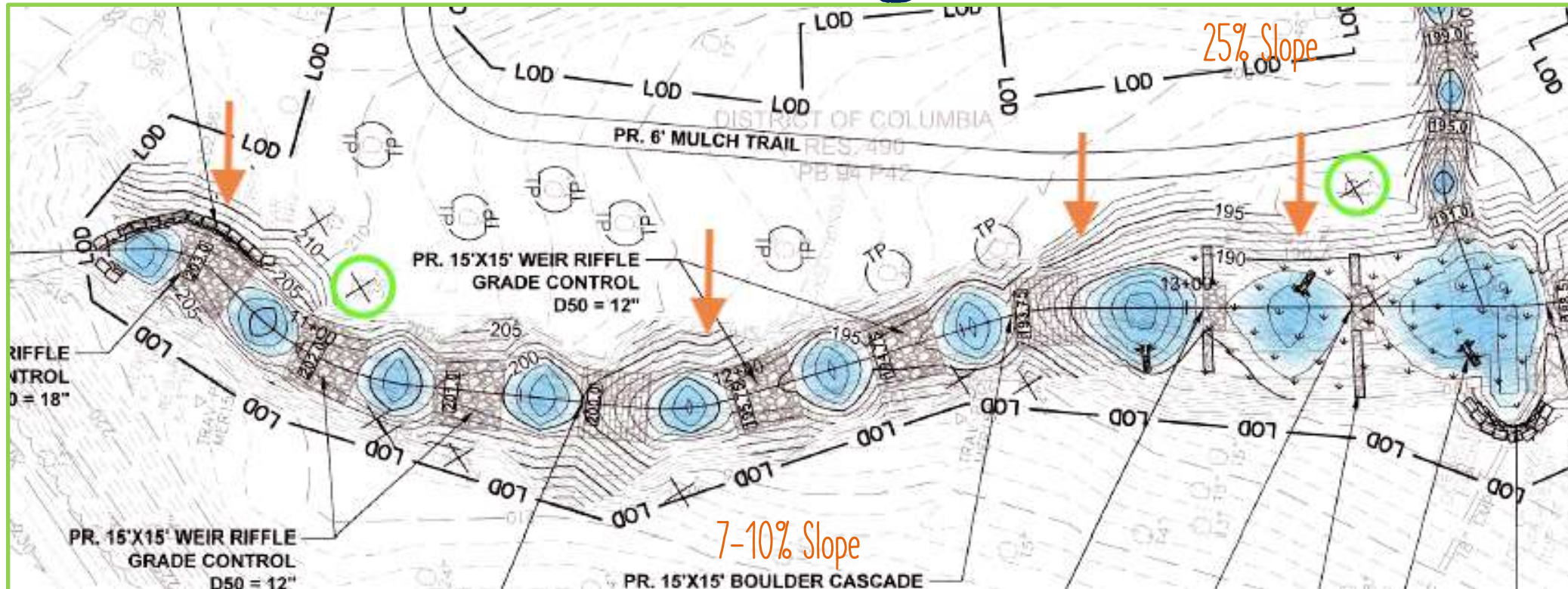
## Laparoscopic Approach





# SURGICAL CONSTRUCTION

## Challenges



*Trail alignment used as access road to minimize tree removal.  
Strategic access to stream to save trees permitted for removal (5).*





# Challenges

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Tight LOD (limit incisions)

Steep slopes (sutures)

Large trees (organs) to protect

2.5 outfalls ➤ Extremely flashy  
(hemopheliac)



*Methodical planning and execution with crew that are on board with and actively practicing minimization of disturbance at every stage.*



# Holistic Approach

Taking time to observe and respond  
(adaptive management)

Code Blue: responding to unexpected  
events

“Specialists” on call





# MAINTENANCE



Continuity with Same B/M Contractor

- Knowledge of site-specific needs
- Preventive maintenance

Adaptive management pays off for all





# REGENERATING STREAM





# REGENERATING STREAM





# REGENERATING STREAM



# RESULTS

Clean water!

Wetlands!

Pollinators!

Bugs!

*Birds!*

*Beaver!*

*Fish!*







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