

# RODNEY DORMITORY SITE STORMWATER MANAGEMENT PROJECT

Newark City Council

December 11, 2017

# AGENDA

- ▶ Project Background
- ▶ Stormwater Management
- ▶ Public Participation
- ▶ Draft and Preferred Concepts
- ▶ Next Steps
- ▶ Question and Answer Session



# PURPOSE OF TONIGHT'S PRESENTATION

- ▶ Provide Council with Update on Project
- ▶ Answer Questions, and Provide Clarifications
- ▶ *Approval to Submit Loan Documents to Secure Project Funding*
  - ▶ *Through the State Revolving Loan Program*
  - ▶ *Begins the Referendum Process*

# PROJECT TEAM – ROLES AND RESPONSIBILITIES



**Tim Filasky, PE**

*Interim Dir. Public Works and  
Water Resources*



**Kelly Bachman**

*Communications Manager*



**Tom Coleman, PE**

*Acting City Manager*



**Joe Spadafino**

*Director of Parks and Recreation*



**Christopher Brendza, PE**

*Project Manager*



**Elisabeth McCollum, CPSM**

*Public Participation*



**Jay Kelley, PE**

*Stormwater Management*



**Andrew Mears, PLA**

*Parks / Recreation*



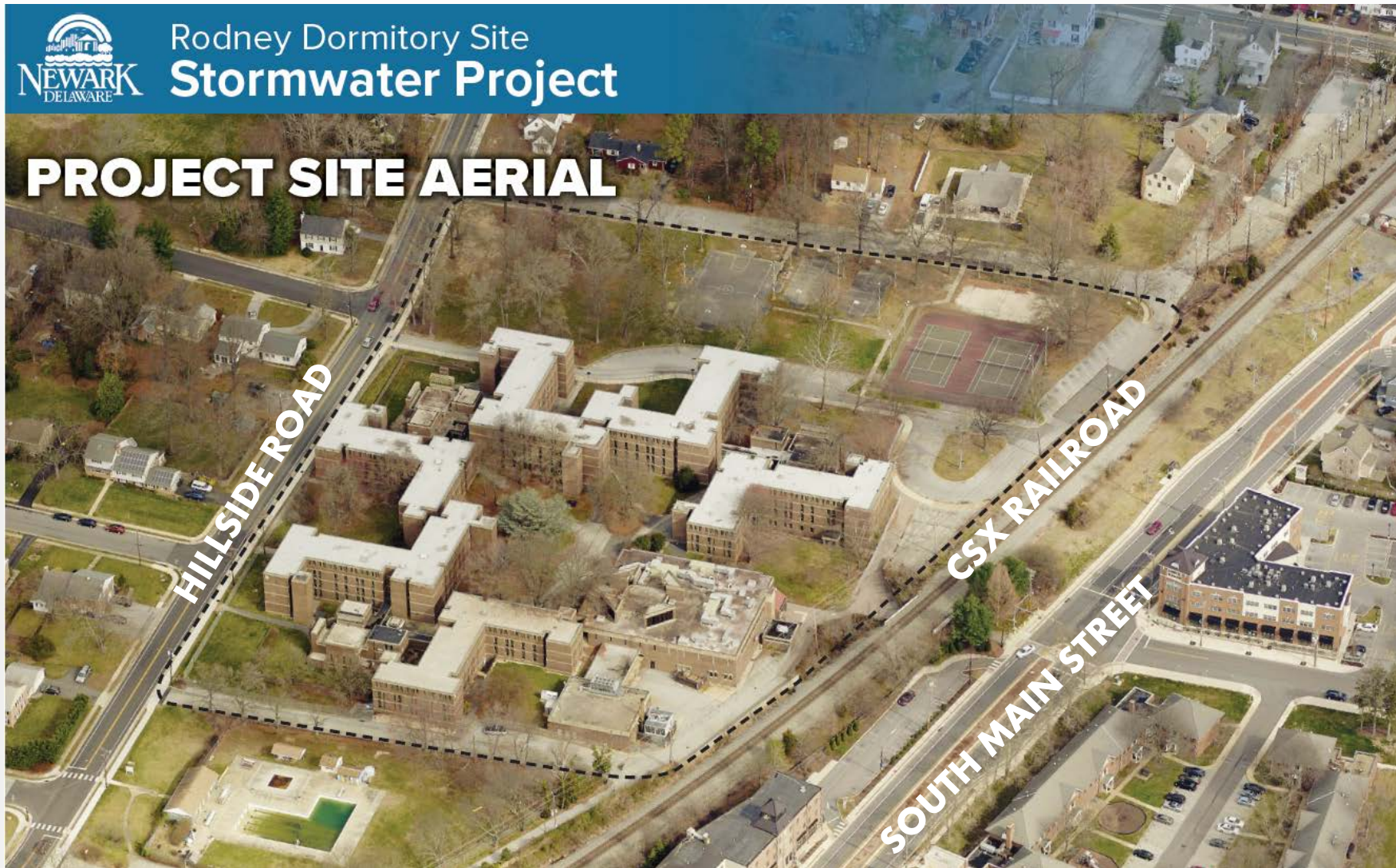
**Amanda Finnerty**

*Brownfields / Demolition*



# Rodney Dormitory Site Stormwater Project

## PROJECT SITE AERIAL



# PROJECT HISTORY

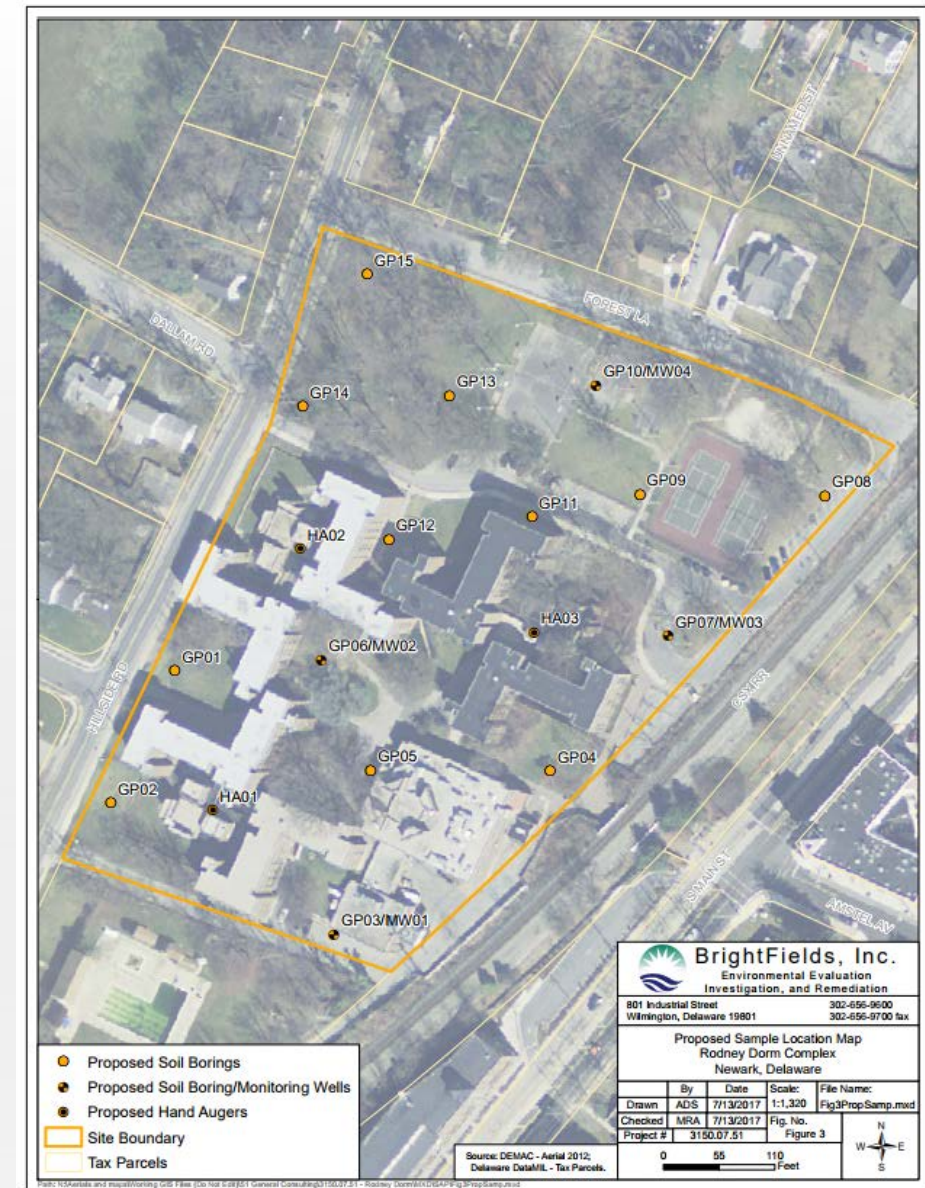
- ▶ 1966: Rodney Dormitory opened
- ▶ Spring 2014: Rodney Dormitory closed
- ▶ Spring 2015: Winter 2017 preliminary Due Diligence (cost estimating and planning)
- ▶ Winter 2017: City begins contractual process to acquire the site
- ▶ March 2017: City Council votes to enter into purchase agreement with UD
- ▶ Spring 2017: City hires JMT to design and manage the project
- ▶ July 2017: Workshop #1 held to help determine overall design components
- ▶ September 2017: Workshop #2 held to present 3 concepts designed using public feedback
- ▶ November 2017: Workshop #3 held to present preferred concept

# PROJECT SCHEDULE



# ENVIRONMENTAL REMEDIATION

- ▶ Sampling began in August 2017
  - ▶ Soil & Groundwater
  - ▶ Asbestos & Lead Paint – Within Buildings
  - ▶ Transformers & Concrete Pads
  - ▶ Soils Beneath Buildings
- ▶ Brownfield Investigation Report
  - ▶ Submitted in November 2017

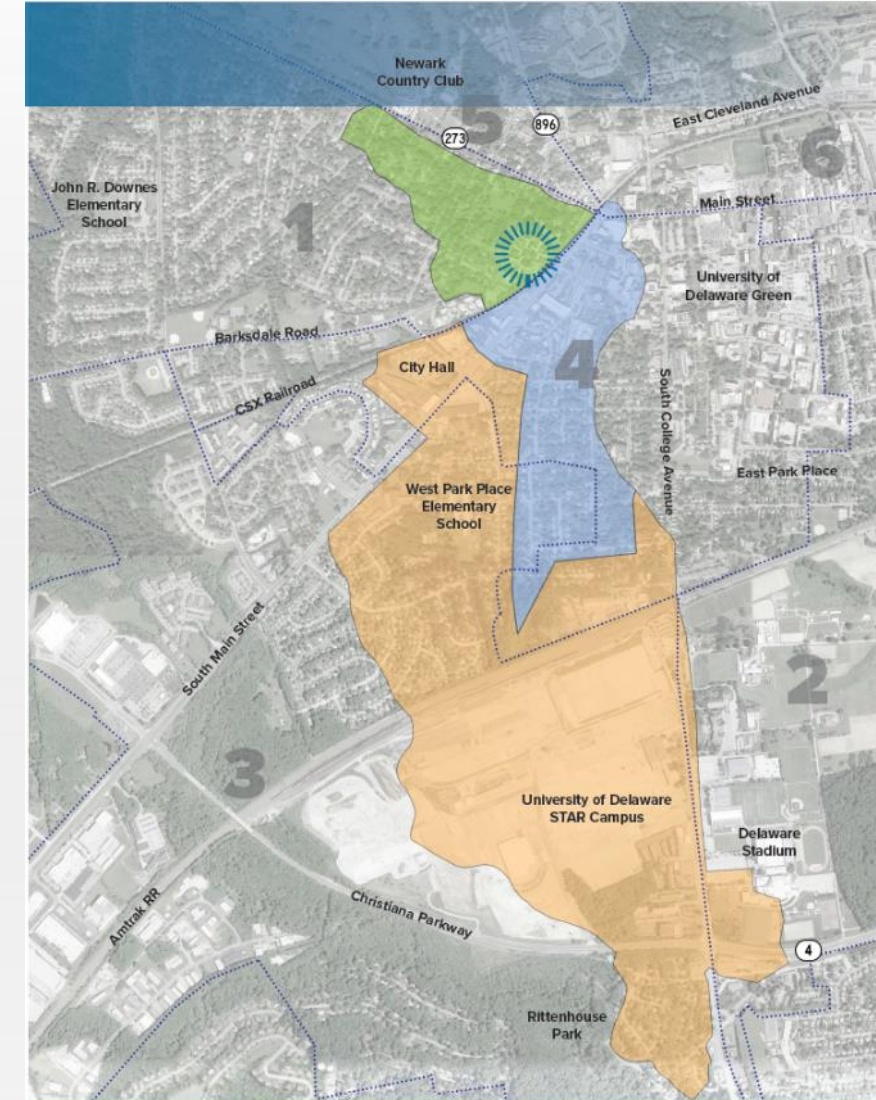




# Stormwater Management

# STORMWATER MANAGEMENT IMPACTS

- ▶ **Total Area of Influence**
  - ▶ 185+ Acres
- ▶ **Upstream Area of Influence**
  - ▶ 64 Acres Dense Residential Treated On-Site
- ▶ **Downstream Direct Impact Area**
  - ▶ 121 Acres Dense Residential
- ▶ **Downstream Indirect Impact Area**
  - ▶ 535 Acres



# STORMWATER MANAGEMENT NEED

- ▶ Frequent flooding along South Main St. and throughout the downstream community
  - ▶ Flooding at Rodney Underpass
    - ▶ August 13, 2013 – 3.1” rainfall
    - ▶ Approximate 2-year Storm Event
    - ▶ Design 10-year storm event - 4.8”
- ▶ Flood Control Goals
  - ▶ Design to manage 6.0”



# STORMWATER MANAGEMENT NEED

## ► Christina River Basin

### ► Includes 4 Major Watersheds

► Brandywine Creek

► Red Clay Creek

► White Clay Creek

► Christina River (Rodney Site)

► Source of drinking water for over 400,000 people

► Multiple recreational activities

## Christina Basin Pollution Control Strategy



November 2011



UNIVERSITY OF  
DELAWARE



# STORMWATER MANAGEMENT DESIGN

## ► SWM Wet Pond

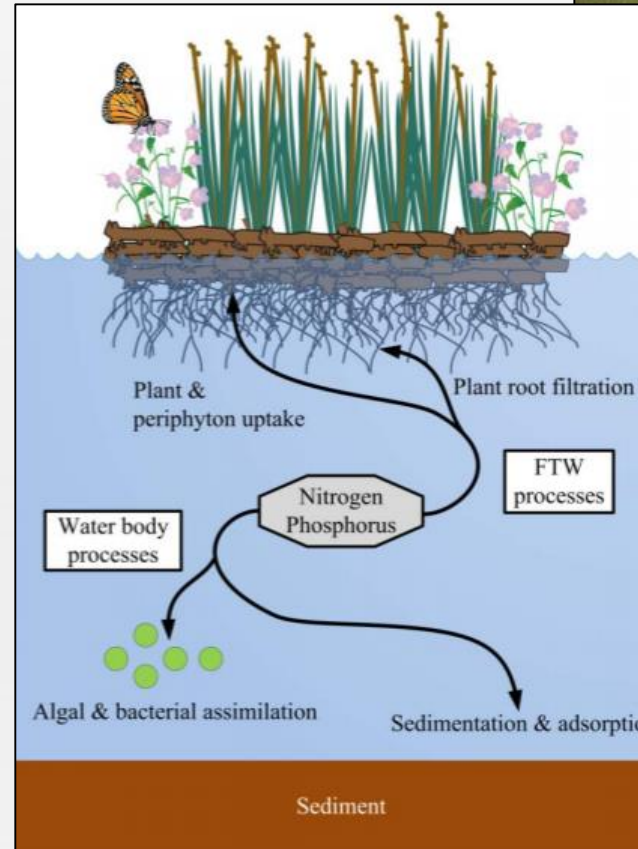
- Provides water quality treatment
  - Reduction of suspended solids
  - Reduction of nutrients
- Flood Mitigation
  - Manages larger contributing drainage areas
- Aesthetics / Park Features
  - Unique features – flowing spillways
  - Native species plantings
  - Support aquatic life



# STORMWATER MANAGEMENT DESIGN – BEST MANAGEMENT PRACTICES (BMPS)

## ► Floating Wetlands

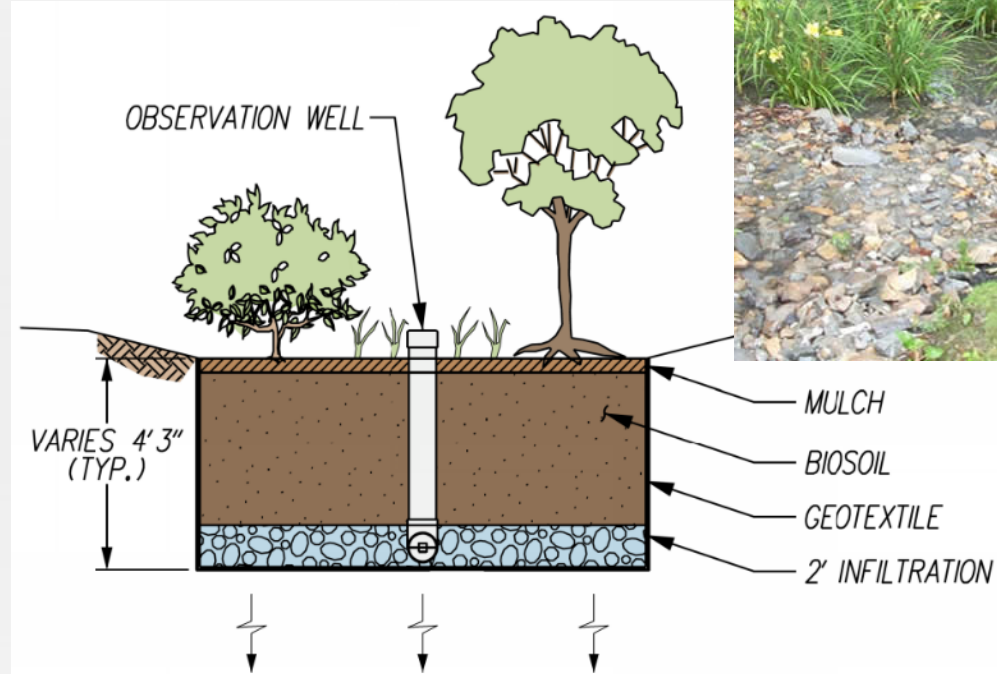
- Enhance nutrient removal (10-20%)
- Provide riparian habitat
- Stabilize shore lines
- Aesthetic enhancements
- Education and public involvement opportunities



# STORMWATER MANAGEMENT DESIGN – BEST MANAGEMENT PRACTICES (BMPs)

## ► Rain Gardens/Bioretention

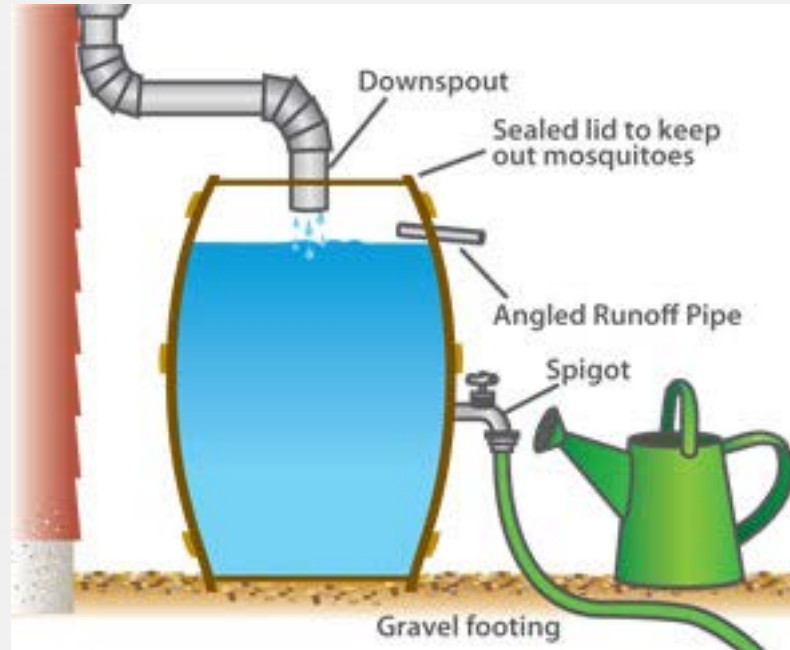
- 100% reduction of pollutants
- Enhance the landscape
- Completely customizable
- Educational Opportunities



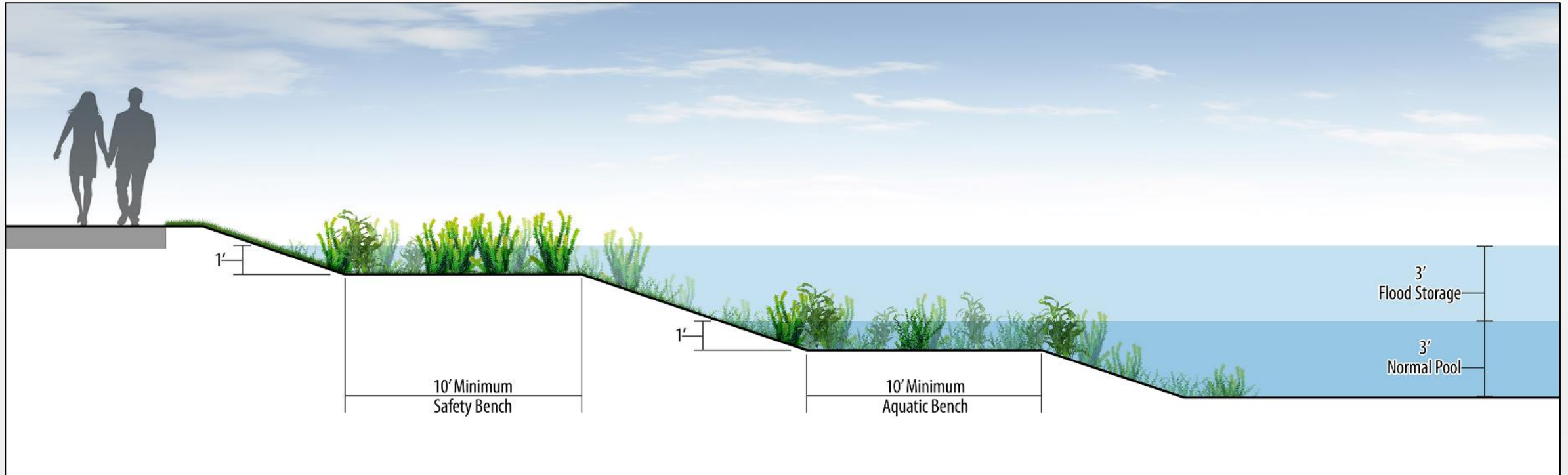
# STORMWATER MANAGEMENT DESIGN – BEST MANAGEMENT PRACTICES (BMPS)

## ► Rain Water Harvesting

- Rain Barrels
- Easy to make and maintain
- Collectively reduce runoff
- Save on water usage
- Educational Opportunities



# STORMWATER MANAGEMENT - SAFETY



- ▶ Delaware Sediment and Stormwater Regulations
- ▶ Pond Code 378 for Urban Stormwater Management Ponds



# Public Participation

# PUBLIC PARTICIPATION PROGRAM

- ▶ Mix of informal, online, and formal outreach
- ▶ Attended: New Night (June 2017); Food and Brew Fest (July 2017); and Community Day (September 2017) to informally discuss project with residents and provide information about how to get involved
- ▶ Provided up-to-date project webpage and email address for inquiries/comments
- ▶ 3 Public Workshops were held: July 25, September 28, and November 8, 2017
- ▶ All meeting materials and surveys were posted online for those who could not/did not attend meetings

# PUBLIC PARTICIPATION PROGRAM

- ▶ One-on-one stakeholder interviews were held with: UD, Oaklands Pool, and Bike Newark to gather feedback before the first meeting
- ▶ Developed a project distribution list of over 200 interested parties between outreach activities and meetings
- ▶ Emails, webpage, videos, press releases, news articles, flyers, signage, cards, and social media were used to advertise/promote meetings and the opportunity to get involved
- ▶ Feasible feedback from emails, surveys, and meetings was incorporated into the Draft Concepts and Preferred Concept

# WORKSHOP #1 SUMMARY

July 25, 2017

- ▶ **Approximately 25 attendees**
- ▶ **Several interactive exercises**
- ▶ **Flood control most important**
- ▶ **Trails and natural elements popular**
- ▶ **Need lighting/safety and security at site**
- ▶ **SWM education and cost/referendum major challenges**



# WORKSHOP #2 SUMMARY

September 28, 2017

- ▶ Approximately 45 attendees
- ▶ 40% of participants preferred Concept 2
- ▶ 42% of participants felt the concepts reflected their feedback (55% did not participate in previous outreach efforts/activities)
- ▶ 85% feel that the concepts address SWM concerns
- ▶ Concerns about SWM education and cost/referendum still remain



# WORKSHOP #3 SUMMARY

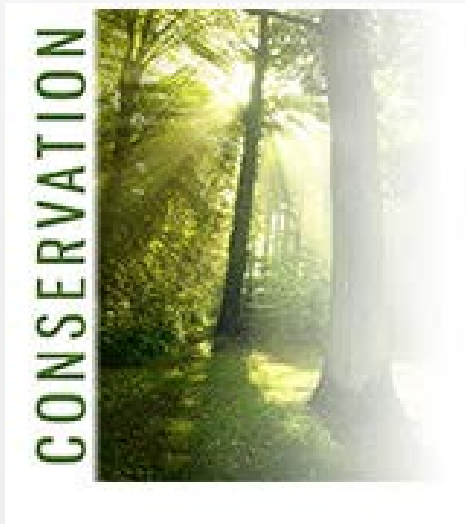
November 8, 2017

- ▶ Approximately 45 attendees
- ▶ Majority felt that the concept addresses SWM concerns and that the park will be a great addition to the City
- ▶ Questions about small design details were asked (if the shared use path is wide enough, existing tree preservation, etc.) that the City can answer without needing to update the design

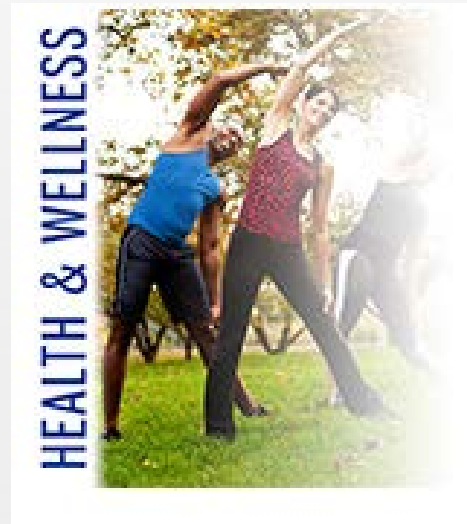


# Concepts

# PARK GOALS AND PROGRAM



Protecting open space, connecting children to nature, and engaging communities in conservation practices.



Leading the nation to improved health and wellness through parks and recreation.



Ensuring all people have access to the benefits of local parks and recreation.

- ▶ Aligns with the Goals of the recently updated Newark Parks, Recreation, and Open Space Plan, 6/21/2016
- ▶ Supports Newark's Vision of a “Healthy, Sustainable, and Inclusive Community”
  - ▶ Healthy Community
  - ▶ Sustainable Community – Environmental
  - ▶ Sustainable Community – Economic
  - ▶ Inclusive Community

Source: [www.nrpa.org](http://www.nrpa.org)

# INITIAL PARK GOALS

- ▶ Re-purpose the site to manage stormwater runoff and help alleviate flooding
- ▶ Incorporate appropriate amenities desired by the residents and in line with Newark Parks, Recreation, and Open Space Plan
- ▶ Provide residents and visitors with a fun and unique recreational destination that complements the function of the site as a stormwater mitigation measure

## Design Objective:

- ▶ The design of the concept plan was further refined to showcase opportunities for Nature Play and Learning Landscapes
  - ▶ Drawing on the inspiration of the park functioning as a flood mitigation measure, a natural playground meant to introduce environmental education and awareness into the site as a stormwater management facility is recommended
  - ▶ A series of interconnected multifunctional destination spaces are designed for traditional passive recreation that include interpretive and demonstrative amenities to help children understand and appreciate the value of the ecosystems within the park
- ▶ The parks loop trail has been designed as a “Pathway for Play” and includes the following five design principles as outlined by the National Learning Initiative:
  - ▶ Infuse play and learning value into the pathways
  - ▶ Create shared use, inclusive pathways
  - ▶ Connect pathways to meaningful destinations
  - ▶ Locate pathways where children live
  - ▶ Apply appropriate themes for learning



# CONCEPT DESIGN #1 \$6 MILLION

## PARK AMENITIES

- 1 Drop Off / Parking - 12 Spaces (1 ADA)
- 2 On-Street Parking - +/- 26 Spaces
- 3 Improved Parking - 10 Spaces (1 ADA)
- 4 Pond
- 5 12' Wide Multi-Use Trail
- 6 8' Wide Multi-Use Trail
- 7 Pedestrian Crosswalk
- 8 Rest Stop
- 9 Raised Landscape Mounds
- 10 Riparian (Pond Side) Meadow
- 11 Existing Grove to Remain
- 12 Short Meadow



# CONCEPT DESIGN #2 \$8.1 MILLION

## PARK AMENITIES

- 1 Drop Off / Parking - 12 Spaces (1 ADA)
- 2 On-Street Parking - +/- 26 Spaces
- 3 Improved Parking - 10 Spaces (1 ADA)
- 4 Entry Plaza
- 5 Overlook Terrace
- 6 Raised Overlook
- 7 Accessible Fishing Pier
- 8 Pond
- 9 12' Wide Multi-Use Trail
- 10 8' Wide Multi-Use Trail
- 11 Large Group Pavilion
- 12 Renovated Basketball Court
- 13 Open Lawn (180' x 100')
- 14 Natural Play Area
- 15 Existing Grove to Remain
- 16 Pedestrian Crosswalk
- 17 Wetland Boardwalk
- 18 Rest Stop
- 19 Raised Landscape Mounds
- 20 Raised Stepping Stones
- 21 Riparian (Pond Side) Meadow



# CONCEPT DESIGN #3 \$9.8 MILLION

## PARK AMENITIES

- 1 Drop Off / Parking - 45 Spaces (2 ADA)
- 2 On-Street Parking - +/-18 Spaces
- 3 Entry Plaza
- 4 Destination Playground
- 5 Streetside Overlook Terrace
- 6 Accessible Pedestrian Bridge with Fishing Docks
- 7 Large Group Pavilion
- 8 Multi-Tiered Pond
- 9 12' Wide Multi-Use Trail
- 10 8' Wide Multi-Use Trail
- 11 Half-Court Basketball
- 12 Pavilion with Raised Overlook
- 13 Open Lawn (150' x 120')
- 14 Pavilion with Terraced Seating
- 15 Existing Grove to Remain
- 16 Pedestrian Crosswalk
- 17 Pavilion with Cut Stone Terrace
- 18 Rest Stop
- 19 Retaining Walls
- 20 Raised Stepping Stones
- 21 Riparian (Pond Side) Meadow



# PREFERRED CONCEPT DESIGN



## Park Entry/Arrival Sequence

- ▶ Vehicular Drop Off
- ▶ Trail Connections
- ▶ 9 convenient controlled access points to the park



# PREFERRED CONCEPT DESIGN

## Pathways for Play

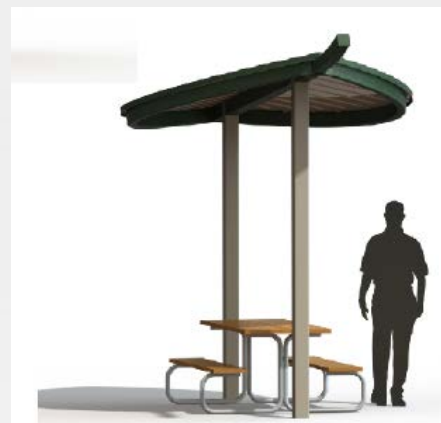
- ▶ Provides a diversity of play opportunities that are interconnected for a broad range of children by age, ability, and backgrounds
- ▶ 0.3 mile loop trail
- ▶ Passes through varied landscapes and native plantings
- ▶ Designed to avoid conflicts and promote connections beyond
- ▶ Hierarchy of trails, materials, distances, and surfaces
- ▶ Conveniently located rest stops
- ▶ Provides a mix of open, closed and long views across the site





Photos Courtesy of Earthscape









# PREFERRED CONCEPT DESIGN

## Interpretive Signage



Sample sign images courtesy  
of pulsedesign.com

# PREFERRED CONCEPT DESIGN

## Interpretive Signage

- ▶ Apply interpretive signs and messages associated with the overall theme and function of the site
- ▶ Tie themes to the activities on site, exemplifying sustainable design including water quality, conservation, native plants, erosion control, enhancement to natural habitats
- ▶ Information presented to encourage interaction
- ▶ Messages and information developed to the comprehension level of all ages and stages of development



# PROJECT COSTS

- ▶ Fixed Costs
  - ▶ Property Purchase - \$2,100,000
  - ▶ Site Demolition - \$2,000,000
  - ▶ Site Remediation - \$800,000
  - ▶ UD Credit – (Less \$700,000)

*Total Cost: \$4,200,000*



# PROJECT COSTS

| ITEM                                             | COST               |
|--------------------------------------------------|--------------------|
| Stormwater Components                            | \$1,400,000        |
| Park Amenities                                   | \$2,500,000        |
| Fixed Costs                                      | \$4,200,000        |
| <b>Total Project Cost</b>                        | <b>\$8,100,000</b> |
| Operations and Maintenance (O&M) Costs           | \$30,000/year      |
| Stormwater Utility Rate Adjustment (Tier 2 Home) | \$1.10/month       |

# Next Steps

# WHAT IF THE CITY DOES NOT PURCHASE THE RODNEY TRACT?

- ▶ The City would need to acquire an equivalent of 17 to 24 homes within the drainage area in order to make up for this area needed for Newark's stormwater issues.
- ▶ Would either need to wait decades as they became available, or use the condemnation process to acquire the properties. Condemnation process will add significant legal and administrative costs.
- ▶ Estimated total market acquisition cost for just potential homes purchases are \$4.3 to \$5.7 million, depending on which area is selected. Highest best use would need to be paid for condemnation process increasing this expense significantly.
- ▶ Estimated demo of 17 to 24 homes would be \$200,000. Construction costs are estimated to be similar to the Rodney Tract but would require additional investigation.
- ▶ Total estimate is \$8.1 million in today's dollars. Stormwater issues would continue for years until the final parcel is purchased and construction can begin.
- ▶ City would lose Brownfield reimbursement opportunity of \$300,000 and UD reimbursement of up to \$700,000.

# NEXT STEPS



# CITY STORMWATER MANAGEMENT EDUCATION/REFERENDUM CAMPAIGN EFFORTS

- ▶ Short, topic-specific videos to explain what stormwater is, why it's important, and how the Rodney site fits into the City's overall stormwater management plan
- ▶ Coordinated social media campaign to share similar information and engage with residents in real time
- ▶ Outreach to residents through monthly newsletters included in utility bills
- ▶ Dedicated website with information on the project
- ▶ Presentations to community organizations, rotary groups, church groups, etc.



# Questions?