RODNEY DORMITORY SITE STORMWATER MANAGEMENT PROJECT

Public Workshop #3 – Part I

November 8, 2017

AGENDA

- Welcome and Introductions
- Project Background
- Stormwater Management
- Parks and Recreation
- Workshop Summaries
- Question and Answer Session

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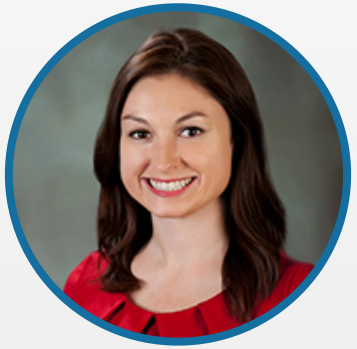
WELCOME AND INTRODUCTIONS

Tim Filasky, PE
Interim Dir. Public Works and Water Resources



Megan McGuriman
Community Affairs Officer

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

Gregg Crystal
Brownfields / Demolition

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STORMWATER UTILITY

- City Council approved the stormwater utility on October 9, 2017
- The City's stormwater fee is intended to fund our Clean Water Act obligations repair and maintenance of the stormwater system including the storm sewer, management facilities and other stormwater structures that help prevent flooding and minimize pollutants entering local streams, ponds, lakes, rivers and ocean
- Beginning January 1, 2018, residents will pay between $1.77 and $5.31 each month, depending on which tier their property falls into
- The four tiers are based on each residential parcel's impervious area
- The fee will raise $1.4 million each year to improve the City's stormwater facilities
- The Rodney Project will be funded by an increase to the base monthly amount

STORMWATER UTILITY

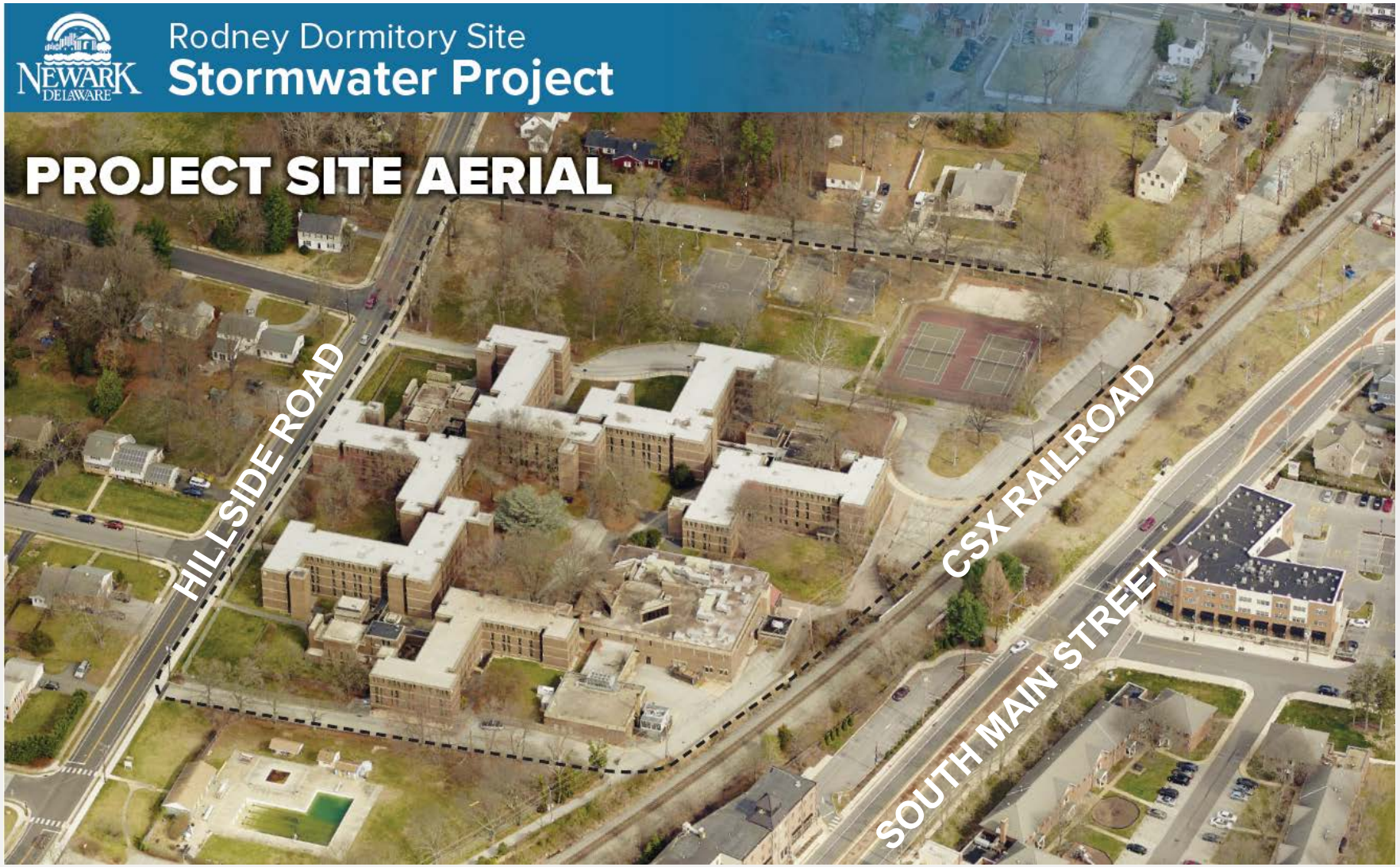
Residential

Tier	Impervious Area (Square Feet)	Equivalent Stormwater Unit (ESU) Factor	Monthly Fee
1	0 – 1,289	0.60	$1.77
2	1,290 – 1,950	1.00	$2.95
3	1,951 – 2,610	1.30	$3.84
4	2,611 or more	1.80	$5.31

STORMWATER UTILITY

For More Information

- Please visit: https://newarkde.gov/877/Stormwater-Utility
- Read the FAQ: https://newarkde.gov/DocumentCenter/View/8967
- Attend an upcoming Public Workshop:
  - **Thursday, November 9, from 4:30 - 6:30 p.m. at George Wilson Center**
    303 New London Road, Newark
  - **Wednesday, November 15, from 6 - 8 p.m. at Newark Senior Center**
    200 White Chapel Drive, classrooms 1 & 2, Newark



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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

ACCOMPLISHMENTS TO DATE

- ✓ Real Estate appraisal
- ✓ Planning Commission meeting
- ✓ Existing Conditions Traffic Study performed (prior to closure of dorms)
- ✓ Phase I and Phase II Environmental Site Assessments (ESA) including asbestos identification and sampling
- ✓ Preparation of demolition estimate
- ✓ Special Council hired to negotiate Purchase and Sales Agreement with UD
- ✓ Initial discussion of project and entering the State Brownfield program with DNREC
- ✓ Finalized terms of preliminary Purchase and Sales Agreement with UD – subject to the final approval of Mayor and Council

PROJECT SCHEDULE

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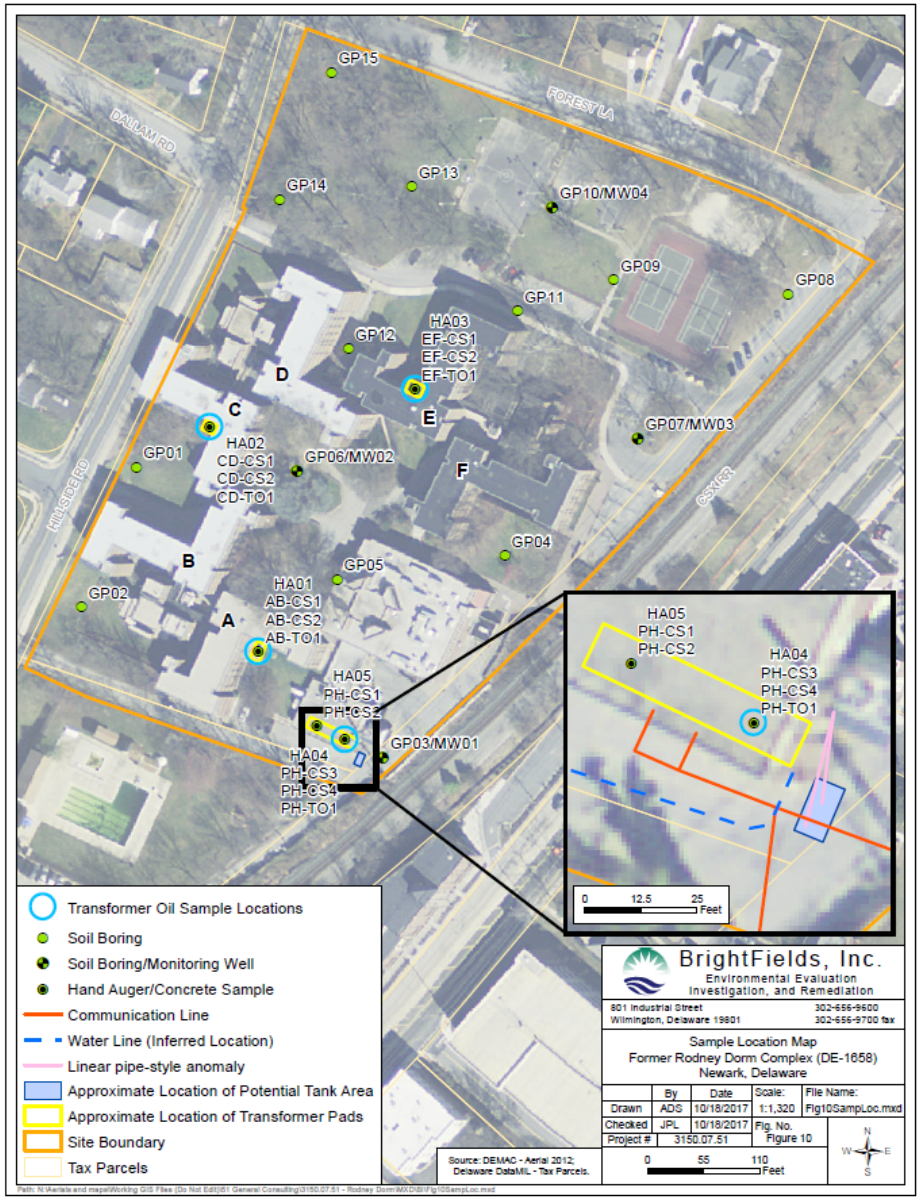
ENVIRONMENTAL REMEDIATION

- **Sampling August 2017**
  - **Soil and Groundwater**
  - **Asbestos and Lead Paint – Within Buildings**
  - **Transformers and Concrete Pads**
  - **Soils Beneath Buildings**

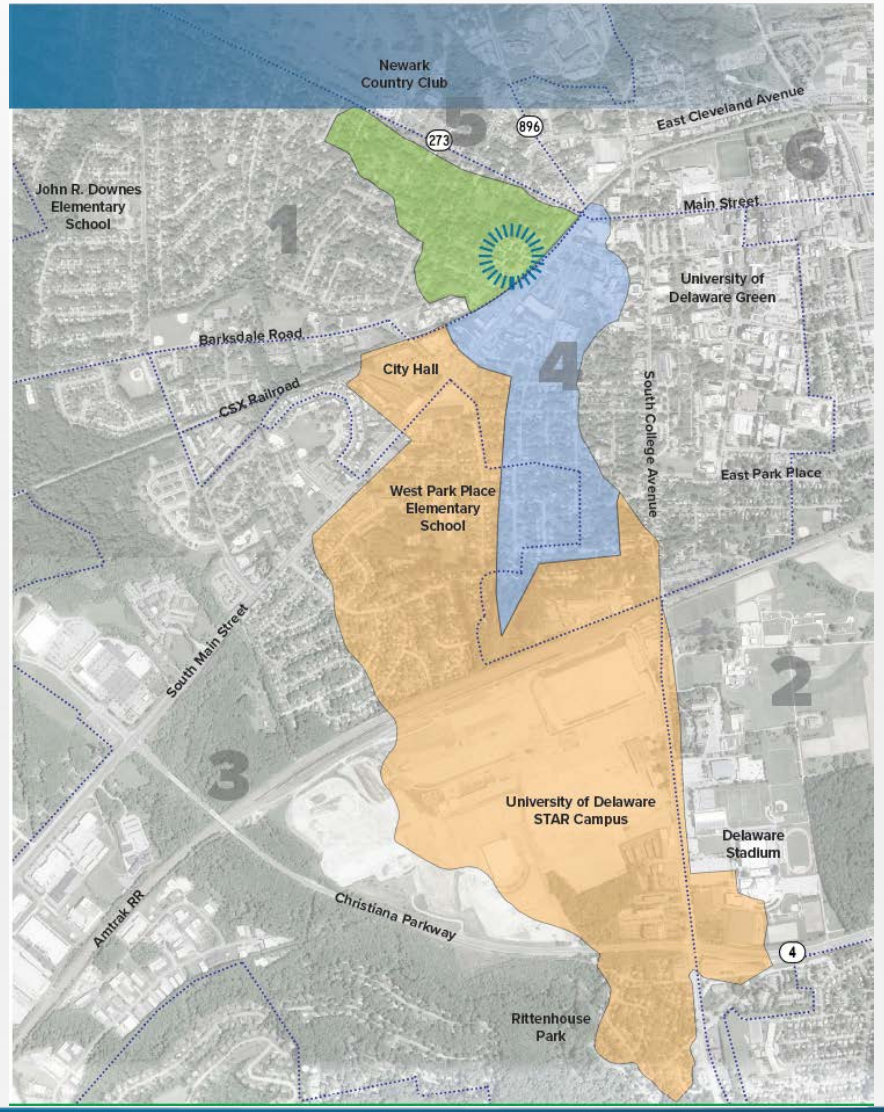


WHAT IS STORMWATER MANAGEMENT?

- **Stormwater Management (SWM)**
  - *A system of vegetative, structural or other measures that reduce the adverse effects of pollutants (**water quality**) and control the volume and rate of runoff (**water quantity**) from surface water resulting from precipitation, snow, or ice melt.*
- **Best Management Practices (BMPs)**
  - *Activities, practices, maintenance procedures, and other management measures to prevent or reduce the discharge of pollutants. BMPs include structural and non-structural controls, treatment requirements, operating procedures, and practices to control site runoff.*
- **Watershed**
  - *Geographical area that drains to a specified point; usually a confluence of streams or rivers.*

IMPACTS OF THE RODNEY COMPLEX SWM

- 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



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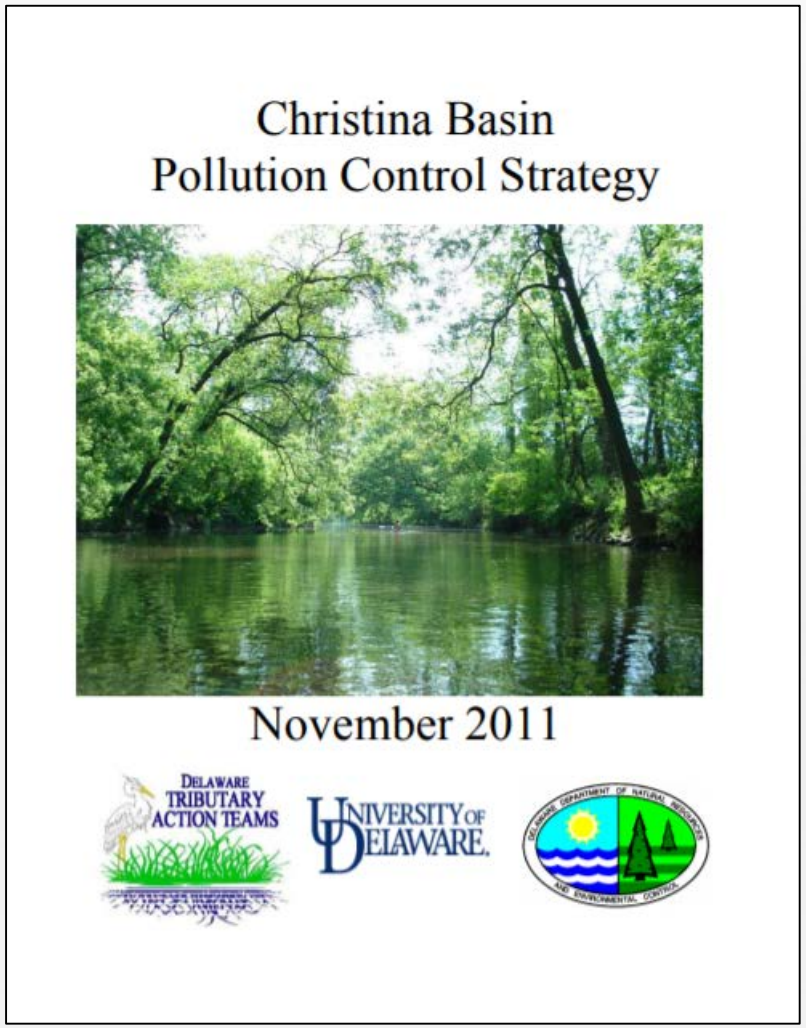
STORMWATER MANAGEMENT NEED

- **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

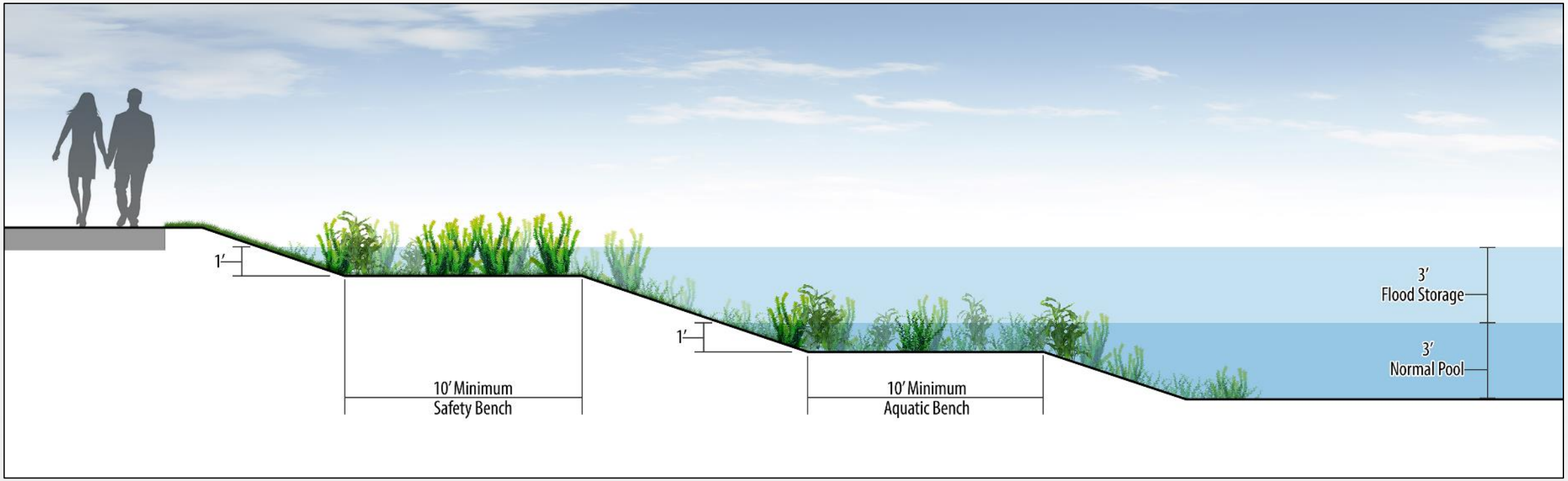
- **Christina River Basin**
  - **Includes 4 Major Watersheds**
    - **Brandywine Creek**
    - **Red Clay Creek**
    - **White Clay Creek**
    - **Christina River (Rodney Site)**
  - **Source of drinking water for over 400,000 people**
  - **Multiple recreational activities**



STORMWATER MANAGEMENT DESIGN

- **SWM Wet Pond / Low Impact Development (LID)**
  - **Provides water quality treatment**
    - **Reduction of suspended solids**
    - **Reduction of nutrients**
  - **Flood Mitigation**
  - **Aesthetics / Park Features**
    - **Unique features – flowing spillways**
    - **Native species plantings**
    - **Support aquatic life**
    - **SWM Education**

STORMWATER MANAGEMENT – POND SAFETY



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

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NEIGHBORHOOD CONTEXT MAP

Legend

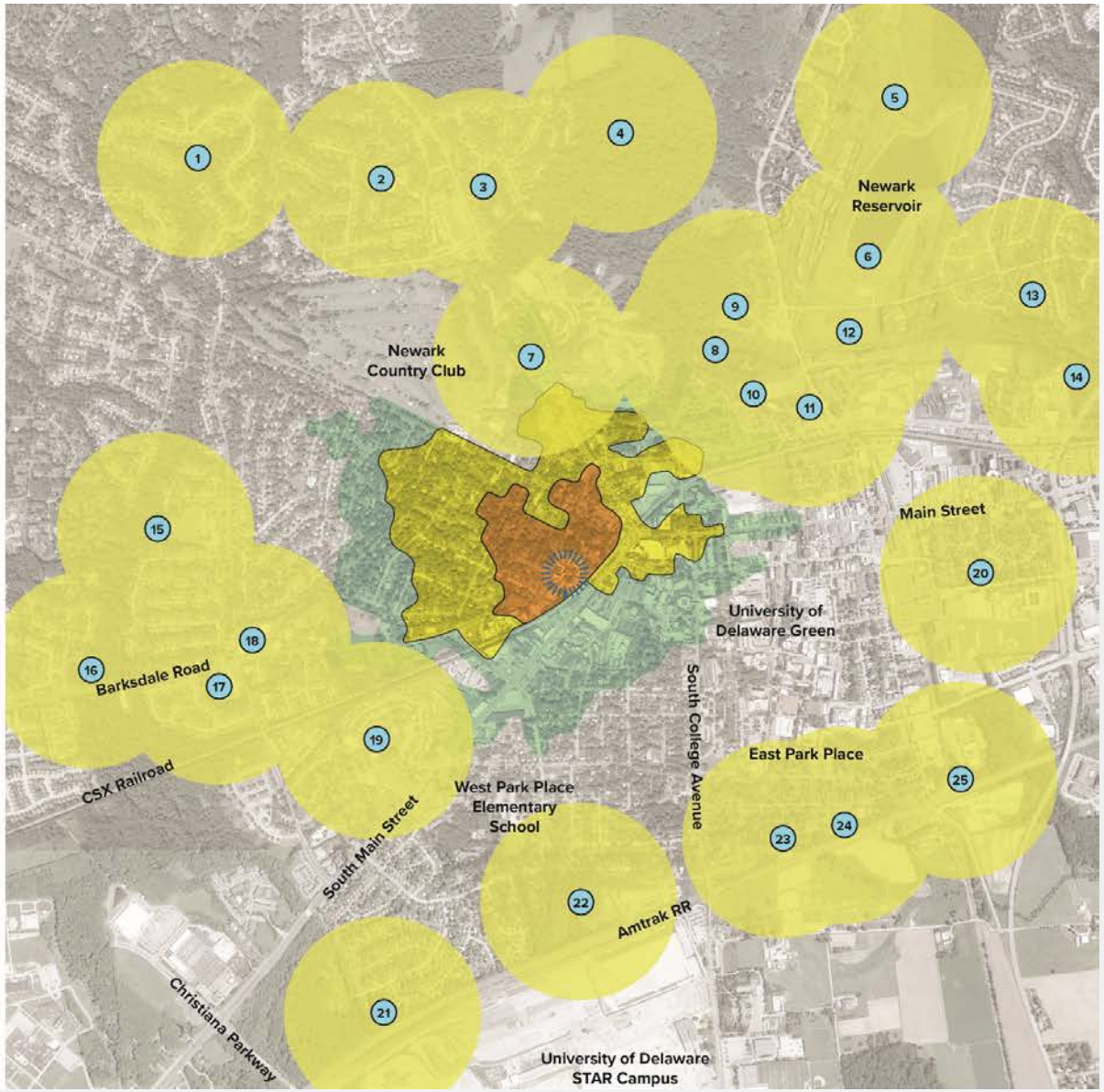
- 5 Minute Walk
- 10 Minute Walk
- 15 Minute Walk
- 5 Minute Bike
- 10 Minute Bike
- Project Site

Newark Parks Inventory

- Tennis Courts - 18
- Basketball Courts - 18
- Youth Baseball/Softball Fields - 9
- Playground Equipment - 22
- Pools - 2
- Natural Areas and Trails - 16
- Shelters - 12
- Soccer Fields - 3
- Street Hockey - 2
- Botanical Areas - 2
- Skate Spots - 2

Nearby Parks

1. **Hidden Valley Park** — Playground, Basketball
2. **Fairfield Park** — Restrooms, Picnic Area, Shelter, Playground, Soccer, Baseball, Basketball, Tennis
3. **Fairfield Crest Park** — Picnic, Playground, Basketball, Tennis
4. **William M. Coverdale Memorial Park**
5. **William M. Redd Park** — Playground, Hiking, Mountain Biking
6. **Newark Reservoir** — Restrooms, Hiking, Mountain Biking
7. **George Wilson Center & Park** — Restrooms, Picnic Area, Shelter, Playground, Swimming, Baseball, Basketball, Tennis, Horseshoes
8. **Orville A. Clark Park**
9. **Newark Reservoir** — Picnic Area, Hiking, Road Cycling, Fishing
10. **Kershaw Park** — Fishing, Tennis
11. **Olan Thomas Park** — Hiking
12. **Old Paper Mill Road Park**
13. **Karpinski Park** — Hiking, Road Cycling
14. **Dorothy Miller Park**
15. **Rahway Park** — Playground
16. **Elan Park** — Picnic Area, Shelter, Playground, Basketball
17. **Leroy Hill Park** — Baseball
18. **Norma B. Hanloff Park** — Restrooms, Picnic Area, Shelter, Playground, Skateboarding, Baseball, Basketball, Tennis
19. **Edna Dickey Park** — Restrooms, Picnic Area, Shelter, Playground, Swimming, Baseball, Basketball, Horseshoes
20. **George Read Park** — Playground, Hiking, Basketball
21. **Devon Park** — Picnic Area, Playground
22. **Phillips Park** — Restrooms, Playground, Hiking, Road Cycling, Skateboarding, Basketball, Tennis
23. **Lewis Park** — Picnic Area, Shelter, Playground, Tennis
24. **Kells Park** — Restrooms, Picnic Area, Shelter, Playground, Soccer, Baseball, Basketball, Tennis
25. **James F. Hall Trail** — Hiking, Road Cycling



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EXISTING PROJECT SITE

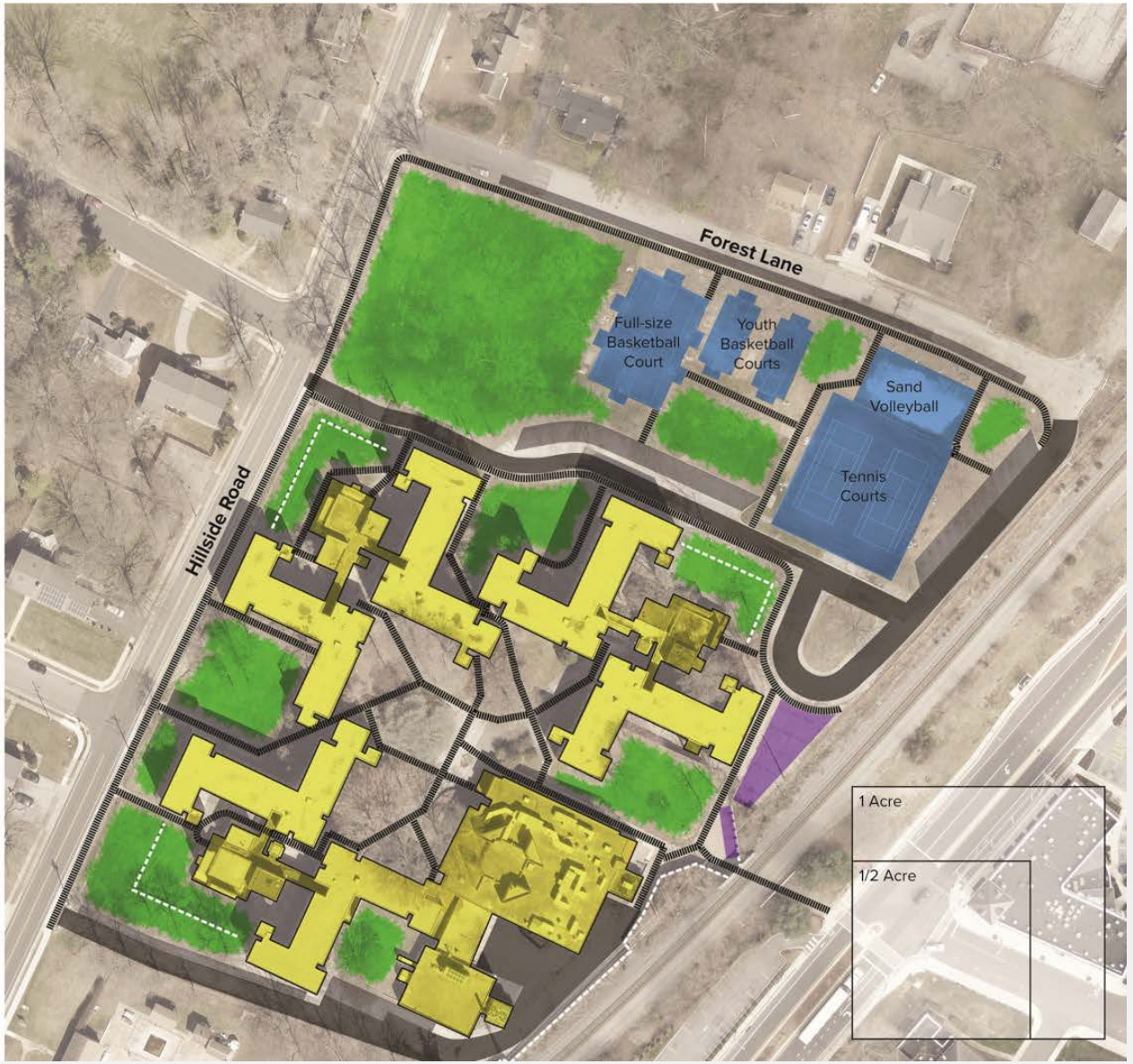
Legend

- Existing Dormitory Buildings (for Demolition)
- On-Site Vehicular Corridor
- On-Site Parking
- Pedestrian Circulation
- Recreation Courts
- Bicycle Parking Racks
- Retaining Walls
- Green Space / Open Lawn / Woods

Football Field for Scale Reference

Scale: 1" = 40'

0 20' 40' 80' 160'



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- Skate Spots - 2

Existing Features

Potential Features

- Lighted Walking/Jogging Trail
- Fitness Stations
- Playground
- Open lawn for passive recreation
- Educational components
- Amphitheater/outdoor class room

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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**

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WORKSHOP #2 SUMMARY

September 28, 2017

- **Approximately 45 attendees**
- **40% of participants preferred Concept 2 (amenities and cost)**
- **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**

CONCEPT DESIGNS

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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

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PROJECT COSTS

Concept	Stormwater Components	Park Amenities	Total (Variable Costs)	Fixed Costs	Project Total	Stormwater Utility Rate Adjustment*
1	$1,400,000	$400,000	$1,800,000	$4,200,000	$6,000,000	$0.82/Month
2	$1,400,000	$2,500,000	$3,900,000	$4,200,000	$8,100,000	$1.10/Month
3	$1,800,000	$3,800,000	$5,600,000	$4,200,000	$9,800,000	$1.36/Month

*Tier 2 Home, Approximate Cost

PROJECT SCHEDULE

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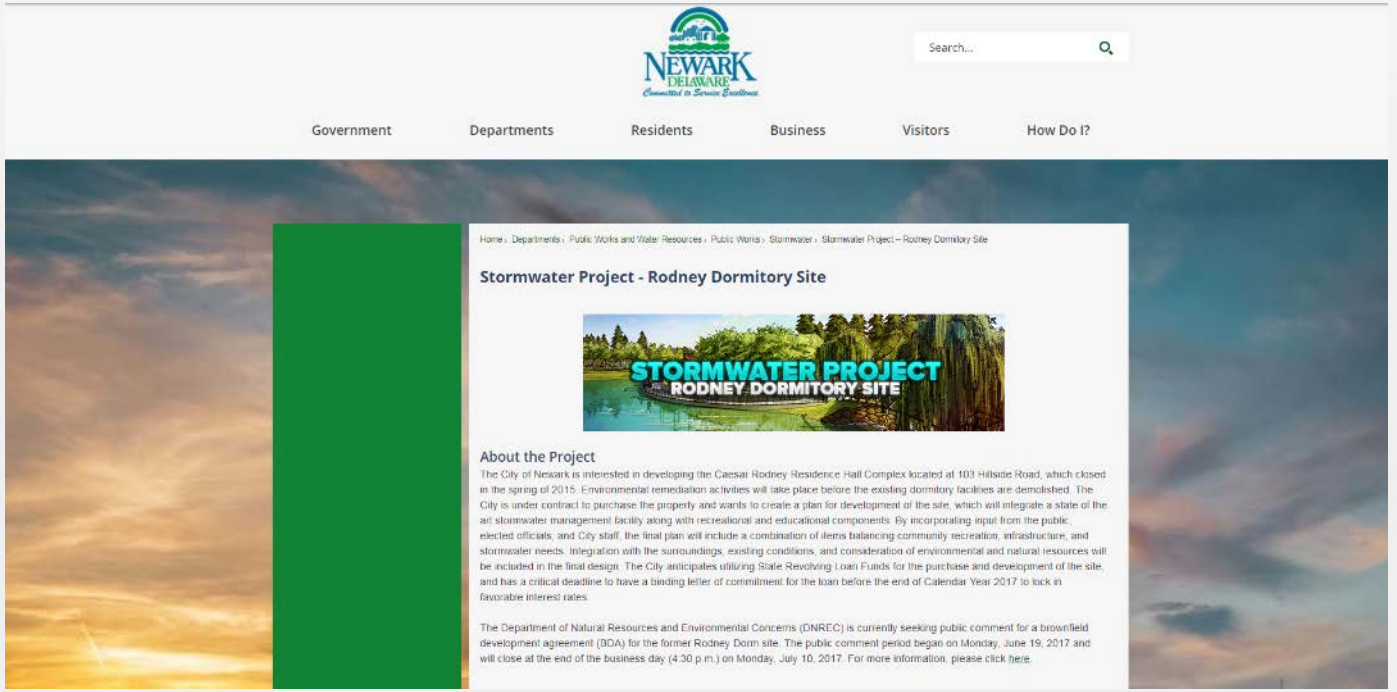
PLEASE VISIT WEBSITE FOR MORE INFORMATION



http://newarkde.gov/Rodney

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QUESTION AND ANSWER SESSION

?

RODNEY DORMITORY SITE STORMWATER MANAGEMENT PROJECT

Public Workshop #3 – Part 2

November 8, 2017

AGENDA

- Welcome and Introductions
- Workshop #2 Summary
- Stormwater Management
- Park Goals and Program
- Preferred Concept
- Project Cost
- Next Steps/Referendum
- Question and Answer Session

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WELCOME AND INTRODUCTIONS

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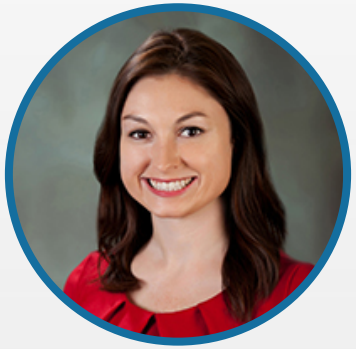
Interim Dir. Public Works and Water Resources



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NEXT STEPS

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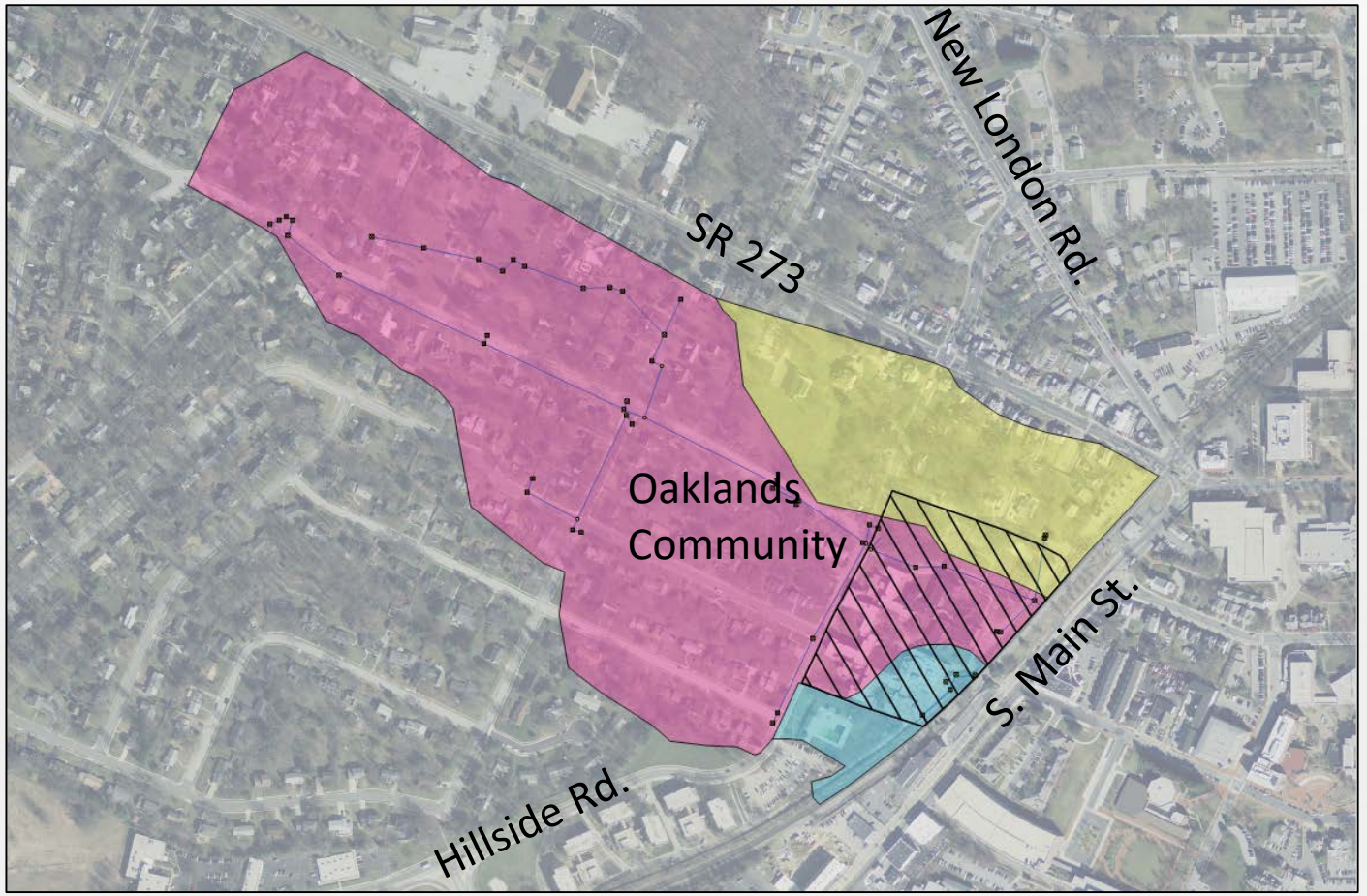
STORMWATER MANAGEMENT TREATMENT AREA

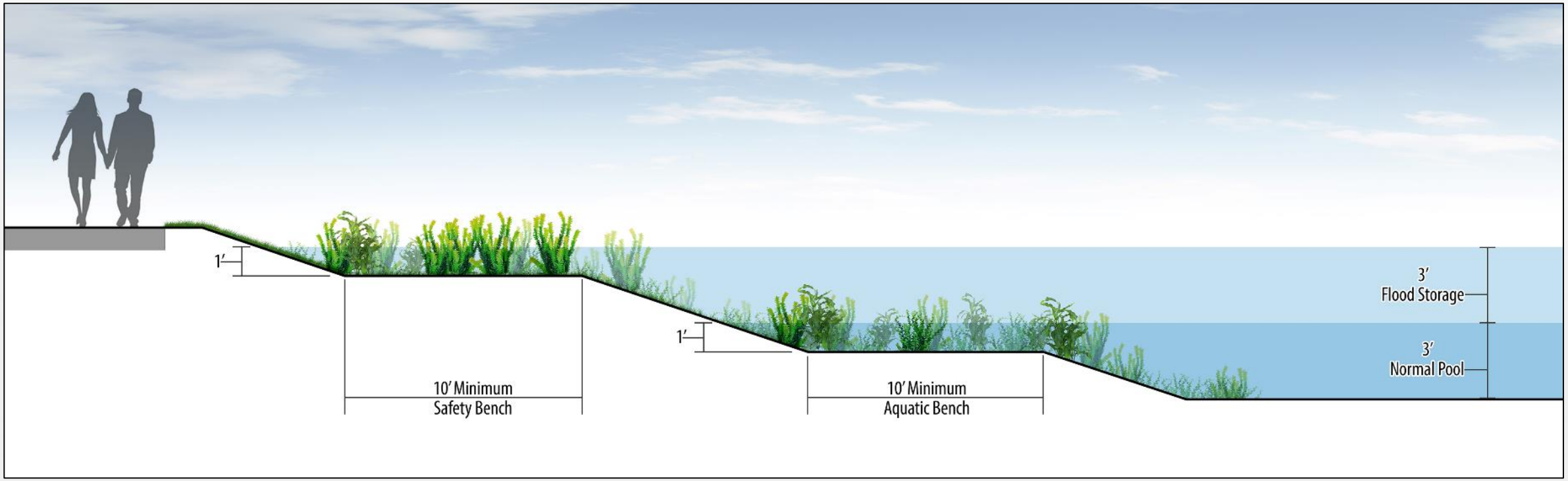
- **Rodney Complex Contributing Watershed**
  - **Total Area = 64 Acres**
  - **Impervious Area = 15 Acres**



STORMWATER MANAGEMENT DESIGN

- **SWM Wet Pond**
  - **Pollutant Reduction (Quality)**
    - **87 pounds/year Total Nitrogen**
    - **26 pounds/year Total Phosphorous**
  - **Flood Mitigation (Quantity)**
    - **Storage for 6.0”/24 hours (25-Year)**
    - **Safely manage 8.0”/24 hours (100-Year)**
  - **Aesthetics / Park Features**
    - **Unique features (Flowing Spillway)**
    - **Support aquatic life**

STORMWATER MANAGEMENT – POND SAFETY



- **Delaware Sediment and Stormwater Regulations**
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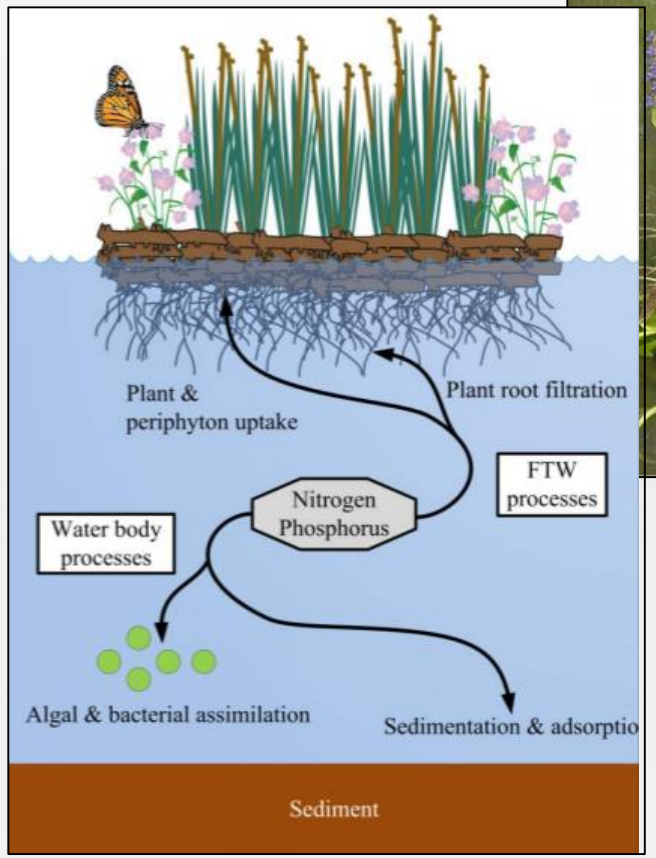
STORMWATER MANAGEMENT DESIGN – BEST MANAGEMENT PRACTICES (BMPS)

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



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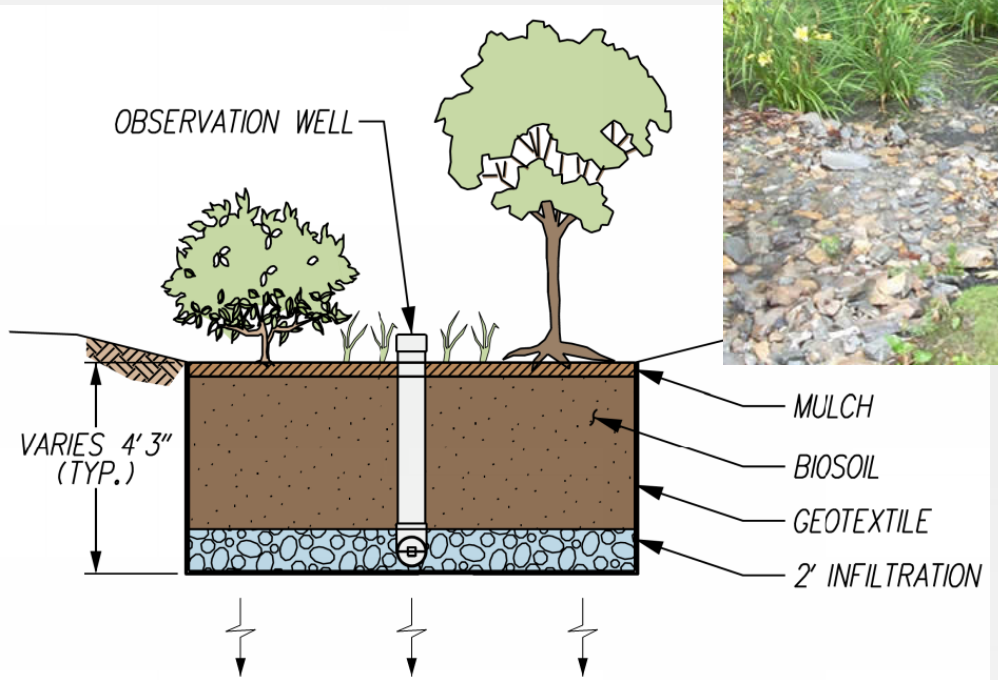
STORMWATER MANAGEMENT DESIGN – BEST MANAGEMENT PRACTICES (BMPS)

- Rain Gardens/Bioretention
  - 100% reduction of pollutants
  - Enhance the landscape
  - Completely customizable
  - Educational Opportunities



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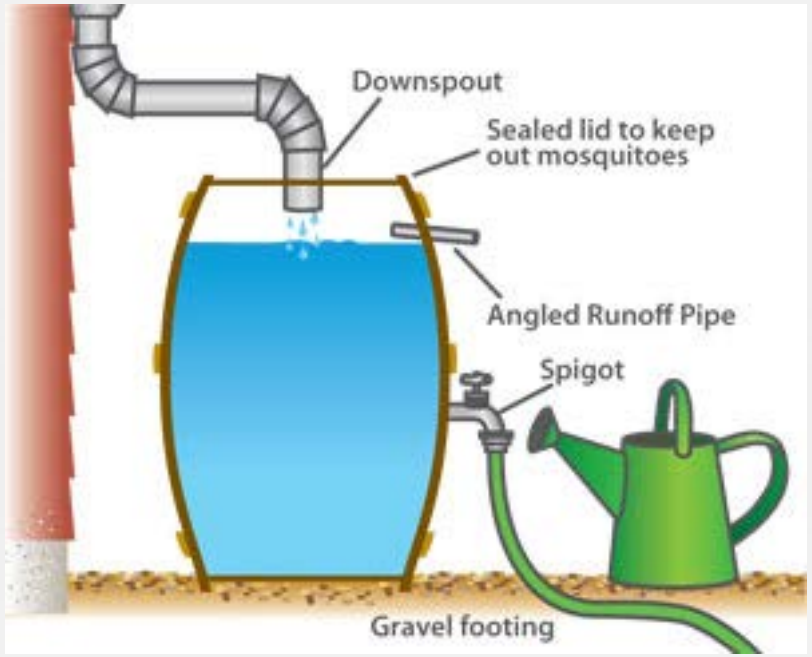
STORMWATER MANAGEMENT DESIGN – BEST MANAGEMENT PRACTICES (BMPS)

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



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MULTI-FUNCTIONAL ROLE OF PARKS AND TRAILS

Single Function

Multiple Functions

Photos Courtesy of Environmental Planning and Design

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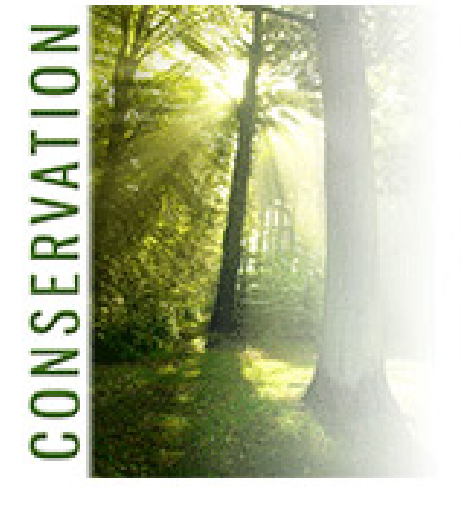
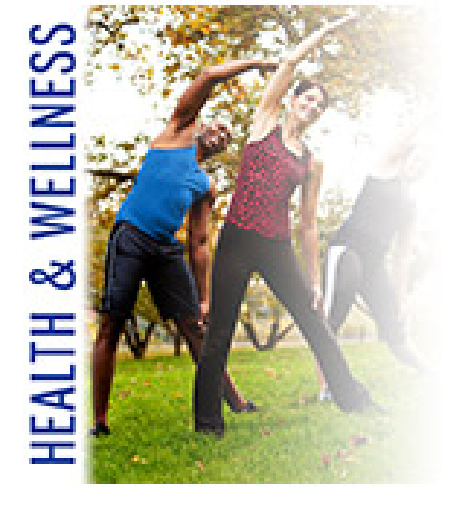
PARK GOALS AND PROGRAM



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.

Source: www.nrpa.org

- 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

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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 DESIGNS

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WORKSHOP #2 SUMMARY

September 28, 2017

- **Approximately 45 attendees**
- **40% of participants preferred Concept 2 (amenities and cost)**
- **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**

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PREFERRED CONCEPT DESIGN

The precedent character images depicted are meant to show examples of elements planned for the park. The final appearance and style of the individual elements and areas will be different from these images, and will be developed further in future park design phases.

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PREFERRED CONCEPT DESIGN

Park Entry/Arrival Sequence

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

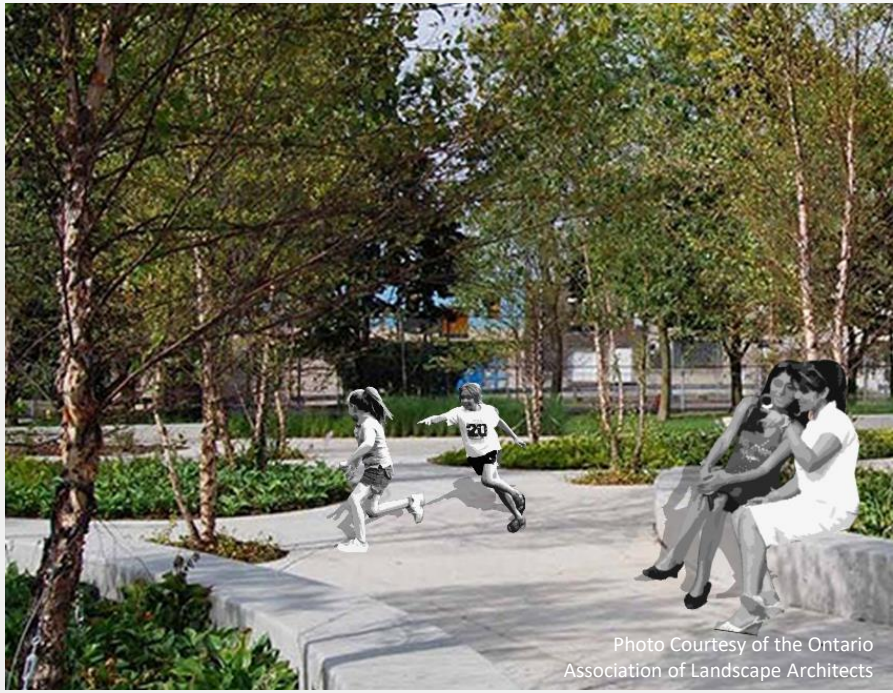

Photo Courtesy of the Ontario Association of Landscape Architects

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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

PREFERRED CONCEPT DESIGN

Playscapes

Natural Play Area:

- A designated, managed area in an existing or modified outdoor environment where children of all ages and abilities play and learn by engaging with and manipulating diverse nature elements, materials, organisms, and habitats through sensory, fine motor skills, and gross motor experiences.
- Adjacent to the existing woodlands, the play area offers a setting for adventure play, natural construction, and encourages fantasy play all while providing visual interest.

Aquatics:

- Not only are ponds, streams and wetlands critical to human health, they support a variety of terrestrial and aquatic life that fascinates children.
- Aquatic settings are most valued because of the sound, textures, reflections, and interactivity of water – splashing, pouring, floating objects, making mud.
- Engage children in hands on multi- sensory experiences in and around the water.

Moore. R. (2014). Nature Play &Learning Places. Creating and managing places where children engage with nature. Raleigh, NC: Natural Learning Initiative and Reston, VA : National Wildlife Federation Version 1.2

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Photos Courtesy of Earthscape

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PREFERRED CONCEPT DESIGN

Boundaries

- Park design includes both perimeter and internal boundaries
- Full spatial enclosure is provided for the primary Natural Play Area – a single controlled access point into the play area is defined to assure parents and caregivers that the area is safe and secure
- Internal boundaries are defined with plantings and natural materials to control access points and delineate activity areas along the pond edge
- Meadows and wetland plantings are utilized to define edges and protect sensitive areas

Photos Courtesy of Landscape Structures Inc.

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FOREST LANE
HILLSIDE ROAD

NEWARK DELAWARE
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FOREST LANE
HILLSIDE ROAD

NEWARK DELAWARE
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Photo Courtesy of VA's SWCD


http://www.lafayette.in.gov/ImageRepository/Document?documentID=5522


https://pbs.twimg.com/media/C-WabyMXYAIzGgj.jpg

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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

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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

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PROJECT COSTS

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

NEXT STEPS

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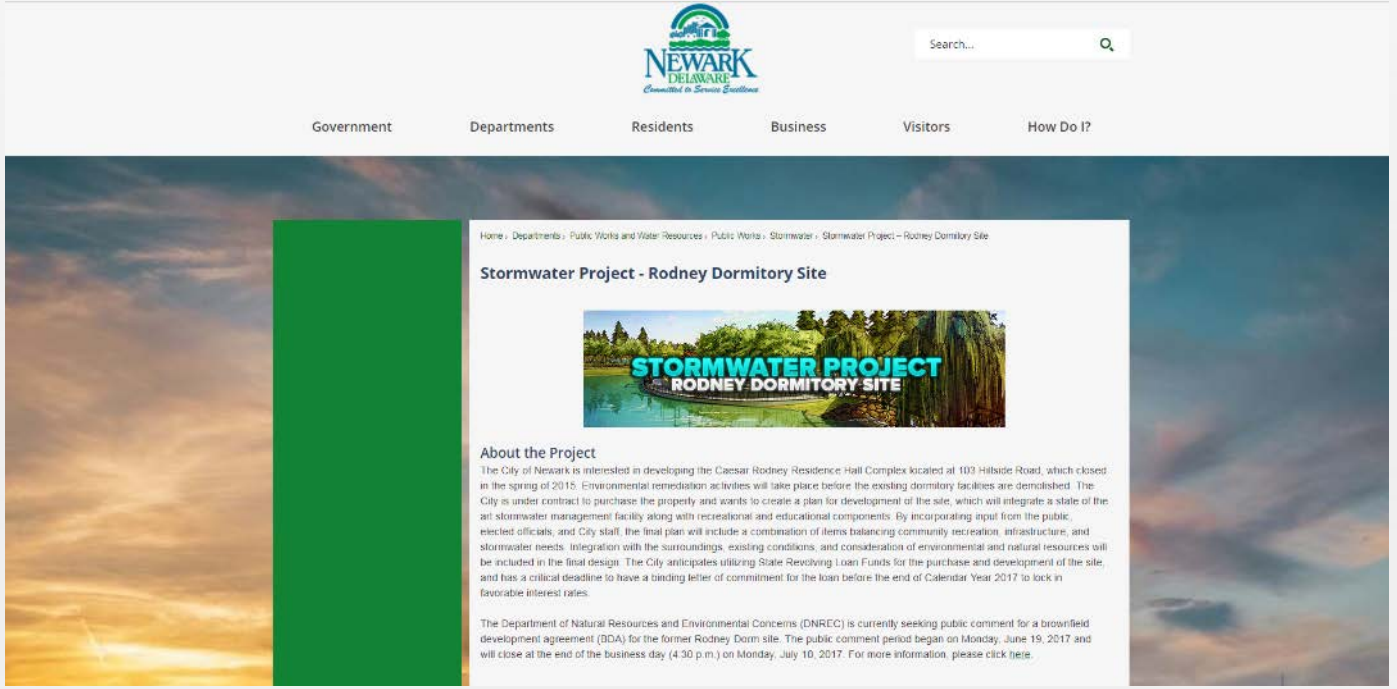
CITY SWM EDUCATION/REFERENDUM CAMPAIGN EFFORTS

- 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.

PLEASE VISIT WEBSITE FOR MORE INFORMATION



http://newarkde.gov/Rodney

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QUESTION AND ANSWER SESSION

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STORMWATER UTILITY

- City Council approved the stormwater utility on October 9, 2017
- The City's stormwater fee is intended to fund our Clean Water Act obligations repair and maintenance of the stormwater system including the storm sewer, management facilities and other stormwater structures that help prevent flooding and minimize pollutants entering local streams, ponds, lakes, rivers and ocean
- Beginning January 1, 2018, residents will pay between $1.77 and $5.31 each month, depending on which tier their property falls into
- The four tiers are based on each residential parcel's impervious area
- The fee will raise $1.4 million each year to improve the City's stormwater facilities
- The Rodney Project will be funded by an increase to the base monthly amount

STORMWATER UTILITY

Residential

Tier	Impervious Area (Square Feet)	Equivalent Stormwater Unit (ESU) Factor	Monthly Fee
1	0 – 1,289	0.60	$1.77
2	1,290 – 1,950	1.00	$2.95
3	1,951 – 2,610	1.30	$3.84
4	2,611 or more	1.80	$5.31

** Non-Residential Fees range widely based on impervious area

STORMWATER UTILITY

For More Information

- Please visit: https://newarkde.gov/877/Stormwater-Utility
- Read the FAQ: https://newarkde.gov/DocumentCenter/View/8967
- Attend an upcoming Public Workshop:
  - **Thursday, November 9, from 4:30 - 6:30 p.m. at George Wilson Center**
    303 New London Road, Newark
  - **Wednesday, November 15, from 6 - 8 p.m. at Newark Senior Center**
    200 White Chapel Drive, classrooms 1 & 2, Newark