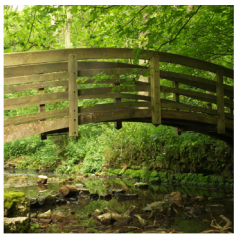








Fairview Heights Walkable Watershed Concept Plan

Lynchburg, Virginia

healthy waters - healthy communities

August 2016

Background

The City of Lynchburg has collaborated with residents and partner agencies to develop this Fairview Heights Walkable Watershed Concept Plan. The Walkable Watershed process links the concepts of clean waters and healthy communities to improve creeks and neighborhoods simultaneously. This effort was made possible by a grant from the National Fish and Wildlife Foundation.

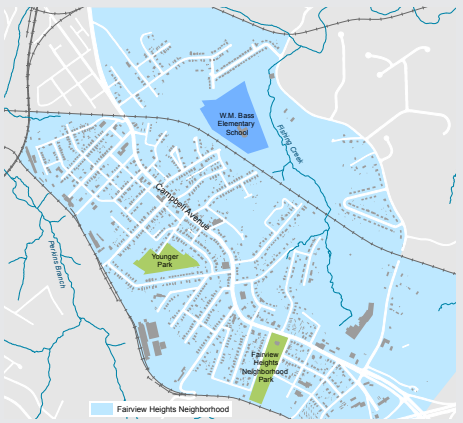
The Concept Plan builds on existing plans and initiatives and provides an integrated planning approach to improve water quality and community health. This integrated approach helps communities leverage more resources, work more efficiently to find new solutions, and increase the likelihood of success by acting on multiple fronts simultaneously.

Goals

Working together, the City, the James River Association and Skeo Solutions have identified a set of near-term action steps, and are beginning to implement improvements over the course of the next year. The Fairview Heights Walkable Watershed Concept Plan aims to:

- **Connect the neighborhood** to local creeks and the surrounding natural areas/parks;
- **Provide safe passage and routes** for pedestrians and cyclists;
- **Clean stormwater** runoff using natural drainage, or green infrastructure, before it enters the creeks;
- **Engage and educate** residents to celebrate Fishing Creek and promote watershed stewardship.

The Concept Plan and specific recommendations outlined on the following pages provide opportunities for City departments to collaborate across programs, and community organizations and residents to work together towards a cohesive vision for the neighborhood.



Fairview Heights Neighborhood

The Fairview Heights Neighborhood is located in the Fishing Creek Watershed. The neighborhood includes a neighborhood center, a year-round elementary school, a park, and a mix of commercial, residential and industrial uses.

A major thoroughfare, Campbell Avenue, divides the neighborhood and presents pedestrian safety challenges. Circulation is also compromised by two rail lines that travel through the area.

While the creeks are not highly visible, the neighborhood's steep terrain around the tributaries is a strong visual reminder that streams are present.

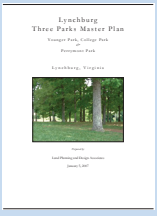
Building on Existing Initiatives

The Concept Plan identifies strategies that build on existing plans and initiatives:

Chesapeake Bay Watershed Implementation Plan
Projects identified in this concept plan help the City of Lynchburg improve water quality and meet local and federal water quality standards.

Campbell Avenue/ Odd Fellows Road Master Plan
Stormwater improvement strategies enhance the design goals and pedestrian and cyclist improvements identified in the 2013 Master Plan.

Safe Routes to School
Bass Elementary School has a Safe Routes to School initiative underway. These strategies build on the improvements planned for Seabury Avenue to provide children safe passage to school.



Existing Park Master Plans
This concept plan builds on existing park master plans and provides additional opportunities to enhance neighborhood parks and provide stormwater treatment options.

What is Walkable Watershed?

This concept plan is based on a walkable watershed approach, which integrates the flow of water and people into a cohesive strategy to improve the overall health of a community and the surrounding watershed. This approach is based on the idea that high-quality water goes hand-in-hand with a high quality of life, supporting access to the outdoors, enhanced community infrastructure and services, and increased health.

A walkable watershed planning process includes a diverse set of stakeholders to identify neigborhood-based strategies to addresses stormwater, streams and pedestrian challenges simultaneously.

Benefits of a Walkable Neighborhood

Physical health benefits
- Reduce obesity rates in children, which have more than doubled over the past 20 years.
- Walking meets the Surgeon General's recommendation of 30 min/day of exercise.

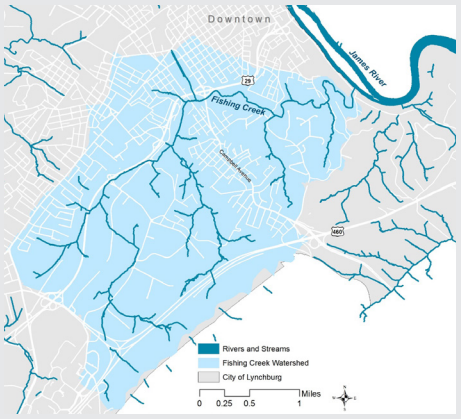
Mental health benefits
- Walking is associated with an increased ability to concentrate, including for children with ADHD.
- Elderly have improved mental health when they can exercise, walk to local amenities.

Community benefits
- 88.2% less risk of a crash on sidewalks (versus roads)
- Decreases crime
- More "eyes on the street"
- Sidewalks clearly mark public space and discourage people from entering private space

Economic benefits
- Buyers willing to pay more for homes in walkable neighborhoods
- Sidewalks improve customer traffic for retail businesses

Strategies

There are a range of nationally recognized natural drainage strategies designed to improve the flow and quality of urban rainwater and also provide community benefits. These natural drainage strategies use plants and amended soil to slow, cleanse and absorb urban rainwater before it reaches creeks, rivers, lakes and ultimately the Chesapeake Bay. These strategies also provide community benefits including shade, landscaped areas, education, traffic calming and improved walkability and safe routes to school.

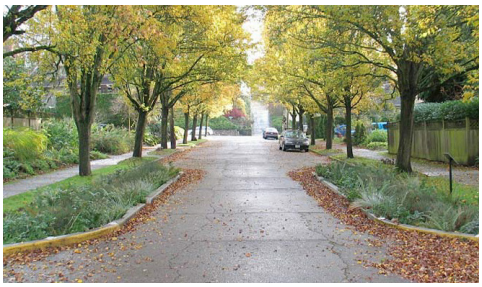


Fishing Creek Watershed

Rain that falls within Fishing Creek watershed (shown in blue above) flows to the James River and ultimately the Chesapeake Bay.

In urban areas, the stormwater drainage system, which includes a series of underground pipes, open stream channels, street gutters and ditches, can carry pollutants from streets, yards and businesses to the creek.

In some areas, the stormwater drainage system is piped to the waste water treatment facility. During heavy rain events when the facility has reached capacity, wastewater will overflow directly into local streams.

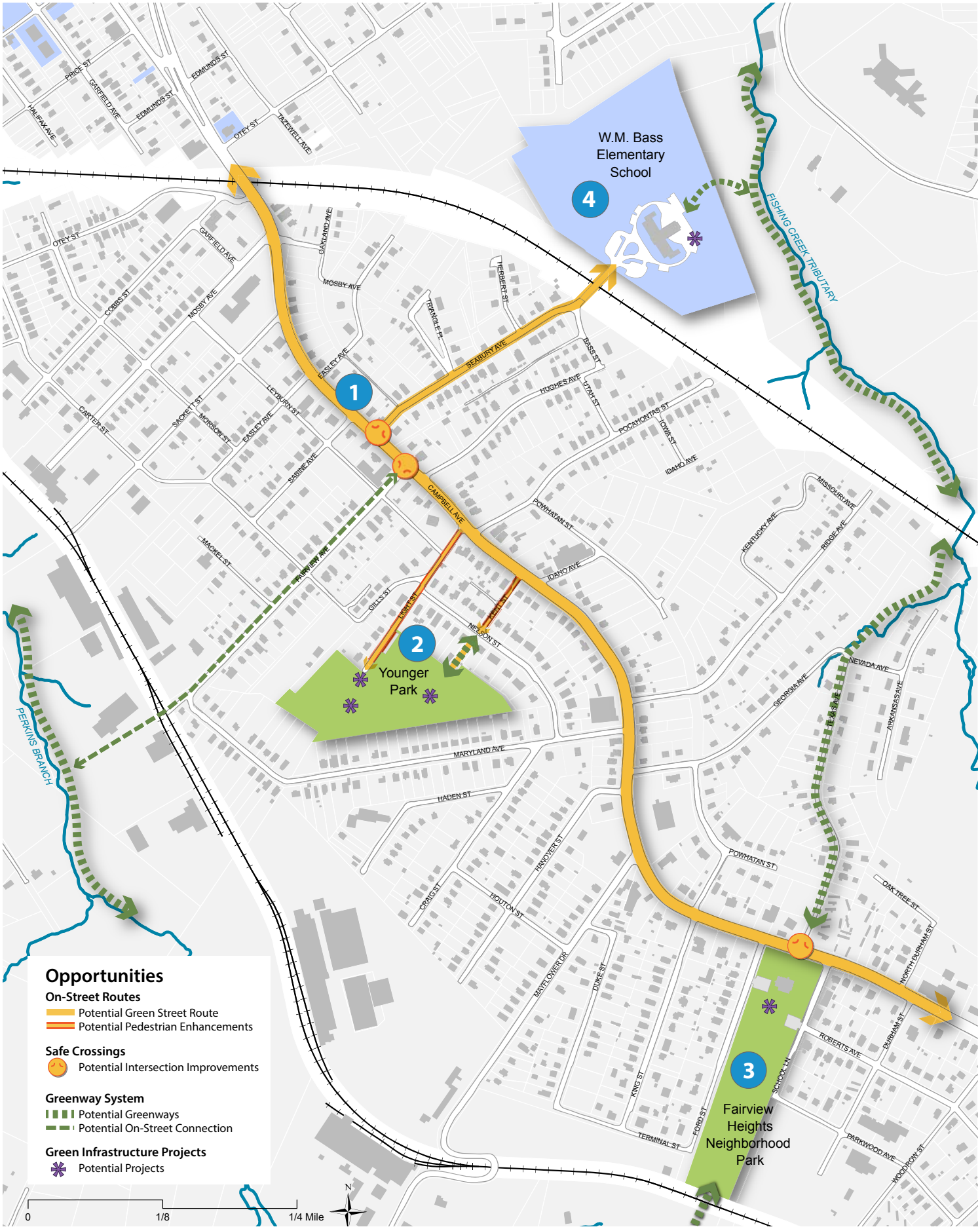


Example of on-street natural drainage in Portland, Oregon. *Credit: ASLA.*

Example of off-street natural drainage in Charlottesville, Virginia. *Credit: CWP.*

Example of public art to celebrate community and watershed connections. *Credit: Bridge PAI.*

Concept Plan



The Walkable Watershed Concept Plan includes a range of recommendations to meet the goals of **connecting the neighborhood**; **providing safe passage and routes**; **cleaning stormwater runoff**; and **engaging and educating residents**. The following strategies have been identified based on input from community meetings and technical review sessions with City departments.

On-Street Stormwater + Safe Crossing

Integrate natural drainage strategies (or green infrastructure) into streetscape, crossings and infrastructure design to improve walkability and stormwater management.

- Primary Green Street Routes
- Connectors with Missing Sidewalks
- Safe Intersections

Off-Street Stormwater

Install green infrastructure projects on publicly-owned property to improve and clean stormwater runoff before it enters creeks.

- Rain gardens or planted swales

Examples of natural drainage strategies that support stormwater and walkability: a) curb extension, b) planted swale, c) curb extension with crosswalk, d) curb and gutter detail shows curb cut that allows stormwater to flow into planted swale.

Trails and Greenways

Improve access to parks and outdoor spaces through a trail network.

- Potential Trail Opportunities
- Potential On-Street Connections

Safe walking routes support healthy lifestyles.

Watershed Education and Stewardship

Increase awareness and opportunities for residents to connect and engage with outdoor spaces and become stewards.

Specific recommendations are included on page 11.

Detailed Recommendations

Additional information about specific projects is provided on the following pages.

1. **Campbell Avenue (see pages 6-7)**
2. **Younger Park Improvements** (see page 8)
3. **Fairview Heights Park Improvements** (see page 9)
4. **Bass Elementary Rain Garden** (see page 10)

Fishing Creek Trail Network (see page 10)

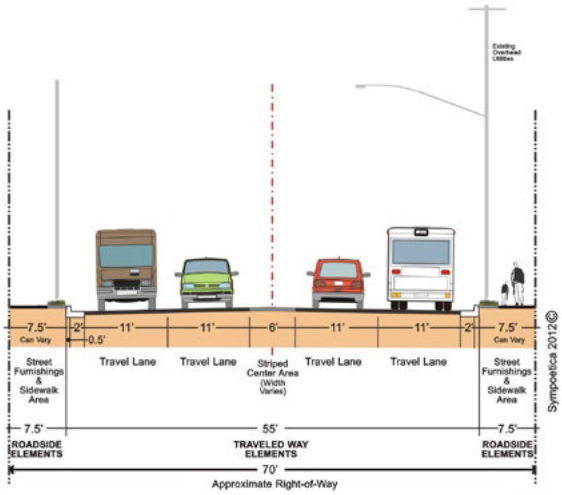
Watershed Education + Stewardship (see page 11)

Green infrastructure project on City property. Lynchburg Riverfront Park. Nelson Byrd Woltz.

1 Campbell Avenue

Current Conditions

- The Campbell Avenue corridor is a traditional city gateway, which has been widened over the years to its current four-lane configuration (two in each direction) in order to carry increased traffic volumes into and out of the city.
- Campbell Avenue serves a wide variety of adjacent land uses, including residences, businesses, institutions and industry.
- The gradual widening of the street over time has led to higher speeds, a greater volume of traffic, narrower sidewalks and issues with safety, functionality, and community image.

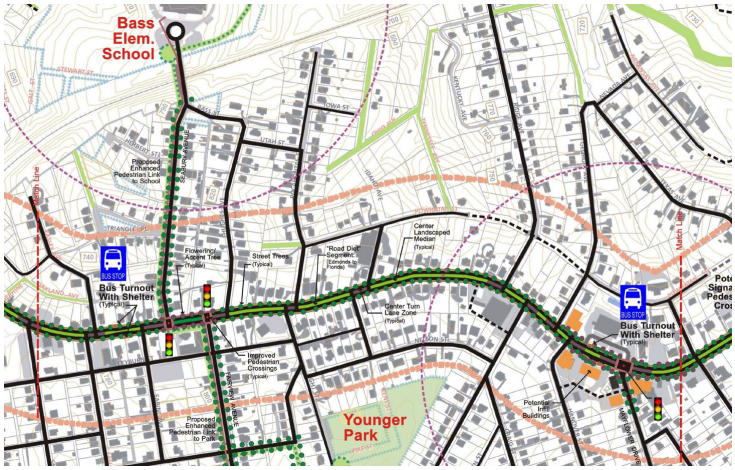


Campbell Avenue Existing Conditions (typical)

Existing Plans

The Campbell Avenue Master Plan[1], a long-range transportation plan, recommends a "road diet" for Campbell Avenue once the new Odd Fellows Road interchange is completed, which will reduce traffic on Campbell Avenue.

- The "road diet" will reduce Campbell Avenue from two vehicular travel lanes in each direction down to one in each direction with a center turn lane and potential right turn lanes.
- The extra space made available by reducing travel lanes can be reused for wider sidewalks, transit facilities, street trees, bike lanes, and a center median.



Campbell Avenue Master Plan proposes a road diet, safer pedestrian crossings, adding street trees, bus turnouts, and trail connections.

Potential Opportunities

Existing master plan recommendations could be expanded to include natural drainage (green infrastructure) strategies to treat stormwater runoff and further promote safe, efficient and highly connected multi-modal transportation. Strategies include:

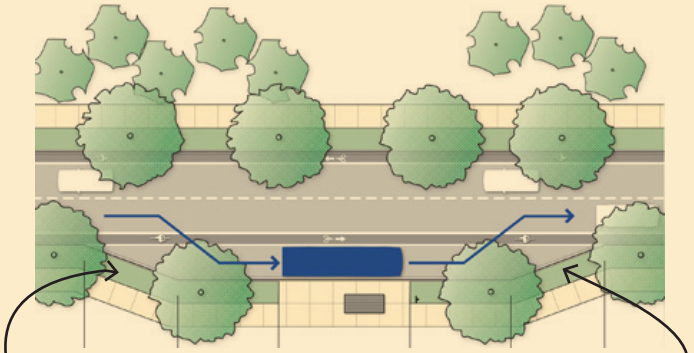
A. Stormwater swales as part of the proposed median or planting strip between road and sidewalk.

B. Stormwater bumpouts at pedestrian crossings.

C. Engineered tree wells for street tree plantings.

D. Stormwater treatment at bus stop turnouts.

Strategies #A-C are described in more detail on the following page.



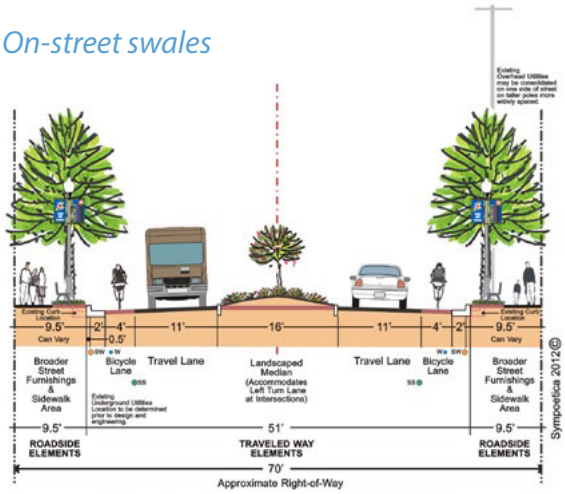
The Master Plan proposes bus turnouts along Campbell Avenue.

The diagram above illustrates how planting strips between sidewalk and street could be designed to treat stormwater and be aesthetically pleasing. Recommend the design phase for Campbell Avenue improvements explore whether these stormwater improvements are possible within existing right-of-way.

[1] *Campbell Avenue | Odd Fellows Road Land Use and Corridor Master Plan Study*, Adopted 2013

Existing Proposed Improvements

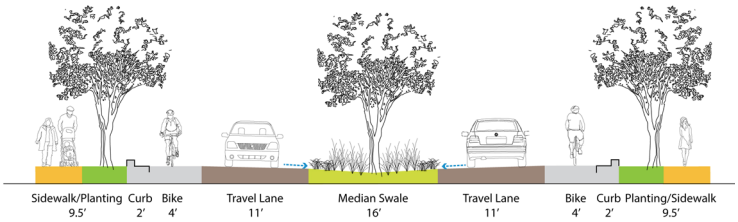
On-street swales



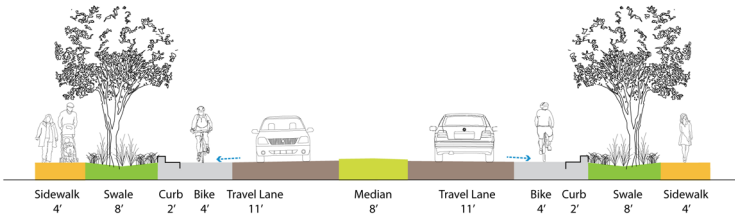
Existing: The Master Plan proposes a road diet to narrow travel lanes from four to two and provide a center median and wider sidewalks.

Suggested Natural Drainage Add-ons

Median Swale Option



Side Swales Option



Add-on: Stormwater swales could be added to road diet concept as part of the proposed median or as planting strips between road and sidewalk, in lieu of median.

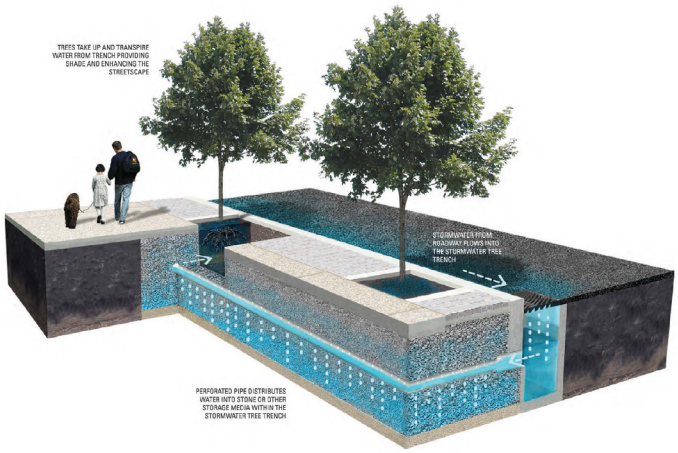
On-street bumpouts at crossings

Existing: The Master Plan propose safe pedestrian crossing at Seabury Avenue.

Add-on: Stormwater bumpouts could be added to proposed pedestrian crossings improvements.

Engineered Street Tree Wells

Existing: The Master Plan proposes adding street trees along primary streets.



Add-on: Street trees could be planted in engineered tree wells for additional stormwater treatment.

Source: City of Philadelphia Green Streets Design Manual

2 Younger Park

Current Conditions

- Limited connectivity to surrounding neighborhood.
- Lack of adequate stormwater treatment at the end of Light Street.
- Limited parking during peak park use.
- Underutilized right-of-way access from Kent Street.
- Large areas of lawn, unprogrammed spaces.
- Stormwater infrastructure in poor condition.

End of Light Street before rip-rap channel installed.


Series of drop inlets though park with evidence of some settling.

Potential Opportunities

The following considerations build on the 2007 Master Plan for Younger Park.

Ⓐ Explore additional access points to the park, such as a *Kent Street extension along public right-of-way for pedestrian access*. Adding sidewalks on streets adjacent to the park might encourage residents to walk to the park and help reduce some parking needs.

- Consider *permeable surfaces* when resurfacing basketball courts or providing additional on-site parking.
- Explore *community garden* plots near Kent Street access.
- Coordinate with tree stewards to *plant more trees*.
- Consider replacing some of the lawn area with *meadow* that could be mowed 1-2 times a year.
- *Improve sightlines* through the park and from neighboring residents to improve sense of safety.
- Consider an *internal trail loop* opportunity through the park.

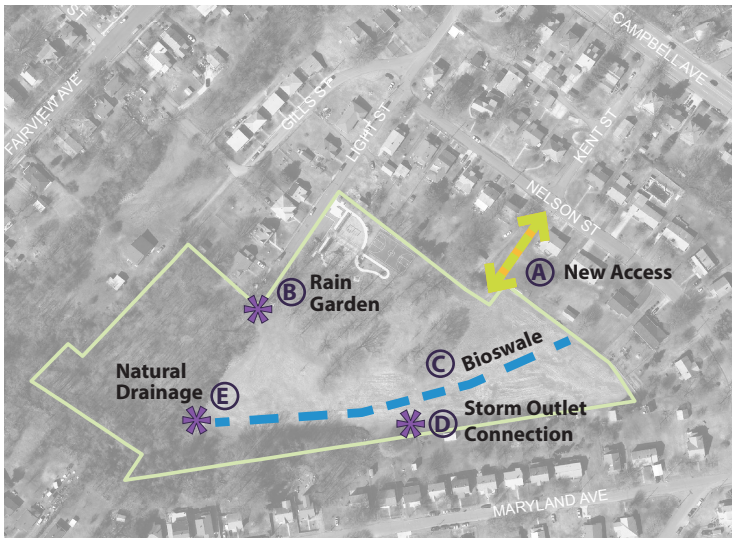
The following natural drainage - or green infrastructure - projects are being considered for Younger Park.

Ⓑ *Light Street Rain Garden*: Divert on-street via a wier into a new a rain garden at end of Light Street. Add additional on-street parallel parking on the east side of the street and modify chained park entrance to accommodate cars turning around to park on street.

Ⓒ *Bioswale*: Explore replacing existing storm drain system (series of drop inlets) with a bioretention swale.

Ⓓ *Storm Outlet*: Explore connecting outlet from Maryland Avenue to bioswale.

Ⓔ *Regenerative stormwater conveyance*: Reset failing outfall located at edge of tree canopy with a natural drainage channel.



Younger Park Opportunities (see descriptions to left for more information).


Right-of-way access to park from Kent Street.

Potential to improve on-street parking at the end of Light Street.


Example of a rain garden in a park.

3 Fairview Heights Neighborhood Park

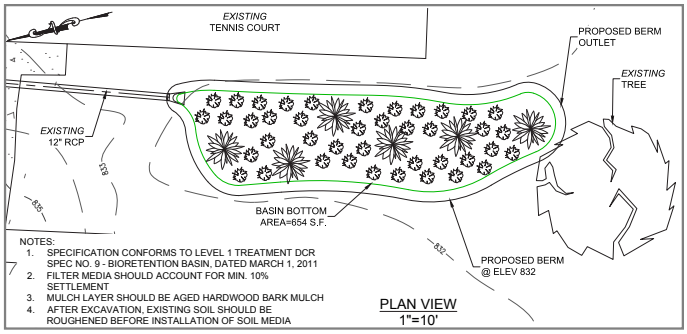
Current Conditions

- Stormwater runoff from basketball courts and parking area are piped and discharge at the picnic area.
- Roof drains on community center building discharge into the park.
- Drainage area along tennis courts is collecting sediment runoff.
- Unprogrammed spaces are being transformed into vegetable garden area.

Potential Opportunities

The following natural drainage - or green infrastructure - projects are being considered for Fairview Heights Park.

Ⓐ *Rain garden:* install rain garden between tennis courts and picnic area to treat and clean stormwater runoff from parking lot and basketball courts. Opportunity to include educational signage.



Ⓑ *Turf to native plants:* replace turf on slope behind community center with native plants.

Ⓒ *Stabilize bank:* plant the bank between the parking lot and picnic area to help stabilize bank.

Ⓓ *Dry swale:* explore whether existing drainage area could be replaced with natural drainage, such as a dry swale.

Rain harvesting: add rain barrels or rain harvesting system to collect rain water to water gardens.

Fairview Heights Neighborhood Park Opportunities (see descriptions to left for more information).

Stabilize bank opportunity

Dry swale opportunity

Examples

Bioswale between a building and athletic field, Green County, VA.

Rain garden with educational sign.

Bioswale adjacent parking lot at Albermarle County building, VA.

Educational sign at Peaks View Rain Garden. Lynchburg, VA.

Off-Street Stormwater

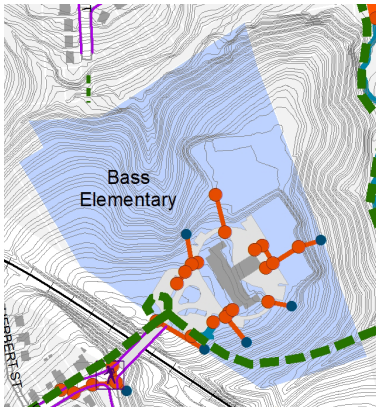
4 Bass Elementary School

Current Conditions

- The school sits on a bluff surrounded by steep slopes that drain to Fishing Creek.
- Stormwater from roof drains and parking lot inlets drain to Fishing Creek.
- Erosion along rear parking lot and bank to creek.

Potential Opportunities

- Coordinate with school staff to explore opportunities to install educational rain gardens to treat parking lot and/or roof top runoff.




Rain garden at Charlottesville High School

Trails and Greenways

Current Conditions

- Lack of trail and greenways connecting residents to parks, outdoor spaces and creeks and to destinations outside of neighborhood, including downtown.

Potential Opportunities

Creek Corridor Trails

Evaluate feasibility of creating trails along creek corridors, as identified in Campbell Avenue Master Plan:

1. Fishing Creek Trail - connect neighborhood to James River.
2. Perkins Branch Trail - connect neighborhood to Kemper Station.

On-street Trail Connections

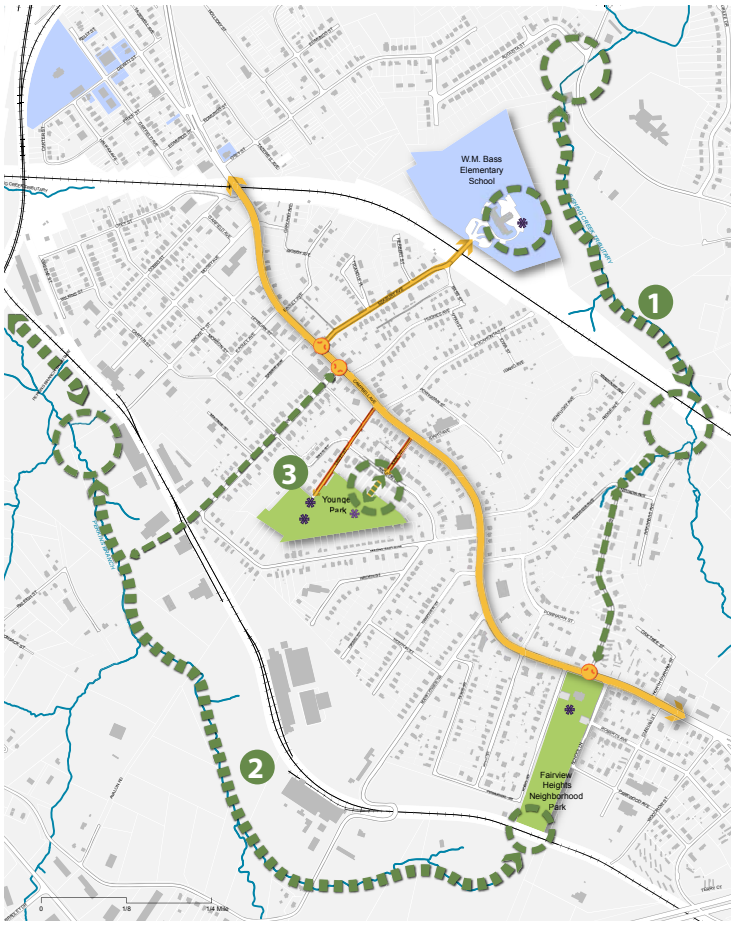
3. Link Perkins Branch Trail and Fishing Creek Trail by improving sidewalk and pedestrian crossings along Fairview Avenue, per Campbell Avenue Master Plan.

Trail Connections

Evaluate trail connections to improve access to: downtown and James River; the creek from Bass Elementary; Younger Park via Kent Street; Kemper Street Station via abandoned rail line; Fishing Creek from neighborhood and potential to cross railroad via culvert; and Fairview Heights Park from the south.

Trail Green Infrastructure

- Integrate stormwater bioswales along greenway trails to minimize runoff from trail surface.
- Provide environmental education signage at trailheads.



Trail Network Opportunities to Connect Neighborhood to Creeks, Outdoor Spaces and Destinations.

Creek Corridor Trails
On-Street Trails
Potential Trail Connections

Education and Engagement

Increase community awareness and ownership of community assets through education, stewardship and volunteer activities. The following activities provide opportunities for the City to collaborate with community organizations:

Activities and Events

- **Trash Clean-ups:** Continue to schedule a series of events with local organizations, schools and residents to collect trash and litter from streams, streets and parks to foster community stewardship.
- **Healthy Lifestyle Events:** Create a series of events around getting outside and moving. For example: disc golf at Younger Park, walk to school events, bike programs paired with bike safety information.

Education and Outreach

- **Educational Workshops:** Coordinate with community organizations on education and outreach on: promoting litter prevention and removal, invasive plant management, storm drain marking, stream clean up days, stormwater best practices on private property, signs that identify and celebrate Fishing Creek.
- **Storm Drain Art:** Work with local artists to design storm drain art to illustrate that rainwater drains to local waterways. Engage residents in the design and identifying key locations for the storm drain murals.
- **Rain Gardens:** Install educational signage to explain how these features work, including Seabury Avenue and park projects. Host events to demonstrate how these features work and how residents can help maintain or install one on their own properties.

What Can I Do?

Activities for residents to become involved in neighborhood and watershed stewardship. See For More Information for contact details and to learn more about these programs and activities.

In the neighborhood:

- ☑ Lead or volunteer for a neighborhood clean-up event! Contact James River Association to receive updates about upcoming trash clean-ups or for trash kits to host your own.
- ☑ Help keep the streets clean. Report any blocked or clogged inlets to the City.
- ☑ Participate in civic processes to raise awareness of community needs.
- ☑ Help protect water quality by picking up after your pet.

At home, make your property stormwater friendly:

- ☑ Make improvements to qualify for a credit on your stormwater utility fee.
- ☑ Install a rain barrel(s) at your home to store rain water! Use stored rain water to water garden instead of city water.
- ☑ Replace lawn with native plants and/or install a rain garden.
- ☑ Become a River Hero Home by following a few easy steps to become a Chesapeake Bay friendly property.

For More Information

City of Lynchburg
Stormwater Education & Outreach - (434) 485-RAIN (7246)

Report Issues - (434) 455-4250
www.lynchburgva.gov/emergenciescustomer-service

Stormwater Credit Program
http://www.lynchburgva.gov/stormwater-credit-program

Lynchburg Tree Stewards
Klaus Schreiber - (434) 455-4411
www.lynchburgva.gov/lynchburg-tree-stewards

Fairview Community Center Programs
(434) 847-1751
www.lynchburgparksandrec.com/community-centers/fairview-center/

James River Association
Upper James Community Conservationist
Rob Campbell, (434) 944-7975
rcampbell@jrava.org

River Hero Homes Program
Amber Ellis, (804) 788-8011 ext. 205, aellis@jrava.org
www.jrava.org/what-we-do/river-hero/

Volunteer Coordinator
Ben Hawkins, (804) 615-6105, bhawkins@jrava.org
www.jrava.org/get-involved/volunteer/self-directed-trash-cleanup

Central Virginia Master Naturalist Program
cvmasternaturalist@hotmail.com
http://www.virginiamasternaturalist.org/centralvirginia.html

Principles for Implementation

The recommendations outlined in this walkable watershed concept plan reflect initial opportunities to improve walkability and water quality in the Fairview Heights neighborhood and Fishing Creek watershed. Key principles for implementation include:

- **Grow Community Stewardship**
  Continue to grow and foster community stewardship through outreach, education and opportunities for community involvement.

- **Engage Youth**
  Build on existing youth programs and initiatives to engage youth in environmental education opportunities. As projects move forward, invite youth to participate in the design process and in the designing and building of outdoor play and learning areas.

- **Build Partnerships**
  Strengthen existing and develop new partnerships between federal, state and local governments and community organizations for implementation and stewardship.

- **Seek Funding**
  Develop a plan to seek funding, including a list of potential grants and associated deadlines. Assemble teams early to develop winning proposals. Continue to seek opportunities that cross programs and initiatives to leverage funding for projects.

- **Phase Projects Over Time**
  While some recommendations may be implemented in the near term, some projects will need to be phased over time. Develop an action list to coordinate initiatives and projects among partners. Continue to refine ideas during the design process.

- **Celebrate Successes!**
  Sustain momentum and support by celebrating successes along the way.

Accomplishments and Next Steps

Winter 2015
- Fairview Heights residents were invited to attend a kickoff public meeting in January 2015 to share neighborhood challenges and opportunities.

Spring 2015
- Residents begin signing up for free rain barrel installations.

Summer 2015
- Working session with City of Lynchburg staff to review potential opportunities.
- JRA begins installing rain barrels.

Fall 2015
- Residents invited to a fall festival in October 2015 to learn more about local programs working on water quality and to provide comments on the draft Concept Plan.

Winter 2016
- Refine Concept Plan based on public input.

Spring 2016
- Workshop on April 23 to install Green Infrastructure Capstone Project at Fairview Heights Neighborhood Park.
- Finalize Concept Plan
- Volunteer storm drain marking and trash cleanups events.

Summer 2016
- Construction will begin on Safe Routes to School street and stormwater improvements along Seaburry Avenue.

Fall 2016
- Rain garden at Younger Park will be installed.

For more information, please contact:

City of Lynchburg, Department of Water Resources at (434) 485-RAIN (7246).
or visit: www.walkablewatershed.com/lynchburg

Acknowledgments

This effort was funded by a National Fish and Wildlife Foundation Innovative Nutrient and Sediment Reduction Grant.

Representatives from the following organizations participated in the process through interviews, briefings, community meetings or working sessions:

Fairview Heights Residents

City of Lynchburg Departments:
- Water Resources
- Parks and Recreation
- Community Development
- Public Works

Lynchburg City Schools