

## **5.8 Accotink Mainstem 1**

The results of the subwatershed strategy analysis showed a significant number of subwatersheds in Mainstem 1 were impaired in some form. Three subwatersheds were in good condition, primarily due to good forest cover and the undeveloped parcels of Towers Park and Ranger Road Park. Thirteen of the 23 subwatersheds in the Mainstem 1 WMA are within the boundaries of Fairfax City and were not assessed for retrofits or improvements.

### **5.8.1 Structural Projects**

#### *5.8.1.1 10-Year Projects*

##### AC9189 New Stormwater Pond

There is potential to send high storm surges from the stream and through the park area adjacent to sewer line and to create a wetland in the riparian area behind Five Oaks Road. This project would treat runoff from the Randall Valley and Five Oaks neighborhoods.

##### AC9192 Stormwater Pond Retrofit

Existing dry pond behind Lochalsh Lane in Edgemoore is proposed to be retrofitted by removing the existing headwall and replacing it with a new riser, removing the concrete channels and replacing them with a meandering low flow channel and excavating for additional storage.

##### AC9195 Stormwater Pond Retrofit

Proposed project is to convert an existing dry pond treating runoff from Oakton Village neighborhood to an extended detention facility. A new riser structure, removing the concrete channels, and adding a plunge pool will improve the water quality treatment of the runoff from the residential neighborhood.

##### AC9196 Stormwater Pond Retrofit

This project proposes to retrofit an existing wet pond into a wetland facility at Four Winds at Oakton Condominium. Recommendations include stabilizing the outfall, a new riser structure, excavating for additional storage, tree removal and adding a micropool and plunge pool at the riser and inflow.

##### AC9199 Stormwater Pond Retrofit

An existing wet pond along Buckley Street in Rosehaven Estates is proposed to be retrofitted to provide greater water quality volume and peak flow reduction. Recommendations include modifying the existing riser structure, installing plunge pool and a micropool and plantings.

##### AC9409 Culvert Retrofit

Runoff from Oakton High School is proposed to be treated by retrofitting the culvert under Sutton Road. This would involve adding a control structure upstream of the culvert to regulate the discharge from small, frequent storms.

#### AC9558 New BMP/LID

Parking lot runoff at Mosby Woods Elementary School is proposed to be treated by implementation of two bioretention facilities. These facilities would be located in the parking and bus loop medians.

#### AC9561 New BMP/LID

A bioretention is proposed to treat a residential parking lot runoff at Valentine Street. This would involve installing a curb cut and retrofitting a storm drain inlet to improve water quality.

#### AC9562 New BMP/LID

Project proposes to retrofit the existing dry pond treating runoff from the AT&T center on Flagpole Lane by removing the concrete low flow channel, adding a dry swale and constructing concrete weir walls upstream of the outlet pipe to create volume storage.

#### *5.8.1.2 25-Year Projects*

#### AC9187 Stormwater Pond Retrofit

Field assessment indicated the existing dry pond behind Blake Park Court is not functioning well due to a shortened flow path through the facility. The proposed project is to replace the existing dry pond with bioretention.

#### AC9188 Stormwater Pond Retrofit

An existing dry pond treating the runoff from multi-family residential area in the Country Creek neighborhood is proposed to be converted to a wet pond or bioretention to improve the water quality of the runoff before it enters the downstream channel.

#### AC9190 Stormwater Pond Retrofit

The existing pond behind Oakton Pond Court is to be retrofitted for increased water quality control by installing a forebay and adding a riser.

#### AC9191 Stormwater Pond Retrofit

Excavation of an existing dry pond behind Cyrandall Place is proposed to provide a permanent pool and aquatic bench for improved water quality treatment.

#### AC9193 Stormwater Pond Retrofit

An existing dry pond treating runoff from Oakdale Woods Court is proposed to be converted to a bioretention facility for increased water quality treatment by replacing the outlet structure, repairing inflow concrete flumes or replacing it with a natural channel within the facility.

#### AC9194 Stormwater Pond Retrofit

Two pond retrofits are proposed behind Miles Stone Court and along Courthouse Road. Proposed recommendations include replacing the risers and adding storage volume.

#### AC9197 Stormwater Pond Retrofit

This project recommends two local pond retrofits to provide maximum water quality benefits. A very small pond behind Borge Street treating neighborhood runoff is proposed to be converted to a bioretention. The pond retrofit behind Oakton Meadows Court would include excavating near the riser to create a small micropool, raising the embankment to increase channel erosion control and modifying the riser.

#### AC9198 Stormwater Pond Retrofit

The proposed project is to retrofit the existing pond behind Silver Stone Court and the existing dry pond behind White Flint Court by removing the concrete channel, adding forebays and increasing storage.

#### AC9316 Area-Wide Drainage Improvements

The water quality of the runoff from this medium-density residential area is to be improved by implementing area-wide drainage improvements.

#### AC9559 New BMP/LID

Implementation of a bioretention facility at the outfall behind Bickley Court is recommended to improve the water quality of the roadway runoff before it enters the stream.

#### AC9560 New BMP/LID

Proposed recommendations are to retrofit the dry pond by excavating material and installing bioretention facilities. Existing water elevation should be maintained. Adding a concrete berm is also recommended to maintain half of the ponding depth.

### **5.8.2 Non Structural Projects**

#### AC9900 Community Outreach/Public Education - Stenciling

This community-wide project involves marking the storm drains within the community. The stencil marking will educate the public, reduce dumping and reduce the amount of litter and pollutants that enter the storm drain system. Several locations were identified for implementation of this project, including Hawthorne Village, Beech Park, Fairfax Acres, Dudley Heights and Rosehaven Estates.

#### AC9909 Rain Barrel Programs - downspout disconnect

The upland reconnaissance identified several sites where downspouts were directly connected to storm drains. A watershed-wide outreach program could be beneficial in reducing runoff volume or peak flows. In this WMA, it includes the area around Hawthorne Condos.

**Table 5-7: Mainstem 1 Projects**

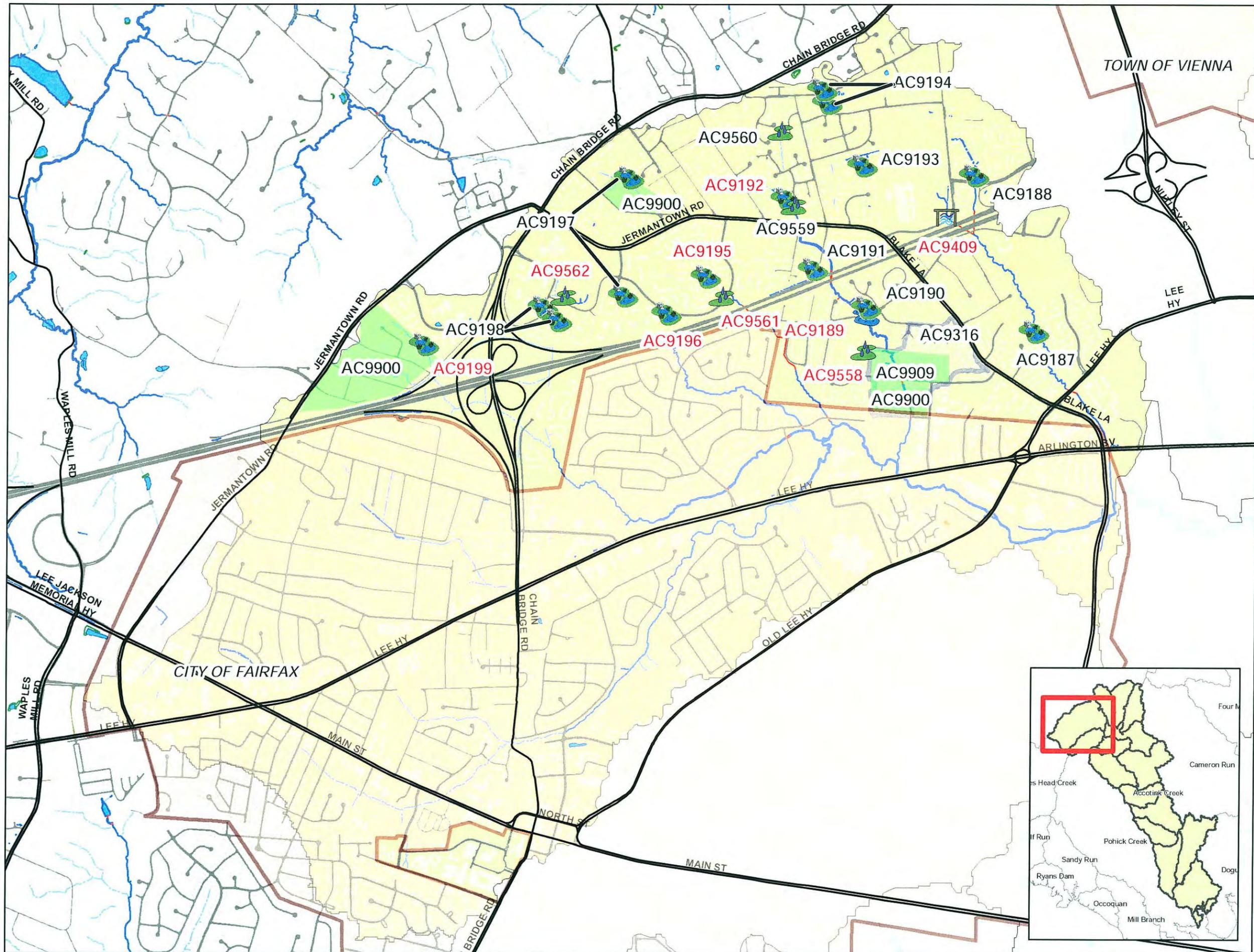
Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9189	New Stormwater Pond	AC-AC-0425	Mosby Woods Park. Intersection of Five Oaks Road and Water Oak Drive	Water Quality	County - FCPA	1 - 10
AC9192	Stormwater Pond Retrofit	AC-AC-0430	Edgemoore. Lochalsh Ln	Water Quality	Private - HOA	1 - 10
AC9195	Stormwater Pond Retrofit	AC-AC-0465	Oakton Village	Water Quality and Quantity	Private - HOA	1 - 10
AC9196	Stormwater Pond Retrofit	AC-AC-0475	Four Winds at Oakton Condominium	Water Quality and Quantity	Private - HOA	1 - 10
AC9199	Stormwater Pond Retrofit	AC-AC-0510	Rosehaven Estates	Water Quality	Private - HOA	1 - 10
AC9409	Culvert Retrofit	AC-AC-0415	Oakton High School. Intersection of Sutton Green Court and Sutton Road	Water Quality	County - FCPS	1 - 10
AC9558	BMP/LID	AC-AC-0425	Mosby Woods School	Water Quality	County - FCPS	1 - 10
AC9561	BMP/LID	AC-AC-0465	Valentine St. & Bushman St.	Water Quality	Private - HOA	1 - 10
AC9562	BMP/LID	AC-AC-0500	AT&T office building	Water Quality	Private - Commercial	1 - 10
AC9187	Stormwater Pond Retrofit	AC-AC-0410	Blake Park Ct.	Water Quality and Quantity	Private	11 - 25
AC9188	Stormwater Pond Retrofit	AC-AC-0415	Country Creek Neighborhood. Behind Sutton Oaks Ln	Water Quality and Quantity	Private	11 - 25

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9190	Stormwater Pond Retrofit	AC-AC-0425	Oakton Pond Ct.	Water Quality and Quantity	Private	11 - 25
AC9191	Stormwater Pond Retrofit	AC-AC-0430	Cyrandall Pl.	Water Quality and Quantity	Private	11 - 25
AC9193	Stormwater Pond Retrofit	AC-AC-0430	Along Oakdale Woods Ct	Water Quality and Quantity	Private	11 - 25
AC9194	Stormwater Pond Retrofit	AC-AC-0430	Along Courthouse Rd	Water Quality and Quantity	Private	11 - 25
AC9197	Stormwater Pond Retrofit	AC-AC-0475	Silver Stone Ct. and White Flint Ct.	Water Quality and Quantity	Private	11 - 25
AC9198	Stormwater Pond Retrofit	AC-AC-0500	Along White Granite Dr and Emerald Rock Dr	Water Quality and Quantity	Private	11 - 25
AC9316	Area-wide Drainage Improvements	AC-AC-0425	Between Blake Ln and Ranger Rd	Water Quality	Private	11 - 25
AC9559	BMP/LID	AC-AC-0430	End of Bickley Ct	Water Quality	Private	11 - 25
AC9560	BMP/LID	AC-AC-0430	Behind Courthouse Wood Ct	Water Quality	Private	11 - 25

Non-Structural Projects					
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner
AC9900	Community Outreach/Public Education	Multiple	Multiple	Water Quality	Multiple

**Non-Structural Projects**

<b>Project #</b>	<b>Project Type</b>	<b>Subshed</b>	<b>Location</b>	<b>Watershed Benefit</b>	<b>Land Owner</b>
AC9909	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple



- Buffer Restoration
- Stream Restoration
- BMP/LID
- Culvert Retrofit
- Dumpsite/Obstruction Removal
- New Stormwater Pond
- Outfall Improvement
- Stormwater Pond Retrofit
- Other

- Community Outreach/Public Education
- Area-wide Drainage Improvements
- Land Conservation Project
- Flood Protection/Mitigation
- Inspection/Enforcement Enhancement Project
- Rain Barrel Programs
- Street Sweeping Program
- Studies, Surveys and Assessments

Implementation timeframe denoted by project label color. Red = 0-10 years. Black = 11-25 years.

# Map 5.8

WMA: Mainstem 1  
Proposed Projects

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## **5.9 Accotink Mainstem 2**

The results of the subwatershed strategy analysis showed four subwatersheds in the Mainstem 2 WMA to be in good condition due to the influence of undeveloped parcels in Mill Creek Park, Accotink Stream Valley Park and Eakin Park. The remaining 10 subwatersheds are impaired in some form. In terms of overall ranking, Mainstem 2 had 10 of the highest priority subwatersheds for the overall Accotink Creek watershed.

### **5.9.1 Structural Projects**

#### *5.9.1.1 10-Year Projects*

##### AC9172 New Stormwater Pond

A new pond is proposed to treat the runoff off of the residential area along Wheatwheel Lane. Proposed recommendations include building a berm upstream of the headwall and excavating for water quantity and quality volume storage.

##### AC9177 Stormwater Pond Retrofit

Addition of outlet riser structure, extra storage volume, a stabilized outfall and a new low flow channel to prevent erosion and improve water quality are proposed to retrofit the existing dry pond behind Monarch Lane.

##### AC9178 Stormwater Pond Retrofit

An existing dry pond treating the runoff from a residential area in Prosperity Heights is proposed to be retrofitted into a wetland facility by removing the headwall and putting in a riser and channel stabilization.

##### AC9219 Stream Restoration Project

There is moderate to severe erosion downstream of two culverts in Pine Ridge Park. There is also a potential sewer utility being exposed at the Collins Street culvert. Restoration efforts will include reducing channel dimensions and raising bed elevations to reconnect each channel to its original floodplain, as well as stabilization of severe erosion.

##### AC9223 Stream Restoration Project

A large restoration project is recommended for the stream behind Monarch Lane. Currently this channel is mostly straight, incised, over-widened and is lacking a riparian buffer in several areas along the right bank facing downstream. Restoration of this channel will include regrading and stabilizing eroded stream banks. Buffer restoration on the right bank facing downstream in various locations will be necessary to further improve restored areas and to restore ecological function.

##### AC9543 New BMP/LID

Reconfiguration of northern parking lot with bioretention or infiltration islands is proposed to treat the parking lot runoff at Camelot Elementary School. Also proposed is installation of a bioretention basin to treat the runoff from a gravel parking lot in Pine Ridge Park.

##### AC9545 New BMP/LID

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This is a potential onsite opportunity to treat the parking lot runoff at Eakin Park and from the Byzantine Church parking lot located along Woodburn Road using bioretention facilities.

#### AC9549 New BMP/LID

Installation of two sand filters is proposed to improve the water quality of the parking lot runoff at commercial business along Arlington Blvd and Williams Drive.

#### *5.9.1.2 25-Year Projects*

#### AC9171 Stormwater Pond Retrofit

Existing dry pond treating runoff from the Homes Run neighborhood is proposed to be converted to a wetland by adding a micropool, a forebay, raising the embankment for water quality volume storage and channel erosion control and lengthening the flow path to a meandering channel.

#### AC9173 Stormwater Pond Retrofit

The existing dry pond treating runoff from Fairfax Medical Center is proposed to be retrofitted by removing the concrete channel, adding forebays at inlets and modifying the outlet for water quality volume storage.

#### AC9544 New BMP/LID

The parking lot runoff at the Fairfax Medical Center is proposed to be treated by retrofitting the inlets for water quality.

### **5.9.2 Non Structural Projects**

#### AC9802 Buffer - Buffer

This project, located along Launcelot Way in the Accotink Creek stream valley park, involves the restoration of the depleted stream buffer.

#### AC9805 Buffer - Buffer

This project, located near Prosperity Avenue and Highland Lane in Eakin Community Park, involves the restoration of the depleted stream buffer.

#### AC9900 Community Outreach/Public Education - Stenciling

This community-wide project involves marking the storm drains within the community. The stencil marking will educate the public, reduce dumping and reduce the amount of litter and pollutants that enter the storm drain system. Several locations were identified for implementation of this project, including Camelot, Winterset Section 4, Camelot Heights, Mill Creek Park, Woodburn Village, Mantua, Langhorne Acres, Pine Ridge, Sutton Place and Strathmeade Square.

#### AC9913 Dumpsite/Obstruction Removal - Dumpsite/Obstruction

Ten sites were identified with significant obstructions or dumpsites during the stream assessment. This project would be a community-wide program to remove obstructions and clean up dumpsites in the stream network. These sites are comprised of trees and debris blocking fish passage and trees and yard waste within the stream.

#### AC9935 Community Outreach/Public Education - Tree Planting

Four communities assessed during the upland reconnaissance could be sites for a watershed-wide outreach program to encourage tree planting and urban reforestation. These include Holmes Run Heights, Shamrock Heights, Chaconas Estates and Gallows Estates.

**Table 5-8: Mainstem 2 Projects**

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9172	New Stormwater Pond	AC-AC-0335	End of Libeau Lane	Water Quality and Quantity	Private - Residential	1 - 10
AC9177	Stormwater Pond Retrofit	AC-AC-0360	Prosperity Heights. Monarch Ln.	Water Quality and Quantity	Private - HOA	1 - 10
AC9178	Stormwater Pond Retrofit	AC-AC-0370	Prosperity Heights	Water Quality and Quantity	Private - HOA	1 - 10
AC9219	Stream Restoration	AC-AC-0350	Pine Ridge Park	Water Quality	County-FCPA	1 - 10
AC9223	Stream Restoration	AC-AC-0370	Between Highland Ln and Monarch Ln	Water Quality	Private-HOA	1 - 10
AC9543	BMP/LID	AC-AC-0350	Camelot Elementary School and Pine Ridge Park	Water Quality	County – FCPS; County - FCPA	1 - 10
AC9545	BMP/LID	AC-AC-0360	Eakin Park and Byzantine Church parking lot	Water Quality	County – FCPA and Private	1 - 10
AC9549	BMP/LID	AC-AC-0375	Arlington Blvd & Williams Dr.	Water Quality	Private - Commercial	1 - 10
AC9171	Stormwater Pond Retrofit	AC-AC-0335	Behind Thor Dr	Water Quality and Quantity	Private	11 - 25
AC9173	Stormwater Pond Retrofit	AC-AC-0350	Fairfax Medical Center	Water Quality and Quantity	Private	11 - 25
AC9544	BMP/LID	AC-AC-0350	Fairfax Medical Center	Water Quality	Private	11 - 25

<b>Non-Structural Projects</b>					
<b>Project #</b>	<b>Project Type</b>	<b>Subshed</b>	<b>Location</b>	<b>Watershed Benefit</b>	<b>Land Owner</b>
AC9802	Buffer Restoration	AC-AC-0350	Accotink Stream Valley Park. Launcelot Way	Water Quality	County-FCPA
AC9805	Buffer Restoration	AC-AC-0370	Eakin Community Park	Water Quality	County-FCPA
AC9900	Community Outreach/Public Education	Multiple	Multiple	Water Quality	Multiple
AC9913	Dumpsite/Obstruction Removal	Multiple	Multiple	Water Quality	Multiple
AC9935	Community Outreach/Public Education	Multiple	Multiple	Water Quality and Quantity	Multiple

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## **5.10 Accotink Mainstem 3**

The results of the subwatershed strategy analysis showed seven subwatersheds in Mainstem 3 WMA to be in good condition; four of these were due to the influence of undeveloped parcels in Wakefield Park. Three additional subwatersheds have good forest and wetland cover. The remaining 11 subwatersheds were impaired in some form. In terms of overall ranking, Mainstem 3 had 11 of the highest priority subwatersheds for the overall project.

### **5.10.1 Structural Projects**

#### *5.10.1.1 10-Year Projects*

##### AC9159 New Stormwater Pond

This site is an existing dry swale with wetlands at Townes of Wakefield along Braddock Road. The project proposes creating high and low wetlands using a berm to provide water quality treatment.

##### AC9161 Stormwater Pond Retrofit

This existing dry pond (0294DP) near the intersection of Americana Drive and Commons Drive is recommended to be retrofitted by modifying the outlet structure to provide storage, creating a micropool at the outlet, installing sediment forebays at inlets, excavating the pond outlet to provide better storage and stabilizing the channel.

##### AC9165 Stormwater Pond Retrofit

This is a potential retrofit of dry pond 0102DP behind Whitman Road in Camelot Greens to be converted to a shallow wetland facility. This project will consist of a new riser structure in place of the existing headwall, tree removal within the facility, and excavating for additional storage.

##### AC9166 Stormwater Pond Retrofit

A retrofit is proposed for the dry pond (0627DP) behind Donnybrook Court in the Lafayette Forest neighborhood. Proposed project recommendations include adding a forebay, lengthening the channel flow path, excavating for additional volume and modifying the riser to maximize the volume available for wet storage.

##### AC9168 Stormwater Pond Retrofit

This project is a retrofit of a dry pond in the Adams Walk neighborhood treating runoff from high- and medium-density residential areas. Recommendations include modifying the riser, excavation and installing micropools or plunge pools at inlets for increased settlement of sediment and energy dissipation.

##### AC9170 Stormwater Pond Retrofit

This proposed project is to retrofit an existing dry pond to an extended detention facility to treat a part of the Lafayette Village neighborhood. Field assessment indicated badly eroded inlet channels and an eroded downstream channel. Recommendations include modifying the riser, adding a forebay at the inlet and a micropool at the outlet.

#### AC9210 Stream Restoration Project

This is a stream restoration project at Wakefield Park. Recommendations include reducing the channel dimensions and raising the bed elevations to reconnect each channel to the floodplain.

#### AC9211 Stream Restoration Project

Regrading and stabilizing eroded stream banks are recommended due to moderate erosion. Stone toe protection may be needed near the storm drain outfall and under the foot bridge to prevent future erosion. Raising the bed elevation of this channel and installing grade controls will prevent further incision. This project is located near project AC9212 and AC9213.

#### AC9212 Stream Restoration Project

This stream restoration project will restore some of the eroded areas in the stream. Reconnecting the stream to the floodplain and grade controls are recommended. This project is located near project AC9211 and AC9213.

#### AC9213 Stream Restoration Project

A sanitary sewer utility crossing is exposed in an eroded stream channel. Reducing the existing channel dimensions, raising the bed elevation of the channel, and correcting the slope of the channel at the sewer casing will all help to reconnect flows to the floodplain. This project is located near project AC9211 and AC9212.

#### AC9214 Stream Restoration Project

This is a stream restoration project behind Woodlark Drive. This would be a major restoration. Recommendations include regrading and stabilizing eroded stream banks, raising the current bed elevation, stone toe protection and armoring techniques where sanitary sewer lines are exposed in the stream channel.

#### AC9215 Stream Restoration Project

This project is a stream restoration upstream of Little River Turnpike that receives stormwater runoff from the Turnpike and the Calvary Church of the Nazarene. Recommendations include regrading and stabilizing eroded stream banks, altering the current stream alignment and stone toe protection.

#### AC9216 Stream Restoration Project

This is a stream restoration project behind Americana Drive. Recommendations include reducing the channel dimensions, raising the bed elevation to reconnect each channel to the floodplain and installing grade controls to prevent future incision and over-widening of the channel.

#### AC9217 Stream Restoration Project

This is a stream restoration project behind Donnybrook Court. Field assessment indicated an absence of riparian buffer and moderate erosion. Restoration will focus on reconnecting higher flows to the original floodplain to dissipate energy and encourage deposition of sediment on the

floodplain. Other restoration components include reducing the existing channel dimensions and installing grade controls.

#### AC9535 New BMP/LID

This site experiences concentrated flows across a yard to an outlet. Recommendations include adding a vegetated swale and check dams. Outreach and education is proposed for this neighborhood as part of project AC9935.

#### AC9537 New BMP/LID

This project proposes to convert an existing swale in Wakefield Chapel Park to a step-pool bioretention facility. The swale now drains single-family residential homes in the Wakefield Chapel Estates neighborhood.

#### AC9538 New BMP/LID

There are three existing dry ponds in the parking lot at Northern Virginia Community College. Project recommendations include converting dry ponds to bioretention cells or extended detention to provide better storage. This can be accomplished by modifying outlets and excavating the ponds to increase storage.

#### AC9539 New BMP/LID

This project is a potential parking lot retrofit at Annandale Terrace Elementary School. Currently, there are no stormwater management facilities on this site. Recommendations include adding bioretention facilities in the medians to provide water quality volume storage and installing water quality inlets at the existing storm drain inlets.

#### AC9541 New BMP/LID

This is a potential parking lot retrofit at Little River Shopping Center on Little River Turnpike. Recommendations include the addition of bioretention cells in landscaped islands along Little River Turnpike to treat water quality.

### *5.10.1.2 25-Year Projects*

#### AC9160 Stormwater Pond Retrofit

This project is a retrofit of a wet pond treating runoff from a medium-density residential area. Recommendations include removing trees from the embankment, modifying the riser to provide storage, excavating the pond bottom for storage and create an aquatic bench around the pond perimeter. There are wetland elements around pond edge but the existing pond banks are beginning to erode. There are no modifications necessary for the existing inlets.

#### AC9162 Stormwater Pond Retrofit

This project is a retrofit of an existing dry pond (0293DP) behind Patriot Drive in the Ravensworth Grove neighborhood. Recommendations include adding forebays at all inlets, modifying the outlet to provide storage, excavating the pond to provide additional storage and repairing channel banks.

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#### AC9163 New Stormwater Pond

This project will convert an existing concrete channel to a wetland through removal of the channel and excavation. The channel now drains single-family residential homes on Mockingbird Drive and a part of Duncan Drive.

#### AC9164 New Stormwater Pond

This proposed project is located in a single-family residential area in the Chestnut Hill neighborhood. Proposed project recommendations include converting a concrete channel behind Procession Way to a wetland through removal of the channel and excavation.

#### AC9167 Stormwater Pond Retrofit

This is a potential retrofit of dry pond 0128DP that treats multifamily residential homes in the Cavalcade neighborhood. The project recommendations include excavating the pond bottom for storage, replanting vegetation on side slopes and bottom, planting trees on the eroded embankments for stabilization adding a forebay and lengthening the flow path.

#### AC9169 Stormwater Pond Retrofit

This project is located at the Wachovia building between Hummer Road and Woodland Road. Field assessment indicated sheet flow from the parking lot to grass area. No existing stormwater management facilities were visible during inspection.

#### AC9218 Stream Restoration Project

There is an opportunity for stream restoration at this location. Recommendations include constructing nested benches throughout the reach and spot buffer restoration. The channel is incised with areas of active erosion.

#### AC9304 Area-Wide Drainage Improvements

There are no existing stormwater management facilities in the subwatershed. Area-wide drainage improvements are recommended to treat the runoff from the medium-density residential areas through a combination of tree box filters, swales, or bioretention filters.

#### AC9311 Area-Wide Drainage Improvements

An area-wide drainage improvement projects to treat runoff from the untreated medium- and low-density areas of the subwatershed are recommended here. Projects include installing water quality inlets, disconnecting downspouts and installing rain gardens.

#### AC9407 Culvert Retrofit

A retrofit is proposed at the upstream end of the culvert under Private Lane. The area is flat and would provide some storage as well as water quality benefits through a micropool and plantings.

#### AC9523 New BMP/LID

This project is a potential parking lot retrofit at Braddock Elementary School. Proposed project recommendations include disconnecting the downspouts and adding a bioretention facility at the edge of the parking lot for water quality treatment.

#### AC9534 New BMP/LID

This site is a former school converted into government offices. Field investigation indicated no opportunity to disconnect downspouts as they go directly into the stormwater system. A bioretention facility is proposed to treat the runoff from the parking lots.

#### AC9536 New BMP/LID

This project identifies potential areas for a downspout disconnection project and instillation of bioretention facilities at Wakefield Elementary School. Rain gardens may also be possible here.

#### AC9540 New BMP/LID

There is potential for a green roof on a large building at the corner of Frontage Road and Heritage Drive. This will reduce the amount of untreated runoff discharging into downstream waters.

#### AC9542 New BMP/LID

There is potential for green roofs on buildings at the Little River Shopping Center, which will reduce the quantity of untreated runoff in the downstream channel.

### **5.10.2 Non Structural Projects**

#### AC9900 Community Outreach/Public Education - Stenciling

This community-wide project involves marking the storm drains within the community. The stencil marking will educate the public, reduce dumping and reduce the amount of litter and pollutants that enter the storm drain system. Several locations were identified for implementation of this project, including Ravensworth Grove, Ravensworth Park, Bristow, Cedar Crest, Heritage Hill, Wakefield Chapel Estates, Chestnut Hill, Fairfax Hill, Tollhouse Woods and Monroe Knolls.

#### AC9903 Inspection/Enforcement Enhancement Project - Outdoor Materials

Materials that are stored outdoors are subjected to many types of precipitation, making them a possible source of stormwater runoff pollution. One site in this WMA had improper storage of materials. This project would be a community-wide enforcement and outreach approach to check for stormwater pollution prevention plans and to educate property owners.

#### AC9904 Rain Barrel Programs - Rain Barrels

Rain barrels provide the first step for residents to disconnect their downspout. This project would be a community-wide outreach program to encourage their use. Several neighborhoods were identified during the upland reconnaissance with roof drainage that would be suitable for this approach.

#### AC9906 Inspection/Enforcement Enhancement Project - Litter/Trash Enforcement

Litter and trash enforcement is done through the enforcement of regulations for illegal dumping, litter laws, or unsecure truck loads. Community outreach programs for beautifying neighborhoods, including health and safety information, can be used effectively in the implementation of the programs. The areas flagged for enforcement include Parliament Apartments and Fairmont Garden Apartments.

#### AC9908 Inspection/Enforcement Enhancement Project - Dumpster Maintenance

One source of litter and pollutants in stormwater runoff is poorly maintained dumpsters and other waste management practices. This project is a community-wide enforcement and outreach approach to properties where problems were identified during the upland reconnaissance. Dumpsters in this WMA were flagged as hotspots with evidence of little to no management and grease stains.

#### AC9909 Rain Barrel Programs - Downspout Disconnect

The upland reconnaissance identified several sites where downspouts were directly connected to storm drains. A watershed-wide outreach program could be beneficial in reducing runoff volume or peak flows. In this WMA, it includes the area around Willow Woods and Bristow Village.

#### AC9910 Street Sweeping Program - Street Sweeping

The Truro and Oak Hill neighborhoods were found to have trash, litter, or organic debris in the curb and gutter, flowing to storm drain inlets. This project consists of developing or extending a street sweeping program to remove potential pollutants from the street before they can wash into a storm drain or a stream.

#### AC9913 Dumpsite/Obstruction Removal - Dumpsite/Obstruction

Eleven sites were identified with significant obstructions or dumpsites during the stream assessment. This project would be a community-wide program to remove obstructions and clean up dumpsites in the stream network. These sites are comprised of trees and debris blocking fish passage, and trees and yard waste within the stream.

#### AC9935 Community Outreach/Public Education - Tree Planting

Eight communities assessed during the upland reconnaissance could be sites for a watershed-wide outreach program to encourage tree planting and urban reforestation. These include Truro, Woods of Ilda, Wakefield Chapel Woods, Park Glen Heights and Ardfour.

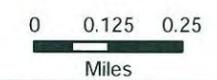
**Table 5-9: Mainstem 3 Projects**

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9159	New Stormwater Pond	AC-AC-0280	Townes of Wakefield	Water Quality and Quantity	County - FCPA	1 - 10
AC9161	Stormwater Pond Retrofit	AC-AC-0295	Intersection of Americana and Commons Drives	Water Quality and Quantity	Private - HOA	1 - 10
AC9165	Stormwater Pond Retrofit	AC-AC-0320	Camelot Greens	Water Quality	Private - HOA	1 - 10
AC9166	Stormwater Pond Retrofit	AC-AC-0315	Lafayette Forest	Water Quality and Quantity	Private - HOA	1 - 10
AC9168	Stormwater Pond Retrofit	AC-CO-0000	Adams Walk	Water Quality and Quantity	Private - HOA	1 - 10
AC9170	Stormwater Pond Retrofit	AC-CO-0015	Lafayette Village	Water Quality and Quantity	Private - HOA	1 - 10
AC9210	Stream Restoration	AC-AC-0280	Wake Field Park	Water Quality	County-FCPA	1 - 10
AC9211	Stream Restoration	AC-TR-0010	Between Kenwen Ct and Wakefield Dr	Water Quality	Private-HOA	1 - 10
AC9212	Stream Restoration	AC-TR-0010	Between Elizabeth Ln and Aunt Lilly Ln	Water Quality	Private-HOA	1 - 10
AC9213	Stream Restoration	AC-TR-0010	Between Ann Fitz Hug Dr, Mary Lee Ln and Elizabeth Ln	Water Quality	Private-HOA	1 - 10
AC9214	Stream Restoration	AC-AC-0320	Behind Woodlark Dr	Water Quality	County-Board Of Supervisors	1 - 10
AC9215	Stream Restoration	AC-AC-0320	8220 Little River Turnpike	Water Quality	Private, Public-VDOT	1 - 10

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9216	Stream Restoration	AC-AC-0315	Behind Americana Dr	Water Quality	Private-HOA	1 - 10
AC9217	Stream Restoration	AC-AC-0315	Between Americana Dr and Donnybrook Ct	Water Quality	Private-HOA	1 - 10
AC9535	BMP/LID	AC-TR-0005	Wakefield Chapel Estates. Ordinary Ct.	Water Quality	Private - Residential	1 - 10
AC9537	BMP/LID	AC-AC-0310	Wakefield Chapel Park	Water Quality	Public / Local	1 - 10
AC9538	BMP/LID	AC-AC-0310	Northern Virginia Community College parking lot	Water Quality / Channel Protection	Public / State	1 - 10
AC9539	BMP/LID	AC-AC-0315	Annandale Terrace Elementary School	Water Quality	County - FCPS	1 - 10
AC9541	BMP/LID	AC-AC-0315	Little River Shopping Center	Water Quality	Private - Commercial	1 - 10
AC9160	Stormwater Pond Retrofit	AC-TR-0000	Along Chapel Lake Ct	Water Quality and Quantity	Private	11 - 25
AC9162	Stormwater Pond Retrofit	AC-AC-0300	Intersection of Patriot Dr and Americana Dr	Water Quality and Quantity	Private	11 - 25
AC9163	New Stormwater Pond	AC-AC-0310	Wakefield Park	Water Quality and Quantity	County-FCPA	11 - 25
AC9164	New Stormwater Pond	AC-AC-0310	Wakefield Park	Water Quality and Quantity	County-FCPA	11 - 25
AC9167	Stormwater Pond Retrofit	AC-AC-0315	Behind Adams Park Ct	Water Quality and Quantity	Private	11 - 25

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9169	Stormwater Pond Retrofit	AC-CO-0005	Wachovia Building on Woodland Rd	Water Quality and Quantity	Private	11 - 25
AC9218	Stream Restoration	AC-CO-0020	Between Hummer Rd and Pleasant Ridge Rd	Water Quality	Private	11 - 25
AC9304	Area-wide Drainage Improvements	AC-AC-0290	Between New Castle Dr and Bristow Rd	Water Quality	Private	11 - 25
AC9311	Area-wide Drainage Improvements	AC-CO-0020	Between Annandale Rd and Ramblewoods Ct	Water Quality	Private	11 - 25
AC9407	Culvert Retrofit	AC-TR-0000	Between Private Ln and Queen Elizabeth Blvd	Water Quality	Private	11 - 25
AC9523	BMP/LID	AC-AC0300, AC-AC-0295	Braddock Elementary School	Water Quality	County-FCPS	11 - 25
AC9534	BMP/LID	AC-TR-0000	Annandale District Govt Center	Water Quality	County-FCPS	11 - 25
AC9536	BMP/LID	AC-TR-0010	Wakefield Forest Elementary School	Water Quality	County-FCPS	11 - 25
AC9540	BMP/LID	AC-AC-0315	Intersection of Little River Tp and Heritage Dr	Water Quality	Private	11 - 25
AC9542	BMP/LID	AC-AC-0315	Little River Shopping Center	Water Quality	Private	11 - 25

<b>Non-Structural Projects</b>					
<b>Project #</b>	<b>Project Type</b>	<b>Subshed</b>	<b>Location</b>	<b>Watershed Benefit</b>	<b>Land Owner</b>
AC9900	Community Outreach/Public Education	Multiple	Multiple	Water Quality	Multiple
AC9903	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple
AC9904	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple
AC9906	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple
AC9908	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple
AC9909	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple
AC9910	Street Sweeping Program	Multiple	Multiple	Water Quality	Multiple
AC9913	Dumpsite/Obstruction Removal	Multiple	Multiple	Water Quality	Multiple
AC9935	Community Outreach/Public Education	Multiple	Multiple	Water Quality and Quantity	Multiple



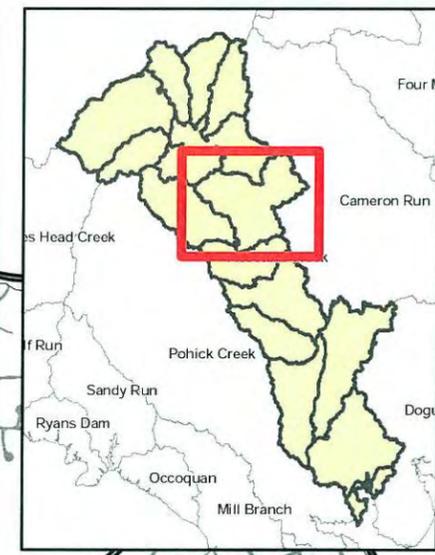
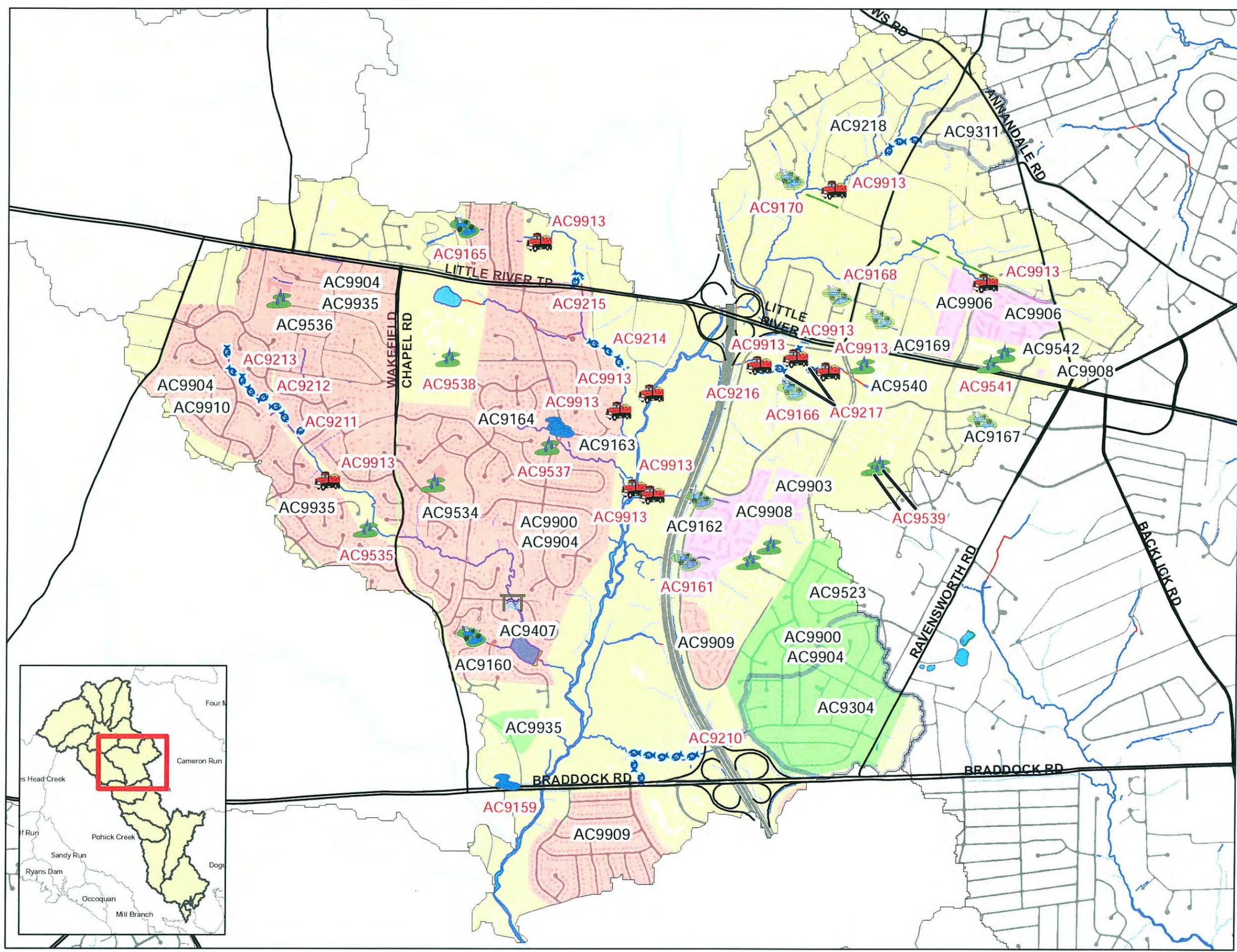
- Buffer Restoration
- Stream Restoration
- BMP/LID
- Culvert Retrofit
- Dumpsite/Obstruction Removal
- New Stormwater Pond
- Outfall Improvement
- Stormwater Pond Retrofit
- Other

- Community Outreach/ Public Education
- Area-wide Drainage Improvements
- Land Conservation Project
- Flood Protection/ Mitigation
- Inspection/Enforcement Enhancement Project
- Rain Barrel Programs
- Street Sweeping Program
- Studies, Surveys and Assessments

Implementation timeframe denoted by project label color.  
 Red = 0-10 years Black = 11-25 years.

# Map 5.10

WMA: Mainstem 3  
 Proposed Projects



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## **5.11 Accotink Mainstem 4**

The results of the subwatershed strategy analysis showed significant number of subwatersheds in Mainstem 4 WMA to be in good condition primarily due to the influence of undeveloped parcels of Lake Accotink Park. In terms of overall ranking, Mainstem 4 had four highest priority subwatersheds in the watershed.

### **5.11.1 Structural Projects**

#### *5.11.1.1 10-Year Projects*

##### AC9205 Stream Restoration Project

This is a potential stream restoration site behind Thames Street. Field investigation indicated moderate erosion and parts of the stream was widened to over 100 feet in many areas. The recommendation is to reconnect the channel to the floodplain by reducing channel dimensions and raising the bed elevation.

##### AC9206 Stream Restoration Project

This site was investigated as a stream restoration site behind Victoria Road for moderate incision and bank erosion with over-widened stream conditions. An existing sanitary sewer crossing encased in concrete as well as an exposed sewer manhole standpipe are present in the stream channel. Recommendations include reconnecting this channel to the floodplain, possible channel relocation to redirect flows away from existing infrastructure, regrading and stabilization.

##### AC9207 Stream Restoration Project

This project is a potential stream restoration site at Kings Park. Recommendations include creating a nested channel, reducing the existing channel dimensions and installing grade controls as well as armor-in-place stabilization techniques or stone toe protection.

##### AC9302 Area-Wide Drainage Improvements

Propose to treat a large medium-density residential area for runoff by implementing area-wide drainage improvement projects. Tree box filters will be installed at various inlets throughout the neighborhood.

##### AC9400 Culvert Retrofit

This project, located at the culvert under Queensbury Avenue, would modify the control structure to manage the high frequency storm events, thus reducing channel erosion and improve habitat downstream.

##### AC9401 Culvert Retrofit

A culvert retrofit is proposed under the Capital Beltway. This would add a control structure on the upstream side of the culvert to regulate discharge of the small, high frequency storms.

##### AC9402 Culvert Retrofit

Accotink Creek Watershed Management Plan

This project proposes to retrofit the upstream side of the culvert under Danbury Forest Drive. This would add a control structure on the upstream side of the culvert to regulate discharge of the small, high frequency storms.

#### AC9403 Culvert Retrofit

This is a potential retrofit of a culvert under Southampton Drive in Kings Park. Recommendations include adding a control structure on the upstream side of the culvert to regulate the discharge rate of frequent storm events.

#### AC9527 New BMP/LID

This is a potential parking lot retrofit at Kings Park Elementary School. Three bioretention facilities are proposed on site to capture and treat impervious runoff.

### *5.11.1.2 25-Year Projects*

#### AC9142 New Stormwater Pond

This site is located at an industrial area on Morrissette Drive. The area near the outfall is swampy and the downstream is reinforced with riprap. Proposed recommendations include adding a new wetland to provide storage and adding a forebay at the outfall. The project may be constrained by an electric line overhead.

#### AC9143 New Stormwater Pond

This project proposes new wetland plantings downstream of the culvert under Southampton Drive in Lake Accotink Park. There are wetland species already present at the project site.

#### AC9303 Area-Wide Drainage Improvements

Recommend implementing area wide drainage improvement projects to treat runoff from the untreated medium-density areas of the subwatershed. Projects include installing water quality inlets, disconnecting downspouts and installing rain gardens.

#### AC9523 New BMP/LID

Several options are proposed at North Springfield Elementary School. Recommendations include adding a bioretention facility at the end of the main parking area, bioretention or rain gardens at the downspouts, disconnecting downspouts and adding stormwater planters on the side near the secondary parking area.

#### AC9524 New BMP/LID

This project is located at the Church of Jesus Christ on Inver Chapel Road. Proposed project recommendations include disconnecting downspouts, directing the runoff to rain gardens at the back of the church and treating the parking lot runoff by implementing bioretentions at both ends of the parking lot.

#### AC9525 New BMP/LID

A series of bioretention filters are proposed at yard inlets draining Tivoli Condominiums behind Torington Drive to treat the impervious runoff. Recommendations include modifying the existing storm drain structure to allow minimal ponding and adding plantings around the structures for uptake.

#### AC9526 BMP/LID Retrofit

This project recommends a bioretention facility at the rear of the parking lot at the industrial area on Morrissette Drive. The proposed bioretention would treat the runoff from the parking lot used for fleet storage and the fueling area.

### **5.11.2 Non Structural Projects**

#### AC9903 Inspection/Enforcement Enhancement Project - Outdoor Materials

Materials that are stored outdoors are subjected to many types of precipitation, making them a possible source of stormwater runoff pollution. Three sites in this WMA had an uncovered fueling area, large dirt mounds without cover, or building materials stored outside. This project would be a community-wide enforcement and outreach approach to check for stormwater pollution prevention plans and to educate property owners.

#### AC9909 Rain Barrel Programs - Downspout Disconnect

The upland reconnaissance identified several sites where downspouts were directly connected to storm drains. A watershed-wide outreach program could be beneficial in reducing runoff volume or peak flows. In this WMA, it includes the areas around Ravensworth and Kings Park.

#### AC9913 Dumpsite/Obstruction Removal - Dumpsite/Obstruction

Four sites were identified with significant obstructions or dumpsites during the stream assessment. This project would be a community-wide program to remove obstructions and clean up dumpsites in the stream network. These sites are comprised of trees blocking fish passage and concrete within the stream blocking fish passage.

**Table 5-10: Mainstem 4 Projects**

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9205	Stream Restoration	AC-AC-0270	Between Thames St and Parliament Dr	Water Quality	County-FCPA	1 - 10
AC9207	Stream Restoration	AC-AC-0275	Kings Park	Water Quality	County-FCPA	1 - 10
AC9206	Stream Restoration	AC-AC-0270	Behind 8500-8600 Block of Thames Street	Water Quality	Private-HOA, County-FCPA	1 - 10
AC9302	Area-wide Drainage Improvements	AC-AC-0240	Within the Ravensworth Neighborhood	Water Quality	Private - Residential	1 - 10
AC9400	Culvert Retrofit	AC-FR-0000	North Springfield	Water Quality	County - FCPA	1 - 10
AC9401	Culvert Retrofit	AC-FR-0005	North Springfield	Water Quality	State - VDOT	1 - 10
AC9402	Culvert Retrofit	AC-AC-0270	Danbury Forest Section 3. Danbury Forest Dr.	Water Quality	County - FCPA	1 - 10
AC9403	Culvert Retrofit	AC-AC-0270	Kings Park	Water Quality	County - FCPA	1 - 10
AC9527	BMP/LID	AC-AC-0270	Kings Park Elementary School	Water Quality	County - FCPS	1 - 10
AC9142	New Stormwater Pond	AC-AC-0260	Behind Morrisette Dr	Water Quality and Quantity	Public	11 - 25
AC9143	New Stormwater Pond	AC-AC-0270	Lake Accotink Park Southampton Dr.	Water Quality and Quantity	County-FCPA	11 - 25
AC9303	Area-wide Drainage Improvements	AC-AC-0260	Between Kennelworth Dr and Eastbourn Dr	Water Quality	Private	11 - 25
AC9523	BMP/LID	AC-FR-00005	North Springfield Elementary School	Water Quality	County - FCPS	11 - 25

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9524	BMP/LID	AC-AC-0235	Church of Jesus Christ <u>Inver Chapel Road</u>	Water Quality	Private	11 - 25
AC9525	BMP/LID	AC-AC-0248	Tivoli Condos, behind Torington Dr	Water Quality	Private	11 - 25
AC9526	BMP/LID	AC-AC-0260	Behind Morrissette Dr	Water Quality	Private	11 - 25

Non-Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	
AC9903	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple	
AC9909	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple	
AC9913	Dumpsite/Obstruction Removal	Multiple	Multiple	Water Quality	Multiple	

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## **5.12 Accotink Mainstem 5**

The results of the subwatershed strategy analysis showed all except three subwatersheds in Mainstem 5 WMA to be in good condition, primarily due to the influence of undeveloped parcels of Accotink Stream Valley Park. Only two subwatersheds were ranked as highest priority in the watershed.

### **5.12.1 Structural Projects**

#### *5.12.1.1 10-Year Projects*

##### AC9139 Stormwater Pond Retrofit

This is a retrofit of existing dry pond 0935DP. Proposed recommendations include removing the concrete channel in the pond and replacing it with a meandering channel and modifying the riser for better channel erosion control.

##### AC9201 Stream Restoration Project

This stream restoration parallels Bardu Avenue in the Accotink Stream Valley Park. Recommendations include reducing the current channel dimensions, redirecting flows away from eroded meanders and installing grade controls to dissipate stream energy and prevent further over-widening. Armor-in-place or bioengineering stabilization techniques and stone toe protection may be needed on outer meander bends and at the sanitary sewer line crossing.

##### AC9202 Stream Restoration Project

Stream restoration is recommended on the stream behind Oakford Drive in the Cardinal Forest neighborhood. The upstream section of the reach is severely eroded near the outfall; the downstream portion of this project is incised and experiencing moderate erosion. Restoration of the upstream portion of this project will focus on raising the bed elevation of the channel as well as regrading and stabilizing stream banks with armor-in-place or bioengineering techniques. The downstream portion of this project will focus on reconnecting this channel to the floodplain by reducing channel dimensions and raising the bed elevation.

##### AC9204 Stream Restoration Project

This is a potential stream restoration site along Heming Avenue in Lake Accotink Park. Field investigation indicated high erosion on meanders and straight sections, including at a storm drain outfall. Recommendations include reconnecting this channel to the original floodplain by reducing channel dimensions and raising the bed elevation. Grade controls should also be installed and the storm drain outfall corrected.

#### *5.12.1.2 25-Year Projects*

##### AC9137 Stormwater Pond Retrofit

This is a proposed retrofit of the existing dry pond behind Villa Park Road. Recommendations include removing the concrete channels and adding a riser for the outlet and a forebay micropool. Raising the outlet could provide water quality volume storage and channel erosion control without sacrificing large storm detention.

#### AC9138 Stormwater Pond Retrofit

This project proposes to retrofit the existing dry pond treating runoff from the Toyota Dealership on Terry Dr by widening and excavating for water quality volume storage. No changes are recommended for the riser.

#### AC9140 Stormwater Pond Retrofit

This project is a retrofit of wet pond WP0257 between Attendee Road and Floyd Avenue in Brookfield Park. Field assessment indicated that the only outlet for the pond is the spillway and that the pond receives stormwater but does not provide storage. Proposed recommendations include adding an aquatic bench and modifying the outlet and excavating the pond to provide storage.

#### AC9141 Stormwater Pond Retrofit

This project proposes a retrofit of dry pond DP0415 along Highland Street. Recommendations include modifying the riser, removing concrete channels and lengthening the flow path. The bottom of the pond is swampy and could potentially be converted to a wetland or a pond with wetland elements.

#### AC9203 Stream Restoration Project

This proposed project is a stream restoration in Lake Accotink Park. Field investigation indicated areas of high bank erosion near the road that require stabilization and an area under the sanitary sewer line that is actively eroding. Proposed project recommendations include bank stabilization and installing flow deflectors upstream to direct the stream away from the bank.

#### AC9516 New BMP/LID

This project recommends excavating around each storm drain inlet and installing bioretention to treat runoff at Lee Valley Apartments.

#### AC9517 New BMP/LID

This is a potential for bioretention in the courtyard at Garfield Elementary School to treat parking lot runoff and a grass swale to be constructed between the parking lot and fence.

#### AC9518 New BMP/LID

There are numerous downspouts that can be disconnected at Springfield United Methodist Church to improve water quality treatment. Additional recommendations include removing the concrete swale and adding curb cuts.

#### AC9519 New BMP/LID

This project would treat the southern section of the parking lot of Springfield Shopping Plaza for water quality by creating rain gardens at depressed curb islands and adding bioretention at inlets.

#### AC9520 BMP/LID Retrofit

The northern section of Springfield Shopping Plaza is treated for water quantity control by existing underground facilities. Recommendations are to treat parking lot runoff for water quality by creating rain gardens at depressed curb islands and providing bioretentions at inlets.

#### AC9521 New BMP/LID

This parking lot retrofit is located at Saint Bernadette Church and School. Recommendations include adding a bioretention area in the back of the school and disconnecting downspouts to direct flow to the proposed bioretention facility.

#### AC9522 New BMP/LID

This proposed retrofit is located at Grace Presbyterian Church on Bath Street. The recommendation is to install a bioretention area along the parking lot to capture runoff. Some runoff is currently bypassing storm drains and causing stream erosion.

### **5.12.2 Non Structural Projects**

#### AC9903 Inspection/Enforcement Enhancement Project - Outdoor Materials

Materials that are stored outdoors are subjected to many types of precipitation, making them a possible source of stormwater runoff pollution. Two sites in this WMA had oil tanks stored outdoors or roofing material stored outdoors. This project would be a community-wide enforcement and outreach approach to check for stormwater pollution prevention plans and to educate property owners.

#### AC9908 Inspection/Enforcement Enhancement Project - Dumpster Maintenance

One source of litter and pollutants in stormwater runoff is poorly maintained dumpsters and other waste management practices. This project is a community-wide enforcement and outreach approach to properties where problems were identified during the upland reconnaissance. Dumpsters in this WMA were flagged as hotspots with evidence of being too full and overflowing grease barrels.

#### AC9909 Rain Barrel Programs - Downspout Disconnect

The upland reconnaissance identified several sites where downspouts were directly connected to storm drains. A watershed-wide outreach program could be beneficial in reducing runoff

volume or peak flows. In this WMA, they included the area around Keene Mill Manor, Cardinal Forest, Springfield and Ravensworth.

AC9914 Community Outreach/Public Education - Turf Management

Outreach to turf managers is similar to that of lawn care; however, it is intended more for data gathering to assess current practices and education about runoff pollution. In this WMA, West Springfield, Hunter Village, Keene Mill Manor and Cardinal Forest were identified as a potential outreach sites.

AC9921 Conservation Acquisition Project/Land Conservation Coordination Project

This site is a forested area beside recreation fields and behind a commercial building along Old Keene Mill Road. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

AC9922 Conservation Acquisition Project/Land Conservation Coordination Project

This site is a forested area beside recreation fields along Old Keene Mill Road, south of project AC9921. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

AC9923 Conservation Acquisition Project/Land Conservation Coordination Project

This site is a forested area beside recreation fields along Old Keene Mill Road, south of project AC9921 and AC9922. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

AC9924 Conservation Acquisition Project/Land Conservation Coordination Project

This site is a forested area near Lee Valley Drive, south of project AC9923. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

AC9925 Conservation Acquisition Project/Land Conservation Coordination Project

This site is a forested area near Lee Valley Drive, west of project AC9922. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

AC9927 Conservation Acquisition Project/Land Conservation Coordination Project

This site is a forested area north of Southern Drive and south of the railroad tracks, in the middle of a commercial/industrial complex. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

**Table 5-11: Mainstem 5 Projects**

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9139	Stormwater Pond Retrofit	AC-AC-0185	Westhaven	Water Quality	Private - HOA	1 - 10
AC9201	Stream Restoration	AC-AC-0195	Accotink Stream Valley Park	Water Quality	County- FCPA	1 - 10
AC9202	Stream Restoration	AC-AC-0200	Between A Dr, S Dr and Oakford Dr	Water Quality	Private-HOA	1 - 10
AC9204	Stream Restoration	AC-AC-0220	Lake Accotink Park, along Heming Ave.	Water Quality	Public-FCPA	1 - 10
AC9137	Stormwater Pond Retrofit	AC-CA-0005	Intersection of Benfranklin Rd and Villa Park Rd	Water Quality and Quantity	Private	11 - 25
AC9138	Stormwater Pond Retrofit	AC-CA-0010	Toyota Dealership on Terry Dr	Water Quality and Quantity	Private	11 - 25
AC9140	Stormwater Pond Retrofit	AC-AC-0205	Brookfield Park	Water Quality and Quantity	County-FCPA	11 - 25
AC9141	Stormwater Pond Retrofit	AC-AC-0215	Along Highland St	Water Quality and Quantity	Private	11 - 25
AC9203	Stream Restoration	AC-AC-0215	Lake Accotink Park	Water Quality	County-FCPA	11 - 25
AC9516	BMP/LID	AC-CA-0000	Lee Valley Apts, Behind Lee Valley Dr	Water Quality	Private	11 - 25
AC9517	BMP/LID	AC-CA-0010	Garfield Elementary School	Water Quality	County-FCPS	11 - 25
AC9518	BMP/LID	AC-CA-0010	Springfield United Methodist Church	Water Quality	Private	11 - 25
AC9519	BMP/LID	AC-CA-0010	Springfield Shopping Plaza	Water Quality	Private	11 - 25

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9520	BMP/LID	AC-CA-0010	Springfield Shopping Plaza	Water Quality	Private	11 - 25
AC9521	BMP/LID	AC-AC-0185	Saint Bernadette Church	Water Quality	Private	11 - 25
AC9522	BMP/LID	AC-AC-0205	Grace Presbyterian Church	Water Quality	Private	11 - 25

Non-Structural Projects					
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner
AC9903	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple
AC9908	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple
AC9909	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple
AC9914	Community Outreach/Public Education	Multiple	Multiple	Water Quality	Multiple
AC9921	Conservation Acquisition Project/Land Conservation	AC-CA-0010	Along Lee Valley Dr	Water Quality and Quantity	Private
AC9922	Conservation Acquisition Project/Land Conservation	AC-CA-0000	Along Lee Valley Dr	Water Quality and Quantity	Private
AC9923	Conservation Acquisition Project/Land Conservation	AC-CA-0000	Along Lee Valley Dr	Water Quality and Quantity	Private
AC9924	Conservation Acquisition Project/Land Conservation	AC-CA-0000	Along Lee Valley Dr	Water Quality and Quantity	Private

**Non-Structural Projects**

<b>Project #</b>	<b>Project Type</b>	<b>Subshed</b>	<b>Location</b>	<b>Watershed Benefit</b>	<b>Land Owner</b>
AC9925	Conservation Acquisition Project/Land Conservation	AC-CA-0000	Along Lee Valley Dr	Water Quality and Quantity	Private
AC9927	Conservation Acquisition Project/Land Conservation	AC-AC-0220	Southern Industrial Park	Water Quality and Quantity	Private

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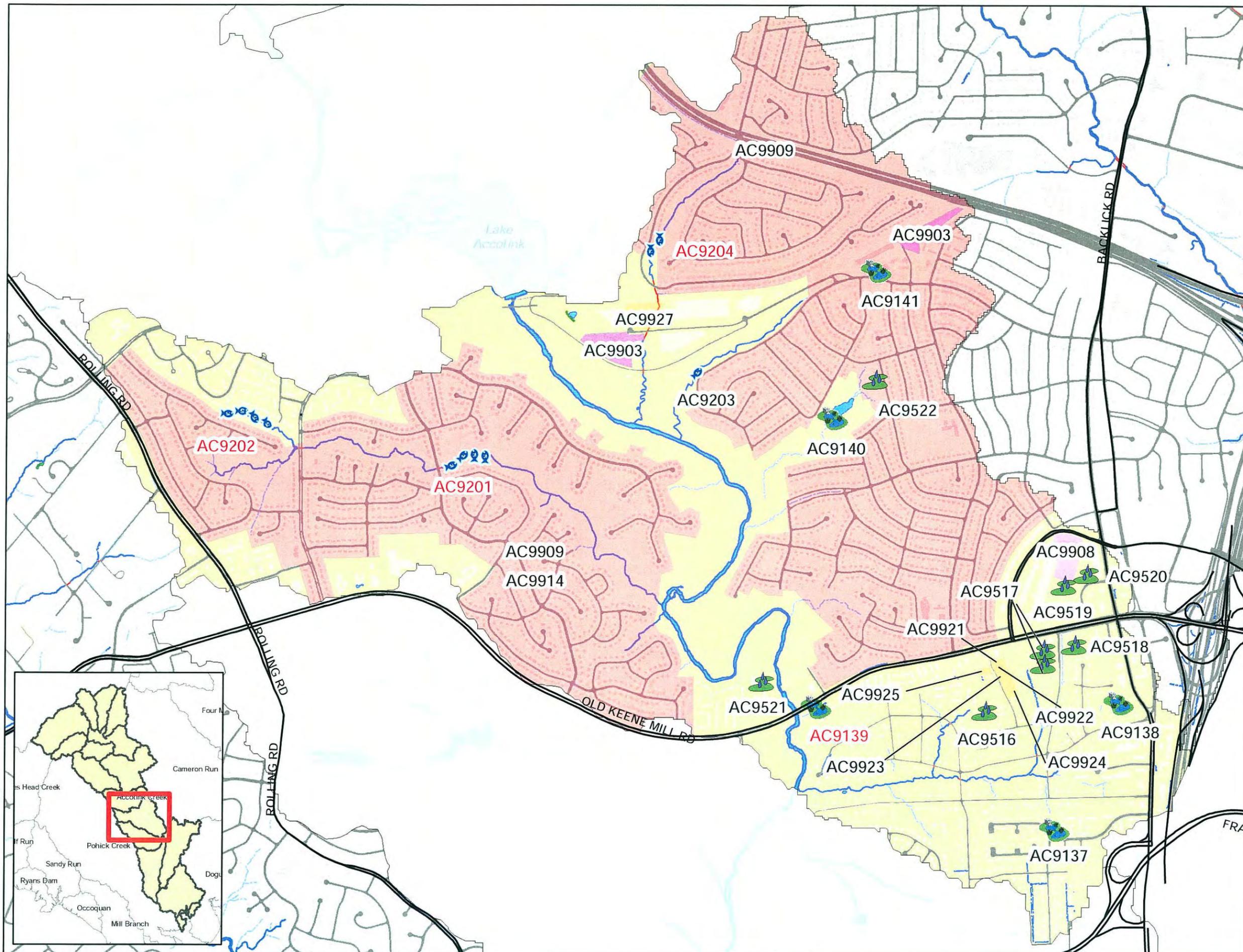
- Buffer Restoration
- Stream Restoration
- BMP/LID
- Culvert Retrofit
- Dumpsite/Obstruction Removal
- New Stormwater Pond
- Outfall Improvement
- Stormwater Pond Retrofit
- Other

- Community Outreach/ Public Education
- Area-wide Drainage Improvements
- Land Conservation Project
- Flood Protection/ Mitigation
- Inspection/Enforcement Enhancement Project
- Rain Barrel Programs
- Street Sweeping Program
- Studies, Surveys and Assessments

Implementation timeframe denoted by project label color.  
Red = 0-10 years Black = 11-25 years.

# Map 5.12

WMA: Mainstem 5  
Proposed Projects



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## **5.13 Accotink Mainstem 6**

The results of the subwatershed strategy analysis showed all except three subwatersheds in Mainstem 6 WMA to be in good condition primarily due to the influence of undeveloped parcels of Ft. Belvoir, West Springfield Park, Accotink Stream Valley Park and Springfield Golf Course. Only two subwatersheds were ranked as highest priority for overall project.

### **5.13.1 Structural Projects**

#### *5.13.1.1 10-Year Projects*

##### AC9133 Stormwater Pond Retrofit

This is a retrofit of existing dry pond 0462DP treating the high-density residential area in the Hunter Village neighborhood. Recommendation is to install a new riser structure and stabilize the existing channel into the facility.

##### AC9134 Stormwater Pond Retrofit

This proposed project includes converting the existing pond in the Rolling Forest neighborhood to a detention pond by removing concrete channels, adding plungepools, modifying the riser and increasing the flow path. This will provide extended detention for water quality treatment.

##### AC9136 Stormwater Pond Retrofit

This project is a retrofit of a dry pond on Kenwood Avenue. Recommendations include excavating the bottom to create a shallow wetland, excavation for storage and adjusting the outlet to maximize detention to improve water quality treatment.

##### AC9200 Stream Restoration Project

Proposed project includes recreating the channel by removing the concrete, repairing the erosion along hillside, and stabilizing the stream against future erosion.

##### AC9514 New BMP/LID

This project proposed to treat the parking lot runoff of Cardinal Forest Plaza for water quality by constructing bioretention cells in the parking lot along Old Keene Mill Road.

##### AC9515 New BMP/LID

This project proposed to treat the parking lot runoff of Old Keene Hills Shopping Center by implementing bioretention areas. Some parking spaces would need to be removed to implement this facility.

#### *5.13.1.2 25-Year Projects*

##### AC9131 Stormwater Pond Retrofit

This project proposes to retrofit the existing dry pond treating a medium-density residential area in the Shirley Springs neighborhood by removing the concrete channel and excavating a micropool at the inlet to add water quality benefit.

#### AC9132 Stormwater Pond Retrofit

This proposed project is to retrofit the existing dry pond treating low- and medium-density residential areas in the Shirley Springs neighborhood by removing the concrete channel, excavating the bottom for water quality volume storage and adjusting the outlet size. Curb cuts are also recommended to treat runoff from road.

#### AC9135 Stormwater Pond Retrofit

This site is a retrofit of the dry pond behind Bethnal Place and to the pond behind Caton Woods Court. The recommendation is to excavate both ponds for additional capacity.

#### AC9513 New BMP/LID

The proposed project is to treat the rooftop runoff of the West Springfield Elementary School with a bioretention facility to improve the water quality onsite.

### **5.13.2 Non Structural Projects**

#### AC9908 Inspection/Enforcement Enhancement Project - Dumpster Maintenance

One source of litter and pollutants in stormwater runoff is poorly maintained dumpsters and other waste management practices. This project is a community-wide enforcement and outreach approach to properties where problems were identified during the upland reconnaissance. An area in this WMA was flagged with evidence of overflowing grease barrels.

#### AC9909 Rain Barrel Programs - Downspout Disconnect

The upland reconnaissance identified several sites where downspouts were directly connected to storm drains. A watershed-wide outreach program could be beneficial in reducing runoff volume or peak flows. In this WMA, they included the area around Keene Mill Manor, West Springfield, and Hunter Village.

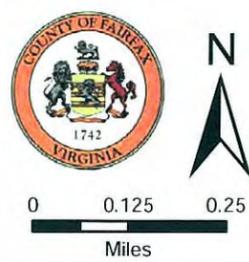
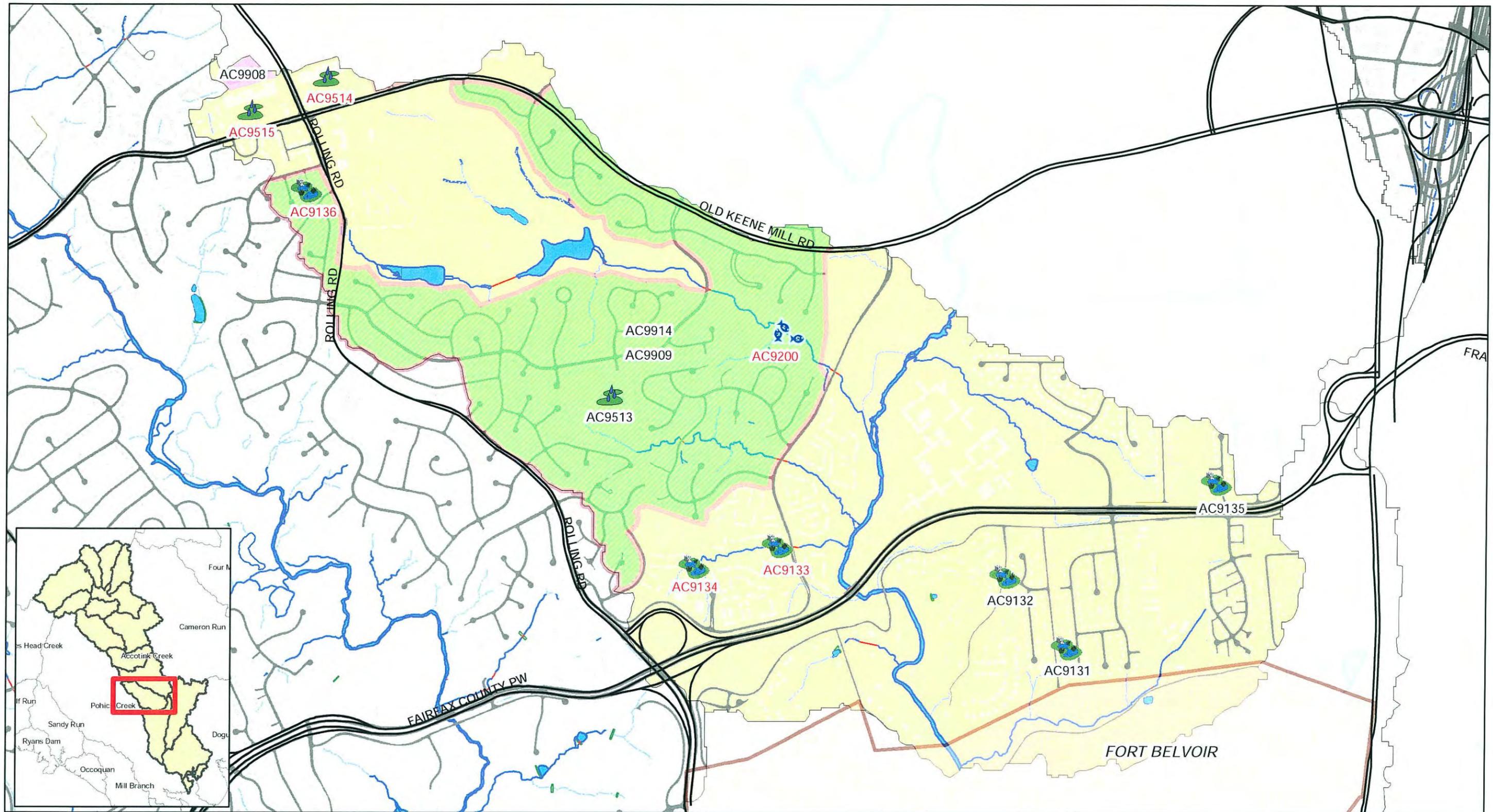
#### AC9914 Community Outreach/Public Education - Turf Management

Outreach to turf managers is similar to that of lawn care; however, it is intended more for data gathering to assess current practices and education about runoff pollution. In this WMA, Hunter Village, Keene Mill Manor and Hunter Village were identified as a potential outreach sites.

**Table 5-12: Mainstem 6 Projects**

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9133	Stormwater Pond Retrofit	AC-AC-0145	Hunter Village Dr.	Water Quality and Quantity	Private - HOA	1 - 10
AC9134	Stormwater Pond Retrofit	AC-AC-0145	Rolling Forest	Water Quality	Private - HOA	1 - 10
AC9136	Stormwater Pond Retrofit	AC-AC-0175	Kenwood Oaks	Water Quality	Private - HOA	1 - 10
AC9200	Stream Restoration	AC-AC-0160	Downstream of Greeley Blvd.	Water Quality	Private – HOA, Public-FCPA	1 - 10
AC9514	BMP/LID	AC-AC-0170	Cardinal Forest Plaza	Water Quality	Private - Commercial	1 - 10
AC9515	BMP/LID	AC-AC-0175	Old Keene Mill Shopping Center	Water Quality	Private - Commercial	1 - 10
AC9131	Stormwater Pond Retrofit	AC-AC-0135	Shirley Springs, behind Sterling Grove Dr	Water Quality and Quantity	Private	11 - 25
AC9132	Stormwater Pond Retrofit	AC-AC-0140	Shirley Springs, along Dudrow Rd	Water Quality and Quantity	Private	11 - 25
AC9135	Stormwater Pond Retrofit	AC-AC-0180	Behind Bethnal PI	Water Quality and Quantity	Private	11 - 25
AC9513	BMP/LID	AC-AC-0160	West Springfield Elementary School	Water Quality	County-FCPS	11 - 25

<b>Non-Structural Projects</b>					
<b>Project #</b>	<b>Project Type</b>	<b>Subshed</b>	<b>Location</b>	<b>Watershed Benefit</b>	<b>Land Owner</b>
AC9908	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple
AC9909	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple
AC9914	Community Outreach/Public Education	Multiple	Multiple	Water Quality	Multiple



- |                              |                          |                                     |  |
|------------------------------|--------------------------|-------------------------------------|--|
| Buffer Restoration           | New Stormwater Pond      | Community Outreach/Public Education | Inspection/Enforcement Enhancement Project |
| Stream Restoration           | Outfall Improvement      | Area-wide Drainage Improvements     | Rain Barrel Programs                       |
| BMP/LID                      | Stormwater Pond Retrofit | Land Conservation Project           | Street Sweeping Program                    |
| Culvert Retrofit             | Other                    | Flood Protection/Mitigation         | Studies, Surveys and Assessments           |
| Dumpsite/Obstruction Removal |                          |                                     |  |

Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.

**Map 5.13**  
WMA: Mainstem 6  
Proposed Projects

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## **5.14 Accotink Mainstem 7**

The results of the subwatershed strategy analysis showed six of the 16 subwatersheds in Mainstem 7 have low scores in water quality only; this is primarily due to the influence of industrial areas. Three subwatersheds in the northern portion of the WMA are in good condition because they are within the boundaries of Ft. Belvoir. Four additional subwatersheds in the southern portion of the WMA are in good condition due to the influence of undeveloped park land. Only one subwatershed has the highest priority for overall projects.

### **5.14.1 Structural Projects**

#### *5.14.1.1 10-Year Projects*

##### AC9123 Stormwater Pond Retrofit

This project would convert the existing dry pond at Gateway 95 Business Park to provide increased water quality. Recommendations include modifying the riser, adding plunge pools at the inflows, and removing the concrete channels.

##### AC9125 Stormwater Pond Retrofit

Field assessment indicated that this existing dry pond is functioning well but depositing sediment. Project recommendations include excavating sediment, modifying the control structure, and the possible removal of trees.

##### AC9126 Stormwater Pond Retrofit

The proposed project consists of retrofitting the existing dry pond (DP0338) at Alban Industrial Center. The pond has almost no detention as the outlet is too big. Recommendations include modifying the riser with a small outlet, removing concrete channels, excavating the bottom and lengthening the flow path.

##### AC9127 Stormwater Pond Retrofit

This existing pond is currently functioning as dry pond. Project recommendations include excavation of accumulated sediment and debris and a new riser structure.

##### AC9128 Stormwater Pond Retrofit

Possible retrofits at this dry pond include cleaning debris, modifying the riser and stabilizing the low flow channel to improve the water quality treatment of the runoff.

##### AC9130 New Stormwater Pond

This car dealership on Backlick Road is a large, untreated impervious surface. Recommendations include excavating the pond, using the existing storm drains as inflows and installing a riser to provide water quality and quantity treatment.

#### AC9509 New BMP/LID

The parking lot in Lockport Industrial Park currently drains to the floodplain with no storm drain infrastructure. This project recommends a bioretention facility along the edge of the parking lot to treat runoff.

#### AC9510 BMP/LID Retrofit

The entire Lockport Industrial park is lacking water quality treatment. Recommend installing tree box filters at storm drain inlets to treat runoff for water quality.

#### AC9511 New BMP/LID

Propose converting the existing grass swale at the Deer Park parking lot of Lockport Industrial Park to a bioretention facility to treat the parking lot runoff.

#### AC9512 New BMP/LID

This proposed project is to construct a vegetated swale to treat water quality in the area adjacent to the HRM Automotive parking lot by adding step pools with check dams.

#### *5.14.1.2 25-Year Projects*

#### AC9124 Stormwater Pond Retrofit

This project proposes to convert existing dry pond DP0299 at Newington Commerce Center to a wet pond by installing a riser. This would allow for pollutant removal. The pond currently drains to a wetland so storage is not necessary.

#### AC9129 Stormwater Pond Retrofit

The existing pond at the VA 95 Industrial Park is proposed to be retrofitted by raising the outlet structure and cutting down the trees on the embankment to prevent seepage.

#### AC9300 Area-Wide Drainage Improvements

Recommend treating the runoff in medium-density residential areas in the subwatershed by implementing overall drainage improvement projects. Recommendations include installing water quality inlets and rain gardens and disconnecting downspouts.

#### **5.14.2 Non Structural Projects**

#### AC9902 Inspection/Enforcement Enhancement Project - Vehicle Maintenance

This project would provide community-wide targeted enforcement of spill prevention and pollution prevention regulations for sites where vehicles are maintained. The upland reconnaissance identified two Enterprise a car washing areas discharging directly to a tree box filter device and a fleet washing facility running through a dry pond without treatment.

#### AC9903 Inspection/Enforcement Enhancement Project - Outdoor Materials

Materials that are stored outdoors are subjected to many types of precipitation, making them a possible source of stormwater runoff pollution. Three sites in this WMA had an uncovered fueling area or gravel berms around gas storage tanks. This project would be a community-wide enforcement and outreach approach to check for stormwater pollution prevention plans and to educate property owners.

#### AC9904 Rain Barrel Programs - Rain Barrels

Rain barrels provide the first step for residents to disconnect their downspout. This project would be a community-wide outreach program to encourage their use. One neighborhood, Springfield Oaks, was identified during the upland reconnaissance with roof drainage that would be suitable for this approach.

#### AC9909 Rain Barrel Programs - Downspout Disconnect

The upland reconnaissance identified several sites where downspouts were directly connected to storm drains. A watershed-wide outreach program could be beneficial in reducing runoff volume or peak flows. In this WMA, they included Pohick Estates and Terra Estates.

#### AC9914 Community Outreach/Public Education - Turf Management

Outreach to turf managers is similar to that of lawn care; however, it is intended more for data gathering to assess current practices and education about runoff pollution. In this WMA, Pohick Estates, Terra Grande and Springfield Oaks were identified as a potential outreach sites.

#### AC9915 Conservation Acquisition Project/Land Conservation

This site is a forested area off of Pohick Road. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

#### AC9916 Conservation Acquisition Project/Land Conservation

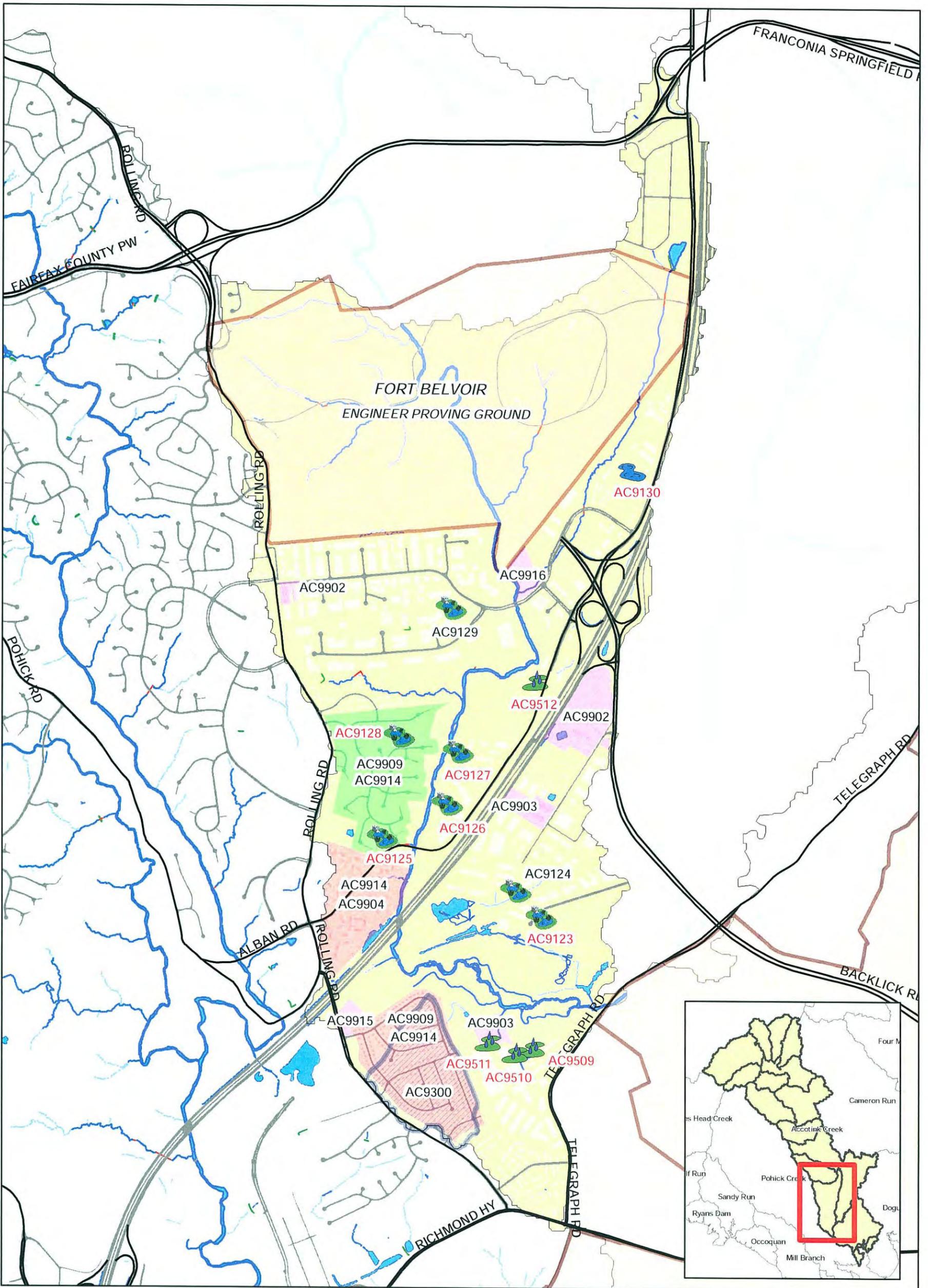
This site is a forested area off of Fullerton Road in a commercial/industrial area. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

**Table 5-13: Mainstem 7 Projects**

Structural Projects						
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner	Phase
AC9123	Stormwater Pond Retrofit	AC-AC-0075	Gateway 95 Business Park	Water Quality	Private - Commercial	1 - 10
AC9125	Stormwater Pond Retrofit	AC-AC-0090	Terra Grande	Water Quality and Quantity	Private - HOA	1 - 10
AC9126	Stormwater Pond Retrofit	AC-AC-0095	Alban Industrial Center	Water Quality	Private - Commercial	1 - 10
AC9127	Stormwater Pond Retrofit	AC-AC-0095	Alban Industrial Center	Water Quality	Private - Commercial	1 - 10
AC9128	Stormwater Pond Retrofit	AC-AC-0095	Terra Grande	Water Quality and Quantity	Private - HOA	1 - 10
AC9130	New Stormwater Pond	AC-FL-0005	Backlick Road	Water Quality and Quantity	Private - Commercial	1 - 10
AC9509	BMP/LID	AC-AC-0070	Lockport Industrial Park	Water Quality	Private - Industrial	1 - 10
AC9510	BMP/LID	AC-AC-0070	Lockport Industrial Park	Water Quality	Private - Industrial	1 - 10
AC9511	BMP/LID	AC-AC-0080	Deer Park parking lot	Water Quality	Private - Industrial	1 - 10
AC9512	BMP/LID	AC-AC-0105	HRM Automotive	Water Quality	Private - Industrial	1 - 10
AC9124	Stormwater Pond Retrofit	AC-AC-0085	Newington Commerce Center	Water Quality and Quantity	Private	11 - 25
AC9129	Stormwater Pond Retrofit	AC-AC-0105	VA 95 Industrial Park	Water Quality and Quantity	Private	11 - 25
AC9300	Area-wide Drainage Improvements	AC-AC-0080	Between Pohick Rd and Lagrange St	Water Quality	Private	11 - 25

Non-Structural Projects					
Project #	Project Type	Subshed	Location	Watershed Benefit	Land Owner
AC9902	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple
AC9903	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple
AC9904	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple
AC9909	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple
AC9914	Community Outreach/Public Education	Multiple	Multiple	Water Quality	Multiple
AC9915	Conservation Acquisition Project/Land Conservation	AC-AC-0080	Intersection of Lagranges St and Pohick Rd	Water Quality and Quantity	Private
AC9916	Conservation Acquisition Project/Land Conservation	AC-AC-0105	Interstate Industrial Park	Water Quality and Quantity	Private

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- |                              |                          |                                     |
|------------------------------|--------------------------|-------------------------------------|
| Buffer Restoration           | New Stormwater Pond      | Community Outreach/Public Education |
| Stream Restoration           | Outfall Improvement      | Area-wide Drainage Improvement      |
| BMP/LID                      | Stormwater Pond Retrofit | Land Conservation Project           |
| Culvert Retrofit             | Other                    | Flood Protection/Mitigation         |
| Dumpsite/Obstruction Removal |                          | Inspection/Enforcement Enhancement  |
|                              |                          | Rain Barrel Program                 |
|                              |                          | Street Sweeping Program             |
|                              |                          | Studies, Surveys and Assessments    |
- Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.

# Map 5.14

WMA: Mainstem 7  
Proposed Projects

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## **5.15 Accotink Mainstem 8**

Almost all the subwatersheds of Mainstem 8 are either completely or partially within the boundaries of Ft. Belvoir. Retrofits or improvement projects were assessed at sites which were not included in Ft. Belvoir.

### **5.15.1 Structural Projects**

#### *5.15.1.1 10-Year Projects*

##### AC9101 Stormwater Pond Retrofit

Significant erosion downstream of outlet of dry pond 0629DP was observed during field investigation. This project recommends stabilizing the outfall to prevent further erosion.

#### *5.15.1.2 25-Year Projects*

##### AC9100 Stormwater Pond Retrofit

This project proposes converting the existing dry pond along Morning Meadow Drive to a wet pond by removing the low flow outlet for water quality treatment. Also recommend stabilizing downstream with step pools or check dams.

##### AC9500 New BMP/LID

The project recommends converting the unused portions of the parking lot in Pohick Industrial Park to bioretention facilities to increase treatment and to remove some impervious surface. Reconfiguration of the storm drains may be required for implementation.

### **5.15.2 Non Structural Projects**

##### AC9900 Community Outreach/Public Education - Stenciling

This community-wide project involves marking the storm drains within the community. The stencil marking will educate the public, reduce dumping, and reduce the amount of litter and pollutants that enter the storm drain system. The location identified for implementation of this project is Cook Inlet.

##### AC9901 Conservation Acquisition Project/Land Conservation Coordination Project

This site is a forested area near Belvoir Woods Parkway. The project consists of acquiring easements or property to preserve the natural area to retain habitat.

##### AC9902 Inspection/Enforcement Enhancement Project - Vehicle Maintenance

This project would provide community-wide targeted enforcement of spill prevention and pollution prevention regulations for sites where vehicles are maintained. The upland reconnaissance identified a car wash discharging directly to a storm drain and two outdoor truck repair/maintenance/storage facilities.

### AC9903 Inspection/Enforcement Enhancement Project - Outdoor Materials

Materials that are stored outdoors are subjected to many types of precipitation, making them a possible source of stormwater runoff pollution. One site in this WMA had construction rubble stored without cover. This project would be a community-wide enforcement and outreach approach to check for stormwater pollution prevention plans and to educate property owners.

### AC9904 Rain Barrel Programs - Rain barrels

Rain barrels provide the first step for residents to disconnect their downspout. This project would be a community-wide outreach program to encourage their use. One neighborhood was identified during the upland reconnaissance with roof drainage that would be suitable for this approach.

### AC9909 Rain Barrel Programs - Downspout Disconnect

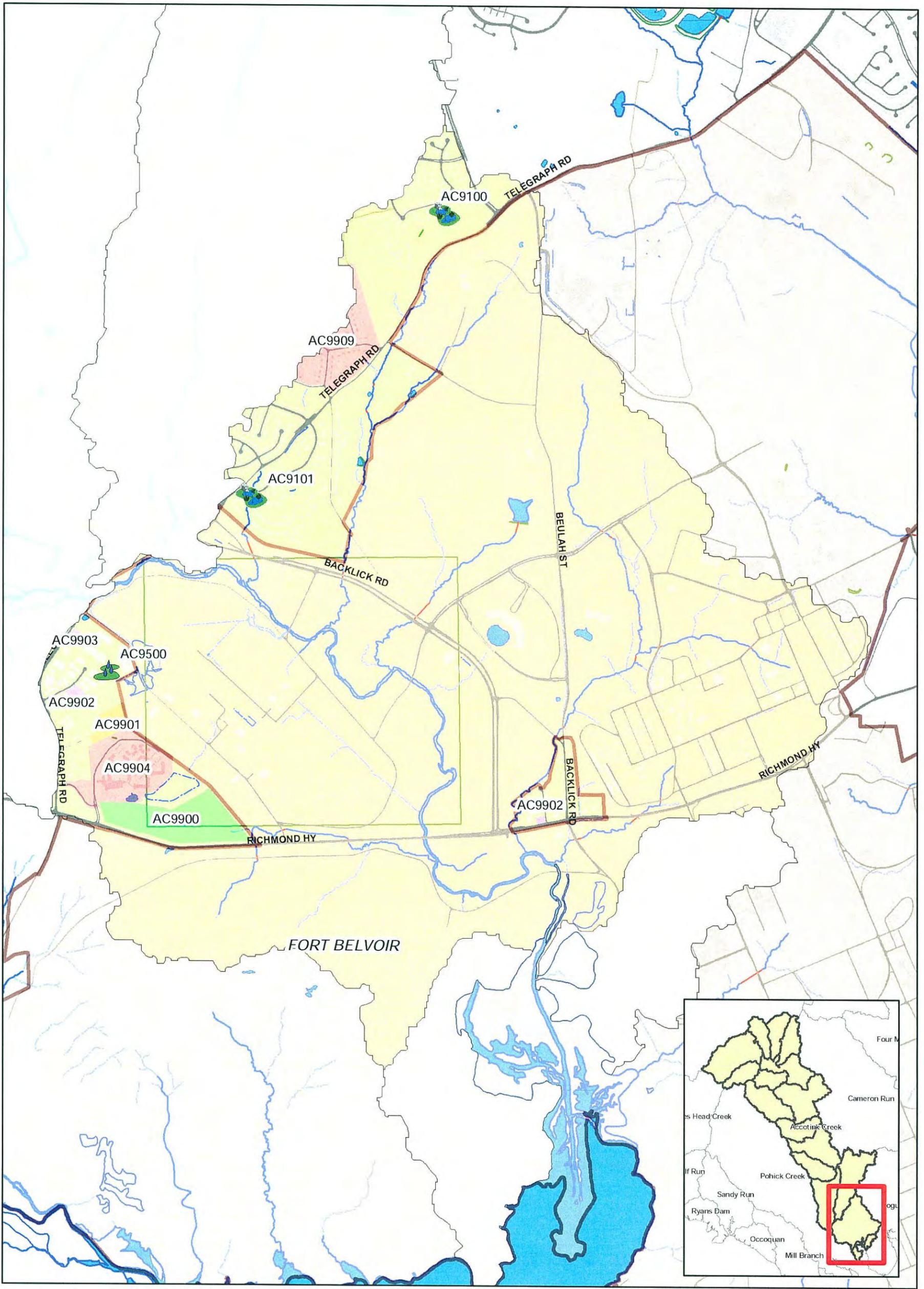
The upland reconnaissance identified several sites where downspouts were directly connected to storm drains. A watershed-wide outreach program could be beneficial in reducing runoff volume or peak flows. In this WMA, they included the area around Hunter Estates and Newberry Station.

**Table 5-14: Mainstem 8 Projects**

<b>Structural Projects</b>						
<b>Project #</b>	<b>Project Type</b>	<b>Subshed</b>	<b>Location</b>	<b>Watershed Benefit</b>	<b>Land Owner</b>	<b>Phase</b>
AC9101	Stormwater Pond Retrofit	AC-AC-0065	Village of Mount Air	Water Quality and Quantity	Private - HOA	1 - 10
AC9100	Stormwater Pond Retrofit	AC-KR-0005	Along Morning Meadow Dr	Water Quality and Quantity	Private	11 - 25
AC9500	BMP/LID	AC-AC-0050	Pohick Industrial Park	Water Quality	Private	11 - 25

<b>Non-Structural Projects</b>						
<b>Project #</b>	<b>Project Type</b>	<b>Subshed</b>	<b>Location</b>	<b>Watershed Benefit</b>	<b>Land Owner</b>	
AC9900	Community Outreach/Public Education	Multiple	Multiple	Water Quality	Multiple	
AC9901	Conservation Acquisition Project/Land Conservation	AC-AC-0050	Lock Port Industrial Park	Water Quality and Quantity	Private	
AC9902	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple	
AC9903	Inspection/Enforcement Enhancement Project	Multiple	Multiple	Water Quality	Multiple	
AC9904	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple	
AC9909	Rain Barrels	Multiple	Multiple	Water Quality and Quantity	Multiple	

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|------------------------------|--------------------------|-------------------------------------|
| Buffer Restoration           | New Stormwater Pond      | Community Outreach/Public Education |
| Stream Restoration           | Outfall Improvement      | Area-wide Drainage Improvement      |
| BMP/LID                      | Stormwater Pond Retrofit | Land Conservation Project           |
| Culvert Retrofit             | Other                    | Flood Protection/Mitigation         |
| Dumpsite/Obstruction Removal |                          | Inspection/Enforcement Enhancement  |
|                              |                          | Rain Barrel Program                 |
|                              |                          | Street Sweeping Program             |
|                              |                          | Studies, Surveys and Assessments    |
- Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.

## Map 5.15

WMA: Mainstem 8  
Proposed Projects

5-119

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