

Appendix – Q
Environmental Stewardship Design Plates

**PB-133: Environmental Stewardship
Special Protection Area Best Management Practice Site
Corridor 1 and Corridor 2**

Existing Conditions Summary

Location Information

County: Montgomery
 Watershed: Paint Branch
 ADC Map: 26 J-11
 Location: End of Perrywood Drive.

Site Conditions

Drainage Area Proposed to be Treated (acres): 80.1

PB-133 is located within the Perrywood Estates development in Montgomery County and is bordered by one private property.

Restoration Objectives

The restoration objectives for PB-133 include:

- Addressing stormwater management on a micro scale.

Restoration Concept

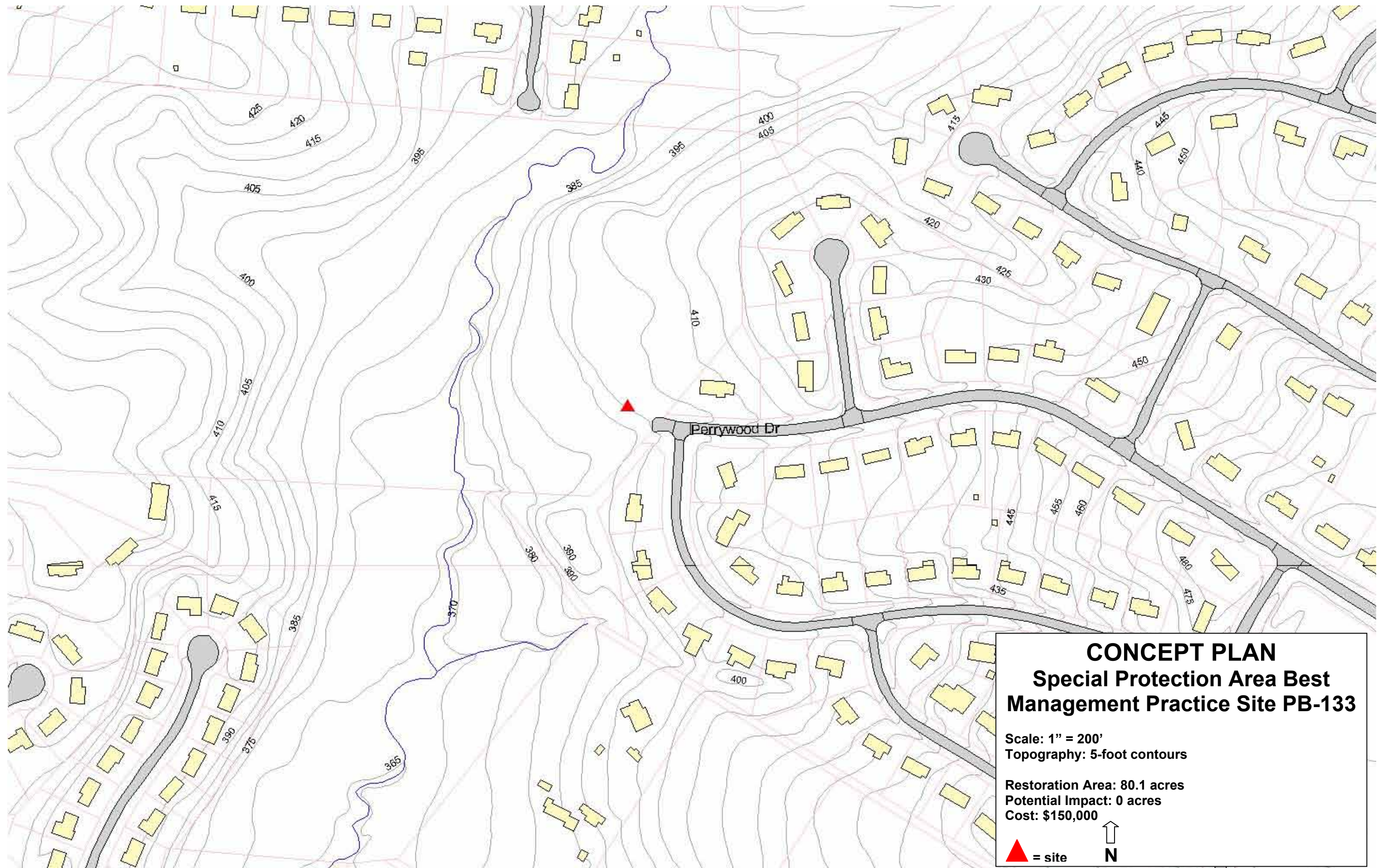
The restoration concept for PB-133 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The concept for PB-133 consists of reconstructing existing grassy swales to provide bioretention areas.

It is anticipated that the construction of PB-133 would not impact streams. Restoration of PB-133 would cost approximately \$150,000.





PB-131 and PB-132: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County: Montgomery
 Watershed: Paint Branch
 ADC Map: 26 E-8 and 9
 Location: End of Foster Road.

Site Conditions

Drainage Area Proposed to be Treated (acres): 12

PB-131 and PB-132 are located within the Colesville Heights development in Montgomery County and is bordered by one public property.

Restoration Objectives

The restoration objectives for PB-131 and PB-132 include:

- Addressing stormwater management on a micro scale.

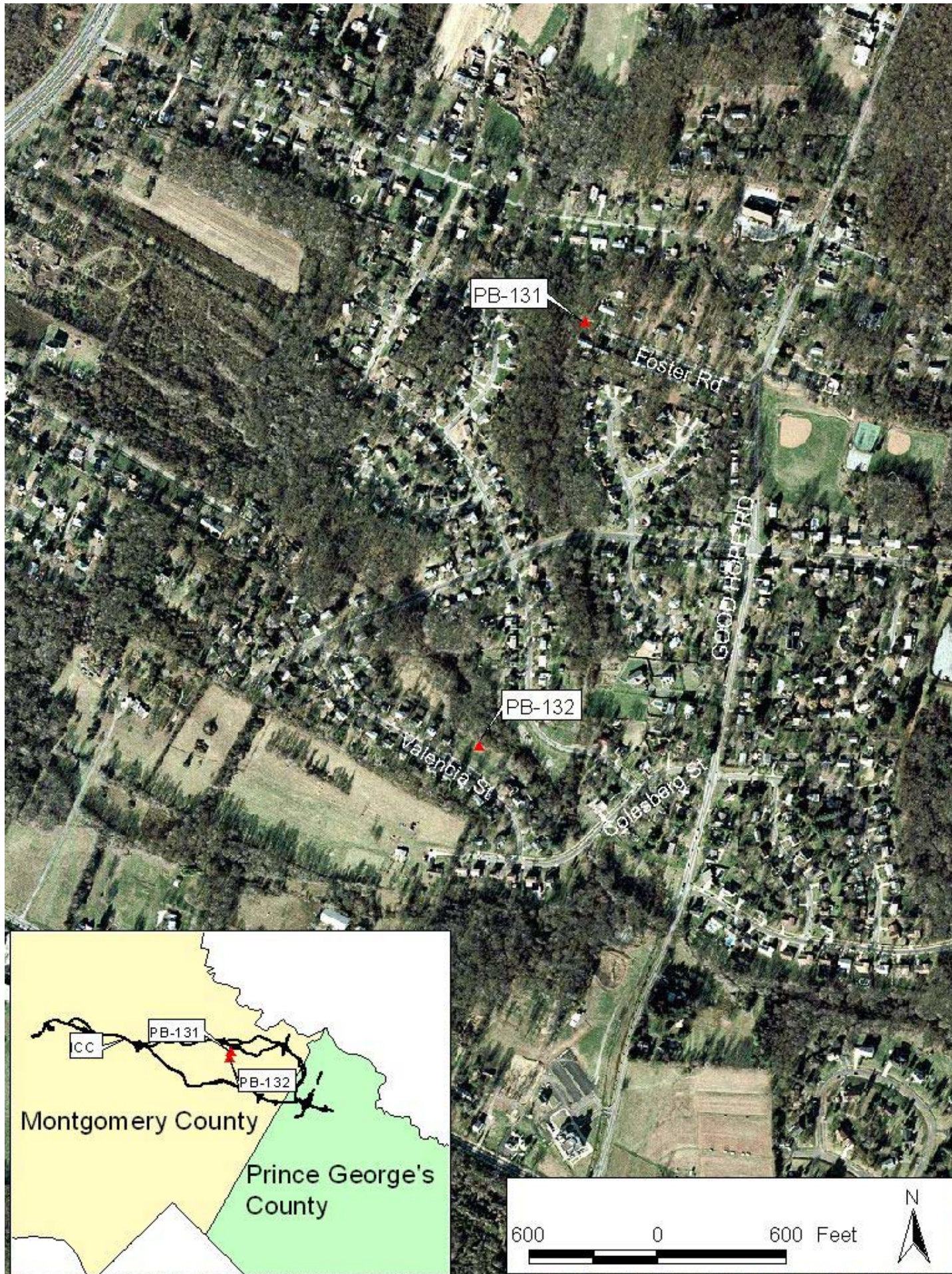
Restoration Concept

The restoration concept for PB-131 and PB-132 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The concept for PB-131 and PB-132 consists of reconstructing existing grassy swales to provide bioretention areas.

It is anticipated that the construction of PB-131 and PB-132 would not impact streams. Restoration of PB-131 and PB-132 would cost approximately \$36,000.





PB-130: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County: Montgomery
 Watershed: Paint Branch
 ADC Map: 26 G-10
 Location: End of Cradock Street.

Site Conditions

Drainage Area Proposed to be Treated (acres): 74

PB-130 is located within the Good Hope Estates development in Montgomery County. Stormwater is conveyed to Paint Branch by a combination of curbs and gutters, inlet structures and underground culverts to a deeply incised and degrading channel. PB-130 is bordered by one public property.

Restoration Objectives

The restoration objectives for PB-130 include:

- Addressing stormwater management on a micro scale.

Restoration Concept

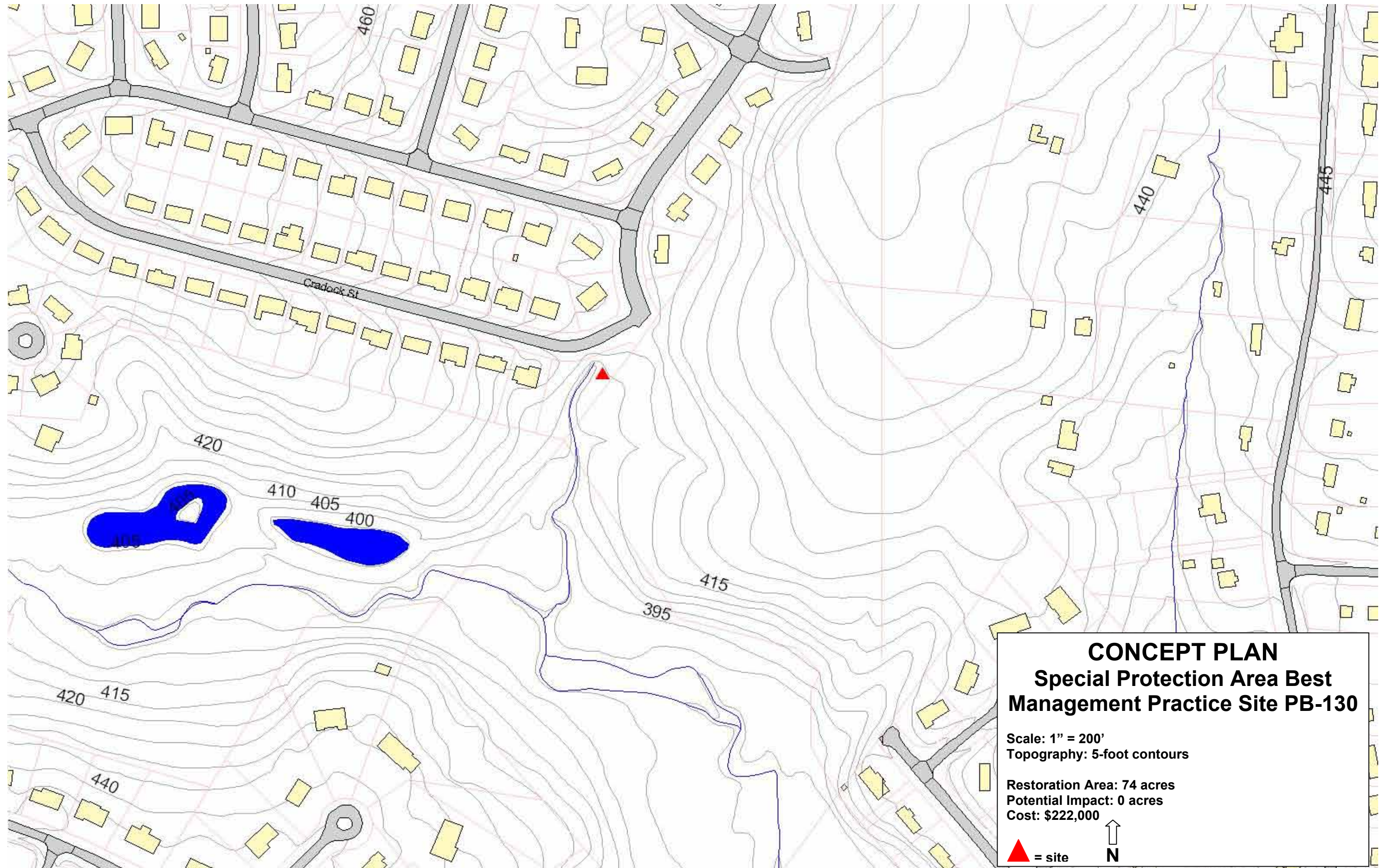
The restoration concept for PB-130 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The project concept would be to construct an inline bioretention area below the existing outlet structure.

It is anticipated that the construction of PB-130 would not impact streams. Restoration of PB-130 would cost approximately \$222,000.





PB-128 and PB-129: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County:	<u>Montgomery</u>
Watershed:	<u>Paint Branch</u>
ADC Map:	<u>26 F-10</u>
Location:	<u>North of Grandads Lane.</u>

Site Conditions

Drainage Area Proposed to be Treated (acres): 21.6

PB-128 and PB-129 is located within the Maydale development in Montgomery County. Stormwater is conveyed to Paint Branch by a combination of grassy swales, inlet structures and underground culverts to an incised and degrading channel. PB-128 and PB-129 is bordered by one private property.

Restoration Objectives

The restoration objectives for PB-128 and PB-129 include:

- Addressing stormwater management on a micro scale.

Restoration Concept

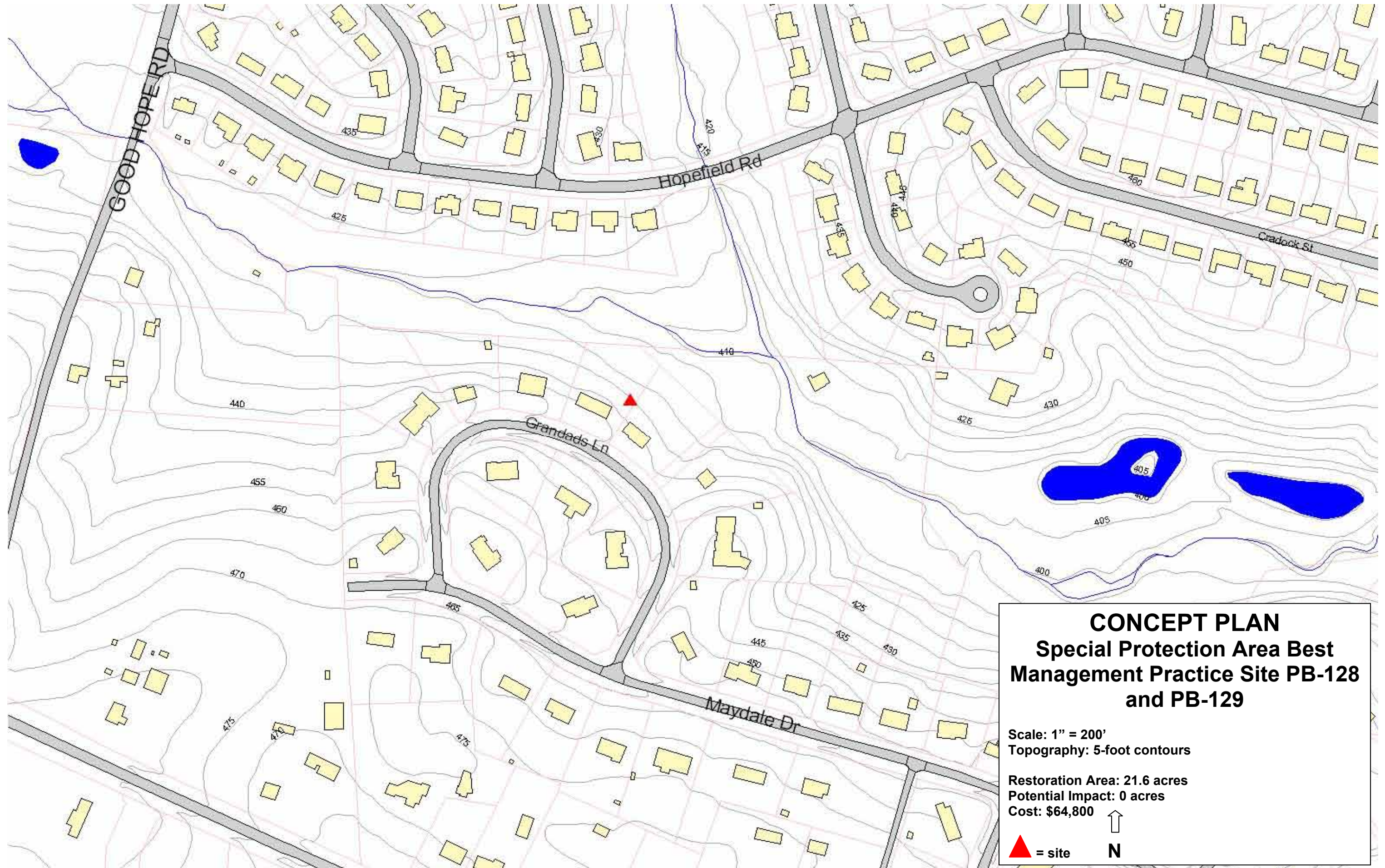
The restoration concept for PB-128 and PB-129 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The concept for PB-128 and PB-129 consists of reconstructing existing grassy swales to provide bioretention areas.

It is anticipated that the construction of PB-128 and PB-129 would not impact streams. Restoration of PB-128 and PB-129 would cost approximately \$64,800.





PB-126 and PB-127: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County:	<u>Montgomery</u>
Watershed:	<u>Paint Branch</u>
ADC Map:	<u>26 E and F 11</u>
Location:	<u>End of Fireside Drive.</u>

Site Conditions

Drainage Area Proposed to be Treated (acres): 16.6

PB-126 and PB-127 is located within the Sequoia development in Montgomery County. Stormwater is conveyed to the Gum Springs Tributary by a combination of grassy swales, inlet structures and underground culverts to an incised and degrading channel. PB-126 is bordered by one public property.

Restoration Objectives

The restoration objectives for PB-126 and PB-127 include:

- Addressing stormwater management on a micro scale.

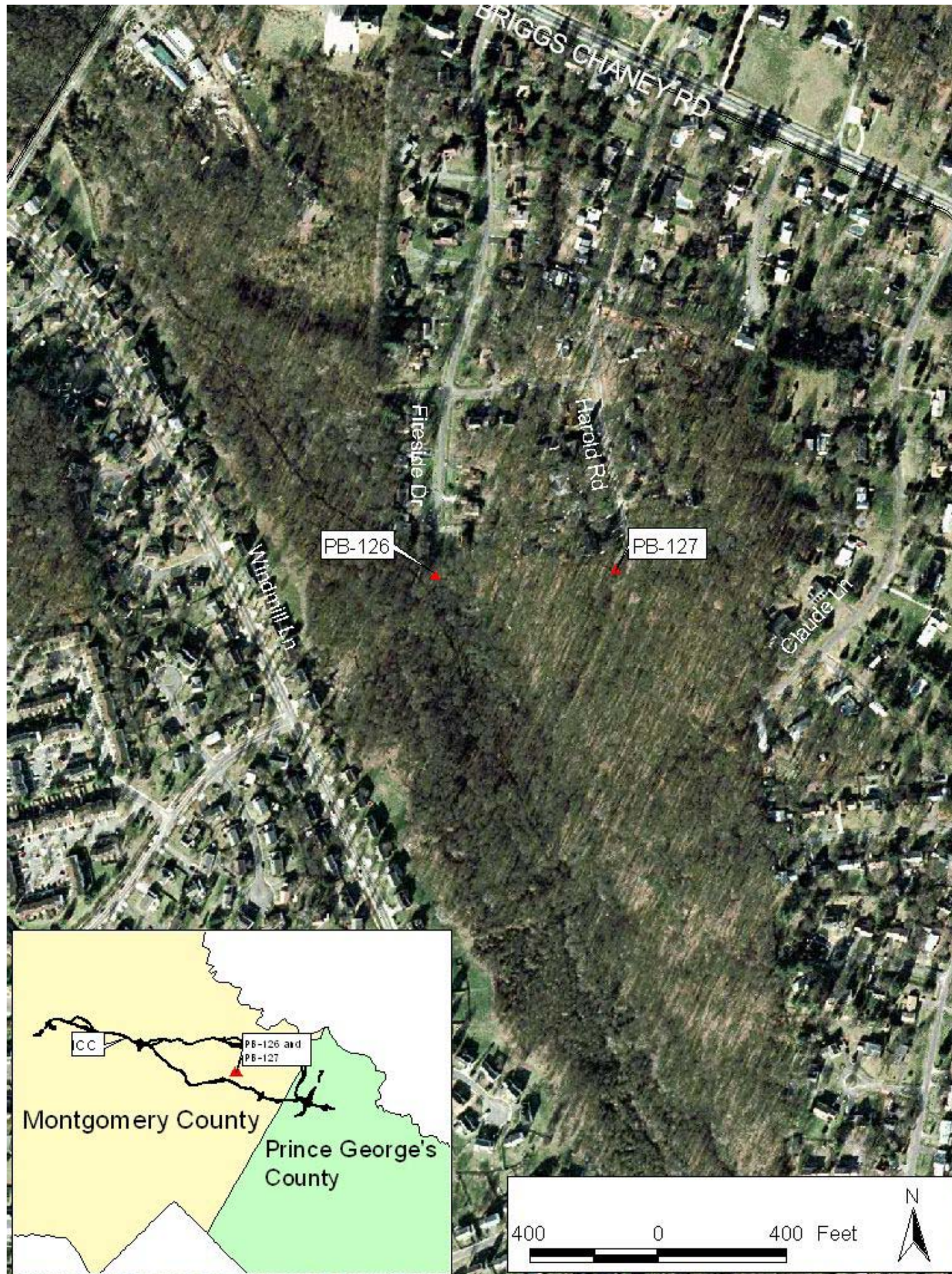
Restoration Concept

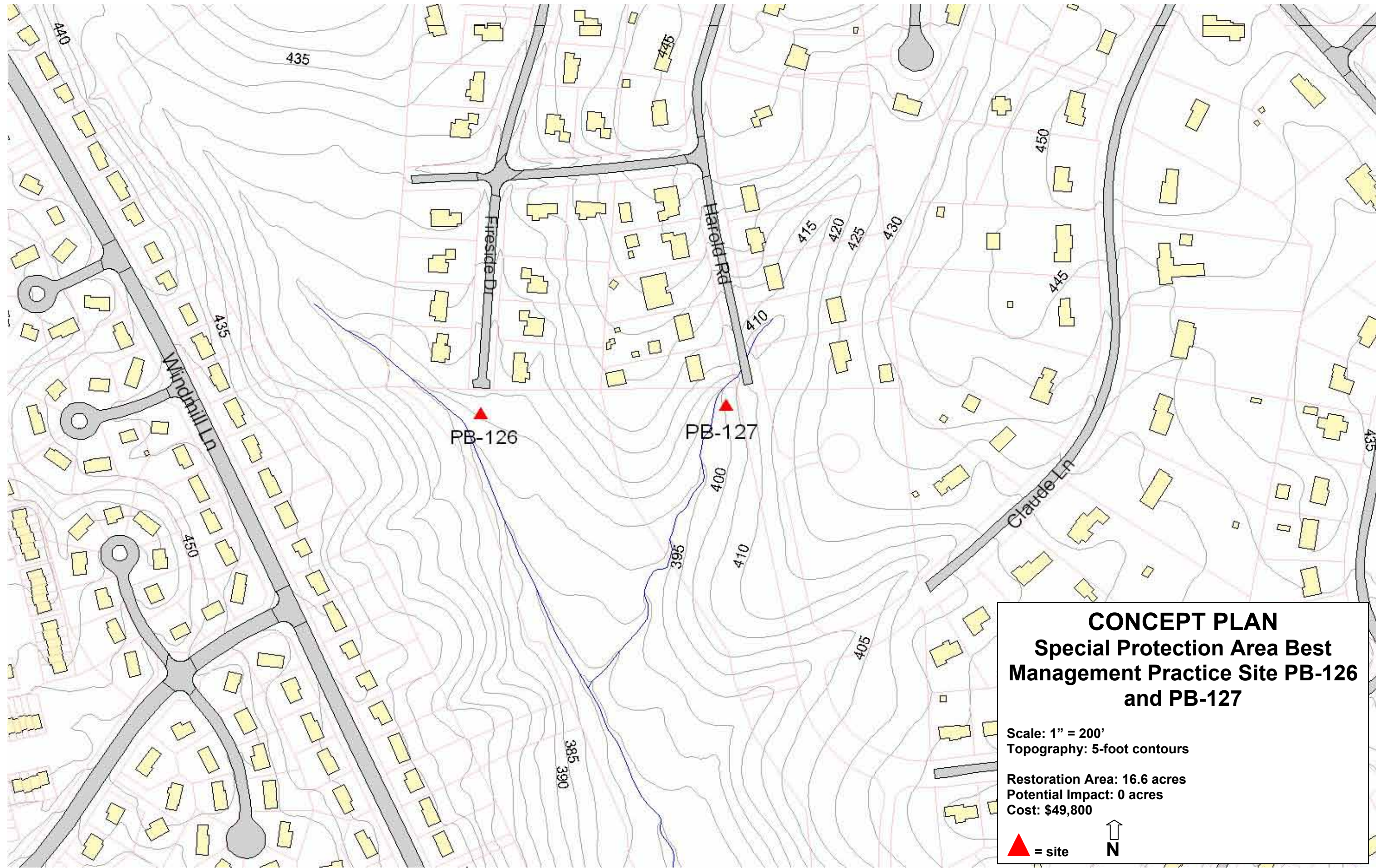
The restoration concept for PB-126 and PB-127 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The concept for PB-126 and PB-127 consists of reconstructing existing grassy swales to provide bioretention areas.

It is anticipated that the construction of PB-126 and PB-127 would not impact streams. There may be an opportunity to construct a bioretention area just north of Harold Court. Restoration of PB-126 and PB-127 would cost approximately \$49,800.





PB-124 and PB-125 Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County: Montgomery
 Watershed: Paint Branch
 ADC Map: 26 F-12
 Location: West of Ansted Drive.

Site Conditions

Drainage Area Proposed to be Treated (acres): 57.6

PB-124 and PB-125 is located within the Gum Springs Farm development in Montgomery County. Stormwater is conveyed to the Gum Springs Tributary by a combination of grassy swales, inlet structures and underground culverts to an incised and degrading channel. PB-124 and PB-125 is bordered by one public property.

Restoration Objectives

The restoration objectives for PB-124 and PB-125 include:

- Addressing stormwater management on a micro scale.

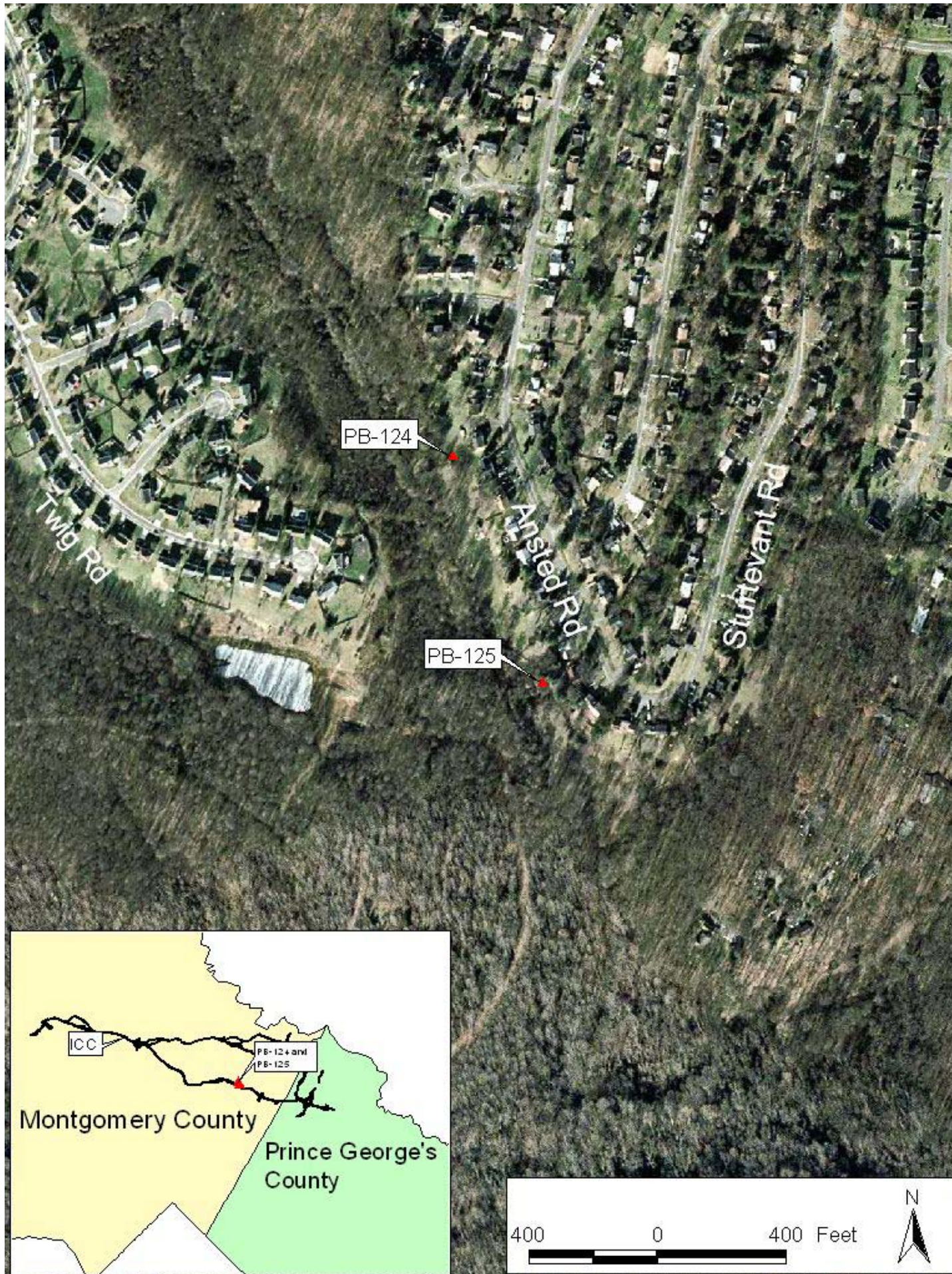
Restoration Concept

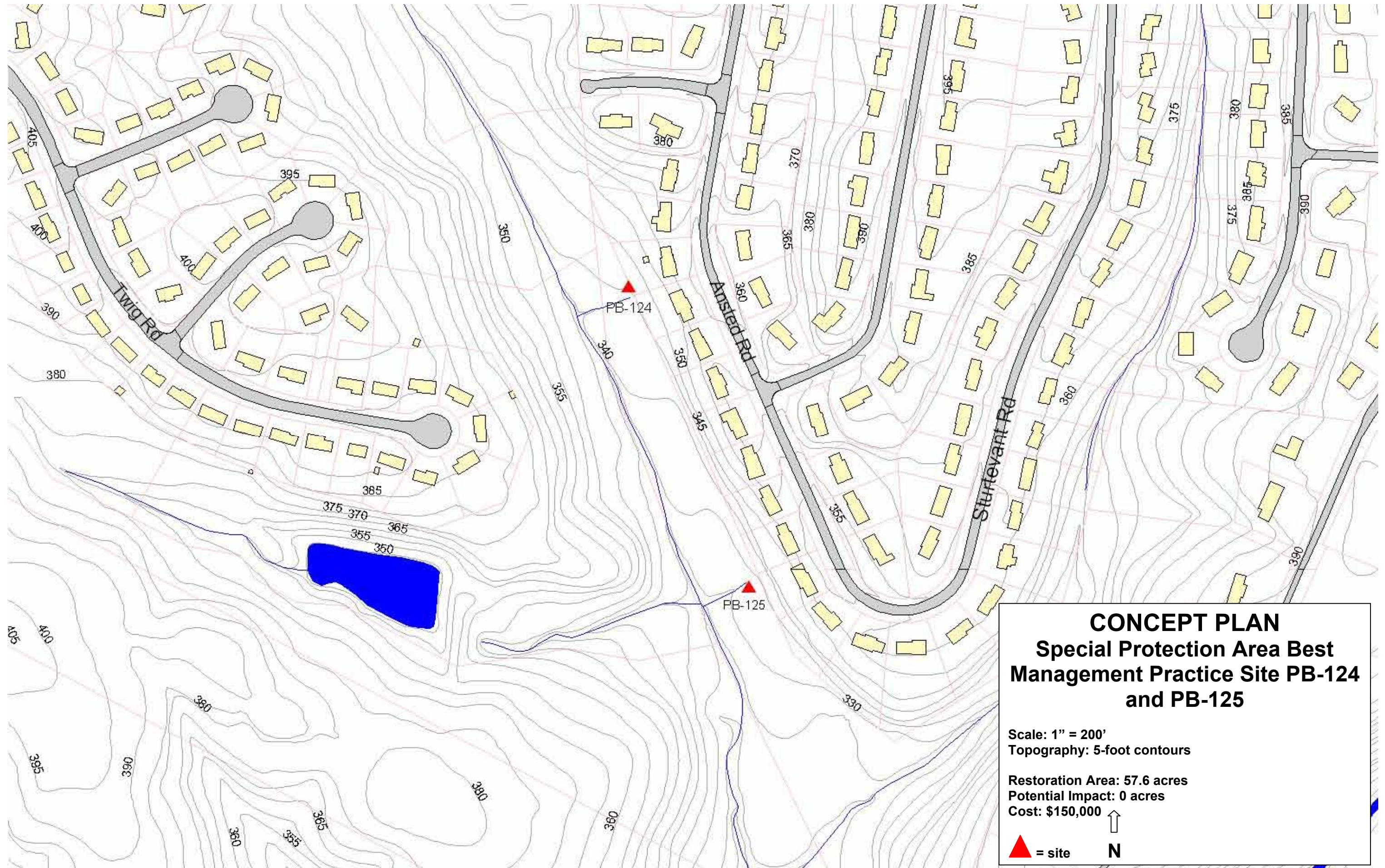
The restoration concept for PB-124 and PB-125 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The concept for PB-124 and PB-125 consists of reconstructing existing grassy swales to provide bioretention areas.

It is anticipated that the construction of PB-124 and PB-125 would not impact streams. Restoration of PB-124 and PB-125 would cost approximately \$150,000





PB-122 and PB-123 Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County:	<u>Montgomery</u>
Watershed:	<u>Paint Branch</u>
ADC Map:	<u>26 J-10</u>
Location:	<u>End of Timberlake Drive.</u>

Site Conditions

Drainage Area Proposed to be Treated (acres): 64.7

PB-122 and PB-123 is located within the Peach Orchard Heights development in Montgomery County. Stormwater is conveyed to Paint Branch by a combination of grassy swales, concrete lined ditches, inlet structures and underground culverts to an incised and degrading channel. PB-122 and PB-123 is bordered by one private property.

Restoration Objectives

The restoration objectives for PB-122 and PB-123 include:

- Addressing stormwater management on a micro scale.

Restoration Concept

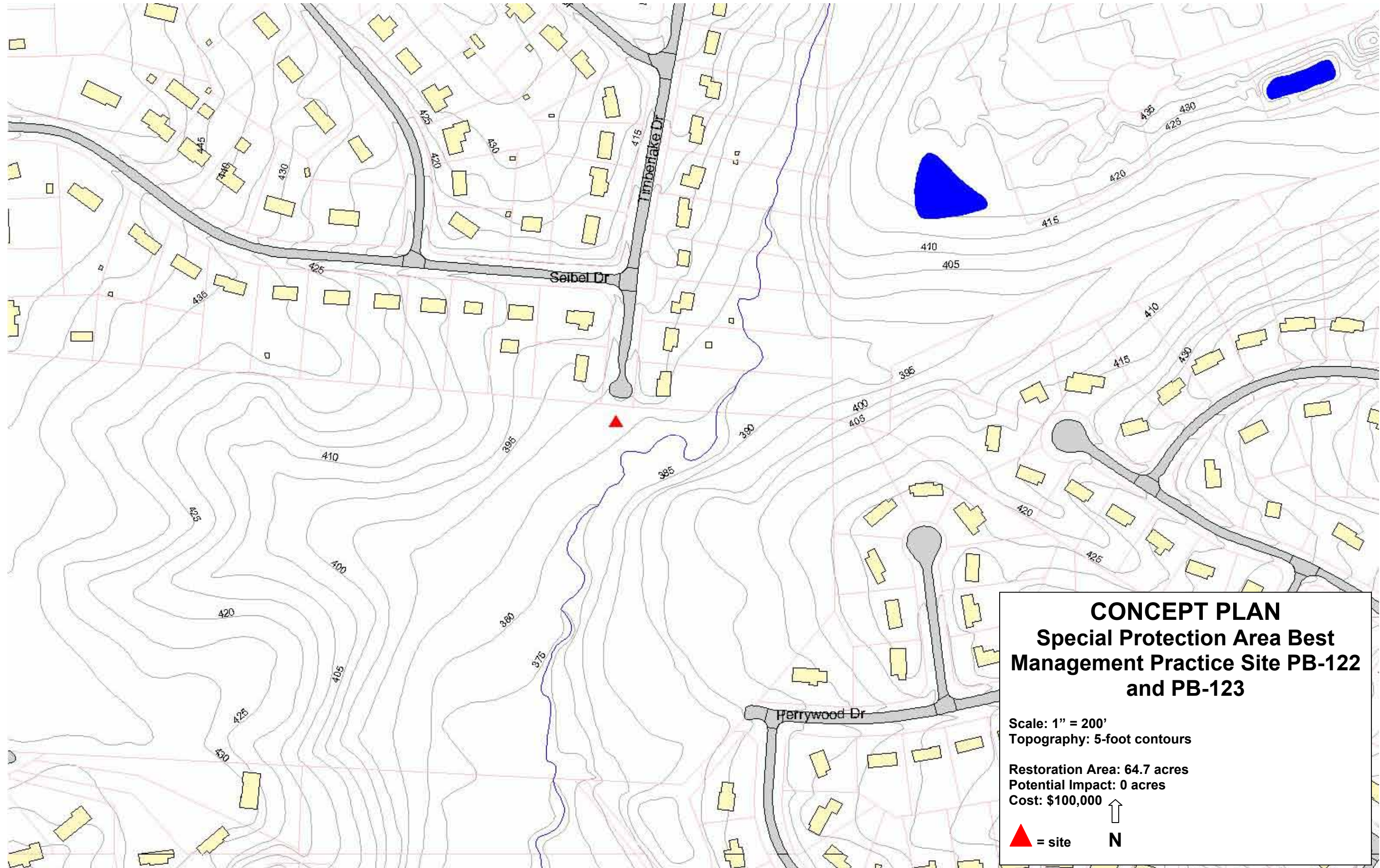
The restoration concept for PB-122 and PB-123 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The concept for PB-122 and PB-123 consists of reconstructing existing grassy swales to provide bioretention areas.

It is anticipated that the construction of PB-122 and PB-123 would not impact streams. Restoration of PB-122 and PB-123 would cost approximately \$100,000.





PB-120 and PB-121: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County: Montgomery
 Watershed: Paint Branch
 ADC Map: 26 H-11 and 12
 Location: End of Fairacres Road.

Site Conditions

Drainage Area Proposed to be Treated (acres): 14.4

PB-120 and PB-121 is located within the Fairland Acres development in Montgomery County. Stormwater is conveyed to Paint Branch by a combination of grassy swales, inlet structures and an under-street culvert to a deeply incised and degrading channel. PB-120 and PB-121 is bordered by one public property.

Restoration Objectives

The restoration objectives for PB-120 and PB-121 include:

- Addressing stormwater management on a micro scale.

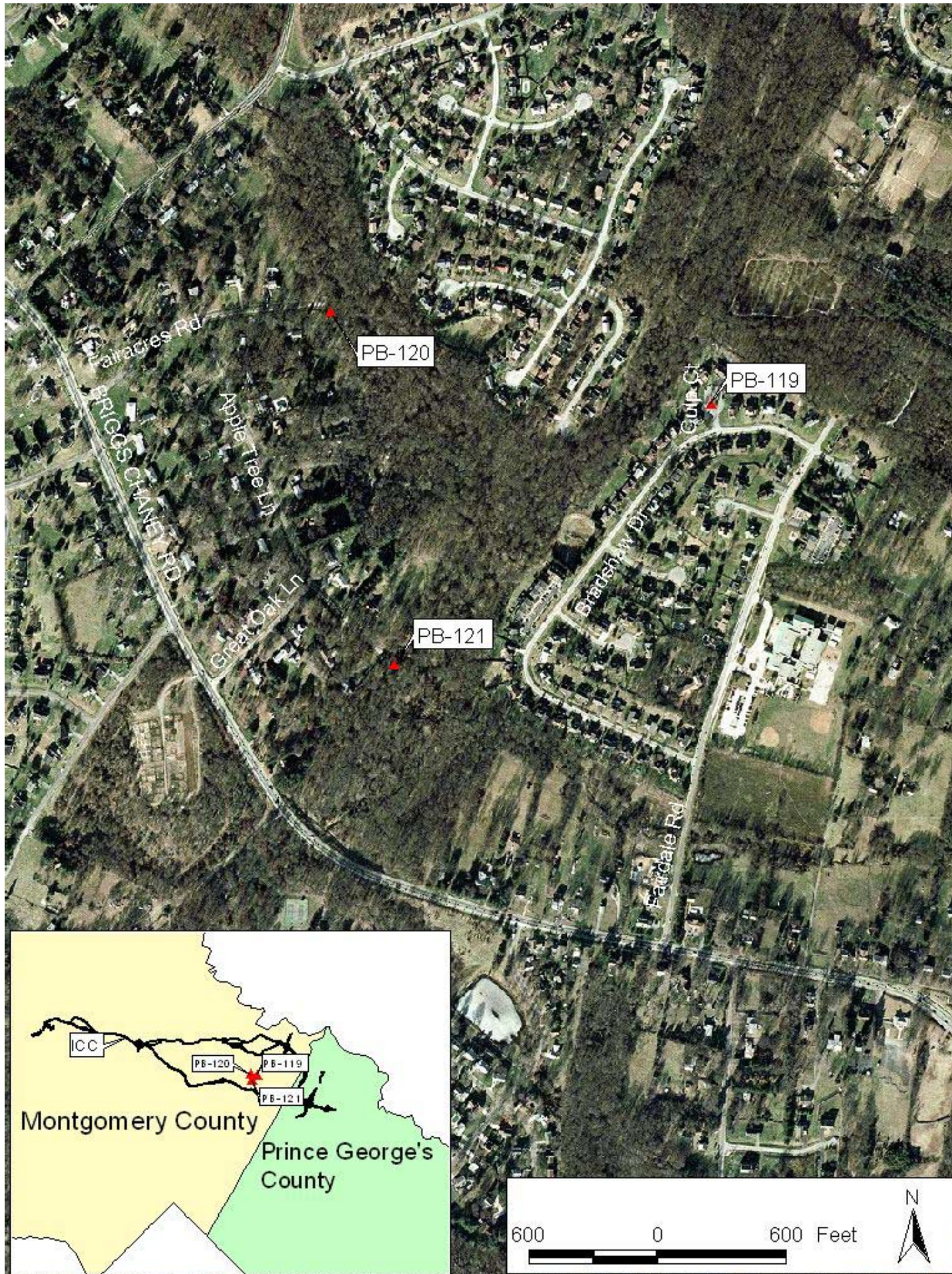
Restoration Concept

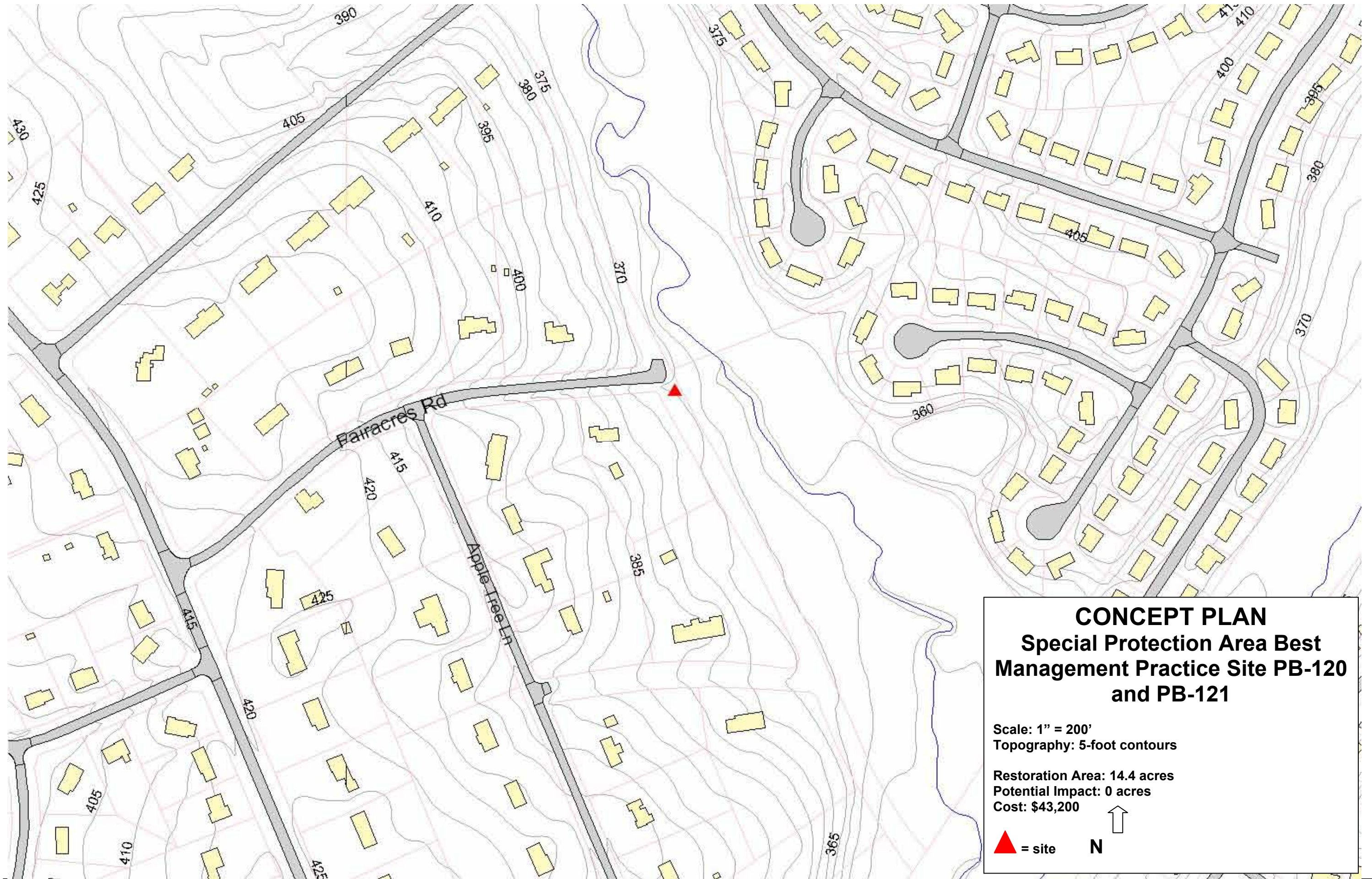
The restoration concept for PB-120 and PB-121 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The existing street gradient is fairly steep; therefore, the best opportunity for BMP treatment may be an under-street/bioretenion storage combination at the end of Fairacres Road.

It is anticipated that the construction of PB-120 and PB-121 would not impact streams. Restoration of PB-120 and PB-121 would cost approximately \$43,200.





CONCEPT PLAN
Special Protection Area Best Management Practice Site PB-120 and PB-121

Scale: 1" = 200'
Topography: 5-foot contours

Restoration Area: 14.4 acres
Potential Impact: 0 acres
Cost: \$43,200

▲ = site ↑
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PB-119: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County: Montgomery
 Watershed: Paint Branch
 ADC Map: 26 H11
 Location: Within the Culp Court cul-de-sac.

Site Conditions

Drainage Area Proposed to be Treated (acres): 19.6

PB-119 is located in the Fairland Farms development in Montgomery County. Stormwater is conveyed to Paint Branch by a combination of grassy swales, inlet structures and underground pipes to a deeply incised and degrading channel. Stormwater runoff from a portion of the development is conveyed to retention ponds. PB-119 is bordered by one public property.

Restoration Objectives

The restoration objectives for PB-119 include:

- Addressing stormwater management on a micro scale.

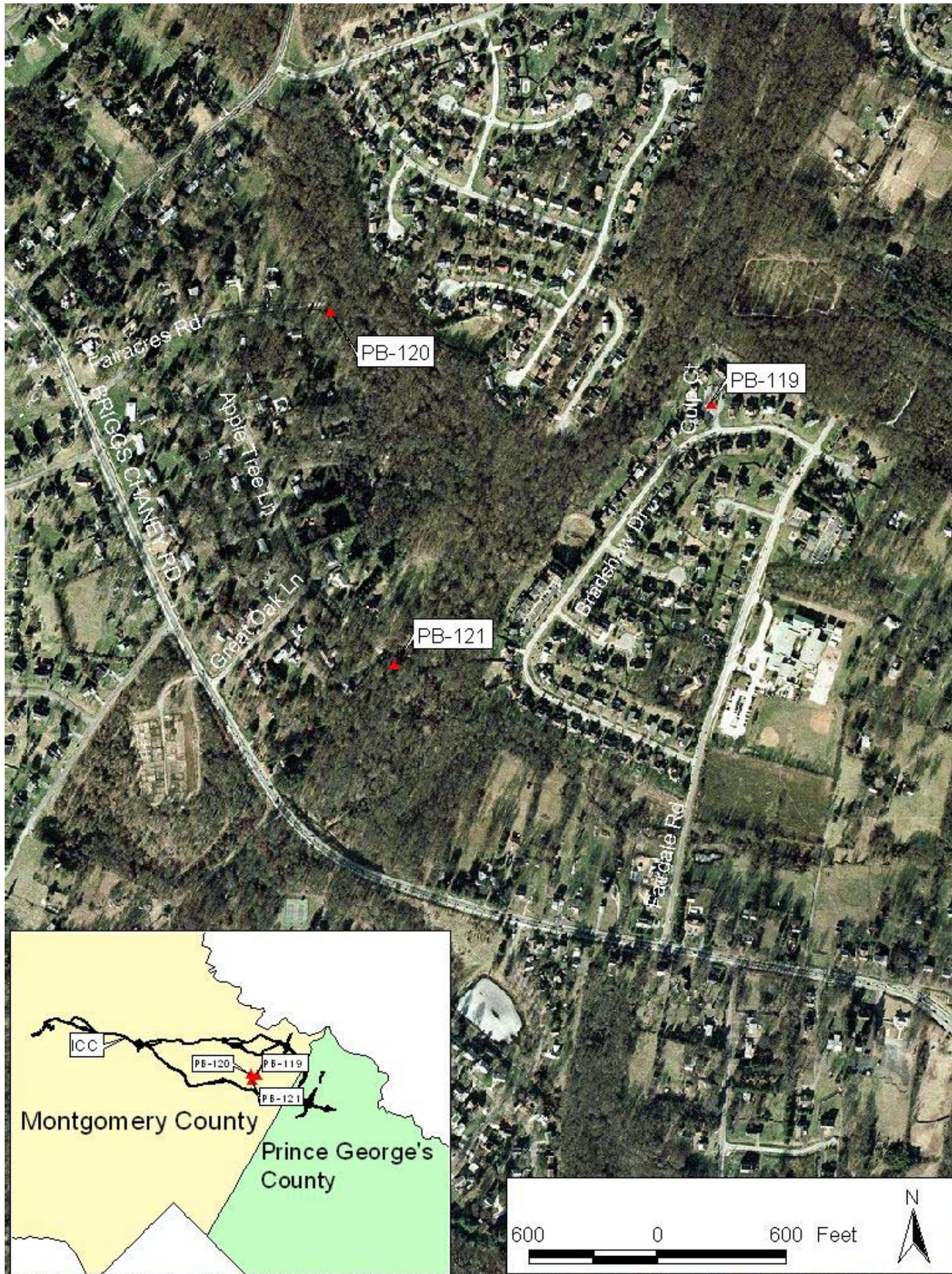
Restoration Concept

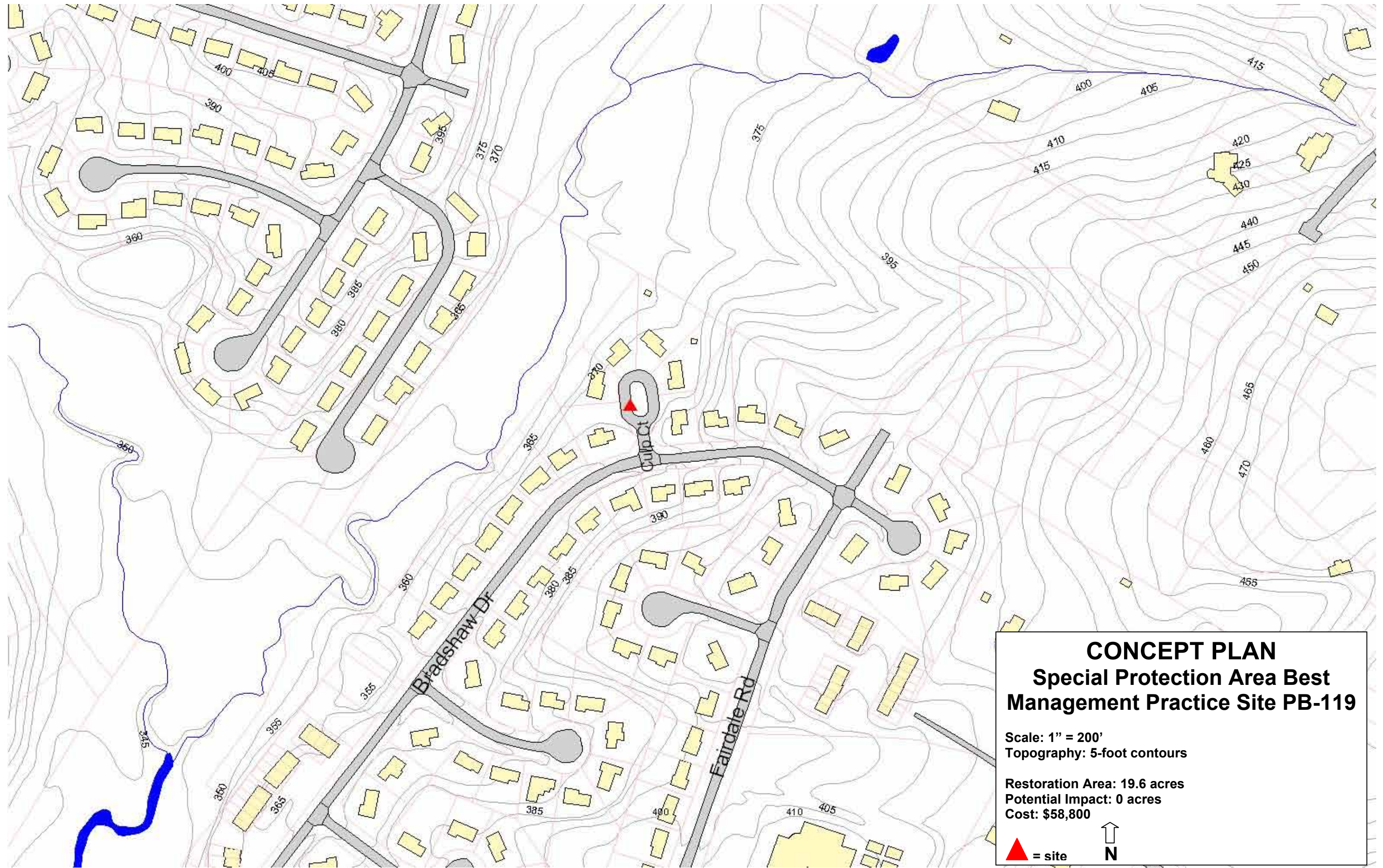
The restoration concept for PB-119 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

Only the uncontrolled drainage area would be treated under this concept. The uncontrolled portion would be treated with existing grassy swales. There may also be an opportunity to utilize an existing planted area within the Culp Court cul-de-sac as a bioretention area.

It is anticipated that the construction of PB-119 would not impact streams. Restoration of PB-119 would cost approximately \$58,800.





PB-118: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County:	<u>Montgomery</u>
Watershed:	<u>Paint Branch</u>
ADC Map:	<u>26 G13</u>
Location:	<u>North of Countryside Drive.</u>

Site Conditions

Drainage Area Proposed to be Treated (acres): 51.4

PB-118 is located within the Countryside development in Montgomery County. Stormwater is conveyed to Paint Branch by a combination of curbs and gutters, inlet structures and underground pipes to a deeply incised and degrading channel. PB-118 is bordered by one public property.

Restoration Objectives

The restoration objectives for PB-118 include:

- Addressing stormwater management on a micro scale.

Restoration Concept

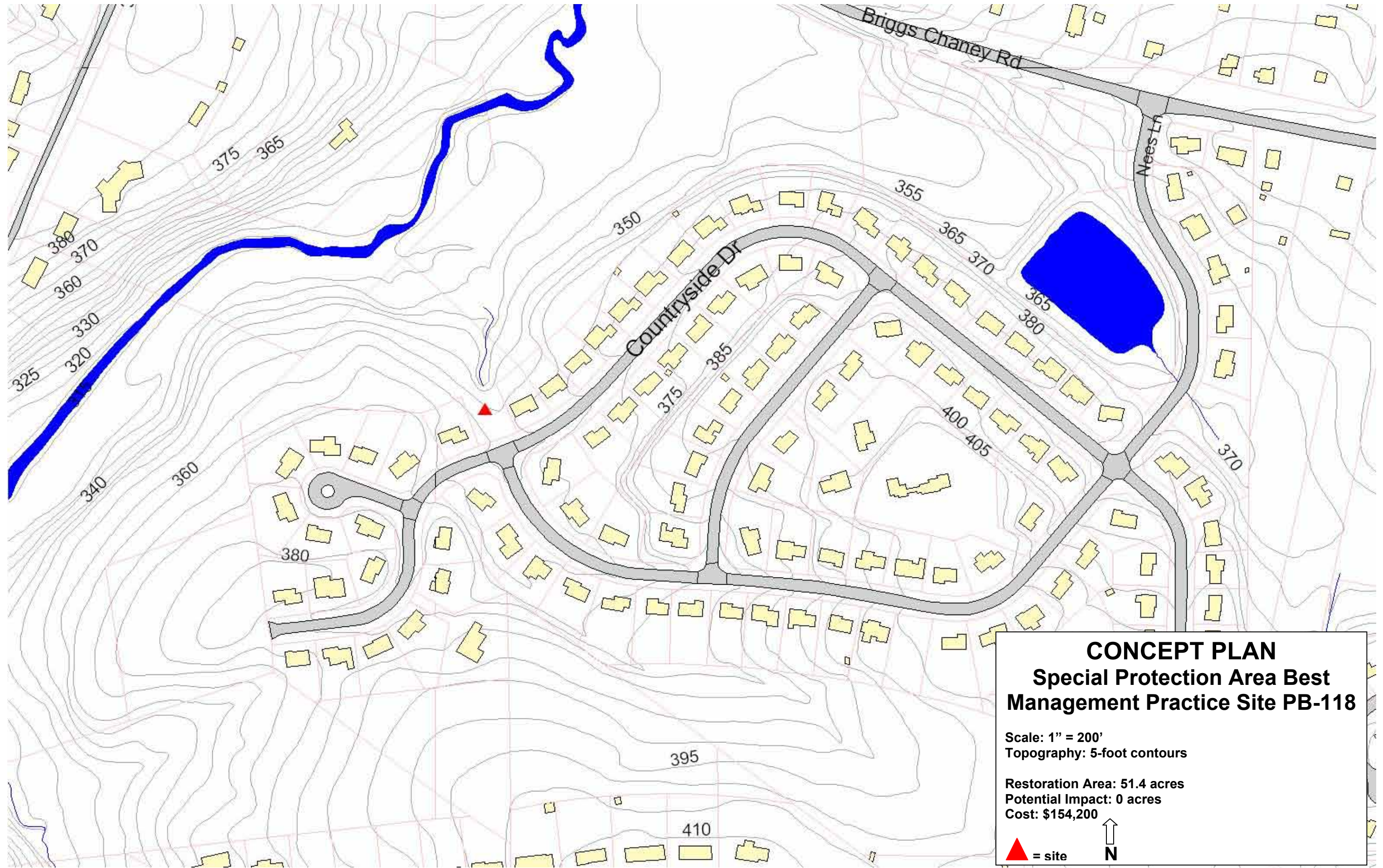
The restoration concept for PB-118 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The project concept is to construct a bioretention area between Ness Lane and the existing outfall and extending the treatment area into the park to accommodate the roughly 106,000 ft³ of volume to treat the first flush.

It is anticipated that the construction of PB-118 would not impact streams. Restoration of PB-118 would cost approximately \$154,200.





PB-116 and PB-117: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County:	<u>Montgomery</u>
Watershed:	<u>Paint Branch</u>
ADC Map:	<u>34 G-1</u>
Location:	<u>East of Fairridge Drive.</u>

Site Conditions

Drainage Area Proposed to be Treated (acres): 100.3

PB-116 and PB-117 are located within the Fairland Estates development in Montgomery County. Stormwater runoff from Creekside Drive and Cedar Creek Lane is not controlled. Channels at the ends of Creekside Drive and Cedar Creek Lane are incising, and their banks are degrading as a result of the uncontrolled runoff. There are 207 single-family homes within the drainage area. PB-116 and PB-117 is bordered by one private property.

Restoration Objectives

The restoration objectives for PB-116 and PB-117 include:

- Addressing stormwater management on a micro scale.

Restoration Concept

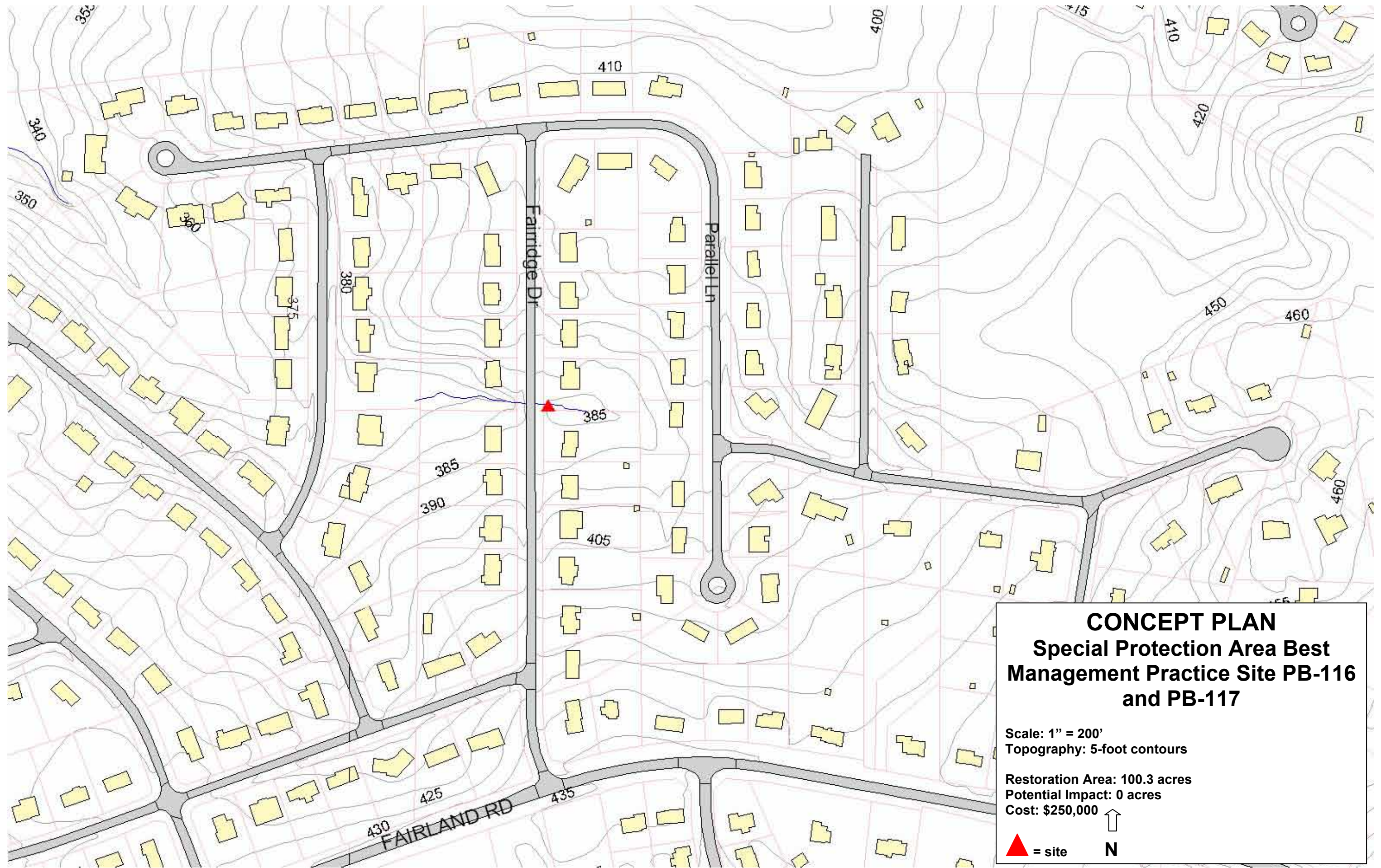
The restoration concept for PB-116 and PB-117 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

The project concept is to construct micro scale projects such as bioretention areas along grassy swales and a possible bioretention area between Fairridge Drive and Bridgewater Drive.

It is anticipated that the construction of PB-116 and PB-117 would not impact streams. Restoration of PB-116 and PB-117 would cost approximately \$250,000.





PB-114 and PB-115: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County: Montgomery
 Watershed: Paint Branch
 ADC Map: 31 F-4
 Location: End of Eastway Drive.

Site Conditions

Drainage Area Proposed to be Treated (acres): 44.3

PB-114 and PB-115 is located within the Peachwood development in Montgomery County. Stormwater runoff from Eastway Drive Drive is conveyed to the Good Hope Tributary by a series of grassy swales, under-street culverts, underground pipeline and uncontrolled drainage channels. Channels at the end of Eastway Drive are incising, and their banks are degrading as a result of the uncontrolled runoff. PB-114 and PB-115 is bordered by one private property.

Restoration Objectives

The restoration objectives for PB-114 and PB -115 include:

- Addressing stormwater management on a micro scale.

Restoration Concept

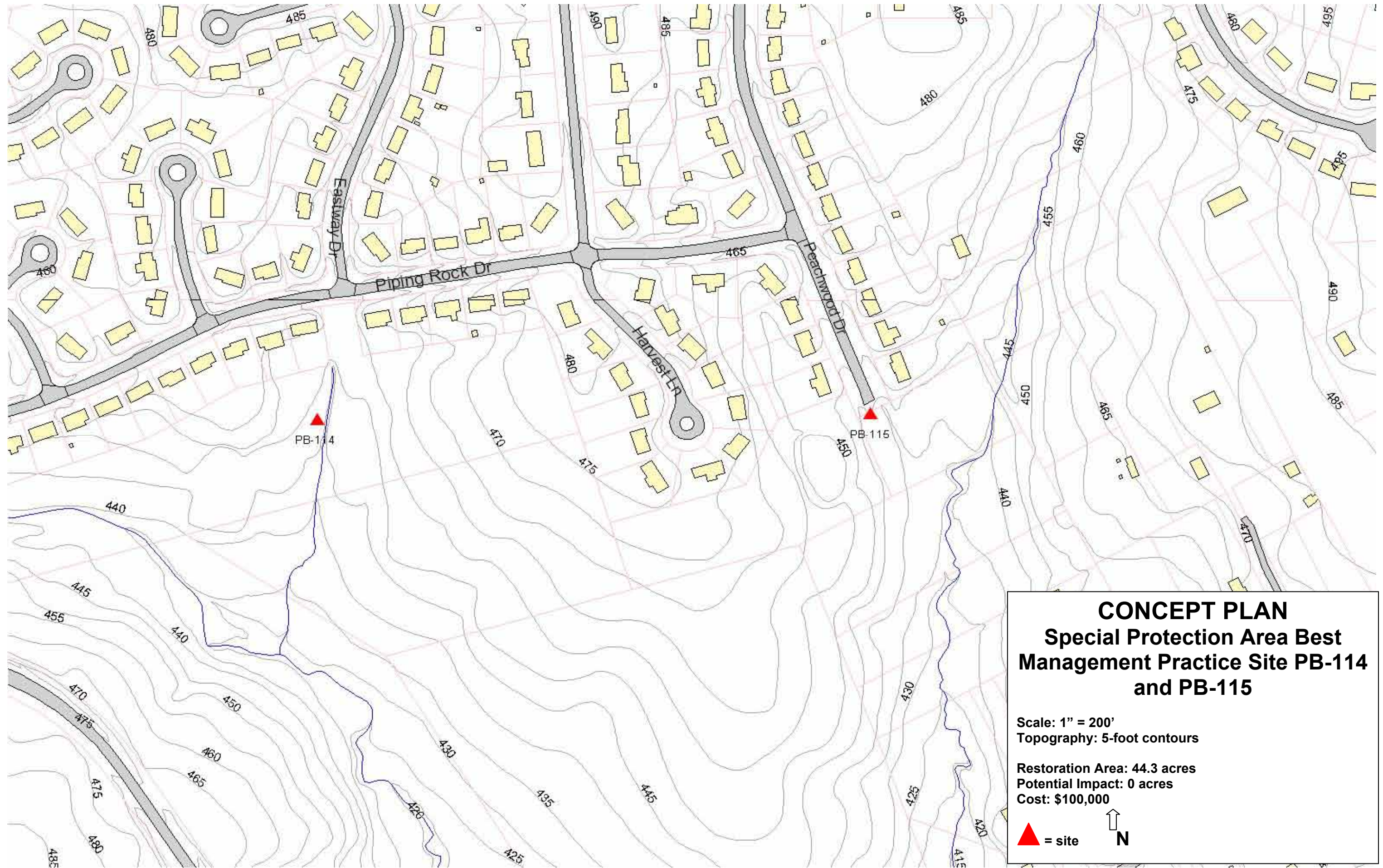
The restoration concept for PB-114 and PB -115 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

Projects within the development consist of reconstructing existing grassy swales to provide bioretention areas. The project concept also includes the construction of a bioretention area within Peachwood Park, at the end of Eastway Drive.

It is anticipated that the construction of PB-114 and PB-115 would not impact streams. Restoration of PB-114 and PB-115 would cost approximately \$100,000.





PB-113: Environmental Stewardship Special Protection Area Best Management Practice Site Corridor 1 and Corridor 2

Existing Conditions Summary

Location Information

County: Montgomery
Watershed: Paint Branch
ADC Map: 26 D13
Location: Vicinity of Hobbs Drive and Orchard Way in the Colesville Farm Estates community. Mainly, at the end of Hobbs Drive.

Site Conditions

Drainage Area Proposed to be Treated (acres): 63

PB-113 is located within the Colesville Farms Estates development in Montgomery County. Stormwater runoff from Hobbs Drive and Orchard Way is conveyed to the Good Hope Tributary by a combination of grassy swales, concrete lined ditches, under-driveway culverts and uncontrolled drainage channels. Channels at the ends of Hobbs Drive and Orchard Drive are incised and degrading as a result of the uncontrolled runoff. PB-113 is bordered by one public property.

Restoration Objectives

The restoration objectives for PB-113 include:

- Addressing stormwater management on a micro scale.

Restoration Concept

The restoration concept for PB-113 includes the following efforts:

- Constructing multiple areas to retain stormwater runoff based upon the contribution of runoff from each parcel rather than the end-of-pipe or cumulative runoff total.

For example, 53 single-family residences exist within the Hobbs Drive drainage area. The average lot size is approximately 1 acre. The area of the paved road is approximately 0.1 acre. Therefore, an overall impervious surface cover of 25% of 1.1 acre or approximately 0.28 acres exists in the drainage area. Using the criteria in the Maryland Department of the Environment's *2000 Maryland Stormwater Design Manual, Volumes I & II*, the treatment volume calculates to be approximately 955 ft³ per parcel. Using the Prince George's County 5% bioretention criteria, the bioretention area would be approximately 988 ft² by approximately 1 foot deep.

It is anticipated that the construction of PB-113 would not impact streams. Restoration of PB-113 would cost approximately \$189,000.

