



## WILDLIFE HABITAT FEATURE INVENTORY

NORTHERN VIRGINIA STREAM RESTORATION BANK

*THE GLADE – REACH 4*

FAIRFAX COUNTY, VIRGINIA

Prepared For:

Northern Virginia Stream Restoration, L.C.  
c/o Wetland Studies and Solutions, Inc.  
5300 Wellington Branch Drive, Suite 100  
Gainesville, Virginia 20155

WSSI Project #20030

February 2009

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## Wildlife Habitat Feature Inventory

The Glade – Reach 4  
Fairfax County, Virginia  
WSSI #20030

February 25, 2009

### Executive Summary

On December 10, 12 and 16, 2008, Wetland Studies and Solutions, Inc. (WSSI), assisted by Reston Association Staff and William Sipple, conducted a Wildlife Habitat Feature Inventory along design Reach 4 of The Glade portion of the Northern Virginia Stream Restoration Bank (NVS RB). This study was conducted to determine the location of active, inactive, and potential wildlife denning and nesting features within a study area along Reach 4 of The Glade.

In summary, a number of wildlife habitat features were found, including stick nests, squirrel nests, tree cavities, dens, sub surface runs, and snags within the study area of design Reach 4 of The Glade. The results of this inventory will be used by project engineers to minimize the stream restoration project's impact on local wildlife.

### Introduction

As set forth in NVSRB Banking Instrument, dated February 17, 2006 and prepared by WSSI, the Northern Virginia Stream Restoration, L.C. will restore approximately 14 miles of streams and upland buffers within portions of the Snakeden Branch, Colvin Run, and The Glade watersheds in Reston, Virginia. In response to resident concerns about the effects of restoration activities on resident wildlife populations within The Glade, WSSI is inventorying the location of active, inactive, and potential wildlife denning and nesting features within The Glade portion of the NVRSB. This report identifies the location of these features along design Reach 4 of The Glade. The location of these features in the remaining portions of The Glade will be documented in separate inventory reports.

### Project Area

The study area includes approximately 5,000 linear feet of stream along Reach 4 of The Glade, as well as the adjacent riparian corridor. The study area is located north of Lawyers Road (Route 673) between Steeplechase Drive and Soapstone Road. Exhibit 1 is a vicinity map that depicts the approximate location of the study area.

The study area is covered mostly by mixed-deciduous forest, as depicted in the February 23, 2004 Natural Color Imagery from Air Survey in Exhibit 2. The Glade flows in a southeasterly direction through the central portion of the study area. Both an asphalt recreational trail and an unpaved horse trail, which cross The Glade multiple times, are located parallel to the stream. The study area is gently to moderately sloping. The topography can be seen in the excerpt from the Vienna, Virginia-Maryland 1994 USGS topographical quadrangle map included as Exhibit 3.

The boundaries of jurisdictional wetlands and other waters of the U.S. (WOUS) located within the study area were delineated and survey-located by WSSI as described in The Glade delineation report, dated October 9, 2008.

## Methodology

On December 10, 12 and 16, 2008, environmental scientist Eric Calladine, ISA Certified Arborist<sup>1</sup>, environmental compliance specialist Jason Beeler, CPESC-IT<sup>2</sup>, environmental scientist Sean D. Sipple, PWS, PWD, CT<sup>3</sup>, environmental scientist Jean Tufts, WPIT<sup>4</sup>, Nicki Foremsky<sup>5</sup>, Claudia Thompson-Deahl<sup>6</sup>, Brian Petty<sup>7</sup> and ecologist William S. Sipple<sup>8</sup> examined the entire study area for potential wildlife habitat features. The study area was inspected to identify and map specific wildlife habitat features within the study area to classify them according to type. Only representative wildlife habitat features (or lack of) were photographed, as depicted in Exhibit 4. Any wildlife species directly observed or animal signs such as tracks and scat were noted during the fieldwork. For the purpose of this report, WSSI has defined the wildlife habitat features as follows:

- A. Nest** – A nest is defined as a place of refuge to hold an animal's eggs and/or provide a place to raise their offspring. Nests are usually made of sticks and leaves. Nest were subsequently categorized in Table 1 as:

- 1) Stick Nest
- 2) Squirrel Nest
- 3) Songbird nest

- B. Cavity** – A cavity is defined as a hollowed out feature in a standing tree which can provide an animal with refuge and a place to raise their offspring. Cavities were subsequently categorized in Table 1 as:

- 1) Snag
- 2) Live Tree

- C. Den** – A den is defined as a hollowed out feature, either in a deadfall, tree hollow, or ground hollow. Dens were subsequently categorized in Table 1 as:

- 1) Deadfall
- 2) Tree Hollow
- 3) Ground Hollow

- D. Subsurface Erosional Feature** – A subsurface erosional feature is defined as a naturally-occurring subterranean hollow, usually associated with a drainage feature and may be used as a wildlife travel corridor.

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<sup>1</sup> WSSI - International Society of Arboriculture (ISA) Certified Arborist  
<sup>2</sup> WSSI - Certified Professional in Erosion and Sediment Control - In Training  
<sup>3</sup> WSSI - Professional Wetland Scientists, Professional Wetland Delineator, Certified Taxonomist  
<sup>4</sup> WSSI - Wetland Professional In-Training, Society of Wetland Scientists Certification Program, Inc.  
<sup>5</sup> Reston Association- Watershed Manager  
<sup>6</sup> Reston Association-Environmental Resource Manager  
<sup>7</sup> Reston Association  
<sup>8</sup> Principal of William S. Sipple Wetland and Environmental Training and Consulting

These features are not likely to be utilized as den sites due to their high probability of flooding during runoff-producing events. Subsurface erosional features were subsequently categorized in Table 1 as:

- 1) Inactive
- 2) Active

**E. Snags** - A snag refers to a standing, partly or completely dead tree, often missing a top or most of the smaller branches, and greater than or equal to 20 inches diameter breast height. These features were identified regardless of evidence of known wildlife usage.

### Results and Conclusions

A number of wildlife habitat features were noted in design Reach 4 of The Glade during this inventory, including stick and squirrel nests, cavities, snags, and subsurface erosional features. The location of these features is depicted on the Wildlife Habitat Feature Location Map (Exhibit 5) and is summarized in Table 1 below. The results of this inventory will be used by project engineers to further limit the stream restoration project's impact on local wildlife habitat features.

**Table 1. List of Wildlife Habitat Features Observed Within Design Reach 4 of The Glade.**

Feature	Tree Tag	Description
A1	Tree #20478	Inactive unknown stick nest
A1	Tree #20539	Inactive unknown stick nest
A1	Tree #21364	Inactive unknown stick nest
A1	Tree #21684	Inactive unknown stick nest
A1	Tree #22278	Inactive unknown stick nest
A1	Tree #22279	Inactive unknown stick nest
A1	Tree #22499	Inactive unknown stick nest
A1/B2	Tree #21362	Inactive unknown stick nest/Unknown cavity in live tree
A1/B2	Tree #22435	Inactive unknown stick nest/Unknown cavity in live tree
A2	Tree #20083	Squirrel leaf nest
A2	Tree #20084	Squirrel leaf nest
A2	Tree #20108	Squirrel leaf nest
A2	Tree #20159	Squirrel leaf nest
A2	Tree #20457	Squirrel leaf nest
A2	Tree #20547	Squirrel leaf nest
A2	Tree #20611	Squirrel leaf nest
A2	Tree #20655	Squirrel leaf nest
A2	Tree #20730	Squirrel leaf nest
A2	Tree #20739	Squirrel leaf nest
A2	Tree #20811	Squirrel leaf nest
A2	Tree #20825	Squirrel leaf nest
A2	Tree #20870	Squirrel leaf nest
A2	Tree #20902	Squirrel leaf nest

**Table 1. List of Wildlife Habitat Features Observed Within Design Reach 4 of The Glade. (Cont.)**

Feature	Tree Tag	Description
A2	Tree #20974	Squirrel leaf nest
A2	Tree #21134	Squirrel leaf nest
A2	Tree #21217	Squirrel leaf nest
A2	Tree #21374	Squirrel leaf nest
A2	Tree #21375	Squirrel leaf nest
A2	Tree #21468	Squirrel leaf nest
A2	Tree #21661	Squirrel leaf nest
A2	Tree #21742	Squirrel leaf nest
A2/B2	Tree #20309	Squirrel leaf nest/Unknown cavity in live tree
A3	Tree #N/A	Inactive unknown song bird nest, 13 feet south east of t#20301
A3	Tree #N/A	Inactive unknown song bird nest, 9 feet east of t#21480
A3	Tree #N/A	Inactive unknown song bird nest, 44 feet west of t#21522
A3	Tree #N/A	Inactive unknown song bird nest, 22 feet east of t#22520
A3	Tree #21599	Inactive unknown song bird nest
A3	Tree #21647	Inactive unknown song bird nest
A3	Tree #21682	Inactive unknown song bird nest
A3	Tree #22327	Inactive unknown song bird nest
A3	Tree #22477	Inactive unknown song bird nest
A3	Tree #22478	Inactive unknown song bird nest
A3/B2	Tree #22507	Inactive unknown song bird nest/Unknown cavity in live tree
B1	Tree #N/A	Unknown cavity in snag, 23 feet north of t#20970
B1	Tree #N/A	Unknown cavity in snag, 62 feet west of t#20100
B1	Tree #N/A	Unknown cavity in snag, 43 feet south east of t#20159
B1	Tree #N/A	Unknown cavity in snag, 63 feet west of t#20200
B1	Tree #N/A	Unknown cavity in snag, 42 feet south west of t#21283
B1	Tree #N/A	Unknown cavity in snag, 36 feet north west of t#21289
B1	Tree #N/A	Unknown cavity in snag, 87 feet north east of t#22216
B1	Tree #N/A	Unknown cavity in snag, 96 feet north east of t#21522
B1	Tree #N/A	Unknown cavity in snag, 25 feet south east of t#21544
B1	Tree #N/A	Unknown cavity in snag, 33 feet west of t#22396
B1	Tree #N/A	Unknown cavity in snag, 30 feet north east of t#22524
B1	Tree #N/A	Unknown cavity in snag, 32 feet north east of t#22524
B1	Tree #N/A	Unknown cavity in snag, 31 feet north east of t#22539
B1	Tree #N/A	Unknown cavity in snag, 37 feet south east of t#21714
B1	Tree #20158	Unknown cavity in snag
B1	Tree #20163	Unknown cavity in snag
B1	Tree #20169	Unknown cavity in snag
B1	Tree #20200	Unknown cavity in snag
B1	Tree #20301	Unknown cavity in snag
B1	Tree #20305	Unknown cavity in snag
B1	Tree #20440	Unknown cavity in snag
B1	Tree #20466	Unknown cavity in snag
B1	Tree #20596	Unknown cavity in snag
B1	Tree #20614	Unknown cavity in snag
B1	Tree #21190	Unknown cavity in snag
B1	Tree #21214	Unknown cavity in snag

**Table 1. List of Wildlife Habitat Features Observed Within Design Reach 4 of The Glade. (Cont.)**

Feature	Tree Tag	Description
B1	Tree #21283	Unknown cavity in snag
B1	Tree #21317	Unknown cavity in snag
B1	Tree #21326	Unknown cavity in snag
B1	Tree #21343	Unknown cavity in snag
B1	Tree #21480	Unknown cavity in snag
B1	Tree #21525	Unknown cavity in snag
B1	Tree #21529	Unknown cavity in snag
B1	Tree #21536	Unknown cavity in snag
B1	Tree #21544	Unknown cavity in snag
B1	Tree #21709	Unknown cavity in snag
B1	Tree #21714	Unknown cavity in snag
B1	Tree #21724	Unknown cavity in snag
B1	Tree #22285	Unknown cavity in snag
B1	Tree #22316	Unknown cavity in snag
B1	Tree #22358	Unknown cavity in snag
B1	Tree #22449	Unknown cavity in snag
B1	Tree #22474	Unknown cavity in snag
B1	Tree #22515	Unknown cavity in snag
B1	Tree #22520	Unknown cavity in snag
B1	Tree #22537	Unknown cavity in snag
B1	Tree #22545	Unknown cavity in snag
B1	Tree #22561	Unknown cavity in snag
B1/C1	Tree #22130	Unknown cavity in snag/Den in deadfall
B2	Tree #N/A	Unknown cavity in live tree, 96 feet north east of t#22216
B2	Tree #N/A	Unknown cavity in live tree, 34 feet north east of t#22541
B2	Tree #N/A	Unknown cavity in live tree, 28 feet north east of t#22541
B2	Tree #N/A	Unknown cavity in live tree, 58 feet north east of t# 22551
B2	Tree #20033	Unknown cavity in live tree
B2	Tree #20044	Unknown cavity in live tree
B2	Tree #20093	Unknown cavity in live tree
B2	Tree #20100	Unknown cavity in live tree
B2	Tree #20133	Unknown cavity in live tree
B2	Tree #20152	Unknown cavity in live tree
B2	Tree #20214	Unknown cavity in live tree
B2	Tree #20215	Unknown cavity in live tree
B2	Tree #20226	Unknown cavity in live tree
B2	Tree #20227	Unknown cavity in live tree
B2	Tree #20240	Unknown cavity in live tree
B2	Tree #20270	Unknown cavity in live tree
B2	Tree #20291	Unknown cavity in live tree
B2	Tree #20295	Unknown cavity in live tree
B2	Tree #20296	Unknown cavity in live tree
B2	Tree #20302	Unknown cavity in live tree
B2	Tree #20321	Unknown cavity in live tree
B2	Tree #20329	Unknown cavity in live tree
B2	Tree #20364	Unknown cavity in live tree
B2	Tree #20366	Unknown cavity in live tree

**Table 1. List of Wildlife Habitat Features Observed Within Design Reach 4 of The Glade. (Cont.)**

Feature	Tree Tag	Description
B2	Tree #20371	Unknown cavity in live tree
B2	Tree #20377	Unknown cavity in live tree
B2	Tree #20396	Unknown cavity in live tree
B2	Tree #20403	Unknown cavity in live tree
B2	Tree #20406	Unknown cavity in live tree
B2	Tree #20420	Unknown cavity in live tree
B2	Tree #20455	Unknown cavity in live tree
B2	Tree #20472	Unknown cavity in live tree
B2	Tree #20477	Unknown cavity in live tree
B2	Tree #20506	Unknown cavity in live tree
B2	Tree #20543	Unknown cavity in live tree
B2	Tree #20579	Unknown cavity in live tree
B2	Tree #20593	Unknown cavity in live tree
B2	Tree #20626	Unknown cavity in live tree
B2	Tree #20645	Unknown cavity in live tree
B2	Tree #20697	Unknown cavity in live tree
B2	Tree #20736	Unknown cavity in live tree
B2	Tree #20747	Unknown cavity in live tree
B2	Tree #20778	Unknown cavity in live tree
B2	Tree #20797	Unknown cavity in live tree
B2	Tree #20990	Unknown cavity in live tree
B2	Tree #21141	Unknown cavity in live tree
B2	Tree #21173	Unknown cavity in live tree
B2	Tree #21175	Unknown cavity in live tree
B2	Tree #21189	Unknown cavity in live tree
B2	Tree #21236	Unknown cavity in live tree
B2	Tree #21251	Unknown cavity in live tree
B2	Tree #21261	Unknown cavity in live tree
B2	Tree #21273	Unknown cavity in live tree
B2	Tree #21295	Unknown cavity in live tree
B2	Tree #21298	Unknown cavity in live tree
B2	Tree #21302	Unknown cavity in live tree
B2	Tree #21303	Unknown cavity in live tree
B2	Tree #21315	Unknown cavity in live tree
B2	Tree #21333	Unknown cavity in live tree
B2	Tree #21352	Unknown cavity in live tree
B2	Tree #21355	Unknown cavity in live tree
B2	Tree #21358	Unknown cavity in live tree
B2	Tree #21382	Unknown cavity in live tree
B2	Tree #21482	Unknown cavity in live tree
B2	Tree #21488	Unknown cavity in live tree
B2	Tree #21492	Unknown cavity in live tree
B2	Tree #21522	Unknown cavity in live tree
B2	Tree #21530	Unknown cavity in live tree
B2	Tree #21540	Unknown cavity in live tree
B2	Tree #21603	Unknown cavity in live tree
B2	Tree #21604	Unknown cavity in live tree

**Table 1. List of Wildlife Habitat Features Observed Within Design Reach 4 of The Glade. (Cont.)**

Feature	Tree Tag	Description
B2	Tree #21642	Unknown cavity in live tree
B2	Tree #21649	Unknown cavity in live tree
B2	Tree #21656	Unknown cavity in live tree
B2	Tree #21663	Unknown cavity in live tree
B2	Tree #21668	Unknown cavity in live tree
B2	Tree #21673	Unknown cavity in live tree
B2	Tree #21679	Unknown cavity in live tree
B2	Tree #21685	Unknown cavity in live tree
B2	Tree #21690	Unknown cavity in live tree
B2	Tree #21695	Unknown cavity in live tree
B2	Tree #21697	Unknown cavity in live tree
B2	Tree #21704	Unknown cavity in live tree
B2	Tree #21706	Unknown cavity in live tree
B2	Tree #21731	Unknown cavity in live tree
B2	Tree #21739	Unknown cavity in live tree
B2	Tree #21752	Unknown cavity in live tree
B2	Tree #21754	Unknown cavity in live tree
B2	Tree #21786	Unknown cavity in live tree
B2	Tree #22023	Unknown cavity in live tree
B2	Tree #22080	Unknown cavity in live tree
B2	Tree #22082	Unknown cavity in live tree
B2	Tree #22098	Unknown cavity in live tree
B2	Tree #22113	Unknown cavity in live tree
B2	Tree #22150	Unknown cavity in live tree
B2	Tree #22200	Unknown cavity in live tree
B2	Tree #22216	Unknown cavity in live tree
B2	Tree #22225	Unknown cavity in live tree
B2	Tree #22239	Unknown cavity in live tree
B2	Tree #22251	Unknown cavity in live tree
B2	Tree #22252	Unknown cavity in live tree
B2	Tree #22266	Unknown cavity in live tree
B2	Tree #22268	Unknown cavity in live tree
B2	Tree #22273	Unknown cavity in live tree
B2	Tree #22284	Unknown cavity in live tree
B2	Tree #22288	Unknown cavity in live tree
B2	Tree #22294	Unknown cavity in live tree
B2	Tree #22299	Unknown cavity in live tree
B2	Tree #22317	Unknown cavity in live tree
B2	Tree #22318	Unknown cavity in live tree
B2	Tree #22320	Unknown cavity in live tree
B2	Tree #22321	Unknown cavity in live tree
B2	Tree #22356	Unknown cavity in live tree
B2	Tree #22362	Unknown cavity in live tree
B2	Tree #22395	Unknown cavity in live tree
B2	Tree #22408	Unknown cavity in live tree
B2	Tree #22429	Unknown cavity in live tree
B2	Tree #22436	Unknown cavity in live tree

**Table 1. List of Wildlife Habitat Features Observed Within Design Reach 4 of The Glade. (Cont.)**

Feature	Tree Tag	Description
B2	Tree #22439	Unknown cavity in live tree
B2	Tree #22450	Unknown cavity in live tree
B2	Tree #22500	Unknown cavity in live tree
B2	Tree #22505	Unknown cavity in live tree
B2	Tree #22509	Unknown cavity in live tree
B2	Tree #22510	Unknown cavity in live tree
B2	Tree #22516	Unknown cavity in live tree
B2	Tree #22519	Unknown cavity in live tree
B2	Tree #22524	Unknown cavity in live tree
B2	Tree #22539	Unknown cavity in live tree
B2	Tree #22540	Unknown cavity in live tree
B2	Tree #22541	Unknown cavity in live tree
B2	Tree #22548	Unknown cavity in live tree
B2	Tree #22551	Unknown cavity in live tree
B2	Tree #22560	Unknown cavity in live tree
B2	Tree #22571	Unknown cavity in live tree
B2	Tree #22577	Unknown cavity in live tree
B2	Tree #22581	Unknown cavity in live tree
B2	Tree #22585	Unknown cavity in live tree
B2	Tree #22594	Unknown cavity in live tree
C1	Tree #N/A	Inactive den in deadfall, 20 feet north east of t#20347
C1	Tree #N/A	Inactive den in deadfall, 31 feet north of t#20305
C1	Tree #N/A	Inactive den in deadfall, 12 feet north west of t#20472
C1	Tree #N/A	Inactive den in deadfall, 49 feet north west of t#20295
C1	Tree #N/A	Inactive den in deadfall, 10 feet south of t#22216
C1	Tree #N/A	Inactive den in deadfall, 14 feet west of t#21315
C1	Tree #N/A	Inactive den in deadfall, 72 feet north west of t#22239
C1	Tree #N/A	Inactive den in deadfall, 48 feet north west of t#22356
C1	Tree #N/A	Inactive den in deadfall, 48 feet west of t#21647
C1	Tree #N/A	Inactive den in deadfall, 15 feet south west of t#22474
C1	Tree #N/A	Inactive den in deadfall, 20 feet north west of t#21695
C1	Tree #N/A	Inactive den in deadfall, 13 north east of t#22545
C1	Tree #21281	Inactive den in deadfall
C1	Tree #21484	Inactive den in deadfall
C1	Tree #21716	Inactive den in deadfall
C1	Tree #22396	Inactive den in deadfall
C2	Tree #N/A	Inactive den in tree hollow, 19 feet south east of t#20093
C2	Tree #N/A	Inactive den in tree hollow, 100 feet west of t#20133
C2	Tree #20153	Inactive den in tree hollow
C2	Tree #21168	Inactive den in tree hollow
C2	Tree #21231	Inactive den in tree hollow
C2	Tree #22434	Inactive den in tree hollow
C3	Tree #N/A	Inactive den in ground hollow, 40 feet south of t#22524
C3	Tree #N/A	Inactive den in ground hollow, 40 feet south of t#22524
D1	Tree #N/A	Inactive subsurface erosional feature, 25 feet south west of t#20626
D1	Tree #N/A	Inactive subsurface erosional feature, 38 feet south west of t#22526
E	Tree #N/A	Snag, 23 feet north east of t#20593

**Table 1. List of Wildlife Habitat Features Observed Within Design Reach 4 of The Glade. (Cont.)**

Feature	Tree Tag	Description
E	Tree #N/A	Snag, 50 feet north east of t#20100
E	Tree #N/A	Snag, 26 feet north west of t#20547
E	Tree #N/A	Snag, 9 feet west of t#20270
E	Tree #N/A	Snag, 72 feet north of t#21134
E	Tree #N/A	Snag, 18 feet north of t#21273
E	Tree #N/A	Snag, 68 feet south west of t#21273
E	Tree #20066	Snag
E	Tree #20282	Snag
E	Tree #20297	Snag
E	Tree #20347	Snag
E	Tree #20431	Snag
E	Tree #20491	Snag
E	Tree #20537	Snag
E	Tree #20573	Snag
E	Tree #20658	Snag
E	Tree #20679	Snag
E	Tree #20789	Snag
E	Tree #20970	Snag
E	Tree #21172	Snag
E	Tree #21248	Snag
E	Tree #21254	Snag
E	Tree #21258	Snag
E	Tree #21278	Snag
E	Tree #21297	Snag
E	Tree #21510	Snag
E	Tree #22085	Snag
E	Tree #22223	Snag
E	Tree #22526	Snag
Unknown Nest	Tree #22486	Unknown inactive nest

### Limitations

This study is based on examination of the conditions on the study site at the time of our review and does not address conditions in the future. Such conditions change over time. Therefore, our conclusions may vary from future observations. Our wildlife habitat feature inventory report has been prepared in accordance with generally accepted guidelines for the conduct of such evaluations. We make no other warranties, either expressed or implied that other wildlife species will not be observed in the project site during future wildlife surveys.

If you have any questions regarding this report, please contact me at (703) 679-5631 or [rvanhouten@wetlandstudies.com](mailto:rvanhouten@wetlandstudies.com).

WETLAND STUDIES AND SOLUTIONS, INC.



Jason Beeler, CPESC-IT  
Environmental Compliance Specialist



Roy Van Houten, AWB, CWCP  
Wildlife Biologist



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Permitted Use Number 20711184



**Vicinity Map**  
**Glade Reach 4**  
**WSSI #20030**  
**Scale: 1" = 2000'**

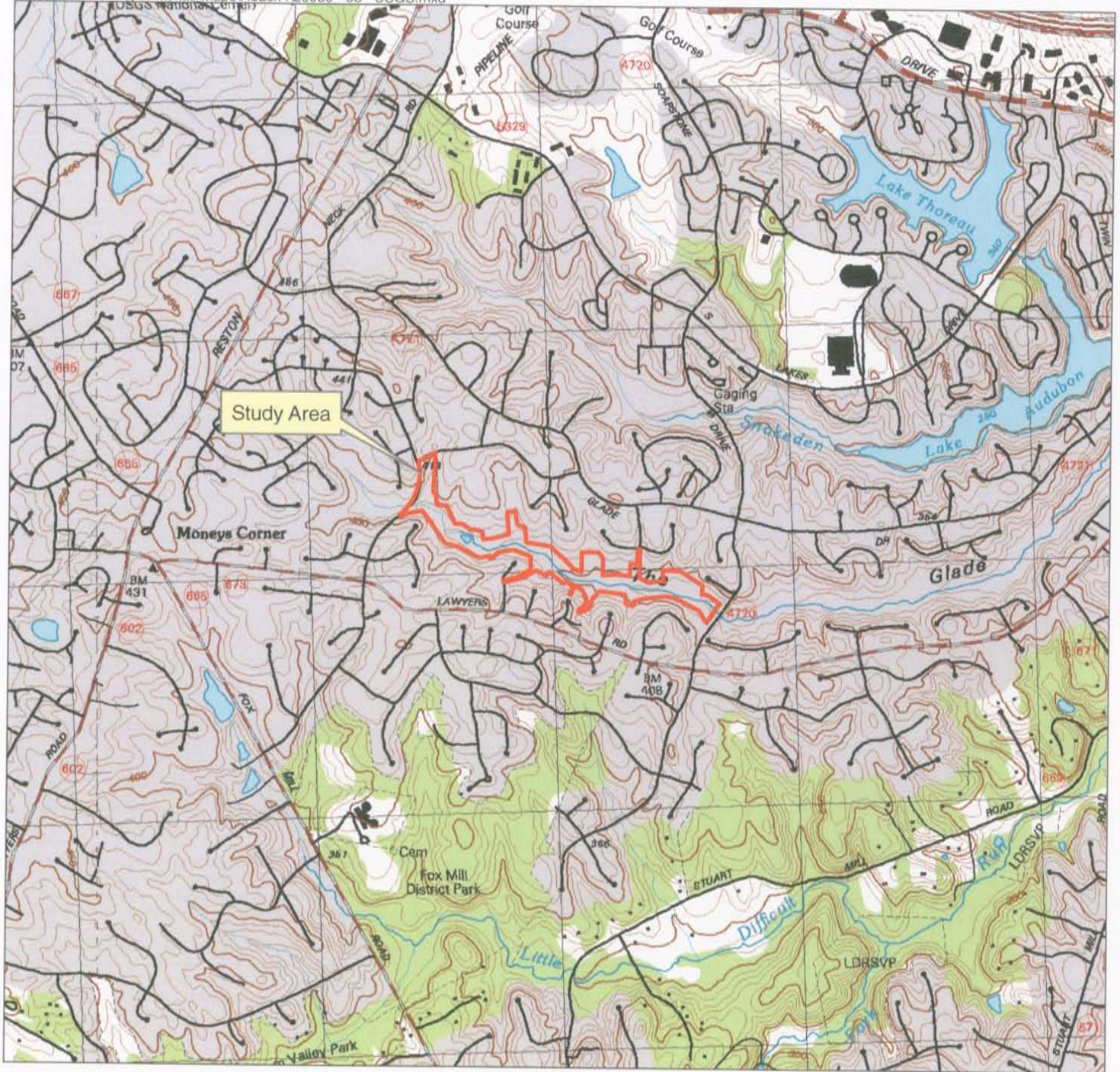




February 2004 Natural Color Imagery  
Glade Reach 4  
WSSI #20030  
Scale: 1" = 700'



Photo Source: Air Survey



USGS Quad Map  
Vienna, VA-MD 1994  
Glade Reach 4  
WSSI #20030  
Scale: 1" = 2000'

Latitude: 38°55'29" N  
Longitude: 77°21'11" W  
Hydrologic Unit Code (HUC): 020700081004  
Stream Class: III  
Name of Watershed: The Glade



**REACH 4 – THE GLADE**  
**WILDLIFE HABITAT FEATURE INVENTORY – DECEMBER 10, 12 and 16, 2008**  
**REPRESENTATIVE PHOTOS TAKEN BY JASON BEELER**



1. Photo Station #1: Inactive unknown cavity and den in a snag tree #22545.



2. Photo Station #2: Squirrel Nest in tree #21661.

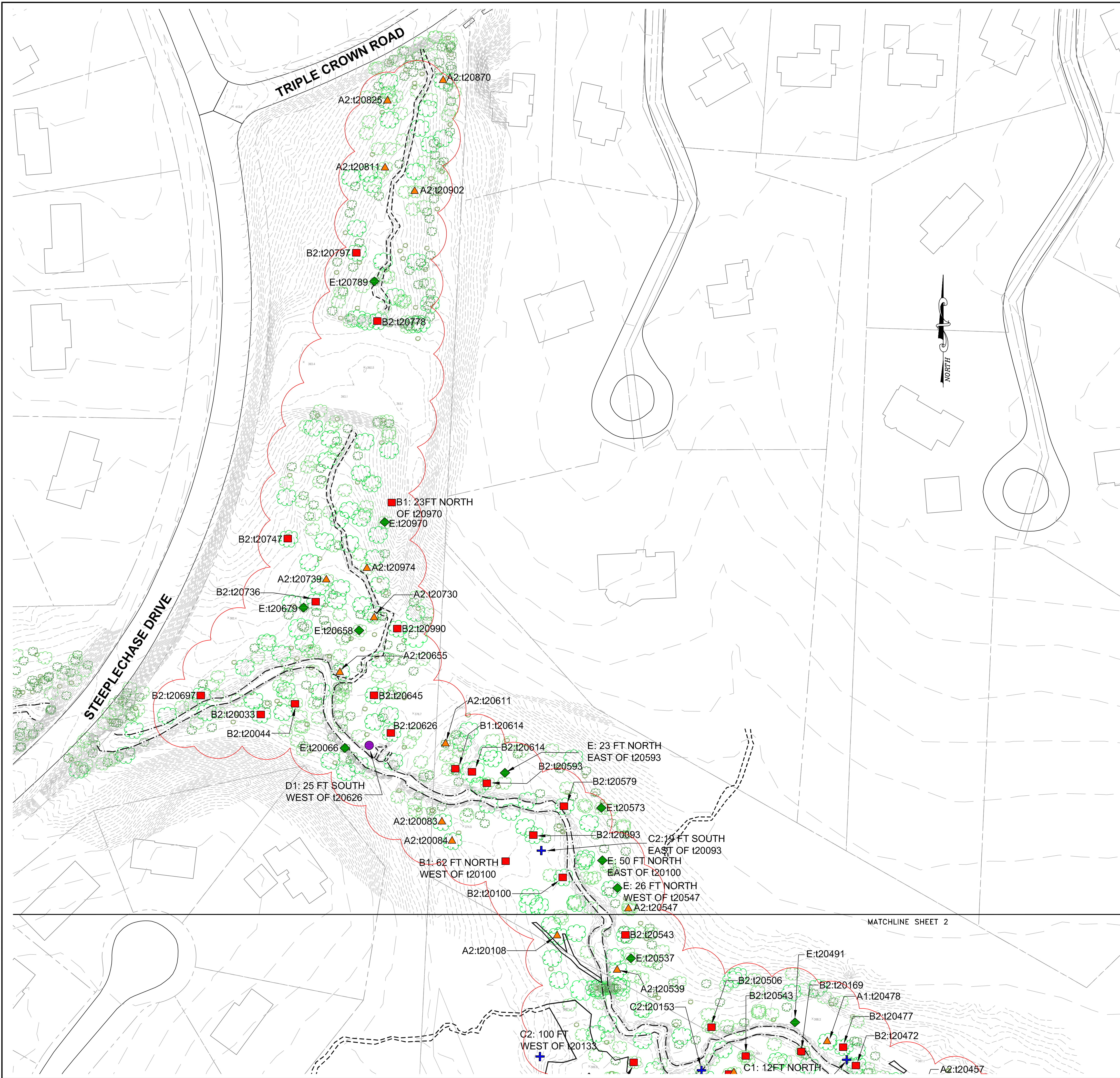
**REACH 4 – THE GLADE**  
**WILDLIFE HABITAT FEATURE INVENTORY – DECEMBER 10, 12 and 16, 2008**  
**REPRESENTATIVE PHOTOS TAKEN BY JASON BEELER**

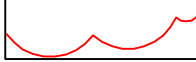


**3. Photo Station #3: Snag located at tree #21510.**

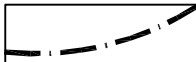


**4. Photo Station #4: Inactive unknown den located 40 feet south of tree #22524.**







APPROXIMATE STUDY AREA – REACH 4




PERENNIAL STREAM  
(BASED ON FAIRFAX COUNTY RPA MAPS)




NON-PERENNIAL STREAM (BASED ON FAIRFAX COUNTY  
RPA MAPS AND WSSI'S SITE OBSERVATIONS)




JURISDICTIONAL WETLAND AREAS




NEST




CAVITY




SUBSURFACE EROSIONAL FEATURE



SNAG



DEN



SPECIAL TREE

WILDLIFE HABITAT FEATURE INVENTORY NOTES:

1. Wetland Studies and Solutions, Inc. (WSSI) conducted a Wildlife Habitat Feature Inventory within a study area along design Reach 4 of The Glade portion of the Northern Virginia Stream Restoration Bank (NVSRB). This study was conducted to determine the location of active, inactive and potential wildlife denning and nesting features within a study area along Reach 4 of The Glade.

2. Topographic information from Air Survey Corp. and from Fairfax County digital data and easement boundary information from WSSI were used as a base for this attachment. The contour interval (C.I.) obtained from Air Survey Corp. is 0.5 feet and the C.I. from Fairfax County digital data is 5 feet. This information is based in the NAD 83 coordinate system, and vertical datum of NGVD 29.

3. Fieldwork was conducted on December 10, 12 and 16, 2008 by Eric Calladine, ISA Certified Arborist, environmental compliance specialist Jason Beeler, CPESC-IT, environmental scientist Sean D. Sipple, PWS, PWD, CT, environmental scientist Jean Tufts, WPIT, Nicki Foremsky, Claudia Thompson-Deahl, Brian Petty, and ecologist William S. Sipple.

4. For the purpose of this report, WSSI has defined the wildlife habitat features as follows:

A. Nest - A nest was defined as a place of refuge to hold an animal's eggs and/or provide a place to raise their offspring. Nests are usually made of sticks and leaves. Nest were subsequently categorized as shown on Sheet 5 of 5 as:

- 1) Stick Nest
- 2) Squirrel Nest
- 3) Songbird nest

B. Cavity - A cavity was defined as a hollowed out feature in a standing tree which can provide an animal with refuge and a place to raise their offspring. Cavities were subsequently categorized as shown on Sheet 5 of 5 as:

- 1) Snag
- 2) Live Tree

C. Den - A den was defined as a hollowed out feature, either in a deadfall, tree hollow, or ground hollow. Dens were subsequently categorized as shown on Sheet 5 of 5 as:

- 1) Deadfall
- 2) Tree Hollow
- 3) Ground Hollow

D. Subsurface Erosional Feature - A subsurface erosional feature was defined as a naturally-occurring subterranean hollow, usually associated with a drainage feature and may be used as a wildlife travel corridor. These features are not likely to be utilized as den sites due to their high probability of flooding during runoff-producing events. Subsurface Erosional Features were subsequently categorized as shown on Sheet 5 of 5 as:

- 1) Inactive
- 2) Active

E. Snags - A snag refers to a standing, partly or completely dead tree, often missing a top or most of the smaller branches, and greater than or equal to 20 inches diameter breast height. These features were identified regardless of evidence of known wildlife usage.

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Exhibit 5:  
Wildlife Habitat Feature Location Map  
Prepared For: Northern Virginia Stream Restoration, L.C.  
The Glade - Reach 4  
Fairfax County, Virginia

REVISIONS

No.	Date	Description	Rev. By	App. By

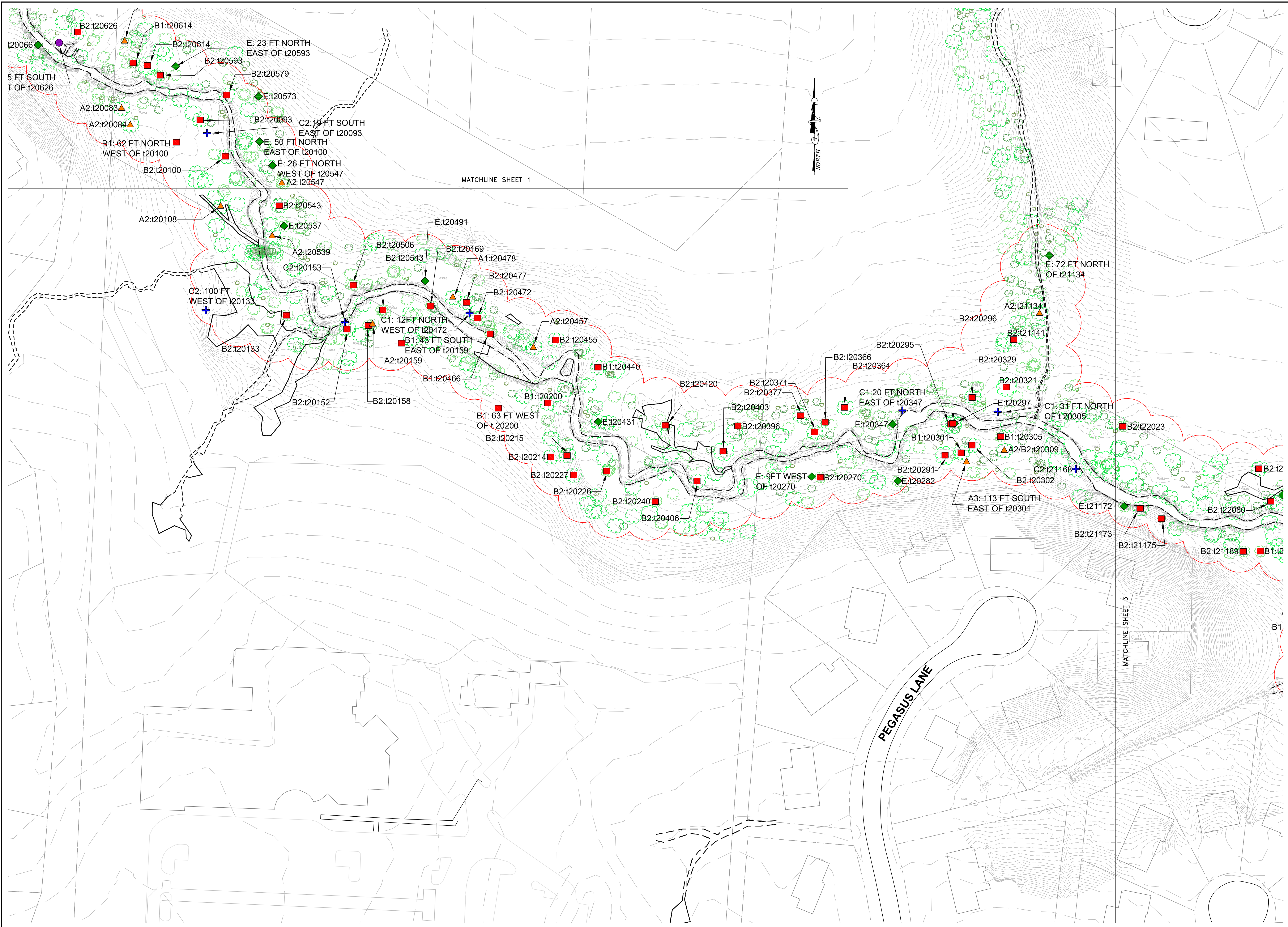
Horizontal Datum: VCS NAD83  
Vertical Datum: NGVD 29  
Boundary and Topo Source: Fairfax County Digital Data

Design	Draft	Approved
JMB	JMB	MH

Sheet #  
1 of 5

Computer File Name:  
L:\2008\2009\gis\Habitat\_Map\Reach4\Reach4\_HabitatMap.dwg

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SCALE: 1" = 50'



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No.	Date	Description	Rev. By	App. By

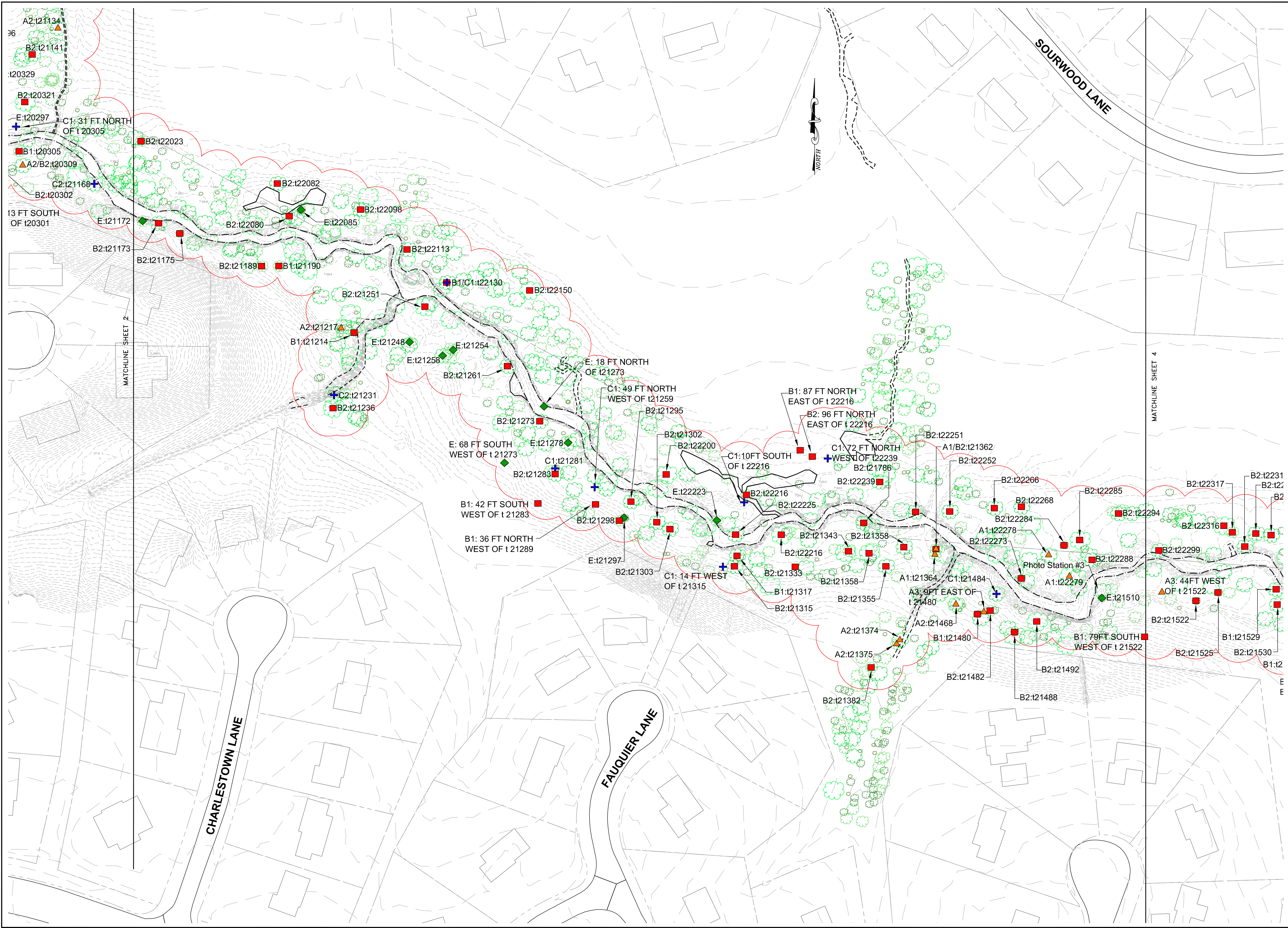
Horizontal Datum: VCS NAD83  
Vertical Datum: NGVD 29  
Boundary and Topo Source: Fairfax County Digital Data

Design	Draft	Approved
JMB	JMB	MH

Sheet #  
2 of 5

Computer File Name:  
I:\2009\2009\GIS\Fairfax\_Maps\Reach4\Benthid\_StationMap.mxd

DATE: January 2009  
SCALE: 1" = 50'



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Exhibit 5:

Wildlife Habitat Feature Location Map

Prepared For: Northern Virginia Stream Restoration, L.C.

The Glade - Reach 4

Fairfax County, Virginia

REVISIONS

No.	Date	Description	Rev. By	App. By

Horizontal Datum: VCS NAD83

Vertical Datum: NGVD 29

Boundary and Topo Source: Fairfax County Digital Data

Design	Draft	Approved
JMB	JMB	MH

Sheet #

3 of 5

Computer File Name: L:\2009\2009\01\Fairfax\_Maps\Reach4\Basilid\_StateMap.dwg

DATE: January 2009

SCALE: 1" = 50'



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[illegible]

<div>Exhibit 5: Wildlife Habitat Feature Location Map</div>		<div>Prepared For: Northern Virginia Stream Restoration, L.C.</div>		<div>The Glade - Reach 4 Fairfax County, Virginia</div>		<div>Copyright © 2009 Wetland Studies and Solutions, Inc.</div>	
REVISIONS		No.	Date	Description	Rev. By	App. By	
		DATE: January 2009			SCALE: 1" = 50'		
Horizontal Datum: VCS NAD83							
Vertical Datum: NGVD 29							
Boundary and Topo Source: Fairfax County Digital Data							
Design		Draft		Approved			
JMB		JMB		MH			
Sheet # 5 of 5							
Computer File Name: L:\2009\2009\gr\Habitat_Maps\Reach4\Reach4_HabitatMap.dwg							