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**MEMORANDUM**

**To:** Mayor and City Council

**From:** Steve Dush, AICP  
Community Development Director

**Date:** 6/11/2012

**Subject:** **Discussion of Definition of Stream.**

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**ITEM DESCRIPTION**

Following a presentation on modifications to the stream buffer requirements at the March 26, 2012 City Council meeting, the Mayor and Council revised the scope and directed staff to conduct research regarding the definition of Stream and that following the research and presentation if any changes are to be pursued that presentations and input from the Sustainability Commission, Community Council and Planning Commission would be part of the process. The result of that research is contained in the presentation before you tonight to be conducted by the City Engineer with the objective of receiving policy direction to address this issue.

**RECOMMENDED ACTION**

Staff recommends Mayor and Council provide staff general policy direction on the following items:

- Does Council generally agree with having multiple stream definitions?
- Does Council generally support alignment with the Metro North GA Water Planning District Model Ordinance?
- Should any changes as discussed in the presentation occur prior to or in conjunction with the Zoning Code Rewrite process?

# Stream Buffers in Dunwoody

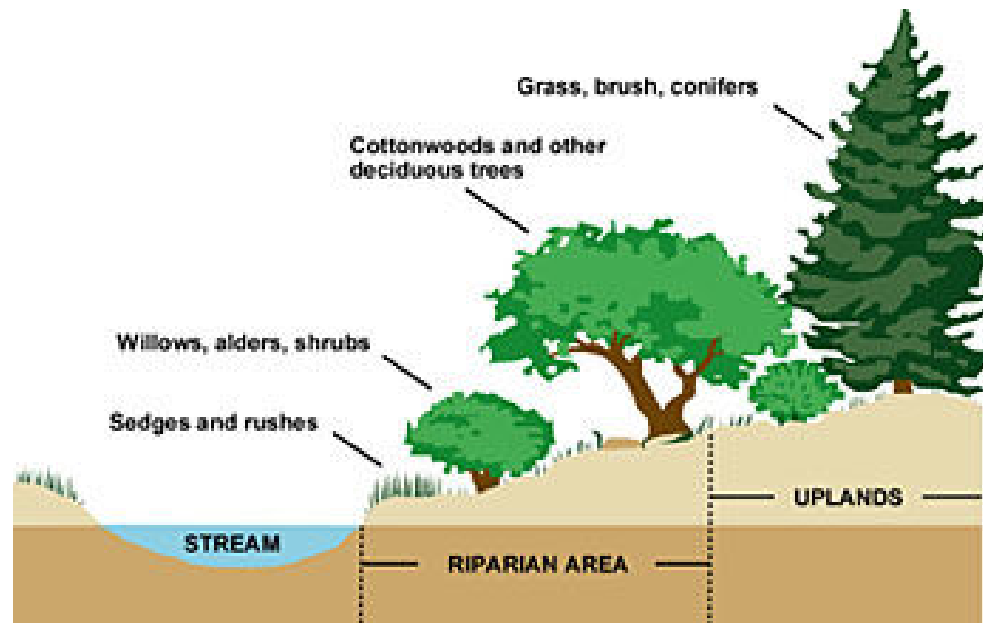
Presented to the Dunwoody City Council  
June 11, 2012

# Objectives of this Presentation

- Overview of why we are here
- Issue Identification
- Key Questions to Answer
  - Does Council agree with having multiple stream definitions.
  - Does Council generally support alignment with the Metro North GA Water Planning District Model Ordinance
  - Should any changes as discussed in the presentation occur prior to or in conjunction with the Zoning Code Rewrite process?
  - Clarify next steps/process

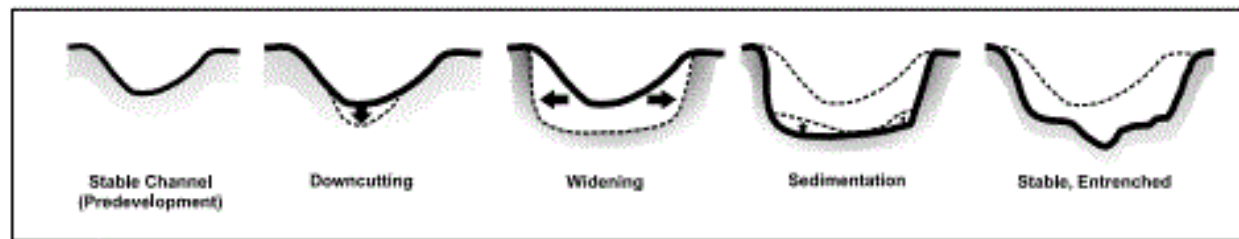
# Overview: What is a Stream Buffer?

- an area along a shoreline, wetland, or stream where development is restricted or prohibited, sometimes called a riparian buffer. – *US EPA website*



# Overview: Why Restrict Development?

- Development negatively impacts surface water quality.
- Pollutants attach to sediment, which is washed from developed impervious surfaces into streams.
- Development changes the hydrology of a watershed, which then alters the morphology (shape) of streams. Aquatic life is impacted as well.



# Issue ID: What is Dunwoody's Situation?

- Stream buffer ordinance adopted from DeKalb's code, with some modifications by previous City Council, and is more restrictive than Metro North Georgia Water Planning District Model Ordinance.
- Most residential subdivisions built prior to stream buffer ordinance.
- Many houses are located in the 75 foot buffers, and are on small lots with limited opportunity for expansion.
- Result has been multiple variance applications (~23 between July 2009 and present).

# Issue ID: More Restrictive How?

- City 75' no encroachment vs. MNGWPD 50' no encroachment + 25' impervious setback



- Stream definition
  - Dunwoody's definition includes all ditches regardless of size or groundwater influence.
  - MNGWPD Model Ordinance Definition – streams begin at the point in the channel that drains 25 acres or where groundwater intersects the surface. 25 acres is usually large enough for the channel to be influenced by groundwater.

# Stream Change Options

- Add definitions to define stream types
  - Perennial
  - Intermittent
  - Ephemeral
- Change stream definition to exclude ephemeral streams



# Perennial Streams

- 'Perennial stream' means a well-defined channel that contains water year round during a year of normal rainfall with the aquatic bed located below the water table for most of the year. Groundwater is the primary source of water for a perennial stream, but it also carries stormwater runoff. A perennial stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.

# Perennial Stream



# Intermittent Stream

- 'Intermittent stream' means a well-defined channel that contains water for only part of the year, typically during winter and spring when the aquatic bed is below the seasonally high water table. The flow may be heavily supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the conveyance of water.



# Intermittent Stream



Hidden Branch Circle

# Ephemeral Stream

- ‘Ephemeral (stormwater) stream’ means a feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.



# Ephemeral Stream



Summerfield Drive

# Stream

- Finally, we recommend changing the definition of stream to the following:
  - ‘Stream’ means a well-defined channel that contains water year round during a year of normal rainfall with the aquatic bed located below the water table for most of the year (commonly referred to as a perennial stream); or that contains water for only part of the year, typically during winter and spring when the aquatic bed is below the seasonally high water table (commonly referred to as an intermittent stream). Ephemeral (stormwater) streams are not included in this definition. The City of Dunwoody may require field studies to verify the existence of a stream.

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  - Should any changes as discussed in the presentation occur prior to or in conjunction with the Zoning Code Rewrite process?
  - Clarify next steps/process