

Analysis of Data and Information: Natural Resources

ANALYSIS OF DATA AND INFORMATION: NATURAL RESOURCES

ENVIRONMENTAL PLANNING CRITERIA

Peachtree Corners is rich in natural resources, thanks in part to Gwinnett County's strong water protection regulations. The tree canopy and the river are two things that Peachtree Corners residents value and that give the community a special character. Future development should capitalize on and preserve these resources as well as the city's streams, rolling terrain, and rich soils.

WATER RESOURCES

Gwinnett County has adopted Part V of the Georgia Planning Act, the environmental planning criteria developed by the Department of Natural Resources (DNR). These standards include requirements governing development in water supply watersheds, groundwater recharge areas, and river corridors (DNR Rules for Environmental Planning Criteria). As shown in Figure 37, Peachtree Corners has all of these features, so parts of the City's development will be subject to these requirements.

STREAM BUFFERS AND SETBACKS

A water supply watershed, as defined by the Georgia Department of Natural Resources, is land in a drainage basin upstream of governmentally owned public drinking water supply intake. Peachtree Corners has land in two large (greater than 100 square miles) water supply watersheds as defined by the DNR. The Georgia Department of Community Affairs has special requirements for cities on water supply watersheds. Their criteria, which include buffers around streams and maximum densities of pervious surfaces, are intended to allow cities to develop within these watersheds while maintaining a supply of water clean enough that it can be treated to drinkable standards. The city may exempt existing land uses and mining activities from provisions of water supply protection plans, and it may exempt utilities and agriculture from the stream buffer and setback requirements of these plans under certain conditions. Land within 7 miles of the reservoir must maintain a 100' stream buffer around all perennial streams, and no impervious surfaces, septic tank, or septic drainfield may be constructed within 150' of a perennial stream bank. Because one of the water supply watersheds feeds the Quarles Water Treatment Plant, which draws water from the Chattahoochee, these requirements apply to a large portion of the city. In addition, new facilities that handle hazardous materials must do so on impermeable surfaces with spill and leak collection systems that comply with DNR requirements.

In addition, Gwinnett County's stream buffer ordinance, which restricts development with a 50' buffer and setbacks for an additional 25', applies to all the perennial streams in Peachtree Corners.

See Figure 38 for a map of these buffers and setbacks.

Chattahoochee River
Protection Corridor

Vegetated land cover:
3,430 acres

Freshwater *ponds*: **26**

Acres of land within a 100-
year *floodplain*: **632**

GROUNDWATER RECHARGE AREA

A large portion of Peachtree Corners is within a groundwater recharge area. In the Piedmont region of Georgia, most groundwater is stored in overlying soils, particularly those with thicker soils such as the one outlined in Figure 38. To protect our groundwater from pollution, DNR has implemented regulations regarding landfills, hazardous waste disposal, chemical storage, agricultural waste, septic tanks and drain fields, wastewater irrigation and spreading, permanent storm infiltration basins, and new wastewater treatment basins.

Communities seeking to promote water supply protection measures could seek low impact development and other techniques for increasing on-site infiltration of stormwater within groundwater recharge areas.

CHATTAHOOCHEE RIVER CORRIDOR

The Chattahoochee River defines the City's northern boundary. The Metropolitan River Protection Act (MRPA), a state law passed in 1973, instituted a 2000-foot protection corridor along both sides of the Chattahoochee River. Any land disturbance within this corridor must comply with the Chattahoochee Corridor Plan, which includes limits on land use and impervious surfaces. It also establishes a 50' buffer and a 150' impervious setback from the river bank.

WETLANDS

As seen in Figure 38, Peachtree Corners has several different types of wetlands. According to DNR rules, local governments must consider wetlands in their planning decisions, mapping and identifying them in land use plans. DNR outlines a number of considerations that must be addressed and the minimum types of wetlands that the city must identify. And under federal policy, development should not alter or degrade wetlands without showing that there will be no adverse impacts or net loss of wetlands.

FLOODPLAINS

632 acres in Peachtree Corners are within the 100 year floodplain, which means that the probability of an annual flood in these areas is 1%. Most of these areas are either along the Chattahoochee River or along streams in the southwestern part of Peachtree Corners (see Figure 38). Within these floodplains, construction may not alter the area's flood characteristics or create hazardous velocities of water. Development in the floodplains is restricted to public parks, agriculture, dams, bridges, parking areas, public utility facilities, and outdoor storage (Gwinnett Unified Development Plan).

TERRAIN

TOPOGRAHY AND STEEP SLOPES

Peachtree Corners is characterized by gently rolling hills, for the most part. The city's elevation ranges from approximately 872 feet above sea level, at the river, to 1,142 feet above sea level (see Figure 40).

As shown in Figure 39, there are no slopes over 30% in Peachtree Corners, but there are some areas where the topography is steeper than a 12% slope, especially close to the Chattahoochee River. Gwinnett County restricts development on slopes greater than 12%, and site grading for cut and fill has a maximum slope of 2:1 (Gwinnett Unified Development Plan). These regulations protect ground from erosion and streams from excess sedimentation.

Figure 39. Gwinnett County Steep Slopes

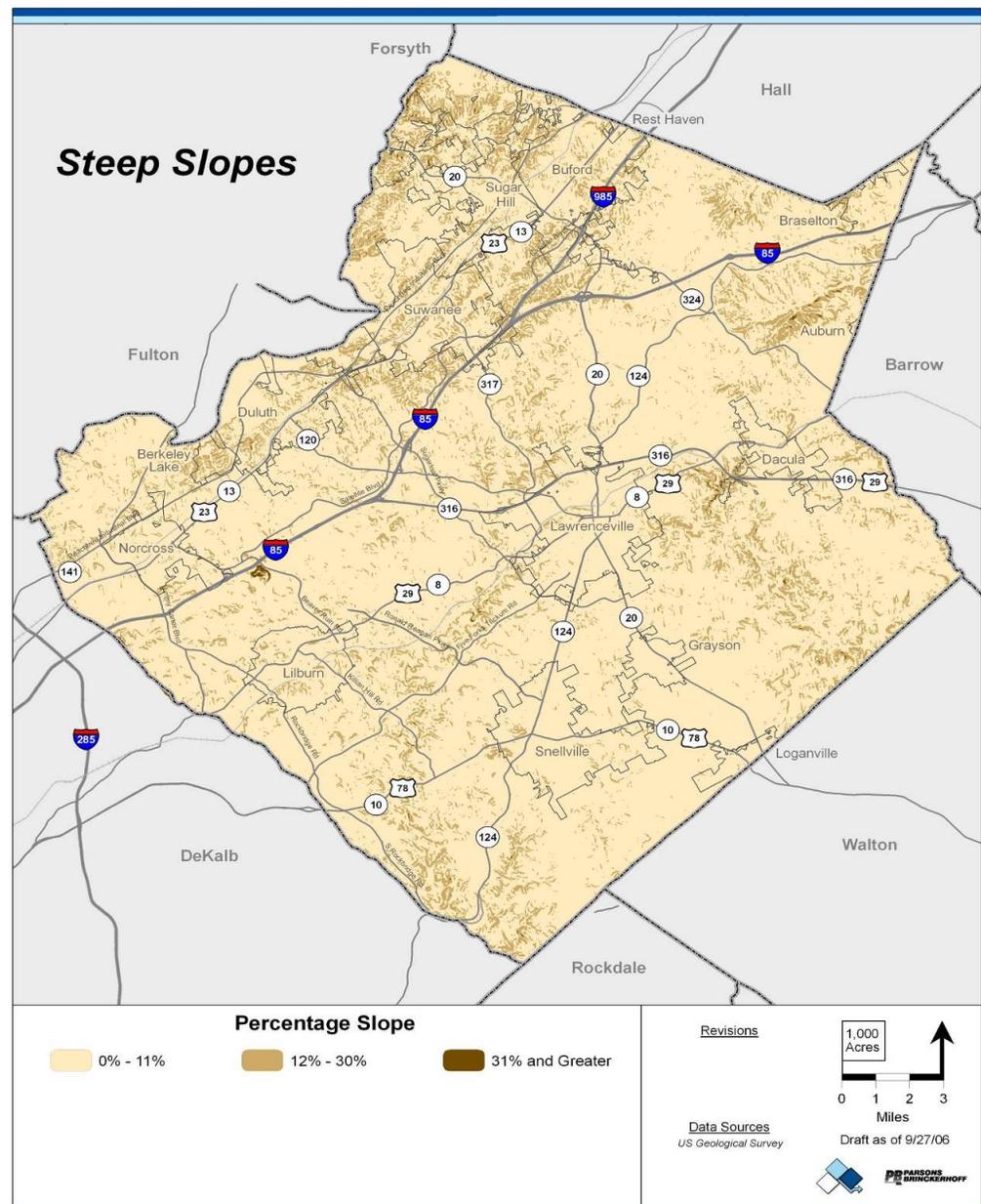
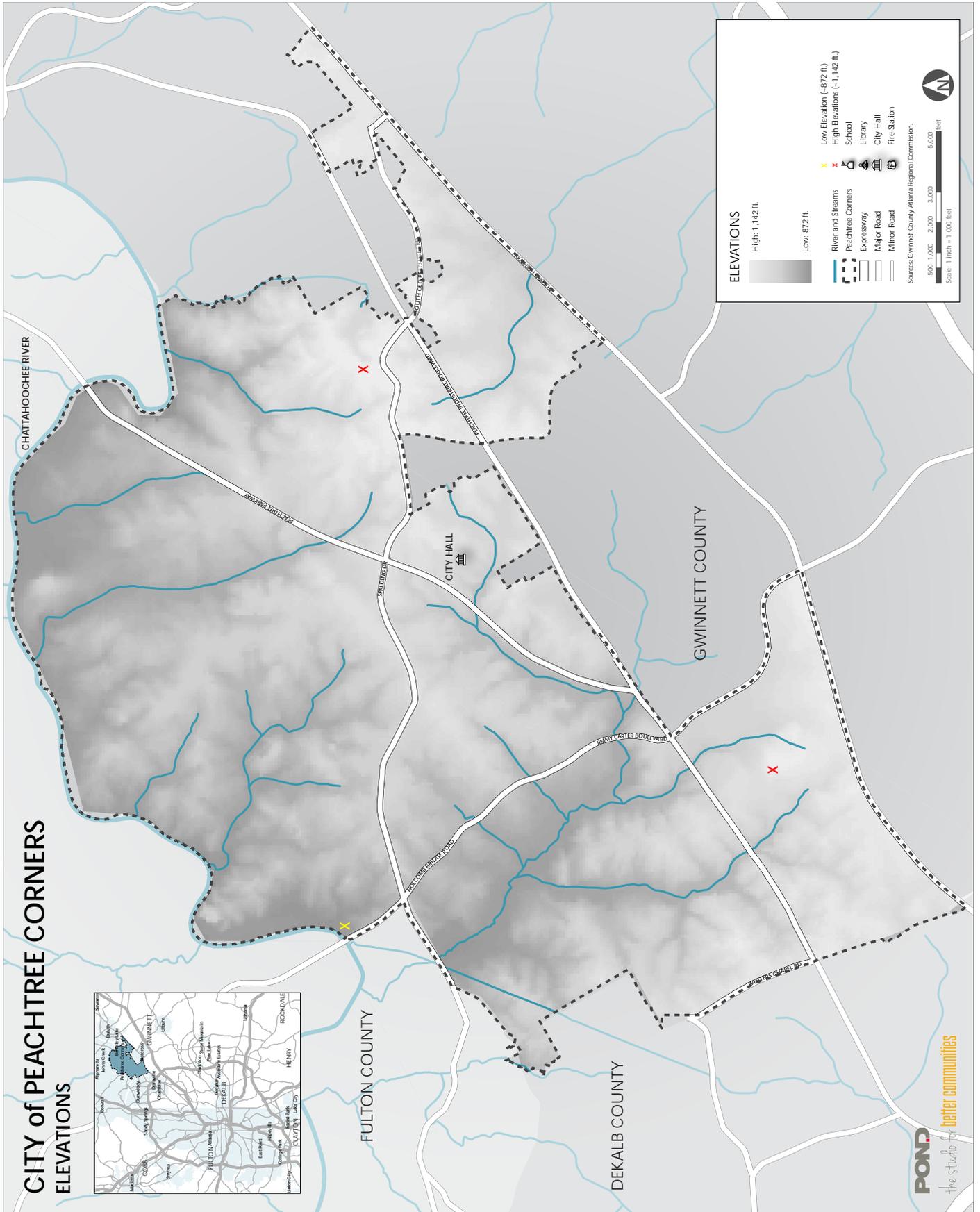


Figure 40. Map: Elevations

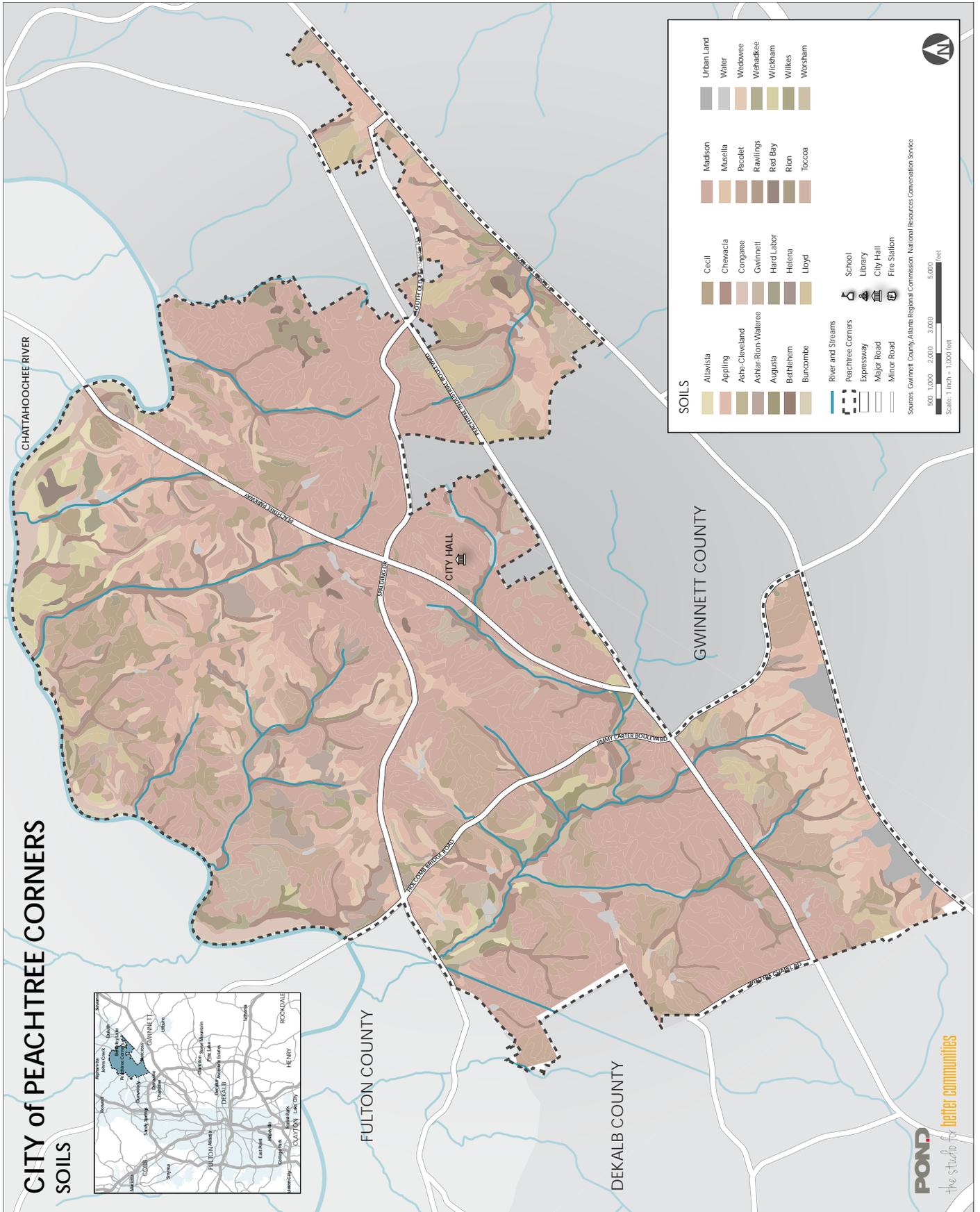


SOILS

See Figure 41 for the National Resources Conservation Service soil survey of Peachtree Corners. The primary soil type in Peachtree Corners is Madison. It, and many others found in Peachtree Corners, are found both on land cultivated with a wide range of crops and in pine forests. They are also suitable for construction and land development.



Figure 41. Map: Soils



The neighborhoods of Peachtree Corners have an extensive, beautiful tree canopy that contributes to the City's character, reduces the heat island effect, and reduces stormwater runoff.



LAND COVER

Peachtree Corners has a large amount of tree cover and vegetated ground. Figure 42 shows the amount of vegetation land cover as determined through remote sensing techniques. Peachtree Corners has roughly 3,430 acres of vegetated cover, which is over one third of the land in the City. A lot of this vegetation is concentrated around the Chattahoochee River and the City's streams. The City's residential and vacant parcels also highly vegetated. Further south and in the more commercial and industrial parts of Peachtree Corners, more of the land cover is paved or otherwise impervious. While stream and wetland protection limit development, the natural environment exists as a great asset to the City, supporting a beautiful, healthy community.

SUMMARY OF NATURAL RESOURCE EXISTING CONDITIONS

NEEDS

- The **Chattahoochee River** is a tremendously underutilized community asset. There is not enough public access to the river, and the access points that do exist are limited and difficult to find.
- Peachtree Corners does not participate in any land conservation programs, either at the state or national level or on its own. There is a large amount of **vegetated land** in the City, which is currently unprotected.
- **Wetlands and streams** are at risk by land development patterns.

OPPORTUNITIES

- The City has the opportunity to ensure that its policies acknowledge and protect limited natural resources, including **water, land, and the tree canopy**.
- Stormwater regulations can preserve the high amount of **pervious land** that Peachtree Corners currently has.
- A **plan for the vacant parcels** on the Chattahoochee could increase access, water quality protection, and recreational opportunities along the river.
- Stream buffers and undeveloped flood zones, which are required in the County's development regulations, could be converted to **accessible community greenspace**.
- Gwinnett County is in the process of updating its Greenways Master Plan, creating opportunities to pursue grants and financing for **multi-use greenway trails**.
- Parks and greenspace can be used to naturally retain and treat stormwater, reducing runoff.
- The City can explore ways to introduce **alternative energy production**.