

AREA-WIDE ELEMENTS

ENVIRONMENT

The planning area is located primarily in the northwestern headwaters of Rock Creek. Residentially developed in the east, the land remains gently rolling woodland with several stream valleys running through it. Earlier planning efforts have established a series of stream valley conservation parks primarily within the residential areas.

In the planning area's western portion, industrial and commercial land uses have significantly affected natural environment. The Sector Plan seeks to guide development of the Shady Grove Metro area as it changes from a light industrial to a mixed-use, transit-oriented community. This major land use change creates opportunities to improve the environmental setting while recognizing the transportation and overall environmental benefits of locating residential development within walking distance to the Metro.

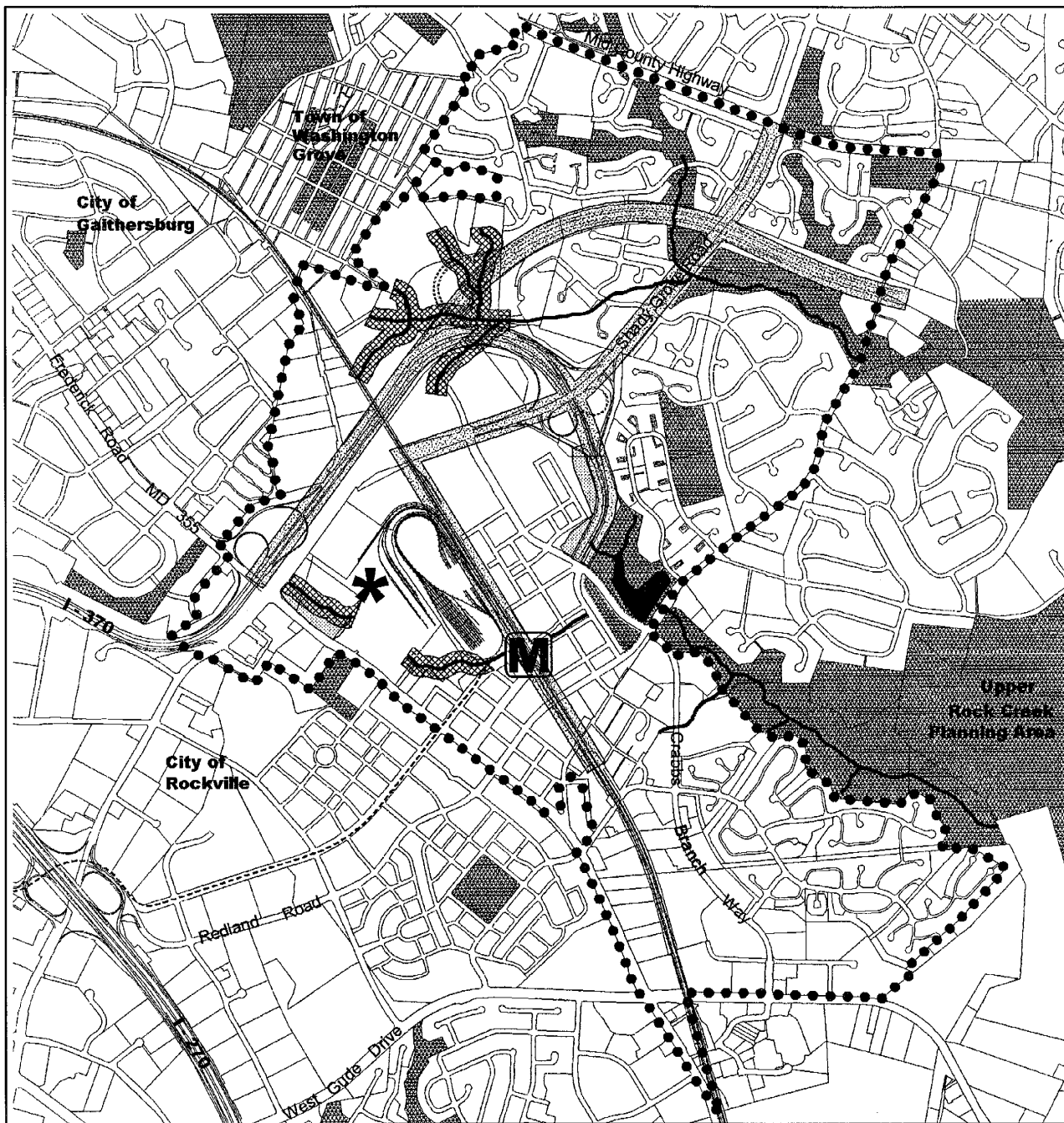
Objectives









- Create a green network of urban parks, recreation parks, linear promenades, and tree-lined streets within the mixed-use communities in the Metro station area to complement the network of natural areas.
- Retain existing green infrastructure and remaining forest cover, and expand the network of natural areas to improve water quality and habitat conditions.
- Protect remaining high quality wetlands and adjoining habitats and improve degraded wetlands by reducing impervious areas and increasing parkland within the Metro Neighborhoods.
- Improve water quality by protecting streams and wetlands and by implementing innovative environmental policies and practices.
- Recommend innovative solutions such as green roofs, green buildings, and low-impact development (LID) technologies as well as collective off-site stormwater retrofit and stream restoration measures that enhance natural systems.
- Mitigate negative environmental impacts, such as noise created by transportation and industrial uses, on existing and future residential communities. Where possible, provide land uses and landscape features that shield residential uses from transportation and industrial noise impacts.
- Develop strategies to reduce air pollution and odors. Mitigate adverse environmental impacts on air quality.

Concept

Environmental quality is an important component of quality of life, but more so in intensively developed areas affected by the noise, air quality, temperature, and glare that can result from the built environment. This Plan seeks to create a greener community, protecting and restoring existing wetlands and stream valleys while expanding parklands and extensively landscaping the built environment. This Plan strives to accommodate a mixed-use community while maintaining and improving the environmental integrity of the area's forest resources, water quality and stormwater quality management, and noise and air environments.

Environmental Protection and Restoration Concept



-  Noise Mitigation
 -  Environmental Buffers
 -  Forest Reserve
 -  Streams
 -  Parkland
 -  Odor Control Initiatives
 -  Shady Grove Sector Plan Boundary
 -  Corridor Cities Transitway
- Note: Buffers not to scale



Forest Conservation

The green infrastructure of the Crabbs Branch stream valley of Rock Creek has been significantly modified by development. The proposed mixed-use community with new parkland provides an opportunity to restore portions of the system to more natural conditions. Zoning requirements and urban forest conservation standards will create landscaping and tree planting opportunities in the planning area as part of the redevelopment process.

The County's Forest Conservation Law requires that forest and tree conservation be an integral part of all development projects. Forest conservation measures include avoiding or minimizing tree clearing and replacing removed trees. A major focus of the legislation is to retain or plant trees in priority environmental areas such as stream buffers. When this is not possible, required planting may be done off-site but preferably in the same watershed. Payment to a County fund for reforestation projects is acceptable in lieu of planting, as a last resort.

The Forest Conservation Law also requires that 15 percent of any development site be replanted in forest (an area 10,000 square feet or more and 50 feet or more wide, or an area planted at a density of 200 trees per acre). While waivers may be granted to allow tree cover to be used as forest on any site, this Plan recommends that requirements be fulfilled off-site in the Crabbs Branch watershed in forest reserve areas that will be set aside for this purpose. This Plan recommends:

- Integrating compliance with the Forest Conservation Law at the earliest stages of the development process.
- Enhancing the natural environment in Shady Grove by creating green open space as part of landscaping and forest conservation requirements.
- Encouraging the State Highway Administration to use some of their off-site planting requirements in the Shady Grove planning area, specifically in the I-370 right-of-way, and permit others to reforest this area as well.
- Designating forest reserve areas within the planning area to facilitate off-site reforestation requirements (see Environmental Protection and Restoration Areas). Forest reserve is recommended in three areas:
 - A significant forest buffer along the Metro access road when the park maintenance and school bus depot facilities are relocated. The need to achieve a significant buffer may be limited by the need to develop this area with housing units within walking distance of Metro.
 - The environmental buffer along each side of the stream on the Casey 3 site. If additional area is needed, expand the planting area to include the remainder of the property between the stream and MD 355.
 - The environmental buffer along each side of the stream immediately south of the Solid Waste Transfer Station. Retain as much additional forest as possible in the area adjoining the buffer while accommodating the need for a potential WMATA parking garage.

Water Quality and Stormwater Management

The planning area is located primarily in the Upper Rock Creek Watershed and straddles three subwatersheds. Land in the Upper Rock Creek Watershed is designated as Use IV, suitable for the support of a put-and-take trout population. While streams within the planning area do not support trout, downstream areas in Rock Creek Park do and the maintenance of the planning area's water quality is essential to keeping downstream conditions viable.

The stormwater management ponds on either side of Crabbs Branch Way at Needwood Road currently mitigate some impacts from upstream imperviousness and have adequate capacity for anticipated flood and erosion impacts from redevelopment of the Metro station area. Any new development or

redevelopment will require improvements to water quality on each site as it develops, in conformance with the County's stormwater management requirements. Low-impact development techniques would be useful in attaining improvements to water quality, and their application is encouraged.

Redevelopment of the planning area also presents opportunities for stream restoration work in the Metro station area. These efforts should be coordinated with the Montgomery County Department of Environmental Protection's recently completed *Rock Creek Watershed Feasibility Study* (2001). This Plan recommends:

- Reforesting the buffers along the Use IV tributary of Upper Rock Creek, on Casey Property 3.
- Protecting the stream buffer and retain as much additional forest as possible where this stream resurfaces east of the Solid Waste Transfer Station.
- When the park maintenance facility and MCPS bus depot are relocated to accommodate residential development, recreate the stream that formerly ran west of the existing Metro access roadway.
- Increasing landscaping wherever feasible, and encourage the use of low-impact development techniques, green roofs, parking lot planting, and other initiatives to address stormwater quality without occupying land needed for development.
- Designing the passive recreation area at the stormwater management ponds to preserve the ponds' and reforestation areas' environmental functions. Work with the County Department of Environmental Protection.

Wetlands

There are about 40 acres of wetlands in and immediately adjacent to the planning area. Some are on privately owned land north of I-370, near the intersection of Shady Grove Road and MD 355, and within the ICC right-of-way. The remaining wetlands are in parkland at Crabbs Branch and Rock Creek. This Plan recommends:

- Protecting high quality wetlands by maintaining or managing the land and adjoining habitats as natural areas. Intrusions into these natural areas by man-made features, including paved paths or trails, should be avoided as much as possible.
- Wetlands and associated buffers on developable or re-developable properties, at a minimum as defined in the *Environmental Guidelines*, should be protected through the application of conservation easements or through public ownership as parkland.
- Do not use natural wetlands as controls for stormwater runoff from developed land.
- Compiling a detailed inventory of the planning area's degraded wetlands and identify opportunities for restoration and enhancement.
- Mitigating the unavoidable wetland impacts of development with programs such as publicly funded stream restoration projects, volunteer projects, or developer funded off-site improvements.

Noise

Excessive noise has a significant effect on the quality of life in any community, and particularly in Shady Grove, which has significant noise volumes from several sources. Shady Grove Road, MD 355, I-370, the CSX Railroad, Metro, and stop-and-go traffic contribute to noise, along with stationary noise sources such as Roberts Oxygen and the Solid Waste Transfer Station. The proposed ICC will be an additional significant noise source.

Montgomery County can mitigate and minimize the noise impact of both stationary and mobile noise sources. The noise ordinance regulates stationary sources such as heating and air conditioning units, construction activity, noise producing land uses, and neighborhood annoyances. The Planning Board uses master plan and regulatory review to implement noise reduction strategies and protect residential

properties from mobile sources. Strategies to minimize transportation noise on new development include compatible land uses, buffers, external mitigation techniques, and internal mitigation.

Effective noise control will ensure the sustainability of the planning area as a desirable place to live, work, and conduct business. Roads, streetscapes, residences, and public areas must be designed and located to maximize noise attenuation. This Plan recommends:

- Supporting noise-compatible site design along Shady Grove Road, MD 355, Metro and CSX rail lines, the Solid Waste Transfer Station, and Roberts Oxygen.
- Incorporating compliance with the Adopted County Noise Control Ordinance (Chapter 31B of the County Code) and the Planning Board's *Staff Guidelines for the Consideration of Transportation Noise Impacts in Land Use Planning and Development*.
- Providing noise walls along Shady Grove Road and I-370 if noise levels are found to exceed appropriate standards and guidelines.
- Incorporating noise berms and other mitigation strategies for residential uses along the Metro access road as part of redevelopment of the County and the M-NCPPC properties.
- Investigating the feasibility of eliminating the CSX train whistle as a noise source through CSX policy changes or changes in the at-grade crossing.
- Wherever possible, locating structured parking adjacent to CSX tracks to mitigate noise.

Air Quality

Montgomery County currently does not meet the National Ambient Air Quality Standards set by the Environmental Protection Agency, creating health concerns stemming from exposure to ground level ozone. The main sources of these pollutants are utilities and other industries, motor vehicles, small gasoline powered engines, and small businesses using solvents, cleaning solutions, paints, and insecticides. In the Washington region, motor vehicles account for 30 to 40 percent of the ozone.

After they are emitted, these pollutants can travel several miles before reacting to form ozone. Accordingly, multi-jurisdiction strategies are needed to address ozone. Montgomery County must continue ongoing initiatives to reduce emissions. At the master plan level, these initiatives should include transportation demand management strategies that encourage people to reduce motor vehicle trips and miles traveled. Providing residential units close to transit can contribute significantly to this reduction.

Odors emanating from the Solid Waste Transfer Station are an additional air quality concern in the Shady Grove Sector Plan area. This Plan recommends:

- Designating new development and redevelopment to minimize the need for motor vehicle trips.
- Limiting Metro parking to help improve air quality.
- Providing safe and convenient pedestrian and bicycle access to Metro, community retail centers, recreation, and employment areas within the Shady Grove planning area, and link this system to regional trail networks.
- Providing incentives for transit use to minimize single-occupant vehicle travel.
- Working with the Solid Waste Transfer Station to control odors by eliminating or relocating its yard waste processing area or through other innovative measures.