

Environmental Concerns

The Plan for the Gaithersburg Vicinity Area reflects an analysis of environmental constraints and assets. The components of the analysis include soil conditions, water quality and quantity, noise attenuation, energy efficiency, and water and sewer systems. The results of site specific analyses are incorporated in the Land Use and Zoning Recommendations Chapter, and additional background information is contained in the Technical Appendix.

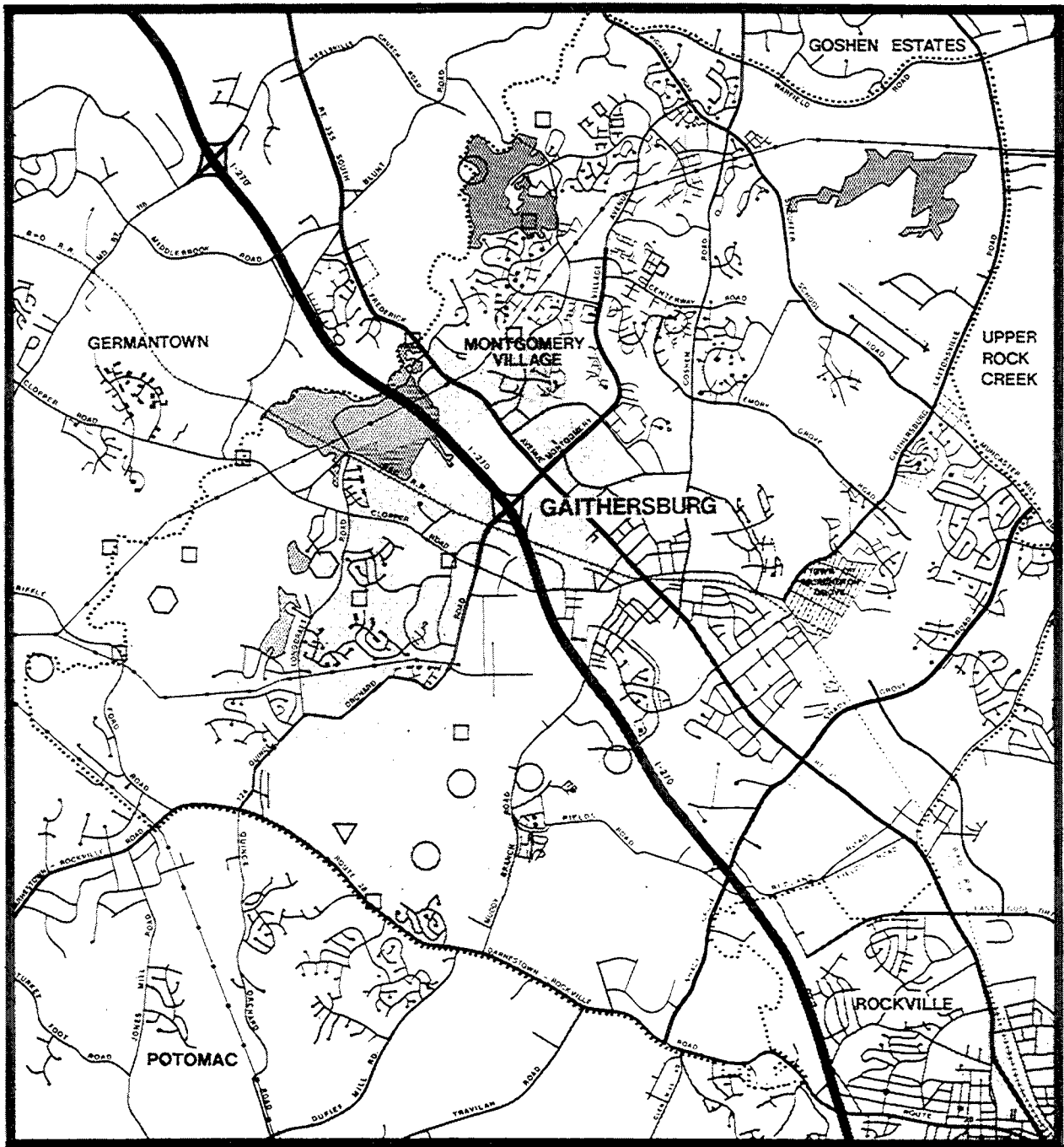
GOALS AND GUIDELINES

To protect and preserve the area's natural and environmental resources, this Plan recommends the following:

- Maintain the Planning Area's natural features, particularly stream valleys and other environmentally sensitive areas.
- Maintain the recreational and scenic qualities along Great Seneca Creek.
- Assess and control the environmental impacts of development to preserve natural features and ecological quality.
- Provide a system of stormwater management facilities in developing areas.

ENVIRONMENTALLY SENSITIVE AREAS

Areas which are considered "environmentally sensitive" due to their sensitivity or lack of adaptability to man-made or natural changes are shown in figure 32. The headwaters portion of a stream basin is generally considered to be the most environmentally sensitive. Development in headwater areas can magnify water pollution and flooding impacts at downstream locations. The Planning Area includes the headwater portions of the following streams: Cabin Branch, Whetstone



ENVIRONMENTALLY SENSITIVE AREAS

..... Planning Area Boundary	□ Fish Sampling Stations
▭ Municipalities	○ Wildlife Habitat
SOURCE: Seneca Creek/Muddy Branch Functional Plan And Associated Inventories	▽ Water Fowl Sanctuary
	⬡ Unique Vegetation
	▨ Mature Woodlands

APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN
Montgomery County Maryland

January, 1985

NORTH

Fig. 32

Run, Long Draught Branch, Rock Creek, Muddy Branch, Piney Branch, and Watts Branch. Wherever possible, lower development densities are recommended for these areas.

As a "corridor city," Gaithersburg can expect additional residential and commercial/office development. However, only land uses utilizing best management practices are considered acceptable from an environmental perspective in these sensitive areas. Any relaxation in the application of these practices would adversely affect stream quality.

Environmentally sensitive areas also include aquatic and wildlife habitat, wetlands, mature woodlands, and unique vegetation. Both the Functional Master Plan for Conservation and Management in the Seneca Creek and Muddy Branch Basins (referred to as Functional Plan) and Seneca Phase II Watershed Study indicate various major areas recommended for protection. These recommendations are incorporated by reference in this Plan and are generally reflected in the recommendations in the Land Use and Zoning Recommendations Chapter.

Stormwater Management Recommendations

The recommendations in the Functional Plan use both the preventative approach--which manages the watershed to prevent problems before they occur--and the remedial approach--which attempts to solve existing problems. The Functional Plan includes such recommendations as:

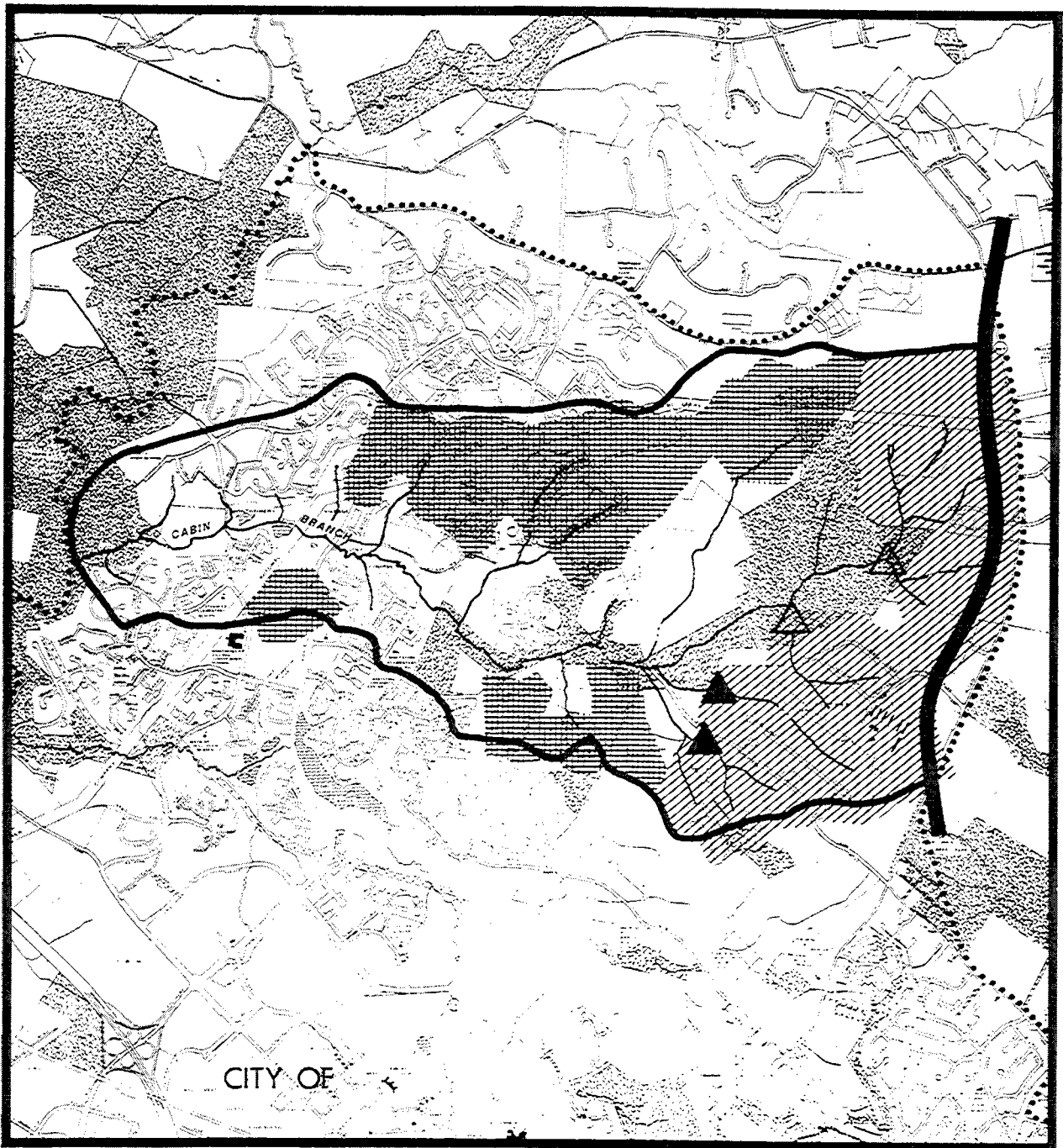
- The provision of small and large scale stormwater management facilities.
- The acquisition or dedication of park and conservation areas.
- Structural improvements to bridges and conveyance systems.
- Structural improvements to protect developed areas subject to flooding.

Single-purpose stormwater management studies have also been completed for the study areas. Cooperative efforts between the County Department of Environmental Protection (DEP) and the Montgomery County Planning Board have produced the Shady Grove Study Area Preliminary Stormwater Management Plan and the Cabin Branch Sub-watershed Stormwater Management Plan, which covers much of the Airpark Study Area. The locations of facilities identified in the Cabin Branch study are shown in figure 33.







Each study provides the technical documentation and justification for possible stormwater management facilities for these developing basins. The urban design plan for Shady Grove West (described in the Land Use and Zoning Recommendations Chapter) incorporates the findings of the former study; the facilities are conceptually located so that they may also function as scenic amenities. More site-specific analyses, with respect to cost-effectiveness, would be needed prior to their inclusion in the County's CIP.

Watershed Development Guidelines

Site-specific analysis of each property is beyond the scope of this Plan. However, general recommendations which should be used as a guide to such analysis before development plans are formulated and submitted for development review are included in the Technical Appendix.



CABIN BRANCH STORMWATER MANAGEMENT PLAN*

-  Existing Central Stormwater Management Structures
-  Proposed Central Stormwater Management Structures
-  Area Controlled By Existing And Proposed Onsite Stormwater Management Facilities
-  Area Controlled By Existing And Proposed Central Stormwater Management Facilities
-  Planning Area Boundary
-  Watershed Boundary

* Information Provided By County Department Of Environmental Protection

APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN
 Montgomery County Maryland

January, 1985



Fig. 33

NOISE CONCERNS

Since high noise levels restrict certain types of human activity, each land use category has certain limits which should not be exceeded if the land use is to maintain its proper function. Guidelines and development policies should be based on these natural limits. This Plan recommends the reduction of noise impact through the use of setbacks, building placement and design, and noise performance guidelines enforced through the subdivision and site plan review processes.

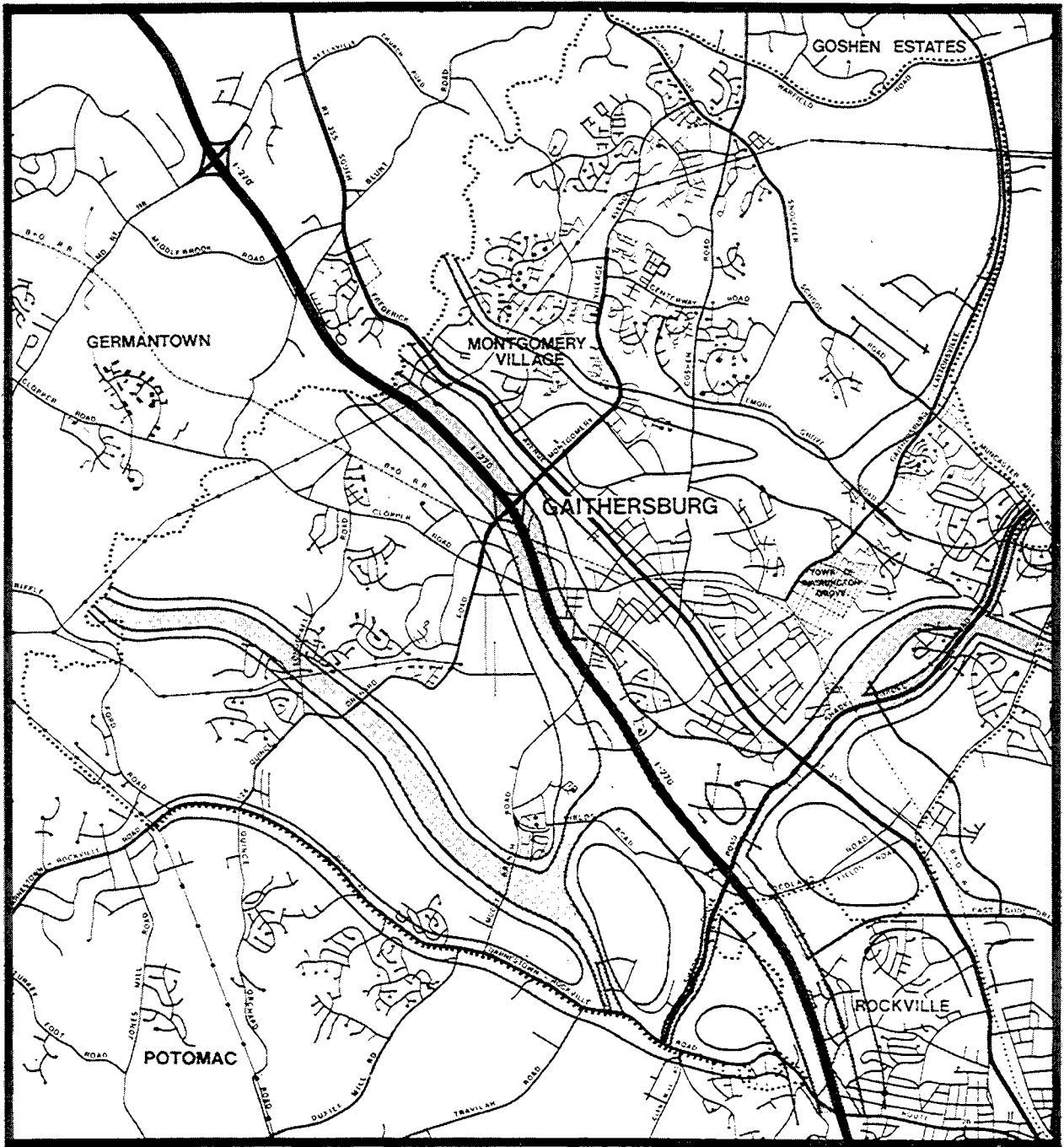
Transportation Noise

There are a number of roads, both existing and proposed, which will impact development of the vacant parcels in the study areas. Shady Grove West, I-370 and relocated MD 28 present the major noise impacts while Smokey Glen and the Airpark Study Areas will respectively be subjected to noise emanating from Great Seneca and Midcounty Highways (Eastern Arterial).

The responsibility for provision of noise mitigation measures must be a joint effort of highway agencies, land use planning agencies, and private developers. As a general policy, the design of new and reconstructed highways will include evaluation of noise attenuation measures to protect existing and approved developments. Cooperation and coordination of the abovementioned agencies and private developers are essential to the provision of cost-effective highway noise mitigation. The M-NCPPC, for its part, will continue to include noise as a consideration throughout the land use planning and development approval processes. New development near existing highways shall utilize the techniques listed below to achieve the 60 dBA L_{dn} level.


- Encourage development of compatible land uses (commercial, office, industrial, recreation, and open space) through the planning process.
- Develop high noise areas with site-specific, noise-compatible land uses such as parking lots, garages, storage sheds, recreation areas, open space, stormwater management facilities, or any other use that allows noise-sensitive residential dwellings to be placed away or buffered from highways.
- Construct landscaped berms or man-made barriers such as walls or acoustical fencing to reduce noise to acceptable levels.
- Orient multi-family and other attached structures so that the facade acts as a barrier and buffers private outdoor areas (patios) from roadway traffic.
- If measures designed to produce suitable exterior noise environment are infeasible or insufficient, interior levels of 45 dBA L_{dn} should be maintained through acoustical treatment of the building shell.
- Encourage notification of future residents in noise-impacted areas.


The Projected Roadway Noise Contours map (see figure 34) provides a general indication of areas of maximum possible roadway noise impacts, based on traffic conditions with ultimate development as recommended in this Plan. These contours do not take into account potential attenuation through natural or man-made features. A table showing projected noise contours at ultimate development for selected roadways is included in the Technical Appendix.



PROJECTED ROADWAY NOISE CONTOURS

..... Planning Area Boundary

 Areas Exposed to Traffic Noise Levels of at Least 60 dBA.Ldn

 Areas Exposed to Traffic Noise Levels of at Least 65 dBA.Ldn

Note:

Only Impact Areas Extending at Least 370 Feet From Centerline of Road Are Plotted.
Boundaries of Impact Areas Are Approximate

APPROVED & ADOPTED GAITHERSBURG VICINITY MASTER PLAN
Montgomery County Maryland 

January, 1985



Fig. 34

Noise impacts in Gaithersburg are compounded by noise from the B&O Railroad, which passes through the city. Although most of this corridor has already been developed, there are undeveloped parcels adjacent to the railroad along Clopper Road and Shady Grove Road. Train passbys produce the most significant noise peaks in the area, ranging from 80-90 dBA at 150 feet. Several at-grade crossings through the city of Gaithersburg require the sounding of a warning whistle which produces peaks from 95 to 105 dBA at 50 feet. In most instances, intervening non-residential development will alleviate the effect of these levels to some degree. For the undeveloped parcels, this Plan recommends the same solutions listed for highway noise plus a minimum building restriction line of 100 feet from the tracks, due to a vibration hazard (as recommended by U. S. Department of Housing and Urban Development).

Aviation Noise

The future use of the Airpark is of critical importance in the determination of appropriate land uses in its vicinity. Noise impacts and safety concerns, due to aircraft overflights, should be the major land use determinants for areas in proximity to the ends of the runway.

The Plan has devoted a portion of the Land Use and Zoning Recommendations Chapter to a discussion of the Airpark and its effect on land use in the vicinity. This Plan recommends approval and implementation of the State Aviation Authority's "Noise Zone" as a comprehensive framework for making the Airpark a "good neighbor."