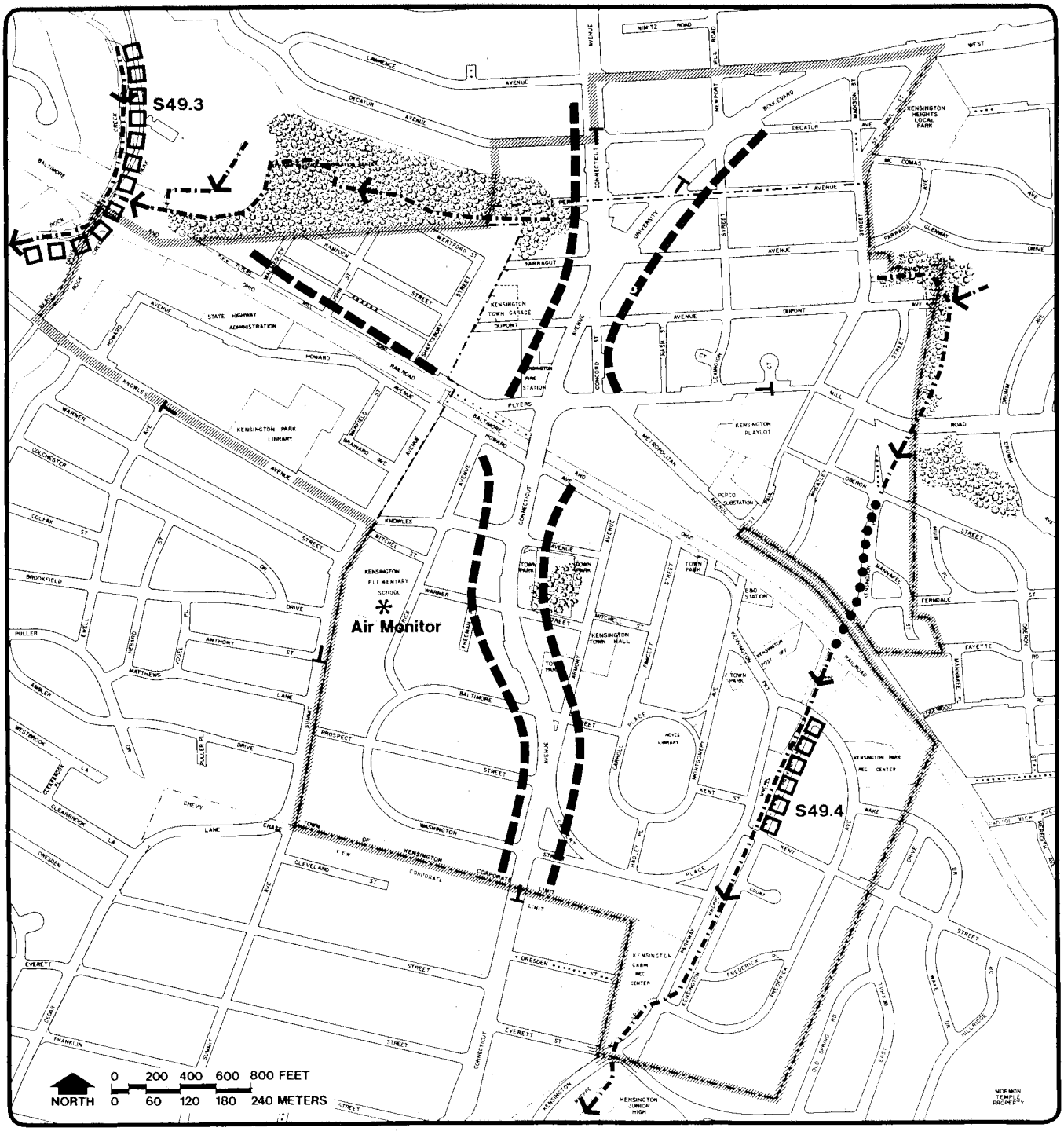
THE ENVIRONMENT 8



ENVIRONMENTAL CONCERNS

- Sewer Projects
- S49.4 W.S.S.C. Project Number
- 70dbA Noise Contour
- Streams ●●●● Underground Pipe
- Peak Hour Traffic Back-ups
- Wooded Parcels

KENSINGTON

SECTOR PLAN BOUNDARY
TOWN OF KENSINGTON BOUNDARY

MNCPPC

MAY 1978

18 FIGURE

SECTOR PLAN KW PLANNING AREA

8. THE ENVIRONMENT

8.1 INTRODUCTION AND GENERAL RECOMMENDATIONS

This portion of the Sector Plan is an assessment of the environmental character of the Kensington Sector Plan Area. Natural systems, noise, air quality, and sewerage facilities have been analyzed through the use of aerial photos, soils and geology maps, and traffic data. Two field inspections were made, including one with a Soil Conservation District staff member.

The Kensington and Vicinity Sector Plan Area is substantially urbanized; as a result, the character of the natural environment and the issues differ from those in an undeveloped area. The central part of Kensington along Connecticut Avenue and the B & O Railroad is extensively covered with impervious surfaces. Two major streams which flow into Rock Creek traverse the area: one parallels Kensington Parkway and the other is located north of Ken-Gar. Wooded parcels and steep topography are associated with these streams. Noise and air quality problems associated with high traffic volumes occur along the major roadways which cross the area. Noise is also a problem along the B & O Railroad. Figure 18 is a composite of information identified for this analysis.

The following general recommendations for the Kensington Sector Plan Area are aimed toward maintenance of the environmental quality of the area. Detailed environmental analysis and recommendations are contained in the text following these general recommendations.

- Two parcels of land have been identified as severely constrained for development purposes. Special measures will be required to protect these sensitive natural areas.

- Land uses supportive of mass transit use as well as roadway improvements and improved traffic management are needed to minimize congestion and vehicle volume to alleviate noise and air quality problems.

- Special design and environmental protection measures are recommended in specific situations to minimize noise, soils, and stormwater problems and to protect certain trees and wooded parcels.

8.2 NATURAL SYSTEMS

Natural systems analyzed include vegetation, stream flow, soils, geology, and wildlife. A particularly noticeable impact of urbanization is flooding and stream erosion. This results when impervious surfaces cover the land and increase stormwater runoff.

8.21 Soils

The principal soil groups found in the Kensington area include the following silt loam soils: Manor, Glenelg, Glenville, Worsham, and Elioak. The most extensive soils found in the area are Manor and Glenelg (MdB2 and GhB2). These soils are moderately eroded and have slopes of 3 to 8 percent. MdB2 and GhB2 soils are

generally well suited for urbanization and provide only slight limitations for construction.

Potentially severe construction problems are associated with soils found primarily in the eastern and southeastern portions of the Sector Plan Area along Kensington Parkway and the parallel tributary to Rock Creek. The Worsham and Glenville silt loam soils found in this area have a seasonal high water table and may result in temporary ponding of water. These soils are susceptible to frost action and may cause wet basements or foundations. Worsham and Glenville soils should be avoided for new construction requiring basement or deep excavations.

Several small areas having moderate limitations for urbanization are located in the northwestern and eastern portions of the Kensington area. Limitations in these areas result primarily from steepness of slope ranging from 8 to 25 percent. These Manor soils (MdC2 and MdD2) are highly susceptible to erosion and siltation during construction and lawn establishment. Particular care should be taken to prevent excessive sedimentation of streams during construction. Where construction in these areas does occur, large open areas should be reseeded immediately upon completion of grading operations. Spoil piles should be covered with plastic or other suitable protective material.

8.22 Geology

The principal bedrock types found in the Kensington area are schist and gneiss. The surface materials associated with these bedrock types are generally well drained. Construction in these areas is generally well suited where the thickness of overburden[14] is adequate.

In the central portion of the Sector Plan Area along and to the west of Connecticut Avenue the thickness of overburden is over 50 feet but this decreases towards the eastern and western peripheries. There are limited areas in the vicinity of Rock Creek Park and Kensington Parkway where the overburden is very thin.

The generally moderate to thick well-drained overburden of the area as a whole provides an opportunity for the construction of major structures without the requirement of noisy, costly, and time consuming rock blasting.

8.23 Hydrology and Vegetation

Much of the natural movement of water through the Kensington area has been altered by development. Natural water along parts of Kensington Parkway has been covered and piped. In addition, the runoff from this area has increased substantially above natural conditions owing to the removal of trees and to increased urbanization.

In a natural condition, soils, trees, and plant roots absorb rainfall and tend to moderate the rate of runoff into the streams. When an area is urbanized, rainfall on rooftops, roads, and parking lots cannot be absorbed into the soil and must be

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[14] Overburden includes all soil, disintegrated rock, and unconsolidated materials between the surface and bedrock.

collected in storm drains and routed directly into streams. This increases the volume and velocity of receiving streams and increases the potential hazard of flash flooding. The base flow of Rock Creek has been substantially altered by the urbanization of the basin. The Montgomery County Department of Environmental Protection has indicated that portions of Kensington are served by a substandard drainage system. A major capital expenditure would be required to upgrade the present system to county standards. So long as no main changes in the extent of development are expected, a massive capital expenditure is not recommended.

The deep, well-drained surface materials in the central portion of the area could be utilized to help ameliorate runoff. Infiltration pits can be designed to allow the runoff to seep slowly into the soil and thus help to maintain an even base flow of streams. Rooftop storage and detention ponds with controlled release are other methods of abating runoff.

Trees, shrubs, and natural grasses are also important in reducing runoff and stream sedimentation. Much of the native vegetative cover has been lost during the urbanization process. It is important to protect the remaining vegetative cover from further degradation. It is suggested that a tree and shrub planting program be established for Kensington to aid in stormwater protection.

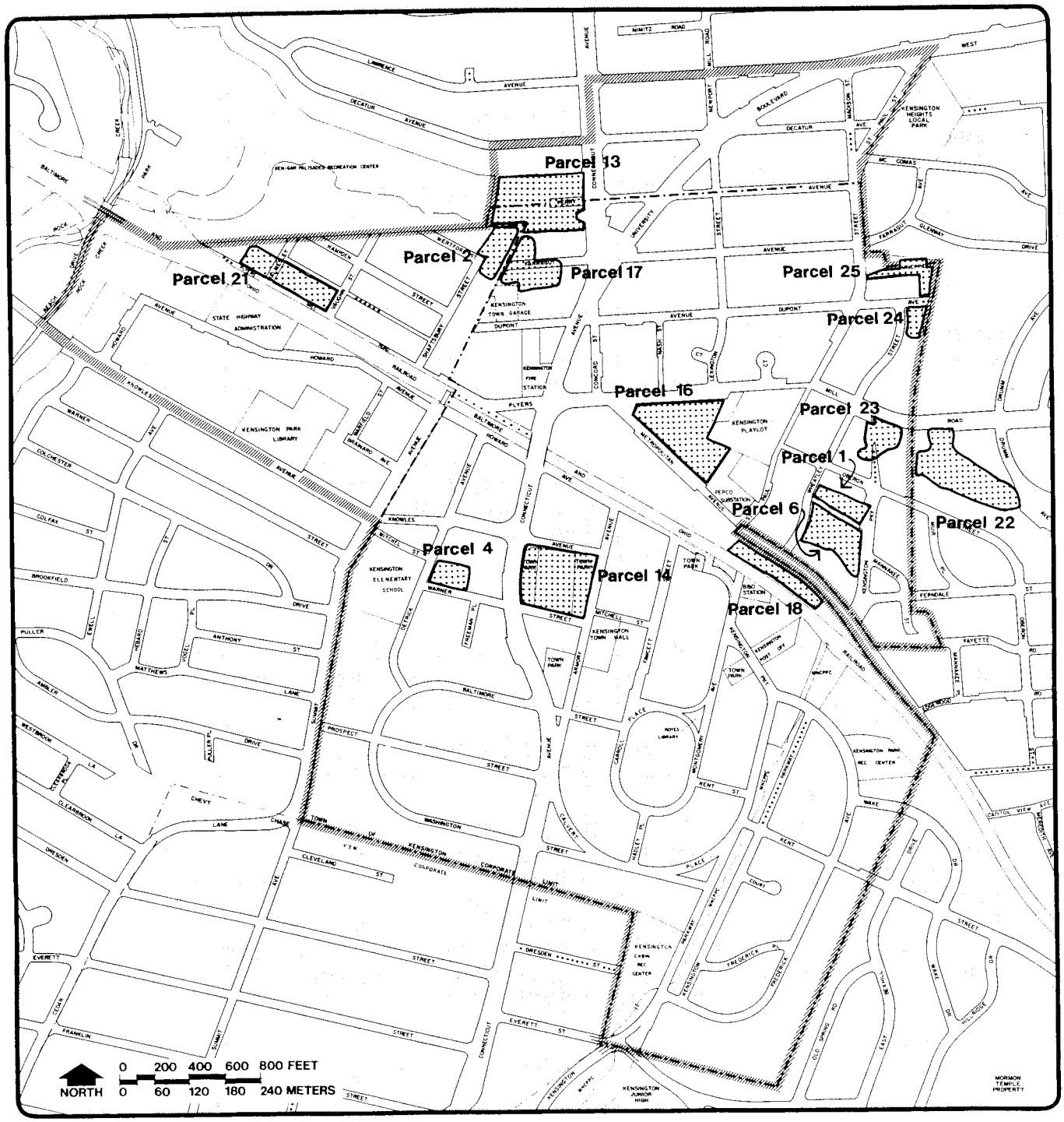
8.24 Parcel Analysis

Although the Kensington Sector Plan Area is extensively urbanized, there are a number of parcels which are important in terms of environmental evaluation (Figure 19). Many of these parcels are vacant and have not been developed owing to construction problems associated with slope, soils, and hydrology. The constraints noted in Table 26, and explained in the discussion of principal parcels, should be considered in future Planning Board actions such as site plan reviews.

Certain parcels are so environmentally sensitive that they should be viewed as severely constrained for development purposes. Options for use of such sites include public purchase for open space purposes or private development which minimizes the extent of site grading and disruption. The Planning Board should develop a policy and a related ordinance to control development uniformly on all such severely constrained parcels in the county. In the interim, the following criteria are proposed for use in reviewing the site plans for parcels 13 and 22 in the Kensington Sector Plan. (See Figure 19 for location of these two parcels.)

The applicant should provide information demonstrating a reasonable effort to meet the following criteria for use of severely constrained parcels 13 and 22:

- Avoid site grading on soil types with severe limitations as defined by the Soil Conservation Service "Soil Interpretations Guide for Urbanizing Areas."
- Avoid site grading on areas with a slope which is considered severely erodible by the Soil Conservation Service when associated with a given soil type. Grading on slopes over 15% should be avoided for parcels 13 and 22.
- Avoid disruption of wooded vegetation associated with the above soil and slope conditions.



PARCEL ANALYSIS

KENSINGTON

SECTOR PLAN BOUNDARY
TOWN OF KENSINGTON BOUNDARY

MNCPPC

MAY 1978

19 FIGURE

SECTOR PLAN KW PLANNING AREA

TABLE 26

SUMMARY OF PARCEL ANALYSIS

Parcel Number*	Description	Assessment	Comments
1	Single-family	Constrained, with possible limitations	Potential wetness problems
2	Open	Constrained, use stormwater control	Moderately erodible
6	Open, low area	Constrained, with possible limitations	Potential wetness problems
13	Wooded, steep, erodible soils, stream bisects	Severely constrained	Protect stream from erodible soils
14	Partial tree cover	Constrained, needs tree protection	Protect unusual trees
16	Open	Minimal constraints	Good soils and geologic features
17	Mixed vegetative growth	Minimal constraints	Minimal limitations
22	Extensively wooded, steep, stream bisects	Serverely constrained	Protect stream from erodible soils
24	Open, partial flat area	Constrained, use stormwater control	Protect stream from erodible soils

* See Figure 19 for parcel location.

- Provide plans which demonstrate the means of conforming with Montgomery County ordinances related to sediment control, slope stabilization, and stormwater control.

A summary of the parcel analysis[15] is presented in Table 26. The following is a discussion of the principal parcels in the Kensington Sector Plan Area:

- Parcels 1 and 6 - Between Kensington Parkway and Wheatley Street adjacent to the rear of the existing commercial area. These sites appear to be suited for development in terms of geology and soils. However, water may occasionally pond on these parcels due to probable previous excavation. This problem could be largely overcome by filling the low areas with indigenous soil. Careful engineering studies are required if structures are to be safely placed on filled material.

- Parcel 2 - Shaftsbury and Mertford Streets. The site has some constraints. The parcel has generally moderate slopes and has been denuded of most of its natural tree cover. However, the site is moderately to severely erodible and care should be taken to prevent on-site removal of the topsoil and grass cover during construction. Effective stormwater management practices must be utilized for final site design and during construction.

- Parcel 13 - Connecticut and Perry Avenues. The site is severely constrained for development purposes. The parcel is extensively wooded (almost two-thirds coverage) and is bisected by a tributary to Rock Creek. Access to the site, by extension of Perry Avenue, is hampered by excessive slopes (up to 15 percent or more). Almost half the site is on slopes of 20 percent or more. If development were to take place on this parcel, there would be a potential for negative hydrologic impacts. The site contains steep Manor soils which are susceptible to erosion if disturbed. Replacement of vegetative cover with impervious surfaces would increase stormwater flow to Rock Creek and the tributary without proper control measures. As a result, there is high potential for soil erosion, stream channel modification, and stream sedimentation. Because of access requirements and clustering limitations on small parcels, substantial grading and disruption is required for any land use which could reasonably be permitted on the parcel. Ideally, the site would be better left in a natural condition. However, it is unreasonable to expect a private landowner to forgo development of a piece of privately owned property. The Planning Board considered purchase of the parcel for a park, but ultimately rejected such purchase because of the proximity of already owned parkland. Since development must be permitted, the criteria for use of a severely constrained parcel (discussed above) should be followed.

- Parcel 14 - Block bounded by Connecticut Avenue, Knowles Avenue, Armory Avenue, and Warner Street. The site is generally well-suited for development in terms of geology and soils. The soils and surface materials are generally thick and well drained. However, a small area of poorly drained Glenville soils was observed on the southeast portion of the site. The

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[15] The parcel analysis included on-site evaluation assisted by the Montgomery Soil Conservation District staff.

principal environmental issue for Parcel 14 is the protection of the tree cover. This site has clusters of mature trees near the center. Several unusual evergreen trees were noted in this area. There is also an attractive row of mature trees located along the northern periphery of the site. A special effort should be made to protect as many trees as possible in any proposed site design.

- Parcel 16 - Plyers Mill Road and Metropolitan Avenue. The site is well-suited for development in terms of soils and geology. The soils and surface materials are generally thick and well drained. The slope of the area is moderate and trees are almost non-existent on the site.

- Parcel 17 - West end of Farragut Avenue. The site is located on Manor Silt Loam soil. The primary limitation is on sites with steep slopes; development should pose no problem as long as the development is restricted to an area of gentle slopes of 8 percent or less.

- Parcel 22 - Plyers Mill Road and Drumm Avenue. Although it is not in the Sector Plan Area, it is necessary to examine the site because of its influence on drainage patterns in the Sector Plan Area. The site is severely constrained for development purposes. It is bisected by a stream and has moderate to severe slopes with more than half being in excess of 20 percent. The silt loam soils (Worsham and Manor) on the site are fair to poor for residential development. Without proper engineering, the potential exists for poor drainage, wet basements, and settling of foundations. Almost all of the site is wooded, primarily with mature trees. The site would be better left in its natural condition as a means of erosion and stormwater control. However, it is unreasonable to expect a private landowner to forgo development of a piece of privately owned property. The Planning Board considered purchase of the parcel for a park, but ultimately decided against such purchase because of the recent acquisition of the Kensington Heights Local Park as well as the proximity of other parks and play facilities. Since development must be permitted, the criteria for use of a severely constrained parcel (discussed above) should be followed.

- Parcel 24 - Wheatley Street at Dupont Avenue. The site is basically suited for development. However, the slope is moderate and soils are easily eroded. Effective stormwater management practices must be incorporated for final site design and during construction.

8.3 NOISE

Noise, particularly related to increases in traffic volume and velocity, is becoming an increasingly significant irritant in the urban environment. As multi-lane highways pass through residential neighborhoods, an increasing number of complaints can be expected unless effective measures are taken to minimize noise impact. In a developed area such as Kensington, the development pattern is established, thus limiting control of noise to barriers, buffers, and control at the source. The use of insulating materials in new construction will help shield against unwanted noise as well as conserve energy.

It is recommended that the following measures be taken to reduce noise impacts in the Sector Plan Area:

- Improve traffic operating characteristics on Connecticut and Metropolitan Avenues to encourage consistent, moderate operating speeds for vehicles, particularly near residential areas.

- If possible, avoid residential uses in noise impacted areas. Support use of acoustical insulation, buffering, and site and architectural design to minimize impacts where residences are permitted in such areas.

- The following measures should be taken to alleviate railroad noise:

  -- Evaluate site and architectural plans of new units along Plyers Mill Road in Ken-Gar and near the railroad on Kensington Parkway for maximum noise reduction effectiveness. (See Parcels 1, 6 and 21, Figure 19). Sufficient accoustical insulation should be provided to reduce interior noise levels consistent with HUD and EPA standards, especially during nightime hours.

8.31 Noise Standards

Noise standards have been adopted by both Montgomery County and the State of Maryland. These standards are divided broadly into three land use types: residential, commercial, and industrial, and apply to noise levels at a given property line. Vehicle noise emissions are controlled by the State of Maryland exclusively, or by the federal government when regulations for a certain class of vehicles are established. Federal vehicle regulations may result in a general reduction of future truck noise.

Most residential areas along major highways in Montgomery County receive noise levels in excess of these newly established residential standards. For example, while 55 dBA[16] is the county standard for noise at a residential property, a noise level of 70 dBA could be expected at residential property lines along Connecticut Avenue. (See Figure 18.)

TABLE 27

MAXIMUM ALLOWABLE NOISE LEVELS BY ZONING CATEGORY (dBA)

Effective Date	Day/Night	Industrial	Commercial	Residential
Sept. 14, 1977	Day	80	72	65
	Night	80	67	55
Jan. 1, 1980	Day	75	67	60
	Night	75	62	50

[16] dBA is the standard unit of measuring noise levels most sensitive to the human ear.

The Maryland Department of Health has established the above regulations under Article 43, Section 828 of the Annotated Code, which apply to noise emanating from one piece of real property to another. Reference to Title 10.03.45 of the Department's Rules and Regulations is recommended for details.

8.32 Vehicle Noise

Trucks, while amounting to only a small percentage of the daily traffic volume, represent a significant part of traffic noise. Truck noise itself is affected by gradient, speed, and frequency of starts and stops. In congested areas with frequent starts and stops, trucks will be running through gears at low speeds and high engine rpm, causing more noise than if they were cruising steadily.

The noise prediction methodology used in this report is based on the technique developed by the Transportation Research Board.[17] This method provides L_{50} and L_{10}[18] noise level estimations based on traffic volume, speed, gradient, barriers, vertical characteristics of the roadbed, and type of paving.

The cumulative effect of truck and automobile noise along Connecticut Avenue was analyzed, beginning at the intersection of Connecticut Avenue and University Boulevard. This area is predominantly commercial and has a higher tolerance for traffic noise. Given a calculated average (L_{50}) noise level of 68 dBA, this area was considered to be no problem for existing land uses.

South of Knowles Avenue, the gradient for northbound traffic is 5.5 percent. This causes a 3 dBA increase in truck noise. Initial calculations show rush-hour levels of about 81 dBA (L_{10}). Assuming a 25 dBA drop inside a building with closed windows, the level is 56 dBA. This is adequate for offices and should cause no speech interference at normal conversational tones. Pedestrians in the area will certainly experience some speech interference during peak traffic periods. Given existing and projected traffic volumes, such noise levels are unavoidable with the current state of noise control techniques.

The residential area along Connecticut Avenue experiences average (L_{50}) noise levels at 60 dBA with rush hour peaks (L_{10}) of 69-75 dBA. While this level exceeds the county standards at the property line, it is common in urban areas. Noise levels inside houses along Connecticut Avenue should be 54-60 dBA with the windows open and 44-50 dBA with the windows closed. This was not considered to be a problem that would justify modifications to existing houses, but accoustical insulation is recommended for all new residential construction and other noise sensitive uses along Connecticut Avenue.

Truck noise along Metropolitan Avenue may also be a problem. High noise levels may result from the 5 percent grade on either side of Kensington Parkway

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17 C. G. Gordon, et. al. Highway Noise - A Design Guide For Highway Engineers. NCHRP Report 117. Highway Research Board. Washington, D.C, 1971.

18 L_{10} is defined as the noise level exceeded 10 percent of the time, sometimes called the peak noise level. L_{50} is defined as the noise level exceeded 50 percent of the time, sometimes called the average noise level.

higher-than-normal percentage of trucks associated with the surrounding industrial activity. Much of this truck activity will cease at night, reducing the problem to the residents.

8.33 Train Noise

Train noise from the B & O Railroad is a potential problem in the Kensington area. Much of the railroad track is in a cut, starting at about Armory Avenue and continuing to the western end of Ken-Gar. The depth of cut varies from a maximum near 20 feet at the Connecticut Avenue crossing, to about 5 feet at the western end of Ken-Gar. The proposed residential redevelopment in Ken-Gar could experience noise levels in excess of the county standards despite the depressed trackbed. While the cut will provide some noise reduction, average noise levels of 80 dBA for each train passage occur on the front porches of houses on Plyers Mill Road. This level would make speech communication difficult. A level of 50-55 dBA could be met inside the buildings by closing the windows but could still cause some sleep interference unless special accoustical techniques are incorporated. Trains currently pass by about once each hour.

A special problem area may exist along Metropolitan Avenue in the area of Kensington Parkway. A cumulative noise impact could result from trucks on Metropolitan Avenue, the B & O Railroad trains, and the industrial character of nearby land uses. Train noise is calculated to be about 78 dBA at the corner of Ferndale Street and Kensington Parkway, and 72 dBA at site 6 (nearby at Kensington Parkway and Mannakee Street) during each pass of the train. Traffic noise (L_{50}) 100 feet from Metropolitan Avenue will be about 60 dBA during the day and 55 dBA at night. Special design treatment to reduce noise impact is called for should site 6 be developed residentially.

8.4 AIR QUALITY

Air quality in Montgomery County does not currently meet the standards established in the Federal Clean Air Act. Violations result primarily from automobile emissions of hydrocarbons, nitrogen oxides, and carbon monoxide. Decisions at the sector plan level can contribute to the future attainment of air quality standards. However, the analysis of present and future air quality is a technical task requiring a significant commitment of resources which were not adequately available to the Planning Commission staff at the time of preparing this report.

The following recommendations for the Kensington and Vicinity Sector Plan are qualitative guidelines for air quality considerations in this Plan:

- Provide for land uses which will be supportive of increased use of the Metro bus system and the B & O commuter rail system.

- Provide roadway improvements and traffic management programs which will minimize vehicle congestion.

Air pollution alerts in the summer months typically result from high afternoon levels of photochemical oxidants which are created by sunlight acting on hydrocarbons and nitrogen oxides. High background levels of carbon monoxide also

result from emissions from an area larger than the Sector Plan Area. Reduction of auto traffic volumes and congestion throughout the Washington metropolitan area is required to reduce the pollution emissions. Measures are needed to reduce traffic congestion in the Kensington area and provide land uses which will increase the use of the Metro bus system and the commuter rail system.

High levels of carbon monoxide can occur in localized areas ("hot spots") under circumstances of traffic congestion or poor dispersal of pollutants. There have been no specific studies of carbon monoxide levels in Kensington, as was done by the Washington Metropolitan Area Transit Authority in the sector plan areas where Metro stations are to be located. The Maryland-National Capital Park and Planning Commission staff is currently working with a consultant to determine how potential sector plan development impacts should be analyzed. However, it is not possible to quantify those impacts in Kensington at this time.

Traffic congestion in Kensington occurs on major arterials during morning and evening rush hours. Backups from traffic signals extend throughout much of the Sector Plan Area. During non-rush hour periods traffic volumes are heaviest on Connecticut Avenue from University Boulevard to Knowles Avenue. Some limited queueing occurs at traffic signals in the study area during non-rush hour periods. Reductions of carbon monoxide emissions should be achievable by roadway and traffic management improvements to relieve rush hour congestion. However, major increases in future traffic volumes could cause a future rise in emissions.

8.5 SEWERAGE FACILITIES

Public sewer service to Kensington is provided by the Washington Suburban Sanitary Commission (WSSC) via the gravity flow Rock Creek sewerage system. This system extends through the District of Columbia to the Blue Plains Sewage Treatment Plant in far southeast D.C. The Kensington area is in sewer service category S-1 indicating that the sewer pipe network needed to service the area is in place. However, the lack of additional sewage transmission capacity in the Rock Creek sewer system has resulted in a potential overflow designation for the basin by WSSC. A State Health Moratorium was imposed which resulted in the following conditions for sewer service in Kensington and elsewhere in the Rock Creek basin:

Due to the inadequate transmission system through the District of Columbia:[19]

- WSSC may not issue, grant or allow new authorizations or connections for service,
- properties shall not receive hookups unless a building permit had been issued on or before September 13, 1973.
- Hookups may be granted by the Secretary of Health:

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[19] Montgomery County, Maryland. Recommended Comprehensive Ten-Year Water Supply and Sewerage Systems Plan FYs 1977-86. January, 1976.

-- to abate or terminate a health hazard existing on property served by an individual sewerage system where the county Department of Environmental Protection certifies that the hazard can be eliminated only by WSSC sewerage service,

-- for public service buildings recommended by the County Executive and approved by the County Council and state Department of Health,

-- for an individually owned single-family dwelling unit where the applicant certifies that he/she was, on or before August 16, 1973, the owner or contract purchaser of the lot upon which the single-family dwelling unit is to be constructed, and

-- for low and moderate income and elderly housing projects recommended by the County Executive and approved by the County Council and assigned to the Seneca Interim Plant.

. WSSC may grant authorizations, connections, and/or hookups for:

-- replacement of demolished structures or remodeling of existing structures provided no additional sewage flows result,

-- relocation of existing sewage flows from development required to relocate as a result of government action,

-- specific replacement of 800,000 gallons per day of reclaimed Southlawn Incinerator flow with primary allocation of capacity assigned in accordance with County Council approved Resolution 8-686, and

-- Rock Creek Basin Transmission Capacity Reservation--a total available transmission capacity of 400,000 gallons per day in accordance with County Council Resolution 8-1082.

The long term provision of sewage treatment capacity for the county is being pursued in the form of a major regional Advanced Wastewater Treatment Plant (AWT) such as the one currently planned for Dickerson, in upper Montgomery County. However, the tentative U.S. Environmental Protection Agency report (March 31, 1976) on this plant casts some doubt on the location and timing of the plant. Relief from this source, therefore, might be up to ten years off.

In the meantime, the County Executive has directed the WSSC to develop alternatives for mid-term facilities. The county is also exploring the feasibility of using land treatment as a viable alternative. The draft Sheaffer and Roland-Metcalf and Eddy report on land treatment has identified a tentative site in the Rock Creek Basin near Muncaster Mill Road. This site would be capable of treating up to 10 million gallons per day.

In the past two years, the following interim[20] measures have created capacity in the Rock Creek system:

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[20] Interim is defined as the time period until the AWT is on line.

- Rock Creek Consortium Plant--to be completed by approximately October, 1978, up to 3 million gallons per day. (Most of this capacity is already allocated and all of it will be allocated prior to adoption of the Kensington Sector Plan.)

- Replacement capacity for 800,000 gallons per day of reclaimed Southlawn incinerator flows. (Most of this capacity is already allocated and all of it will be allocated prior to adoption of the Kensington Sector Plan.)

- Rock Creek transmission capacity allocation of 400,000 gallons per day in accordance with County Council Resolution 8-1082.

- Septic systems under "moratorium and economic hardship" conditions (limited applicability in Kensington).

- Water savings/sewage generation tradeoff for commercial and industrial development. (This policy may be useful in Kensington.)

Currently, all available treatment and transmission capacity flows are being allocated according to the Interim Sewer Service Policy.

Existing commitments in the Kensington area are minimal and will not have a major impact on future growth.

There are a number of other interim Rock Creek sewer relief measures under consideration at this time. It is probable that one or more of them could be implemented prior to the adoption of the Kensington Sector Plan. The following are samples of possible relief measures which could increase future transmission capacity in the Rock Creek system:

- Construction of the Rock Creek storage relief sewer (WSSC project S 49.3), from Veirs Mill Road to the vicinity of Grosvenor Lane, to act as a holding tank, to reduce peak flows.

- Building holding tanks at other strategic points in the basin.

- Infiltration/inflow reduction.

- Increased hydraulic capacity in the system achieved by a sewer cleaning and maintenance program.

Interim capacity is allocated only to projects with approved preliminary plans of subdivision. Large blocks of interim capacity are usually allocated bit by bit over extended periods. These two facts combine to favor the allocation of capacity to those developers who are ready to proceed with development except for the availability of sewer capacity. This policy has been so designed to help assure that interim capacity, a scarce and expensive resource, goes to those projects with the best possibility of beginning construction quickly. Recent experience with the Rock Creek Consortium Plan was that those projects which were ready to proceed could get capacity. It appears very unlikely that during the interim period a developer could wait to get sewer prior to beginning to put together other elements of the development.

The implications of the interim sewage situation for the Kensington planning process are as follows:

- The constrained availability of sewerage capacity over the next five to ten years should be recognized in the Sector Plan.

- Assuming cessation of the Muddy Branch Basin pump-over[21] (5 million gallons per day), a replacement flow of up to 4 million gallons per day may be allocated in Rock Creek.

- Some commercial development may be able to get capacity from the water savings/sewage generation tradeoff policy adopted by the County Council in Resolution No. 8-370 on July 24, 1974.

In summary, the availability of sewerage capacity for the Kensington area over the next five to ten years is likely, limited to the few moratorium exceptions listed above and those developments which are prepared to meet allocation requirements at the time capacity becomes available.

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21 Approval from State Department of Health, June 22, 1977.