

PROPOSED REVISIONS
COMPREHENSIVE PLAN 2017 Edition

Staff recommends the Comprehensive Plan be modified as shown below. Text proposed to be added is shown as underlined and text proposed to be deleted is shown with a ~~striketrough~~.

There are no proposed changes to the planned land uses within the DNL 60-65 dBA contour.

Policy Plan – Environment

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Policy Plan, Environment, Amended through 11-9-2021, Pages 11-12:

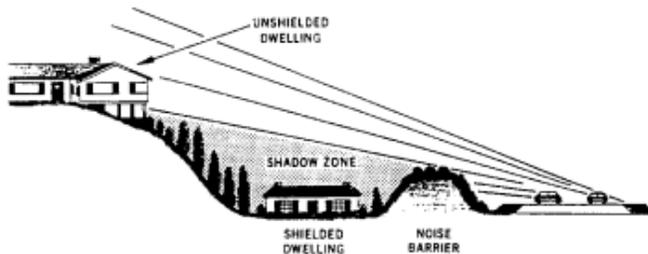
“Noise

Transportation generated noise impacts the lives of many who live in the county. Some county residents are subjected to unhealthful levels of noise from highway traffic, aircraft operations and railroads, including WMATA's Metrorail (See Figure 3). Federal agencies with noise mitigation planning responsibilities have worked with the health community to establish maximum acceptable levels of exposure (Guidelines for Considering Noise in Land Use Planning and Control). These guidelines expressed in terms of sound pressure levels are; DNL 65 dBA for outdoor activity areas, DNL 50 dBA for office environments, and DNL 45 dBA for residences, schools, theaters and other noise sensitive uses. Federal guidelines consider all land uses to be compatible with noise levels below DNL 65 dBA. ~~While the federal guidelines consider all land uses to be compatible with noise levels below DNL 65 dBA, they are not proscriptive as they relate to local land use decisions. Further, it is known that adverse noise impacts can occur at levels below DNL 65 dBA and that there may be variability among communities in responses to such noise.~~

Objective 4: Minimize human exposure to unhealthful levels of transportation generated noise.

Policy a: Regulate new development to ensure that people are protected from unhealthful levels of transportation noise.

Policy b: Reduce noise impacts in areas of existing development.



EFFECT OF ACOUSTIC BARRIER

Explanatory Note: This figure illustrates the function of an acoustical barrier. The shadow zone indicates a mitigated area that is sheltered by a noise barrier and is therefore relatively quiet.

Source: American Association of State Highway and Transportation Officials, 1995, *Guide on the Evaluation and Attenuation of Traffic Noise*, p. 2.

FIGURE 3

New development should not expose people in their homes, or other noise sensitive environments, to noise in excess of DNL 45 dBA, or to noise in excess of DNL 65 dBA in the outdoor recreation areas of homes. To achieve these standards new residential development in areas impacted by highway noise between DNL 65 and 75 dBA will require mitigation. New residential development should not occur in areas with projected highway noise exposures exceeding DNL 75 dBA or projected aircraft noise exposures exceeding DNL 65 dBA. ~~Because recreation areas cannot be screened from aircraft noise and because adverse noise impacts can occur at levels below DNL 65 dBA, in order to avoid exacerbating noise and land use conflicts and to further the public health, safety and welfare, new residential development should not occur in areas with projected aircraft noise exposures exceeding DNL 60 dBA.~~

Where new residential development does occur is considered in the DNL 60-65 dBA aircraft noise contours near Washington Dulles International Airport, the following should be fulfilled:"

- Noise studies that document the expected noise impacts should be conducted during the development review process that propose any noise sensitive uses.
- Commitments should be provided during the development review process to construction standards and materials to ensure that interior noise levels within living spaces do not exceed 45 dBA.
- Pre-construction noise modeling for building components should be conducted and documentation should be submitted to the County for review and approval prior to building permit issuance to ensure interior noise levels within living spaces do not exceed 45 dBA.

- Verification letters should be submitted to the County certifying that the noise-modeled components have been properly installed.
- Post-development noise studies should be conducted, if requested.
- Prior to site plan approval, aviation easements should be executed and recorded in the land records indicating the right of aircraft to pass over the property.
- Disclosure statements that disclose the presence of the airport and potential associated impacts, as well as a map of Dulles Airport, the DNL 65 dBA noise contour line, and general locations of residential units and private active recreation spaces, should be included in all promotional and marketing materials and leasing and purchase agreements for residential and other noise-sensitive uses, and are recorded in the land records. Notice of such statements should be made to all initial and subsequent lessors and purchasers.

Policy Plan – Land Use

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Policy Plan, Land Use – Appendix, Amended through 02-23-2021, Page 14:

“Guidelines for Suburban Neighborhoods:

5. Environmental concerns should be considered in site selection. Multifamily development is not appropriate in areas designated as Low Density Residential Areas. Environmental Quality Corridors and areas subject to airport noise greater than DNL ~~60~~ 65 dBA generally should be avoided.”

Area III

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Area III, Area Plan Overview, Amended through 10-16-2018, Introduction, Pages 19-24:

“Land Use Planning within the Dulles Airport Noise Impact Area

Due to the location of runways, the type and frequency of various aircraft using the airport, as well as airport operating procedures, portions of Fairfax County in the vicinity of Dulles Airport are either currently, or are projected to be, subjected to levels of aircraft noise which may be incompatible with residential development and other noise sensitive land uses.

Considerable research has been done to determine to what extent there is a direct relationship between periods of exposure to certain levels of noise (particularly aircraft noise) and identifiable, adverse effects on people. The effects of noise have been researched and while complete causal relationships have not been definitively established for nonauditory effects, empirical observation has documented that noise can affect exposed individuals indirectly by disturbing the general environment in which they live. Federal agencies with noise mitigation planning responsibilities have worked with the health community to establish maximum

acceptable levels of exposure (Guidelines for Considering Noise in Land Use Planning and Control). These guidelines, expressed in terms of sound pressure levels, are: DNL 65 dBA for outdoor activity areas, DNL 50 dBA for office environments, and DNL 45 dBA for residences, schools, theaters and other noise sensitive uses. Federal guidelines consider all land uses to be compatible with noise levels below DNL 65 dBA. ~~While the federal guidelines consider all land uses to be compatible with noise levels below DNL 65 dBA, they are not proscriptive as they relate to local land use decisions. Further, it is known that adverse noise impacts can occur at levels below DNL 65 dBA and that there may be variability among communities in responses to such noise.~~

A zoning overlay district (the Airport Noise Impact Overlay District) has been established to require noise mitigation for those noise sensitive uses that are established in the impacted area. Fairfax County has delineated the noise contours and boundaries of the Airport Noise Impact Overlay District based on the noise contour maps provided by the Metropolitan Washington Airports Authority (MWAA) and are shown in Figure 4, below.

~~There are several reasons for the selection of the noise exposure contours provided by MWAA:~~

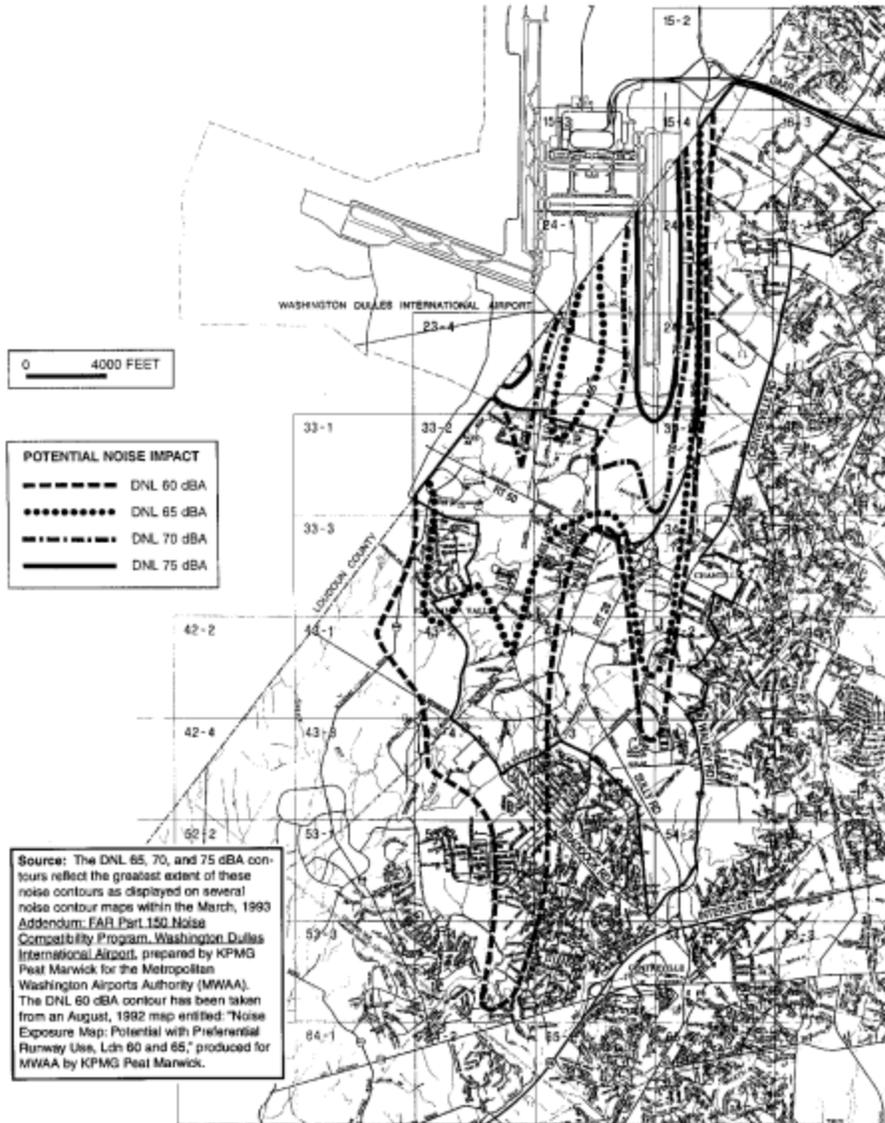
- ~~1. These contours represent the latest, best available and most appropriate noise impact assessment contours for land use planning purposes. They have been developed by MWAA through the use of the Federal Aviation Administration's Integrated Noise Model, using information and projections regarding the locations of average flight tracks, the frequency of use of each runway and average flight track, aircraft operating procedures, and average number of daily operations by type of aircraft and time of day.~~
- ~~2. Assumptions regarding future airport improvements (e.g. additional runways) and projected airport operations that were used in the determination of MWAA's noise contour maps most realistically reflect MWAA's goals for Dulles Airport expansion. This permits a full examination of the implications of Dulles Airport expansion as envisioned by its proprietor and does not prematurely place the county in the position of implicitly recommending the curtailment of the Dulles Airport expansion.~~
- ~~3. The noise contour maps provided by MWAA are based on the most current information regarding aviation activity forecasts; they consider existing operations and projected operations through the year 2000 and beyond. This timeframe represents the longest planning period considered in the development of the set of contours presented. Land use planning considerations based on the set of contours developed by MWAA will provide for the highest level of protection of the public health, safety and welfare based upon the most current, best available information.~~

Recognizing that the objective of the county is to minimize to the fullest extent the potential for adverse aircraft noise impacts upon its citizens, the county has selected noise contours which consider both existing conditions, near-term future projected conditions, as well as ultimate "potential" conditions which reflect the long-term potential Dulles Airport activity level. As new appropriate noise contours become available, this information will be brought before the Board of Supervisors so that appropriate modifications can be made, if necessary, to the

Comprehensive Plan to reflect the most recent and most appropriate delineation of the Dulles Airport Noise Impact Area to which land use compatibility policies will be applied.

Figure 4 illustrates the ~~updated~~ County-adopted noise contours for Dulles International Airport. ~~The DNL 65 dBA, DNL 70 dBA, and DNL 75 dBA contours reflect the greatest extent of these contours as displayed on several noise contour maps within the 1993 Addendum. The DNL 60 dBA contour was taken from a long term potential DNL 60 dBA contour map provided to the county by MWA.~~ Related to these contours are the land use compatibility guidelines set forth in Table 2. This table establishes the basis for land use decisions within the designated Dulles Airport Noise Impact Area.

In general, the basis for the land use compatibility guidelines outlined in Table 2 can be found in existing federal guidelines. The Department of Housing and Urban Development (HUD) in Noise Abatement and Control Standards (Circular 1390.2, August 4, 1971), and the Federal Interagency Committee on Urban Noise in Guidelines for Considering Noise in Land Use Planning and Control (1980) have published noise compatibility guidelines to encourage land utilization patterns for housing and other municipal needs in noise-impacted areas. These guidelines have been applied within Federal Aviation Regulations and have been affirmed within a 1992 report issued by the Federal Interagency Committee on Noise. They are intended to separate uncontrollable noise sources from residential and other noise-sensitive areas. Federal guidelines consider all land uses to be compatible with noise levels below DNL 65 dBA. ~~While the federal guidelines consider all land uses to be compatible with noise levels below DNL 65 dBA, they have been developed to guide federal noise compatibility efforts and are not proscriptive as they relate to local land use decisions. Further, it is known that adverse noise impacts can occur at levels below DNL 65 dBA and that there may be variability among communities in responses to such noise. As a result, and because in order to avoid exacerbating noise and land use conflicts and to further the public health, safety and welfare, Since outdoor recreation areas cannot be screened from aircraft noise, new residential development is not recommended in areas with projected aircraft noise exposures exceeding DNL 60 65 dBA. Where new residential development does occur near Washington Dulles International Airport, the guidance found in Objective 4 of the Environment Element of the Comprehensive Plan Policy Plan should be followed.~~



DULLES AIRPORT NOISE IMPACT AREA **FIGURE 4**

Activities and/or Land Uses	Greater than DNL 75 dBA	DNL 70-75 dBA	DNL 65-70 dBA	DNL 60-65	Less than DNL 60 dBA
Residential	Not Recommended	Not Recommended	Not Recommended	Conditionally compatible	Compatible

				Not Recommended	
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Allowable Height of Structures in the Vicinity of Dulles Airport

The Federal Aviation Administration (FAA) has established criteria for formal notice to FAA of certain proposed construction or alterations of structures near airports. It also has established standards in what are commonly known as the FAA Part 77 regulations, for determining what may be obstructions in navigable airspace. Once an obstruction has been identified, the FAA will undertake an aeronautical study to determine whether the structure will have a substantial adverse effect on the safe and efficient utilization of the airspace--i.e., whether the structure would be deemed a hazard to air navigation.

It is the policy of the Board of Supervisors not to permit the erection of structures which have been determined by FAA to pose a hazard to air navigation. It is further the policy of the Board of Supervisors to carefully evaluate all proposed structures which, if constructed, would constitute an obstruction (as defined by an application of FAA Part 77 obstruction standards to Dulles International Airport's facility configuration, technical characteristics, and surrounding terrain).

In order to implement these policies, the public is advised to undertake official notification of the FAA Regional Office of the proposed construction of any structure meeting any of the following criteria:

1. The construction or alteration will be more than 200 feet in height above ground level at its site;
2. The construction will be in an instrument approach area, available information indicates it might exceed an obstruction hazard standard, and the FAA makes a specific request for notice; or
3. The construction penetrates an imaginary surface that extends outward and upward from the nearest point of the runway at a 100:1 slope, for a distance of 20,000 feet.

In order to further implement the policies of the Board of Supervisors, the county will utilize FAA's obstruction standards, as applied to Dulles Airport and contiguous land, as guidance in making its own determinations as to the allowable height of structures. The three relevant obstruction standards are (i.e., an obstruction will be found if it is higher than any of the following):

1. A height of 500 feet above ground level at the site;
2. Two hundred feet above ground level or the "established airport elevation" (312 feet), whichever is higher, within three nautical miles of the "established reference point" (near the bottom of the westerly north-south runway, 19R-1L), with that height increasing 100 feet for each additional mile from the reference point up to a maximum of 500 feet; or
3. An imaginary surface, 1,000 feet wide, extending from the end of the runway, at a slope of 50:1, for 10,000 horizontal feet, and at 40:1 for an additional 40,000 horizontal feet, with its outermost edge being 16,000 feet wide.

It should be noted that the standards presented here are simplified from FAA's Part 77 regulations. There are "imaginary" or geometric surfaces described in the regulations that apply in the analysis for the potential for obstruction, and the piercing of any of these surfaces by a structure will

cause a finding that such is an obstruction. Whether an actual hazard is created will still remain within the purview of the FAA.

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Area III, Dulles Suburban Center, Amended through 02-23-2021, Dulles Suburban Center Overview, Page 8:

Future Growth of Dulles Airport

“Growth of Washington Dulles International Airport is a major factor affecting planning for the Dulles Suburban Center and the quality of life in western Fairfax County. The airport serves as a regional economic focal point. It is one of the region's major employers. Passenger service and cargo operations are major contributors to the region's economic well-being.

Planning should reflect and accommodate the potential increase in airport operations. The Airport Master Plan calls for five runways which, on completion will permit flight operations of up to 750,000 flights per year.

While airport employment may be expected to increase, and additional growth may be induced by the international character of the airport, fundamental estimates of future employment, commercial office facilities, and industrial services are uncertain. Factors that may influence the rate of growth within the next twenty to fifty years include changes in aviation technology, level of investment needed, and changes in land use in the region.

Airport operations present constraints to development in terms of allowable building heights within flight paths and noise impacts. Policies related to building heights may be found in the Area III Plan Overview in the section “Allowable Height of Structures in the Vicinity of Dulles Airport.” ~~To provide for a healthy living environment, Fairfax County has adopted a policy which states that new residential development is not recommended in areas with projected aircraft noise exceeding DNL 60 dBA. Fairfax County has also established an “Airport Noise Impact Overlay District” (ANIOD) around Dulles Airport. The ANIOD, consistent with Federal Aviation Administration (FAA) policy, does not prohibit residential uses in areas with noise impacts below DNL 65 dBA.~~ Location of noise contours around Dulles Airport is calculated by a computer model of airport operations and shown in the Comprehensive Plan and Zoning Ordinance.

History

The ANIOD boundaries shown on the 1986 and 1992 Comprehensive Plan map were adopted for planning purposes in 1983. These boundaries were based on data related to “Stage 2” aircraft, which generate relatively high noise levels, and on estimates of future flight operations that were developed in the late 1970s. Because of federal legislation requiring U.S. airlines to phase in a new generation of quieter aircraft (“Stage 3” aircraft), and because of changes in projected future aviation operations at Dulles Airport, in 1993 the Metropolitan Washington Airports Authority revised its noise contour projections for the area around Dulles Airport. ~~The updated noise contour lines are substantially smaller in geographic extent than the corresponding contours shown on the 1986 and 1992 Comprehensive Plan map. Plan policy recommends a higher~~

~~standard than indicated by the FAA, recommending that new residential development not be located in areas with projected aircraft noise exposures exceeding DNL 60 dBA. Consistent with FAA policy, the plan recommends new residential development not be located in areas with projected aircraft noise exposures exceeding DNL 65 dBA.~~ Where new residential development ~~does occur~~ is considered in the DNL 60-65 dBA aircraft noise contours near Washington Dulles International Airport, the guidance found in Objective 4 of the Environment Element of the Comprehensive Plan Policy Plan should be followed.”

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Area III, Dulles Suburban Center, Amended through 02-23-2021, Dulles Suburban Center Overview, Page 11:

“Residential Development in the Tax District

Residential development in portions of the Dulles Suburban Center would help create a greater mix of uses, provide more housing close to employment centers, and provide for a use that generates less peak-hour traffic than might occur if land is developed by-right under the existing zoning. However, under the current structure of the Tax District, residentially zoned properties are not subject to the tax surcharge that has been established for owners of nonresidential property to fund roadway improvements. The Tax District legislation includes a mechanism by which contributions may be accepted to allow residential development without increasing the financial burden on other Tax District landowners or the county.

A factor which currently limits housing opportunities within the Tax District is the impact of airport noise. Much of the land within the Tax District located to the south of Dulles Airport is within the adopted ~~DNL 60~~ 65 dBA airport noise contour.”

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Area III, Dulles Suburban Center, Amended through 02-23-2021, Dulles Suburban Center Area-Wide Recommendations, Page 30:

“Airport Noise

Much of the Dulles Suburban Center is included within the Airport Noise Impact Overlay District (ANIOD) of the Zoning Ordinance. The ANIOD was established to ensure the achievement of interior noise guidelines suggested within federal noise compatibility documents for residential and other uses that are constructed within ANIOD and to prohibit residential and certain other noise sensitive uses from areas subject to particularly severe impacts from aircraft noise. New residential development with appropriate acoustical treatment and other mitigation measures is permitted within the ANIOD. ~~Nonetheless,~~ Plan guidance does not recommend such development in areas with projected aircraft noise exposures exceeding DNL ~~60~~ 65 dBA. Where new residential development ~~does occur~~ is considered in the DNL 60-65 dBA aircraft noise contours near Washington Dulles International Airport, the guidance found in Objective 4 of the Environment Element of the Comprehensive Plan Policy Plan should be followed. Figure 5 presents a map of the Dulles Airport noise contours as they relate to the boundaries of the Dulles Suburban Center. The DNL 65 dBA, DNL 70 dBA, and DNL 75 dBA contours reflect the

greatest extent of these contours as displayed on several noise contour maps within the March, 1993 Addendum: FAR Part 150 Noise Compatibility Program, Washington Dulles International Airport prepared for the Metropolitan Washington Airports Authority (MWAA). ~~The DNL 60 dBA contour was taken from the long-term potential DNL 60 dBA contour map provided to the county by MWAA.~~

A more extensive discussion of noise compatibility planning and Dulles Airport noise impacts is contained in the Area Plan Overview for Area III under the heading “Land Use Planning Within the Dulles Airport Noise Impact Area.”

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Area III, Dulles Suburban Center, Amended through 02-23-2021, Dulles Suburban Center Land Unit A Recommendations, Pages 60-61:

“Land Unit A-5

Noise

Proposed residential uses, outdoor activity areas and other noise sensitive uses may be affected by proximity to the Dulles Toll Road and Metrorail. In addition, a small portion of the Land Unit near Route 28 is located within an area ~~where projected aircraft noise exposures exceed DNL 60 dBA~~ and where current and/or projected future highway noise levels exceed DNL 75 dBA (a day-night weighted average noise level).

Broader planning goals for the Innovation Center TSA may suggest that sites near the Dulles Toll Road and Metrorail would be appropriate for residential development and/or other noise-sensitive uses, even where projected noise impacts may exceed DNL 75 dBA. However, design approaches may be available that would shield noise-sensitive areas from these impacts. Efforts should be taken to design noise-sensitive uses to minimize, if not avoid, the exposure of facades of noise-sensitive interior spaces to noise levels above DNL 75 dBA.

Where residential or other noise sensitive uses are proposed near rail and major highways, such proposals should only be considered with the provision of a noise study during the review of the development, appropriate commitments to noise mitigation measures and potentially commitments to the provision of disclosure statements and may necessitate a post-development noise study if feasible. The noise study during development review should clearly define the noise levels impacting the proposed uses as a measure of dBA DNL. The noise study should include noise contours and/or noise impacts at each façade of each affected building with current noise levels and future noise levels based on a minimum 20-year traffic volume projection for the roadway and other transportation noise sources. In addition, the noise study should identify differing noise levels that may affect building facades at different elevations.

For those studies that indicate noise levels in excess of DNL 65 dBA on proposed noise sensitive uses, appropriate mitigation measures should be provided with the goal of achieving DNL 45 dBA for interior space and DNL 65 dBA for outdoor recreation areas. Attenuation may

include siting and orientation of the noise sensitive use, as well as the use of appropriate building materials and noise barriers.

In areas where projected noise impacts at affected building facades will exceed DNL 75 dBA, and for dwelling units where outdoor spaces including balconies will be projected to be exposed to noise levels that exceed DNL 65 dBA, disclosure statements should be provided to potentially affected residents and users within the impacted uses or units, which clearly identify the mitigated and unmitigated noise levels for interior space and the noise levels for any affected balconies in addition to noise mitigation for interior space and outdoor recreational areas. Post-development noise studies should be conducted in order to help staff evaluate the effectiveness of noise mitigation measures.”

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Area III, Dulles Suburban Center, Amended through 02-23-2021, Dulles Suburban Center Land Unit H Recommendations, Page 116:

“Land Unit H

Land Unit H also contains the Meadows of Chantilly Mobile Home Park. The mobile home park provides important affordable housing; ~~however, the majority of this community is located inside the DNL 60 dBA noise contour associated with projected operations at Dulles Airport.~~

...

4. The Meadows of Chantilly Mobile Home Park is a viable residential area. This residential neighborhood should be protected; transitional screening requirements on adjacent industrially planned parcels should neither be waived nor modified. The Meadows of Chantilly Mobile Home Park should not be expanded because it is largely within the airport noise impact area. If the Mobile Home Park is redeveloped to other uses, then relocation assistance to the tenants of the park should be provided in accord with the guidelines of the Policy Plan.”

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Area III, Dulles Suburban Center, Amended through 2-23-2021, Dulles Suburban Center Land Unit J Recommendations, Page 125:

“Land Unit J

Noise

Residential and other noise sensitive uses that are proposed within the DNL 60-65 dBA airport noise contours should address the guidance found in Objective 4 of the Environment Element of the Policy Plan.

• ~~While Comprehensive Plan policy discourages certain uses within the DNL 60-65 dBA aircraft noise contour, other planning goals support residential and other noise sensitive uses under the following conditions:~~

~~o A noise study that documents the expected noise impacts is submitted during the development review process for all noise sensitive uses.~~

~~o Commitments are provided during the development review process to construction standards and materials that mitigate interior auditory impacts to ensure that interior noise levels within living spaces do not exceed 45 dBA. Post-development noise studies should be conducted if requested in order to help staff evaluate the effectiveness of noise mitigation measures.~~

~~o Adequate assurances are voluntarily provided by the property owner at the time of rezoning to ensure that residential development in this area will not conflict with, or pose any threat to the long-term viability of, Dulles Airport. These assurances may include such things as recorded avigation easements, hold harmless agreements, and the like.~~

~~o Mitigation to 65 dBA is encouraged for private active recreation uses, such as placement of facilities indoors, and/or enclosing facilities with a flexible or rigid structure, such as a dome.~~

~~o Disclosure statements, as well as a map of Dulles Airport, the DNL 60 dBA noise contour line, and general locations of residential units and private active recreation spaces, are included in all promotional and marketing materials and leasing and purchase agreements for residential and noise sensitive uses, and are recorded in the land records, that state that a property is located within an area that will be impacted by aircraft noise. Notice should be made to all initial and subsequent lessors and purchasers.”~~

MODIFY: Fairfax County Comprehensive Plan, 2017 Edition, Area III, Dulles Suburban Center, Amended through 02-23-2021, Dulles Suburban Center Land Unit L Recommendations, Page 146-147:

“Land Unit L

Noise

Proposed residential uses, outdoor activity areas and other noise sensitive areas may be affected by proximity to the Dulles Toll Road. ~~Portions of the area are also located within one-half mile of the DNL 60 noise contour for Washington Dulles International Airport.~~ Furthermore some of the area may be affected by noise from the quarry located to the northwest in Loudoun County.

Noise studies may be required to demonstrate that these impacts will be addressed. Provision should be made to notify future residents of the area that they may be impacted by quarry operations. The use of planted terraces, maintenance of tree canopy through the areas under consideration, the use of planted roof gardens and planted sound absorption walls have been found effective management techniques for developments near airports.”

DRAFT