St. Mary's County Planning Commission

Workbook for Analysis of

The Air Installations Compatible Use Zone

(AICUZ)

March 2014

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Contents

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CHAPTER 43 AIR INSTALLATIONS COMPATIBLE USE ZONE (AICUZ) AND AIRPORT ENVIRONS (AE) OVERLAY

Sections:

43.1. Applicability and Zoning Map Designator.

1. ***Applicability.*** All existing, new, or improved public airports, airfields, or heliports shall be located within an AICUZ or AE Overlay Zone.

   a. An AICUZ Overlay applies to certain lands immediately surrounding the Patuxent River Naval Air Station and has been delineated on the Official Zoning Maps in accordance with all state and federal aviation requirements.

   b. An AE Overlay applies to certain lands surrounding the St. Mary's County Regional Airport and as been delineated on the Official Zoning Maps in accordance with the County's airport master plan.

   c. If a portion of a lot, parcel, or tract lies within one of the AICUZ or AE subdistrict(s), the restrictions upon uses and structures apply only to that portion of the lot, parcel, or tract located within the AICUZ or AE subdistrict(s).

2. Zoning Map Sub-Districts and Purpose.

   a. Within the AICUZ the following sub-districts shall be designated on the Official Zoning Maps:

      (1) Clear Zone (CZ). Within the CZ, aircraft can be expected to operate at an altitude close to ground level, and therefore this area is the area of greatest aircraft accident potential and threat to human life and real property improvements.

      (2) Accident Potential Zone 1 (APZ 1). This is the glide zone, and area in which aircraft are transitioning to commit to touchdown or takeoff with high power settings in a descending or climbing attitude. It is an area of high concentration of air traffic and noise and represents the second greatest accident and risk potential.

      (3) Accident Potential Zone 2 (APZ 2). This is the rendezvous dispersion zone, the area over which aircraft are normally in a vulnerable flight attitude with variable power settings on landing and high power settings on takeoff and represents the least potential for aircraft accidents and risks within the AICUZ.

   b. Within the AE overlay the following sub-districts are designated on the Official Zoning Maps but note that the vertical aspects of the sub-districts are described herein:

      (1) *Approach Surface (AS)*. The inner edge of this surface coincides with the width of the primary surface and is 500 feet wide. The approach surface expands outward uniformly to a width of 3,500 feet at a horizontal distance of 10,000 feet from the primary surface, centered on the extended runway centerline. This surface extends upward at a slope of 34 feet horizontally for each foot vertically (34:1) beginning at the end of and at the same elevation as the primary surface.

(2) *Conical Surface (CS).* This surface commences at the periphery of the horizontal surface at a slope of twenty to one (20:1) and extends outward a horizontal distance of 4,000 feet.

(3) *Heliport Imaginary Surfaces.* Heliport imaginary surfaces consist of the HPS, the HAS and the HTS. The heliport primary surface (HPS) underlies a surface that coincides with the size and shape of the designated takeoff and landing area of a heliport. This surface is a horizontal plane at the elevation of the established heliport elevation. The heliport approach surface (HAS) begins at each end of the Heliport Primary Surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8:1 for civil and 10:1 for military heliports. Heliport transitional surfaces (HTS) extend outward from the lateral boundaries of the heliport primary surface and from the approach surfaces at a slope of 2 feet horizontal to 1 foot vertical for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.

(4) *Horizontal Surface (HS).* This is as a horizontal plane one hundred and fifty (150) feet above the established airport elevation, this surface is defined by arcs of ten thousand (10,000) feet radii from the center of each end of the Primary Surface of the runway, connected by tangent lines. The Horizontal Surface does not include the Approach and Transitional Surfaces.

(5) *Primary Surface (PS).* This sub-district is a ground surface, 500 feet in width, centered lengthwise on the runway and ending 200 feet beyond the end of the runway.

(6) *Transitional Surface (TS).* This sub-district is established as a surface extending outward at 90-degree angles to the runway centerline extended at a slope of seven feet horizontally for each one foot vertically (7:1) from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces. In addition to the Site Development Standards contained herein, there are established height limits sloping upward and outward seven feet horizontally for each foot vertically (7:1) beginning at the sides of the same elevation as the approach surfaces, and extending to where they intersect the conical surface.

(7) *Runway Protection Zone (RPZ).* This sub-district is a trapezoid shaped area located off the end of each runway (part of Area 1). The RPZ expands outward uniformly to a width of 700 feet at a horizontal distance of 1,000 feet from the primary surface, centered on the extended runway centerline. This is an area where aircraft are operating at a low altitude during approach or takeoff.

43.2. Noise Level Contours.

Noise from concentrated numbers of low-flying aircraft is expected to produce discomfort, annoyance or a potentially unhealthy environment. Noise level contour lines based on anticipated day-night average sound level (ldn) in decibels (db) may be shown on the Official Zoning Maps, and additional sound deadening may be required, as shown on Figure 43.2.A, in new construction or renovation to assure adequate construction requirements for sound level reduction to produce an acceptable interior environment. New development may be prohibited where indicated in Figure 43.2.A.

FIGURE 43.2.A MINIMUM SOUND LEVEL REDUCTION REQUIREMENTS FOR STRUCTURES*

ACTIVITIES AND/OR LAND USES	**Ldn 75+(SLR 35dB)**	**Ldn 70-75 (SLR 30 dB)**	**Ldn 65-70 (SLR 25 dB)**
Residential (1)	Not Allowed	Not Allowed	Permitted with SLR 25
Residential (2), Educational and Institutional (3)	Not Allowed	Permitted with SLR 30	Permitted with SLR 25
Auditoriums, Concert Halls	Not Allowed	Not Allowed	Permitted with SLR 35
Outdoor Amphitheaters, Music Shells	Not Allowed	Not Allowed	Not Allowed
Offices: Personal, Business and Professional Services; Commercial Retail, Movie, Theaters, Restaurants(4)	Permitted with SLR 30 except movie theaters and restaurants	Permitted with SLR 25	Permitted
Transient Lodging – Hotels, Motels	Not Allowed	Permitted with SLR 30	Permitted with SLR 25
Sports Arenas, Outdoor Spectator Sports	Not Allowed	Permitted with SLR 30	Permitted
Playgrounds, Neighborhood Park	Not Allowed	Not Allowed	Permitted
Golf Courses, Driving Ranges, Water Recreation, Cemeteries (5)	Permitted	Permitted	Permitted
Commercial – Wholesale and Selected Retail, Industrial/Manufacturing, Transportation, Communications and Utilities (6)	Permitted	Permitted	Permitted
Animal-related Services (7)	Not Allowed	Permitted	Permitted
Agricultural (8)	Permitted	Permitted	Permitted
* This table only relates to Sound Level Reduction for uses otherwise permitted. ** See accompanying notes for expanded list of activities and land uses.			

NOTES FROM TABLE

(1) Urban Renewal Administration, Housing and Home Finance Agency, and Bureau of Public Roads, Standard Land Use Coding Manual: A Standard System for Identifying and Coding Land Use Activities. U.S. Department of commerce, 1965.

(2) Triplex, Fourplex, apartment houses, multi-family dwellings, rooming houses, boarding houses, or nursing homes, sorority and fraternity houses, dormitories, boarding schools, convalescent homes.

(3) School classrooms, libraries, churches, and hospitals.

(4) Professional and financial offices, banks, savings and loan association, mortgage bankers, insurance offices, real estate office, architects, engineers, attorneys-at-law, decorators, medical and dental clinics and labs, funeral homes and mortuaries, retail stores, clothing stores, department stores, food and dairy markets, cafes, restaurants (enclosed and drive-in), cafeterias, barber shops, beauty shops, new and used car sales, country clubs.

(5) Swimming pools, shooting ranges, miniature golf courses.

(6) Automobile salvage and wrecking yards, industrial metal and waste salvage yards, manufacturing facilities, gasoline service stations, ambulance services, automobile repair garages, public storage garages, taxi dispatch offices, automobile washing stations, lumber yards, warehousing, motor freight terminals, railway passenger and freight stations, airport services.

(7) Animal grooming services, dog kennels, veterinarians and veterinarian hospitals.

(8) Farms, orchards, nurseries, greenhouses.

43.3. Land Use and Development Regulations Generally.

The restrictions upon use of land and structures listed in Figures 43.3.A and 43.3.B, apply to lands within the AICUZ and the AE overlay respectively, and are in addition to any other applicable regulations. Where the requirements conflict, the more stringent requirement shall apply.

1. ***Permitted Uses.*** Uses identified in the AICUZ or AE districts that are shown in Figure 43.3.A and 43.3.B are subject to the following:

   a. *Clearly Compatible (A):* Exposure to accident potential is such that the activities associated with the land use may be carried out with essentially no interference and no substantial loss of life and property.

   b. *Normally Compatible (B):* Exposure to accident potential is great enough to be of some concern, but density of people and structures, when properly planned and approved, will allow the accident potential environment to be acceptable. Site plan approval is required.

   c. *Normally Incompatible (C):* The exposure to accident potential is significantly more severe so that more restrictive density and land use restrictions are necessary for safety of life and property.

   d. *Clearly Incompatible (-):* The exposure to accident potential at the site is so severe, due to potential loss of life and property, that performance of the land use activity or development is not permitted. Uses not specified in Figures 43.3.A and 43.3.B shall be deemed clearly incompatible.

   e. Improvements and land uses that obstruct or interfere with the safe operation of aircraft or cause a congregation of persons shall not be permitted in the Clear Zone (CZ).

2. ***AE Land Use Compatibility Guidelines.*** It is always best to take actions that will prevent incompatible land use, as opposed to taking action to correct such activities after the fact. The first step in implementing compatible land use for an airport is to adopt guidelines as part of a comprehensive plan and the airport's land use plan and map. Areas recommended for control as

part of the Land Use Compatibility Guidelines in the AE District are defined in the following sections. Figure 43.3.B identifies land uses which are generally compatible or incompatible within airport safety zones and Part 77 surfaces. There are specific types of development that are usually compatible within airport safety zones. In general, these include agriculture, commercial, and industrial uses. Other types of development, such as noise sensitive activities and places of public assembly are typically considered to be incompatible within airport safety zones. The Land Use Compatibility Guidelines are divided into the following four areas, which are graphically shown in Figure 44.3.C.

a. *Area 1*, as identified on the Official Zoning Maps, consists of the land beneath the Primary Surface for each runway at the airport and the land beneath the Runway Protection Zone (RPZ) which is further described in Section 43.1.2. The dimensions of this zone vary based on the length and width of the runway and the existing or planned approach. The following are permitted uses in Area 1, subject to the height requirements established by FAR Part 77:

(1) Runway and taxiway systems (widening, extending etc.).

(2) Frangible navigational aids (localizer, approach lighting etc.).

b. *Area 2,* as identified on the Official Zoning Maps, consists of the land beneath the Approach Surface, as defined in Section 43.1.2 for each runway and extended 3,000 feet from the edge of the Primary Surface, as defined in Section 43.1.2, except for land within Area 1. Area 2 expands outward uniformly from the Primary Surface to a width of 1,400 feet and includes sufficient area for installation of an approach and runway indicator lighting systems. The following are permitted uses in Area 2 and are subject to the height requirement established in FAR Part 77.

(1) Agriculture.

(2) Passive Recreation (non-spectator).

(3) Cemeteries.

(4) Automobile Parking.

(5) Transportation Uses such as Roads, Railway and Street Rights-of-Way.

(6) Utilities (above and below ground).

c. *Area 3,* as identified on the Official Zoning Maps, consists of the land beneath the Transitional Surface and the land beneath the Approach Surface, as defined in Section 43.1.2 and located within 700 feet of the runway or runway centerline extended. The following are permitted uses in Area 3, subject to the height requirements established in FAR Part 77:

(1) Agriculture, Forestry.

(2) Recreation (non-spectator)

(3) Resource extraction – Mining, General Manufacturing.

(4) Transportation Uses such as Rods, Railway and Street Right-of-Way.

(5) Automobile Parking.

(6) Utilities.

(7) Wholesale and Retail Trade such as building materials, hardware, and general merchandise.

(8) Services, excluding hospitals, nursing homes, educational, other medical facilities, and other noise sensitive uses.

(9) Airport and aircraft related services and fixed base operations (Tee-hangars, etc.).

It is important to note that these land use recommendations for the approach and transitional surfaces are not based specifically on any established FAA criteria.

d. *Area 4,* as identified on the Official Zoning Maps, consists of the land beneath the AE sub-districts not contained within Areas 1, 2 or 3, and is bound by the outer limit of the Conical Surface. All land uses are permitted in Area 4, subject to the height requirements established in FAR Part 77.

FIGURE 43.3.A: LAND USE COMPATIBILITY IN AIRCRAFT ACCIDENT POTENTIAL ZONES

LAND USE CATEGORY	COMPATIBILITY[1]		
RESIDENTIAL	**CLEAR ZONE**	**APZ-1**	**APZ-2**
Single-family	D	D	C[2]
2 – 4 family	D	D	D
Multi-family dwellings	D	D	D
Group quarters	D	D	D
Residential hotels, transient lodging (motels, etc.)	D	D	D
Mobile home parks or courts	D	D	D
Other residential	D	D	C[2]
INDUSTRIAL/MANUFACTURING			
Food and kindred products	D	C	B
Textile mill products	D	C	B
Apparel	D	D	C
Lumber and wood products	D	B	A
Furniture and fixtures	D	B	A
Paper and allied products	D	B	A
Printing, publishing	D	B	A
Chemicals and allied products	D	D	C
Petroleum refining and related industries	D	D	D
Rubber and misc. plastic products	D	C	C
Stone, clay, and glass products	D	B	A
Primary metal products	D	B	A
Fabricated metal products	D	B	A
Professional, scientific and controlling instruction	D	B	C
Miscellaneous manufacturing	D	D	B
TRANSPORTATION, COMMUNICATIONS AND UTILITIES			
Railroad, rapid rail transit (on-grade)	C[5]	A[4]	A
Highway and street right-of-way	C[5]	A	A
Automobile parking (long-term)	C[5]	B	A
Communication	C[5]	A[4]	A
Utilities	C[5]	A[4]	A
Other transportation, communication, and utilities	C[5]	A[4]	A
COMMERCIAL AND RETAIL TRADE			
Wholesale trade	D	B	A
Building material-retail	D	B	A
General merchandise-retail	D	C	B
Food-retail	D	C	B
Automotive, marine, aviation-retail	D	B	A
Apparel and accessories-retail	D	C	B
Furniture, home furnishing-retail	D	C	B
Eating and drinking establishments	D	D	C
Other retail trade	D	C	A

FIGURE 43.3.A: LAND USE COMPATIBILITY IN AIRCRAFT ACCIDENT POTENTIAL ZONES

LAND USE CATEGORY	COMPATIBILITY[1]		
PERSONAL AND BUSINESS SERVICES[6]	**CLEAR ZONE**	**APZ-1**	**APZ-2**
Finance, insurance and real estate	D	D	B
Personal services	D	D	B
Repair services	D	B	A
Business services	D	D	B
Professional services	D	C	B
Contract construction services	D	B	A
Indoor recreation services	D	D	B
Other services	D	C	B
PUBLIC AND QUASI-PUBLIC SERVICES			
Government services	D	B	B[5]
Educational services	D	D	D
Cultural activities	D	D	C
Medical and other health services	D	D	D
Cemeteries	D	B[7]	A[7]
Non-profit organization, including churches	D	D	C
Other public and quasi-public services	D	D	B
OUTDOOR RECREATION			
Playgrounds, neighborhood parks	D	D	B
Community and regional parks	D	B[8]	A[8]
Nature exhibits	D	B	A
Spectator sports, including arenas	D	D	D
Golf courses, riding stables	D	A	A
Water-based recreational areas	D	B	A
Resort and group camps	D	D	D
Entertainment assembly	D	B	D
Other outdoor recreation	D	B[8]	B
RESOURCE PRODUCTION, EXTRACTION AND OPEN LAND			
Agriculture (except livestock)	B	A	A
Livestock farming, animal breeding	D	A	A
Forestry activities	D[5]	A	A
Fishing activities and related services	D	A	A
Mining activities	D	B[3]	A
Permanent open space	B	A	A
Water areas	B	A	A

KEY TO FIGURE 43.3.A

A: CLEARLY COMPATIBLE	Exposure to accident potential is such that the activities associated with the land use may be carried out with essentially no interference and no substantial loss of life and property.
B: NORMALLY COMPATIBLE	Exposure to accident potential is great enough to be of some concern, but density of people and structures, when property planned, will allow the accident potential environment to be acceptable.
C: NORMALLY INCOMPATIBLE	The exposure to noise or accident potential is significantly more severe so that unusual density restrictions are necessary for safety of life and property.
D: CLEARLY INCOMPATIBLE	The exposure to accident potential at the site is so severe, due to potential loss of life and property, that performance of land use activities is not advisable.

FOOTNOTES TO FIGURE 43.3.A

1. Within each land use category, uses exist where further definition may be needed due to the variation of densities in people and structures.
2. Residences are not allowed in the APZ-2 Zone after October 2, 2007 unless in conformance with paragraphs "a", "b", "c" and "d" below:
    a. Residences existing as of October 2, 2007 are not considered non-conforming and may be altered or replaced in conformance with the existing development standards and paragraph "d" below.
    b. Vacant recorded lots within a residential subdivision may be used for residential purposes in accordance with existing development standards and paragraph "d" below.
    c. All pending residential subdivisions filed with the County prior to April 10, 2007 may proceed through the development process.
    d. Residential construction after October 2, 2007 will comply with existing development standards and applicable sound reduction measures found in Figure 43.2.A.
    e. Where properties are partially within the APZ-2 Overlay, and within a base zone in which residences are permitted, residential density may be transferred from the portion within the Overlay to the portion outside of the Overlay at a density of two (2) dwellings units per acre.
3. Factors to be considered: Labor intensity, structural coverage, explosive characteristics, and air pollution.
4. No passenger terminals and no major above-ground transmission lines in clear zones.
5. The placing of structures, buildings, or above-ground utility lines in the clear zone is subject to severe restrictions. In a majority of the clear zones, these items are prohibited.
6. Low-intensity office uses only. Meeting places, auditoriums, etc. not recommended.
7. Excludes chapels.
8. Facilities must be low intensity.
9. Clubhouse not recommended.
10. Concentrated rings with large classes not recommended.

FIGURE 43.3.B: COMPATIBLE LAND USE RECOMMENDATIONS WITHIN THE AE SUB-DISTRICTS

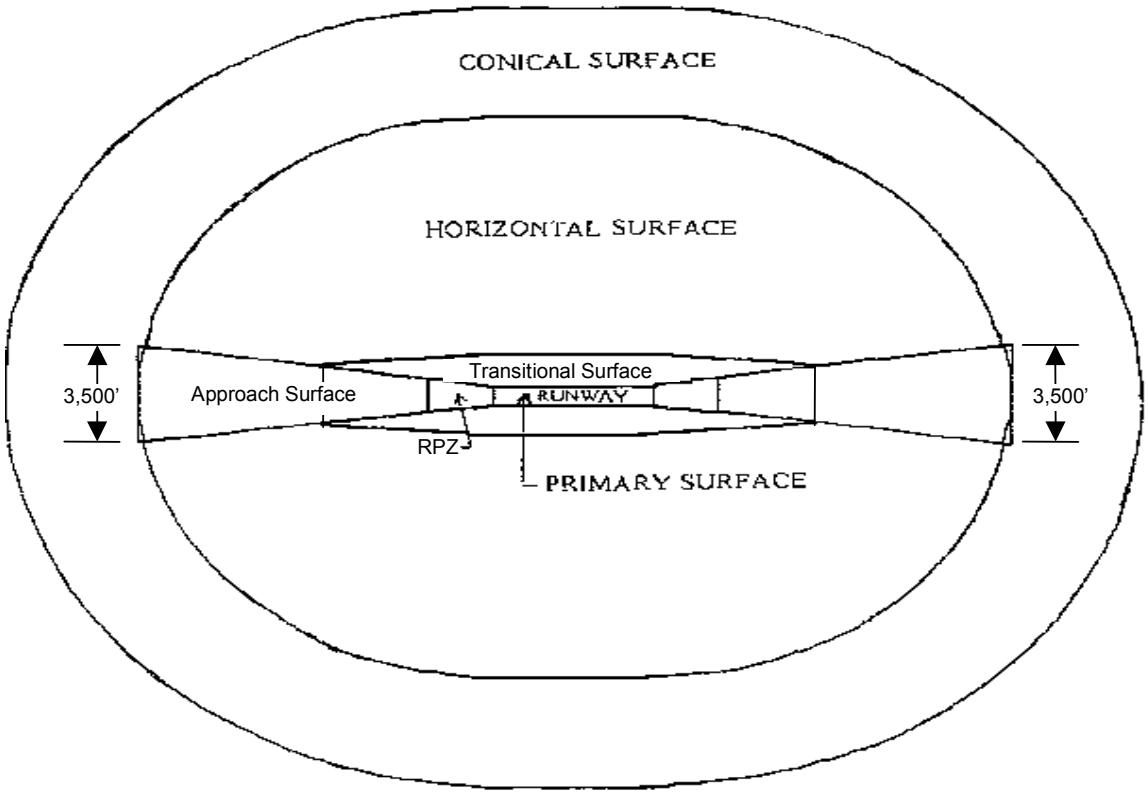
LAND USE CATEGORY	COMPATIBILITY[1]		
RESIDENTIAL	**AREA 1/2***	**AREA 3**	**AREA 4**
Residential-other than mobile home parks, transient lodgings	D/D	B	B
Mobile home parks / mobile homes	D/D	B	B
Transient lodgings, hotels, motels	D/D	B	B
PUBLIC USE AND TRANSPORTATION			
Places of public assembly (nursing homes, schools, hospitals, churches, auditoriums)	D/D	B	B
Government Buildings	D/D	B	B
Transportation (parking, highways, bus and rail terminals, aviation terminals)	D/B	B	A
COMMERCIAL AND RETAIL TRADE			
Offices-business and professional	D/D	B	B
Wholesale/Retail-materials, food, hardware and farm equipment	D/D	B	B
Retail trade-general, animal-related services (grooming etc)	D/D	B	B
Utilities	D/D	B	A
Communications (telephone, exchange stations, relay towers, transmission stations)	D/D	C	A
INDUSTRIAL AND MANUFACTURING			
Manufacturing - general	D/D	B	B
Agricultural (except livestock)	D/B	B	A
Livestock farming and breeding	D/B	B	A
Resource extraction (mining)	D/D	D	A
Forestry	D/D	B	A
RECREATIONAL			
Outdoor sports arenas	D/D	D	B
Nature exhibits, zoos	D/D	D	B
Amusement parks, resorts, camps	D/D	D	B
Source: Pennsylvania Land Use Compatibility Guidelines, Exhibit 9 **Land Use Recommendations do not reflect an FAA standard or guideline; areas are based on FAR Part 77 and FAA Safety Zones.**			

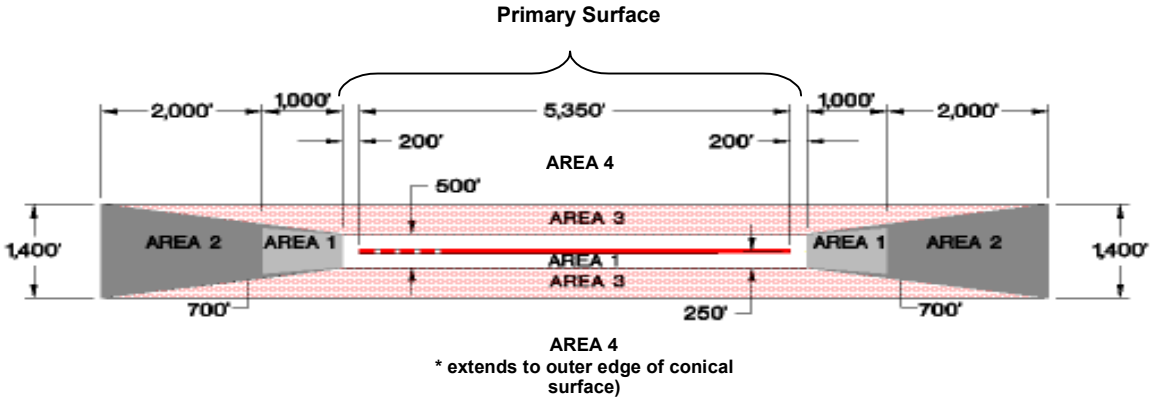
* A conditional use approval is required in order to be located within or below designated AREA 2, subject to Land Use Compatibility Guidelines contained herein.

KEY TO FIGURE 43.3.B

A: CLEARLY COMPATIBLE	Exposure to accident potential is such that the activities associated with the land use may be carried out with essentially no interference and no substantial loss of life and property.
B: NORMALLY COMPATIBLE	Exposure to accident potential is great enough to be of some concern, but density of people and structures, when property planned, will allow the accident potential environment to be acceptable.
C: NORMALLY INCOMPATIBLE	The exposure to accident potential is significantly more severe so that unusual density restrictions are necessary for safety of life and property.
D: CLEARLY INCOMPATIBLE	The exposure to accident potential at the site is so severe, due to potential loss of life and property, that performance of land use activities is not advisable.

FIGURE 43.3.C AE SUB-DISTRICTS AND LAND USE COMPATIBILITY GUIDELINES





43.4. Site Development Standards.

1. ***General Requirements.*** Within the AICUZ and AE, an application for subdivision or site plan approval, conditional use approval, or variance, except for agricultural uses, shall be subject to Site Plan Review pursuant to Chapter 60 of this Ordinance, and, shall not be approved except upon receipt of evidence of filing of a "Notice of Proposed Construction or Alteration" with the Federal Aviation Administration (FAA). Where required by 14 CFR Part 77, as amended, development applications are required to document site elevations in relation to the AE Overlay Subdistrict surfaces (43.1.2.b) and the AICUZ subdistricts (43.1.2.a). An area located in more than one of the AE Overlay Subdistrict surfaces is considered to be only in the surface with the more restrictive height limitation. Documentation of site elevations shall consist of a topographic map of the site showing contours for every five feet of elevation change to illustrate the elevation above mean sea level; the location and height of any proposed buildings or structures, as well as natural features that impinge upon the AE Overlay Subdistrict surfaces; and the elevation of the aviation facility affecting the applicant's property.

   a. *Conditional Use Application.* Within the AE surface restrictions described at Section 43.3, any application for subdivision or site plan approval within or below AREA 2, shall be subject to Conditional Use application in accordance with Chapter 25 of this Ordinance.

   b. *Review by Airport Manager.* Any application for subdivision approval, site plan approval, conditional use approval, or variance within the AE overlay shall be referred to the director of the department responsible for the Airport Master Plan for comment on the potential impact of the proposal on aviation and/or airport operations or proposed expansions prior to the issuance of any approval or building permit within the AE overlay.

2. ***Construction or Alteration Requiring Notice.*** Zoning approval for development required to file a "Notice of Proposed Construction or Alteration" with the Federal Aviation Administration, (FAA) as set forth below, shall be conditioned upon evidence of filing of a Notice of Proposed Construction or Alteration with the FAA. A Notice of Proposed Construction or Alteration shall be completed by the applicant and submitted to the director of the department responsible for the Airport Master Plan and to the FAA for review and approvals for:

   a. Any construction exceeding 100 feet in height above ground level at the site;

   b. Any construction greater in height than an AE Overlay Subdistrict surface extending outward and upward at one of the following slopes:

      (1) 100 feet horizontal to 1 foot vertical for horizontal distance of 10,000 feet from the nearest runway (end or side) of an airport with at least one runway more than 3,200 feet in length, excluding heliports.

      (2) 50 feet horizontal to 1 foot vertical for a horizontal distance of 10,000 feet from the nearest runway (end or side) of an airport with at least one runway no more than 3,200 feet in length, excluding heliports;

      (3) 23 feet horizontal to 1 foot vertical for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and take off area of each heliport.

      OR

   c. Any transportation routes/structure (bridges, railways, highway, waterways) for which the height of the tallest vehicle anticipated to traverse the route/structure will exceed the height of an AE Overlay Subdistrict surface extending outward and upward as set forth at Section 43.4.2.b (1)-(3) above.

3. ***Performance Standards.*** The following performance standards shall apply to all uses within the AICUZ or the AE overlay districts:

a. No proposed development or land use shall create electrical or electronic interference with communications among aviators and/or ground control personnel.

b. No proposed development or land use shall make it difficult for aviators to distinguish between airport lights and other lights or cause glare in the eyes of aviators using the airport or airport facilities.

c. No proposed development or land use may emit smoke, fly ash, dust, steam, vapor, gases or other forms of air emissions that would impair visibility in the vicinity of the airport; otherwise interfere with the safe operation of aircraft; or endanger the landing, take-off, or maneuvering of aircraft at the airport or in the vicinity of the airport.

43.5. Airport Easements, Restrictions, and Covenants.

The following notes shall be included on all record plats of lands wholly or partly within the AE Overlay District and subdivided after the adoption of this provision:

1. Within the area of the tract hereby created, no structure, erection, object, growth of trees, or vegetation within the boundaries of the tract herein describes, nor any other objects placed within said tract, shall penetrate the AE Overlay Subdistrict surfaces of an airport or heliport. Owner, his/her/their/its heirs, successors and assigns shall be responsible for maintaining and pruning trees and vegetation so this height restriction is not exceeded.

2. The land-owner expressly reserves for the use and benefit of itself and the public a right of flight for the passage of aircraft in the airspace above the lands identified herein, together with the right to cause above such tract all such noise, fumes, dust, vibration and fuel particles as may be inherent in the operation of aircraft using said airspace using said airspace for landing and taking off from the St. Mary's County Regional Airport and other regulated public landing strips.

DEPARTMENT OF THE NAVY
NAVAL AIR STATION
PATUXENT RIVER, MARYLAND 20670-5409

11015
Ser 8.1/1990
NOV 22 1995

Mr. Jon R. Grimm, Director
Department of Planning and Zoning
P.O. Box 3000
Leonardtown, Maryland 20650

Dear Mr. Grimm,

Please accept this correspondence as the response from the Naval Air Station to the proposals put forth by you and Mr. Blaha in our meetings concerning the Lexington Park-Tulagi Place Master Plan. On behalf of the Naval Air Station I thank you for the opportunity to review the Plan, especially the components most directly related to the base.

The Navy's relationship with Lexington Park dates back over fifty years, and in a real sense the two are intertwined as evidenced by the fact that the one's name comes from the other. It is this close relationship which is the foundation of the Navy's very positive interest in the Plan.

The Navy is happy to witness the efforts toward revitalizing Lexington Park and is willing to contribute toward making those efforts succeed. The Navy agrees with the overall goals of the Plan; believes the Plan will enhance the Navy's mission; and is committed to accomplishing some of the specific items thus far discussed.

I wish to make the following observations:

1. The Navy is pleased to witness the Plan's commitment to respect of the Air Installations Compatibility Use Zone (AICUZ). The AICUZ ensures the continued compatibility of the Naval Air Station with the community.

a. The Navy has always welcomed the courtesy extended by County officials to review proposals affecting AICUZ. Such mutual review safeguards the safety of the community and protects the Naval Air Station from encroachment.

b. The Navy agrees with the recommendation in the Plan to allow existing developed non-residential sites to redevelop with the same use category provided the existing intensity is not increased.

c. The Navy agrees with redevelopment of residential to non-residential in APZ-2 for existing residential areas. The Navy's suggested target density for non-residential use in APZ-2 is twenty-five people per acre. Attached is the methodology NAVFAC had prepared to convert between this density and Floor Area Ratio equivalents that the Navy can support.

2. The Navy is pleased to witness the Plan's concern for the safe and efficient movement of traffic. As the work force connected with the Naval Air Station grows, traffic will be of increasing concern.

3. The Navy is willing to improve the aesthetics at the entrances to the Naval Air Station. I should point out that because of safety concerns the Navy cannot comply with the positioning of airplanes as suggested. Also, the Navy is planning to relocate the Gate 2 Visitor Control Center to Gate 1. The Plan should acknowledge this planned change.

4. The Navy agrees to modify the fencing around the Naval Air Test and Evaluation Museum. And the Navy agrees to address with the Museum's Board of Directors the issues of the Museum's attractiveness and accessibility.

5. The Navy will assist in transferring the Cedar Point Lighthouse Cupola located at the Naval Air Test and Evaluation Museum to the proposed location.

I thank you for this opportunity to comment on the Plan and remain willing to cooperate in every way possible to accomplish the Plan's goals and objectives.

E. L. STANDRIDGE

SECTION FOUR: APPENDIX B

Methodology for Land Use Compatibility Guidelines in Accident Potential Zones

The attached table illustrates the methodology employed to determine FARs for SLUCM land use categories in APZs 1 and 2. The target person densities used are one (1) to two (2) units per acre for residential uses, and twenty-five (25) people per acre for non-residential uses. Previous land use compatibility guidelines are noted.

Using the ITE parking generation data (where available) the following formula was employed to determine a maximum FAR for a maximum of twenty-five (25) persons per acre/site/land use (residential uses not included) in APZ 1 and 2.

2 persons/pkg.sp. (assumption)	x	Average Rate (pkg.sp./ 1,000 ft^2 of gross leasable area) Source: ITE	x	FAR (to be determined)	x	$\frac{43560}{1,000}$ (ft^2/acre)	=	persons/acre/site/land use

Table B-. shows the average rate and people per parking space/car for various land use categories in the ITE Parking Generation Manual.

Listed below are FARs which represent typical ranges for various land uses.

Land Use	FAR Range
Commercial	.25 - .30
Office	.30 - .50
Flex/Tech	.30 - .35
Industrial	.15 - .25

Source: HNTB anaiysis

Critical Assumptions

- Where available, ITE data on parking spaces/employee/land use were used to determine the number of persons per space/car. These assumptions were verified per conversation with Robert Duncey at the Urban Land Institute. The number of persons per space/car for retail categories was determined using the National Transportation Strategic Planning Study, U.S. DOT (1990) (obtained from ITE) and a study on Parking Requirements for Shopping Centers (1982) for the ULI.

- Generalized ITE data categories applied to more detailed SLUCM land use categories; use of generalized data noted.

- Reliability of ITE data depends upon sample size; use of small samples noted.

Table B–1

AIR INSTALLATIONS COMPATIBLE USE ZONES

People per Parking Space for Land Use Categories

Land Use Categories	Average Rate (pkg.sp./1,000 ft.² of gross leasable area) on a weekday	People per Parking Space/Car
Light Industrial (LI)	1.55	1.3
Industrial Park (IP)	1.48	1.4
Manufacturing (M)	1.59	1.3
Warehousing (W)	0.50	1.05
General Office Building (GOB)	2.79	1.3
Government Office Building (Gv.OB)	3.84	1.3
Office Park (OP)	2.52	(3)
Medical/Dental Clinic/Office (MDO)	4.11	(3)
Hardware/Paint/Home Improvement Store (HIS)	2.41	(3)
Convenience Market (CM)	1.41	1.7
Shopping Center (SC)	3.23	1.7
Supermarket (SM)	2.87	1.7
Quality Restaurant (QR)	12.49	(3)
Family Restaurant (FR)	9.08	(3)
Fast Food with Drive–In Window (FFw)	9.95	(3)
Fast Food without Drive–In (FF) Window	11.68	(3)
Hospital (H)	1.79 (1)	0.6
Tennis/Racquetball Courts/ Club (TC)	0.71	(3)
Roller/Ice Skating Rink (SR)	5.78	(3)
Sports Club/Health Spa (HS)	4.37	(3)
City Recreation Center (RC)	4.00	(3)
Church/Synagogue (C)		2.7 (2)

(1) Average number of occupied parking spaces per hospital bed.
(2) People per parking space/car attending service.
(3) Reliable empirical data not available.

Source: HNTB analysis based on data from:
ITE Parking Generation Manual, 1987
National Transportation Strategic Planning Study, U.S. DOT, 1990
Parking Requirements for Shopping Centers, ULI, 1982

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones
(1 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
10	**Residential**				
11	**Household Units**				
11.11	Single units: detached	N (N)	N (N)	Y (Y[1])	No ITE category. Suggested guidelines: Maximum density of 1-2 DUs/acre, possibly increased under a Planned Unit Development(PUD) where maximum lot coverage is less than 20 percent. No change from previous compatibility guidelines.
11.12	Single units: semidetached	N (N)	N (N)	N (N)	
11.13	Single units: attached row	N (N)	N (N)	N (N)	
11.21	Two units: side-by-side	N (N)	N (N)	N (N)	
11.22	Two units: one above the other	N (N)	N (N)	N (N)	
11.31	Apartments: walk-up	N (N)	N (N)	N (N)	
11.32	Apartments: elevator	N (N)	N (N)	N (N)	
12	Group quarters	N (N)	N (N)	N (N)	
13	Residential Hotels	N (N)	N (N)	N (N)	

*Standard Land Use Coding Manual

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones

(2 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
14	Mobile home parks or courts	N (N)	N (N)	N (N)	
15	Transient lodgings	N (N)	N (N)	N (N)	
16	Other residential	N (N)	N (N)	N (N^1)	No ITE category. Suggested guidelines: Maximum density of 1-2 DUs/acre, possibly increased under a Planned Unit Development(PUD) where maximum lot coverage is less than 20 percent. No change from previous compatibility guidelines.
20	**Manufacturing**				
21	Food & kindred products; manufacturing	N (N)	N (N^2)	Y (Y)	ITE parking generation data for "Manufacturing" on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building equals 1.59. Using this average rate, a maximum FAR of .28 would limit the number of persons per acre/site to 25.
22	Textile mill products; manufacturing	N (N)	N (N^2)	Y (Y)	Same as above.
23	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	N (N)	N (N)	Y (N^2)	Same as above.
24	Lumber and wood products (except furniture); manufacturing	N (N)	N (Y^2)	Y (Y)	Same as above.
25	Furniture and fixtures; manufacturing	N (N)	Y (Y^2)	Y (Y)	Same as above.
26	Paper and allied products; manufacturing	N (N)	Y (Y^2)	Y (Y)	Same as above.

*Standard Land Use Coding Manual

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones
(4 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
41	Railroad, rapid rail transit, and street railway transportation	N (N[3])	Y (Y[4])	Y (Y)	No ITE data for transportation, communication and utilities categories. The placing of structures, buildings or above-ground utility lines in the clear zone is subject to severe restrictions. No accessory uses – e.g., passenger terminals and major above-ground electrical transmission lines.
42	Motor vehicle transportation	N (N[3])	Y (Y)	Y (Y)	No ITE data for transportation, communication and utilities categories. The placing of structures, buildings or above-ground utility lines in the clear zone is subject to severe restrictions. No accessory uses – e.g., passenger terminals and major above-ground electrical transmission lines.
43	Aircraft transportation	N (N[3])	Y (Y[4])	Y (Y)	Same as above.
44	Marine craft transportation	N (N[3])	Y (Y[4])	Y (Y)	Same as above.
45	Highway and street right-of-way	N (N[3])	Y (Y)	Y (Y)	Same as above.
46	Automobile parking	N (N[3])	Y (Y[4])	Y (Y)	Same as above.
47	Communication	N (N[3])	Y (Y[4])	Y (Y)	Same as above.
48	Utilities	N (N[3])	Y (Y[4])	Y ( )	Same as above.
49	Other transportation, communication and utilities	N (N[3])	Y (Y[4])	Y (Y)	Same as above.
50	Trade				

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones

(3 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
27	Printing, publishing, and allied industries	N (N)	Y (Y^2)	Y (Y)	Same as above.
28	Chemicals and allied products; manufacturing	N (N)	N (N)	N (N^2)	
29	Petroleum refining and related industries	N (N)	N (N)	N (N)	
30	**Manufacturing (continued)**				
31	Rubber and misc. plastic products; manufacturing	N (N)	N (N^2)	N (N^2)	
32	Stone, clay and glass products; manufacturing	N (N)	N (N^2)	Y (Y)	ITE parking generation data for "Manufacturing" on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building equals 1.59. Using this average rate, a maximum FAR of .28 would limit the number of persons per acre/site to 25.
33	Primary metal industries	N (N)	N (N^2)	Y (Y)	Same as above.
34	Fabricated metal products; manufacturing	N (N)	N (N^2)	Y (Y)	
35	Professional scientific, and controlling instruments; photographic and optical goods; watches and clocks	N (N)	N (N)	N (N^2)	
39	Miscellaneous manufacturing	N (N)	Y (Y^2)	Y (Y^2)	ITE parking generation data for "Manufacturing" on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building equals 1.59. Using this average rate, a maximum FAR of .28 would limit the number of persons per acre/site to 25.
40	**Transportation, communication and utilities**				

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones

(5 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
51	Wholesale trade	N (N)	Y (Y^2)	Y (Y)	SLUCM defines wholesale trade as having a storage area set aside for merchandise. Maximum FAR for storage areas falls into the same category as warehousing. ITE parking generation data for "Warehousing" indicates that the average numbers of occupied parking spaces per 1,000 square feet of building space is .50. Using this average rate, a maximum FAR of 1 would limit the number of people to less than 25. For the retail area, ITE parking generation data for "Hardware/Paint/Home Improvement" store on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building space is 2.41. Using this average rate, a maximum FAR of .14 would limit the number of persons per acre/site to 25.
52	Retail trade – building materials, hardware and farm equipment	N (N)	Y (Y^2)	Y (Y)	ITE parking generation data for "Hardware/Paint/Home Improvement" store on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building space is 2.41. Using this average rate, a maximum FAR of .14 would limit the number of persons per acre/site to 25.
53	Retail trade – general merchandise	N (N)	N (N^2)	Y (Y^2)	ITE parking generation data for "Shopping Center" on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building space is 3.2. Using this average rate, a maximum FAR of .11 would limit the number of persons per acre/site to 25.
54	Retail trade – food	N (N)	N (N^2)	Y (Y^2)	ITE parking generation data for a "Convenience Market" and a "Supermarket" on a weekday indicates that the average numbers of occupied parking spaces per 1,000 sq. ft. of building space are 1.41 and 2.87, respectively. Using these average rates, maximum FARs of .24 for "Convenience Markets" and .12 for "Supermarkets" would limit the number of persons per acre/site to 25. These FARs are lower than typical for this type of development.

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility In Accident Potential Zones

(6 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
55	Retail trade – automotive, marine craft, aircraft and accessories	N (N)	Y (Y^2)	Y (Y)	ITE parking generation data for a "Hardware/Paint/Home Improvement" store on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building space is 2.41. Using this average rate, a maximum FAR of .14 would limit the number of persons per acre/site to 25. This FAR is lower than typical for this type of development.
56	Retail trade – apparel and accessories	N (N)	N (N^2)	Y (Y^2)	ITE parking generation data for a "Shopping Center" on a weekday indicates that the average number of parking spaces per 1,000 sq. ft. of building space is 3.2. Using this average rate, a maximum FAR of .11 would limit the number of persons per acre/site to 25. This FAR is lower than typical for this type of development.
57	Retail trade – furniture, home, furnishings and equipment	N (N)	N (N^2)	Y (Y^2)	Same as above.
58	Retail trade – eating and drinking establishments	N (N)	N (N)	N (N^2)	Using ITE data for parking space feet^2 of GLA and an assumed FAR of .25, the numbers of persons/acre/site range from 198 to 272 for four different types of restaurant – Quality Restaurant, Family Restaurant, Fast Food with Drive-in window, Fast Food without Drive-in window.
59	Other retail trade	N (N)	N (N^2)	Y (Y^2)	ITE parking generation data for a "Shopping Center" on a weekday indicates that the average number of parking spaces per 1,000 sq. ft. of building space is 3.2. Using this average rate, a maximum FAR of .11 would limit the number of persons per acre/site to 25. This FAR is lower than typical for this type of development.
60	Services				No ITE data available for Service categories.

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones

(7 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
61	Finance, insurance and real estate services	N (N)	N (N)	Y (Y^6)	ITE parking generation data for a "General Office," an "Office Park," and a "Medical/Dental Clinic/Office" indicates that the average numbers of occupied parking spaces per 1,000 sq. ft. of building space are 2.79, 2.52 and 4.11 respectively. Using these average rates, maximum FARs of .16 for "General Office" and .18 for "Office Park" would limit the number of persons per acre/site to 25. A FAR of .11 would limit the number persons per acre/site for "Medical/Dental Clinic/Office" to 25. This FAR is lower than typical for this type of development.
62	Personal services	N (N)	N (N)	Y (Y^5)	Low-intensity office uses only. Meeting places, auditoriums, etc. not recommended.
62.4	Cemeteries	N (N)	Y (Y^7)	Y (Y^7)	Excludes chapels.
63	Business services	N (N)	Y (Y^8)	Y (Y^8)	ITE parking generation data for a "General Office," an "Office Park," and a "Medical/Dental Clinic/Office" indicates that the average numbers of occupied parking spaces per 1,000 sq. ft. of building space are 2.79, 2.52 and 4.11 respectively. Using these average rates, maximum FARs of .16 for "General Office" and .18 for "Office Park" would limit the number of persons per acre/site to 25. A FAR of .11 would limit the number of persons per acre/site for "Medical/Dental Clinic/Office" to 25.
63.7	Warehousing and storage services	N (not previously included)	Y (not previously included)	Y (not previously included)	ITE parking generation data for a "Warehousing" indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building space is 0.5. Using this average rate, a maximum FAR of 1 would limit the number of persons to less than 25.

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones

(8 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
64	Repair services	N (N)	Y (Y^2)	Y (Y)	ITE parking generation data for a "General Office," an "Office Park," and a "Medical/Dental Clinic/Office" indicates that the average numbers of occupied parking spaces per 1,000 sq. ft. of building space are 2.79, 2.52 and 4.11 respectively. Using these average rates, maximum FARs of .16 for "General Office" and .18 for "Office Park" would limit the number of persons per acre/site to 25. A FAR of .11 would limit the number of persons per acre/site for "Medical/Dental Clinic/Office" to 25.
65	Professional services	N (N)	N (N)	Y (Y^6)	Same as above.
65.1	Hospitals, nursing homes	N (N)	N (N)	N (N)	
65.1	Other medical facilities	N (N)	N (N)	N (N)	
66	Contract construction services	N (N)	Y (Y^6)	Y (Y)	ITE parking generation data for a "General Office," an "Office Park," and a "Medical/Dental Clinic/Office" indicates that the average numbers of occupied parking spaces per 1,000 sq. ft. of building space are 2.79, 2.52 and 4.11 respectively. Using these average rates, maximum FARs of .16 for "General Office" and .18 for "Office Park" would limit the number of persons per acre/site to 25. A FAR of .11 would limit the number of persons per acre/site for "Medical/Dental Clinic/Office" to 25.
67	Governmental services	N (N)	N (N)	✓ (Y^6)	ITE parking generation data for a "Government Office Building" indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building space is 3.8. Using this average rate, a maximum FAR of .12 would limit the number of persons to less than 25.
68	Educational services	N (N)	N (N)	N (N)	

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones

(9 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
69	Miscellaneous services	N (N)	N (N^2)	Y (Y^2)	Within each land use category uses exist where further evaluation may be needed due to the variation of densities of people and structures. For example, where a small neighborhood retail store may be compatible, a shopping center or a strip shopping mall would be incompatible due to the density of development and concentration of people.
70	**Cultural, entertainment and recreational**				No ITE data available for cultural, entertainment and recreational categories.
71	Cultural activities	N (N)	N (N)	N (N^2)	
71.2	Nature exhibits	N (N)	Y (Y^2)	Y (Y)	Within each land use category uses exist where further evaluation may be needed due to the variation of densities of people and structures.
72	Public assembly	N (N)	N (N)	N (N)	
72.1	Auditoriums, concert halls	N (N)	N (N)	N (N)	
72.11	Outdoor music shells, amphitheaters	N (N)	N (N)	N (N)	
72.2	Outdoor sports arenas, spectator sports	N (N)	N (N)	N (N)	
73	Amusements	N (N)	N (N)	Y (Y^6)	Facilities must be low intensity.

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones

(10 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
74	Recreational activities (including golf courses, riding stables, water recreation)	N (N)	Y ($Y^{8,9,10}$)	Y (Y)	Using ITE parking generation data for a "City Recreation Center," "Sports Health Club," and "Roller/Ice Skating Rink," the average numbers of occupied parking spaces per 1,000 sq. ft. of building space ranged from 4.0 for "City Recreation Center" to 5.78 for "Roller/Ice Skating Rink." A FAR ranging from .06 to .085 would limit the number of persons per acre/site to 25. This range of FARs is lower than typical for this type of development. For "Tennis/Racquetball Courts/Club," the ITE parking generation data indicates an average number of occupied parking spaces for 1,000 sq. ft. of building space is .71. Using this average rate, maximum FARs of .47 would limit the number of persons per acre/site to 25.
75	Resorts and group camps	N (N)	N (N)	N (N)	
76	Parks	N (N)	Y (Y^{8})	Y (Y^{8})	Same as above (#74).
79	Other cultural, entertainment and recreation	N (N)	Y (Y^{9})	Y (Y^{8})	Same as above (#74).
80	**Resource production and extraction**				No ITE data for resource production and extraction categories.
81	Agriculture (except livestock)	Y (Y)	Y (Y)	Y (Y)	
81.5, 81.7	Livestock farming and animal breeding	N (N)	Y (Y)	Y (Y)	
82	Agriculture related activities	N (N)	Y (Y^{5})	Y (Y)	ITE parking generation data for "Manufacturing" on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building equals 1.59. Using this average rate, maximum FARs of .28 would limit the number of persons per acre/site to 25. Specific prohibition of explosives, glare, smoke (as in airport zoning regulations).

Table B-2

AIR INSTALLATIONS COMPATIBLE LAND USE ZONES

Suggested Land Use Compatibility in Accident Potential Zones
(11 of 11)

LAND USE		CLEAR ZONE Recommendation ( ) Previous Compatibility Guidelines	APZ-1 Recommendation ( ) Previous Compatibility Guidelines	APZ-2 Recommendation ( ) Previous Compatibility Guidelines	COMMENTS
SLUCM* NO.	NAME				
83	Forestry activities and related services	N (N[10])	Y (Y)	Y (Y)	ITE parking generation data for "Manufacturing" on a weekday indicates that the average number of occupied parking spaces per 1,000 sq. ft. of building equals 1.59. Using this average rate, maximum FARs of .28 would limit the number of persons per acre/site to 25. Specific prohibition of explosives, glare, smoke (as in airport zoning regulations).
84	Fishing activities and related services	N (N[5])	Y (Y[5])	Y (Y)	Same as above.
85	Mining activities and related services	N (N)	Y (Y[5])	Y (Y)	Same as above.
89	Other resource production and extraction	N (N)	Y (Y[5])	Y (Y)	Same as above.

Notes to Comments

1†	1.3	x	1.59	x	.28	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Manufacturing"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
2†	1	x	.50	x	1	x	43,560/1,000	=	<25	persons (approx.) per acre/site for "Warehousing and Storage Services"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
3†	1.7	x	2.41	x	.14	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Hardware/Paint/Home Improvement" store
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
4†	1.7	x	3.2	x	.11	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Shopping Center"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
5†	1.7	x	1.41	x	.24	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Convenience Market"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
	1.7	x	2.87	x	.12	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Supermarket"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
6†	1.3	x	2.79	x	.16	x	43,560/1,000	=	25	persons (approx.) per acre/site for "General Office"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
	1.3	x	2.52	x	.18	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Office Park"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
7†	1.3	x	4.11	x	.11	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Medical/Dental Clinic/Office"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			

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[8†]	1.3	x	3.8	x	.12	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Government Office Buildings"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			
[9†]	1.7	x	.71	x	.47	x	43,560/1,000	=	25	persons (approx.) per acre/site for "Tennis Racquetball"
	(persons/pkg. sp.)		(pkg. sp./1,000 ft² GLA)		(FAR)		(ft²/acre)			

Notes to Previous Navy AICUZ Land-Use Recommendations

[1]Suggested maximum density 1-2 dwelling units per acre, possibly increased under a Planned Unit Development (PUD) where maximum lot coverage is less than 20 percent.

[2]Within each land use category, uses exist where further evaluation may be needed due to the variation of densities of people and structures. For example, where a small neighborhood retail store may be compatible in APZ-II, a shopping center or strip shopping mall would be incompatible due to the density of development and concentration of people.

[3]The placing of structures, buildings or above-ground utility lines in the clear zone is subject to severe restrictions. In a majority of the clear zones, these items are prohibited. See NAVFAC P-80.3 (NOTAL) for specific guidance.

[4]No passenger terminals and no major above-ground transmission lines in APZ-1.

[5]Factors to be considered: labor intensity, structural coverage, explosive characteristics, air pollution.

[6]Low-intensity office uses only. Meeting places, auditoriums, etc., not recommended.

[7]Excludes chapels.

[8]Facilities must be low intensity.

[9]Clubhouse not recommended.

[10]Large classes not recommended.

SOUTHERN MARYLAND NAVY ALLIANCE

ENCROACHMENT STUDY COMMITTEE

Key Findings & Recommendations

February 2007

//

Executive Summary
Southern Maryland Navy Alliance
Encroachment Study Committee

The overriding objective of the Encroachment Study Committee is to provide recommendations to St. Mary's County decision-makers that will result in policies that balance economic growth with an unswerving devotion to maintaining world-class Department of Defense facilities and airspace free from encroachment at the Navy's Patuxent River complex.

NAS Patuxent River

Today, NAS Patuxent River is the Navy's principal site for Navy aviation acquisition, research, development, test, and evaluation. Together with Webster Field, the facilities are the largest employers in St. Mary's County, accounting for 19,200 jobs and $520 million in payroll. NAS Patuxent River personnel are involved in the acquisition, research, development, test and evaluation of almost all new aircraft in the Department of Defense's inventory, including the new Presidential Helicopter, the Global Hawk unmanned air vehicle and the Joint Strike Fighter. Because of constantly changing technology and impacts to the Patuxent River Air Installations Compatible Use Zone (AICUZ) plan, a continuous effort must be in place to monitor and mitigate encroachment.

Past Actions to Reduce Encroachment

In the 1970's, Navy officials at NAS Patuxent River anticipated the residential growth in St. Mary's County and submitted to the County an AICUZ plan to manage encroachment. This plan has worked well, clarifying the Navy's expectations of the County regarding its missions and provided guidance to the County to adopt smart-growth land compatibility laws which protect the base while minimizing safety hazards to the citizens of St Mary's County. The County gave maximum cooperation to the Navy's needs which has allowed operations at NAS Patuxent River and Webster Field to expand without the fear from incompatible development that has plagued many other Navy communities.

Over time, as operations have expanded at NAS Patuxent River, residential and business development has naturally increased and has come closer to both facilities. St. Mary's County continues to be pro-active and has passed effective land compatibility legislation, purchased tracts of land to pre-empt encroachment, and established formal coordination channels with Navy leadership at NAS Patuxent River to discuss pending development proposals. While these actions have effectively minimized encroachment challenges, a number of pending development proposals and new realities in aircraft technology has made an updated review of the County's encroachment policies necessary.

Recommendations for Future Action

After careful review by the Encroachment Study Committee, the following recommendations are offered to the County to ensure St. Mary's County continues to be on the forefront of effective local action to reduce the threat of encroachment. The recommendations address five overall objectives:

- Improving Ongoing St. Mary's County/Navy Communication
- Eliminating Future Residential Development in APZ-2
- Creating a Buffer Zone
- Addressing Encroachment Issues at Webster Field
- Analyzing Merits of a Joint Land Use Study

These recommendations will significantly upgrade the encroachment protection provided by the existing AICUZ ordinance by reducing threats within the AICUZ related to accident potential and noise. They will also create a mechanism to identify and ameliorate other types of encroachment, unseen and unheard, but potentially crippling to the Navy's mission, such as electromagnetic interference and light pollution. The Committee believes new zoning language can be crafted that enables landowners to retain reasonable uses for their property while enacting further protection for the AICUZ and a buffer zone.

Throughout the document, there are a number of references to actions taken by other communities to deal with encroachment. We believe these examples are instructive and merit further study for potential application at NAS Patuxent River and Webster Field. We also believe these examples demonstrate the commitment that other communities have taken to keep their military bases open. In an era where force structure continues to shrink and where BRAC rounds are a constant threat, these actions amount to a zero sum game whereby winners and losers are the result. That is, some bases will grow and thrive while others will erode and close.

Finally, each recommendation proposes a policy objective. Additional work in close consultation with County leadership, County land-use planners, local businesses and the Navy will be required to develop the specifics of each recommendation.

Specific Recommendations

Ongoing St. Mary's County/Navy Communication

- Use the pending NAS Patuxent River Complex Encroachment Action Plan as the basis for a Memorandum of Understanding (MOU) jointly signed by the Commanding Officer, NAS Patuxent River and St Mary's County.
- Establish a formal means, via the MOU, that ensures feedback and a recommendation from the Commanding Officer, NAS Patuxent River on any new, perceived or real encroachment issues as they arise.
- Establish a twice-yearly meeting between the Commanding Officer, NAS Patuxent River, County Commissioners and senior administrators to improve planning and review of progress on critical community issues.
- Utilize the MOU for joint Navy-County educational and outreach efforts that focus specifically on encroachment and AICUZ-related issues.

- Continue joint Community-Navy technical reviews of development proposals, consistent with the St Mary's County Technical Evaluation Committee.

Residential Development in NAS Patuxent River APZ-2

- Amend AICUZ ordinance to prohibit new residential development in APZ-2. This change will not affect existing residential property.

Buffer Zone

- Define a buffer zone in which residential density cannot be increased and in which additional noise mitigation is required for both residential and commercial uses.
- Boundaries of the buffer zones and specific requirements are to be determined with involvement of County government, the development community, and in consultation with the Navy.
- Analyze proven examples at Luke AFB, NAS Whiting Field, and NAS Pensacola as potential references for ordinance changes.

Encroachment Issues at Webster Field

- Develop a joint Navy-local community program of land and easement acquisition for the Clear Zone at Webster Field. Investigate all available funding sources for this program, including military construction funding, state and local agricultural land preservation programs, and the Department of Defense's Readiness & Environmental Protection Initiative.
- Include the details of the Navy-local community land and easement program in the Navy / St. Mary's County MOU.
- Develop an AICUZ overlay established in a County ordinance for Webster Field that will include a projected APZ-1 and APZ-2.
- Consider a buffer zone at Webster Field consistent with the goals and objectives of a NAS Patuxent River buffer zone.

Analyze Merits of a Joint Land Use Study

- Utilize the Encroachment Study Committee to liaison with the Navy and all affected regional communities to determine the utility/merits of establishing a NAS Patuxent River Complex Joint Land Use Study (JLUS).
- JLUS are becoming commonly used mediums to provide recommendations regarding compatible land development policy.
- Consider the advantages of utilizing the Maryland Military Installations Council (MMIC) to charter the JLUS and to establish an on-going JLUS Regional Coordinating Committee including representatives from local and state (VA, MD, NC, DE, and NJ) regions.

Southern Maryland Navy Alliance

Encroachment Study Committee

Report of Findings

I. Introduction

In July 2006, the Southern Maryland Navy Alliance (SMNA) convened an Encroachment Study Committee to help elected officials, business leaders and community members evaluate potential actions and policies that would reduce the threat of encroachment to Department of Defense activities in St. Mary's County, namely at Naval Air Station Patuxent River and Webster Field. The Committee's immediate priority was to review current encroachment issues and offer recommendations to mitigate these issues. Additionally, the Committee consulted with Navy personnel and industry in order to account for future mission flexibility at NAS Patuxent River and Webster Field that is inevitable from a technological perspective and welcome from an economic one. Finally, the Committee focused on methods to reinforce County-Navy dialogue as the Navy develops and reviews Air Installations Compatible Use Zone (AICUZ) studies and completes action on an Encroachment Action Plan for NAS Patuxent River and Webster Field.

The Naval Air Station Patuxent River, commissioned in April 1943, is home to the Naval Air Systems Command headquarters (NAVAIR) and the Naval Air Warfare Center Aircraft Division. It is the Navy's principal site for Navy acquisition, research, development, test, evaluation, and engineering and fleet support activity for manned and unmanned aircraft, engines, avionics, aircraft/weapon support systems, weapons, aircraft landing & recovery systems and aviation training systems. The Naval Air Warfare Center Aircraft Division at Patuxent River (including Webster Field) is NAVAIR's research, development, test and evaluation activity for manned and unmanned aircraft, engines, avionics, aircraft support systems, special operations, advanced information systems and air traffic control for ship/shore air operations. More than 165,000 air operations take place annually at Patuxent River in over 780 restricted and 5,000 controlled square miles. The RDT&E capability ranges from concepts analysis and procurement to flight-testing and support equipment. Patuxent River occupies nearly 14,000 acres, five runways and 935 buildings. Other major tenant commands located at Patuxent River include: Naval Research Laboratory, Flight Support Detachment, Air Test and Evaluation Squadron One and other ancillary commands.

The Naval Air Station Patuxent River and Webster Field are the largest employers in St. Mary's County and together account for 19,200 jobs and $520 million in payroll. The Navy is the county's #1 economic driver and the primary reason behind the county's growth. For example, following the BRAC 1993 round, and specifically between 1995 and 2000, total employment at the Patuxent River complex increased from 12,300 to 17,200, representing approximately 72.7% of the existing jobs available in the County in 2000. This growth has naturally attracted development that, over time, without oversight, can lead to encroachment.

The overriding objective of the Encroachment Study Committee is to provide recommendations to St. Mary's County decision-makers that will result in policies that balance economic growth with an unswerving devotion to maintaining world-class Department of Defense facilities and airspace free from encroachment.

II. Key Findings

1. The <u>threat to future operations from encroachment is real</u> and the Department of Defense is taking notice.
    - Notable cases such as NAS Oceana derived from a long-documented history of poor cooperation and communication between the Navy and community. Often, Navy recommendations against development were ignored.
    - "I am increasingly troubled over a trend in recent years by local government to turn a blind eye to Navy concerns in favor of housing developers."
      BRAC 2005 Testimony: ADM Mike Mullen, Chief of Naval Operations
    - At the same time, many communities have realized the positive economic impact of their neighboring military bases and the devastating impact of BRAC, and have responded pro-actively with aggressive land-use compatibility ordinances.

2. <u>Encroachment protection is a "continuous effort" with "compatibility" as its goal</u>.
    - Land use controls are the responsibility of local government. The Navy will only provide guidance and advice.
    - Some communities are making extraordinary efforts to reach compatibility and to set the stage to accept newer, louder, and potentially unmanned air vehicles. The communities around NAS Whiting Field and NAS Pensacola have enacted buffer zones. MCAS Miramar has a larger APZ-2 to maintain a corridor to the ocean and prohibits residential development in a buffer zone above the 60 DNL noise contour. Luke AFB and Davis Monthan AFB in Arizona have buffer zones with density restrictions and residential growth restrictions.
    - St. Mary's County legislators have led successful efforts to pass a Maryland law requiring homebuyer notification of the potential for noise from nearby military installations and has an active AICUZ system with corresponding land-use ordinances.

- There is a case to be made that pro-active land compatibility ordinances enacted by these communities saved their local bases from closure in the latest BRAC round.
- Compatibility is an imperative and must be continuously monitored to conform with change.

3. New and potentially louder aircraft systems and the use of unmanned aerial vehicles (UAVs) means local government must make sound judgments to keep their facilities viable in the future.
    - Undersecretary of Defense Phil Grone informed the Encroachment Study Committee that "joint management by the Navy and the community" of DoD facilities should go "beyond the AICUZ borders."
    - Deputy Under Secretary of Defense Phil Grone emphasized that DoD will not be creating new bases, so existing infrastructure is critical. "Future needs may require a larger footprint."
    - Chief of Naval Operations guidance (OPNAV INST 11010.36B) requires the Navy to evaluate operational alternatives to reduce noise and accident potential zone impacts. NAS Patuxent River leadership is pro-active in its efforts to accommodate local concerns regarding aviation operations, particularly those related to noise, by adjusting the timing and location of operations.

III. Background

Encroachment has become a major liability to military bases being studied during periodic base closure and realignment (BRAC) rounds. Even without the threat of a BRAC round, the Department of Defense can modify force structure, move units and personnel, or otherwise decide to not invest in military facilities where encroachment poses a threat to continued military operations.

The Department of Defense established the Air Installations Compatible Use Zones (AICUZ) program to balance the need for aircraft operations and community concerns. AICUZ guidelines define zones of high noise and accident potential and recommended uses compatible within these zones. The Department of Defense provides noise zones as a planning tool for local planning agencies with the intent that they will encourage local governments to apply these guidelines in their land-use decision-making processes.

Under the AICUZ program, DoD provides noise zones as a planning tool for local planning agencies. These noise zones are based on the day-night average sound level, or "DNL", and they take the shape of noise contours on AICUZ maps. Additionally, DoD provides Accident Potential Zones (APZs) as a planning tool for local land use agencies. APZs are areas where an aircraft accident is likely to occur if one occurs. An AICUZ map defines three APZs for Class B airfields that allow high-performance fixed-wing aircraft; a Clear Zone extending 3,000 feet beyond the runway, APZ-1 extends 5,000 beyond the Clear Zone, and APZ-2 extends 7,000 feet beyond APZ-1, for a total of 15,000 feet beyond the end of the runway. Most importantly, DoD

provides land-use compatibility guidelines for noise zones and APZs. For example, the Navy recommends only agricultural and public rights-of-way be allowed in the Clear Zone, while allowing for wholesale and manufacturing in APZ-1 and limited residential in APZ-2.

AICUZ land-use compatibility guidance is not binding and they serve as guidelines only. Local governments alone are responsible for regulating land use.

IV. Encroachment and St. Mary's County

Throughout the United States, communities are struggling to meet the challenges of encroachment near military bases. On November 7, 2006, the Commonwealth of Virginia and the City of Virginia Beach filed lawsuits against the Department of Defense in an attempt to overturn a 2005 BRAC decision that was motivated wholly by the City's inability to address incompatible land use around Naval Air Station Oceana. At Nellis AFB, near Las Vegas, fighter aircraft carrying live ordinance can no longer take-off in a northerly direction because of encroachment, which is now threatening to encircle Nellis AFB on four sides. Urban sprawl from Los Angeles and San Diego has stymied training at Camp Pendleton due to community noise complaints and endangered species.

St. Mary's County is ahead of most communities because of its long-standing AICUZ overlay zone, originally adopted in 1979, and regular consultation with the Navy on development proposals. The St. Mary's County Comprehensive Zoning Ordinance, effective May 13, 2002, recognizes a Clear Zone, APZ-1, and APZ-2 around airport environs (AE), as well as, noise level contour lines. Section 43.3 *Land Use and Development Regulations Generally* specifies permitted uses in the AICUZ or AE districts, which are consistent with Navy standards.

Clear Zones: St. Mary's County allows no development in the clear zone. Agricultural activity, with the exception of livestock, is permitted. This guidance is consistent with Navy standards. NAS Patuxent River has no encroachment issues in the clear zones. At Webster Field, there are some less concentrated residential uses (i.e., single-family homes on slightly larger lots) within the clear zones. It is important to note the Navy does not own the property comprising the Webster Field clear zone. However, Navy officials have indicated that there are a number of methods to mitigate this issue, including the authorization of military construction funds to purchase the land in the clear zone or to place restrictive easements on it.

APZ-1: St. Mary's County allows no residential activity in APZ-1 and puts limits on most industrial/manufacturing and other activities. There are no encroachment issues in the NAS Patuxent River APZ-1.

APZ-2: St. Mary's County allows a maximum of two residential dwelling units per acre in APZ-2 and a wide variety of industrial, manufacturing, commercial, and transportation, all consistent with Navy guidance. Pockets of existing housing, mostly older, remain in APZ-2, mainly at Southampton and Essex South. Density varies, since some of this housing pre-dates adoption of the AICUZ guidelines.

Significant effort has been made to monitor and mitigate encroachment in APZ-2. The south parcel of Lexington Manor (50 acres inside APZ-2) was purchased with Program Open Space and Federal Government Community Development Block Grant funds. Use is restricted to recreational open space by both funding programs.

The County has precluded residential development on approximately 34 acres in the north parcel of Lexington Manor. By agreement with the Community Development Corporation, the County will also preclude residential development on adjacent property.

Nevertheless, in APZ-2, some development proposals seek to take underlying residential density, i.e., more than the AICUZ limit of two units per acre, from APZ-2 and apply it across the boundary to adjacent land.

The Encroachment Study Committee finds that any new residential construction within APZ-2 or on the edges of APZ-2 represents an encroachment threat and believes it would establish a new trend of housing construction within and near the AICUZ .

V. Encroachment Action Plan (EAP) and Next Steps by the Navy

St Mary's County leadership must realize that the Navy is continually assessing the state of encroachment at the Patuxent River complex. The EAP is a "situational awareness" tool for the Commanding Officer of the Naval Air Station. In fact, the Navy is currently completing a new Encroachment Action Plan, which according to their briefing, will "identify, quantify and create a plan for mitigating potential encroachment challenges within the Patuxent River complex environs." The goals of the EAP are:

- Delineate encroachment challenges for the Patuxent River complex
- Identify underlying factors
- Outline encroachment management strategies to manage challenges
- Provide short, medium, and long-term recommendations for action to eliminate or mitigate encroachment

The Navy recognizes encroachment from many sources. It will be important that St. Mary's County remains vigilant to all forms of encroachment, not just easily identifiable ones such as residential growth and noise. For example, the Navy's plan will consider the following:

- Urban growth
- Airborne noise
- Competition for air space, land and sea space
- Frequency spectrum
- Lighting (Light Pollution)
- Ordnance and unexploded ordnance and munitions
- Threatened and endangered species
- Maritime issues, such as LNG tankers

- Air and Water quality
- Competition for scarce resources (oil, gas, minerals)
- Inter-agency coordination, challenges to military activities, and legislative initiatives

The Navy's focus on Patuxent River is no doubt a reflection of the importance it puts in the facility. It also reflects the significant uncertainty about the nature of aircraft that might be flown from Patuxent River in the future, including their noise profiles and accident potential. The community must make educated judgments regarding the degree to which it will protect the facility with the future in mind. Consider:

- Actual in-flight measurements of the Joint Strike Fighter (F-35 Lightning II) have not been made.
- The Draft JSF environmental assessment model predicts a slight decrease (5.1%) in acres off-installation affected by DNL greater than 65 decibels. However, verbal reports from a number of interviews predict a louder profile for the JSF.
- The increased use of unmanned aerial vehicles (UAVs), a growing component of Naval Aviation, will bring different noise profiles and accident potentials.

The Encroachment Study Committee finds that a number of encroachment issues merit continuing attention from the community, primarily noise. Given the uncertain noise profiles of future technology, the community should proceed cautiously to reduce the likelihood of future encroachment.

V1. Issues & Recommendations

The Committee has identified five issues and provides recommendations to address each.

1. Ongoing St. Mary's County / Navy Communication

Discussion:

- The current system for joint County and Navy review of development proposals is strong and effective.
- NAS Patuxent River has a designated liaison official to the community that consults regularly with the County's planning department on pending development proposals.
- The community responded well after the BRACs of the 1990s, identifying Navy needs for community infrastructure and support and then meeting those needs.
- The County further improved its planning and communication through specific lists of community priorities to support the Navy in the years leading up to BRAC 2005.
- Navy needs are increasingly fluid; local development pressures are stronger; the economic stakes are higher. There is a need for more structured, systematic ongoing communication.
- Navy missions and technology evolve rapidly. Regularly scheduled communication will allow the County to focus not only on the development issue at-hand, but to prepare and educate County leadership to specific technological issues that could potentially, over-time, weaken Patuxent River; e.g. light pollution, electromagnetic interference.

Recommendations:

- Use the pending Patuxent River Complex Encroachment Action Plan as the basis for a Navy-St Mary's County Memorandum of Understanding between the Commanding Officer, NAS Patuxent River and the St. Mary's County Board of County Commissioners.
- Establish a formal means, via the Memorandum of Understanding, that ensures feedback and a recommendation from the Commanding Officer, NAS Patuxent River on any new, perceived or real encroachment issues as they arise.
- Establish a twice-yearly meeting between the Commanding Officer, NAS Patuxent River and County Commissioners and senior administrators to improve planning and review of progress on critical community issues.
- Utilize the Memorandum of Understanding for joint Navy-County educational and outreach efforts that focus specifically on encroachment and AICUZ-related issues.
- Continue joint Community-Navy technical reviews of development proposals, consistent with the St Mary's Technical Evaluation Committee.

2. Residential Development in the NAS Patuxent River APZ-2

Discussion:

- New development proposals that seek to take underlying density from APZ-2 and apply it across the boundary to adjacent land, as well as existing housing in APZ-2, present an encroachment threat.
- Given the unique attention being paid to encroachment inside APZs and given Patuxent River's inevitable scrutiny prior to acceptance of the F-35 Lightning II and future UAVs, all efforts should be made to make APZ-2 encroachment-free.
- Similarly, the Clear Zone and APZ-1 must remain free from encroachment.

Recommendation:

- Amend AICUZ ordinance to prohibit new residential development in APZ-2. This change will not affect existing residential property.

3. Buffer Zone

Discussion:

- Noise contours greater than 60 DNL extend beyond the borders of the AICUZ. Single event noise can be disruptive beyond the AICUZ border.
- Pending development proposals have requested zoning changes to increase residential density immediately across the AICUZ boundary.
- Comments by Deputy Under Secretary of Defense Grone indicate that future DoD decisions will heavily weigh the extent to which facilities are hemmed in by dense development.
- Navy guidelines have recently been published regarding sound mitigation construction techniques.

Recommendations:

- Define a buffer zone in which residential density cannot be increased and in which additional noise mitigation is required for both residential and commercial uses.
- Boundaries and specific requirements to be determined with involvement of County government, the development community, and in consultation with the Navy.
- Analyze proven examples at Luke AFB, NAS Whiting Field, and NAS Pensacola as potential references for land use changes.

4. Encroachment Issues at Webster Field

Discussion:

- The Clear Zone at Webster Field is in non-Navy ownership and includes residential property.
- Increased use of Webster Field is a strong possibility, especially related to UAVs.
- Given the transformational technologies being developed and tested at Webster Field, a clearer understanding of all forms of encroachment, including electronic interference, noise, and light pollution, must be ascertained.
- A new AICUZ study for Webster Field will be available in early 2007.
- The surrounding zoning is Rural Preservation District (RPD) or 1 dwelling per 5 acres, hence more restrictive than the current APZ-2 at NAS Patuxent River (2 dwellings per acre).
- The County should be prepared to adopt ordinances to ensure protection around Webster Field.

Recommendations:

- Develop an AICUZ overlay established in a County ordinance for Webster Field that includes a projected APZ-1 and APZ-2.
- Consider a buffer zone at Webster Field consistent with the goals and objectives of a NAS Patuxent River buffer zone.
- Develop a joint Navy/local community program of land and easement acquisition for the Clear Zone at Webster Field. Investigate all available funding sources for this program, including military construction funding, state and local agricultural land preservation programs, and the Department of Defense's Readiness & Environmental Protection Initiative.
- Include the details of the Navy-local community land and easement program in the Navy / County MOU as outlined above.

5. Analyze Merits of a Joint Land Use Study (JLUS)

Discussion:

- NAS Patuxent River, Webster Field, and the Mid-Atlantic Test and Training Range operations impact and are impacted by encroachment from areas well outside St. Mary's Country, ranging from Maryland's Eastern Shore to the Northern Neck of Virginia.
- A Joint Land Use Study (JLUS) is an effective means to create a uniform planning policy environment to minimize encroachment.

- One existing JLUS, the Hampton Roads JLUS, includes eight primary categories: (1) coordination/organization (2) communications/information (3) sound attenuation (4) real estate disclosure (5) planning and public policy (6) land use regulation (7) acquisition and (8) military operations.

Recommendations:

- Utilize the Encroachment Study Committee to liaison with the Navy and all affected regional communities to determine the utility/merits of establishing a NAS Patuxent River Complex JLUS.
- Consider the advantages of utilizing the MMIC to charter the JLUS and to establish an on-going JLUS Regional Coordinating Committee including representatives from local and state (VA, MD, NC, DE, and NJ) regions.

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COOPERATION AGREEMENT BETWEEN
THE COMMANDING OFFICER, NAS PATUXENT RIVER,
AND
THE ST. MARY'S COUNTY BOARD OF COUNTY COMMISSIONERS
FOR
ENCROACHMENT MITIGATION AND PREVENTION

WHEREAS, the St. Mary's County Board of County Commissioners (hereinafter referred to as "the County") are a body politic and corporate and a subdivision of the State of Maryland; and

WHEREAS, the Commanding Officer, Naval Air Station Patuxent River (hereinafter referred to as "the Navy") is a Naval Command under the Commandant, Naval District Washington; and,

WHEREAS, the Naval Air Station (NAS) Patuxent River is the Navy's principal site for naval aviation acquisition, research, development, test, and evaluation, accounting for over 19,000 jobs and an overall economic impact of more than $2 billion in St. Mary's County; and,

WHEREAS, encroachment caused by activities outside of the defense installations can affect operations at the Navy's Patuxent River complex (NAS Patuxent River and Webster Field), potentially limiting the future viability of Navy operations in St. Mary's County; and,

WHEREAS, the Navy and the County recognize that encroachment can encompass a variety of issues, ranging from noise to frequency interference to light pollution, any of which can impede operations at NAS Patuxent River; and,

WHEREAS, the County is strongly committed to local policies and actions that will maintain world-class Department of Defense facilities and airspace free from encroachment at the Navy's Patuxent River complex; and,

WHEREAS, the Navy has completed an Encroachment Action Plan that provides overall guidance, identifies encroachment threats and recommends possible actions to remedy those threats; and,

WHEREAS, both the Navy and the County wish to ensure clear and timely communication that will anticipate and resolve any issues that might create an encroachment threat to operations at the Patuxent River complex.

NOW, THEREFORE, be it agreed by the County and the Navy that the following terms and conditions shall establish their formal cooperative encroachment mitigation and prevention relationship:

1. Representatives of the County and the Navy shall meet at least twice yearly to discuss identified encroachment threats, potential new threats, proposed new development, potential encroachment remedies, progress on identified encroachment remedies and related matters. These discussions shall include a review of existing and proposed development in the AICUZ and nearby areas, adopted and potential changes to the local zoning ordinance, and potential cooperative action to address encroachment.
2. The Navy shall continue to provide a technical advisor to review all development proposals in the vicinity of NAS Patuxent River and Webster Field as part of the County's technical evaluation committee process for proposed development.
3. The County and the Navy shall collaborate on communication efforts to inform St. Mary's County citizens about the nature of encroachment threats and local actions that can reduce or eliminate those threats.
4. The County and the Navy shall collaborate on analyses and data collection that provide clearer quantitative measures of encroachment threats and the progress of mitigation and prevention measures.
5. The County and the Navy shall collaborate to address encroachment threats from beyond St. Mary's County.

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6. The Navy shall work with the County to identify easements or other mechanisms to ensure protection of the Clear Zone at Webster Field and to accomplish the compatible goals of encroachment protection and agricultural land preservation.

ATTEST:

4/20/07

NAVAL AIR STATION
PATUXENT RIVER, MARYLAND

By: 4/20/07
Captain Glen Ives, Commanding Officer

4/20/07
John Savich
County Administrator

BOARD OF COUNTY COMMISSIONERS
ST. MARY'S COUNTY, MARYLAND

By: Francis Jack Russell 4/24/07
Francis Jack Russell, President

Approved as to Form
and Legal Sufficiency

Christy Holt Chesser
Christy Holt Chesser
County Attorney

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ORDINANCE

WHEREAS, pursuant to Section 28.1.2 of the St. Mary's County Comprehensive Zoning Ordinance (Ordinance Z-02-01, hereinafter, the "Zoning Ordinance"), the St. Mary's County Planning Commission (hereinafter, the "Planning Commission") may make recommendations to the Board of County Commissioners for St. Mary's County (hereinafter, the "Board") to supplement, modify, or repeal provisions of the text of the Zoning Ordinance; and

WHEREAS, the Board directed the Planning Commission to consider amending Chapter 43, "Air Installations Compatible Use Zone (AICUZ) and Airport Environs (AE) Overlay", of the Zoning Ordinance, prohibiting residences in the APZ-2 Zone in Figure 43.3.A "Land Use Compatibility in Aircraft Accident Potential Zones"; and

WHEREAS, the Planning Commission, following due notice published in the June 8, 2007 and June 13, 2007 editions of *The Enterprise,* a newspaper of general circulation in St. Mary's County, held a public hearing on June 25, 2007 to accept public comment regarding the proposed amendment of Chapter 43 of the Zoning Ordinance with regard to prohibiting residences in the APZ-2 Zone in Figure 43.3.A "Land Use Compatibility in Aircraft Accident Potential Zones"; and

WHEREAS, upon due consideration of the comments of the public, and finding that it is in the best interest of public health, safety and welfare of the citizens of St. Mary's County, Maryland, the Planning Commission adopted Resolution No. 07-11 to favorably recommend the proposed amendment to the Board, prohibiting residences in the APZ-2 Zone; and

WHEREAS, the Board, following due notice published in August 17, 200 and August 22, 2007 editions of *The Enterprise,* a newspaper of general circulation in St. Mary's County, held a public hearing on September 4, 2007 regarding the proposed amendment of Chapter 43 of the Zoning Ordinance; and

WHEREAS, all procedural requirements of *Article 66B* of the Maryland Annotated Code, as amended, with regard to preparation of the recommendation of the Planning Commission and subsequent action of the Board have been met; and

WHEREAS, upon due consideration of the comments of the public, staff, and the recommendation of the Planning Commission, it is in the best interest of public health, safety and welfare of the citizens of St. Mary's County, Maryland, to adopt the amendment to the Zoning Ordinance set forth below, which shall otherwise remain in full force and effect.

NOW THEREFORE, BE IT ORDAINED by the Board of County Commissioners for St. Mary's County that the St. Mary's County Comprehensive Zoning Ordinance (Ordinance Z-02-01) be amended as follows:

Figure 43.3.A: Land Use Compatibility in Aircraft Accident Potential Zones

In the row titled "Single-family," in the column titled "APZ-2": delete B^2 and insert C^2;

Delete footnote 2 and insert a new footnote 2 to read as follows:

"Residences are not allowed in the APZ-2 Zone after (*effective date of this amendment*) unless in conformance with paragraphs "a", "b", "c" and "d" below:

a. Residences existing as of *(effective date of this amendment)* are not considered non-conforming and may be altered or replaced in conformance with the existing development standards and paragraph "d" below.
b. Vacant recorded lots within a residential subdivision may be used for residential purposes in accordance with existing development standards and paragraph "d" below.
c. All pending residential subdivisions filed with the County prior to April 10, 2007 may proceed through the development process.
d. Residential construction after (*effective date of this amendment*) will comply with existing development standards and applicable sound reduction measures found in Figure 43.2.A.
e. Where properties are partially within the APZ-2 Overlay, and within a base zone in which residences are permitted, residential density may be transferred from the portion within the Overlay to the portion outside of the Overlay at a density of two (2) dwelling units per acre.

In the Key to Figure 43.3.A revise "C" to read as follows:

"C: Normally Incompatible The exposure to noise or accident potential is significantly more severe so that unusual density restrictions are necessary for safety of life and property."

BE IT FURTHER ORDAINED, by the Board that, in the event any portion of the Zoning Ordinance is found to be unconstitutional, illegal, null or void, it is the intent of the Board to sever only

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the invalid portion or provision, and that the remainder of the Zoning Ordinance shall be enforceable and valid.

BE IT FUTHER ORDAINED, by the Board that the foregoing recitals are adopted as if fully rewritten herein.

BE IT FUTHER ORDAINED, by the Board that this enactment shall be effective on the date written below.

Date of adoption: 10/2/2007

Ayes: 5 Nays: 0 Abstain: 0

Effective date: 10/2/2007

BOARD OF COUNTY COMMISSIONERS
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HEADQUARTERS UNITED STATES MARINE CORPS
3000 MARINE CORPS PENTAGON
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OPNAVINST 11010.36C
MCO 11010.16
N46/LFL
9 Oct 2008

OPNAV INSTRUCTION 11010.36C
MARINE CORPS ORDER 11010.16

From: Chief of Naval Operations
Commandant of the Marine Corps

Subj: AIR INSTALLATIONS COMPATIBLE USE ZONES (AICUZ) PROGRAM

Ref: (a) DoD Instruction 4165.57 of 8 Nov 1977
(b) Noise Control Act of 1972, 42 U.S.C. 4901 {et Seq.}
(c) DoD Instruction 4715.13 of 15 Nov 2005
(d) SECNAVINST 11011.47A
(e) Federal Management Regulation, 41 CFR 102

Encl: (1) Air Installation Compatible Use Zones (AICUZ) Program Procedures and Guidelines for Department of the Navy Air Installations

1. Purpose. To revise Department of the Navy (DON) policy, procedures and guidelines for implementation of reference (a). This instruction provides guidance from the Chief of Naval Operations (CNO) and Commandant of the Marine Corps (CMC) responsible for management of the Air Installations Compatible Use Zones (AICUZ) program.

2. Cancellation. OPNAVINST 11010.36B.

3. Background

a. Reference (b) requires Federal agencies and State and local governments to develop measures to control the harmful effects of noise on people. The Department of Defense (DoD) initiated the AICUZ program to protect the public's health, safety, and welfare and to prevent encroachment from degrading the operational capability of military air installations in meeting national security.

b. The AICUZ program recommends land uses that will be compatible with noise levels, accident potential and obstruction clearance criteria associated with military airfield operations. Program implementation procedures for the Navy and Marine Corps are contained in enclosure (1).

4. Discussion. The foundation of the AICUZ program is an active local command effort to work with local, State, regional, other Federal agencies, and community leaders to encourage compatible development of land adjacent to military airfields. The DON is particularly susceptible to such encroachment with many of its installations located in high growth urban areas. The AICUZ process involves four basic steps:

a. Develop, and periodically update, a study for each air installation to quantify aircraft noise zones and identify accident potential zones; develop a noise reduction strategy for impacted lands, both on and off the installation; prepare a compatible land use plan for the installation and surrounding areas; and develop a strategy to promote compatible development on land within these areas.

b. Develop a prospective long-term (5 to 10 years) AICUZ analysis to illustrate impact on potential future missions and how it will be implemented by the AICUZ program.

c. Implement the AICUZ plan for the installation including coordination with Federal, State, and local officials to maintain public awareness of AICUZ.

d. Identify and program property rights acquisition including encroachment partnering projects in critical areas where action to achieve compatibility within AICUZ program guidelines through local land use controls is not practicable, or has been attempted and proven unsuccessful in providing desired long-term encroachment protection.

5. Applicability. These procedures apply to all Navy and Marine Corps airfields within the confines of the United States, its territories, trusts and possessions. AICUZ studies, or portions thereof, may be developed for U.S. activities in

foreign countries if such action supports host nation policy for protecting the operational capabilities of those activities, and for on-base facility planning goals.

6. Records Management. All records created by this instruction, regardless of format and media, shall be managed in accordance with Secretary of the Navy Manual 5210.1.

7. Action. Addressees shall comply with the procedures outlined herein.

E. G. USHER III
Deputy Commandant for
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Deputy Chief of Naval Operations
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AIR INSTALLATIONS COMPATIBLE USE ZONES (AICUZ)

PROGRAM PROCEDURES

AND

GUIDELINES

FOR

DEPARTMENT OF THE NAVY

AIR INSTALLATIONS

Enclosure (1)

TABLE OF CONTENTS

CHAPTER 1

THE PROCESS

1. THE AICUZ PROGRAM OBJECTIVES. The purpose of the AICUZ program is to achieve compatibility between air installations and neighboring communities by:

a. Protecting the health, safety, and welfare of civilians and military personnel by encouraging land use which is compatible with aircraft operations;

b. Protecting Navy and Marine Corps installation investment by safeguarding the installation's operational capabilities;

c. Reducing noise impacts caused by aircraft operations while meeting operational, training, and flight safety requirements, both on and in the vicinity of air installations; and

d. Informing the public about the AICUZ program and seeking cooperative efforts to minimize noise and aircraft accident potential impact by promoting compatible development in the vicinity of military air installations.

2. THE AICUZ STUDY. Each Navy and Marine Corps air installation designated by the CNO or the CMC has an AICUZ study which includes a detailed analysis of aircraft noise, accident potential, land use compatibility, operational alternatives, and recommended strategies to address existing and potential incompatible development in the vicinity of the air installation. All initial AICUZ studies have been completed and approved and are now updated when circumstances require such action. AICUZ areas depicted in these studies shall not be modified without CNO or CMC approval.

3. OPERATIONAL ALTERNATIVES. Each AICUZ study should normally include an evaluation of operational alternatives to reduce noise and Accident Potential Zone (APZ) impacts, e.g., flight track modifications, altering hours of operation, construction of acoustical enclosures, changes in pattern altitudes, etc. Evaluation of an operational alternative must balance noise and

APZ changes with impacts on flight safety, operational capability, and cost. The decision to accept or reject a new alternative must be clearly presented. Proposed changes to already approved operational procedures will require documentation by the local command as to the reasons for the change along with notification and approval by the installation's chain of command. Environmental documentation in compliance with the National Environmental Policy Act (NEPA) may also be required.

4. IMPLEMENTATION. Each installation's AICUZ program implementation must be a continuous effort. Local command representatives should continually work toward achieving compatibility between the air installation and its neighboring communities, primarily through local land use controls. Land use controls outside the air installation, which are critical to limiting the number of people exposed to excessive noise and the potential for accidents, are under the exclusive control of State and local governments, and local commands should act only in an informational role. Land acquisition should be considered only in critical situations where State and local governments are unwilling or unable to enact land use controls to achieve land use compatibility within the AICUZ or where long-term land use controls are considered to be tenuous. Interests in land may be acquired via several methods. Land acquisition, for which Congressional authorization is normally required, will usually involve undeveloped land. The air installation should initially ensure chain of command support from the appropriate CNO or CMC resource sponsor, and then submit a land acquisition request via its chain of command for inclusion on the Military Construction (MILCON) Integrated Priority List (IPL). Alternatively, Encroachment Partnering (EP) with eligible entities, defined as states, counties, cities, and Non-Governmental Organizations (NGOs), enables the DON to leverage available funds to acquire interests in land (usually in the form of a restrictive use easement) to establish compatible buffers around the air installation.

CHAPTER 2

SIGNIFICANT CHANGES FROM PREVIOUS CNO/CMC GUIDANCE

1. Chapter 3, Table 2 and accompanying notes have been updated to provide additional Floor Area Ratio (FAR) maximum density measures in the "Trade" category of the land use compatibility guidelines for APZs. Updated density measures reflect the latest parking generation data.

2. Chapter 3, paragraph 2, Development of Noise Exposure Contours, has been updated to require incorporation of the Day-Night Average Sound Level/Community Noise Equivalent Level (DNL/CNEL) 60 noise contour for the purposes of notification and disclosure to the community of the presence of aircraft operations and to foster long term encroachment protection.

3. Chapter 7, Real Property Guidance, has been updated to reflect the new EP program, authorized by the Fiscal Year 2003 National Defense Authorization Act, as a tool to augment regional and local command efforts to protect and sustain the operational capability of air installations.

4. Chapter 8, Responsibilities, has been updated to reflect the establishment of Commander, Navy Installations Command (CNIC), Marine Corps regionalization, and the roles and responsibilities of mission component commands in support of the AICUZ program.

CHAPTER 3

NOISE EXPOSURE CONTOURS AND ACCIDENT POTENTIAL ZONE DEVELOPMENT

1. GENERAL. The core of an AICUZ program is a compatible land use plan developed for the air installation. The plan includes height and obstruction criteria for flight safety, as well as recommended land uses for areas exposed to different levels of noise and accident potential. These recommendations indicate the highest and best use of land (both on and off base), which are exposed to high levels of noise and/or aircraft accident potential.

2. DEVELOPMENT OF NOISE EXPOSURE CONTOURS. The initial step in the AICUZ process is preparation of a noise study to define noise exposure contours and compare them to prior noise contours published in the last approved AICUZ document. The noise contours are developed by a computerized simulation of aircraft activity at the installation and reflect site-specific operational data; e.g., flight tracks, type and mix of aircraft, aircraft profiles (airspeed, altitude, power settings), and frequency and times of operations. AICUZ program experience indicates that future year planning is necessary to consider the effects of expected changes in mission, aircraft, operational levels, etc. Therefore, in addition to the current year analysis, AICUZ updates will include an analysis of projected operations. The resultant noise contours will be referred to as the "prospective" noise contours. Projections of aircraft and aircraft operations will be based upon currently available unclassified estimates of future mission requirements. Where such estimates are not available, or where little or no change is expected in the next 5 to 10 years, the current year noise contours may also be used as the prospective noise contours. Noise impacts from aircraft operations will be graphically portrayed, and operational alternatives that could reduce noise impact on the installation and on the nearby community should be evaluated when practicable from the perspectives of aircraft safety and ability to maintain operational and training requirements. The installation shall recommend the most appropriate AICUZ footprint for approval by CNO/CMC.

a. General

(1) The DNL noise descriptor will be used to describe the noise environment around airfields, except in the State of California where the CNEL descriptor will be used to describe the noise environment. If State or local laws require some other noise descriptor, it may be used in addition to DNL/CNEL. In addition, single event noise analysis can be used to augment the DNL/CNEL analysis, if appropriate as noted by the Federal Interagency Committee on Aircraft Noise.

(2) Since land use compatibility guidelines are based on yearly average noise levels, noise contours should be developed based on Average Annual Day (AAD) operations. However, where the documented nature of AAD air operations at a specific installation does not adequately represent the noise impacts at that installation, the Average Busy Day (ABD) can be used with supporting rationale.

(3) The operations level on an AAD is calculated by dividing the total annual airfield operations by 365 days. An ABD occurs when the airfield operations levels on a day are at least 50 percent of the AAD operations level. The ABD is calculated by determining the number of operations on busy days and dividing the total number of operations on those busy days by the number of busy days.

b. Noise Contours

(1) At a minimum, contours for DNL/CNEL 60, 65, 70, 75, and 80 shall be plotted on maps for Navy and Marine Corps air installations as part of AICUZ studies. Contours below 60 DNL are not required but may be provided if local conditions warrant discussion of lower noise levels or where significant noise complaints have been received in areas outside DNL 60.

(2) The NOISEMAP program will be used for developing noise contours for fixed-wing aircraft, and the Rotorcraft-Noise Model (RNM) program will be used for developing noise contours for rotary-wing and tilt-rotor aircraft operations until the Advanced Acoustic Model (AAM) is approved by DoD. AAM will replace NOISEMAP and RNM. AAM incorporates the features of NOISEMAP and RNM and also provides greater capabilities to model

the next generation, high performance aircraft. The Naval Facilities Engineering Command (NAVFACENGCOM) will provide technical assistance to the Navy and Marine Corps once AAM is approved for use in developing noise exposure contours and other supplemental noise metrics.

c. Maintaining Operational Data. Each air installation is responsible for maintaining the operational data required to develop noise exposure contours. This data shall include aircraft operations at the airfield by aircraft type, runway utilization, and operation (approach, departure, Ground Control Approach (GCA), touch-and-go, Field Carrier Landing Practice (FCLP), etc.). If specific questions arise, standardized data packages and guidance for data acquisition and data maintenance at the local activity can be provided by NAVFACENGCOM.

d. Aircraft Noise Data

(1) NAVFACENGCOM is responsible for providing aircraft noise technical and policy guidance within the Department of Navy in the area of aircraft noise. Policy recommendations will be coordinated with the Deputy Commandant of the Marine Corps (Installations and Logistics), Facilities and Services Division, Land Use and Military Construction Branch (LFL) and mission component commands prior to implementation. Acoustic data for DoD aircraft for both flyover and ground runups are available through the DoD NOISEFILE database maintained at the Air Force's Wright-Patterson Research Laboratory at Wright-Patterson Air Force Base. Noise measurements for new aircraft and aircraft/engine upgrades will be acquired during the acquisition process. The DoD Noise Working Group, established through reference (c), will establish DoD-wide procedures and guidelines for collecting acoustic data. The Naval Air Systems Command (NAVAIRSYSCOM) is responsible for programming acoustic data acquisition for new weapons systems.

(2) The AICUZ Program Office at NAVFACENGCOM will coordinate with NAVAIRSYSCOM as appropriate to schedule and develop the noise measurement program as required. Programming for acoustic data collection for existing legacy aircraft is the responsibility of the Deputy Chief of Naval Operations (Fleet Readiness and Logistics), Shore Readiness Division (OPNAV (N46)) through the AICUZ Program Office at NAVFACENGCOM. Headquarters,

Marine Corps (HQMC) is responsible for programming acoustic data collection for Marine Corps existing legacy aircraft after consultation with the AICUZ Program Office at NAVFACENGCOM.

e. Selection of Final Noise Contours to be used in the AICUZ Study. The selection criteria and rationale for the noise contours used must be documented in the request for approval of the AICUZ study. Selection of the recommended AICUZ footprint for approval (i.e., current year or prospective), shall be made by the activity, concurred with by the chain of command, and approved by CNO or CMC.

3. NOISE COMPATIBLE LAND USE GUIDELINES

a. For land use planning purposes, the noise exposure area is divided into three noise zones. Noise Zone 1 (DNL/CNEL 64 and below) is essentially an area of low or no impact. Noise Zone 2 (DNL/CNEL 65 to 74) is an area of moderate impact where some land use controls are needed. Noise Zone 3 (DNL/CNEL 75 and above) is the most severely impacted area and requires the greatest degree of compatible use controls. In addition to the noise zones, areas of concern may be defined where noise levels are not normally considered to be objectionable (less than DNL/CNEL 65), but land use controls are recommended in that particular area.

b. Land use compatibility information and general guidance, by land use category, is presented in Table 1. Further amplification is available from three sources: (1) "Standard Land Use Coding Manual" U. S. Department of Transportation, Federal Highway Administration, March 1977; (2) "Guidelines for Considering Noise in Land Use Planning and Control," Federal Interagency Committee on Urban Noise, June 1980; and (3) Federal Interagency Committee on Noise (FICON) "Federal Agency Review of Selected Noise Issues", August 1992. Where specific local land uses are not adequately described in the standard guidance documents, refinement and interpretation of the basic data is encouraged, within the constraints of accepted land use planning practice and with the approval of CNO/CMC. Recommended acceptable land use for AICUZ noise zones shall also consider sound attenuation measures imposed by zoning, building code requirements, or restrictive use easements. Where local authorities have adopted specific land use recommendations that

are different than the criteria herein provided, the AICUZ study may incorporate and support the specific local criteria. However, land use planning recommendations proposed for publication in AICUZ documents that vary from Table 1 require CNO/CMC approval prior to public dissemination.

4. DEVELOPMENT OF FIXED WING AIRCRAFT APZs

a. General. The accident potential concept describes the probable impact area if an accident were to occur, which is to be distinguished from the probability of an accident occurring. Probable impact area information is based upon historical accident data. This data is used to determine: (1) the size of the clear zone and APZs I and II, and (2) suggested land use guidelines for each zone. Application of this concept includes not only statistical but operational considerations as well.

(1) Clear zones, areas immediately beyond the ends of runways and along primary flight paths, have the greatest potential for occurrence of aircraft accidents and should remain undeveloped. See Figure 1.

(2) The APZs illustrated in Figure 1 are provided for general guidance to protect the public from aircraft accident impact. Strict application will increase the safety of the general public but cannot provide complete protection from aircraft accidents. Local situations may differ significantly from these guidelines and may require individual study. Additionally, there may be cases where the number of flight operations per flight tracks does not meet the threshold criteria to designate APZs and additional analysis may be warranted. Where local authorities desire to implement different criteria than those herein included, to reflect specific local conditions, the AICUZ study may incorporate and support those criteria with approval of the CNO/CMC, as appropriate.

(3) DoD fixed-wing runways are separated into two classes for the purpose of defining accident potential areas. Class A runways are used primarily by light aircraft and do not have the potential for intensive use by heavy or high performance aircraft. Typically, these runways have less than 10 percent of their operations involving heavier aircraft and

are usually less than 8,000 feet long. Class B runways are all other fixed-wing runways. NAVAIRSYSCOM and NAVFACENGCOM concurrence and CNO/CMC approval is required prior to classifying or reclassifying any runway. Figure 1 illustrates the geometry of the clear zone and APZs I and II for both Class A and B runways.

b. Clear Zones and APZs (See Figure 1)

(1) Clear Zones. The area immediately beyond the usual runway threshold is designated the "Clear Zone." It is the area with the greatest potential for occurrence of aircraft accidents. Clear zones should remain undeveloped. Traditionally, the clear zone has been acquired by the Government in fee, or by restrictive use easements, to keep it clear of obstructions to flight. Due to the characteristics of flight operations at Navy and Marine Corps installations, the trapezoidal or "fan shaped" clear zone shall be used. The clear zone is required for all active runway ends.

(2) Accident Potential Zone I (APZ-I). APZ-I is the area beyond the clear zone which still possesses a measurable potential for accidents relative to the clear zone. APZ-I is provided under flight tracks which experience 5,000 or more annual fixed wing operations (departures or approaches, but not both combined). Figure 1 illustrates the normal dimensions for APZ-1 which may be modified in accordance with paragraph 4c.

(3) Accident Potential Zone II (APZ-II). APZ-II is an area beyond APZ-I (or clear zone if APZ-I is not used) which has a measurable potential for aircraft accidents relative to APZ-I or the clear zone. APZ-II is used whenever APZ-I is required. If APZ-I is not warranted, APZ-II may still be used if an analysis indicates a need for it. In this case, rationale shall be provided for use of APZ-II and it shall be configured as shown on Figure 1, next to the clear zone. APZ-II may also be modified per paragraph 4c.

c. Modification of APZ. Modification of APZ-I and APZ-II for a particular flight path may be considered in the following situations:

(1) Fixed-wing aircraft do not operate on the extended runway centerline during normal flight operations. Modifications shall be made to align the zones to follow the projections of the aircraft flight track on the ground. The width of the curved APZ remains 3,000 feet.

(a) Where the flight track departs the runway centerline prior to crossing the clear zone, APZ-I will be 5,000 feet in length and APZ-II will be 10,000 feet in length, measured from the point the flight path leaves the runway centerline.

(b) Where the flight track passes through the side of the clear zone, APZ-I will be 5,000 feet in length and the length of APZ-II will be the difference between the total length of the clear zone and APZ-I and II (15,000 feet) less APZ-I and the distance the flight track traverses the clear zone. The distances are measured beginning at the point the flight path leaves the runway centerline.

(2) FCLP is typically an intense aircraft evolution and is viewed by the DON as an unusual operating condition as noted in reference (a). FCLP operations are usually conducted at night with several aircraft in the pattern at low altitude. At air stations, Outlying Landing Fields (OLF) and Auxiliary Landing Fields (ALF) where the operational criteria for application of APZ-I is satisfied due to FCLP operations, APZ-II should be applied to the entire FCLP track beyond APZ-I resulting in a closed loop for the entire pattern.

(3) Specific conditions may also point toward modification of the standard APZ geometry or application. In these situations, supporting rationale shall be coordinated with the AICUZ Program Office in advance and documented in the AICUZ study/update. Situations in which APZ modifications could be considered include, but are not limited to, the following:

(a) Where multiple flight tracks exist for a specific operation (e.g., arrival, departure, FCLP, GCA, etc.) which intersect the runway centerline and 5,000 operations exist by combining numbers on similar mode flight tracks. APZ should be centered on the dominant flight tracks(s) with the most operations.

(b) Where other unusual conditions exist and can be documented.

(4) CNO/CMC coordination and approval is required prior to any modification of an installation's APZ.

5. DEVELOPMENT OF ROTARY WING AIRCRAFT APZ

a. Basis for Clear Zone and APZ Application. The clear zone for rotary wing aircraft will be provided for all Visual Flight Rules (VFR) landing pads/runways. The use of APZ-I will be provided for VFR landing pads/runways located at air installations that support daily training and operational missions. Normally, helipads provided to support administrative functions and hospitals, which generate a low volume of helicopter operations, will not require APZ-I or APZ-II. Since extensive land use controls apply to Instrument Flight Rules (IFR) primary surface areas; additional clear zones and APZ are normally not required for IFR helicopter facilities due to extensive IFR primary surface area.

b. Clear Zone and APZs

(1) Clear Zone. The takeoff safety zone for VFR rotary-wing facilities shall be used as the clear zone. The takeoff safety zone is that area under the VFR approach/departure surface until that surface is 50 feet above the established landing area elevation.

(2) APZ-I. An area beyond the clear zone for the remainder of the approach/departure zone, which is defined as the area under the VFR approach/departure surface until that surface is 150 feet above the established landing area elevation.

(3) APZ-II. Normally not applied to helicopter flight paths unless the local accident history indicates the need for additional protection.

6. APZs COMPATIBLE LAND USE GUIDELINES. Recommended land use compatibility guidelines for clear zones and APZs are shown in Table 2. Local planning and zoning authorities may desire to

implement different criteria than those included herein, to reflect specific local conditions. CNO/CMC approval is required prior to an installation's public support of any criteria other than that contained in this instruction. FAR is the ratio between square feet of floor area and square feet of site area based on parking generation requirements, vehicle occupancy rates, and desired maximum density. For APZs I and II, recommended FARs were calculated to achieve a maximum density of 25 and 50 people per acre, respectively. It is commonly used to identify population density or intensity for non-residential structures or land uses. The maximum FAR recommendations in Table 2 are provided as an aid to local officials and installation personnel considering restrictions on the density/intensity of non-residential development in APZ. However, it is not realistic to state that one numerical density is safe while another is not. The objective is to maximize the degree of safety that can reasonably be attained within local land use considerations.

7. OBSTRUCTION AND SAFETY CLEARANCES. This instruction addresses compatible land use with respect to aircraft noise and accident potential. Land uses in the vicinity of air installations are also subject to aircraft safety clearances and height restrictions. These restrictions are included by reference in this Instruction based upon Tri-Service criteria published in Unified Facilities Criteria's UFC-3-260-01. Additionally, the following should be reviewed for compatibility with airfield operations within the installation operating environs:

a. Land uses that may cause smoke, dust, or steam that could obscure aircrew vision;

b. Land uses that generate direct and indirect lighting that could interfere with pilot vision, including, but not limited to, searchlights, lasers, and fireworks;

c. Land uses that may cause electromagnetic interference with aircraft navigation, communication or weapons systems; and

d. Land uses that may attract birds, such as landfills, wastewater treatment facilities, dredge disposal sites, seafood processing plants, etc.

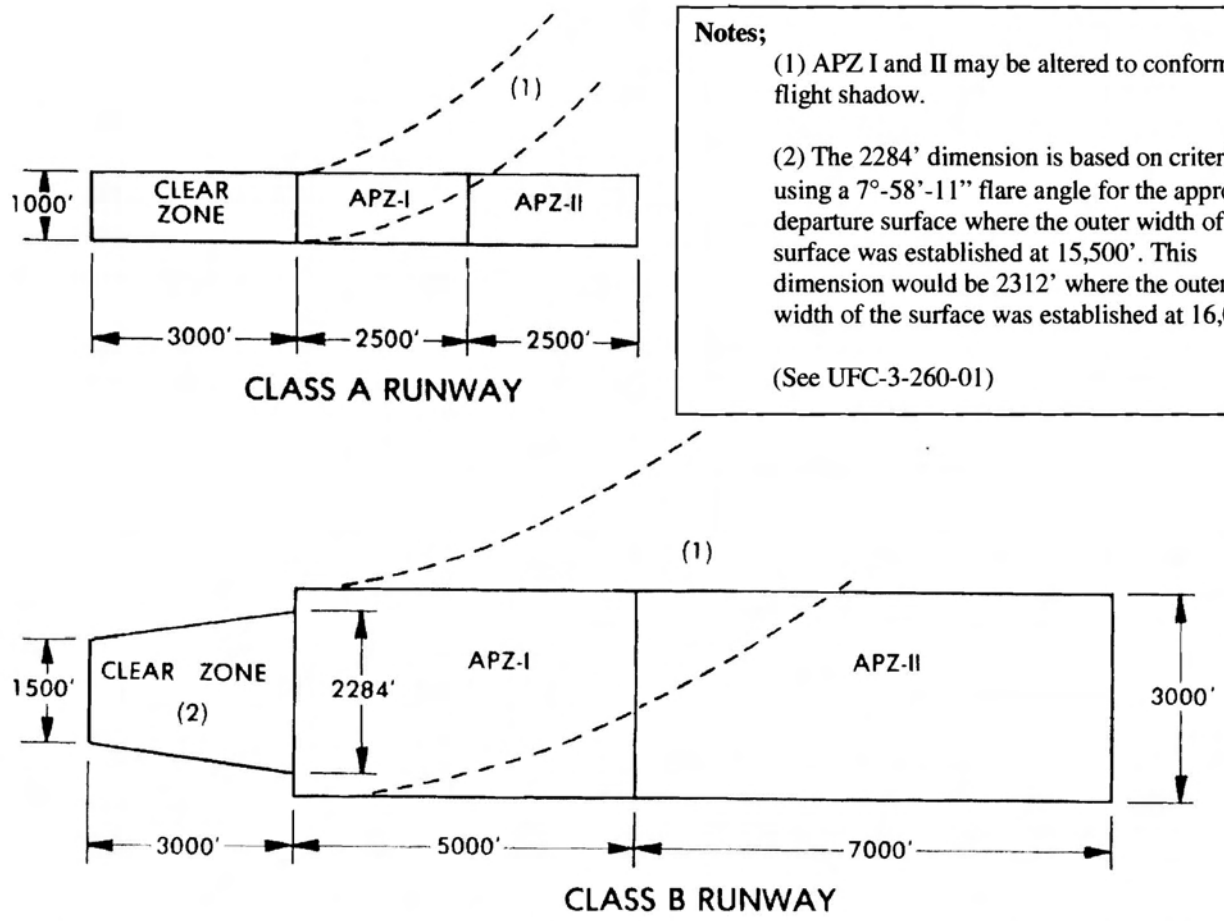
8. AICUZ COMPATIBLE LAND USE IMPLEMENTATION

a. DoD policy is to work toward promoting compatible land use development in the vicinity of air installations, and to encourage local governments to incorporate the AICUZ study recommendations into local land use planning and control process. This process includes, but is not limited to, zoning and subdivision ordinances and building codes. Land use planning must address long-range strategies involving present and future land use and development. Application of land use control strategies often does not result in immediate changes in land use development in the areas subject to the specific requirements or restrictions. Additionally, since land use planning is a long-range process, communities cannot be expected to continually change their comprehensive plans to reflect frequent changes in Navy/Marine Corps noise contours and APZ. Frequent changes can also undermine support for the program and may be counterproductive to the goal of community support for the AICUZ program. Hence, it is imperative that AICUZ studies consider not only current but also realistic 5- to 10-year projections of airfield operations when making land use planning recommendations.

b. The AICUZ study or update shall include recommended land uses based on recognized guidelines and sound planning principles. The AICUZ boundary is generally defined as that area contained within the accident potential and noise zones. The development of the final boundary of the AICUZ shall also take into account natural and manmade features that can impact land use development underlying the imaginary surfaces of the airfield. The study recommendations shall be based on current operations levels and the best available (5- to 10-year) projection of operations to ensure the future operational capability of the air installation. This information will be provided to local government agencies with the recommendation that it be incorporated into the local planning and regulatory process. Land use compatibility guidelines within noise zones are shown in Table (1), and land use compatibility guidelines within APZs are outlined in Table (2).

c. The recommendations regarding compatible land use within each zone may vary according to local conditions. The primary

objectives will be to identify areas within the AICUZ that can be affected by air operations; to share information with local government agencies that regulate land use, and to recommend restrictions on incompatible development. Local governments may choose to provide for additional land use controls outside the AICUZ boundary based on local economic and social concerns with the intent of providing long-term encroachment protection. Such actions by local governments should be encouraged since they can have the effect of implementing long-term land use development and smart growth initiatives



Notes;

(1) APZ I and II may be altered to conform to flight shadow.

(2) The 2284' dimension is based on criteria of using a 7°-58'-11" flare angle for the approach departure surface where the outer width of that surface was established at 15,500'. This dimension would be 2312' where the outer width of the surface was established at 16,000'.

(See UFC-3-260-01)

[See NAVFAC UFC-3-260-01 for additional details. Flare starts at 200' from end of runways and the 3000' clear zone length starts at runway end]

FIGURE 1 - FIXED WING ACCIDENT POTENTIAL ZONES

TABLE 1 - AIR INSTALLATIONS COMPATIBLE USE ZONES
SUGGESTED LAND USE COMPATIBILITY IN NOISE ZONES

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM NO	LAND USE NAME	< 55	55- 64	65 - 69	70 -74	75- 79	80 -84	85+
10	***Residential***							
11	Household Units	Y	Y[1]	N[1]	N[1]	N	N	N
11.11	Single units: detached	Y	Y[1]	N[1]	N[1]	N	N	N
11.12	Single units: semidetached	Y	Y[1]	N[1]	N[1]	N	N	N
11.13	Single units: attached row	Y	Y[1]	N[1]	N[1]	N	N	N
11.21	Two units: side-by-side	Y	Y[1]	N[1]	N[1]	N	N	N
11.22	Two units: one above the other	Y	Y[1]	N[1]	N[1]	N	N	N
11.31	Apartments: walk-up	Y	Y[1]	N[1]	N[1]	N	N	N
11.32	Apartment: elevator	Y	Y[1]	N[1]	N[1]	N	N	N
12	Group quarters	Y	Y[1]	N[1]	N[1]	N	N	N
13	Residential Hotels	Y	Y[1]	N[1]	N[1]	N	N	N
14	Mobile home parks or courts	Y	Y[1]	N	N	N	N	N
15	Transient lodgings	Y	Y[1]	N[1]	N[1]	N[1]	N	N
16	Other residential	Y	Y[1]	N[1]	N[1]	N	N	N
20	***Manufacturing***							
21	Food & kindred products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
22	Textile mill products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
23	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
24	Lumber and wood products (except furniture); manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
25	Furniture and fixtures; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
26	Paper and allied products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
27	Printing, publishing, and allied industries	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
28	Chemicals and allied products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
29	Petroleum refining and related industries	Y	Y	Y	Y[2]	Y[3]	Y[4]	N

TABLE 1 - AIR INSTALLATIONS COMPATIBLE USE ZONES
SUGGESTED LAND USE COMPATIBILITY IN NOISE ZONES (Continued)

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 *(DNL or CNEL)*		Noise Zone 2 *(DNL or CNEL)*		Noise Zone 3 *(DNL or CNEL)*		
SLUCM NO.	LAND USE NAME	< 55	55- 64	65 - 69	70 -74	75- 79	80 -84	85+
30	***Manufacturing (continued)***							
31	Rubber and misc. plastic products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
32	Stone, clay and glass products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
33	Primary metal products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
34	Fabricated metal products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
35	Professional scientific, and controlling instruments; photographic and optical goods; watches and clocks	Y	Y	Y	25	30	N	N
39	Miscellaneous manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
40	***Transportation, communication and utilities***							
41	Railroad, rapid rail transit, and street railway transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
42	Motor vehicle transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
43	Aircraft transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
44	Marine craft transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
45	Highway and street right-of-way	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
46	Automobile parking	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
47	Communication	Y	Y	Y	25[5]	30[5]	N	N
48	Utilities	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
49	Other transportation, communication and utilities	Y	Y	Y	25[5]	30[5]	N	N
50	***Trade***							
51	Wholesale trade	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
52	Retail trade - building materials, hardware and farm equipment	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
53	Retail trade - shopping centers	Y	Y	Y	25	30	N	N
54	Retail trade - food	Y	Y	Y	25	30	N	N
55	Retail trade - automotive, marine craft, aircraft and accessories	Y	Y	Y	25	30	N	N
56	Retail trade - apparel and accessories	Y	Y	Y	25	30	N	N

TABLE 1 - AIR INSTALLATIONS COMPATIBLE USE ZONES
SUGGESTED LAND USE COMPATIBILITY IN NOISE ZONES (Continued)

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 *(DNL or CNEL)*		Noise Zone 2 *(DNL or CNEL)*		Noise Zone 3 *(DNL or CNEL)*		
SLUCM NO.	**LAND USE NAME**	**< 55**	**55- 64**	**65 - 69**	**70 -74**	**75- 79**	**80 -84**	**85+**
57	Retail trade - furniture, home, furnishings and equipment	Y	Y	Y	25	30	N	N
58	Retail trade - eating and drinking establishments	Y	Y	Y	25	30	N	N
59	Other retail trade	Y	Y	Y	25	30	N	N
60	***Services***							
61	Finance, insurance and real estate services	Y	Y	Y	25	30	N	N
62	Personal services	Y	Y	Y	25	30	N	N
62.4	Cemeteries	Y	Y	Y	Y[2]	Y[3]	Y[4,11]	Y[6,11]
63	Business services	Y	Y	Y	25	30	N	N
63.7	Warehousing and storage	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
64	Repair Services	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
65	Professional services	Y	Y	Y	25	30	N	N
65.1	Hospitals, other medical fac.	Y	Y[1]	25	30	N	N	N
65.16	Nursing Homes	Y	Y	N[1]	N[1]	N	N	N
66	Contract construction services	Y	Y	Y	25	30	N	N
67	Government Services	Y	Y[1]	Y[1]	25	30	N	N
68	Educational services	Y	Y[1]	25	30	N	N	N
69	Miscellaneous	Y	Y	Y	25	30	N	N
70	***Cultural, entertainment and recreational***							
71	Cultural activities (& churches)	Y	Y[1]	25	30	N	N	N
71.2	Nature exhibits	Y	Y[1]	Y[1]	N	N	N	N
72	Public assembly	Y	Y[1]	Y	N	N	N	N
72.1	Auditoriums, concert halls	Y	Y	25	30	N	N	N
72.11	Outdoor music shells, amphitheaters	Y	Y[1]	N	N	N	N	N
72.2	Outdoor sports arenas, spectator sports	Y	Y	Y[7]	Y[7]	N	N	N
73	Amusements	Y	Y	Y	Y	N	N	N
74	Recreational activities (include golf courses, riding stables, water rec.)	Y	Y[1]	Y[1]	25	30	N	N
75	Resorts and group camps	Y	Y[1]	Y[1]	Y[1]	N	N	N
76	Parks	Y	Y[1]	Y[1]	Y[1]	N	N	N
79	Other cultural, entertainment and recreation	Y	Y[1]	Y[1]	Y[1]	N	N	N
80	***Resource Production and Extraction***							
81	Agriculture (except live stock)	Y	Y	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]

TABLE 1 - AIR INSTALLATIONS COMPATIBLE USE ZONES
SUGGESTED LAND USE COMPATIBILITY IN NOISE ZONES (Continued)

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 *(DNL or CNEL)*		Noise Zone 2 *(DNL or CNEL)*		Noise Zone 3 *(DNL or CNEL)*		
SLUCM NO.	**LAND USE NAME**	**< 55**	**55- 64**	**65 - 69**	**70 -74**	**75- 79**	**80 -84**	**85+**
81.5	Livestock farming	Y	Y	Y^{8}	Y^{9}	N	N	N
81.7	Animal breeding	Y	Y	Y^{8}	Y^{9}	N	N	N
82	Agriculture related activities	Y	Y	Y^{8}	Y^{9}	Y^{10}	$Y^{10,11}$	$Y^{10,11}$
83	Forestry Activities	Y	Y	Y^{8}	Y^{9}	Y^{10}	$Y^{10,11}$	$Y^{10,11}$
84	Fishing Activities	Y	Y	Y	Y	Y	Y	Y
85	Mining Activities	Y	Y	Y	Y	Y	Y	Y
89	Other resource production or extraction	Y	Y	Y	Y	Y	Y	Y

KEY TO TABLE 1 - SUGGESTED LAND USE COMPATIBILITY IN NOISE ZONES

SLUCM	Standard Land Use Coding Manual, U.S. Department of Transportation
Y (Yes)	Land Use and related structures compatible without restrictions.
N (No)	Land Use and related structures are not compatible and should be prohibited.
Y^{x} (Yes with Restrictions)	The land use and related structures are generally compatible. However, see note(s) indicated by the superscript.
N^{x} (No with exceptions)	The land use and related structures are generally incompatible. However, see notes indicated by the superscript.
NLR (Noise Level Reduction)	NLR (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35	The numbers refer to NLR levels. Land Use and related structures generally compatible however, measures to achieve NLR of 25, 30 or 35 must be incorporated into design and construction of structures. However, measures to achieve an overall noise reduction do not necessarily solve noise difficulties outside the structure and additional evaluation is warranted. Also, see notes indicated by superscripts where they appear with one of these numbers.
DNL	Day Night Average Sound Level.
CNEL	Community Noise Equivalent Level (normally within a very small decibel difference of DNL)
Ldn	Mathematical symbol for DNL.

NOTES FOR TABLE 1 - SUGGESTED LAND USE COMPATIBILITY IN NOISE ZONES

1. General

a. Although local conditions regarding the need for housing may require residential use in these zones, residential use is discouraged in DNL 65 to 69 and strongly discouraged in DNL 70 to 74. The absence of viable alternative development options should be determined and an evaluation should be conducted locally prior to local approvals indicating that a demonstrated community need for the residential use would not be met if development were prohibited in these zones.

b. Where the community determines that these uses must be allowed measures to achieve and outdoor to indoor NLR of at least 25 Decibels (dB) in DNL 65 to 69 and NLR of 30 dB in DNL 70 to 74 should be incorporated into building codes and be in individual approvals; for transient housing a NLR of at least 35 dB should be incorporated in DNL 75 to 79.

c. Normal permanent construction can be expected to provide a NLR of 20 dB, thus the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation, upgraded sound transmission class ratings in windows and doors and closed windows year round. Additional consideration should be given to modifying NLR levels based on peak noise levels or vibrations.

d. NLR criteria will not eliminate outdoor noise problems. However, building location and site planning, design and use of berms and barriers can help mitigate outdoor noise exposure NLR particularly from ground level sources. Measures that reduce noise at a site should be used wherever practical in preference to measures that only protect interior spaces.

2. Measures to achieve NLR of 25 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

3. Measures to achieve NLR of 30 must be incorporated into the design and construction of portions of these buildings where the

public is received, office areas, noise sensitive areas or where the normal noise level is low.

4. Measures to achieve NLR of 35 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

5. If project or proposed development is noise sensitive, use indicated NLR; if not, land use is compatible without NLR.

6. No buildings.

7. Land use compatible provided special sound reinforcement systems are installed.

8. Residential buildings require a NLR of 25

9. Residential buildings require a NLR of 30.

10. Residential buildings not permitted.

11. Land use not recommended, but if community decides use is necessary, hearing protection devices should be worn.

TABLE 2 - AIR INSTALLATIONS COMPATIBLE USE ZONES
SUGGESTED LAND USE COMPATIBILITY IN ACCIDENT POTENTIAL ZONES [1]

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
10	Residential				
11	Household Units				
11.11	Single units: detached	N	N	Y[2]	Max density of 1-2 Du/Ac
11.12	Single units: semidetached	N	N	N	
11.13	Single units: attached row	N	N	N	
11.21	Two units: side-by-side	N	N	N	
11.22	Two units: one above the other	N	N	N	
11.31	Apartments: walk-up	N	N	N	
11.32	Apartment: elevator	N	N	N	
12	Group quarters	N	N	N	
13	Residential Hotels	N	N	N	
14	Mobile home parks or courts	N	N	N	
15	Transient lodgings	N	N	N	
16	Other residential	N	N	N	
20	Manufacturing				
21	Food & kindred products; manufacturing	N	N	Y	Max FAR 0.56 in APZ II
22	Textile mill products; manufacturing	N	N	Y	Same as above
23	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	N	N	N	
24	Lumber and wood products (except furniture); manufacturing	N	Y	Y	Max FAR of 0.28 in APZ I & 0.56 in APZ II
25	Furniture and fixtures; manufacturing	N	Y	Y	Same as above
26	Paper and allied products; manufacturing	N	Y	Y	Same as above
27	Printing, publishing, and allied industries	N	Y	Y	Same as above
28	Chemicals and allied products; manufacturing	N	N	N	
29	Petroleum refining and related industries	N	N	N	
30	Manufacturing (continued)				

TABLE 2 - AIR INSTALLATIONS COMPATIBLE USE ZONES
SUGGESTED LAND USE COMPATIBILITY IN ACCIDENT POTENTIAL ZONES [1]

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
31	Rubber and misc. plastic products; manufacturing	N	N	N	
32	Stone, clay and glass products; manufacturing	N	N	Y	Max FAR 0.56 in APZ II
33	Primary metal products; manufacturing	N	N	Y	Same as above
34	Fabricated metal products; manufacturing	N	N	Y	Same as above
35	Professional scientific, & controlling instrument; photographic and optical goods; watches & clocks	N	N	N	
39	Miscellaneous manufacturing	N	Y	Y	Max FAR of 0.28 in APZ I & 0.56 in APZ II
40	Transportation, communication and utilities [3]				
41	Railroad, rapid rail transit, and street railway transportation	N	Y[5]	Y	Same as above.
42	Motor vehicle transportation	N	Y[5]	Y	Same as above
43	Aircraft transportation	N	Y[5]	Y	Same as above
44	Marine craft transportation	N	Y[5]	Y	Same as above
45	Highway and street right-of-way	N	Y[5]	Y	Same as above
46	Auto parking	N	Y[5]	Y	Same as above
47	Communication	N	Y[5]	Y	Same as above
48	Utilities	N	Y[5]	Y	Same as above
485	Solid waste disposal (Landfills, incineration, etc.)	N	N	N	
49	Other transport, comm. and utilities	N	Y[5]	Y	See Note 5 below
50	Trade				
51	Wholesale trade	N	Y	Y	Max FAR of 0.28 in APZ I. & .56 in APZ II.
52	Retail trade - building materials, hardware and farm equipment	N	Y	Y	See Note 6 below
53	Retail trade[7] - Shopping centers, Home Improvement Store, Discount Club, Electronics Superstore	N	N	Y	Max FAR of 0.16 in APZ II
54	Retail trade - food	N	N	Y	Max FAR of 0.24 in APZ II

TABLE 2 - AIR INSTALLATIONS COMPATIBLE USE ZONES
SUGGESTED LAND USE COMPATIBILITY IN ACCIDENT POTENTIAL ZONES [1]

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
55	Retail trade - automotive, marine craft, aircraft and accessories	N	Y	Y	Max FAR of 0.14 in APZ I & 0.28 in APZ II
56	Retail trade - apparel and accessories	N	N	Y	Max FAR 0.28 in APZ II
57	Retail trade - furniture, home, furnishings and equipment	N	N	Y	Same as above
58	Retail trade - eating and drinking establishments	N	N	N	
59	Other retail trade	N	N	Y	Max FAR of 0.16 in APZ II
60	Services				
61	Finance, insurance and real estate services	N	N	Y	Max FAR of 0.22 for "General Office/Office park" in APZ II
62	Personal services	N	N	Y	Office uses only. Max FAR of 0.22 in APZ II.
62.4	Cemeteries	N	Y[9]	Y[9]	
63	Business services (credit reporting; mail, stenographic, reproduction; advertising)	N	N	Y	Max FAR of 0.22 in APZ II
63.7	Warehousing and storage services	N	Y	Y	Max FAR 1.0 APZ I; 2.0 in APZ II
64	Repair Services	N	Y	Y	Max FAR of 0.11 APZ I; 0.22 in APZ II
65	Professional services	N	N	Y	Max FAR of 0.22 in APZ II
65.1	Hospitals, nursing homes	N	N	N	
65.1	Other medical facilities	N	N	N	
66	Contract construction services	N	Y	Y	Max FAR of 0.11 APZ I; 0.22 in APZ II
67	Government Services	N	N	Y	Max FAR of 0.24 in APZ II
68	Educational services	N	N	N	
69	Miscellaneous	N	N	Y	Max FAR of 0.22 in APZ II
70	Cultural, entertainment and recreational				
71	Cultural activities	N	N	N	
71.2	Nature exhibits	N	Y[10]	Y[10]	
72	Public assembly	N	N	N	
72.1	Auditoriums, concert halls	N	N	N	
72.11	Outdoor music shells, amphitheaters	N	N	N	

TABLE 2 - AIR INSTALLATIONS COMPATIBLE USE ZONES
SUGGESTED LAND USE COMPATIBILITY IN ACCIDENT POTENTIAL ZONES [1]

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
72.2	Outdoor sports arenas, spectator sports	N	N	N	
73	Amusements - fairgrounds, miniature golf, driving ranges; amusement parks, etc	N	N	Y	
74	Recreational activities (including golf courses, riding stables, water recreation)	N	Y[10]	Y[10]	Max FAR of 0.11 APZ I; 0.22 in APZ II
75	Resorts and group camps	N	N	N	
76	Parks	N	Y[10]	Y[10]	Same as 74
79	Other cultural, entertainment and recreation	N	Y[9]	Y[9]	Same as 74
80	**Resource Production and Extraction**				
81	Agriculture (except live stock)	Y[4]	Y[11]	Y[11]	
81.5, 81.7	Livestock farming and breeding	N	Y[11,12]	Y[11,12]	
82	Agriculture related activities	N	Y[11]	Y[11]	Max FAR of 0.28 APZ I; 0.56 APZ II no activity which produces smoke, glare, or involves explosives
83	Forestry Activities [13]	N	Y	Y	Same as Above
84	Fishing Activities [14]	N[14]	Y	Y	Same as Above
85	Mining Activities	N	Y	Y	Same as Above
89	Other resource production or extraction	N	Y	Y	Same as Above
90	**Other**				
91	Undeveloped Land	Y	Y	Y	
93	Water Areas	N[15]	N[15]	N[15]	

KEY TO TABLE 2 - SUGGESTED LAND USE COMPATIBILITY IN ACCIDENT POTENTIAL ZONES

SLUCM -	Standard Land Use Coding Manual, U.S. Department of Transportation
Y (Yes) -	Land use and related structures are normally compatible without restriction.
N (No) -	Land use and related structures are not normally compatible and should be prohibited.
Yx - (Yes with restrictions)	The land use and related structures are generally compatible. However, see notes indicated by the superscript.
Nx - (No with exceptions)	The land use and related structures are generally incompatible. However, see notes indicated by the superscript.
FAR - Floor Area Ratio	A floor area ratio is the ratio between the square feet of floor area of the building and the site area. It is customarily used to measure non-residential intensities.
Du/Ac - Dwelling Units per Acre	This metric is customarily used to measure residential densities.

NOTES FOR TABLE 2 - SUGGESTED LAND USE COMPATIBILITY IN ACCIDENT POTENTIAL ZONES

The following notes refer to Table 2.

1. A "Yes" or a "No" designation for compatible land use is to be used only for general comparison. Within each, uses exist where further evaluation may be needed in each category as to whether it is clearly compatible, normally compatible, or not compatible due to the variation of densities of people and structures. In order to assist installations and local governments, general suggestions as to FARs are provided as a guide to density in some categories. In general, land use restrictions which limit commercial, services, or industrial buildings or structure occupants to 25 per acre in APZ I, and 50 per acre in APZ II are the range of occupancy levels, including employees, considered to be low density. Outside events should normally be limited to assemblies of not more that 25 people per acre in APZ I, and Maximum (Max) assemblies of 50 people per acre in APZ II.

2. The suggested Max density for detached single-family housing is one to two Du/Ac. In a Planned Unit Development (PUD) of single family detached units where clustered housing development results in large open areas, this density could possibly be increased provided the amount of surface area covered by structures does not exceed 20 percent of the PUD total area. PUD encourages clustered development that leaves large open areas.

3. Other factors to be considered: labor intensity, structural coverage, explosive characteristics, air-pollution, electronic interference with aircraft, height of structures, and potential glare to pilots.

4. No structures (except airfield lighting), buildings or aboveground utility/communications lines should normally be located in clear zone areas on or off the installation. The clear zone is subject to severe restrictions. See UFC 3-260-01, "Airfield and Heliport Planning and Design" dated 10 November 2001 for specific design details.

5. No passenger terminals and no major above ground transmission lines in APZ I.

6. Within SLUCM Code 52, Max FARs for lumber yards (SLUCM Code 521) are 0.20 in APZ-I and 0.40 in APZ-II. For hardware/paint and farm equipment stores, SLUCM Code 525, the Max FARs are 0.12 in APZ-I and 0.24 in APZ-II.

7. A shopping center is an integrated group of commercial establishments that is planned, developed, owned, or managed as a unit. Shopping center types include strip, neighborhood, community, regional, and super regional facilities anchored by small businesses, supermarket or drug store, discount retailer, department store, or several department stores, respectively. Included in this category are such uses as big box discount clubs, home improvement superstores, office supply superstores, and electronics superstores. The Max recommended FAR for SLUCM 53 should be applied to the gross leasable area of the shopping center rather than attempting to use other recommended FARs listed in Table 2 under "Retail" or "Trade."

8. Low intensity office uses only. Accessory uses such as meeting places, auditoriums, etc., are not recommended.

9. No chapels are allowed within APZ I or APZ II.

10. Facilities must be low intensity, and provide no tot lots, etc. Facilities such as clubhouses, meeting places, auditoriums, large classes, etc. are not recommended.

11. Includes livestock grazing, but excludes feedlots and intensive animal husbandry. Activities that attract concentrations of birds creating a hazard to aircraft operations should be excluded.

12. Includes feedlots and intensive animal husbandry.

13. Lumber and timber products removed due to establishment, expansion, or maintenance of clear zones will be disposed of in accordance with appropriate DoD Natural Resources instructions.

14. Controlled hunting and fishing may be permitted for the purpose of wildlife management.

15. Naturally occurring water features (e.g., rivers, lakes, streams, (wetlands) are compatible.

CHAPTER 4

AICUZ STUDY CONTENTS

1. GENERAL. AICUZ studies have been developed and approved for each Navy and Marine Corps air installation. Where a new installation is established, or where major missions change to an existing installation is proposed, NEPA documentation is required (see OPNAVINST 5090.1C). Subsequent to the completion of the final NEPA documentation, an AICUZ study should be prepared. The AICUZ study and AICUZ study updates generally should include the following:

a. Existing Conditions. A description and graphic depiction of the flight operations, noise contours and APZs, land use compatibility, and supporting data which describe aircraft types, operations, flight tracks, and a history of aircraft operations since the previous AICUZ study. Locations of previous aircraft accidents should be shown, also noise complaint numbers and locations should be provided. A description of land use controls currently in effect in the area surrounding the installation should also be included.

b. Future-Year Forecast and Prospective AICUZ. Based on the currently available unclassified information, each installation will develop a forecast of air operations activity levels (normally for a time frame 5 to 10 years forward). Forecasts may be based upon historical trends or projected aircraft base loading and should address expected mission changes. The AICUZ update will include footprints and supporting discussions reflecting the operational forecasts. These footprints will provide the necessary guidance as to what actions must be taken to assure future mission integrity at the air installation. Further, future year footprints will provide local governments with the information to plan for changes in air installation activity levels and/or operational procedures.

c. AICUZ Recommendations. An AICUZ map depicting the area of critical concern, a land use compatibility matrix for the installation, and recommended safety clearances/ height restrictions to protect safety of flight shall be included.

d. Alternatives and Changes from Prior AICUZ Study. An analysis of alternatives that could mitigate noise and/or accident potential impact normally is included. Examples of alternatives include community implementation strategies, sound-attenuated facility construction, acquisition of land or interests therein, or practicable potential operational changes. Noise and APZ changes should be described and illustrated since these changes may influence the decision to implement land use control changes. Documentation should include discussion of which factors contributed to the change (aircraft, tempo of operation, operational procedures, etc.).

e. Impact Analysis. An analysis and graphic depiction of existing and potential land use incompatibilities and their impact on station development and operation shall be included. The AICUZ update shall also discuss strategies to address future development of the impacted areas.

f. On-Station Implementation Plan. On-station development described in regional plans (Navy)/ master-plans (Marine Corps) shall be consistent with the AICUZ Study. The base development strategies and capital improvement projects are MILCON; Military Construction Naval Reserve; Naval Air Facilities (NAF); etc., and public private partnership ventures shall reflect that consistency. However, where consistency is not possible, documentation should be submitted by the installation, via the chain of command and appropriate Naval Facilities Engineering Command (FEC) to the CNO or CMC for consideration of a waiver.

g. Off-Station Implementation. Recommendations for off-station implementation proposals shall also be included.

2. APPROVALS. Public distribution of revised or updated AICUZ information requires CNO/CMC approval. AICUZ updates should be forwarded to OPNAV (N46) and HQMC (LFL), as appropriate, via the region and mission component commands.

CHAPTER 5

AICUZ STUDY UPDATES

1. GENERAL. Operational and training requirements, aircraft mix, tempo of aviation activity, maintenance procedures, and community development seldom remain static. The primary purpose of an AICUZ study is to support long-term compatible land use in the vicinity of air installations. Frequent AICUZ updates and changes in land use recommendations can undermine the neighboring community's confidence and willingness to incorporate recommendations into local comprehensive plans or to enact various land use controls. AICUZ reviews should be conducted when new requirements are anticipated at an installation such as basing of a new type of aircraft, significant increases in operational levels, or significant increases in nighttime (2200 to 0700 hours) flying activities. Since major changes in operations, which have a significant impact on the environment, require environmental documentation in accordance with the NEPA, an AICUZ update subsequent to completion of the NEPA documentation is normally sufficient.

2. INTERIM NOISE STUDIES. Noise studies can be conducted on an interim basis for a variety of purposes. These studies can provide useful information that does not always result in the need to update the AICUZ Study. Requests for interim noise studies should be forwarded to CNIC Facilities Real Estate(N444) or HQMC (LFL) via the regional commander documenting the need for the study. CNIC/CMC will provide technical guidance as required.

3. ENVIRONMENTAL IMPACT OF OPERATIONAL CHANGES

a. Several parameters must be periodically monitored locally to insure that the AICUZ study continues to reflect the best information available on noise and accident potential; e.g., the type and mix of aircraft operated or maintained, flight tracks, tempo and timing of night operations, and operational alternatives implemented.

b. When significant operational changes are proposed, an evaluation by the air installation is required, to determine

whether documentation in compliance with the NEPA is required. If questions arise as to the need for specific documentation in this area, the air installation should consult with their chain of command and the appropriate Naval FEC. Recommendations or questions in this area can be forwarded to the Navy or Marine Corps region for guidance if appropriate. The CNO/CMC will advise the region and air installation as to the need for NEPA documentation in accordance with OPNAVINST 5090.1C or MCO P5090.2 (NOTAL). If such documentation is required it shall be prepared prior to the implementation of any proposed operational change.

CHAPTER 6

AICUZ IMPLEMENTATION

1. GENERAL. Each Navy and Marine Corps air installation listed in Appendix A shall actively pursue implementation of its AICUZ program. Program implementation may include elements such as soliciting the cooperation of local governments, operational modifications, complaint response programs for residents of surrounding communities, and the acquisition of land or interests therein to protect operational capability. Early recognition of the problem will provide increased opportunity to solve it and can reduce future implementation requirements.

2. COMMUNITY IMPLEMENTATION

a. DoD AICUZ policy is predicated on promoting harmony between air installations and neighboring communities through a compatible land use planning and control process conducted by the responsible local authorities. This policy recognizes the local government's responsibility under its police power to protect the public health, safety and welfare. By enacting compatible land use controls, local government protects its citizens from high noise levels of noise or accident potential. When applicable, an installation's AICUZ policy needs to address the uniqueness of federally recognized tribes.

b. Through controls like zoning ordinances, building codes, subdivision regulations, permitting authority, disclosure statements and public acquisition, surrounding areas can be allowed to develop to the highest and best compatible use. Successful implementation of such a program depends on a close working relationship between installation and community leaders. Acquisition should not be discussed as an encroachment solution unless and until all community-oriented strategies prove unsuccessful or inappropriate. The activity should continually inform local governments, citizen groups, and the general public on: (1) the requirements of military aviation; (2) air installation operations; (3) the efforts underway and planned to reduce noise and ensure compatible development, and (4) the local command's position on specific land use issues. Air installation representatives, primarily commanding officers and

their Community Planning Liaison Officers (CPLO), must take every opportunity to meet with and make presentations to local governments, particularly the planning and zoning agencies. Although the emphasis of the AICUZ implementation effort must be on areas within the AICUZ footprint, the air installation can comment on land use issues outside of the footprint that might impact on it, e.g., large-scale developments bordering the AICUZ area, transportation system developments that could make the AICUZ area more desirable for development, or tall structures such as cell towers that could penetrate approach/departure or other imaginary surfaces. The air installation must be considered as a major land use in the local community. Development that occurs up to the AICUZ area of critical concern boundary could prevent mission changes or mission expansion in the future. Therefore, commanding officers and their staffs are encouraged to monitor proposed development beyond the AICUZ boundary, and, if needed, to present those concerns in appropriate local forums. Although compatible land use development inside the AICUZ footprint is a primary objective of the AICUZ program and projected (5- to 10-year) footprints are required, a prudent course of action is to also seek a "buffer" around the AICUZ footprint in which property owners and lessees are notified of the presence of airfield operations. Air installations should include a DNL/CNEL 60 noise contour on their AICUZ maps thus delineating an area of concern for future development to the local government and local community. While the land use compatibility guidelines provided in Table 2 indicate that land use development is compatible in areas less than DNL/CNEL 65, air installations should work with local government and community leaders to foster less intense development in this "buffer" area as further long-term encroachment protection. Development up to the AICUZ footprint boundary will make it difficult to expand missions or accept new missions at the installation.

c. In addition, while incorporation of land use recommendations into local comprehensive plans and zoning ordinances is a basic objective of the AICUZ program, required disclosure to prospective buyers and lessees of residential properties within noise and accident potential zones is also recommended. Air installations should make every attempt to work with local governments to encourage enaction of such legislative initiatives.

3. DOCUMENTATION OF LOCAL EFFORTS. Records of important discussions, negotiations, testimony, etc., with and before local officials, boards, etc., must be maintained by the local command. Such records shall be available for inclusion in MILCON project submissions if required by CNO/CMC. This will ensure that documentation is available to indicate all reasonable and prudent efforts were made to preclude incompatible land use through cooperation with local government officials and that all recourse to such actions has been exhausted.

4. COMMUNITY PLANNING LIAISON OFFICER (CPLO)

a. Air installations need an interface with community leaders and citizens. The commanding officer should be at the forefront of this effort. A CPLO may be designated as either a full-time or collateral duty to be the central information point and to relieve the commanding officer of some of the day-to-day burden of responding to community complaints or inquiries and administering the installation's encroachment action or control program.

b. Some activities have recognized the need for a primary duty CPLO to respond to inquiries about noise and to work with local and regional government counterparts to foster compatible development. Naval aviators often fill these positions since they are able to describe problems unique to Navy and Marine Corps aviation. CNO/CMC realize that not every air installation can justify and support a full-time CPLO. However, each air installation must be responsive to its own encroachment situation when designating its CPLO. To ensure proper continuity, a community planning liaison team including a civilian planner is strongly encouraged.

CHAPTER 7

REAL PROPERTY GUIDANCE

1. ACQUISITION POLICY

a. When threats to operational integrity from incompatible development (encroachment) are noted, and when local communities are unwilling or unable to take the initiative in combating the threat via their own authority, consideration can be given to land acquisition. Documentation of community unwillingness or inability will be required to support acquisition projects. Where the mission of the air installation is imminently threatened, acquisition of fee title or restrictive easements over the impacted lands in any noise or accident potential zone may be appropriate to maintain operational integrity.

b. Reference (a) states that the first priority for acquisition in fee or restrictive easements is the clear zone. The second priority is other APZs. Noise areas may be considered for acquisition when all avenues of achieving compatible use zoning, or similar protection, have been explored and the operational integrity of the air installation is manifestly threatened. Unless unusual situations exist which would warrant the expense and disruption of "trying to turn back the clock" in developed areas, the primary focus of these acquisition efforts is on undeveloped land.

2. ENCROACHMENT INDICATORS.

The importance of the air installation having sensitivity to long-range encroachment indicators cannot be overemphasized. Local community capital improvement plans and long range land use plans, commonly referred to as "Comprehensive Plans," provide clues far in advance of actual encroachment actions. These plans generally address land areas far greater than the AICUZ and must be evaluated to determine their influence on the AICUZ area either directly or indirectly.

3. REAL PROPERTY UTILIZATION SURVEY INTERFACE

a. Reference (e) calls for continual review of Federal real property holdings and the conduct of surveys in order to

determine the level of their utilization. Properties found to be excess to the requirements of the holding agency are reported for disposal. In the past, the AICUZ area has provided protection to air installations, but increased pressure to excess property can dilute that protection. To avoid the forced disposal of lands required for the protection of the installation from encroachment, air installations will ensure that required lands or easements are fully justified. Where disposal is directed, those rights and interests required for the protection of the future operational integrity of the installation through restrictions to ensure compatible land use will be retained.

b. Particular attention must be paid to property located outside of the AICUZ area, which if excessed, would attract uses that would induce incompatible developments within the AICUZ area; e.g., water, sewer, or highway development adjoining the AICUZ makes the AICUZ area more desirable for development. Additionally, the prior history of AICUZ areas and potential growth should be fully considered. Once property rights are relinquished, they are not easily, if ever, regained. The dynamic nature of Navy and Marine Corps operational needs must be evaluated in encroachment protection decisions.

4. GUIDELINES FOR ACQUISITION/RETENTION OF REAL ESTATE INTERESTS WITHIN AN AICUZ. This instruction shall not be used as sole justification for either the acquisition or the retention of owned interests beyond that required to protect the Government. Reference (d) provides DON policy for the acquisition, management, and disposal by DON of real property and real property interests.

5. REAL ESTATE INTERESTS TO BE CONSIDERED FOR CLEAR ZONES, APZs AND NOISE ZONES. When it is necessary for the Navy to acquire interests in land, a careful assessment must be made of the type of interest to be acquired. The following list of possible interests that should be considered, either in the form of a perpetual restrictive use easement containing the rights or a basis for fee acquisition of the property, is offered for guidance.

a. The right to make low and frequent flights over said land and to generate noises associated with:

(1) Aircraft in flight, whether or not while directly over said land;

(2) Aircraft and aircraft engines operating on the ground at said installation, and;

(3) Aircraft engine test/stand/cell operations at said installation.

b. The right to regulate or prohibit the release into the air of any substance, which would impair the visibility or otherwise interfere with the operations of aircraft, such as, but not limited to, steam, dust and smoke.

c. The right to regulate or prohibit light emissions, either direct or indirect (reflective), which might interfere with pilot vision.

d. The right to prohibit electromagnetic and radio frequency emissions that would interfere with aircraft, aircraft communications systems, or aircraft navigational equipment.

e. The right to prohibit any use of the land which would unnecessarily attract birds or waterfowl, such as, but not limited to, operation of sanitary landfills, water impoundment areas, maintenance of feeding stations or the growing of certain types of vegetation or activities attractive to flocks of birds or waterfowl.

f. The right to prohibit and remove any buildings or other non-frangible structures that do not comply with the AICUZ plan.

g. The right to top, cut to ground level, and to remove trees, shrubs, brush or other forms of obstruction which the installation commander determines might interfere with the operation of aircraft, including emergency landings.

h. The right of ingress and egress upon, over and across said land for the purpose of exercising the rights set forth herein.

i. The right to post signs on said land indicating the nature and extent of the Government's control over said land.

j. The right to allow only specific land uses.

k. The right to prohibit entry of persons onto the land except in connection with authorized activities.

l. The right to disapprove and/or prohibit land uses not in accordance with the established land use restrictions.

m. The right to control the height of structures to ensure that they do not become a hazard to flight.

n. The right to install airfield lighting and navigational aids.

o. The right to require sound attenuation in new construction or modifications to buildings in conformance with the AICUZ recommendations.

6. ENCROACHMENT PARTNERING (EP). EP is one of several tools available to the Navy and Marine Corps to prevent or mitigate encroachment problems. EP is a cooperative, multi-party, real estate based program authorized by Congress under 10 USC 2684a (as amended) to help mitigate the impacts of potential off-base development that would be incompatible with military operations or to preserve habitat on the off-base property. The program is based on the military service "partnering" with an eligible entity (states, counties, cities, and private NGOs) to acquire real estate interests in the vicinity of the military installation to prevent incompatible development or loss of habitat. The program involves sharing acquisition costs with the partners from willing sellers. Use of condemnation authority is not permitted under the EP program. An acquisition planning team composed of installation/region and FEC representatives develop proposed projects and seek out potential partners for project execution. Annual funding is provided by the DoD through the Readiness and Environmental Protection Initiative and by Navy and Marine Corps appropriations for planning and encroachment management as programmed by CNO and CMC.

7. REAL PROPERTY MANAGEMENT. Regional commanders and commanding officers of Navy and Marine Corps air installations shall be responsible for the oversight of real property assets as related to the readiness and effectiveness of DON air installations. This responsibility is particularly relevant to documentation and enforcement of Navy and Marine Corps interests in land outside the installation boundary as encroachment protection, whether that land is acquired in fee or by easement.

CHAPTER 8

RESPONSIBILITIES

1. The Deputy Chief of Naval Operations (Fleet Readiness and Logistics) (CNO (N4)) shall:

a. Exercise program responsibility for the Navy AICUZ program through OPNAV (N46), who programs resources for shore installation management.

b. Execute AICUZ program management responsibilities through CNIC with support from NAVFACENGCOM;

c. Monitor and coordinate application of the policies and principles of the AICUZ program;

d. Emphasize the importance of timely implementation of the AICUZ recommendations;

e. Pursue a training program for installation, chain of command and other cognizant DoD and non-DoD individuals regarding the policies, purposes and strategies of the AICUZ program;

f. Coordinate with the Naval Aviation Enterprise on AICUZ aspects when approving installation facilities planning proposals;

g. Provide resources and support for the DoD Noise Program as outlined in reference (c); and

h. Exercise approval authority over AICUZ documents and AICUZ footprint changes through OPNAV (N46).

2. Mission Component Commands shall:

a. Provide command direction, priorities and recommendations on AICUZ plans submitted by air installation commanders and Regions under their operational cognizance;

b. Review and approve proposed operational changes to insure mission requirements are supported;

c. Emphasize to installation commanders the importance of continual review of operational procedures to identify operational changes to reduce noise within the constraints of safety, mission effectiveness and economy; and

d. Ensure that AICUZ-related environmental documentation requirements are met. Specifically, such actions as the introduction of new aircraft types or changes in flight corridors which may change the AICUZ footprint should be assessed as to their potential impact and a determination made as to the appropriate level of environmental documentation.

3. CNIC shall:

a. Coordinate AICUZ program requirements with Navy regions and mission component commands;

b. Develop an IPL for AICUZ and noise study updates in conjunction with NAVFACENGCOM; and

c. Fund, subject to availability, AICUZ/noise study updates.

4. The Commander, NAVFACENGCOM, as directed by CNIC, shall provide policy and technical oversight for the AICUZ program and:

a. Integrate the AICUZ planning process into the Shore Infrastructure Program overview plans for Navy and activity master plans for the Marine Corps recognizing on and off-station impacts and utilizing detailed guidance and criteria in the areas of land use compatibility with respect to both noise and accident potential exposure;

b. Provide technical direction and planning support for the reduction of noise emanating from aircraft flight, maintenance and test operations;

c. Establish and maintain an east coast and a west coast center of excellence to coordinate AICUZ issues with regional commands and installations within their area of responsibility; and

d. Develop and implement an AICUZ training program for senior Navy and Marine Corps personnel to provide the latest technical and planning guidelines for execution and implementation of the AICUZ program.

5. The Naval Education and Training Command shall provide support for AICUZ training programs tasked by CNO (N4).

6. HQMC (LFL) shall exercise approval authority and responsibility for the AICUZ program within the Marine Corps as follows:

a. Exercise management responsibility for the Marine Corps AICUZ program;

b. Provide technical assistance and guidance to Marine Corps air installations regarding AICUZ policy decisions and implementation;

c. Promote an AICUZ education program in cooperation with NAVFACENGCOM; and

d. Provide resources and support for the DoD Noise Program as outlined in reference (c).

7. Air Installation Commanders shall:

a. Familiarize themselves with the AICUZ program and implement the concept set forth herein;

b. Actively work with State and local planning officials to implement AICUZ objectives;

c. Notify the chain of command and CNIC (N444) or HQMC (LFL) whenever local conditions merit update or review of the AICUZ plan;

d. Promote attendance at CNO/CMC-sponsored AICUZ seminars by commanding officers, executive officers, air operations and other aviation-related staff personnel to increase awareness of current trends and techniques for AICUZ program development and implementation;

e. If appropriate, designate a CPLO to assist in the execution of the AICUZ plan by the installation and act as spokesman for the command in AICUZ matters;

f. Maintain a documentary file on the implementation of the AICUZ plan at the air installation including collection of operational data needed to update the AICUZ plan; and

g. Justify the retention of land or interests in land required for mission performance.

APPENDIX A

NAVAL AVIATION INSTALLATIONS WITH AICUZ STUDIES BY REGIONAL COMMAND

NAVY:

COMNAVREG MID-LANT
- NAS OCEANA DET NORFOLK, VIRGINIA
- NAS OCEANA, VIRGINIA
  - NALF FENTRESS
- NAS BRUNSWICK, MAINE
- NAEC LAKEHURST, NEW JERSEY
- NASJRB WILLOW GROVE, PENNSYLVANIA

COMNAVREG SOUTHEAST
- NAS JACKSONVILLE, FLORIDA
  - OLF WHITEHOUSE
- NS MAYPORT, FLORIDA
- NAF KEY WEST, FLORIDA
- NAS MERIDIAN, MISSISSIPPI
  - OLF JOE WILLIAMS
- NAS KINGSVILLE, TEXAS
  - ALF ORANGE GROVE
- NAS CORPUS CHRISTI, TEXAS
  - ALF WALDRON
  - ALF CABANISS
- NAS WHITING FIELD, FLORIDA
  - NOLF BREWTON
  - NOLF HOLLEY
  - NOLF EVERGREEN
  - NOLF SANTA ROSA
  - NOLF SPENCER
  - NOLF CHOCTAW
  - NOLF SAUFLEY
  - NOLF WOLF
  - NOLF SITE 8
  - NOLF BARIN
  - NOLF PACE
  - NOLF HAROLD
  - NOLF SILVERHILL
  - NOLF SUMMERDALE

NAS PENSACOLA, FLORIDA
NASJRB FORT WORTH, TEXAS
NASJRB NEW ORLEANS, LOUISIANNA
NASJRB ATLANTA, GEORGIA*

COMNAVREG EUROPE
NAS SIGONELLA, SICILY**
NSA NAPLES, ITALY**
NSA SOUDA BAY, GREECE**
NS ROTA, SPAIN**

COMNAVREG HAWAII
PMRF BARKING SANDS, HAWAII

COMNAVREG SOUTHWEST
NAS NORTH ISLAND, CALIFORNIA
OLF IMPERIAL BEACH
ALF SAN CLEMENTE ISLAND
NB VENTURA COUNTY, CALIFORNIA
NAS LEMOORE, CALIFORNIA
NAS FALLON, NEVADA
NAF EL CENTRO, CALIFORNIA
NAWC (WD) CHINA LAKE, CALIFORNIA
OLF SAN NICOLAS ISLAND

COMNAVREG NORTHWEST
NAS WHIDBEY ISLAND, WASHINGTON
OLF COUPEVILLE

NAVAL DISTRICT WASHINGTON
NAWC (AD) PATUXENT RIVER, MARYLAND
OLF WEBSTER FIELD
NAF WASHINGTON, DC*

COMNAVREG JAPAN
NAF ATSUGI, HONSHU, JAPAN**
NAF MISAWA, HONSHU, JAPAN**
NAF KADENA, OKINAWA, JAPAN**
NSF DIEGO GARCIA **

MARINE CORPS:

MARINE CORPS INSTALLATIONS EAST

MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
MCOLF OAK GROVE
MCOLF CAMP DAVIS
MCAS BEAUFORT, SOUTH CAROLINA
MCAS CHERRY POINT, NORTH CAROLINA
MCALF BOGUE FIELD
MCOLF ATLANTIC
MCAF QUANTICO, VIRGINIA

MARINE CORPS INSTALLATIONS WEST

MCAS MIRAMAR, CALIFORNIA
MCAS CAMP PENDLETON, CALIFORNIA
MCAS YUMA, ARIZONA
MCAGCC TWENTYNINE PALMS, CALIFORNIA

MARINE CORPS INSTALLATIONS MIDPAC

MCBH HAWAII, HAWAII

MARINE CORPS INSTALLATIONS WESTPAC
MCAS FUTENMA, OKINAWA, JAPAN**
MCAS IWAKUNI, HONSHU, JAPAN**

*NAVY AICUZ STUDY NOT REQUIRED
**NOISE STUDY ONLY

//

6 Land Use Compatibility Analysis

The APZs and noise zones comprise the AICUZ map for an air installation. The AICUZ map defines the minimum recommended acceptable area within which land-use controls are needed to protect the health, safety, and welfare of those living near a military airfield and to preserve the defense flying mission. The AICUZ map (and information derived from the map) is the fundamental tool necessary for the AICUZ planning process.

This section addresses land-use compatibility within aircraft noise zones and APZs by examining zoning and existing and planned land uses near NAS Patuxent River. This section begins with a description of the local planning authority in St. Mary's County, then provides a discussion of the generalized land-use compatibility criteria used to evaluate land-use compatibility in an AICUZ and is followed by a land use compatibility assessment.

6.1 Planning Authority

The development and control of lands outside of the military installation is beyond the control of the base commander at NAS Patuxent River. Development of these lands is dictated by local comprehensive land-use planning and regulations.

The local planning authority in St. Mary's County is the St. Mary's County Department of Land Use and Growth Management. The Department houses the divisions of Comprehensive Planning, Development Services, Inspection Services, Permits, and Zoning

Administration. The primary role of the Department is to evaluate land use changes and all planning actions.

6.2 Land Use Compatibility Guidelines and Classifications

The Navy's land-use compatibility guidelines recommend that noise-sensitive land uses be placed outside high-noise zones and that people-intensive uses not be placed in APZs.

The Navy has developed land use compatibility recommendations for APZs and noise zones. These recommendations, which are found in OPNAVINST 11010.36C, Air Installations Compatible Use Zones Program (U.S. Department of the Navy 2008), are intended to serve as guidelines for placement of APZs and noise zones and for development of land uses around military air installations. The guidelines assume noise-sensitive land uses (e.g., houses, churches) will be placed outside high-noise zones, and people-intensive uses (e.g., apartments, theaters) will not be placed in APZs. Certain land uses are considered incompatible with APZs and high-noise zones, while other land uses may be considered compatible or compatible under certain conditions (conditionally compatible). The land-use compatibility analysis conducted for NAS Patuxent River was based on the Navy's land-use compatibility recommendations, which are presented in Appendix C. Table 6-1 shows existing generalized land-use classifications and the associated land-use compatibility with each land-use designation for noise zones and APZs. The generalized land-use categories highlighted in Table 6-1 do not represent the local community's land use designations. Local land use and zoning are discussed in Section 6.3. Rather, Table 6-1 provides generic land use categories for the purpose of illustrating a basic and high level understanding of land-use compatibility across some common land use types.

Table 6-1
Land Use Classifications and Compatibility Guidelines

	Land Use Compatibility with Noise Zone (DNL)						Land Use Compatibility with APZs		
	Noise Zone 1		Noise Zone 2		Noise Zone 3		Clear Zone	APZ I	APZ II
	<55	55-64	65-69	70-74	75-79	>80			
Single Family Residential									(1)
Multi-Family Residential, Transient Lodging									
Public Assembly									
Schools and Hospitals			(2)	(2)					
Manufacturing (ex. Petrol/chem.; textile)									
Parks								(4)	(4)
Business Services				(2)	(2)			(3)	(3)
Agriculture, Forestry and Mining									

Source: Adapted from OPNAVINST 11010.36C

Notes:
This generalized land-use table provides an overview of recommended land use. To determine specific land-use compatibility, see Appendix A.

(1) = Maximum density of 1-2 dwellings per acre.
(2) = Land use and related structures generally compatible however, measures to achieve recommended noise-level reduction should be incorporated into design and construction of the structures.
(3) = Maximum Floor Area Ratio that limit people density may apply
(4) = Facilities must be low intensity.

Key:
Compatible
Incompatible

6.3 Existing Land Use and Zoning and Compatibility

NAS Patuxent River is located in Lexington Park, Maryland in St. Mary's County. St. Mary's County has a total area of 766 square miles. The county is largely developed and zoned with a mix of residential, commercial, and industrial development. Land use patterns and zoning in the immediate vicinity of the installation are discussed below.

6.3.1 Zoning

Figure 6-1 portrays existing zoning in the areas around NAS Patuxent River. Existing zoning patterns around NAS Patuxent River include a mix of low, medium, and high-density residentially zoned

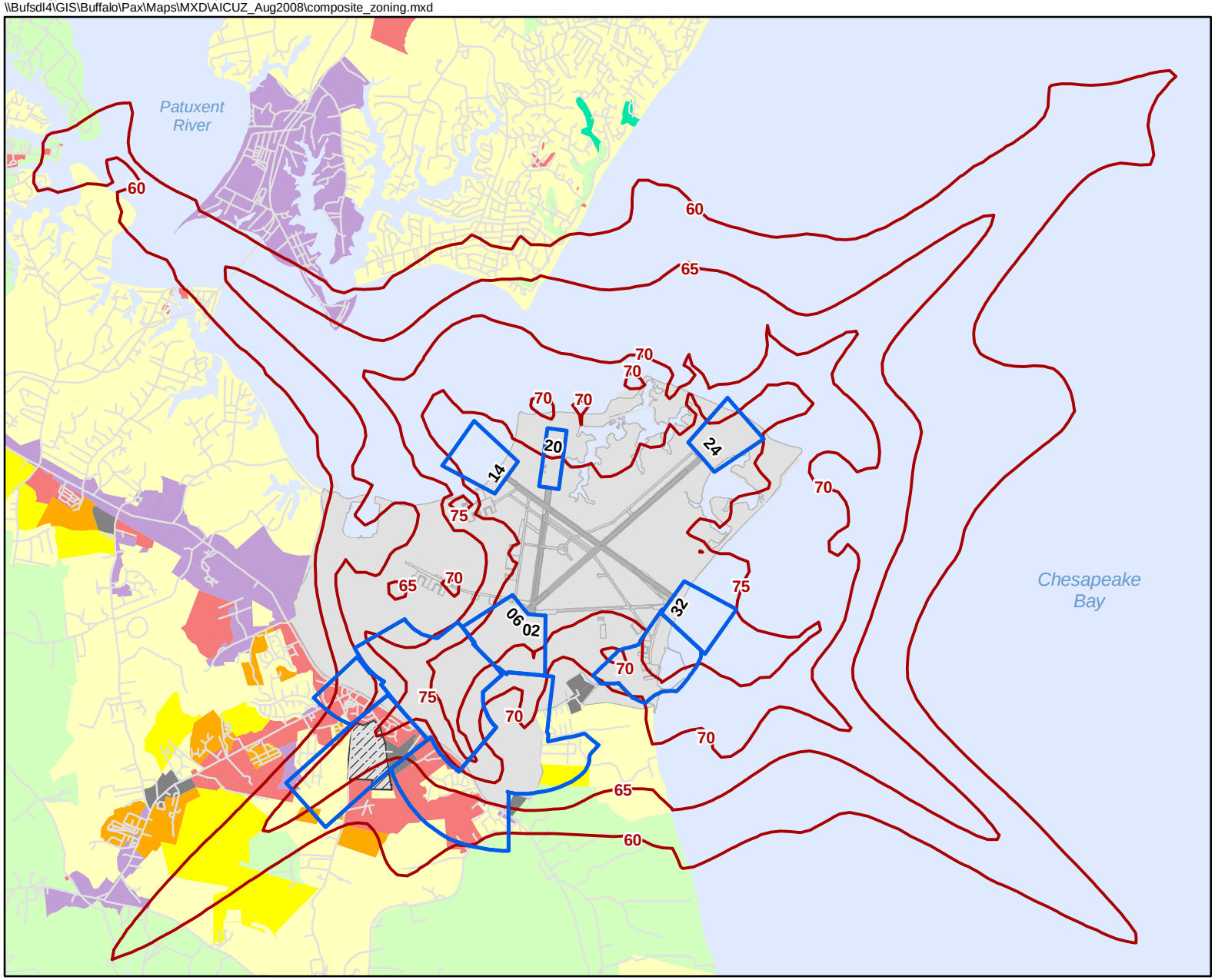
property, rural preservation zoning, commercial zoning, mixed-use, and industrial use zoning. In general, the zoning around NAS Patuxent River reveals a pattern of dense development, which includes commercial and industrial uses in the Lexington Park area along State Route 235 and Great Mills Road. These areas are surrounded by various densities of residential use intermixed with some rural preservation zoning farther away from the base. Cedar Cove is a large residential area located to the southeast of NAS Patuxent River. Residential development in the Cedar Cove area and adjacent areas within Lexington Park has been advancing in recent years.

The St. Mary's County Zoning Ordinance and Official Zoning Map address AICUZ guidelines at NAS Patuxent River by means of an AICUZ Special District.

The St. Mary's County Zoning Ordinance addresses AICUZ guidelines at NAS Patuxent River through creation of an AICUZ Special District. The AICUZ Special District consists of provisions for the Clear Zone, APZ 1, APZ 2, and Imaginary Surfaces, as well as provisions for Sound Level Reduction and Notification to the FAA of "Proposed Construction or Alteration." The AICUZ Special District ordinance is attached to this study as Appendix D.

The AICUZ Special District places restrictions on properties within this zoning district. The AICUZ Special District was established after the 1979 AICUZ to provide for the safety of the public with provisions for height of construction, development density, and sound attenuation in new construction. It is important to note that the land use and development restrictions of the St. Mary's County's AICUZ Special District essentially reflects and, in some cases, is more restrictive than the recommendations of the OPNAV AICUZ Instruction and its associated land use compatibility criteria.

The County Zoning Ordinance identifies a range of districts surrounding NAS Patuxent River. The area that encompasses the residential development in the area around Forest Park, Evergreen Forest, Southgate Park, and Cedar Cove is zoned for low and medium residential densities of one to five units per acre.



NAVAL AIR STATION
PATUXENT RIVER
1943

Figure 6-1
Composite AICUZ
Map with Zoning
NAS Patuxent River

2009 AICUZ Noise Contour
2009 APZs
Runway
NAS Patuxent River

Zoning
Commercial
High Density Residential
Medium Density Residential
Low Density Residential
Industrial
Mixed Use
Most Protective
Moderately Protective
Least Protective
Military
Lexington Manor

Sources:
ESRI, 2008, Wyle Laboratories, 2008,
Maryland Department of Planning, 1999.

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Miles

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In June 2007, St. Mary's County proposed and adopted a Zoning Text Amendment to prohibit new residences in the APZ 2 Zone. This amendment modifies Chapter 43 "Air Installations Compatible Use Zones (AICUZ) and Airport Environs (AE) and Overlay, Figure 43.3A, Land Use Compatibility in Aircraft Accident Potential Zones" to prohibit new residences from being constructed in the APZ II (St. Mary's County 2007).

The county-owned property called Lexington Manor (also known as "flat tops") (see Figure 6-1) located along Route 235 is an area next to a St. Mary's County Park. The flat tops are located on what was an 84-acre parcel once owned by the Navy and used for Navy housing. Fifty of the acres of the site will remain permanent open space. The remaining 34 acres (north parcel) has some development potential, particularly 5 acres that used to have a library located on site and 2 acres near the main gate intersection. The county signed an agreement with the local Community Development Corporation where the latter would seek a developer partner for the property. The county has indicated that any development on the site would be AICUZ- compatible (and encouraged to go beyond AICUZ requirements) and compliant and would not include any residential development. St. Mary's County has also indicated that decisions related to the development of the area would be reviewed with the Navy through ongoing collaboration and partnership.

In Calvert County, the Zoning Ordinance and Zoning Map provide medium-density residential and mixed-use zoning in the southern areas of the county located to the north of NAS Patuxent River (i.e., Solomon's Town Center Area) with no specific AICUZ language or provisions specified in the ordinance. This portion of Calvert is the only portion of the county potentially impacted by operations at NAS Patuxent River. Multi-family housing and mixed uses are permitted in Solomons Town Center according to the County Zoning Ordinance. A small area of the county is impacted by noise contours around the Drum Point area. The county does not maintain any AICUZ guidelines. The southern part of the county is the most densely developed, as evidenced

by Chesapeake Ranch Estates and the Drum Point area north of Solomons Town Center along the shoreline. According to the county, these communities together have more than 9,000 residential units recorded, although not all are built due to limitations in water and sewer availability. North of the ATR Inner Range boundary, Lusby Town Center is a completed development that includes a mix of retail, commercial, and residential uses.

Additional key points:

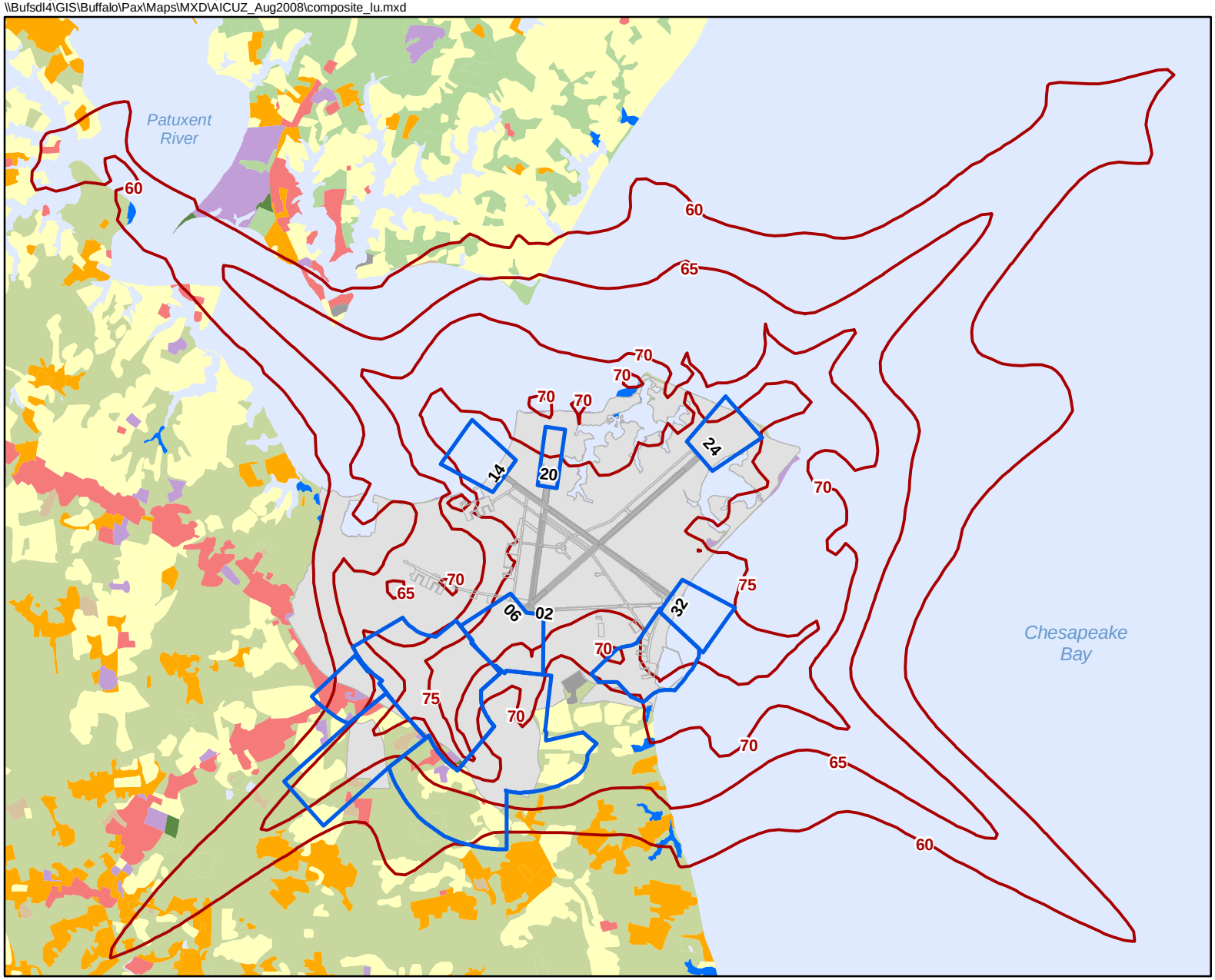
- Calvert County is currently developing a Master Planning process for the Solomons Town Center area that provides more detailed recommendations and site level considerations for development.
- There is no mention of the Navy in the current county plans.

6.3.2 Existing Land-Use and Compatibility

Land uses surrounding NAS Patuxent River feature a wide range of uses, including residential subdivisions, hotels, restaurants, professional offices, light industrial and technology parks, and retail establishments. Figure 6-2 illustrates land uses surrounding NAS Patuxent River. Beyond the Lexington Park area and at the northwest border of the base, the existing land use is characterized as rural and undeveloped/open space. The southeast border of the base continues to develop with residential subdivisions, commercial, light industrial, and technology uses. To the north of NAS Patuxent River in the Solomon's Island area of Calvert County, single-family residential, mixed-use, recreation, and uses supporting tourism characterize the existing land use. The new Solomon's Town Center located north of the Thomas Johnson Bridge serves as a regional commercial center and contains a wide variety of businesses and the commercial tourism strip along the Patuxent River.

6.3.3 Future Land Use and Compatibility

The St. Mary's County Comprehensive Plan designates the area around NAS Patuxent River as the Lexington Park Development District (LPDD) and provides a separate section of planning and design



NAVAL AIR STATION
PATUXENT RIVER
1943

Figure 6-2
Composite AICUZ
Map with Land Use
NAS Patuxent River

- 2009 AICUZ Noise Contour
- 2009 APZs
- Runway
- NAS Patuxent River

Land Use

- Residential
- Commercial
- Industrial
- Institutional
- Extractive
- Open urban land
- Agricultural
- Forest
- Water
- Wetlands
- Barren

Sources:
ESRI, 2008, Wyle Laboratories, 2008,
Maryland Department of Planning, 2002.

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recommendations for this area for the future. The county's future land-use planning recognizes AICUZ issues and builds upon its restrictions. The following presents the Lexington Park Planning and Design Recommendations section from the Comprehensive Plan (amended March 2003), including the Findings (Vision), Goals and Objectives, and Concept Plan.

Findings (Vision) for Lexington Park Development District

- Lexington Park is a true town center that serves as a destination and a focus for all of St. Mary's County. It offers a mix of governmental, retail, office, residential, entertainment, and recreational uses. It is a special place with a distinct and recognizable character. It has landmarks, town greens, gateways, and appealing streetscapes that distinguish it from surrounding suburban development. Located prominently across from the main gate to the Patuxent River Naval Air Station, Tulagi Place remains the heart of Lexington Park.

- Lexington Park is a people place. Public squares, pedestrian-friendly streets, recreation areas, the library, post office, Lexington Park Elementary School, and community centers provide places for people to gather and socialize. The community also provides for the needs of its residents. Senior care, child care, and various social service functions are conveniently located in the downtown area. Local police and fire stations provide for enhanced public safety. Existing affordable housing is rehabilitated and new housing near the elementary school brings additional residents to the downtown area.

- Lexington Park takes advantage of the development restrictions associated with the AICUZ to create a downtown area with abundant open space. This includes the preservation of natural areas, development of active recreation areas connected by hiker/biker trails, and the creation of formal village greens.

- The Patuxent River Naval Air Station is the heritage of Lexington Park, and the town is proud of its association with the base. The Naval Air Museum offers an exciting collection of naval airplanes and military artifacts and attracts visitors from across the country. Many of the landmarks and monuments that are found in the town center celebrate the base's important role and accomplishments in naval aviation.

- Congestion along Three Notch Road and Great Mills Road is relieved by an improved interconnected road network that enables employees to access the base and related contractor and services safely and efficiently. Streetscape improvements (continuous sidewalks, street trees, access consolidation, facade improvements) encourage pedestrian activity. The impact of overhead utilities is minimized through burial, relocation, or consolidation. A greenway encircles the entire downtown area, which enables local residents to walk or bike to the post office, community center, library, parks, or shops.

Goals for Lexington Park Development District

These goals, in conjunction with the vision, provide guidance and direction for the development of this master plan and the implementation of its recommendations:

- Create a town of interconnected neighborhoods with a distinct and recognizable town center that is a special place: a destination and a focus for all Lexington Park.
- Improve Lexington Park's image.
- Move traffic safely and efficiently through the town.
- Make Lexington Park green with large areas of open space and town greens.
- Capture the greatest amount of economic activity that will occur as a result of employment growth at Patuxent River Naval Air Station.
- Promote development and redevelopment that respects the safety goals of the AICUZ Program.

Objectives for Lexington Park Development District

The following objectives add specificity to the goals listed above:

Town Center.

- Create a lively center for public life and activity in the town center.
- Make the character of the town center more urban than suburban.
- Cluster uses to provide opportunities for critical mass and appropriate relationships.

- Make the town center safe, pedestrian friendly, and visually attractive.
- Make the town center a green oasis, taking advantage of AICUZ-mandated open space.

Air Installation Compatible Use Zone.

- Create predictability for property owners with respect to land development within the AICUZ.
- Take advantage of the high open space requirements within the AICUZ to create a town center with large amounts of attractive green space.

Patuxent River Naval Air Station.

- Strengthen visual and physical connections between the Patuxent River Naval Air Station and Lexington Park.

Community.

- Locate public services, such as police, fire, library, post office, social services, convenient to town residents.

Recreation.

- Create a greenway through Lexington Park.
- Increase recreation and open space opportunities.

Transportation.

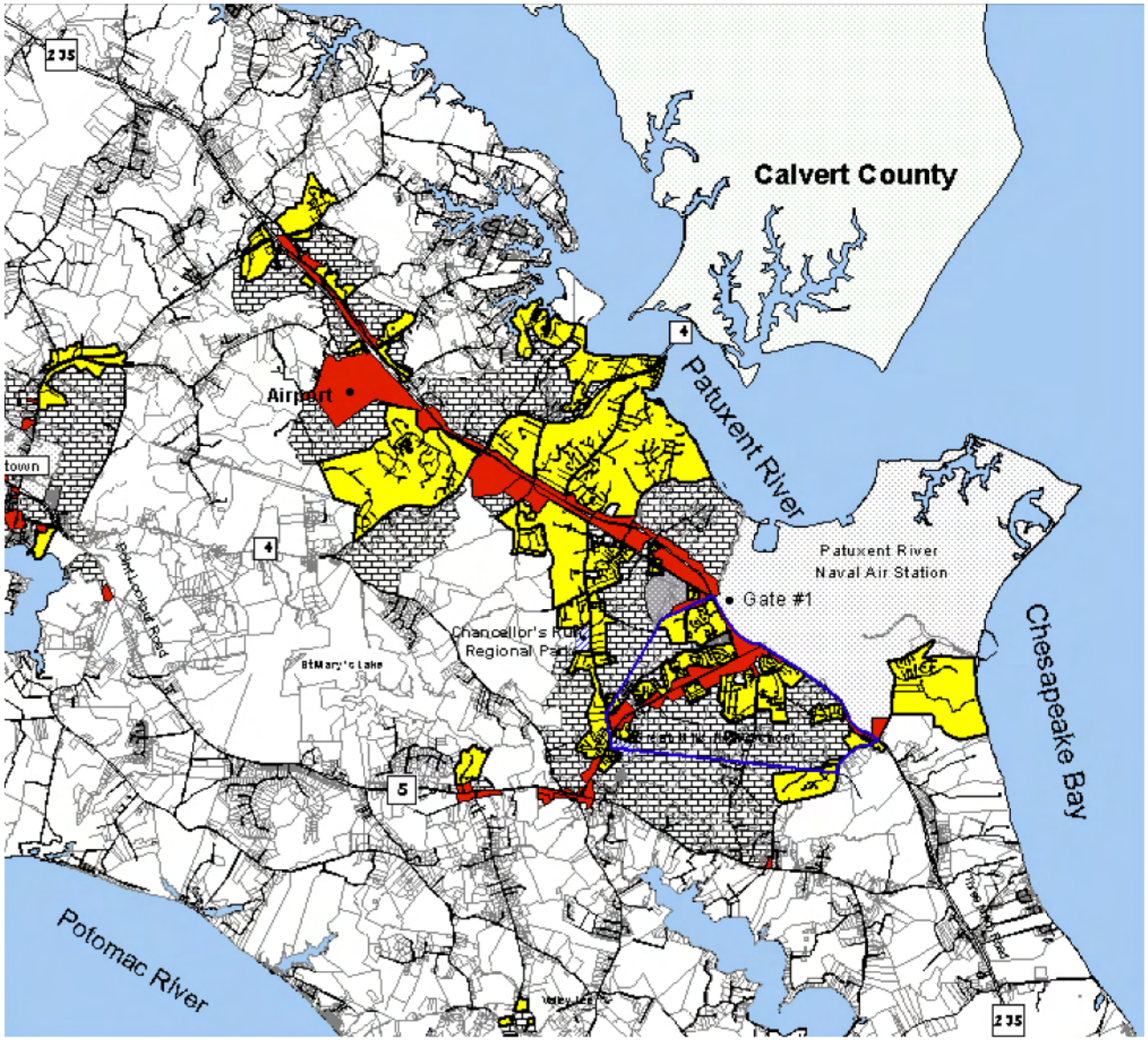
- Increase and improve transportation connections between communities within "the Wedge" and the town center.
- Improve traffic flow within and outside "the Wedge" by increasing road connections and reducing dependence on Great Mills Road.

Figure 6-3 depicts key future land use issues for the LPDD and St Mary's County. The plan was prepared by the St. Mary's County Department of Planning and Zoning. Much of the concept plan reflects the current pattern of residential and commercial development and provides for several growth areas for the continued build-out of areas that are currently sparsely developed and rural and undeveloped/open space in character.

Additionally, an updated LPDD master plan was completed and adopted in 2005, which provides a more current analysis of future planning issues in the LPDD. With respect to the areas around NAS Patuxent River, the 2005 LPDD Plan reaffirms the same goals, objectives, and policies as specified in the Comprehensive Plan. Additionally, the LPDD plan specifically states that the county will take steps to protect the viability of the mission of Patuxent River. The plan states that St. Mary's County government is very focused on helping protect the Patuxent River NAS in anticipation of a military BRAC. To this end, the county has identified seven priority areas:

- Minimizing encroachment, especially any that may result from their development of Lexington Manor;
- Improving schools;
- Ensuring adequate housing;
- Improving transportation;
- Revitalizing Lexington Park;
- Promoting international marketing; and
- Providing a range of conference facilities

Major future development areas specified in the 2005 LPDD exist in six separate "envelopes" as specified in Figure 6-4. "Envelopes" is a term used by St. Mary's County in the LPDD and is intended to identify separate and discrete areas of development in Lexington Park. According to the 2005 LPDD Plan these envelopes offer little opportunity to affect the overall development structure in the Lexington Park district or overall county because they are separate, as opposed to being a single land area, and nearly all are on the edges of the LPDD.



NAVAL AIR STATION
PATUXENT RIVER
1943

Figure 6-3
Lexington Park
Development District
Concept Plan

- Commercial/Industrial
- Public/Semi-Public
- Growth Areas
- Residential
- Employment Centers
- Property Lines
- Roads
- Lex. Park Rev. Dist.

SOURCE
St. Mary's County Department of
Planning and Zoning

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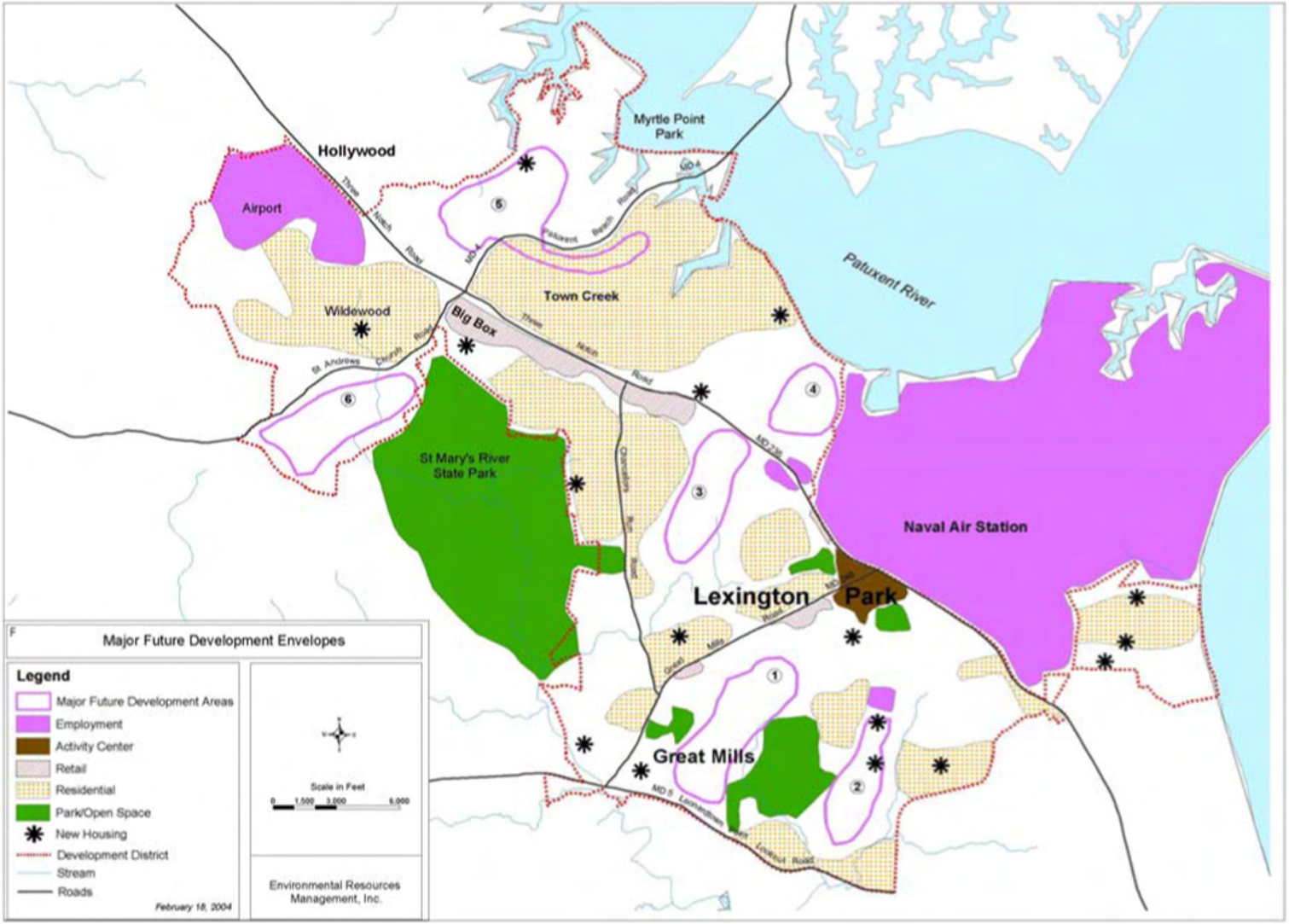

Figure 6-4
Future
Development Envelopes,
Lexington Park
Development District

SOURCE
St. Mary's County Department of
Planning and Zoning

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6.3.4 Compatibility Concerns at NAS Patuxent River

Some incompatible land uses and compatibility concerns exist around NAS Patuxent River (see Figure 6-5). These concerns include the following:

- Residential areas located to the southeast of the base in the Lexington Park, Southampton, Southgate Park, Cedar Cove, and Forest Park neighborhoods within or adjacent to APZ I and APZ II of the 2009 AICUZ are a compatibility concern. A significant numbers of flight operations and numerous flight tracks persist over this residential area. It is recommended that this region be maintained as an area of compatible land use concern for both the Navy and community. Any protective measures that can be taken cooperatively between the Navy and the community should be examined in an effort to limit future encroachment.

  Additionally, this low- and medium-density residential area is within the 65dB to 70dB DNL noise zone, which is not considered compatible with aircraft operations. It is strongly recommended that this area remain an area of compatible land-use concern for the Navy and community and that future redevelopment be monitored.

- Some low density residential development is located within the higher noise areas (60dB to 65dB and 65dB to 70dB noise zones) and APZ II to the southwest of the base and should be considered a concern from a compatibility standpoint. Low-density residential use is not recommended in these noise zones and is compatible with restrictions in APZ II. The land-use compatibility guidance recommends that residential uses not exceed one to two dwelling units per acre in APZ II. These, however, are long established uses that were in place prior to AICUZ zoning being enacted in St. Mary's County.

- The 65dB to 70dB DNL noise zone extends into Calvert County to the north and impacts a portion of a residential area on Solomons Island, which is not considered compatible with aircraft operations.

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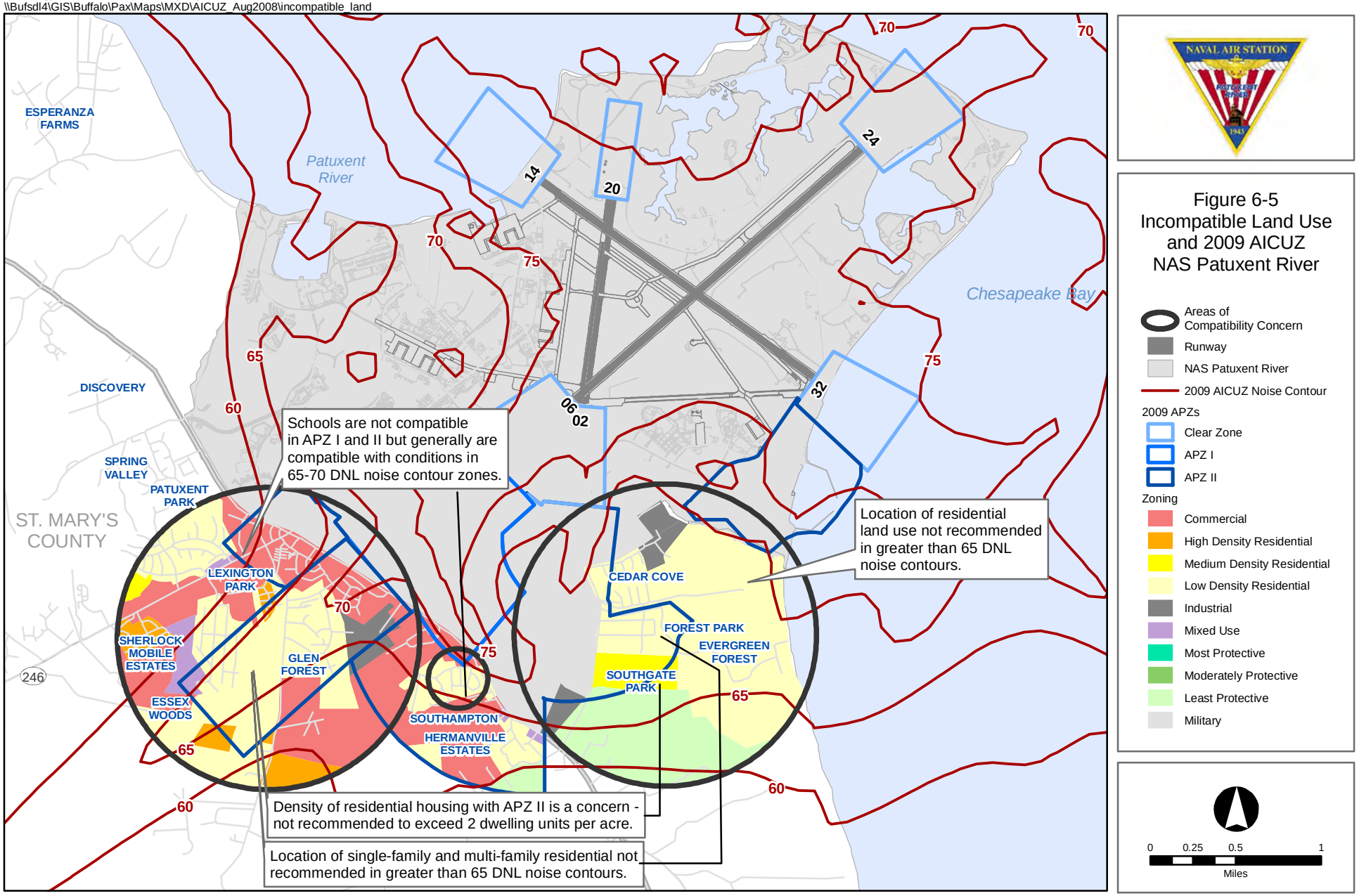

NAVAL AIR STATION PATUXENT RIVER 1943

Figure 6-5
Incompatible Land Use and 2009 AICUZ
NAS Patuxent River

- Areas of Compatibility Concern
- Runway
- NAS Patuxent River
- 2009 AICUZ Noise Contour

2009 APZs
- Clear Zone
- APZ I
- APZ II

Zoning
- Commercial
- High Density Residential
- Medium Density Residential
- Low Density Residential
- Industrial
- Mixed Use
- Most Protective
- Moderately Protective
- Least Protective
- Military

0 0.25 0.5 1
Miles

Sources:
ESRI, 2008, Wyle Laboratories, 2008,
Maryland Department of Planning, 1999.

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7 Land-Use Tools and Recommendations

NAS Patuxent River and local government agencies with planning and zoning authority share the responsibility for preserving land-use compatibility near the air station. However, cooperative action by all involved parties is essential to prevent land-use incompatibility, implement the AICUZ study recommendations, protect public health and safety, and safeguard the military flying mission.

The goal of the AICUZ Program —to protect the health, safety, and welfare of those living near military airfields while preserving the defense flying mission —can most effectively be accomplished by active participation of all interested parties, including Navy, local governments, private citizens, developers, real estate professionals, and others.

At the Installation level, the Base Commander is responsible for ensuring a successful AICUZ Program. Pursuant to OPNAVINST 11010.36C (AICUZ Program), the Air Installation Commander at NAS Patuxent River is committed to and shall:

- Implement an AICUZ Program for the Air Installation and associated OLF and Range Air Installations Compatible Use Zones (RAICUZ) for the ATR Inner Range;
- Work with state and local planning officials to implement the objectives of the AICUZ plan;
- If appropriate, designate a community liaison officer to assist in the execution of the AICUZ plan by the Installation and to act as spokesperson for the Command in AICUZ matters;
- Provide assistance in developing AICUZ information, including operational data needed to update the AICUZ plan; and
- Justify the retention of land or interest in land required for operational performance.

This section presents and describes land-use planning tools and recommendations for implementing and achieving a successful AICUZ Program.

7.1 Tools for Implementing AICUZ

7.1.1 Federal Tools

Environmental Review

Environmental review deals with assessment of projects that may have some potential impact on land use and the public's interest. For example, the National Environmental Policy Act (NEPA) mandates full disclosure of the environmental effects of proposed federal actions, approvals, or funding. Impacts of the action are generally documented in an EIS or an environmental assessment (EA), which is more limited in scope than an EIS. The environmental review process represents a procedure for incorporating the elements of the AICUZ in the planning review process.

Executive Order 12372, Intergovernmental Review of Federal Programs (July 1982)

As a result of the Intergovernmental Cooperation Act of 1968, the United States Office of Management and Budget (OMB) requires all Federal Aid Development Projects to be coordinated with and reinforce state, regional, and local planning. Executive Order 12372 allows state governments to set up review periods and processes for federal projects and provides an early entry point into the process to introduce AICUZ concepts and to discuss AICUZ issues.

Housing and Urban Development (HUD) Circular 1390.2

Approvals of mortgage loans from the Federal Housing Administration are subject to requirements of this HUD circular. The circular sets forth a discretionary policy to withhold funds for housing projects when noise exposure exceeds prescribed levels.

Residential construction may be permitted inside the 65dB DNL contour, provided sound attenuation is accomplished. However, the added construction expense of noise attenuation may make siting in these noise exposure areas financially less attractive. Because the HUD policy is discretionary, variances may also be permitted, depending on regional interpretation and local conditions. HUD also has a policy that prohibits funding for projects in Clear Zones and APZs unless the project is compatible with the AICUZ.

Encroachment Partnering

Another federal-level tool that represents a real opportunity for the Navy to partner with the community for the purposes of controlling future encroachment within the region surrounding NAS Patuxent River is the DoD Encroachment Partnering Program: Title 10, United States Code [U.S.C.] § 2684a, authorizes the Secretary of Defense or the Secretary of a military department to enter into agreements with an eligible entity or entities to address the use or development of real property in the vicinity of or ecologically related to a military installation or military airspace to limit encroachment or other constraints on military training, testing, and operations. Eligible entities include a state, a political subdivision of a state, and a private entity that has, as its principal organizational purpose or goal, the conservation, restoration, or preservation of land and natural resources or a similar purpose or goal. Encroachment Partnering Agreements provide for an eligible entity to acquire fee title, or a lesser interest, in land for the purpose of limiting encroachment on the mission of a military installation and/or to preserve habitat off the installation to relieve current or anticipated environmental restrictions that might interfere with military operations or training on the installation. The DoD can share the real estate acquisition costs for projects that support the purchase of fee or a conservation or other restrictive easement for such property. The eligible entity negotiates and acquires the real estate interest for encroachment protection projects with a voluntary seller. The

eligible entity must transfer the agreed upon restrictive easement interest to the United States of America upon the request of the Secretary.

7.1.2 Local Government Tools

Local Government Comprehensive Plans and Zoning and Planning

St. Mary's County's Comprehensive Plan, *Quality of Life in St. Mary's County - A Strategy for the 21st Century* recognizes the AICUZ and incorporates AICUZ into both its long-range planning and zoning requirements for key areas around NAS Patuxent River. With respect to zoning, the St. Mary's County Zoning Ordinance addresses AICUZ guidelines at NAS Patuxent River through creation of an AICUZ Special District. The AICUZ Special Overlay District consists of provisions for the Clear Zone, APZ 1, APZ 2, and Imaginary Surfaces, as well as provisions for Sound-Level Reduction and Notification to the FAA of "Proposed Construction or Alteration." St. Mary's County also can use guidance from OPNAVINST 11010.36C in order to develop permitted uses and regulations for the areas around public, private, and military airports. Implementation of airport Imaginary Surfaces zoning protection in Calvert County should be pursued.

Capital Improvements Projects

Capital improvements projects such as potable water lines, sewage transmission lines, road paving and/or improvements, new right-of-way acquisition, and schools can be used to direct growth and types of growth toward areas compatible with the AICUZ Program. Local government agencies and organizations can develop capital improvement projects that avoid extending capital improvements into or near high-noise zones or APZs.

Purchase of Development Rights

The local government may consider the purchase of development rights.

Transfer of Development Rights (TDR)

The concept of TDR involves purchasing property development rights and transferring those rights to another piece of property. Thus, development of the original property is prevented. Another element of the TDR program is the potential for developers to receive approvals for increased densities in the receiving areas as an inducement to the developer for agreeing to a TDR. TDRs also require local governments to adopt a TDR ordinance identifying sending and receiving areas in the jurisdiction.

Building Code

The local building code can be used to ensure the noise-attenuation measures of the AICUZ Program are implemented. Although this tool will not prevent incompatible development, building codes can ensure compatibility to the greatest extent possible.

Real Estate Disclosure

Real estate disclosures allow prospective buyers, lessees, or renters of property in the vicinity of military operation areas to make informed decisions regarding the purchase or lease of property. The purpose is to protect the seller, real estate agent, buyer, local jurisdiction, and military. Disclosure of aviation noise and safety zones is a very important tool in informing the community about expected impacts of aviation noise and location of airfield safety zones, subsequently reducing frustration and anti-airport criticism by those who were not adequately informed prior to purchase of properties within impact areas.

The state of Maryland and St. Mary's County have requirements for disclosure with an acknowledgement by both buyer and seller that the property is affected by noise and/or APZs.

NAS Patuxent River and Webster Field officials worked with the Southern Maryland Association of Realtors to adopt the following Military Aircraft Operations Disclosure Clause language

into a contract of sale between buyer and sellers. NAS Patuxent River officials are continuing to work with the state of Maryland Association of Realtors to adopt this language on the state level.

"The Property may be located within or near several military aircraft operation centers located in Calvert County, Charles County, Prince George's County or St. Mary's County. Properties located within or near such military aircraft operation centers may be impacted by varying degrees of noise levels and potential military aircraft accidents as well as noise from gunfire or explosive testing. The following is a description of such military aircraft operation centers; however, the following list is not all-inclusive:

Naval Air Station Patuxent River, Md., typically conducts flight operations seven days per week, between 8 a.m. and 11 p.m. However, infrequent flight operations occur outside these times. The effects from the Navy's flight operations extend beyond the boundaries of the naval facility. The present level and type of operations will continue for the foreseeable future. For additional information, contact the NAS Patuxent River Public Affairs Office.

Buyer acknowledges that Buyer, prior to the submission of a written offer to purchase the Property, is solely responsible to contact the military aircraft operations centers as identified above which may impact upon the Property in order to ascertain the potential noise levels and accident probabilities in relation to the location of the Property within or near one or more of the above military aircraft operation centers."

Public Land Acquisition Programs

Public land acquisition programs can be used (as the conditions of the programs permit) for acquisition of land to support the AICUZ Program. These programs take different forms in different jurisdictions and are administrated by a range of public agencies. With respect to AICUZ these programs could include an active land-acquisition program for the purpose of purchasing land to

protect key land assets around military airfields by limiting potential impacts from development and incompatible land use in proximity to the air station.

Special Planning Districts

Local governments have the power to create special planning districts such as "military influence areas" or "airport overlay zones/districts" where local governments can either enact restrictions on land development or require notification for proposed development within the special planning area.

7.1.3 Private Citizens/Real Estate Professionals/Businesses

Business Development and Construction Loans to Private Contractors

This strategy encourages review of noise and accident potential as part of a lender's investigation of potential loans to private interests for real estate acquisition and development. Local banking and financial institutions should be encouraged to incorporate a "Due Diligence Review" of all loan applications, including determination of possible noise or APZ impacts on the mortgaged property.

Private Citizens

Private citizens should make informed decision when considering purchasing land within the AICUZ noise or APZ contours.

Real Estate Professionals

Real estate professionals should ensure that prospective buyers or lessees are fully aware of what it means to be within a high-noise zone and/or APZ. Truth-in-sales and rental ordinances can be enacted to ensure adequacy in providing public disclosure of the impact in high noise and accident potential zones. Real estate professionals also have the ability to show prospective buyers and

lessees properties at a time when noise exposure is expected to be at its worst in order to provide full disclosure.

7.2 Recommendations

7.2.1 NAS Patuxent River Recommendations

Although ultimate control over land use and development in the vicinity of NAS Patuxent River is the responsibility of St. Mary's County, the Navy has the ability and responsibility to conduct actions and implement programs in support of local efforts. To do so, NAS Patuxent River should continue and/or consider the following:

Air Operations Procedures

Aircrew discipline in pattern operations should be enforced along with field noise abatement procedures, as set forth in Section 4.4. The Navy should continue to examine ways to improve noise abatement procedures.

Continue the Successful Noise Complaint Hotline

A standard procedure is followed for noise complaints called into NAS Patuxent River from operations at the airfield and surrounding airspace. This procedure is outlined in Section 4.4.1 of the AICUZ Study. Complaints should be collected in a standard format for plotting locations in a spatial database for future planning use. Recording these complaints can help:

- Document newly developing sites that may be noise-sensitive in the future;
- Provide land-use planning information for the local government;
- Determine which operational flight tracks may be responsible for the noise complaint and at what time most complaints occur; and
- Provide valuable information for real estate transactions.

Community Outreach Activities

Continue successful community outreach efforts that have begun at NAS Patuxent River. Currently there is a productive working relationship between the Base Community Planning and Liaison Office and St. Mary's County. Several successful initiatives have started and future initiatives aimed at further protecting Navy assets should continue or expand.

Presentation of the AICUZ Program

This presentation could be shown individually or collectively to community decision makers, including local planning commissions, city councils, county legislatures, government councils, and other interested agencies. It would provide an opportunity to inform and educate individuals or groups who make land use decisions (e.g., infrastructure siting, schools, zoning changes) that can either protect or threaten NAS Patuxent River's mission. For this, the NAS Patuxent River Web site could be expanded to include AICUZ-specific topics, and various materials for presentation and distribution should be developed or updated to include flight simulations, videos, poster boards, an electronic or slide presentation, and fact sheets. Presentation information could be used as part of the community outreach activities and would inform the general public on AICUZ issues, the installation's contribution to the local economy, and the need for responsible land use planning.

Keep Engaged in the Local Planning Process

NAS Patuxent River should attend public hearings and provide comments on actions that may affect AICUZ planning, including comprehensive plan and land development regulations updates and amendments.

Local Plans, Regulations, and Policies

NAS Patuxent River should continue to be an active participant in local government and regional reviews, recommendations, and decision-making processes for land use

decisions that may affect the operational integrity of the installation, including:

- Capital improvements plans, such as potable water lines, sewage transmission lines, road paving and/or improvements, and new right-of-way acquisition;
- Building code changes;
- Ensuring necessary ordinances and record-keeping capability to enact restriction within the AICUZ footprint;
- Community facilities construction (e.g., schools, stadiums, and churches);
- Establishment of local zoning ordinances and comprehensive plans or other such ordinances that may affect the installation; and
- Approvals for subdivisions, site plans, wetland permits, or other proposed approvals necessary for development.

7.2.2 Local Government and Agency Recommendations

Communication

While it is NAS Patuxent River's responsibility to inform and educate community decision makers about the AICUZ Program, community decision makers should continue to actively inform and seek input from NAS Patuxent River regarding land use decisions that potentially could affect the operational integrity of the Installation.

To communicate with the public, local government Web sites should continue to provide acknowledgement of the AICUZ Program for NAS Patuxent River and provide a link to the NAS Patuxent River Web site for information on aircraft operations and the NAS Patuxent River AICUZ Program.

Decisions with Future Impacts

It is recommended that when local governments make land use decisions in proximity to the established AICUZ footprint, local governments recognize:

- Noise contours and APZs comprising the AICUZ footprint are dynamic, and potential exists for changes in the AICUZ footprint as operational needs to satisfy the military mission change; and
- Because of the AICUZ Program's dynamics, it is recommended local governments work with NAS Patuxent River to establish a special planning area (or district) for areas outside the established APZ that are most likely to present compatibility problems, given changes in operations at NAS Patuxent River. As a beginning point, it is recommended local governments use the flight tracks presented in Section 3.4.2 to preserve the operational integrity of these flight tracks and protect the health and safety of the underlying population.

Land-Use Plans and Regulations

As discussed in Section 7.1.2, local governments currently within the AICUZ footprint recognize their responsibility in providing land-use controls in areas encumbered by the AICUZ footprint to protect the health, safety, and general welfare of the population. The degree to which these land-use controls are consistent with those recommended under Navy guidance varies greatly.

Capital Improvement

It is recommended that all capital improvement projects in proximity to the installation be evaluated and reviewed for potential direct and indirect impacts that such improvements may have on the ability to implement a successful AICUZ Program.

Building Codes

Local building codes should be reviewed and/or modified to ensure consistency with noise-attenuation recommendations of the AICUZ Program, as specified in OPNAVINST 11010.36C.

Public Land Acquisition Programs

These programs should be reviewed to ascertain whether they can be used in support of the AICUZ Program.

7.2.3 Private Citizens/Real Estate Professionals/Businesses Recommendations

Real Estate Professionals

Real estate professionals should:

- To the greatest extent possible, make prospective buyers and lessees aware of the potential magnitude of noise exposures they might experience;
- Provide written disclosure to prospective purchasers, renters, or lessees when a property is located within an APZ or high-noise zone;
- Provide an AICUZ brochure to prospective buyers and lessees; and
- Provide on their Web sites acknowledgement of the AICUZ Program for NAS Patuxent River and provide a link to their Web site for information on aircraft operations and the AICUZ Program at NAS Patuxent River.

Business Development and Construction Loans to Private Contractors

Lending institutions should consider whether to limit financing for real estate purchases or construction incompatible with the AICUZ Program. This strategy encourages review of noise and accident potential as part of a lender's investigation of potential loans to private interests for real estate acquisition and development. Diligent lending practices will promote compatible development of the area surrounding NAS Patuxent River and protect lenders and

developers alike. Local banking and financial institutions should be encouraged to incorporate a "Due Diligence Review" of all loan applications, including determination of possible noise or APZ impacts on the mortgaged property. The Navy can play a role in this strategy by providing AICUZ seminars to lenders throughout the region.

Citizens

The citizens of the local community have a responsibility to:

- Become informed about the AICUZ Program at NAS Patuxent River and learn about the program's goals and objectives; its value in protecting the health, safety, and welfare of the population; the limits of the program; and the positive community aspects of a successful AICUZ Program.

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Appendix C

Land Use Compatibility Recommendations

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Table C-1
Land-Use Compatibility Recommendations

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM No.	Land Use Name	<55	55-64	65-69	70-74	75-79	80-84	85+
10	**Residential**							
11	Household units	Y	Y[1]	N[1]	N[1]	N	N	N
11.11	Single units: detached	Y	Y[1]	N[1]	N[1]	N	N	N
11.12	Single units: semidetached	Y	Y[1]	N[1]	N[1]	N	N	N
11.13	Single units: attached row	Y	Y[1]	N[1]	N[1]	N	N	N
11.21	Two units: side-by-side	Y	Y[1]	N[1]	N[1]	N	N	N
11.22	Two units: one above the other	Y	Y[1]	N[1]	N[1]	N	N	N
11.31	Apartments: walk up	Y	Y[1]	N[1]	N[1]	N	N	N
11.32	Apartments: elevator	Y	Y[1]	N[1]	N[1]	N	N	N
12	Group quarters	Y	Y[1]	N[1]	N[1]	N	N	N
13	Residential hotels	Y	Y[1]	N[1]	N[1]	N	N	N
14	Mobile home parks or courts	Y	Y[1]	N	N	N	N	N
15	Transient lodgings	Y	Y[1]	N[1]	N[1]	N[1]	N	N
16	Other residential	Y	Y[1]	N[1]	N[1]	N	N	N
20	**Manufacturing**							
21	Food and kindred products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
22	Textile mill products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
23	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
24	Lumber and wood products (except furniture); manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
25	Furniture and fixtures; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N

Table C-1
Land-Use Compatibility Recommendations

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM No.	Land Use Name	<55	55-64	65-69	70-74	75-79	80-84	85+
26	Paper and allied products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
27	Printing, publishing, and allied industries	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
28	Chemicals and allied products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
29	Petroleum refining and related industries	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
30	**Manufacturing (continued)**							
31	Rubber and misc. plastic products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
32	Stone, clay, and glass products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
33	Primary metal products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
34	Fabricated metal products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
35	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks	Y	Y	Y	25	30	N	N
39	Miscellaneous manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
40	**Transportation, communication and utilities**							
41	Railroad, rapid rail transit, and street railway transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
42	Motor vehicle transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
43	Aircraft transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
44	Marine craft transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
45	Highway and street right-of-way	Y	Y	Y	Y[2]	Y[3]	Y[4]	N

Table C-1
Land-Use Compatibility Recommendations

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM No.	Land Use Name	<55	55-64	65-69	70-74	75-79	80-84	85+
46	Automobile parking	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
47	Communication	Y	Y	Y	25 [5]	30 [5]	N	N
48	Utilities	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
49	Other transportation, communication, and utilities	Y	Y	Y	25 [5]	30 [5]	N	N
50	**Trade**							
51	Wholesale trade	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
52	Retail trade – building materials, hardware, and farm equipment	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
53	Retail trade – shopping centers	Y	Y	Y	25	30	N	N
54	Retail trade – food	Y	Y	Y	25	30	N	N
55	Retail trade – automotive, marine craft, aircraft and accessories	Y	Y	Y	25	30	N	N
56	Retail trade – apparel and accessories	Y	Y	Y	25	30	N	N
57	Retail trade – furniture, home furnishings and equipment	Y	Y	Y	25	30	N	N
58	Retail trade – eating and drinking establishments	Y	Y	Y	25	30	N	N
59	Other retail trade	Y	Y	Y	25	30	N	N
60	**Services**							
61	Finance, insurance and real estate services	Y	Y	Y	25	30	N	N
62	Personal services	Y	Y	Y	25	30	N	N
62.4	Cemeteries	Y	Y	Y	Y[2]	Y[3]	Y[4,11]	Y[6,11]
63	Business services	Y	Y	Y	25	30	N	N
63.7	Warehousing and storage	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
64	Repair services	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
65	Professional services	Y	Y	Y	25	30	N	N

Table C-1
Land-Use Compatibility Recommendations

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM No.	Land Use Name	<55	55-64	65-69	70-74	75-79	80-84	85+
65.1	Hospitals, other medical fac.	Y	Y[1]	25	30	N	N	N
65.16	Nursing homes	Y	Y	N[1]	N[1]	N	N	N
66	Contract construction services	Y	Y	Y	25	30	N	N
67	Governmental services	Y	Y[1]	Y[1]	25	30	N	N
68	Educational services	Y	Y[1]	25	30	N	N	N
69	Miscellaneous	Y	Y	Y	25	30	N	N
70	**Cultural, entertainment and recreational**							
71	Cultural activities (& churches)	Y	Y[1]	25	30	N	N	N
71.2	Nature exhibits	Y	Y[1]	Y[1]	N	N	N	N
72	Public assembly	Y	Y[1]	Y	N	N	N	N
72.1	Auditoriums, concert halls	Y	Y	25	30	N	N	N
72.11	Outdoor music shells, amphitheaters	Y	Y[1]	N	N	N	N	N
72.2	Outdoor sports arenas, spectator sports	Y	Y	Y[7]	Y[7]	N	N	N
73	Amusements	Y	Y	Y	Y	N	N	N
74	Recreational activities (including golf courses, riding stables, water rec.)	Y	Y[1]	Y[1]	25	30	N	N
75	Resorts and group camps	Y	Y[1]	Y[1]	Y[1]	N	N	N
76	Parks	Y	Y[1]	Y[1]	Y[1]	N	N	N
79	Other cultural, entertainment and recreation	Y	Y[1]	Y[1]	Y[1]	N	N	N
80	**Resource production and extraction**							
81	Agriculture (except livestock)	Y	Y	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
81.5	Livestock farming	Y	Y	Y[8]	Y[9]	N	N	N
81.7	Animal breeding	Y	Y	Y[8]	Y[9]	N	N	N
82	Agricultural related activities	Y	Y	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
83	Forestry activities	Y	Y	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
84	Fishing activities	Y	Y	Y	Y	Y	Y	Y
85	Mining activities	Y	Y	Y	Y	Y	Y	Y

Table C-1
Land-Use Compatibility Recommendations

Land Use		Suggested Land Use Compatibility						
		Noise Zone 1 (DNL or CNEL)		Noise Zone 2 (DNL or CNEL)		Noise Zone 3 (DNL or CNEL)		
SLUCM No.	Land Use Name	<55	55-64	65-69	70-74	75-79	80-84	85+
89	Other resource production or extraction	Y	Y	Y	Y	Y	Y	Y

Table C-2
Air Installations Compatible Use Zones
Suggested Land Use Compatibility in Accident Potential Zones[1]

SLUCM No.	Land Use Name	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
10	**Residential**				
11	Household units				
11.11	Single units: detached	N	N	Y[2]	Max density of 1-2 Du/Ac
11.12	Single units: semidetached	N	N	N	
11.13	Single units: attached row	N	N	N	
11.21	Two units: side-by-side	N	N	N	
11.22	Two units: one above the other	N	N	N	
11.31	Apartments: walk up	N	N	N	
11.32	Apartments: elevator	N	N	N	
12	Group quarters	N	N	N	
13	Residential hotels	N	N	N	
14	Mobile home parks or courts	N	N	N	
15	Transient lodgings	N	N	N	
16	Other residential	N	N	N	
20	**Manufacturing[3]**				
21	Food and kindred products; manufacturing	N	N	Y	Max FAR 0.56 in APZ II
22	Textile mill products; manufacturing	N	N	Y	same as above
23	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	N	N	N	
24	Lumber and wood products (except furniture); manufacturing	N	Y	Y	Max FAR of 0.28 in APZ I & 0.56 in APZ II
25	Furniture and fixtures; manufacturing	N	Y	Y	same as above
26	Paper and allied products; manufacturing	N	Y	Y	same as above
27	Printing, publishing, and allied industries	N	Y	Y	same as above
28	Chemicals and allied products; manufacturing	N	N	N	

Table C-2
Air Installations Compatible Use Zones
Suggested Land Use Compatibility in Accident Potential Zones[1]

SLUCM No.	Land Use Name	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
29	Petroleum refining and related industries	N	N	N	
30	**Manufacturing[3] (continued)**				
31	Rubber and misc. plastic products; manufacturing	N	N	N	
32	Stone, clay, and glass products; manufacturing	N	N	Y	Max FAR 0.56 in APZ II
33	Primary metal products; manufacturing	N	N	Y	same as above
34	Fabricated metal products; manufacturing	N	N	Y	same as above
35	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks	N	N	N	
39	Miscellaneous manufacturing	N	Y	Y	Max FAR of 0.28 in APZ I & 0.56 in APZ II
40	**Transportation, communication and utilities [4,5]**				
41	Railroad, rapid rail transit, and street railway transportation	N	Y[5]	Y	same as above
42	Motor vehicle transportation	N	Y[5]	Y	same as above
43	Aircraft transportation	N	Y[5]	Y	same as above
44	Marine craft transportation	N	Y[5]	Y	same as above
45	Highway and street right-of-way	N	Y[5]	Y	same as above
46	Auto parking	N	Y[5]	Y	same as above
47	Communication	N	Y[5]	Y	same as above
48	Utilities	N	Y[5]	Y	same as above
485	Solid Waste disposal (Landfills, incineration, etc.)	N	N	N	
49	Other transportation, comm., and utilities	N	Y[5]	Y	See Note 5
50	***Trade***				
51	Wholesale trade	N	Y	Y	Max FAR of 0.28 in APZ I & 0.56 in APZ II

Table C-2
Air Installations Compatible Use Zones
Suggested Land Use Compatibility in Accident Potential Zones[1]

SLUCM No.	Land Use Name	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
52	Retail trade – building materials, hardware, and farm equipment	N	Y	Y	See Note 6
53	Retail trade[7] – shopping centers, Home Improvement Store, Discount Club, Electronics Superstore	N	N	Y	Max FAR of 0.16 in APZ II
54	Retail trade – food	N	N	Y	Max FAR of 0.24 in APZ II
55	Retail trade – automotive, marine craft, aircraft and accessories	N	Y	Y	Max FAR of 0.14 in APZ I & 0.28 in APZ II
56	Retail trade – apparel and accessories	N	N	Y	Max FAR of 0.28 in APZ II
57	Retail trade – furniture, home furnishings and equipment	N	N	Y	same as above
58	Retail trade – eating and drinking establishments	N	N	N	
59	Other retail trade	N	N	Y	Max FAR of 0.16 in APZ II
60	**Services[8]**				
61	Finance, insurance and real estate services	N	N	Y	Max FAR of 0.22 for "General Office/ Office park" in APZ II
62	Personal services	N	N	Y	Office uses only. Max FAR of 0.22 in APZ II.
62.4	Cemeteries	N	Y[9]	Y[9]	
63	Business services (credit reporting; mail, stenographic reproduction; advertising)	N	N	Y	Max FAR of 0.22 in APZ II
63.7	Warehousing and storage services	N	Y	Y	Max FAR of 1.0 in APZ I; 2.0 in APZ II
64	Repair Services	N	Y	Y	Max FAR of 0.11 in APZ I; 0.22 in APZ II
65	Professional services	N	N	Y	Max FAR of 0.22 in APZ II
65.1	Hospitals, nursing homes	N	N	N	
65.1	Other medical facilities	N	N	N	

Table C-2
Air Installations Compatible Use Zones
Suggested Land Use Compatibility in Accident Potential Zones[1]

SLUCM No.	Land Use Name	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
66	Contract construction services	N	Y	Y	Max FAR of 0.11 in APZ I; 0.22 in APZ II
67	Governmental services	N	N	Y	Max FAR of 0.24 in APZ II
68	Educational services	N	N	N	
69	Miscellaneous	N	N	Y	Max FAR of 0.22 in APZ II
70	**Cultural, entertainment and recreational**				
71	Cultural activities	N	N	N	
71.2	Nature exhibits	N	Y[10]	Y[10]	
72	Public assembly	N	N	N	
72.1	Auditoriums, concert halls	N	N	N	
72.11	Outdoor music shells, amphitheaters	N	N	N	
72.2	Outdoor sports arenas, spectator sports	N	N	N	
73	Amusements-fairgrounds, miniature golf, driving ranges; amusement parks, etc.	N	N	Y	
74	Recreational activities (including golf courses, riding stables, water recreation)	N	Y[10]	Y[10]	Max FAR of 0.11 in APZ I; 0.22 in APZ II
75	Resorts and group camps	N	N	N	
76	Parks	N	Y[10]	Y[10]	same as 74
79	Other cultural, entertainment and recreation	N	Y[9]	Y[9]	same as 74
80	**Resource production and extraction**				
81	Agriculture (except livestock)	Y[4]	Y[11]	Y[11]	
81.5, 81.7	Livestock farming and breeding	N	Y[11,12]	Y[11,12]	
82	Agricultural related activities	N	Y[11]	Y[11]	Max FAR of 0.28 in APZ I; 0.56 in APZ II no activity which produces smoke, glare, or involves explosives
83	Forestry activities[13]	N	Y	Y	same as above
84	Fishing activities[14]	N[14]	Y	Y	same as above
85	Mining activities	N	Y	Y	same as above

Table C-2
Air Installations Compatible Use Zones
Suggested Land Use Compatibility in Accident Potential Zones[1]

SLUCM No.	Land Use Name	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
89	Other resource production or extraction	N	Y	Y	same as above
90	**Other**				
91	Undeveloped Land	Y	Y	Y	
93	Water Areas	N[15]	N[15]	N[15]	

Source: Adapted from Department of Navy, 2008.

Key to Table C-2 – Suggested Land Use Compatibility in Accident Potential Zones

SLUCM -	Standard Land Use Coding Manual, U.S. Department of Transportation
Y (Yes) -	Land use and related structures are normally compatible without restrictions.
N (No) -	Land use and related structures are not normally compatible and should be prohibited.
Yx – (Yes with restrictions)	The land use and related structures are generally compatible. However, see notes indicated by the superscript.
Nx – (No with exceptions)	The land use and related structures are generally incompatible. However, see notes indicated by the superscript.
FAR – Floor Area Ratio	A Floor area ratio is the ratio between the square feet of floor area of the building and the site area. It is customarily used to measure non-residential intensities.
Du/Ac- Dwelling Units per Acre	This metric is customarily used to measure residential densities.

Notes for Table 2 – Suggested Land Use Compatibility in Accident Potential Zones

The following notes refer to Table 2.

1. A “Yes” or a “No” designation for compatible land use is to be used only for general comparison. Within each, uses exist where further evaluation may be needed in each category as to whether it is clearly compatible, normally compatible, or not compatible due to the variation of densities of people and structures. In order to assist installations and local governments, general suggestions as to FARs are provided as a guide to densities in some categories. In general, land-use restrictions which limit commercial, services, or industrial buildings or structure occupants to 25 per acre in APZ I and 50 per acre in APZ II are the range of occupancy levels, including employees, considered to be low density. Outside events should normally be limited to assemblies of not more than 25 people per acre in APZ I, and Maximum (MAX) assemblies of 50 people per acre in APZ II.

2. The suggested maximum density for detached single-family housing is one to two Du/Ac. In a Planned Unit Development (PUD) of single-family detached units where clustered housing development results in large open areas, this density could possibly be increased provided the amount of surface area covered by structures does not exceed 20 percent of the PUD total area. PUD encourages clustered development that leaves large open areas.

3. Other factors to be considered: Labor intensity, structural coverage, explosive characteristics, air pollution, electronic interference with aircraft, height of structures, and potential glare to pilots.

4. No structures (except airfield lighting), buildings or aboveground utility/communications lines should normally be located in the clear zone areas on or off the installation. The clear zone is subject to severe restrictions. See UFC 3-260-01, “Airfield and Heliport Planning and Design” dated 10 November 2001 for specific design details.

5. No passenger terminals and no major aboveground transmission lines in APZ I.

6. Within SLUCM Code 52, Max FARs for lumber yards (SLUCM Code 521) are 0.20 in APZ-1 and 0.40 in APZ-II. For hardware/paint and farm equipment stores, SLUCM Code 525, the Max FARs are 0.12 in APZ-1 and 0.24 in APZ-II.

7. A shopping center is an integrated group of commercial establishments that is planned, developed, owned, or managed as a unit. Shopping center types include strip, neighborhood, community, regional, and super regional facilities anchored by small businesses, supermarket or drug store, discount retailer, department store, or several department stores, respectively. Included in this category are such uses as big box discount and electronics superstores. The Max recommended FAR for SLUCM 53 should be applied to the gross leasable area of the shopping center rather then attempting to use other recommended FARs listed in Table 2 under “Retail” or “Trade.”

8. Low intensity office uses only. Accessory use such as meeting places, auditoriums, etc., are not recommended.

9. No chapels are allowed within APZ I or APZ II.

10. Facilities must be low intensity and provide no tot lots, etc. Facilities such as clubhouses, meeting places, auditoriums, large classes, etc., are not recommended.

Table C-2
Air Installations Compatible Use Zones
Suggested Land Use Compatibility in Accident Potential Zones[1]

SLUCM No.	Land Use Name	CLEAR ZONE Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
11. Includes livestock grazing but excludes feedlots and intensive animal husbandry. Activities that attract concentrations of birds creating a hazard to aircraft operations should be excluded. 12. Includes feedlots and intensive animal husbandry. 13. Lumber and timber products removed due to establishment, expansion, or maintenance of clear zones will be disposed of in accordance with appropriate DoD Natural Resources instructions. 14. Controlled hunting and fishing may be permitted for the purpose of wildlife management. 15. Naturally occurring water features (e.g., rivers, lakes, streams, wetlands) are compatible.					

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Department of Defense
INSTRUCTION

NUMBER 4165.57
May 2, 2011

USD(AT&L)

SUBJECT: Air Installations Compatible Use Zones (AICUZ)

References: See Enclosure 1

1. PURPOSE. This Instruction:

a. Reissues DoD Instruction (DoDI) 4165.57 (Reference (a)) in accordance with the authority in DoD Directive (DoDD) 5134.01 (Reference (b)) to establish policy, assign responsibilities, and prescribe procedures for the DoD AICUZ program for air installations, in accordance with DoDD 4165.06 (Reference (c)).

b. Establishes policy and assigns responsibility for educating air installation personnel and engaging local communities on issues related to noise, safety, and compatible land use in and around air installations.

c. Prescribes procedures for plotting noise contours for land use compatibility analysis.

2. APPLICABILITY. This Instruction applies to:

a. The Office of the Secretary of Defense, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the DoD, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the DoD (hereafter referred to collectively as the "DoD Components").

b. Air installations of the DoD Components located within the United States.

c. Air installations of the DoD Components located outside of the United States, but for on-base planning purposes only and subject to the requirements of any applicable international agreement, including any basing agreement.

3. DEFINITIONS. See Glossary.

4. POLICY. It is DoD policy to:

a. Promote the health, safety, and welfare of persons in the vicinity of and on air installations by minimizing aircraft noise and safety impacts without degrading flight safety and mission requirements.

b. Promote long-term compatible land use on and in the vicinity of air installations by encouraging State and local governments to adopt enabling legislation and compatible land use regulations into their land use planning and control processes and by partnering with communities and other eligible entities to protect land through restrictive use and conservation easements.

c. Limit acquisition of real property interests to the minimum necessary to ensure the operational integrity of the air installation.

d. Incorporate AICUZ guidelines into on-base land use planning programs.

e. Integrate AICUZ compatible land use strategies into the test and training range environment in accordance with DoDD 3200.15 (Reference (d)).

f. Promote education and engagement with communities affected by military operations at air installations. DoDD 5410.18 (Reference (e)) provides policy for the conduct of public affairs community relations activities and programs throughout the DoD.

5. RESPONSIBILITIES. See Enclosure 2.

6. PROCEDURES. See Enclosure 3.

7. RELEASABILITY. UNLIMITED. This Instruction is approved for public release and is available on the Internet from the DoD Issuances Website at http://www.dtic.mil/whs/directives.

8. EFFECTIVE DATE. This Instruction is effective upon its publication to the DoD Issuances Website.

Ashton B. Carter
Under Secretary of Defense for
Acquisition, Technology, and Logistics

Enclosures

TABLE OF CONTENTS

ENCLOSURE 1

REFERENCES

(a) DoD Instruction 4165.57, "Air Installations Compatible Use Zones," November 8, 1977 (hereby cancelled)
(b) DoD Directive 5134.01, "Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L))," December 9, 2005
(c) DoD Directive 4165.06, "Real Property," October 13, 2004
(d) DoD Directive 3200.15, "Sustainment of Ranges and Operating Areas (OPAREAs)," January 10, 2003
(e) DoD Directive 5410.18, "Public Affairs Community Relations Policy," November 20, 2001
(f) DoD Instruction 4165.70, "Real Property Management," April 6, 2005
(g) DoD Instruction 4165.71, "Real Property Acquisition," January 6, 2005
(h) DoD Instruction 4165.72, "Real Property Disposal," December 21, 2007
(i) Unified Facilities Criteria 3-260-01, "Airfield and Heliport Planning and Design," November 17, 2008
(j) Part 77 of title 14, Code of Federal Regulations
(k) Federal Interagency Committee on Urban Noise, "Guidelines for Considering Noise In Land Use Planning and Control," June 1980
(l) Federal Interagency Committee on Noise, "Federal Agency Review of Selected Airport Noise Analysis Issues," August 1992
(m) Federal Highway Administration, "Standard Land Use Coding Manual," January 1965
(n) DoD Instruction 4715.13, "DoD Noise Program," November 15, 2005
(o) Department of Defense Noise Working Group, "Improving Aviation Noise Planning, Analysis, and Public Communication with Supplemental Metrics," December 2009
(p) Sections 2391(b)(1), 2684a of title 10, United States Code
(q) DoD Directive 3030.01, "Office of Economic Adjustment," March 5, 2006
(r) DoD Instruction 3030.3, "Joint Land Use Study (JLUS) Program," July 13, 2004

ENCLOSURE 2

RESPONSIBILITIES

1. DEPUTY UNDER SECRETARY OF DEFENSE FOR INSTALLATIONS AND ENVIRONMENT (DUSD(I&E)). The DUSD(I&E), under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology, and Logistics, shall:

a. Provide general oversight over the AICUZ program.

b. Provide additional guidance as necessary.

2. HEADS OF THE DoD COMPONENTS. The Heads of the DoD Components shall:

a. Develop, implement, and maintain an AICUZ program for each air installation.

b. Ensure that each air installation conducts and maintains an AICUZ study.

c. Develop AICUZ for DoD-controlled joint military-civilian use airfields.

d. Provide education and training for air installation leadership on aircraft noise and safety, land use compatibility, and community engagement.

e. Acquire, manage, and dispose of real property interests associated with the AICUZ program consistent with DoDIs 4165.70, 4165.71, and 4165.72 (References (f), (g), and (h)).

f. Review and approve AICUZ studies and updates for each air installation.

ENCLOSURE 3

PROCEDURES

1. GENERAL

a. The DoD Components shall ensure that their air installations engage State and local governments and communities to foster compatible land use and to help local governments and communities better understand the nature of aircraft operations and procedures in and around the air installation. DoD Components shall ensure participation in local comprehensive planning processes, engage the community, and seek effective land use controls such as, but not limited to, AICUZ overlay zoning ordinances, planned unit developments, subdivision regulations, and height regulations. Other strategies to achieve compatibility include use of building codes, transfer development rights, real property acquisition, buffer lands and restrictive easement acquisition, and disclosure ordinances.

b. Regional and local governments may not always have the authority to enact land use controls to achieve compatibility. In circumstances where incompatible development threatens the mission, acquisition of real property interests may be required to ensure compatibility.

c. The DoD Components shall ensure that their air installations establish effective working relationships with State, tribal, and local governments, including local planning commissions, special purpose districts, regional and State agencies, airport land-use commissions, and other Federal agencies to communicate the objectives of the AICUZ program and operational requirements. This Instruction does not impose any requirements on members of the public or State or local governments, nor does it prescribe any specific course of action for these groups to take in dealing with the DoD on land-use questions.

d. The DoD Components shall ensure that each of their air installations:

(1) Address land use compatibility on and in the vicinity of the air installation where:

(a) Aircraft operations may affect the public health, safety, or welfare.

(b) Certain uses or structures may obstruct the airspace, attract birds, create electromagnetic or thermal interference, or produce dust, smoke, steam, or light emissions that may impact a pilot's vision, or otherwise be hazardous to or incompatible with aircraft operations.

(2) Apply these compatible land use guidelines:

(a) Limit concentrations of people and facilities in areas exposed to a higher risk from aircraft accidents.

(b) Promote compatibility with the noise exposure from air installation operations.

(c) Promote restrictions on land uses and heights of natural objects and man-made objects in the vicinity of air installations that may obstruct the airspace, attract birds, cause electromagnetic or thermal interference, or produce dust, steam, smoke, or light emissions to provide for safety of flight and the public welfare.

e. The DoD Components shall ensure that their air installations use the land area and height standards defined in the Unified Facilities Criteria 3-260-01 (Reference (i)) for purposes of identifying airspace obstructions and potential land use compatibility issues in accordance with part 77 of title 14, Code of Federal Regulations (Reference (j)).

2. AICUZ STUDY CONTENT

a. An AICUZ study shall include:

(1) A description of the aircraft noise and aircraft accident potential environment around the air installation for existing operations.

(2) A description of the long-term (5-10 year) aircraft noise and accident potential environment for projected aircraft operations that is consistent with the planning horizon used by State, tribal, regional, and local planning bodies.

(3) Recommendations for achieving compatible land use development considering aircraft noise, accident potential, bird or wildlife aircraft strike hazard (BASH), electromagnetic interference, dust, steam, smoke or light emissions, and heights of natural and man-made objects near the air installation that affect flight safety within the air installation's environs.

(4) Identification of existing and potential incompatible land uses.

b. Land use compatibility determinations concerning aircraft noise shall be derived from the Federal Interagency Committee on Urban Noise, "Guidelines for Considering Noise In Land Use Planning and Control" (Reference (k)) and as endorsed by the Federal Interagency Committee on Noise (FICON) in the "Federal Agency Review of Selected Airport Noise Analysis Issues" (Reference (l)).

c. The Federal Highway Administration's Standard Land Use Coding Manual (SLUCM) (Reference (m)) shall be used for a standard descriptor of land uses. The SLUCM standards, including their codes and sub-codes, provide planners with detailed information describing specific land use categories. Based on the SLUCM codes, land use compatibility guidelines for Clear Zones and Accident Potential Zones (APZs) (as defined in Glossary and discussed in paragraph 3.f. of this enclosure) are shown in Appendix 1 to this enclosure. Suggested land use compatibility guidelines in aircraft noise zones are shown in Appendix 2. Additions to some land use categories have been incorporated into Tables 1 and 2 of Appendix 2 subsequent to issuance of the SLUCM to reflect additional land uses and to clarify the categorization of certain uses.

d. Areas of critical concern beyond the AICUZ footprint may be established.

3. AIRCRAFT ACCIDENT POTENTIAL

a. Areas immediately beyond the ends of runways possess a measurably higher potential for aircraft accidents. For this reason, development should be restricted to certain types of land uses and densities.

b. Land use compatibility for APZs is founded on the concept of minimizing density of land use in the vicinity of air installations. In addition to limiting density, certain types of land uses such as residential development, educational facilities, and medical facilities are considered incompatible and are strongly discouraged in APZs. Appendix 2 to this enclosure provides a detailed land use compatibility matrix for local governments as well as DoD personnel for on-base planning. Table 1 of Appendix 2 provides land use compatibility recommendations for the Clear Zones and APZs I and II. To assist local governments in implementing land use controls in APZs, recommended floor area ratios (FAR) are provided for select commercial uses.

c. DoD fixed-wing runways are separated into two types, Class A and Class B, for the purpose of defining aircraft accident potential areas.

d. Specific details on runway types can be found in Reference (i).

e. The descriptions of APZ boundaries in Appendix 1 to this enclosure are guidelines only. Their strict application would increase the safety of the general public but would not provide complete protection against the effects of aircraft accidents. Where it is desirable to restrict the density of development of an area, it is not usually possible to state that one density is safe and another is not. Air installations should work to create the greatest degree of safety that can be reasonably attained based on local circumstances. Local situations may differ significantly from the assumptions and data upon which these guidelines are based and may require individual study.

4. APZS AND CLEAR ZONES FOR FIXED-WING AIRCRAFT

a. A Clear Zone is required at the ends of all active DoD runways.

b. APZs may be modified:

(1) Where multiple flight tracks exist and significant numbers of aircraft operations are on multiple flight tracks, modifications may be made to create APZs that conform to the multiple flight tracks.

(2) Where most aircraft do not overfly the APZs, modifications may be made to alter the straight APZs shown in Appendix 2 to this enclosure and adjust them to conform to the actual lines of flight.

(3) Where other unusual conditions exist, modifications may be made to alter APZs as necessary.

5. APZS AND CLEAR ZONES FOR ROTARY-WING AIRCRAFT

a. The dimension of Clear Zones for rotary-wing runways and helipads for visual and standard instrument flight rules (IFR) operations is 400 feet long (the width can vary). The Clear Zone length for Army and Air Force IFR same direction ingress and egress is 825 feet.

b. The dimension of APZs for rotary-wing runways and helipads is 800 feet long.

c. The dimensions for APZs and Clear Zones for rotary-wing runways and helipads are discussed in greater detail in Reference (i).

6. AIRCRAFT NOISE

a. General

(1) Long-term land use compatibility with noise resulting from the operation of military aircraft should minimize the effects on people, animals (domestic and wild), and structures on or in proximity to air installations. Appendix 3 to this enclosure provides a detailed land use compatibility matrix for DoD Component personnel to use for on-base planning and to engage with local governments to foster compatible land use development. Table 2 of Appendix 2 provides land use compatibility recommendations based on SLUCM codes and day-night average sound level (DNL) or community noise equivalent level (CNEL) noise areas on and around air installations.

(2) The A-weighted day-night average sound level (ADNL) noise descriptor shall be used to describe the aircraft noise environment around air installations, except in California, where the CNEL descriptor shall be used to describe the aircraft noise environment. If laws require some other aircraft noise descriptor, it may be used in addition to, or as a substitute for, ADNL. Supplemental noise metrics may also be used to augment the ADNL or CNEL analysis as noted by the FICON in Reference (k). Since land use compatibility guidelines are based on yearly average noise levels, aircraft noise contours should be developed based on average annual day (AAD) operations. However, where the DoD Component determines that AAD does not adequately represent the aircraft noise impacts at a particular air installation, average busy day (ABD) operations can be used with supporting rationale.

b. Reducing Noise Impacts. Reasonable, economical, and practical measures shall be taken to reduce and control the generation of aircraft noise from flying and flying-related activities.

Typical measures normally include siting of engine test and run-up facilities in remote areas when practical, use of sound suppression equipment, and adjustment of aircraft flight paths to avoid developed areas when such adjustment can be accomplished safely and without significant impairment of operational effectiveness.

c. Plotting Aircraft Noise Contours

(1) As a minimum, contours for DNL 65, 70, 75, 80, and 85 shall be plotted on maps for Air Force, Navy, and Marine Corps air installations as part of AICUZ studies. The Army shall apply Operational Noise Management Program DNL designations of 60-65, 65-75, and greater than 75 at its air installations. Contours below 65 DNL are not required but may be provided if local conditions warrant discussion of lower aircraft noise levels, such as in rural and desert areas, or where significant noise complaints have been received from areas outside DNL 65 contours.

(2) Utilize guidance and noise assessment and management techniques from the DoD Noise Program in accordance with DoDI 4715.13 (Reference (n)) to support the AICUZ program.

(3) Supplemental noise metrics may be used to augment DNL and CNEL noise analyses to provide additional information to describe the noise environment in the vicinity of air installations. A detailed discussion of supplemental metrics and their application can be found in the DoD Noise Working Group's "Improving Aviation Noise Planning, Analysis, and Public Communication with Supplemental Metrics" (Reference (o)).

7. AICUZ UPDATES. Land use planning involves long-range strategies to influence present and future uses of lands. Frequent AICUZ updates and changes in land use recommendations can undermine the neighboring community's willingness to incorporate DoD Component recommendations into local comprehensive plans or to enact land use controls. AICUZ study recommendations should be based on best available, realistic long-range projections of air installation operations in support of local, State, and regional government land use planning objectives. Examples of when AICUZ updates should be undertaken include major mission changes, increases in nighttime flying (flights between 10:00 p.m. and 7:00 a.m.), basing of significant numbers of additional or a new type of aircraft, and base realignment affecting flying operations.

8. ACQUISITION OF INTERESTS IN LANDS

a. When local development regulations do not provide sufficient protection for aircraft operations (e.g., preventing incompatible development or airspace obstructions), the DoD Component shall consider the acquisition of necessary real property interests.

(1) Ownership in fee or of an appropriate restrictive use easement within the Clear Zone is preferred, unless State and local government development regulations will clearly have long-term effectiveness or acquisition is not practicable.

(2) The acquisition of restrictive use easements or interests in land outside the Clear Zone, such as APZs and noise zones, should only be pursued when State and local governments are unwilling or unable to enact land use controls to achieve land use compatibility in accordance with AICUZ guidelines and the operational integrity of the air installation is manifestly threatened. Acquisition of interests in land may also be pursued in such circumstances where long-term land use controls are considered to be ineffective and the DoD Component determines all possibilities of achieving compatible use zoning, or similar protection, have been exhausted.

b. Acquisition of real property interests shall follow the policy and procedures in References (c) and (f). Acquisition of real property interests from willing sellers pursuant to agreements with non-Federal governmental agencies and non-governmental organizations, authorized by section 2684a of title 10, United States Code (Reference (p)), can be an effective means of preserving compatible land uses.

c. For real property acquisitions, in accordance with paragraph 4.c. above the signature of this Instruction, these types of rights should be considered, as appropriate:

(1) To make low and frequent flights over the land and to generate noises associated with:

(a) Aircraft in flight, whether or not while directly over the land.

(b) Aircraft and aircraft engines operating on the ground at the installation.

(c) Aircraft engine test stand, test cell, and hush-house operations at the installation.

(2) To prohibit or limit the release into the air of any substance that would impair the visibility or otherwise interfere with the operations of aircraft, such as, but not limited to, steam, dust, and smoke.

(3) To prohibit or limit light emissions, either direct or indirect (reflective), visible or invisible, including lasers, that might interfere with pilot vision or performance of instruments, equipment and weapons systems.

(4) To prohibit electromagnetic emissions that would interfere with aircrew, aircraft, aircraft sensors, aircraft communications systems, or aircraft navigational equipment.

(5) To prohibit any use of the land that would unnecessarily attract birds, such as, but not limited to, operation of sanitary landfills, maintenance of feeding stations, or growing of certain types of vegetation attractive to birds.

(6) To prohibit and remove any buildings or other non-frangible structures.

(7) To top, cut to ground level, and to remove trees, shrubs, brush, or other forms of obstructions that the DoD Component determines might interfere with the operation of aircraft, including emergency landings.

(8) To ingress and egress upon, over, and across the land for the purpose of exercising the rights acquired or retained.

(9) To post signs on the land indicating the nature and extent of the Government's control over it.

(10) To prohibit land uses other than:

(a) Agriculture (except such uses that would attract birds or waterfowl).

(b) Livestock grazing (except managed intensive grazing, concentrated animal feeding operations, feedlots, dairy herds, and intensive animal husbandry).

(c) Permanent open space (open space recreational use shall conform to the compatibility guidelines in Appendix 2 of this enclosure).

(d) Existing water areas.

(e) Rights-of-way for fenced highways, without sidewalks or bicycle trails.

(f) Rights-of-way for railroads without terminals or platforms so long as rail traffic does not extend into the flight path.

(g) Communications and utility rights-of-way, provided all facilities are at or below grade.

(11) To prohibit entry of persons onto the land except in connection with activities otherwise authorized.

(12) To control the height of structures to ensure that they do not become a hazard to flight.

(13) To install airfield lighting and navigational aids.

d. When disposal of non-DoD Federal property at or in the vicinity of an air installation will impact its mission, the Military Department exercising real property accountability for the air installation will seek to have the disposal agency retain compatible land use easements over the property to be disposed of for the benefit of the air installation.

9. JOINT LAND USE STUDY (JLUS)

a. The Office of Economic Adjustment (OEA) administers the JLUS Program pursuant to section 2391(b)(1) of Reference (p) and in accordance with DoDD 3030.01 (Reference (q)) and DoDI 3030.3 (Reference (r)) to promote consistent ongoing compatible use and outreach programs between installations and local communities.

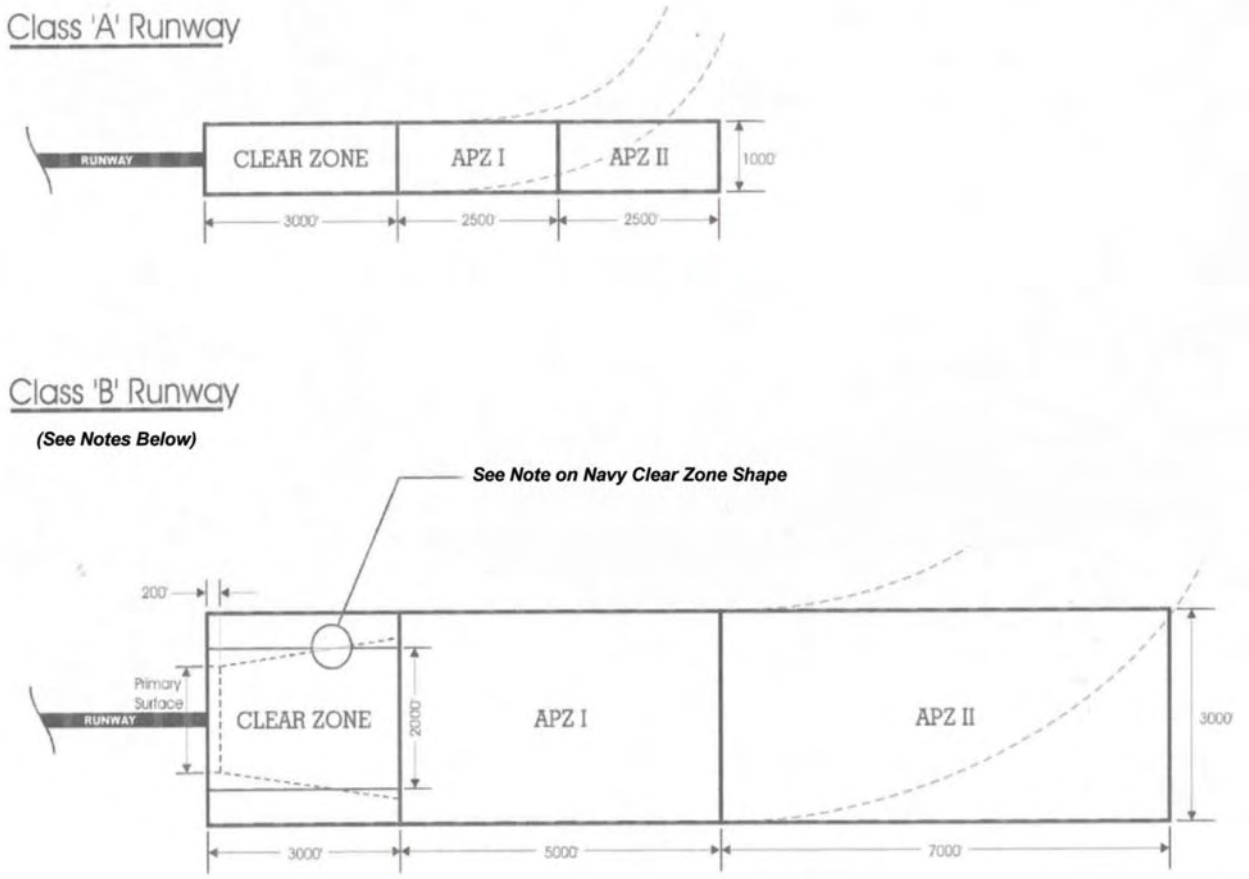
b. Each time an AICUZ is updated, the DoD Components shall consider whether further engagement with the neighboring local communities is needed through a JLUS to preserve the operational utility of the air installation.

APPENDIX 1 TO ENCLOSURE 3

APZ GUIDELINES

Guidelines for runway APZs and Clear Zones are depicted in the Figure.

Figure. Runway APZs and Clear Zones



NOTES:

1. Class B runway Clear Zones are rectangular in shape, with the width of 1000 feet for Department of Army airfields and 3000 feet for Department of Air Force airfields. Class B runway Clear Zones for Department of Navy airfields are trapezoidal in shape following the established approach and departure surface and width of the primary surface for existing runways and new runway construction.

2. Depictions of APZs in the figure are a nominal representation. Flight tracks may depart the runway centerline before the end of the Clear Zone. APZs for Class A or Class B runways can follow major flight paths including curved flight paths based on Military Service analysis.

3. The APZ I and APZ II width for a Class B runway at Department of Air Force and Department of Navy airfields is 3000 feet and is 1000 feet for a Class B runway at Department of Army airfields.

APPENDIX 2 TO ENCLOSURE 3

RECOMMENDED LAND USE COMPATIBILITY IN APZs

Suggested land use compatibility guidelines in the Clear Zone and APZs are shown in Table 1. Additions to some land use categories have been incorporated into Table 1 subsequent to issuance of the SLUCM to reflect additional land uses and to clarify the categorization of certain uses. The compatible land use recommendations for the Clear Zone and APZs are provided for local governments as well as DoD personnel for on-base planning.

Table 1. Land Use Compatibility in APZs

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation[1]	APZ-I Recommendation[1]	APZ-II Recommendation[1]	DENSITY Recommendation[1]
10	Residential				
11	Household Units				
11.11	Single units: detached	N	N	Y[2]	Maximum density of 2 Du/Ac
11.12	Single units: semi-detached	N	N	N	
11.13	Single units: attached row	N	N	N	
11.21	Two units: side-by-side	N	N	N	
11.22	Two units: one above the other	N	N	N	
11.31	Apartments: walk-up	N	N	N	
11.32	Apartment: elevator	N	N	N	
12	Group quarters	N	N	N	
13	Residential hotels	N	N	N	
14	Mobile home parks or courts	N	N	N	
15	Transient lodgings	N	N	N	
16	Other residential	N	N	N	
20	Manufacturing [3]				
21	Food and kindred products; manufacturing	N	N	Y	Maximum FAR 0.56 IN APZ II
22	Textile mill products; manufacturing	N	N	Y	Maximum FAR 0.56 IN APZ II
23	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	N	N	N	
24	Lumber and wood products (except furniture); manufacturing	N	Y	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
25	Furniture and fixtures; manufacturing	N	Y	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
26	Paper and allied products; manufacturing	N	Y	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
27	Printing, publishing, and allied industries	N	Y	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
28	Chemicals and allied products; manufacturing	N	N	N	

Table 1. Land Use Compatibility in APZs, Continued

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation[1]	APZ-I Recommendation[1]	APZ-II Recommendation[1]	DENSITY Recommendation[1]
20	Manufacturing[3] (continued)				
29	Petroleum refining and related industries	N	N	N	
30	Manufacturing[3] (continued)				
31	Rubber and miscellaneous plastic products; manufacturing	N	N	N	
32	Stone, clay, and glass products; manufacturing	N	N	Y	Maximum FAR 0.56 in APZ II
33	Primary metal products; manufacturing	N	N	Y	Maximum FAR 0.56 in APZ II
34	Fabricated metal products; manufacturing	N	N	Y	Maximum FAR 0.56 in APZ II
35	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks	N	N	N	
39	Miscellaneous manufacturing	N	Y	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
40	Transportation, communication, and utilities[3, 4]				
41	Railroad, rapid rail transit, and street railway transportation	N	Y[6]	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
42	Motor vehicle transportation	N	Y[6]	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
43	Aircraft transportation	N	Y[6]	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
44	Marine craft transportation	N	Y[6]	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
45	Highway and street right-of-way	Y[5]	Y[6]	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
46	Automobile parking	N	Y[6]	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
47	Communication	N	Y[6]	Y	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
48	Utilities[7]	N	Y[6]	Y[6]	Maximum FAR of 0.28 in APZ I & 0.56 in APZ II
48.5	Solid waste disposal (landfills, incinerators, etc.)	N	N	N	
49	Other transportation, communication, and utilities	N	Y[6]	Y	See Note 6 below
50	Trade				
51	Wholesale trade	N	Y	Y	Maximum FAR of 0.28 in APZ I & .56 in APZ II

Table 1. Land Use Compatibility in APZs, Continued

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation[1]	APZ-I Recommendation[1]	APZ-II Recommendation[1]	Density Recommendation[1]
50	Trade (continued)				
52	Retail trade – building materials, hardware and farm equipment	N	Y	Y	See Note 8 below
53	Retail trade[9] – including shopping centers, discount clubs, home improvement stores, electronics superstores, etc.	N	N	Y	Maximum FAR of 0.16 in APZ II
54	Retail trade – food	N	N	Y	Maximum FAR of 0.24 in APZ II
55	Retail trade – automotive, marine craft, aircraft, and accessories	N	Y	Y	Maximum FAR of 0.14 in APZ I & 0.28 in APZ II
56	Retail trade – apparel and accessories	N	N	Y	Maximum FAR of 0.28 in APZ II
57	Retail trade – furniture, home, furnishings and equipment	N	N	Y	Maximum FAR of 0.28 in APZ II
58	Retail trade – eating and drinking establishments	N	N	N	
59	Other retail trade	N	N	Y	Maximum FAR of 0.16 in APZ II
60	Services[10]				
61	Finance, insurance and real estate services	N	N	Y	Maximum FAR of 0.22 in APZ II
62	Personal services	N	N	Y	Office uses only. Maximum FAR of 0.22 in APZ II.
62.4	Cemeteries	N	Y[11]	Y[11]	
63	Business services (credit reporting; mail, stenographic, reproduction; advertising)	N	N	Y	Maximum FAR of 0.22 in APZ II
63.7	Warehousing and storage services[12]	N	Y	Y	Maximum FAR of 1.0 in APZ I; 2.0 in APZ II
64	Repair Services	N	Y	Y	Maximum FAR of 0.11 APZ I; 0.22 in APZ II
65	Professional services	N	N	Y	Maximum FAR of 0.22 in APZ II
65.1	Hospitals, nursing homes	N	N	N	
65.1	Other medical facilities	N	N	N	
66	Contract construction services	N	Y	Y	Maximum FAR of 0.11 APZ I; 0.22 in APZ II
67	Government Services	N	N	Y	Maximum FAR of 0.24 in APZ II
68	Educational services	N	N	N	
68.1	Child care services, child development centers, and nurseries	N	N	N	

Table 1. Land Use Compatibility in APZs, Continued

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation[1]	APZ-I Recommendation[1]	APZ-II Recommendation[1]	Density Recommendation[1]
60	Services[10] (continued)				
69	Miscellaneous	N	N	Y	Maximum FAR of 0.22 in APZ II
69.1	Religious activities	N	N	N	
70	Cultural, entertainment and recreational				
71	Cultural activities	N	N	N	
71.2	Nature exhibits	N	Y[13]	Y[13]	
72	Public assembly	N	N	N	
72.1	Auditoriums, concert halls	N	N	N	
72.11	Outdoor music shells, amphitheaters	N	N	N	
72.2	Outdoor sports arenas, spectator sports	N	N	N	
73	Amusements – fairgrounds, miniature golf, driving ranges; amusement parks, etc.	N	N	Y	
74	Recreational activities (including golf courses, riding stables, water recreation)	N	Y[13]	Y[13]	Maximum FAR of 0.11 in APZ I; 0.22 in APZ II
75	Resorts and group camps	N	N	N	
76	Parks	N	Y[13]	Y[13]	Maximum FAR of 0.11 in APZ I; 0.22 in APZ II
79	Other cultural, entertainment and recreation	N	Y[11]	Y[11]	Maximum FAR of 0.11 in APZ I; 0.22 in APZ II
80	Resource production and extraction				
81	Agriculture (except live stock)	Y[4]	Y[14]	Y[14]	
81.5, 81.7	Livestock farming and breeding	N	Y[14,15]	Y[14,15]	
82	Agriculture related activities	N	Y[14]	Y[14]	Maximum FAR of 0.28 in APZ I; 0.56 in APZ II, no activity which produces smoke, glare, or involves explosives
83	Forestry activities[16]	N	Y	Y	Maximum FAR of 0.28 in APZ I; 0.56 in APZ II, no activity which produces smoke, glare, or involves explosives
84	Fishing activities[17]	N[17]	Y	Y	Maximum FAR of 0.28 in APZ I; 0.56 in APZ II, no activity which produces smoke, glare, or involves explosives

Table 1. Land Use Compatibility in APZs, Continued

SLUCM NO.	LAND USE NAME	CLEAR ZONE Recommendation[1]	APZ-I Recommendation[1]	APZ-II Recommendation[1]	Density Recommendation[1]
80	Resource production and extraction (continued)				
85	Mining activities[1]8	N	Y[18]	Y[18]	Maximum FAR of 0.28 in APZ I; 0.56 in APZ II, no activity which produces smoke, glare, or involves explosives
89	Other resource production or extraction	N	Y	Y	Maximum FAR of 0.28 in APZ I; 0.56 in APZ II, no activity which produces smoke, glare, or involves explosives
90	Other				
91	Undeveloped land	Y	Y	Y	
93	Water areas[19]	N[19]	N[19]	N[19]	

KEY TO TABLE 1 – LAND USE COMPATIBILITY IN APZS

SLUCM – Standard Land Use Coding Manual, U.S. Department of Transportation

Y (Yes) – Land uses and related structures are normally compatible without restriction

N (No) – Land use and related structures are not normally compatible and should be prohibited.

Yx – Yes with restrictions. The land uses and related structures are generally compatible. However, see notes indicated by the superscript.

Nx – No with exceptions. The land uses and related structures are generally incompatible. However, see notes indicated by the superscript.

FAR – Floor Area Ratio. A floor area ratio is the ratio between the square feet of floor area of the building and the gross site area. It is customarily used to measure non-residential intensities.

Du/Ac – Dwelling Units an Acre. This is customarily used to measure residential densities.

NOTES FOR TABLE 1 – LAND USE COMPATIBILITY IN APZS

1. A "Yes" or a "No" designation for compatible land use is to be used only for general comparison. Within each, uses exist where further evaluation may be needed in each category as to whether it is clearly compatible, normally compatible, or not compatible due to the variation of densities of people and structures. In order to assist air installations and local governments, general suggestions as to FARs are provided as a guide to density in some categories. In general, land use restrictions that limit occupants, including employees, of commercial, service, or industrial buildings or structures to 25 an acre in APZ I and 50 an acre in APZ II are considered to be low density. Outside events should normally be limited to assemblies of not more that 25 people an acre in APZ I, and maximum assemblies of 50 people an acre in APZ II. Recommended FARs are calculated using standard parking generation rates for various land uses, vehicle occupancy rates, and desired density in APZ I and II. For APZ I, the formula is FAR = 25 people an acre/(Average Vehicle Occupancy x Average Parking Rate x (43560/1000)). The formula for APZ II is FAR = 50/(Average Vehicle Occupancy x Average Parking Rate x (43560/1000)).

Table 1. Land Use Compatibility in APZs, Continued

NOTES FOR TABLE 1 – LAND USE COMPATIBILITY IN APZS

2. The suggested maximum density for detached single family housing is two Du/Ac. In a planned unit development (PUD) of single family detached units where clustered housing development results in large open areas, this density could possibly be increased slightly provided the amount of surface area covered by structures does not exceed 20 percent of the PUD total area. PUD encourages clustered development that leaves large open areas.

3. Other factors to be considered: Labor intensity, structural coverage, explosive characteristics, air-pollution, electronic interference with aircraft, height of structures, and potential glare to pilots.

4. No structures (except airfield lighting and navigational aids necessary for the safe operation of the airfield when there are no other siting options), buildings, or above-ground utility and communications lines should normally be located in Clear Zone areas on or off the air installation. The Clear Zone is subject to the most severe restrictions.

5. Rights-of-way for fenced highways, without sidewalks or bicycle trails, are allowed.

6. No above ground passenger terminals and no above ground power transmission or distribution lines. Prohibited power lines include high-voltage transmission lines and distribution lines that provide power to cities, towns, or regional power for unincorporated areas.

7. Development of renewable energy resources, including solar and geothermal facilities and wind turbines, may impact military operations through hazards to flight or electromagnetic interference. Each new development should to be analyzed for compatibility issues on a case-by-case basis that considers both the proposal and potentially affected mission.

8. Within SLUCM Code 52, maximum FARs for lumberyards (SLUCM Code 521) are 0.20 in APZ-I and 0.40 in APZ-11. For hardware, paint, and farm equipment stores, SLUCM Code 525, the maximum FARs are 0.12 in APZ I and 0.24 in APZ II.

9. A shopping center is an integrated group of commercial establishments that is planned, developed, owned, or managed as a unit. Shopping center types include strip, neighborhood, community, regional, and super-regional facilities anchored by small businesses, a supermarket or drug store, discount retailer, department store, or several department stores, respectively. Included in this category are such uses as big box discount clubs, home improvement superstores, office supply superstores, and electronics superstores. The maximum recommended FAR for SLUCM 53 should be applied to the gross leasable area of the shopping center rather than attempting to use other recommended FARs listed in Table 1 under Retail or Trade.

10. Ancillary uses such as meeting places, auditoriums, etc., are not recommended.

11. No chapels or houses of worship are allowed within APZ I or APZ II.

12. Big box home improvement stores are not included as part of this category.

13. Facilities must be low intensity, and provide no playgrounds, etc. Facilities such as club houses, meeting places, auditoriums, large classes, etc., are not recommended.

14. Livestock grazing is a compatible land use, but feedlots and intensive animal husbandry are excluded. Activities that attract concentrations of birds creating a hazard to aircraft operations should be excluded.

15. Feedlots and intensive animal husbandry are included as compatible land uses.

Table 1. Land Use Compatibility in APZs, Continued

NOTES FOR TABLE 1 – LAND USE COMPATIBILITY IN APZS

16. Lumber and timber products removed due to establishment, expansion, or maintenance of Clear Zone lands owned in fee will be disposed of in accordance with applicable DoD guidance.

17. Controlled hunting and fishing may be permitted for the purpose of wildlife management.

18. Surface mining operations that could create retention ponds that may attract waterfowl and present bird/wildlife aircraft strike hazards (BASH), or operations that produce dust or light emissions that could affect pilot vision are not compatible.

19. Naturally occurring water features (e.g., rivers, lakes, streams, wetlands) are pre-existing, nonconforming land uses. Naturally occurring water features that attract waterfowl present a potential BASH. Actions to expand naturally occurring water features or construction of new water features should not be encouraged. If construction of new features is necessary for storm water retention, such features should be designed so that they do not attract water fowl.

APPENDIX 3 TO ENCLOSURE 3

RECOMMENDED LAND USE COMPATIBILITY IN NOISE ZONES

Suggested land use compatibility guidelines in noise zones are shown in Table 2. Additions to some land use categories have been incorporated into Table 2 subsequent to issuance of the SLUCM to reflect additional land uses and to clarify the categorization of certain uses. The land use compatibility recommendations are provided for local governments as well as DoD personnel for on-base planning.

Table 2. Land Use Compatibility in Noise Zones

LAND USE		SUGGESTED LAND USE COMPATIBILITY				
SLUCM NO.	LAND USE NAME	DNL or CNEL 65-69	DNL or CNEL 70-74	DNL or CNEL 75-79	DNL or CNEL 80-84	DNL or CNEL 85+
10	Residential	N[1]	N[1]	N	N	N
11	Household units	N[1]	N[1]	N	N	N
11.11	Single units: detached	N[1]	N[1]	N	N	N
11.12	Single units: semidetached	N[1]	N[1]	N	N	N
11.13	Single units: attached row	N[1]	N[1]	N	N	N
11.21	Two units: side-by-side	N[1]	N[1]	N	N	N
11.22	Two units: one above the other	N[1]	N[1]	N	N	N
11.31	Apartments: walk-up	N[1]	N[1]	N	N	N
11.32	Apartment: elevator	N[1]	N[1]	N	N	N
12	Group quarters	N[1]	N[1]	N	N	N
13	Residential hotels	N[1]	N[1]	N	N	N
14	Mobile home parks or courts	N	N	N	N	N
15	Transient lodgings	N[1]	N[1]	N[1]	N	N
16	Other residential	N[1]	N[1]	N	N	N
20	Manufacturing					
21	Food and kindred products; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
22	Textile mill products; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
23	Apparel and other finished products; products made from fabrics, leather, and similar materials; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
24	Lumber and wood products (except furniture); manufacturing	Y	Y[2]	Y[3]	Y[4]	N
25	Furniture and fixtures; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
26	Paper and allied products; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
27	Printing, publishing, and allied industries	Y	Y[2]	Y[3]	Y[4]	N

Table 2. Land Use Compatibility in Noise Zones, Continued

Land Use		Suggested Land Use Compatibility				
SLUCM NO.	LAND USE NAME	DNL or CNEL 65-69	DNL or CNEL 70-74	DNL or CNEL 75-79	DNL or CNEL 80-84	DNL or CNEL 85+
20	Manufacturing (continued)					
28	Chemicals and allied products; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
29	Petroleum refining and related industries	Y	Y[2]	Y[3]	Y[4]	N
30	Manufacturing (continued)					
31	Rubber and misc. plastic products; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
32	Stone, clay and glass products; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
33	Primary metal products; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
34	Fabricated metal products; manufacturing	Y	Y[2]	Y[3]	Y[4]	N
35	Professional scientific, and controlling instruments; photographic and optical goods; watches and clocks	Y	25	30	N	N
39	Miscellaneous manufacturing	Y	Y[2]	Y[3]	Y[4]	N
40	Transportation, communication and utilities					
41	Railroad, rapid rail transit, and street railway transportation	Y	Y[2]	Y[3]	Y[4]	N
42	Motor vehicle transportation	Y	Y[2]	Y [3]	Y[4]	N
43	Aircraft transportation	Y	Y[2]	Y[3]	Y[4]	N
44	Marine craft transportation	Y	Y[2]	Y[3]	Y[4]	N
45	Highway and street right-of-way	Y	Y	Y	Y	N
46	Automobile parking	*Y*	Y	Y	Y	N
47	Communication	Y	25[5]	30[5]	N	N
48	Utilities	Y	Y[2]	Y[3]	Y[4]	N
49	Other transportation, communication and utilities	Y	25[5]	30[5]	N	N
50	Trade					
51	Wholesale trade	Y	Y[2]	Y[3]	Y[4]	N
52	Retail trade – building materials, hardware and farm equipment	Y	25	30	Y[4]	N
53	Retail trade – including shopping centers, discount clubs, home improvement stores, electronics superstores, etc.	Y	25	30	N	N
54	Retail trade – food	Y	25	30	N	N

Table 2. Land Use Compatibility in Noise Zones, Continued

Land Use		Suggested Land Use Compatibility				
SLUCM NO.	LAND USE NAME	DNL or CNEL 65-69	DNL or CNEL 70-74	DNL or CNEL 75-79	DNL or CNEL 80-84	DNL or CNEL 85+
50	Trade (Continued)					
55	Retail trade – automotive, marine craft, aircraft and accessories	Y	25	30	N	N
56	Retail trade – apparel and accessories					
57	Retail trade – furniture, home, furnishings and equipment					
58	Retail trade – eating and drinking establishments	Y	25	30	N	N
59	Other retail trade	Y	25	30	N	N
60	Services					
61	Finance, insurance and real estate services	Y	25	30	N	N
62	Personal services	Y	25	30	N	N
62.4	Cemeteries	Y	Y[2]	Y[3]	Y[4,11]	Y[6,11]
63	Business services	Y	25	30	N	N
63.7	Warehousing and storage	Y	Y[2]	Y[3]	Y[4]	N
64	Repair services	*Y*	Y[2]	Y[3]	Y[4]	N
65	Professional services	Y	25	30	N	N
65.1	Hospitals, other medical facilities	25	30	N	N	N
65.16	Nursing homes	N[1]	N[1]	N	N	N
66	Contract construction services	Y	25	30	N	N
67	Government services	Y[1]	25	30	N	N
68	Educational services	25	30	N	N	N
68.1	Child care services, child development centers, and nurseries	25	30	N	N	N
69	Miscellaneous	Y	25	30	N	N
69.1	Religious activities	Y	25	30	N	N
70	Cultural, entertainment and recreational					
71	Cultural activities (& churches)	25	30	N	N	N
71.2	Nature exhibits	Y[1]	N	N	N	N
72	Public assembly	Y	N	N	N	N
72.1	Auditoriums, concert halls	25	30	N	N	N
72.11	Outdoor music shells, amphitheaters	N	N	N	N	N
72.2	Outdoor sports arenas, spectator sports	Y[7]	Y[7]	N	N	N
73	Amusements	Y	Y	N	N	N

Table 2. Land Use Compatibility in Noise Zones, Continued

Land Use		Suggested Land Use Compatibility				
SLUCM NO.	LAND USE NAME	DNL or CNEL 65-69	DNL or CNEL 70-74	DNL or CNEL 75-79	DNL or CNEL 80-84	DNL or CNEL 85+
70	Cultural, entertainment and recreational (continued)					
74	Recreational activities (including gold courses, riding stables, water recreation)	Y	25	30	N	N
75	Resorts and group camps	Y	25	N	N	N
76	Parks	Y	25	N	N	N
79	Other cultural, entertainment and recreation	Y	25	N	N	N
80	Resource production and extraction					
81	Agriculture (except live stock)	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
81.5	Livestock farming	Y[8]	Y[9]	N	N	N
81.7	Animal breeding	Y[8]	Y[9]	N	N	N
82	Agriculture related activities	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
83	Forestry activities	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
84	Fishing activities	Y	Y	Y	Y	Y
85	Mining activities	Y	Y	Y	Y	Y
89	Other resource production or extraction	Y	Y	Y	Y	Y

KEY TO TABLE 2 – LAND USE COMPATIBILITY IN NOISE ZONES

SLUCM – Standard Land Use Coding Manual, U.S. Department of Transportation

Y (Yes) – Land use and related structures compatible without restrictions.

N (No) – Land use and related structures are not compatible and should be prohibited.

Y^x – Yes with restrictions. The land use and related structures generally are compatible. However, see note(s) indicated by the superscript.

N^x – No with exceptions. The land use and related structures are generally incompatible. However, see note(s) indicated by the superscript.

25, 30, or 35 – The numbers refer to noise level reduction (NLR) levels. NLR (outdoor to indoor) is achieved through the incorporation of noise attenuation into the design and construction of a structure. Land use and related structures are generally compatible; however, measures to achieve NLR of 25, 30, or 35 must be incorporated into design and construction of structures. However, measures to achieve an overall noise reduction do not necessarily solve noise difficulties outside the structure and additional evaluation is warranted. Also, see notes indicated by superscripts where they appear with one of these numbers.

DNL – Day-Night Average Sound Level.

CNEL – Community Noise Equivalent Level (normally within a very small decibel difference of DNL)

Ldn – Mathematical symbol for DNL.

Table 2. Land Use Compatibility in Noise Zones, Continued

NOTES FOR TABLE 2 – LAND USE COMPATIBILITY IN NOISE ZONES

1. General

a. Although local conditions regarding the need for housing may require residential use in these zones, residential use is discouraged in DNL 65-69 and strongly discouraged in DNL 70-74. The absence of viable alternative development options should be determined and an evaluation should be conducted locally prior to local approvals indicating that a demonstrated community need for the residential use would not be met if development were prohibited in these zones. Existing residential development is considered as pre-existing, non-conforming land uses.

b. Where the community determines that these uses must be allowed, measures to achieve outdoor to indoor NLR of at least 25 decibels (dB) in DNL 65-69 and 30 dB in DNL 70-74 should be incorporated into building codes and be considered in individual approvals; for transient housing, an NLR of at least 35 dB should be incorporated in DNL 75-79.

c. Normal permanent construction can be expected to provide an NLR of 20 dB, thus the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation, upgraded sound transmission class ratings in windows and doors, and closed windows year round. Additional consideration should be given to modifying NLR levels based on peak noise levels or vibrations.

d. NLR criteria will not eliminate outdoor noise problems. However, building location, site planning, design, and use of berms and barriers can help mitigate outdoor noise exposure particularly from ground level sources. Measures that reduce noise at a site should be used wherever practical in preference to measures that only protect interior spaces.

2. Measures to achieve NLR of 25 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

3. Measures to achieve NLR of 30 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

4. Measures to achieve NLR of 35 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

5. If project or proposed development is noise sensitive, use indicated NLR; if not, land use is compatible without NLR.

6. Buildings are not permitted.

7. Land use is compatible provided special sound reinforcement systems are installed.

8. Residential buildings require an NLR of 25

9. Residential buildings require an NLR of 30.

Table 2. Land Use Compatibility in Noise Zones, Continued

NOTES FOR TABLE 2 – LAND USE COMPATIBILITY IN NOISE ZONES
10. Residential buildings are not permitted.
11. Land use that involves outdoor activities is not recommended, but if the community allows such activities, hearing protection devices should be worn when noise sources are present. Long-term exposure (multiple hours per day over many years) to high noise levels can cause hearing loss in some unprotected individuals.

GLOSSARY

PART I. ABBREVIATIONS AND ACRONYMS

AAD	average annual day
ABD	average busy day
ADNL	A-weighted day-night average sound level
AICUZ	air installations compatible use zone
APZ	Accident Potential Zone
BASH	bird or wildlife aircraft strike hazard
CNEL	community noise equivalent level
dB	decibel
DNL	day-night average sound level
DoDD	DoD Directive
DoDI	DoD Instruction
Du/Ac	dwelling units an acre
FAR	floor area ratio
FICON	Federal Interagency Committee on Noise
IFR	instrument flight rules
JLUS	joint land use study
NLR	noise level reduction
OEA	Office of Economic Adjustment
PUD	planned unit development
SLUCM	Standard Land Use Coding Manual

PART II. DEFINITIONS

These terms and their definitions are for the purposes of this Instruction.

A – weighted. An expression of the relative loudness of sounds in air as perceived by the human ear where the decibel values of sounds at low frequencies are reduced. By contrast, unweighted decibels make no correction for audio frequency.

air installation. Fixed-wing and rotary-wing military airfields.

APZ I. The area beyond the Clear Zone that possesses a significant potential for accidents.

APZ II. The area beyond APZ I having a measurable potential for accidents.

area of critical concern. An area within the airfield environment as defined by the DoD Component where land use controls may be desirable to protect long-term mission capability. The development of the final boundary of areas of critical concern shall also take into account natural and manmade features.

Class A runway. A runway primarily intended for small, light aircraft and that does not have the potential for development for heavy or high performance aircraft use, or for which no foreseeable requirements for such use exists. Ordinarily, less than 10 percent of the operations at airfields with Class A runways involve aircraft in the Class B category and the runway(s) are less than 8,000 feet long.

Class B runway. A runway primarily intended for high-performance and large, heavy aircraft. For example, runways that accommodate heavy aircraft or have the potential for development to heavy aircraft use.

Clear Zone. A surface on the ground or water beginning at the runway end and symmetrical about the runway centerline extended.

United States. The several States, the District of Columbia, the Commonwealths of Puerto Rico and the Northern Mariana Islands, American Samoa, Guam, Midway and Wake Islands, the United States Virgin Islands, any other territory or possession of the United States, and associated navigable waters, contiguous zones, and ocean waters of which the natural resources are under the exclusive management authority of the United States.

(50)

DEPARTMENT OF THE NAVY
NAVAL AIR STATION
22268 CEDAR POINT ROAD
PATUXENT RIVER, MARYLAND 20670-1154

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Ser N32/476
SEP 24 2013

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SEP 30 2013
St. Mary's County
Land Use & Growth Management

Mr. Philip Shire
Director
Department of Land Use and Growth Management
P. O. Box 653
Leonardtown, MD 20650

Dear Mr. Shire:

SUBJECT: LEXINGTON PARK DEVELOPMENT DISTRICT MASTER PLAN

I am providing this letter as a response to the request for Navy comment on the proposed Lexington Park Development District Master Plan.

The design of development that is proposed within the Accident Potential Zone (APZ-II) area of Naval Air Station (NAS) Patuxent River has been reviewed by Navy subject matter experts. It is the Navy's assessment that the proposed Master Plan meets the intention and recommendations of OPNAVINST 11010.36C, Air Installations Compatible Use Zones (AICUZ). The approach to managing population density in the APZs is considered sound and the efforts of the staff are commendable.

It is expected that existing buildings within the APZ-II and noise zones may be considered for redevelopment. All redevelopment plans should comply with the guidelines of the AICUZ instruction, without regard for previously existing building sizes or uses. It is accepted that existing buildings within the AICUZ boundary of the APZ-II and noise zone being considered for reuse may maintain the current footprint, category and occupancy intensity.

I respectfully request all development, redevelopment, and reuse projects within AICUZ boundaries be formally submitted by the Department of Land Use and Growth Management, in writing, to the Navy for installation comment and recommendation.

NAS Patuxent River maintains its commitment to promoting the recommendations outlined in the AICUZ instruction so as to protect the public's health, safety and welfare within the surrounding communities. Thank you for your dedication to a successful

SUBJECT: LEXINGTON PARK DEVELOPMENT DISTRICT MASTER PLAN

partnership with the Navy in the spirit of meeting this invaluable public safety program.

Sincerely,

B. A. SHEVCHUK
Captain, U.S. Navy
Commanding Officer

Table showing:

- Zoning base and maximum Density /Intensity by zone
- Use Classification, Use Types and Location within Zoning Districts (including Critical Area Overlay)
- Current AICUZ compatibility for APZ-1 and APZ-2and
- Proposed AICUZ per 2009 AICUZ Study showing suggested FAR and residential Density

Zoning density Intensity information from Schedule 32.1																				**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]				***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none								
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20								
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30								
Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
Agricultural Use Classifications																										
1. Agricultural Industry, Major.	Extensive processing of crop and animals products produced off site. This use type includes dairy processing plants, meat processing facilities, fertilizer manufacturers, and tanneries.	High	C	C	-	-	-	-	-	-	C	C	-	-	-	P	-	-	LDA IDA		***C***	***B***	***81***	Y; Max FAR 0.28	Y; Max FAR 0.56
																							28	N	N
2. Agricultural Industry, Minor.	Processing, drying or storage of crop and animal products, including minor dairy processing facilities and small scale grain mills.	High	P	P	-	-	-	-	-	-	P	P	-	-	-	P	-	-	RCA LDA IDA		***C***	***B***	***82***	Y; Max FAR 0.28	Y; Max FAR 0.56
3. Animal Husbandry.	Agricultural activity primarily engaged in raising farm animals or primary production of animal products, such as eggs or dairy products.	Low	P	P	-	P	P	-	-	-	P	P	-	-	-	-	-	-	RCA LDA IDA		A	A	82	Y	Y
4. Aquaculture.	Agricultural Activity primarily engaged in farming or culturing of finfish, shellfish, other aquatic plants or animals, or both. Use includes land or water based aquaculture that utilizes natural or man-made impoundments—lakes, and other natural or artificial water bodies or tanks. Activities may include hatching, cultivating, raising, and harvesting of aquatic plants and animals and maintenance or construction of necessary equipment, buildings, and growing areas. Excludes land- and water –based aquaculture activities that are not operated for profit—i.e. ponds stocked for private fishing, oysters grown in floats at private piers for consumption by the landowner, etc.	Low	P	-	-	L	L	-	L	L	L	L	-	-	-	P	-	P	RCA LDA IDA		A	A	84	~~Y;~~ ~~Max FAR 0.28~~N	Y; ~~Max FAR 0.56~~N
5. Crop Production and Horticulture.	Agricultural activity primarily engaged in raising and harvesting of orchard crops, row crops, or field crops on an agricultural or commercial basis, including primary processing and packaging, but excluding canning and secondary food production. Includes horticultural operations engaged in cultivation of flowers, fruits, vegetables, or ornamental trees and shrubs on a wholesale basis with incidental retail sales. Includes buildings and other structures necessary for storing, and handling produce, grains, plants, etc. grown on site and for housing and maintaining equipment on site.	Low	P	P	P	P	P	-	-	P	P	P	P	P	-	P	P	-	RCA LDA IDA		A	A	81	Y	Y
6. Farmer's Market.	Retail sales of locally produced agricultural, fishery products and locally made handcrafted products by two or more sellers, on a property usually separate from that where the items for sale were grown or made.	Low	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	RCA LDA IDA		C	B	54	N	~~Y;~~ ~~Max. FAR 0.24~~N
7. Auction House.	Wholesaling of locally produced agricultural and handcrafted goods, excluding livestock, to the highest bidder on a property usually separate from that where the items for sale were grown or made.	Low	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	RCA LDA IDA		C	B	59	N	~~Y;~~ ~~Max. FAR 0.28~~N

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Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none							
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
	Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
	8. Roadside Stand.	Display and sale of locally produced agricultural, fishery products and handcrafted products. This classification includes transient carts, vehicles, and stands used for the transport, storage and display of products operated more than 20 days per year as well as permanent roadside structures.	Low	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	RCA LDA IDA		C	B	54	N	Y; Max. FAR 0.24
	9. Silviculture.	Agricultural Activity primarily engaged in care and cultivation of forest trees and timber harvesting.	Low	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	RCA LDA IDA		A	A	83	Y	Y
	10. Equestrian Facility, Major.	Any building or structure over 30,000 s.f. that is used for an equestrian activity or event.	Low	C	-	-	C	C	-	-	-	C	C	-	-	-	-	-	-	RCA LDA IDA		B	B	~~74~~72.2	~~Y;~~ Max. FAR ~~0.11~~N	~~Y;~~ Max. FAR ~~0.22~~N
	11. Equestrian Facility, Minor.	Any building, structure or land area that is used for an equestrian activity or event.	Low	P	-	-	L	L	-	-	-	P	P	-	-	-	-	-	-	RCA LDA IDA		A	A	~~74~~72.2	~~Y;~~ Max. FAR ~~0.11~~N	~~Y;~~ Max. FAR ~~0.22~~N
8/02/11	*12. a. Distillery.*	A facility for the distillation of grains and fruits into alcohol. This includes manufacturing, bottling, and sale to a wholesaler.	High	P	P	-	-	-	-	-	-	P	P	-	-	-	-	-	-	RCA LDA IDA		C	B	21	N	~~Y;~~ Max. FAR ~~0.56~~N
	12. b. Winery.	A facility for processing and fermenting grapes and other fruits into wine; includes the bottling, aging, storing, and shipping of wine. May include an area or separate facilities for incidental administrative office functions, incidental retail sales of wine and related promotional items, wine tasting events, promotional events incidental to the winery, and a kitchen facility for preparing and serving food at permitted events. Promotional events may include wedding receptions, private parties, and other similar events.	High	P	P	-	-	-	-	-	-	P	P	-	-	-	-	-	-	RCA LDA IDA		C	B	21	N	Y; Max. FAR 0.56
12/18/12	*12 .c. Farm Brewery.*	A facility operated under a class 8 Farm Brewery License. May include an area or separate facilities for product sampling, incidental administrative office functions; incidental retail sales of beer and related promotional items, promotional events held pursuant to a permit from the Comptroller, and kitchen facilities for preparing and serving food pursuant to the license.	High	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	RCA LDA IDA		C	B	21	N	Y; Max. FAR 0.56
	13. Agricultural Tourism.	Activities conducted on a working farm or vineyard and offered to the public or to invited groups for the purpose of recreation, education or active involvement in the farm operation, and which are related to agriculture or natural resources and incidental to the primary operation on the site. Agricultural tourism activities include farm tours, hay rides, corn mazes, classes related to agricultural products or skills, picnic and party facilities offered in conjunction with the above, and similar uses.	Low	A	A	A	A	A	-	-	A	A	A	A	A	-	A	A	-	RCA LDA IDA		B	B	82	Y[1]; Max. FAR 0.28	Y[1]; Max. FAR 0.56
																								73	N	N
	Residential Use Classifications																									
	14. Dwelling Unit, Attached.	A structure containing multiple dwelling units placed side by side sharing common walls, but each unit has a separate front and rear access. Includes townhouses and duplexes.	High	L	-	-	L	P	P	-	P	P	P	P	P	-	-	-	-	RCA LDA IDA		D	D	13	N	N

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Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
			Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]							
			Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
			Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
			Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*		**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
15.	*Dwelling Unit, Detached.*	A detached structure containing a single dwelling unit. Dwelling may be either a site built structure meeting the St. Mary's County Building Code or a modular structure for residential occupancy, conforming to the requirements of the Maryland Industrialized Building Act. Note: Mobile homes are regulated separately under this Ordinance.	Low	P	P	P	P	P	P	P	P	P	P	P	P	-	-	-	P	RCA LDA IDA		D	C	11	N	N~~Y~~ Except 1 DU allowed on an existing lot of record ~~MAX. 1-2 du/ AC~~; ~~PUD Max. 20% land coverage~~
16.	*Dwelling Unit, Multi-Family Residence.*	A single structure that contains three or more dwelling units that share common entrances and exits. Classification includes structures commonly called apartments or condominiums.	High	-	-	-	-	P	P	-	P	P	P	P	P	-	-	-	-	LDA IDA		D	D	31,32	N	N
17.	*Group Home.*	Single family dwelling licensed or approved by a governmental agency for the purpose of providing special care or rehabilitation to the occupants. Group homes include residences for not more than eight persons including disabled persons, persons 60 years or older, and staff.	Low	L	A	A	P	P	P	P	P	P	P	P	P	-	-	-	A	RCA LDA IDA		D	D	12	N	N
18.	*Halfway House.*	A residential care facility-licensed by the State of Maryland that provides for the supervision, counseling, training or treatment of residents to facilitate their transition from a correctional educational environment to independent living. This classification includes facilities for persons on probation, parole or early release.	Low	C	-	-	C	C	C	-	C	L	L	L	L	-	-	-	-	LDA IDA		D	D	12	N	N
19.	*Institutional Residence.*	Shared living quarters in a single structure housing unrelated persons without separate kitchen or bathroom facilities for each room or unit. This classification includes congregate living services, rooming houses or boarding houses, barracks, dormitory, fraternity, sorority, convent, private residential club, seasonal agricultural worker housing and group homes housing more than eight persons.	High	A	-	-	L	L	P	-	P	P	P	P	-	-	-	-	-	LDA IDA		D	D	12	N	N
20.	*Mobile Home.*	A manufactured structure certified by the US Department of Housing and Urban Development and bearing a HUD label (or if built prior to June 15, 1976, that complies with the Standard for Mobile Homes, NFPA 501, ANSI 119.1). Structure is transportable in one or more sections, which in traveling mode is 8 feet or more in width and 40 feet or more in length and which is built on a permanent chassis.	Low	P	-	-	L	L	-	L	-	-	-	-	-	-	-	-	-	RCA LDA IDA		D	C	11	~~Y~~N	Y
21.	*Mobile Home Park or Subdivision.*	A contiguous development of land under single ownership which has been planned and improved for the placement of mobile homes.	High	-	-	-	-	PD	PD	-	-	-	-	-	-	-	-	-	-	LDA IDA		D	D	14	N	N
22.	*Residential Services.*	Establishments offering a wide range of housing, social, and medical services for those that cannot care for themselves and for the elderly. Includes facilities providing housing and/or custodial care services. Variety of residential choices include independent living facilities (cottages or apartments), assisted living services, life care or continuing care services and skilled or long-term nursing care. Facilities include a wide variety of residential accommodations, meal service, and support and health care services.	High	C	-	-	C	C	P	-	L	L	L	P	P	-	-	-	-	LDA IDA		D	D	16	N	N

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Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none							
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
23. Single-Room Occupancy Units.	Establishments providing rooms for lodging, typically on a weekly or monthly basis, with kitchen facilities in the room and weekly housekeeping service. Guest units may be reached either from a common entrance or directly from the outside of the building. Facilities may provide recreational amenities and dining service for residents. (See Lodging for facilities primarily renting on a daily basis)	High	-	-	-	-	-	-	-	P	P	P	P	-	-	-	-	-	LDA IDA		D	D	13	N	N
Public and Semi-Public Use Classifications																									
24. Burial Grounds.	Cemeteries, crypts, tombs, mausoleums or columbariums for the interment of deceased humans or animals. This classification does not include crematories, ~~or~~ mortuaries, or chapels.	Low	P	A	A	P	P	A	A	A	P	P	P	A	A	A	A	A	-	RCA LDA IDA		B	A	62.4	Y	Y
25. Clubs or Lodges.	Meeting, recreational, or social facilities of a private or nonprofit organization primarily for use by members or guests. This classification includes union halls, social clubs, and youth centers. Retail sales of food, beverage, incidentals or provisions of recreation and entertainment to other than club members and their guests shall require approval as an accessory restaurant, tavern, retail sales outlet, or recreation and entertainment facility.	High	C	P	P	C	C	C	C	C	P	P	P	P	P	-	-	A	LDA IDA		D	C	79	Y; Max. FAR 0.11	Y; Max. FAR 0.22
26. Cultural Institutions.	Nonprofit institutions displaying or preserving objects of interest in the arts or sciences. This classification includes visitors' centers, libraries, museums, and art galleries. Facilities may include auditoriums, exhibition halls, classrooms, administrative support facilities, concessions for visitors or any combination thereof.	Low	C	C	C	-	-	C	-	P	P	P	P	P	P	A	A	A	LDA IDA		D	C	71	N	N
27. Day Care, Facility, Medical.	Day care facility providing health care programs licensed or approved by a government agency to provide daytime health services and therapeutic recreational services to adults aged 18 and over with severe functional impairments.	Low	-	-	-	P	P	-	-	P	P	P	P	P	P	P	P	-	LDA IDA		D	D	65.1	N	N
28. Day Care, Non-Medical.	Day care facility licensed or approved by a governmental agency to provide non-medical care for nine or more children or adults on less than 24-hour basis. Includes nursery schools, preschools and social adult day care that provides a safe and supervised daytime program of meals, recreational activities, and socialization for adults 18 years or over who require a safe controlled environment but who do not meet the need for health care services required by the Medical Adult Day Service programs.	Low	P	P	P	P	P	P	C	P	P	P	P	P	P	P	P	-	LDA IDA		C	B	69	N	~~Y~~N
29. Education Facility, College.	Public or private institution of higher education providing curricula of a general, religious, or professional nature, typically granting recognized degrees. This classification includes establishments engaged in the teaching of vocational and technical skills.	High	C	-	-	C	C	C	-	C	P	P	P	-	C	L	L	-	LDA IDA		D	D	68	N	N
30. Education Facility, School.	Public or private facility for primary or secondary education, including elementary, middle and high schools and private institutions having a curriculum comparable to that required in the public schools in the State of Maryland.	High	C	-	P	P	P	P	L	P	P	P	C	-	C	C	-	-	LDA IDA		D	D	68	N	N
31. Government Facility.	Administrative, clerical, or public contact offices of federal, state or local government agencies. Also publicly owned and operated facilities such as fairgrounds and parking facilities, postal facilities, etc.	High	C	P	C	C	C	C	L	P	P	P	P	P	P	P	P	C	LDA IDA		B	B	67	N	Y; Max. FAR 0.24

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Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]							
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*		**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
32.	*Hospital.*	Licensed general hospital with or without surgical facilities, primarily engaged in providing diagnostic and medical treatment to inpatients suffering from a wide variety of medical conditions. These facilities maintain inpatient beds and an organized staff of physicians and medical professionals to provide patient care services. Hospitals may also provide supporting outpatient, diagnostic, laboratory, and pharmacy services. This classification includes psychiatric and substance abuse hospitals and specialty hospitals licensed to provide diagnostic and medical treatment to inpatients suffering from a specific disease or medical condition.	High	-	-	-	-	-	-	-	-	L	L	L	-	-	-	-	-	LDA IDA		D	D	65.1	N	N
33.	*Long-Term Care Facility.*	Primarily engaged in providing inpatient nursing and rehabilitative services to individuals requiring 24-hour nursing care for an extended period of time. This classification includes nursing homes, rest homes, and homes for the elderly with nursing care.	High	-	-	-	C	C	C	-	-	P	P	P	C	-	-	-	-	LDA IDA		D	D	65.1	N	N
34.	*Outpatient Care Center.*	Licensed facility with medical staff primarily engaged in providing primary care and general or specialized outpatient care, including family planning, mental health, physical therapy, substance abuse, and kidney dialysis centers or clinics. No overnight patient or dormitory facilities shall be allowed. This classification includes HMO medical centers, freestanding ambulatory surgical and emergency centers (except hospitals), where surgical services are provided on an outpatient basis, and medical and diagnostic laboratories providing analytic or diagnostic services to the medical profession or to the patient on referral from a health practitioner.	High	-	L	L	-	-	-	-	P	P	P	P	P	P	P	P	-	LDA IDA		D	D	65.1	N	N
35.	*Public Recreation Facility.*	Non-commercial park, playground, recreation facility, and publicly accessible open space. This classification includes fields for amateur and youth sports including, but not limited to, baseball, softball, football, and soccer fields. Golf courses are regulated separately under this Ordinance.	Low	P	-	P	P	P	P	L	P	P	P	P	P	-	P	P	P	LDA IDA		D	B	74; 76	Y; Max. FAR 0.11	Y; Max. FAR 0.22
36.	*Public Maintenance Facility.*	Facilities providing maintenance and repair services for public and utility vehicles and equipment, and materials storage areas. This classification includes utility and road maintenance depots, equipment service centers, and similar facilities.	High	P	-	C	-	-	-	-	C	C	C	C	-	P	P	-	-	LDA IDA		B	A	64	Y; Max. FAR 0.11	Y; Max. FAR 0.22
37.	*Public Safety Facility.*	Facility for public safety and emergency services, including fire protection, rescue squad, police, and detention service. Includes private non-profit ambulance services	High	C	C	P	L	L	C	L	P	P	P	P	P	P	P	C	L	LDA IDA		D	B	69	N	Y; Max. FAR 0.22
38.	*Religious Assembly.*	Religious worship and incidental religious education, not including private schools.	Low	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-	-	LDA IDA		D	C	72	N	N
39.	*Rural Medical Practice.*	Facility with licensed professional staff engaged in general or specialized medical care and licensed by the Department of Health and Mental Hygiene.	High	L	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	LDA IDA		D	D	65.1	N	N
Commercial Use Classifications		***NOTE:** Any low intensity commercial use that exceeds 20,000 square feet shall be considered a high intensity use.																								
40.	*Adult Entertainment.*	Establishments based primarily on materials and performances that depict, describe, or relate to sexual activities.	High	-	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	LDA IDA		C	B	58	N	N
																						C	A	59	N	Y; Max. FAR 0.16
																						B	D	72	N	N

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Zoning density Intensity information from Schedule 32.1																		**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]						
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
	Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
41.	*Animal Boarding.*	Shelter and care (feeding exercise, incidental medical care) for animals, including kennels and boarding facilities for domestic animals and pets and shelters for unwanted or abandoned animals.	Low *	P	P	L	A	A	-	-	-	L	L	-	L	L	-	-	-	LDA IDA		C	B	66	N	Y; Max. FAR 0.22
42.	*Animal Hospital.*	Establishments for the medical and surgical treatment of domestic and farm animals, including grooming and boarding of animals for no more than 30 days if incidental to the hospital uses and limited to animals receiving medical care.	Low *	L	-	L	-	-	-	-	L	L	L	L	L	P	P	-	-	LDA IDA		C	B	66	N	Y; Max. FAR 0.22
43.	*Animal Sales and Service.*	Establishment engaged in boarding, veterinary care, retail sales of domestic and farm animals, and services such as grooming, feed and tack stores. May include impregnation, gestation and birthing of domestic animals on a commercial basis. This classification does not include livestock auctions, or incidental sales from animal husbandry operations. (For breeding of farm animals, see *Animal husbandry*)	Low *	P	L	P	-	-	-	-	L	L	L	L	P	-	-	-	-	LDA IDA		C	B	59	N	Y; Max. FAR 0.16
9/06/11 *44.*	*Campground and Day or Boarding Camp.*	Outdoor establishment improved, used or intended to provide camping sites designated for tents or providing servicing or temporary accommodation of one or more recreational vehicles used for travel, camping or recreational purposes. Dwelling and recreation facilities under single ownership used for programmed activities on a commercial basis.	High	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C/A	LDA IDA		D	D	75	N	N
45.	*Commercial Parking Facility.*	Facility which offers parking to the public with or without a fee on parking lots which are not attendant to or required by another use. Fee use of a parking lot that is attendant to or required by another use is exempt from regulation as a commercial parking facility.	High	C	A	A	A	A	-	-	L	L	L	P	P	P	P	-	-	LDA IDA		B	A	46	Y; Max. FAR 0.28	Y; Max. FAR 0.56
46.	*Conference Facility.*	Establishment providing meeting, training and catering kitchen space for lease or rent. Facility may be either a principal or an accessory use.	Low *	C	P	-	C	C	-	-	P	P	P	P	P	P	A	A	A	LDA IDA		D	C	72	N	N
47.	*Construction Materials and Equipment Storage.*	Stockpiling and storage of construction vehicles, materials and equipment or commercial goods, and building contractors' yards.	High	L	-	-	-	-	-	-	-	-	-	-	-	-	L	-	C	LDA IDA		B	A	63.7	Y; Max. FAR 1.00	Y; Max. FAR 2.00
48.	*Convenience Store.*	Retail establishment engaged in the sale of prepackaged food products, household items, newspapers and magazines and sandwiches and other freshly prepared foods for off-site consumption. Accessory fuel sales only in accordance with "Motor fuel sales".	Low *	-	L	L	-	-	-	-	-	P	P	P	P	P	-	P	A	LDA IDA		C	B	59	N	Y; Max. FAR 0.16
49.	*Corporate Campus.*	Large office complex planned, developed and operated to serve a single corporate user in an integrated facility with special attention given to circulation, parking, utility needs, and provision of services and amenities to employees and clients.	High	PD	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	LDA IDA		D	B	61	N	~~Y~~[1]; Max. FAR 0.22
50.	*Fairgrounds and Flea Markets.*	Commercial establishments engaged in maintaining building(s) or open area in which buildings, parking facilities and open areas rented or otherwise provided for temporary uses including public or private shows or events or for use by various unrelated individuals to sell articles that are either homemade, homegrown, handcrafted, old, obsolete, or antique. May include selling of goods at retail by businesses or individuals that are generally engaged in retail trade of new or secondhand, reclaimed or salvaged goods.	Low *	P	P	-	-	-	-	-	P	P	P	P	P	A	A	A	-	LDA IDA		D	B	73	N	~~Y~~N

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Zoning density Intensity information from Schedule 32.1																		**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]						
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*		**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
51.	*Financial Institution.*	Establishments including banks, credit union offices, savings and loans, or check cashing services, that provide central banking functions to individuals and businesses. This classification includes only those institutions engaged in the on-site circulation of cash money.	Low *	-	P	P	-	-	-	-	P	P	P	P	P	P	P	P	-	LDA IDA		D	B	61	N	Y; Max. FAR 0.22
52.	*Funeral and Interment Service.*	Services involving the care, preparation or disposition of human or small domestic animal remains other than in a cemetery. Typical uses include crematories and mortuaries.	Low *	C	-	-	-	-	-	-	P	P	P	P	P	-	-	-	-	LDA IDA		D	B	~~65~~62[1]	N	Y; Max. FAR 0.22
53.	*Golf course.*	Golf courses, country clubs, and connected facilities such as pro shops.	Low *	C	-	-	C	C	-	L	-	-	C	-	-	-	-	C	-	LDA IDA		A	A	74[2]	Y; Max. FAR 0.11	Y; Max. FAR 0.22
54.	*Laboratory.*	Facility engaged in routine processing, analysis and testing to provide medical, dental, photographic and technical laboratory services. Use class excludes laboratories primarily engaged in developing new methods for processing, analysis and testing (see Research and Development) and laboratories for other types of service (See Industry, limited.)	Low *	-	-	-	-	-	-	-	P	P	P	P	P	P	P	P	-	LDA IDA		C	B	35	N	N
55.	*Lodging, Bed and Breakfast Inn.*	Visitor accommodations providing guest rooms for lodging on a less than weekly basis, with incidental eating and drinking service provided to lodgers and their guests.	Low *	P	P	P	P	C	-	-	P	P	P	P	-	-	-	-	P	RCA LDA IDA		D	D	15	N	N
56.	*Lodging, Hotel and Motel.*	Visitor accommodations providing guest rooms for lodging, typically on a less than weekly basis, with no or minimal kitchen facilities in the guest units and daily housekeeping service. Guest units may be reached either from a common entrance or directly from the outside of the building. This classification may include accessory recreational facilities, or eating, drinking and banquet service, and conference facilities.	Low *	-	-	-	-	-	-	-	P	P	P	P	P	P	P	P	A	LDA IDA		D	D	15	N	N
57.	*Maintenance and Repair Service, Major.*	Establishments engaged in maintenance and repair of industrial equipment and machinery and any other repair maintenance service that provides outdoor storage and work areas in addition to interior shop space for working on agricultural equipment and implements. Use may include the sale, installation, and service of related equipment and parts. Use excludes maintenance and repair of vehicles, boats or ships.	High	L	C	C	-	-	-	-	L	L	L	L	L	L	P	L	A	LDA IDA		B	A	64	Y; Max. FAR 0.11	Y; Max. FAR 0.22
58.	*Maintenance and Repair Service, Minor.*	Repair and incidental sales of supplies for appliances, office machines, home electronic equipment, bicycles, tools, small engines or garden equipment. This classification includes furniture refinishing and repair, but excludes maintenance and repair of vehicles, boats or ships, or industrial equipment.	Low *	L	P	P	-	-	-	-	P	P	P	P	P	A	P	-	A	LDA IDA		B	A	64	Y; Max. FAR 0.11	Y; Max. FAR 0.22
59.	*Manufactured Home Sales.*	Establishments engaged in the retail sale or leasing, delivery and installation of manufactured homes where models are located or purchasable products are stored on site.	High	-	-	-	-	-	-	-	-	P	P	C	P	-	A	-	-	LDA IDA		D	B	59	N	Y; Max. FAR 0.16
60.	*Fuel Sales.*	Establishments engaged in the retail dispensing or sale of vehicular fuels and lubricants or household propane.	Low *	-	L	L	-	-	-	-	-	L	P	P	P	-	A	L	A	LDA IDA		B	A	55[3]	Y; Max. FAR 0.14	Y; Max. FAR 0.28

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Zoning density Intensity information from Schedule 32.1																		**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]						
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*		**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
61.	*Motor Vehicle Maintenance Service, Major.*	Repair of automobiles, trucks, motorcycles, tractors, motor homes, and recreational vehicles, including the sale, installation, and servicing of related equipment and parts. This classification includes towing, engine repair, body and fender shops, vehicle painting, wheel repairs, tire sales and installation and/or repair of heavy trucks or construction vehicles, but excludes vehicle dismantling or salvage, tire re-treading and recapping. Includes facilities providing services for major repair and maintenance of recreational or commercial watercraft and marine engines. (Use may be accessory to a marina or boatyard use)	High	-	L	L	-	-	-	-	-	L	P	P	L	A	P	-	A	LDA IDA		B	A	64	Y; Max. FAR 0.11	Y; Max. FAR 0.22
62.	*Motor Vehicle Maintenance Service, Minor.*	Establishments where vehicle repairs and routine maintenance are made in enclosed bays and no vehicles are stored overnight, including quick-service oil, tune-up, tire, and brake and muffler shops. Washing, waxing, or cleaning of automobiles or similar vehicles. This classification excludes uses providing towing, engine repair, body and fender work, vehicle painting, or repair of heavy trucks or construction vehicles. May include accessory motor fuel sales.	Low *	-	L	L	-	-	-	-	-	L	P	P	P	P	P	-	A	LDA IDA		B	A	64	Y; Max. FAR 0.11	Y; Max. FAR 0.22
63.	*Office.*	Offices of firm(s) or organization(s) providing professional, executive, management, or administrative services, such as architectural, data management, engineering, interior design, graphic design, real estate, insurance, investment, law offices, physicians, dentists or chiropractors, including medical/dental laboratories incidental to the medical office use, emergency medical care offices and communications facilities located entirely within buildings. This classification excludes financial institutions.	Low *	-	P	L	-	-	-	-	P	P	P	P	P	P	P	P	A	LDA IDA		D	B	61 62 63 65 67 69	N	Y; Max. FAR 0.22
64.	*Personal Improvement Service.*	Establishment providing facilities for and instruction in, but not limited to, photography, fine arts, crafts, dance, music, gymnastics, martial arts, driving, scuba instruction, sailing, and weight management.	Low *	L	P	P	-	-	-	-	P	P	P	P	P	P	P	P	A	LDA IDA		D	B	62	N	Y; Max. FAR 0.22
65.	*Personal or Business Service.*	Establishment providing a range of support activities for services and incidental sales to persons and businesses. This classification includes, but is not limited to, barber and beauty shops, watch and jewelry repair shops, engraving studios; picture framing shops; shops for tailors, shoe repair, dry cleaners, locksmiths, film developing, telegraph and fax services, mail receiving and boxes, delivery services and self-service laundries. Also includes janitorial or building maintenance services, construction services, document delivery, mail receiving and distribution, drafting, blueprinting, typesetting, copying, photographic or other similar services.	Low *	-	P	P	-	-	-	-	P	P	P	P	P	P	-	P	-	LDA IDA		D	B	62 63	N	Y; Max. FAR 0.22
66.	*Personal Storage.*	Storage of goods and materials within an enclosed building with direct access to individual storage spaces and available to the general public for a fee. This classification does not include warehousing or wholesaling and distribution centers.	Low *	-	-	P	-	-	-	-	-	L	L	-	L	-	P	P	-	LDA IDA		C	B	63.7	Y; Max. FAR 1.00	Y; Max. FAR 2.00
67.	*Recreational Facility, Major.*	This classification includes commercially operated indoor and outdoor recreation and entertainment facilities not specifically classified elsewhere that provide accommodations for any number of spectators or that occupy 15 acres or more of land. This use type includes, but is not limited to, live performing arts theaters, drive-ins, amphitheaters, sports arenas, amusement parks and water parks.	High	PD	-	-	-	-	-	-	-	-	-	-	PD	PD	PD	-	-	LDA IDA		D	D	72.2	N	N

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Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none							
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*		**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
68.	*Recreational Facility, Motor Sports. Facilities*	This classification includes any commercially operated motor sports facility including, but not limited to, a speedway, drag strip, raceway, oval track or road course. Also includes associated vehicle or equipment maintenance, repair or testing facilities.	High	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	LDA IDA		D	D	72.2	N	N
69.	*Recreational Facility, Minor Indoor.*	This classification includes but is not limited to commercially operated indoor recreation and entertainment facilities such as bowling alleys, billiard parlors, ice or roller skating rinks, swimming pools, miniature golf, tennis or racquetball courts, movie theaters, health or fitness clubs and gyms, dance halls, and game centers including pinball arcades or establishments having five or more coin-operated electronics or mechanical game machines.	Low *	C	P	L	-	-	-	-	P	P	P	P	P	P	P	A	-	LDA IDA		D	B	~~73~~72.2	N	~~Y~~N
70.	*Recreational Facility, Minor Outdoor.*	This classification includes but is not limited to commercially-operated outdoor recreation and entertainment facilities such as miniature golf or scale-model courses, skating rinks, swimming pools, tennis or racquetball courts, target shooting, golf driving or batting ranges.	High	C	L	-	-	-	-	-	P	-	P	L	L	L	L	-	-	LDA IDA		D	B	73	N	Y
71.	*Rental and Leasing.*	Establishments that provide tangible goods, such as vehicles, computers, construction or agricultural machinery and equipment, office equipment, power and hand tools, party supplies, and similar equipment, in return for a periodic rental or lease payment. Establishments that rent real property are classified under "offices."	High	-	P	P	-	-	-	-	-	P	P	P	P	P	P	-	L	LDA IDA		C	B	59	N	Y; Max. FAR 0.16
72.	*Research and Development Service.*	Industrial or scientific research, including limited product testing. This classification includes electronic research firms, computer software development and pharmaceutical research laboratories, and laboratories primarily engaged in developing new methods for processing, analysis and testing for manufacturing or medical activities.	Low *	C	-	-	-	-	-	-	C	L	L	L	L	-	P	P	-	LDA IDA		D	B	65 69	N	Y; Max. FAR 0.22
73.	*Restaurant.*	An establishment serving unpackaged food and beverages in a ready to consume state primarily to persons seated at counters or tables within the building. May include outside dining and sale of food prepared onsite and beverages for consumption off the premises. Where alcoholic beverages are sold in conjunction with sale of food for consumption on the premises and the sale of said beverages comprise less than 50% of the gross receipts. (See "Tavern" for establishments where sales of alcoholic beverages comprise more than 50% of gross receipts).	Low *	-	P	P	-	-	-	-	P	P	P	P	P	P	A	A	A	LDA IDA		D	C	58	N	N
74.	*Restaurant, Fast Food.*	An establishment that offers quick eat-in or take-out food service, which is accomplished through a limited menu of items already prepared and held for service, or prepared, fried, grilled quickly, or heated in a device such as a microwave oven. Orders are not generally taken at the customers' table, food is not served at the same table or counter where the food is consumed, and food is generally served in disposable wrapping and containers.	High	-	L	C	-	-	-	-	-	L	L	P	P	L	-	-	-	LDA IDA		D	C	54	N	~~Y;~~ ~~Max. FAR 0.24~~N
75.	*Retail Sales or Service, Vehicles.*	Establishments engaged in the retail sale of new or used vehicles of all types- cars, trucks, recreational vehicles, motorcycles, ATV, bicycles, boats, watercraft, and outboard motors. They may have showrooms or open lots for selling vehicles, may provide repair and maintenance services and may sell related parts, accessories and equipment.	High	-	-	L	-	-	-	-	-	-	-	P	P	P	P	-	-	A	LDA IDA		B	A	55	Y; Max. FAR 0.14	Y; Max. FAR 0.28

Circle page no. 205

Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]							
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
76. *Retail Sales, General.*	Establishment engaged in high volume retail sales of goods and merchandise not specifically listed under another use classification. Use type includes department stores, discount stores, retail warehouses and shopping "clubs," home furnishing stores, pharmacies and supermarkets; retail plant nurseries and garden centers; and establishments engaged in retailing or wholesaling of building supplies or equipment including lumberyards and implement, tool and equipment sales. Use also includes any establishment listed under "Retail sales limited" that occupies a gross floor area in excess of 20,000 square feet. Except in the RCL	Low *	-	P	P	-	-	-	-	-	P	P	P	P	P	-	-	-	LDA IDA		C	B	521	Y; Max. FAR 0.20	Y; Max. FAR 0.40
																							525	Y; Max. FAR 0.12	Y; Max. FAR 0.24
																							53	N	Y; Max. FAR 0.16
																							54	N	Y; Max. FAR 0.24
																							55	Y; Max. FAR 0.14	Y; Max. FAR 0.28
																							56	N	Y; Max. FAR 0.28
																							57	N	Y; Max. FAR 0.28
																							59	N	Y; Max. FAR 0.16
77. *Retail Sales, Limited.*	Establishment engaged in low volume retail sales of goods and merchandise not specifically listed under another use classification, including, but not limited to, specialty stores engaged in the retail sale of antiques, appliances, art, art supplies and services, new automotive parts and accessories, (excluding service and installation), bicycles, cameras, carpeting and floor coverings, coins, electronic equipment, hand-crafted items, hardware, hobby materials, jewelry, kitchen utensils, medical supplies, office supplies, paint and wallpaper, photographic supplies, records, sporting goods, toy stores, pawnshops, grocers, liquor stores or delicatessens.	Low *	-	P	P	-	-	-	-	A	P	P	P	P	P	A	A	A	LDA IDA		C	B	55	Y; Max. FAR 0.14	Y; Max. FAR 0.28
																							56	N	Y; Max. FAR 0.28
																							57	N	Y; Max. FAR 0.28
																							59	N	Y; Max. FAR 0.16
78. *Take-Out Food and Beverage Sales.*	Establishments offering prepared foods and beverages exclusively for off-site consumption. Includes delivery service, catering services, custom bakeries, and specialty shops, e.g. coffee shops and delicatessens.	Low *	-	P	P	-	-	-	-	A	P	P	P	P	A	A	A	A	LDA IDA		C	B	54	N	Y; Max. FAR 0.24
79. *Tavern.*	A licensed establishment serving alcoholic beverages in which 50% or more of gross receipts are from the sale of such beverages at retail for immediate consumption. Establishments may provide limited food and entertainment (primarily music) services	High	-	P	P	-	-	-	-	-	P	P	P	P	P	-	-	A	LDA IDA		D	C	58	N	N

Circle page no. 206

Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]							
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
80. Warehousing and Storage.	Long- or short-term storage of goods or materials produced off-site within an enclosed building prior to their distribution to wholesale or retail outlets. Except in the OBP zone, includes wholesaling and distribution centers facilities with sales of goods on-site. Excludes 'discount clubs' and similar establishments engaged in retail sales of bulk items.	High	-	-	-	-	-	-	-	-	-	-	-	-	-	P	P	-	LDA IDA		C	B	63.7	Y; Max. FAR 1.00	Y; Max. FAR 2.00
81. Wholesaling and Distribution Center.	Indoor storage and sale of factory-direct merchandise and bulk goods. This use includes mail-order sales, importing and the wholesale sale of goods imported by the establishment and wholesale distribution. Excludes "discount clubs", and similar establishments engaged in retail sales of bulk items.	High	-	-	-	-	-	-	-	-	-	-	-	P	-	P	-	-	LDA IDA		B	A	51	Y; Max. FAR 0.28	Y; Max. FAR 0.56
Industrial Use Classifications																									
82. Extractive Industry.	Removal of natural materials from the surface or subsurface of the earth for sale or further processing. This classification includes sand and gravel mining and mineral extraction.	High	L	-	-	L	L	-	-	L	L	L	-	-	L	L	-	-	RCA LDA IDA		A	A	85	Y	Y; Max. FAR 0.56
83. Production Industry, Custom.	On-site production of goods by hand manufacturing involving the use of hand tools and small-scale equipment. This classification includes custom carpentry, cabinet and small scale furniture making and woodworking, blacksmiths, welding, machine shops, sail lofts, small-scale sawmills for custom work.	Low	P	L	L	-	-	-	-	-	L	L	-	L	-	P	-	-	IDA X		B	A	21 22 32 33 34	N	Y; Max. FAR 0.56
																							23 28 29 31 35	N	N
																							24 25 26 27 39	Y; Max. FAR 0.28	Y; Max. FAR 0.56
84. Production Industry, General.	Manufacturing of products, primarily from extracted or raw materials, or bulk storage and handling of such products and materials. This classification includes food processing and packaging, furniture manufacture, laundry and dry cleaning plants, stonework and concrete products manufacture and large-scale sawmills and kiln drying operations.	High	L	-	-	-	-	-	-	-	-	-	-	-	-	L	-	-	IDA X		C	B	21 22 32 33 34	N	Y; Max. FAR 0.56
																							23 28 29 31 35	N	N
																							24 25 26 27 39	Y; Max. FAR 0.28	Y; Max. FAR 0.56

Circle page no. 207

Zoning density Intensity information from Schedule 32.1																		**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]						
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
85. Production Industry, Limited.	Manufacturing of finished products or parts, primarily from previously prepared materials, and provision of industrial services; both within an enclosed building. This classification includes commercial bakeries and businesses engaged in processing, fabrication, assembly, treatment, and packaging, but excludes basic industrial processing from raw materials, food processing, and vehicle/equipment services.	High	-	-	-	-	-	-	-	-	-	P	-	P	-	P	L	-	IDA		B	A	21 22 32 33 34	N	Y; Max. FAR 0.56
																							23 28 29 31 35	N	N
																							24 25 26 27 39	Y; Max. FAR 0.28	Y; Max. FAR 0.56
86. Slaughterhouse.	Establishments engaged in killing and butchering livestock.	High	C	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-	IDA		C	B	82	Y	Y
87. Wrecking and Salvage.	Storage or dismantling of inoperative vehicles, machinery, or other goods. Objects may either be displayed as individual items or assembled into partial or complete vehicles or other machines. This classification includes but is not limited to establishments engaged in the sale of used parts recovered from on-site vehicles and machines.	High	PD	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	IDA		B	A	51	Y; Max. FAR 0.28	Y; Max. FAR 0.56
Transportation, Communication and Utility Use Classifications																									
88. Airport, Landing Strip and Heliport.	Facilities open to aviation or operated for the takeoff and landing of aircraft, including runways; helicopter pads; passenger and cargo facilities; facilities for air traffic control, emergency service, informational devices, maintenance and overhaul, fueling, service, storage; tie-down areas; hangars and other necessary open spaces. May include offices and facilities for flight instruction, charter and cargo service and related services for airport customers as accessory uses.	High	C	-	-	-	-	-	-	-	-	-	-	-	-	P/C	C	-	LDA IDA		A	A	43	~~Y;~~ ~~Max. FAR 0.28~~N	~~Y;~~ ~~Max. FAR 0.56~~N
89. Antennae and Microwave Equipment.	Amateur radio antennae, or satellite and microwave dishes and equipment installed and operated to serve an individual residence or business.	Low	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	RCA LDA IDA		A	A	47	Y; Max. FAR 0.28	Y; Max. FAR 0.56
90. Communication Tower, Public Safety or Other Non-Commercial.	Communication tower designated by the Board of County Commissioners for operation of emergency communications equipment or co-located commercial equipment,	High	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-		D	D	47	Y; Max. FAR 0.28	Y; Max. FAR 0.56
91. Communication tower, commercial.	Communication tower that supports commercial uses or non-commercial uses when the structure exceeds 100 feet in height.	High	C	-	C	C	C	-	-	-	C	C	C	C	C	C	C	-	-		D	D	47	Y; Max. FAR 0.28	Y; Max. FAR 0.56

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Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]							
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
92. Freight Terminal.	Facilities for freight service and operations by truck, rail, or ship. This classification does not include airports or heliports.	High	-	-	-	-	-	-	-	-	-	-	-	-	-	P	L	P	LDA IDA		A	A	41	Y; Max. FAR 0.28	Y; Max. FAR 0.56
93. Passenger Terminal.	Facilities for passenger transportation operations. This classification includes rail stations and bus terminals.	High	-	-	-	-	-	-	-	-	-	P	P	P	L	P	-	-	LDA IDA		D	D	41~~12~~	N	~~Y; Max. FAR 0.56~~N
																							~~42~~12	N	N
94. Regional Flood and Storm Water Management Facility.	Facilities designed and managed by a public agency or public utility to provide flood control or manage stormwater drainage for multiple development sites.	High	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	RCA LDA IDA		A	A	47	Y; Max. FAR 0.28	Y; Max. FAR 0.56
95. Small Wind Energy System.	Wind-powered electric system sized for homes, farms, and small businesses with a capacity of 100 kilowatts and below.	Low	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	RCA LDA IDA		A	A	48	~~Y; Max. FAR 0.28~~N	~~Y; Max. FAR 0.56~~N
96. Solid Waste Acceptance, Processing, Transfer and/or Resource Recovery Facility.	Public or private recycling, refuse collection, solid waste transfer or disposal facilities or material recovery facilities.	High	C	-	-	-	-	-	-	-	-	-	-	-	-	L	-	-	IDA		A	A	485	N	N
97. Utility, Major.	Power generating plant, or power substation, water reservoir, water or wastewater treatment plant and associated disposal ponds, or similar facility of a public agency or public utility. A structure that may have a significant effect on surrounding uses is regulated under this classification.	High	C	-	-	C	C	-	-	-	-	-	-	-	-	C	C	-	LDA IDA		A	A	48	~~Y; Max. FAR 0.28~~N	~~Y; Max. FAR 0.56~~N
98. Utility, Minor.	Public utility that is necessary to support legally established uses and involves only minor facilities or structures such as a small drainage channel; aqueduct; small sewer or water pump station or substation; above ground distribution or transmission lines including service for telephone or cable television; underground water, sewer, drainage, gas, electricity, telephone, or related utility lines; recycling centers; telephone switching centers; and telegraph or cable television transmitting offices.	Low	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	RCA LDA IDA		A	A	48	Y; Max. FAR 0.28	Y; Max. FAR 0.56
Marine Use Classifications																									
99. Boatel (multi-level watercraft storage rack building).	Any structure or rack system that includes roof and end walls, is more than 10 feet in height, and is erected or established for the purpose of storing watercraft. (Use may be accessory to a Marina or Boatyard use)	High	PD	-	-	PD	PD	-	PD	-	-	PD	-	-	-	-	-	C	LDA IDA		A	A	44	Y; Max. FAR 0.28	Y; Max. FAR 0.56
100. Boatyard.	Facility providing services for construction and repair and overhaul of watercraft. May include accessory retail sale of boats.	High	PD	-	-	PD	PD	-	-	-	-	PD	-	-	-	P	-	P	LDA IDA		B	A	55	Y; Max. FAR 0.14	Y; Max. FAR 0.28

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Zoning density Intensity information from Schedule 32.1																					**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]	**Critical Area Overlay**						
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none							
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*		**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
																								63.7	Y; Max. FAR 1.0	Y; Max. FAR 2.0
																								64	Y; Max. FAR 0.11	Y; Max. FAR 0.22
101.	*Charter Fishing Facility.*	This classification includes any facility that berths more than one vessel for hire carrying more than 6 passengers regardless of whether inspection is required pursuant to US Coast Guard regulations governing passenger vessels OR more than three vessels for hire meeting the requirements as an "Uninspected vessel under 100 gross tons" pursuant to US Coast Guard regulations and accommodating 6 or fewer passengers each.	Low	C	-	C	-	-	-	C	-	-	C	-	-	-	-	-	P	LDA IDA		A	A	84	Y; Max. FAR 0.28	Y; Max. FAR 0.56
102.	*Commercial Dock.*	A facility used for commercial mooring for on-and off-loading of local seafood catch and with no on-site processing. Facilities with processing facilities are classified as Seafood Industry.	Low	L	-	A	L	L	-	L	-	-	L	-	-	-	-	-	L	RCA LDA IDA		A	A	74	Y; Max. FAR 0.11	Y; Max. FAR 0.22
103.	*Dock, Ramp and/or Railway, Public.*	Public facility for launching, mooring, or securing watercraft, and where overnight berthing is prohibited.	Low	P	-	-	P	P	-	L	-	-	P	-	-	-	-	-	P	RCA LDA IDA		A	A	74	Y; Max. FAR 0.11	Y; Max. FAR 0.22
104.	*Marina.*	Facility for launching, mooring, berthing, storing or securing 10 or more watercraft. May include support facilities such as fuel sales, management office parking, hauling or ramp, sewage pumpout facilities, restrooms and amenities provided for slipholders such as a swimming pool or other recreational area. Provision of Marine services; Maintenance and repair services, Major; Lodging; Restaurant; Retail sales; and Commercial recreation & entertainment allowed as accessory uses in zones where permitted by this Ordinance.	High	PD	-	PD	PD	PD	-	PD	-	-	PD	-	-	-	-	-	P	LDA IDA		B	A	74	Y; Max. FAR 0.11	Y; Max. FAR 0.22
105.	*Marine Services.*	Facility that provides services primarily to recreational watercraft in the water and occupants thereof. Includes restrooms, sewage pumpout facility, concessions, and sale of fuel and incidental supplies. (May be accessory to a conforming Marina, Boatyard, or Public dock use)	High	A	-	A	A	A	-	A	-	-	A	-	-	-	-	-	P	LDA IDA		B	A	74	Y; Max. FAR 0.11	Y; Max. FAR 0.22
106.	*Marine Terminal.*	Commercial or industrial piers or port facility for the loading and off loading of passengers, vehicles, bulk materials, and cargo on boats, ships, tankers, or barges. Includes shipping terminals, ferry terminals, tanker ports, and barge loading facilities. (Use may be accessory to an Extractive Industry or General production industry.)	High	PD	-	-	-	-	-	-	-	-	-	-	-	-	PD	-	C	IDA		A	A	44	Y; Max. FAR 0.28	Y; Max. FAR 0.56
																								44 with passengers	N	Y; Max. FAR 0.56

Circle page no. 210

Zoning density Intensity information from Schedule 32.1																			**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
			Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]							
			Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
			Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
			Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*		**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
107.	*Seafood. Industry.*	A facility used for processing shellfish and finfish including facilities for securing and off-loading fishing vessels; facilities to hold, process, or store the catch; and facilities to manage waste byproducts. Includes land and water-based aquaculture for-profit operations where raising of fish or shellfish is within any natural, open, free-flowing waterbody—streams, inlets, estuaries. This includes establishments engaged in the buying and selling seafood, wholesale or retail, excluding grocery stores. (See "Commercial Dock" for sites without facilities for processing or wholesale or retail seafood sales.	High	L	-	L	L	L	-	L	-	L	L	-	-	-	-	-	P	RCA LDA IDA		A	A	51 84 89	Y; Max. FAR 0.28	Y; Max. FAR 0.56
Accessory Use Classifications																										
108.	*Accessory Apartment.*	A secondary residential use incidental to the principal permitted or conditionally permitted use on a site.	Low	A	A	A	A	A	A	A	A	A	A	A	A	-	-	-	A	RCA LDA IDA		D	c	13	N	~~Y MAX. 1-2 du/ AC; PUD Max. 20% land coverage~~N
109.	*Automated Teller Machine (ATM).*	Automated teller machines located on the exterior of buildings for direct pedestrian access or in freestanding booths for walk-up or drive-up access. ATMs for access from within a building are not regulated.	Low	-	A	A	-	-	-	-	A	A	A	A	A	A	A	A	A	RCA LDA IDA		D	B			
110.	*Bus Shelter.*	Detached structure located at County - approved pick-up or drop-off point for passengers for school or public transportation.	Low	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	RCA LDA IDA		B	B	49	Y	Y
111.	*Collection Receptacles for Recyclables Materials.*	Dumpsters used for the collection of recyclable materials.	Low	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	RCA LDA IDA		A	A	49	Y	Y
112.	*Day Care, Family Home.*	Non-medical care for a maximum child care capacity of 12 children in the principal residence of the caregiver.	Low	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	RCA LDA IDA		D	B	Accessory to existing SLUCM 11	N	Y
113.	*Dock, Ramp and/or Railway, Private.*	Facility for mooring, berthing, storing or securing four (4) or fewer watercraft, and a boat ramp provided the boat ramp is located adjacent to the pier.	Low	A	-	A	A	A	-	A	-	-	A	-	-	-	-	-	-	RCA LDA IDA		A	A	Accessory to existing SLUCM 11	Y	Y
114.	*Dock, Ramp and/or Railway.*	Facility for mooring berthing, storing or securing 5 to 9 watercraft, and a boat ramp provided the boat ramp is located adjacent to the pier.	Low	A	-	A	A	A	-	A	-	-	A	-	-	-	-	-	-	RCA LDA IDA		A	A	Accessory to existing SLUCM 11	Y	Y
115.	*Drive-Through Services.*	Facility for providing services to persons remaining in automobiles.	High	-	A	A	-	-	A	-	A	A	A	A	A	A	A	A	-	RCA LDA IDA		A	A	Accessory to permitted uses	Y	Y
116.	*Home Occupation.*	Accessory commercial uses allowed in a dwelling unit where the occupation, profession, activity or use is clearly a customary, incidental, and secondary use of a residential dwelling unit that does not alter the exterior of the property or affect the character of the neighborhood.	Low	A	A	-	A	A	A	A	A	A	A	A	A	-	-	-	A	RCA LDA IDA		D	C	Accessory to existing SLUCM 11	Y	Y

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10/02/12

Zoning density Intensity information from Schedule 32.1																		**Critical Area Overlay**		**Current AICUZ per CZO**		**2009 AICUZ Study**		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]						
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none			***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20							
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30							
Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)		Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
117. Live Entertainment.	Any establishment that provides performances for the purpose of amusing a guest or patron on a scheduled basis more than three times a calendar year, regardless of whether the performers are compensated. This classification also includes any form of dancing by guests or patrons that occurs on a scheduled basis.	High	-	A	A	-	-	-	-	-	A	A	A	A	A	A	A	A	RCA LDA IDA		B	D	Accessory to permitted uses	~~Y~~N	~~Y~~N
118. On-Site Workers' Housing.	Residential structures owned and operated by an employer for the purpose of providing living quarters for workers during the period of their employment on the site of their employment. Housing may be long- or short-term, seasonal or year round.	Low	A	-	-	A	A	-	-	-	A	A	A	A	-	-	-	-	RCA LDA IDA		D	D	11	~~Y~~N	~~Y~~N
119. Accessory General.	Uses and structures that are customarily accessory and clearly incidental and subordinate to permitted principal uses and structures.	None	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	RCA LDA IDA		A	A	Accessory to permitted uses	Y	Y
120. Outdoor Storage.	Storage or placement of equipment, merchandise, or products not otherwise permitted outside of a building. This does not apply to agricultural use classifications.	High	-	A	A	-	-	-	-	-	A	A	A	A	A	A	A	A	LDA IDA		A	A	Accessory to permitted uses	Y	Y
121. Recreational Vehicles.	Vehicles that are self propelled or towable and designed primarily for temporary living while traveling or camping.	None	A	A	A	A	A	A	A	A	A	A	A	A	-	-	-	A	RCA LDA IDA		A	A	Accessory to existing SLUCM 11	Y	Y
122. Swimming Pool Private, Non-Commercial.	Above or in-ground structure filled with water for swimming allowed as an accessory use to a permitted principal use. (For community and public pools see "Public recreation facility" for commercially operated pool facilities, see "Commercial recreation and entertainment.").	Low	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	RCA LDA IDA		A	A	Accessory to permitted uses	Y	Y
123. Stables.	An accessory building, not related to the ordinary operation of a farm, for housing of horses or mules.	Low	A	A	-	A	-	-	A	-	A	A	-	-	-	-	-	-	RCA LDA IDA		A	A	Accessory to existing SLUCM 11	Y	Y
124. Charter Fishing.	Charter fishing activities operated at a private pier that is accessory to residential use providing berthing and facilities for: One vessel capable of carrying more than 6 and less than 25 passengers and meeting the requirements for a "Small Passenger Vessel (under 100 gross tons) pursuant to US Coast Guard regulations OR no more than three uninspected vessels capable of carrying 6 or fewer passengers for hire each meeting the requirements as an "Uninspected vessel under 100 gross tons" pursuant to US Coast Guard regulations. Generation of revenue from fishing operations shall not be deemed prima facie evidence contradicting the subordinate and incidental nature of this use to the primary residential use.	None	A	-	A	A	A	-	-	-	-	A	-	-	-	-	-	-	RCA LDA IDA		A	A	Accessory to existing SLUCM 11	Y	Y
Temporary Use Classifications																									
125. Construction Trailer/Office.	Prefab building used as offices and/or storage during project construction.	NA	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	RCA LDA IDA		--	--	69	Y	Y
126. Sales Office/Model Home.	Facilities housed on the site of a development project during construction for the purpose of sales activities relating to the project.	Low	P	P	-	P	P	P	P	P	P	P	P	P	-	-	-	-	RCA LDA IDA		--	--	69	Y	Y

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Zoning density Intensity information from Schedule 32.1			RPD	RSC	RCL	RL-T	RL	RH	RNC	RMX	VMX	TMX	DMX	CMX	CC	I	OBP	CM	Critical Area Overlay	Current AICUZ per CZO		2009 AICUZ Study		
		Base DU	.20	none[14]	none[14]	1[16]	1	10	1	1	1	1	20	1	none	none	none	none[14]						
		Maximum DU	.33	none	none	3[16]	5	20	2	5	5	5	20	15	none	none	none	none						
		Base FAR	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20		***APZ-1***	***APZ-2***		***APZ-1***	***APZ-2***
		Maximum FAR	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30						
Use Type *from Schedule 50.4*	**Description**	**Use Intensity**	**RPD**	**RSC**	**RCL**	**RL-T**	**RL**	**RH**	**RNC**	**RMX**	**VMX**	**TMX**	**DMX**	**CMX**	**CC**	**I**	**OBP**	**CM**	Allowed overlay location(s)	Compatibility	Compatibility	SLUCM NO.	Compatibility; Intensity	Compatibility; Intensity
127. Shows and Events, Indoor.	Temporary indoor events occurring at a site. Includes animal shows for domestic or farm animals; art fairs and shows; indoor display and sale of hand crafts and similar objects; equipment and trade fairs; concerts, carnivals, fairs, and other similar events; and events that provide games, eating and drinking facilities, live entertainment, or similar activities.	NA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	L	RCA LDA IDA	--	--	69	Y	Y
128. Shows and Events, Outdoor.	Temporary outdoor events occurring at a site. Includes animal shows for domestic or farm animals; art fairs and shows; indoor display and sale of hand crafts and similar objects; equipment and trade fairs; concerts, carnivals, circuses, fairs, and other similar events; and events that provide games, eating and drinking facilities, live entertainment, or similar activities.	NA	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	RCA LDA IDA	--	--	79	Y	Y
129. Temporary Residence During Construction.	A mobile home used as a temporary residence in conjunction with the construction of a permanent home.	NA	P	-	-	P	P	-	P	-	-	-	-	-	-	-	-	-	RCA LDA IDA	--	--	11	Y	Y

Comment from SV: I started to add footnotes such as those below to table but think it would be more user friendly to add notes specific to each use in the Chapter 50 general standards as has been done for the Critical Area restrictions.

[1] Occupancy (employees and patrons) of the building housing the use cannot exceed 50 persons per acre
[2] Excludes facilities such as clubhouses, meeting places, auditoriums, large classes, etc.
[3] No above ground fuel storage allowed

Prepared by DLUGM for review by NAS-Patuxent River AICUZ Coordinator

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ST. MARY'S COUNTY PLANNING COMMISSION WORKSESSION
Patuxent Building * Leonardtown, Maryland
Monday, December 16, 2013

The purpose of this work session was to meet with Capt. Shevchuk of the Patuxent River Naval Air Station.

Questions had been submitted by members of the Planning Commission, and were read by Howard Thompson, Chair. Responses by Captain Shevchuk are in italics. Text in square brackets has been inserted by staff where needed to cite sections and page numbers from the July 2 draft of the Lexington Park Development District Master Plan, or to annotate this transcript.

1. While I understand you support the AICUZ standard, is it accurate to say you would support a broader APZ-2 in the area outside Gate 2? *One of the things the AICUZ manual describes is the benefits of a zone, whether it's in airfield influence, planning district, or what people have been calling a buffer is good planning. Where we have the space, in the community on the base, we're going to look for a way to preserve more options in the future and while the LPDDP presents we can think about a downtown development. Our recommendation is that the community in the immediate vicinity of. Aircraft do not abide by any lines; it's just a representation of risk. We want to preserve the mission through the APZ 1 and 2 and on the base closer to the runways. Those areas just beyond should be viewed as transitional. If there's a way for the Planning commission to view this as a transition area from the mission area to an operational area to a community area. Think about that spectrum and what space we could allocate for that. Encourage Commissioners to consider how they can set right the limits of downzoning.*

2. You (Navy CO NAS PAX) say as long as the [Lexington Park Master Plan] is compatible with the AICUZ then it is ok. However, the AICUZ instruction [OPNAVINST 11010.36C, chapter 6] speaks of a "buffer" beyond the AICUZ footprint. The buffer would be established for long term encroachment protection, in preparation of a future change in mission, aircraft, or a BRAC. What is your opinion if the County takes it one step further and establishes a "buffer" beyond the APZ line? *We would support that as it represents that insurance for future mission growth. It represents a higher regard for public safety. Those possibilities, while in certain areas they run in direct competition with property development and potential. They really represent an opportunity to take care of both parties.*

3. Can you articulate the meaningful difference between what is considered encroachment vs. the limitations of the APZ zones? Can there be encroachment outside of the limits of the APZ zones that is significant for any purpose other than those related to APZ considerations? *Encroachment extends more broadly than the APZ. The test range described their noise advisory process and the information was illuminating. You can have a house that isn't in a high density area that is in fact affected by the noise from a helicopter. Air quality, noise, pollution, etc. all are considered encroachment. We are working with the Joint Land Use Study to understand fully all of the different aspects where the mission affects the community and where the community affects the mission.*

4. The JLUS process seems to be parallel to and in some aspects somewhat duplicative of the planning process we are undertaking while doing the Lexington Park District Master Plan; while I realize that each of us is coming at the process from a different side, how much weight will you give our plan in your JLUS study (as presumably ours will be done before the JLUS)? *It's important to make plans but each community should be responsive. When the report does come out I believe it is a community effort.* [This question was asked and answered twice during the meeting. Each time the same answer was given.]

5. The Pax AICUZ study was completed in July 2009, and projects operational capability for a 5-10 year outlook. With the 5-year mark approaching, do you foresee any changes Unmanned Air Systems (UAS), increase in noise levels, change in flight patterns, etc. in the way that you fly today compared to the future mission*? One of the things that Pax River has as its essential role is the sustainment of existing platforms. Sustaining the Hornet, taking care of an older platform like the Airborne Early Warning, the E2D and making it more capable in the future. Of course we have new systems like the Joint Strike Fighter and the P-8 Poseidon for maritime patrol. There are new platforms, but even the existing, like the C-130 and the MH-60, those all have to be sustained. Those will have to be around for a while. CH-53 which is a larger cargo helicopter used by the Marine Corps and the Navy will be coming in the 2015 timeframe. Presidential Helo is a program that will be stepping back into a productive role. As far as noise is concerned, I think the APZ's as they're designed are pretty static. We understand the impact on the community;*

therefore we really want to be predictable through our public affairs office and through media releases. Looking out 5 or 10 years, there aren't any dramatic changes in flight patterns expected. We are going to see some fairly extensive runway repairs.

6. Some properties within the existing AICUZ in Lexington Park were grandfathered (prior to 1979) to allow existing [uses] to remain. However, a change in use or an increase in square footage is not permitted. What is your opinion of allowing a change in use or permitting additional square footage to be constructed in the APZ? [Addressed in your September 24 letter to the planning commission.] *Renovation of existing continued consistent use: that's the definition of "grandfathered." But as you change it to a repurpose or as you de-construct and reconstruct, to me, that's the same as any new development. I would ask for policies and permitting to only allow existing grandfathered structures to remain and any new development to abide by the AICUZ.*

7. We understand that the Navy cannot address specific communities as AICUZ compatible. However, would you consider the Lexington Park area, which is presently within APZ 2, to be reasonably AICUZ compatible as it is today? *We have the APZ zones looking at the development district master plan which, of course, shows some existing properties and some proposed properties. I would say that we have the community at our doorstep, and we appreciate the services that are provided there. I don't think it's as AICUZ compatible as it could be, and that's the purpose of a plan like the Development District Master Plan. Reasonably, I don't need to put a grade on it; I think this process needs to be managed continually where the community and the DOD operate together.*

8. The Accident Potential Zone is identified by the probable impact area if an aircraft accident were to occur, which is to be distinguished from the probability of an accident occurring. How is an area in an APZ considered to be incompatible even though it is not in the direct flight path to the runway? *I describe the pattern that aircraft come directly over the runway at a higher altitude and then in the carrier environment they turn 180◦ and transit in the other direction, then they come into a turning arching approach to descend to the runway. The bigger wing aircrafts like the P-8 are strictly straight in just like you would on a commercial flight. Tactical aircraft like the Hornet use a different approach and so things that aren't directly in line with the runway are still going to be commonly used airspace.*

9. If the area known as Millison Plaza is repaired, demolished, and/or reconstructed, would a change in use and the density be considered by the Navy? *We would look at any proposed utilization and compare it with the AICUZ instructions or Standard Land Use Coding Manual (SLUCM). There are many different types of land uses in the area of Gate 2. We would take our guide from the SLUCM for any proposed uses.*

10. Follow on to question 9 above, if the area outside of Gate 2 near the Mixing Bowl, is repaired, demolished, and/or reconstructed, would a change in use of density be considered by the Navy? *Again, we would review the standards in the SLUCM.*

Ms. Guazzo inquired about the Shannon Farms parcel, asking if the Navy is interested in making this a non-housing area. *The two patterns for the runway were shown on the map. For runway 24, the approach over land, the mission would benefit from having some open space there.*

11. The existing development and uses in the AICUZ overlay zone have been in place since before the AICUZ was established in the late 1970s, early 1980s. Does the existing intensity of development and uses in the AICUZ negatively impact the current and future mission of Pax River? *We have a really cooperative relationship with our immediate community. We have an obligation to respond to complaints. The intensity as it exists is something that, we have to be prepared for the worst. I don't expect budgets to increase anytime in the near future for the DOD or DON, but the Naval Aviation mission is an important one, and it will continue to receive investments, and that means there will still be jobs here, needs for schools, etc. There is always potential for new desirable communities to be established, and that creates an intensity issue for the community and the base.*

12. It is my opinion the next BRAC will find the level of expertise and quality of product provided by NAWC Patuxent is rivaled by no other facility in the world. Large numbers of highly qualified and skilled workers will continue to be encouraged to move to our county we all call home. My concern is the ability of the community to be able to provide the needed infrastructure necessary to sustain the possibilities I describe. It is imperative the Navy Command and St Mary's County Government are on the same page and recognize the vital importance of continued open dialogue, collaboration and cooperation. Do you believe the level of cooperation needed between the Navy and St Mary's County to succeed in the next BRAC is in place? If not, in your view what improvements are needed to put NAWC Patuxent and St

Mary's County in the best possible position moving forward? *The most recent BRAC of 2005 didn't result in dramatic increases or decreases; there were a little of both. I think as you look at the process, they want to make sure there is capacity and compatibility to support the mission. There is no other open air laboratory like this peninsula and the Chesapeake Bay which is essential features of the future of Naval Aviation. Pax River is an international treasure, and it's essential that we maintain that capacity here. Transportation, infrastructure, access to the base, community support: those types of things are features that BRAC will consider. The County Commissioners have described some resources that they will be prepared to invest in making sure the studies and relationships are strong and give the necessary data to demonstrate the vitality of the relationship between the base and the community. The Navy Alliance is doing a SWAT analysis, and the NOC is also investing in some internal policies. I'll be honest, foreseeing the Navy's investment there's the ability to invest in our own facilities; we still struggle for some years. Admiral Rich visited and was quite candid and helped us understand the struggles we will see. We have a high profile mission here that "sells" well and is critical. We have a naval warfare systems command. I think it great that we're having this kind of dialogue. Together we are planning in a synchronized way.*

Mr. Evans expressed a concern with the State, stating "we struggle with requirements of the State such as water policy requirements." *When we look at providing for increased activities at the base we have to plan for where those folks will live. With the State issues in place it becomes more difficult. There's no question in my mind that the Navy and the county will continue to work collaboratively towards the common goal; however, my broader concern is with the State and their requirements. We have the Maryland Military Installation and Commander meetings that are held by the Department of Business and Economic Development, which is the field where we cultivate these kinds of issues.*

13. Do you see a potential need to acquire an interest in property adjacent to the base through easement or outright purchase at this time under Program Open Space, notwithstanding the probable non-availability of funds? *There is a need to set all of these things in to motion, even without funds; you still need to identify the interest and intention which allows you to prioritize when the money does become available.*

14. Is it possible to have access to the Pax River Facilities Master Plan document? *[Staff clarified that this has been taken care of.]*

15. With regard to the provision of waste treatment, what additional needs do you foresee that can be provided by the local sewer utility, MetCom? *I sat down with Naval Air Station Facilities / Utilities Manager and the working capital funds; they have an investment plan for our utilities. Things like water systems and stormwater. Right now at the staff level he's aware of their capacity as they go through their project, will invest in nitrogen reduction. It's really a question of what the county and leadership believe is the capacity right now for that operation. I'm satisfied that the Navy Working Capital Fund Public Works Department is managing our utilities. For the foreseeable future, if there were to be some consideration/discussion of possible partnerships with MetCom, our staffs should get together and talk through that.*

16. I understand that the idea for the work force campus [2.1.2.D, page 14] was reviewed by the Navy and was considered to be acceptable. Can you provide any further comments on this idea either in support of that proposal or concerning reservations with that proposal? *We noticed the Development District Master Plan speaks to 50 people per building when in fact the correct terminology should be 50 people per acre. You really need to look beyond the 4 walls of a building to make sure you set up the plan for compatibility with the AICUZ.*

17. In the past it was my understanding the Navy was considering moving the fence on the opposite side of their "Town Center". Does the possibility still exist? *In my opinion, moving the fence would promote a more open community, affording broader opportunities to shop and secure services. It is a possibility because there is a CO only here for 18 months; however, I do not currently support that plan because of its security requirements that we have and the reality is that the funding is not there. This is a major change in our perimeter that will affect a lot of transportation issues. The transportation improvement plan that we signed off on last year describes six entry control points which is idealistic in their planning. We are looking at the immediate vicinity and while the town center concept allows us to limit folks transitioning to the operational areas and it keeps most of our traffic circulating we are not in support of moving the fence.*

18. In your opinion do you believe the new "noise contours" will require a broader area of protection or perhaps an adjustment to building standards be necessary to address the

impact? *One of the things that just transitioned was the Navy made the decision that it would take responsibility for all enhanced use lease environmental assessments. Initially it was proposed in the request for qualifications to be a developer-borne cost, but the Navy since negotiated that it will take responsibility for this.* [This question was asked and answered twice during the meeting. Both answers were the same.]

19. Will the present program for EUL provide sufficient office space to meet the needs of Pax River for the foreseeable future? In general, what do you see as future needs, if any, for suitable office space (Class A) which can be provided off the base? If so what is the most desirable location for such office space. *The EUL is going to be one of the solutions for the Navy's current space requirements. The intergraded program and test teams, they represent a footprint which maximizes their efficiency and has generated some room for, at least, re-locatable space, and leases out in town. Their optimal arrangement is to be on the installation and to be located in a way that's conducive to their communications with the other test and design facilities. The EUL will be one of the systems that we use to meet this space requirement.*

Ms. Guazzo asked if there may be any potential upgrading of the naval systems over the next five years. *Most definitely; we just did a closed circuit television scan of our stormwater system and were looking for areas that may be compromised, particularly under the runway. I haven't had any negative reports on that to date.*

20. Does the Navy Command fully understand the implications of the reduced hours of operation of Gate 2? Further, do they understand there is a perception that Gate 2 will ultimately close permanently, and, as a result of the possible action, redevelopment will all but cease along Great Mills Road? *I understand that when you look at the effect on gate 3 and some of the reduced hours there. In 2012 and 2013 we faced a slowdown in a hiring of our security officers. That affected both the workforce we could put on patrol and at our gates. We were not able to hire to the extent that our standards said we needed to. Due to recent events (Navy Yard attack) security reviews are being done. I don't think this will create a huge funding stream for the hiring of security officers but we are seeing it move in a positive direction when it was at a standstill. Gate two does not provide the same security features that Gates 1 and 3 offer.*

While I understand not all decisions that affect NAWC and consequently St Mary's County are made locally, would you care to speculate if Gate 2 will be closed permanently in the future? *Gate 2 will continue to be utilized and will not be closed.*

21. It is a concern the pending JULUS study, due to be completed in mid-2014, may impact the LPDD Master Plan. Understanding. "We (you) don't know what we (you) don't know." Do you suggest moving forward with the master plan process as prudent, or do you believe there might be unforeseen issues arising affecting the plan? *It is prudent to continue planning and recognizing that if anyone has seen the promotional materials for the JLUS there's 24 feature subject areas and there's nothing new. But Pax is a unique place, with the dynamic of new platforms and the concentration by the water. I think the plans can still remain adaptable to an outcome because we will not be surprised by the JLUS outcome; but it will confirm and clarify those things that we were not entirely sure of. One of the questions was about new noise contours and from our prospective we have not. We know that there's always a good idea in understanding the current noise contours. As far as the main complex of the Naval Air Station here, those contours…I think that the joint strike fighter represents one of the noisier elements and as the Marine Corps version and its vertical short lead take off. I live on the base, and I was thankful that the wind was blowing from a particular direction on any given test day because it meant it was going to be on the other side of the base and not on my side of the base. Citizens living just outside gate 3 on any given day depending on which direction the wind is blowing, that's the direction the aircraft has to point when it's on its final approach and its pattern will shift north or south of the expeditionary area. In general the noise contours are….they're publically known and they're represented in the AICUZ study.*

22. What would you consider to be a good and compatible use for the Flat Tops property that is situated next to Lancaster Park? *Really we should look at the list of things that are already prescreened by the SLUCM tables. The AICUZ instruction gives us a menu of ideas. Services wise? The reality is that the open space, green space, park space are things that are desirable, and as they are made compatible with the AICUZ density and utilization requirements, they can represent a workforce.*

23. What is more supportive of the Navy's current and future mission: preserving Lexington Manor/Flat Tops as open space or developing the site as an AICUZ compliant employment campus for incubator businesses that support Pax River? *I believe the open space is a better buffer than an employment*

campus, but it really depends on the properties and the growth. The reality is that whenever you have employment, if there were something to go in and replace Millison Plaza, initially it would be AICUZ compliant. But as soon as you get successful business, it generates other opportunities. We pray for success, and then cautiously manage it.

24. If the Navy/DOD had to choose, would it prefer to preserve the Lexington Manor/Flat Tops site as open space or downzone and significantly decrease the historic intensity of development that currently exists in the AICUZ overlay zone today? [*This was answered in the question above.]*

25. What new DOD programs are being proposed or considered at Pax River over the next 5-10 years? Is the Base getting away from large aircraft programs and more into UAVs, cyber security and surveillance technology programs? Given the future direction of Pax River do you anticipate any changes to the current AICUZ overlay zone boundaries or Navy land use guidelines? *The aircraft that we see flying today such as the P-8 and E-6 and fighters like the Hornet will remain. The larger UAVs like the Triton will operate out of Pax River. The Fire Scout will operate out of Webster Field. What you have today is a program of record and I have not been informed of any new; I think that the smaller airframes will start to proliferate at Webster Field, and that's really what makes it important for us to consider, although we don't really meet the number of flight events that Webster Field has to really rate an AICUZ study. I think that would be a feature that would be very helpful for future planning. In the future we will work with the county to make sure we are making the right zoning decisions regarding Webster Field.*

26. While there is no requirement for the Navy to adhere to any county planning guidelines, it seems the area described as "Town Center" located inside the fence proximate to the area between Gate 1 and Gate 2 in general meets the definition of a Town Center as defined in our County Comprehensive Plan. Does the Navy have plans to continue the development of its Town Center as previously defined by the county plan? And #27 Can you update the Planning Commission concerning the plan to move the areas which protect vital resources and the community areas of the base? If so, what potential access will nonmilitary or government personnel have to those areas? And #28 What new support facilities (e.g., daycare, restaurants, Class A office space) are being considered on base in the next 5-10 years? *We had a visit from Commissioner President Jack Russell in the beginning of December and after the meeting we went to visit the Naval Health Clinic and the Navy Exchange, because these are two areas where there are proposals for some future construction. The Navy Exchange is more of a business, and its rate of retail sales allows it to expand by about one third in 2014. The Health Clinic represents a critical need as it was constructed in 1969 and right now not all services are under one roof. The physical therapy, pharmacy, and occupational health services are not located in this building. There was a housing area between Gates 1 and 2 which has been removed and deemed suitable for the Naval Health Clinic. The mission of the Naval Health Clinic is not going to change, and the current proposal has the new clinic being occupied in 2017. The Navy's objective is to cut costs, and it costs the Navy less money to provide services to eligible beneficiaries rather than sending beneficiaries out in public. We just opened our Child Development Center which had a waiting list of over 200 people. There will not be a dramatic change in the access. The only facility I would like to get a higher level of business at would be the River's Edge Restaurant and Catering Facility. We have long range plans out to 2035 to reorganize our standards of excellence rotary wing in the vicinity of the air traffic control tower. There is a proposal for a new bowling center, single screen theater and youth center; however, nothing is confirmed yet.*

29. Does the Navy intend to allow or provide transportation services on/off the Base? *Unfortunately, our base taxi service that was funded by public works was suspended about a year ago. While our users found the service to be convenient the cost was simply too high. This presents a challenge; however, I will continue to advocate for mass transit by meeting with the security department.*

30. As St Mary's continues to struggle to redevelop the downtown area of Lexington Park, it becomes increasingly necessary for the lines of communication between St Mary's County leadership and Navy leadership to be opened more broadly. Do you believe the current lines of communication between the Navy and St Mary's County, with regard to land use issues, are adequate? If not, how would you improve them? *I will continue engaging you in these venues; I appreciate the time the Commissioners give to meet with me. The Navy Alliance is a work horse for the good of the mission and the community. I'm a participant with Robin Finnacom on the Community Development Corporation and Economic Advisory Committee. There are a number of places locally and at the State level where we are staying engaged and communicating but at the staff level we also need to continue dialog about AICUZ with LUGM and Transportation Advisory Group which are all ways that are essential for us to stay connected. I think they are healthy relationships but they can improve.*

31. The County wants to protect the Navy's interest as well as our Community. Since we know that the Navy is the largest economic engine and employer for the County, is there anything that we can identify and/or consider in the [Lexington Park Master Plan] to help the Navy in that endeavor? *The AICUZ is mutually beneficial. All the guidelines of the AICUZ are designed to benefit the community and the mission. While they put before us some tough decisions, ultimately folks down the road 10-20 years will look back and be thankful that those tough decisions were made. Full knowledge of the AICUZ guidelines, the environmental action plan that's proposed for 2014 and the JLUS study are all ways that we will achieve a better outcome.*

32. What support facilities do you think the private section could provide outside of the gate to support Pax River? In your travels and experiences, what uses and support facilities are typical outside and around other bases similar to Pax River? *We struggle because there are limited food options on the base. This is a market driven question but from the base prospective we want a workforce that feels like they have a quality/safe environment in which to operate.*


AICUZ Building Inventory
THREE NOTCH
NORTH SHANGRI-LA
MILLISON
NORTH CORAL
GREAT MILLS
SOUTH SHANGRI-LA
SOUTH CORAL
TULAGI
LEI
SALAMAUA
MISIMA
WILLOWS
GAMBIER
MIDWAY
SUSAN
MARSHALL
FDR
01
02
03
04
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DLUGM 2014

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AICUZ Building Inventory 1/16/14

Building #	Stories	Square Footage
1	2	74,407
2	1	18,903
3	1	4,308
4	1	2,497
5	1	7,776
6	1	2,700
7	1	29,026
8	1	25,917
9	1	59,626
10	1	39,557
11	1	38,063
12	1	19,083
13	1	16,088
14	2	25,554
15	1	2,951
16	1	2,939
17	1	21,554
18	1	2,435
19	1	7,441
20	2	60,437
21	1	12,727
22	1	4,510
23	2	19,498
24	1	5,248
25	1	11,882
26	1	4,695
27	1	6,872
28	1	15,662
29	1	5,376
30	1	5,807
31	1	4,766
32	1	17,260
33	1	6,606
34	1	49,733
35	1	10,629
36	1	8,228

* Numbers are approximate and calculated per GIS layer AICUZ_buildings

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Building Envelope Analysis
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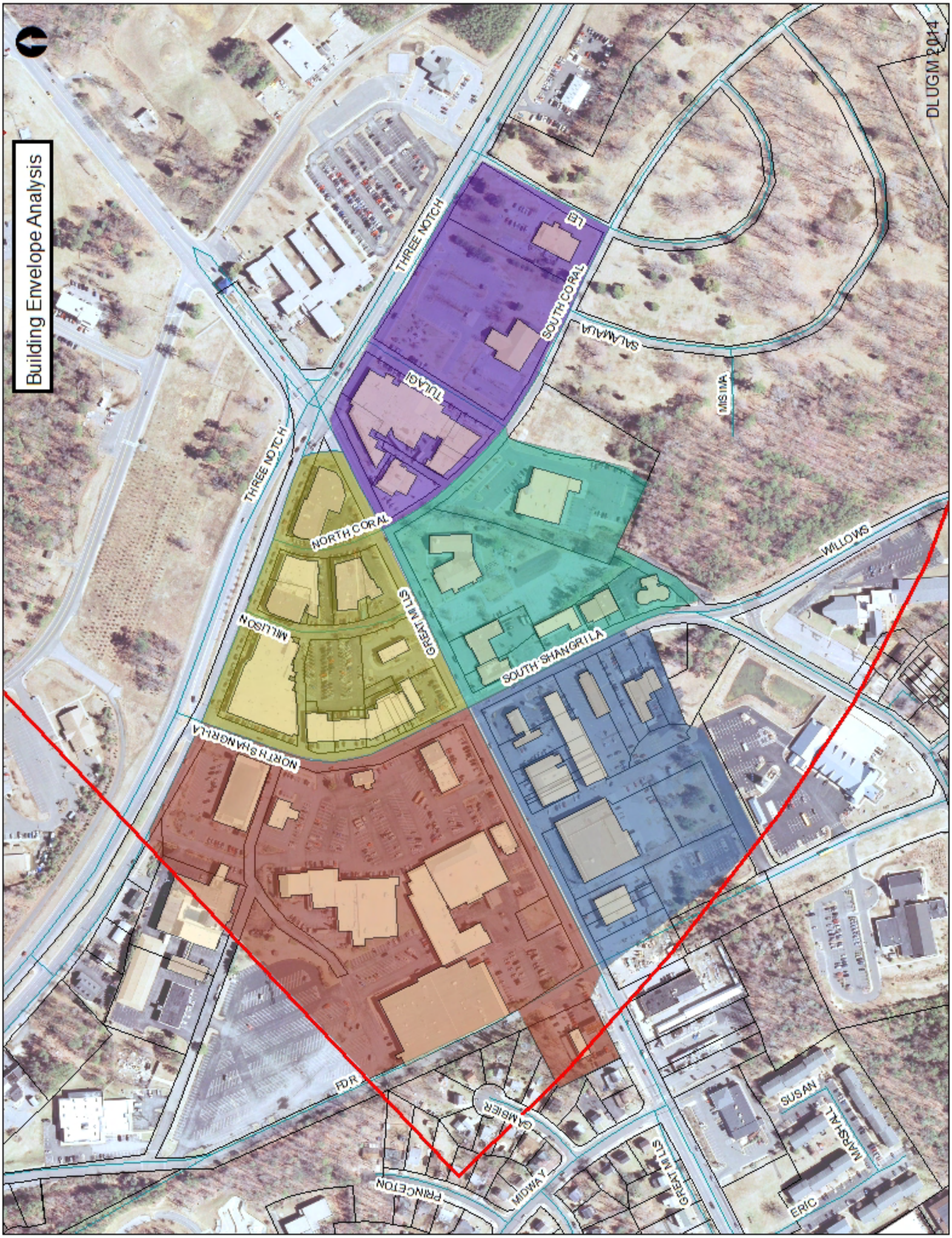
DLUGM 2014


Building Envelope Analysis
DLUGM 2014
THREE NOTCH
SOUTH CORAL
SALAMALA
MISIMA
TULASI
NORTH CORAL
WILLOWS
MILLISON
GREAT MILLS
SOUTH SHANGRI LA
NORTH SHANGRI LA
FDR
GAMBIER
PRINCETON
MIDWAY
SUSAN
MARSHALL
ERIC

Building Envelopes FAR 1/14/14

Building Envelope	Building Floor Area	Land Area	Acres	FAR	Base Floor Area Ratio
1	110,188	348,480	8	0.32	0.6
2	123,431	392,040	9	0.31	0.6
3	60,441	348,480	8	0.17	0.6
4	85,144	392,040	9	0.22	0.6
5	293,131	784,080	18	0.37	0.6

* Numbers are approximate and calculated per GIS layer AICUZ_buildings

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Lexington Park
Development District Master Plan
Analysis of Potential RMX Development within APZ-2

500 0 500 Feet

THREE NOTCH ROAD

FDR BOULEVARD

WILLOWS ROAD

S. SHANGRI LA ROAD

Each black outlined square represents actual allowable footprint of building area based on parcel size.

1) For clarity, multiple small parcels in common ownership have been consolidated.

2) Where FAR resulted in very large building footprints, the area was divided into multiple buildings having a total footprint equal to the total for the parcel.

3) The area depicted by the square(s) within parcel boundaries is equivalent to 0.15 FAR if building is story tall with a footprint in s.f. as noted.
   2 times this area horizontally or vertically equals 0.30 FAR
   3 times this area horizontally or vertically equals 0.45 FAR
   4 times this area horizontally or vertically equals 0.60 FAR

4) To facilitate comparison, existing building footprints are shown in grey.

Export_Output
Propertylines
AICUZ
LABELS
APZ-2
APZ-1

OWNERSHIP
- UNITED STATES OF AMERICA
- UNITED STATES POSTAL SERVICE
- STATE HIGHWAY ADMINISTRATION
- BOARD OF COUNTY COMMISSIONERS
- ST MARYS CO METROPOLITAN COMMISSIO
- BAY DISTRICT VFD INC (ReStore)
- BAY DISTRICT VOL FIRE DEPT INC
- ST MARY'S COUNTY COMMUNITY
- LEXINGTON PARK BAPTIST CHURCH
- LEXINGTON PARK METHODIST CHURCH
- FLEET RESERVE ASSN ANCHORAGE 93 IN
- Shared parking Easement
- 202 GREAT MILLS ROAD LLC
- COLE, PATRICIA ANN REVOCABLE TRUST
- CONNER, AMELIA H & STEPHEN R T/C
- GREER, JOHN D & KRIS L T/E
- JASBEN LLC
- JWP LLC
- MAYJACK INC
- MILLISON, RACHELLE TRUSTEE
- NELSON, MICHELLE J &
- NOKLEBY REAL ESTATE COMPANY LLC
- PASKOW, HOWARD B &
- PICKERAL, DOUGLAS WAYNE
- PUFFENBARGER, MARY A
- RALEY, JULIA M
- RALEYS INC
- SAINT ADAM PROPERTY MGT LLC
- TAYLOR, DAVID LAMAR &
- WHITLOW MARY R TRUST ET AL 1/2 INT

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Lexington Park
Development District Master Plan

Analysis of Potential RMX Development within APZ-2

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3) The area depicted by the squares within a parcels boundaries are equivalent to:
   0.15 FAR if building is 1 story tall (footprint in sq.ft as noted)
   0.30 FAR if building is 2 stories tall,
   0.45 FAR if building is 3 stories tall,
   0.60 FAR if Building is 4 stories tall.

FDR BOULEVARD

SHANGRI LA ROAD

WILLOWS ROAD

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Lexington Park
Development District Master Plan

Analysis of Potential RMX Development within APZ-2

500 0 500 Feet

FDR BOULEVARD

NOTCH ROAD

ROAD

SHANGRI LA ROAD

WILLOWS ROAD

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   0.45 FAR if building is 3 stories tall,
   0.60 FAR if Building is 4 stories tall.

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- TAYLOR, DAVID LAMAR &
- WHITLOW MARY R TRUST ET AL 1/2 INT

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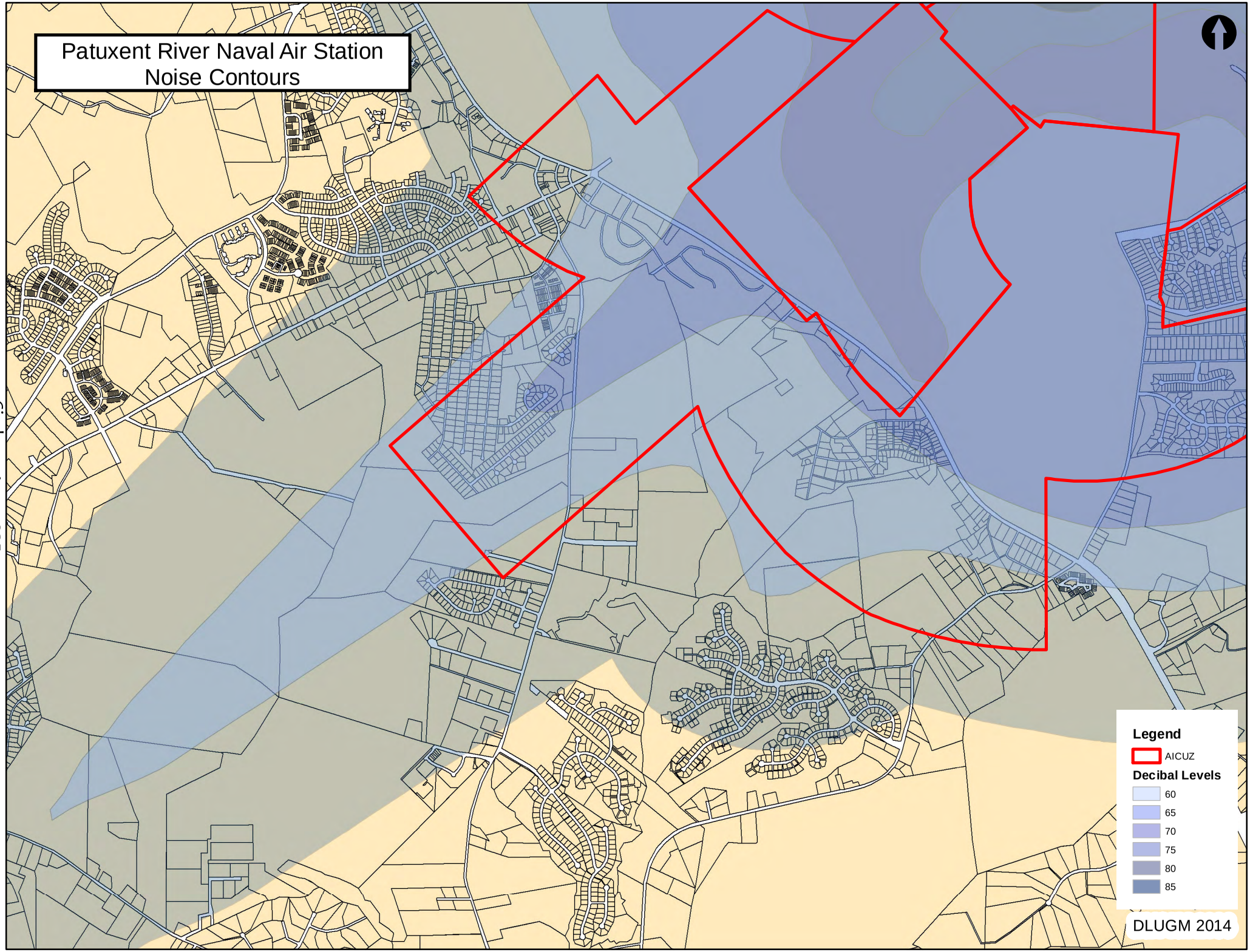

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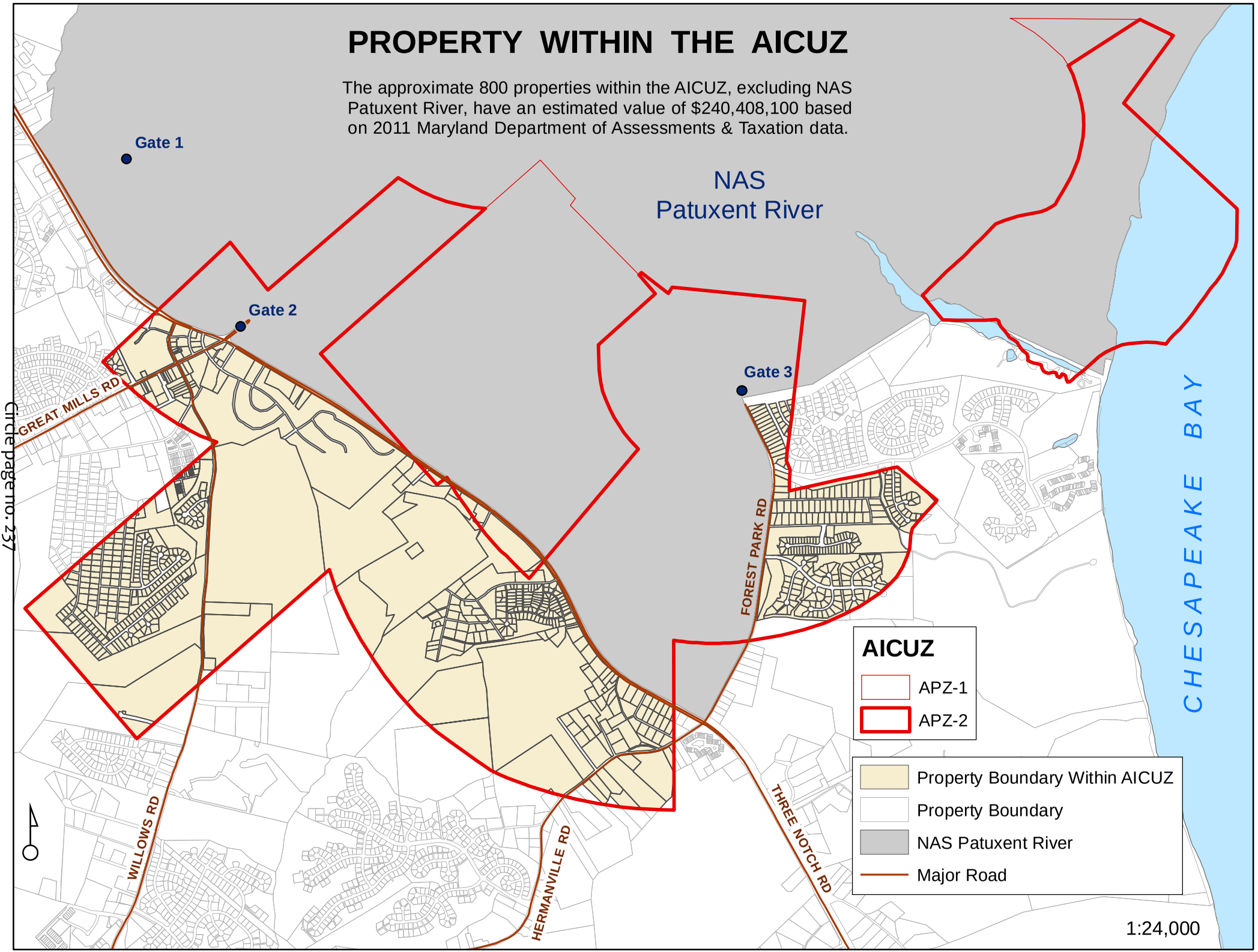
PROPERTY WITHIN THE AICUZ

The approximate 800 properties within the AICUZ, excluding NAS Patuxent River, have an estimated value of $240,408,100 based on 2011 Maryland Department of Assessments & Taxation data.



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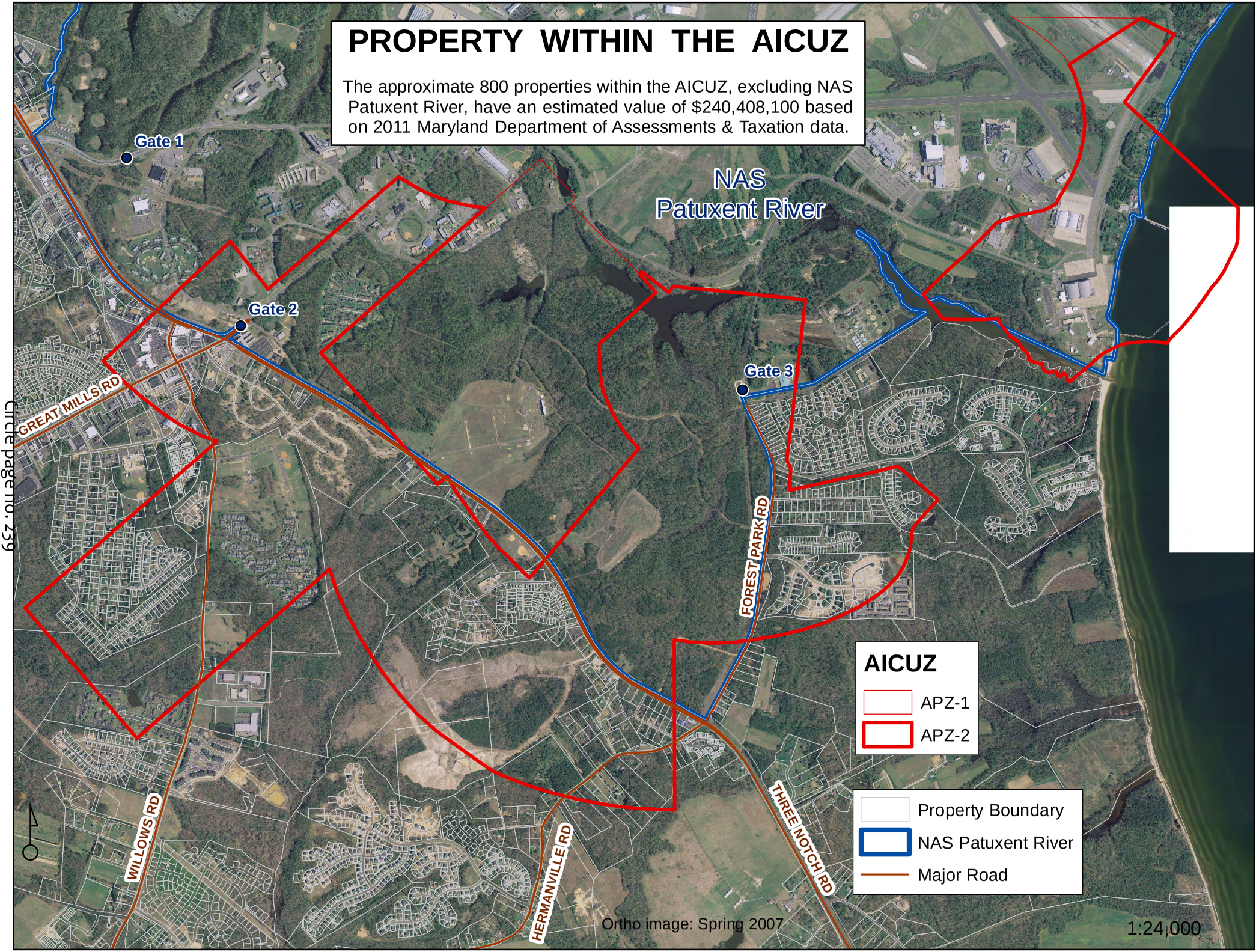

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APPENDIX 2

SAMPLE NOISE REDUCTION STANDARDS FOR RESIDENTIAL CONSTRUCTION

Source: "Eastern Carolina Joint Land Use Study, Prepared for Craven County, Carter County, City of Havelock, Town of Emerald Isle, Town of Bogue, Town of Atlantic, and MCAS Cherry Point by the Eastern Carolina Council, Region P Council of Governments; November 2002.

Note: Standards may differ by geographic region.

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Note: Standards may differ by geographic region.

SOUND INSULATION IN RESIDENTIAL STRUCTURES

DEFINITION

Sound insulation refers to the use of acoustical related building materials for the reduction of noise for architectural abatement purposes. These materials apply to any areas of a structure that may be part of a sound transmission path including windows, doors, roof systems, ventilation, wall systems (exterior), and utility access points through a building envelope.

CHARACTERISTICS

The application of sound insulation techniques can involve existing and/or planned structures or buildings. Often the benefits for noise control, such as double pane windows have additional benefits in terms of energy conservation and reduced heat loss. The primary objective of an airport sound insulation program is to reduce the sound transmission through the building envelope (e.g., exterior wall, window, and roof system), thereby having lower interior noise levels. The implementation of such a program may be the adoption of a building code or performance requirements established by a public agency.

POSITIVE FEATURES

The primary benefit of a sound insulation program is to protect the noise receiver, while they are indoors. Frequently, there are associated benefits of energy conservation when there is building insulation. Such efforts have the flexibility of applying to both existing structures, as well as buildings that will be constructed. Therefore, it can be more comprehensive than a building code. Since building codes generally are applicable only to planned or new structures.

NEGATIVE FEATURES

Sound insulation controls apply directly to a structure. Therefore it does not improve the outdoor environments, when the individual is outside the home. Often times, sound insulation is considered for selected areas or buildings, rather than being a comprehensive approach.

LEGAL STANDING

Sound insulation programs are frequently mandates for certain geographical areas as a policy of a jurisdiction with matching federal and local funds involved. Since a program is adopted by a jurisdiction it does represent legal standing.

Note: Standards may differ by geographic region.

Sound Attenuation ***Definitions***

DNL Day - Night Sound Level:
An average of the cumulative measure of the noise exposure during a 24-hour day.

Exterior Wall Rating:
EWR is a single-number rating for exterior building elements (such as walls, windows, doors, etc.) and represents the effective sound transmission loss capability, in decibels, of each element, It differs from the STC rating in that it is based on aircraft noise rather than office noise spectra. For this reason, EWR is superior to STC for describing the sound-insulating properties of exterior wall elements exposed to aircraft noise. The EWR concept was developed by Wylie Laboratories and has been used extensively in studies of residential sound insulation. It is conceptually similar to the STC rating method. Like TL and SIC, the higher the EWR value, the better the noise reduction.

Noise Reduction:
The quantitative measure of sound isolation between spaces is called Noise Reduction (NR). The NR between two spaces, such as from the exterior to the interior of a dwelling, depends on the TL of the various components in the separating wall, the area of the separating wall, and the acoustical absorption n the receiving room. This value takes more into account than just the sound transmission characteristics of the wall material. Generally, values of NR are determined in one-third octave bands. A higher NR gives a lower noise level in the receiving room, indicating greater noise insulation.

Noise Level Reduction:
NLR is used to describe the reduction of environmental noise sources, such as aircraft. Lt is a single-number metric based on values of A-weighted noise reduction (NR). The greater the sound insulation in a wall, the lower the noise level in the receiving room, giving a higher NLR. The NLR is useful because it is a simpler metric to use than NR; one number is easier to apply than a set of numbers in one-third octave bands. However some building materials and components are more effective at reducing low-frequency noise than other materials or components. Since aircraft noise contains a lot of low frequency sound, it is important to ensure that insulating materials and components perform well at low frequencies. NLR is a good indicator of overall wall performance but may not be appropriate when designing modifications for aircraft noise reduction, especially if a good NLR value disguises poor low frequency insulation.

Sound Transmission Class:
Since working with a series of one-third octave TL measurements can be cumbersome, a single number descriptor based on the one-third octave values has been developed. This rating method is called the Sound Transmission Class (STC). Like TL, the higher the STC rating for a construction method or component, the higher the sound insulation. Originally, STC ratings were developed as a single-number descriptor for the TL of

interior office walls for typical office noise and speech spectra. Now, they are used, often incorrectly, for exterior walls as well. Most acoustical materials and components are commonly specified in terms of their SIC ratings.

Sound Transmission Loss:
This is the physical measure, which describes the sound insulation value of a built construction system or component. It is a measure, on a logarithmic scale, of the ratio of the acoustic sound power incident on the tested piece to the acoustic sound power transmitted through it. The TL is expressed in decibels (dB). Generally, TL is measured as a function of frequency in one-third octave frequency bands. The higher the sound insulation, the less sound will be transmitted, resulting in a higher TL value. Values of TL are determined in acoustical laboratories under controlled testing methods prescribed by the American Society of Testing and Materials (ASTM).

Sound Insulation Objectives

The goal for residential sound insulation is to reduce the dwelling interior noise levels due to aircraft operations. Total "soundproofing" of the dwelling, such that aircraft operations are inaudible, is economically infeasible. Modest improvements over the existing characteristics (i.e. less than 5 dB) may not provide a noticeable improvement for the homeowner and hence are not cost effective. The ideal solution is to provide sound insulation, which lies between these two extremes.

Interior Noise Objectives

The DNL is the best predictor of overall long-term community reaction to noise from aircraft as well as other activities. Exterior noise exposure less than DNL 65 dB is normally considered compatible with residential land use. Noise exposure is normally incompatible above 65 dB unless stated noise reductions are achieved within the dwellings. A 25 dB NLR is required in the noise zone from 65 to 70 dB. From 70 to 75 dB, a 30 NLR is required. Above 75 dB, residential land use is generally deemed incompatible and should be discouraged.

Sometimes, the DNL noise reduction goal in habitable rooms is supplemented by a single-event noise level criterion. This Sound Exposure Level (SEL) reflects the annoyance associated with individual flyovers because of activity interference. The SEL goal is 65 dB in general living spaces and 60 dB in bedrooms and television viewing rooms. These criteria are only applied to homes within the DNL defined noise impact area, not to homes outside the 65 dB DNL contour boundaries.

To use the SEL interior noise criteria, the outside noise exposure level is compared to the interior goal For example, if the dwelling were between the SEL contour boundaries of 85 to 90 dB, then the required NLR to achieve 60 dB in a bedroom would be 30 dB. (The conservative upper bound of the noise zone is normally used to set NLR goals.)

Note: Standards may differ by geographic region.

Room Variations

The noise level of different rooms in a house depends on the absorption within the room, as well as on the noise entering from outside. Upholstered furniture, drapes, and carpeting absorb sound while hard surfaces do not. In addition, different categories of rooms vary on how predictable their sound environments are. Living rooms, for example, tend to be consistent from one house to another because they almost always have the same types of furnishings in them. Bedrooms vary because some are guest rooms with less furniture, and some have been converted to other uses. Kitchens tend to vary widely due to the use of different wall coverings, such as cabinets and appliances, or floor coverings, such as tile or carpet. These room variations act in addition to variation in exterior sound level and sound transmission through the outside wall.

Sound Insulation Concept

Sound Transmission

In order to effectively examine noise control measures for dwellings it is helpful to understand how sound travels from the exterior to the interior of the house. This happens in one of two basic ways: through the solid structural elements and directly through the air. Consider the sound transmission through a wall constructed with a brick exterior, stud framing, interior finish wall and absorbent material (insulation) in the cavity. The sound transmission starts with noise impinging on the wall exterior. Some of this sound energy will be reflected away and some will make the wall vibrate. The vibrating wall radiates sound into the airspace, which in turn sets the interior finish surface vibrating, with some energy lost in the airspace. This surface then radiates sound into the dwelling interior. Vibration energy also bypasses the air cavity by traveling through the studs and edge connections. Openings in the dwelling, which provide air infiltration paths through windows, vents, and leaks, allow sound to travel directly to the interior. This is a very common and often overlooked source of noise intrusion.

Flanking is a similar concept and usually refers to sound passing around a wall. Examples of common flanking paths include: air ducts, open ceiling or attic plenums, continuous sidewalls and floors, and joist and crawlspaces. The three different major paths for noise transmission into a dwelling are air infiltration through gaps and cracks, secondary elements such as windows and doors, and primary building elements such as walls and the roof.

Low-frequency sound is most efficiently transmitted through solid structural elements such as walls, roof, doors, and windows. High frequencies travel best through the air gaps. Within these broad categories, different building materials have different frequency responses to sound and varying abilities to insulate against sound.

Note: Standards may differ by geographic region.

Reducing Transmitted Sound

The amount of sound energy transmitted through a wall, roof or floor can be limited in several ways. First, all air infiltration gaps, openings, and possible flanking paths must be eliminated wherever possible. This is the single most important, but occasionally overlooked, step in noise reduction. This includes keeping windows and doors closed and putting baffles on open-air vents.

Some materials reflect more of the incident sound, converting less of it into vibration energy. The mass of the exterior and interior panels influences how much sound will pass through them. The more mass a structural element has the more energy it takes to set it into vibration, so adding weight to a wall or ceiling by attaching a gypsum board layer will make the assembly pass less sound. Then, absorption in the air cavity and resilient mounting of interior finish panels can further reduce the sound transmitted to the room. The primary approaches for improving sound isolation are:

1. Elimination of openings and flanking paths (when accessible).
2. Improvement of windows and doors.
3. Massive construction (build a wall 3 feet thick and 40 feet high around the whole house).
4. Isolation of panel elements through separation or resilient mounting.
5. Absorption.

Problem Areas

Sound intrusion problems are commonly caused by:

1. Building construction components and configurations not providing sufficient sound insulation.
2. Structural elements, such as windows, doors, walls, roofs and floors chosen and combined in an unbalanced way so that some parts are much weaker sound insulators than others.
3. Unintended openings or sound-flanking paths caused by deterioration or improper installation of construction elements.

Balanced Acoustical Design

The most important, or controlling, sound paths must be identified in order to know how to construct or modify a dwelling to meet a specified noise criteria. The ideal sound insulation design would achieve a condition where all the important sound paths transmit the same amount of acoustical energy. This eliminates any weak links in the building's insulation envelope and is commonly referred to as a balanced acoustical design.

Note: Standards may differ by geographic region.

In most cases, after leaks and gaps are sealed, the windows are the controlling sound paths. Replacing them with acoustical windows typically does more to improve the sound insulation performance than any other architectural modifications. Once this is done the other elements may become important in meeting specific noise reduction goals. Exterior doors often require improved sound insulation. Ceilings and walls, which face the exterior, may require modification as well, particularly in the higher DNL noise zone.

New Versus Old

Dwellings can vary in their sound isolation performance. Generally, air infiltration, and therefore sound infiltration, around windows and doors tends to be worse for older dwellings. Inadequate or deteriorated weather-stripping and misaligned framing usually cause this. On the other hand, most older construction techniques and materials tend to be more massive than newer lighter-weight construction. As a result, many older buildings tend to perform better with regard to sound transmission through walls, roofs, and floors than do new houses. Homeowner modifications can also degrade the dwelling's sound insulation performance. Examples include home improvements such as skylights, whole-house attic fans, through-the-wall air conditioners, and solariums. In general, it is much more efficient, and cost effective, to take acoustic performance into account when designing and building a home at the start. Remodeling an already built home is more costly and time consuming than anticipating and building for good sound insulation.

While homes, which are well insulated thermally, often perform well acoustically, thermal insulation is not always a good indicator of sound insulation. Many thermal windows, installed in new construction or added as a homeowner upgrade provide little sound insulation when compared to walls or acoustical windows and are frequently the weak link in the building envelope. However thermal treatments usually eliminate air infiltration and may serve to improve the acoustical performance of a dwelling. Thermal insulation batts are often useful in the wall cavities and attic spaces to absorb some sound.

The North Carolina State Building Code requires homes to meet certain R-Values for thermal performance. These requirements have changed through the years requiring higher R-Values in the more recent homes. The thickness or the density of the product normally determines the R-Value of the insulation. Older homes have less insulation and are subject to more noise infiltration. Currently, the Building Code requires R-13 in the walls, R-19 in the floors and R-30 in the ceilings.

Most homes today are constructed using double pane windows. Although the windows perform well thermally, they usually do not perform well acoustically. The panes are separated by approximately % inch of air space and thin panes of glazing are used. The thin panes of glazing allow for vibration and the vibrations are transmitted through the

Note: Standards may differ by geographic region.

air space to the interior glazing and into the home.

Recommended Building Requirements

Recommended Building Requirements for a Minimum NLR of 25 dB Compliance with the following standards shall be deemed to meet the requirements of the compatible use districts in which an NLR 25 is specified.

General:

a. Brick veneer, masonry blocks, or stucco exterior walls shall be constructed airtight. All joints shall be grouted or caulked airtight, except weep holes for drainage.
b. At the penetration of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked or filled with mortar.
c. Window and/or through-the-wall ventilation units shall not be used.
d. Through-the-wall/door mailboxes shall not be used.

Exterior Walls:

a. Exterior walls other than as described in this section shall have a laboratory sound transmission class rating of at least STC-39.
b. Masonry walls having a surface weight of at least 25 pounds per square foot do not require a furred (stud) interior wall. At least one surface of concrete block walls shall be plastered or painted with heavy "bridging" paint.
c. Stud walls shall be at least 4" in nominal depth and shall be finished on the outside with siding-on-sheathing, stucco, or brick veneer.

   (1) Interior surface of the exterior walls shall be of gypsum board or plaster at least 1/2" thick, installed on the studs.

   (2) Continuous composition board, plywood, or gypsum board sheathing at least 1/2" thick shall cover the exterior side of the wall studs behind wood or metal siding. Asphalt or wood shake shingles are acceptable in lieu of siding.

   (3) Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper. The top and bottom edges of the sheathing shall be sealed.

   (4) Insulation material at least 2" thick shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.

Note: Standards may differ by geographic region.

Windows:

a. Windows other than as described in this section shall have a laboratory sound transmission class rating of at least STC-28.
b. Glass shall be at least 3/16" thick.
c. All operable windows shall be weather stripped and airtight when closed so as to conform to an air infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTM E-283-65-T.
d. Glass of fixed-sash windows shall be sealed in an airtight manner with a non-hardening sealant, or a soft elastomer gasket, or glazing tape.
e. The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal Specifications: TT-S-00227, TT-S-00230, or TT-S-00153.
f. The total area of glass in both windows and doors in sleeping spaces shall not exceed 20% of the floor area.

Doors:

a. Doors, other than as described in this section shall have a laboratory sound transmission class rating of at least STC-28.
b. All exterior side-hinged doors shall be solid-core wood or insulated hollow metal at least 1-3/4" thick and shall be fully weather-stripped.

c. Exterior sliding doors shall be weather stripped with an efficient airtight gasket system. The glass in the sliding doors shall be at least 3/16" thick.
d. Glass in doors shall be sealed in an airtight non-hardening sealant, or in a soft elastomer gasket or glazing tape. The perimeter of doorframes shall be sealed airtight to the exterior wall construction.

Roofs:

a. Combined roof and ceiling construction other than described in this section shall have a laboratory sound transmission class rating of at least STC-39.
b. With an attic or rafter space at least 6" deep, and with a ceiling below, the roof shall consist of closely butted 1/2" composition board, plywood, oriented strand board or gypsum board sheathing, topped by roofing as required.
c. If the underside of the roof is exposed, or if the attic or rafter spacing is less than 6", the roof construction shall have a surface weight of at least 25 pounds per square foot. Rafters, joists, or other framing may not be included in the surface weight calculation.
d. Window or dome skylights shall have a Laboratory sound transmission class rating of at least STC-28.

Note: Standards may differ by geographic region.

Ceilings:

a. Gypsum board or plaster ceilings at least1/2" thick. Ceilings shall be substantially airtight, with a minimum number of penetrations.
b. Glass fiber or mineral wool insulation at least 2" thick shall be provided above the ceiling between joists.

Floors:

Openings to any crawl spaces below the floor of the lowest occupied rooms shall not exceed 2% of the floor area of the occupied rooms.

Ventilation:

a. A mechanical ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirements for various uses in occupied rooms without the need to open any windows, doors, or other openings to the exterior.
b. Gravity vent openings in attic shall not exceed code minimum in number and size.
c. If a fan is used for forced ventilation, the attic inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with coated glass fiber 1" thick, and shall be at least 5 ft long with one 90 degree bend.
d. All vent ducts connecting the interior space to the outdoors, except domestic range exhaust ducts, shall contain at least a 5 ft. length of internal sound absorbing duct lining. Each duct shall be provided with a bend in the duct such that there is no direct line of sight through the duct from the venting cross section to the room-opening cross section.
e. Duct lining shall be coated glass fiber duct liner at least 1" thick.
f. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a baffle plate across the exterior termination, which allows proper ventilation. The dimensions of the baffle plate should extend at least one diameter beyond the line of sight into the vent duct. The baffle plate shall be of the same material and thickness as the vent duct material.
g. Fireplaces shall be provided with well-fitted dampers.

Recommended Building Requirements for a Minimum NLR of 3OdB Compliance with the following standards shall be deemed to meet the requirements of the compatible use districts in which an NLR 30 is specified.

General:

a. Brick veneer, masonry blocks, or stucco exterior walls shall be constructed airtight. All joints shall be grouted or caulked airtight.

Note: Standards may differ by geographic region.

b. At the penetration of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked or filled with mortar.
c. Window and/or through-the-wall ventilation units shall not be used.
d. Operational fireplaces shall not be used.
e. All sleeping spaces shall be provided with either a sound absorbing ceiling or a carpeted floor.
f. Through-the-wall/door mailboxes shall not be used.

Exterior Walls:

a. Exterior walls, other than as described below, shall have a laboratory sound transmission class rating of at least STC-44.
b. Masonry walls having a surface weight of at least 40 pounds per square foot do not require a furred (stud) interior wall. At least one surface of concrete block walls shall be plastered or painted with heavy "bridging" paint.
c. Stud walls shall be at least 4" in nominal depth and shall be finished on the outside with siding-on-sheathing, stucco, or brick veneer.

    (1) Interior surface of the exterior walls shall be of gypsum board or plaster at least 1/2" thick, installed on the studs. The gypsum board or plaster may be fastened rigidly to the studs if the exterior is brick veneer or stucco. If the exterior is siding-on-sheathing, the interior gypsum board or plaster must be fastened resiliently to the studs.
    (2) Continuous composition board, plywood or gypsum board sheathing shall cover the exterior side of the wall studs behind wood or metal siding. The sheathing and facing shall weigh at least 4 pounds per square foot.
    (3) Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper. The top and bottom edges of the sheathing shall be sealed.
    (4) Insulation material at least 2" thick shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.

Windows:

a. Windows, other than as described in this section, shall have a laboratory sound transmission class rating of at least STC-33.
b. Glass of double-glazed windows shall be at least 1/8" thick. Panes of glass shall be separated by a minimum 3/4" air space.
c. Double-glazed windows shall employ fixed sash or efficiently weather-stripped operable sash. The sash shall be rigid and weather-stripped with material that is compressed air tight when the window is closed so as to conform to an infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTM E-283-65-T.
d. Glass of fixed-sash windows shall be sealed in an airtight manner with a non-

hardening sealant, or a soft elastomer gasket, or glazing tape.

e. The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal Specifications: TT-S-00227, TT-S-00230, or TT-S-00153.
f. The total area of glass of both windows and exterior doors in sleeping spaces shall not exceed 20% of the floor area.

Doors:

a. Doors, other than as described in this section, shall have a laboratory sound transmission class rating of at least STC-33.
b. Double door construction is required for all door openings to the exterior. Openings fitted with side-hinged doors shall have one solid-core wood or insulated hollow metal core door at least 1-3/4" thick, separated by an airspace of at least 4" from another door, which can be a storm door. Both doors shall be tightly fitted and weather-stripped.
c. The glass of double-glazed sliding doors shall be separated by minimum 3/4" airspace. Each sliding frame shall be provided with an efficiently airtight weather stripping material.
d. Glass of all doors shall be at least 3/16" thick. Glass of double sliding doors shall not be equal in thickness.
e. The perimeter of doorframes shall be sealed airtight to the exterior wall construction.
f. Glass of doors shall be set and sealed in an airtight, non-hardening sealant, or a soft elastomer gasket, or glazing tape.

Roofs:

a. Combined roof and ceiling construction other than described in this section shall have laboratory sound transmission class rating of at least STC-44.
b. With an attic or rafter space at least 6" deep, and with a ceiling below, the roof shall consist of closely butted 1/2" composition board, plywood, oriented strand board or gypsum board sheathing topped by roofing as required.
c. If the underside of the roof is exposed, or if the attic or rafter spacing is less than 6", the roof construction shall have a surface weight of at least 40 pounds per square foot. Rafters, joists or other framing may not be included in the surface weight calculations.
d. Window or dome skylights shall have a laboratory sound transmission class rating of at least STC-33.

Ceilings:

a. Gypsum board or plaster ceilings at least 1/2" thick shall be provided
b. Glass fiber or mineral wool insulation at least 2" thick shall be provided above the ceiling between joists.

Note: Standards may differ by geographic region.

Floors:

a. The floor of the lowest occupied rooms shall be slab on fill, below grade, or over a fully enclosed basement. All door and window openings in the fully enclosed basement shall be tightly fitted.

Ventilation:

a. A mechanical ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirements for various uses in occupied rooms without the need to open any windows, doors, or other openings to the exterior.
b. Gravity vent openings in attic snail not exceed code minimum in number and size. The openings shall be fitted with transfer ducts at least 3 ft in length containing internal sound absorbing duct lining. Each duct shall have a lined 90-degree bend in the duct such that the line of sight is interrupted from the exterior through the duct into the attic.
c. If a fan is used for forced ventilation, the attic inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with coated glass fiber 1" thick, and shall be at least 5 ft long with one 90 degree bend.
d. All vent ducts connecting the interior space to the outdoors, except domestic range exhaust ducts shall contain at least a 10 ft. length of internal sound absorbing duct lining. Each duct shall be provided with a lined 90-degree bend in the duct such that there is no direct line of sight through the duct from the venting cross section to the room opening cross section.
e. Duct lining shall be coated glass fiber duct.
f. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a baffle plate across the exterior termination, which allows proper ventilation. The dimensions of the baffle plate should extend at least one diameter beyond the line of sight into the vent duct. The baffle plate shall be made of the same material and thickness as the vent duct material.
g. Building heating units with flues or combustion air vents shall be located in a closet or room closed off from the occupied space by doors.
h. Doors between occupied space and mechanical equipment areas shall be solid core wood or 20 gauge steel hollow metal at least 1-3/4" thick and shall be fully weather-stripped.

Recommended Building Requirements for a Minimum NLR of35dB Compliance with the following standards shall be deemed to meet the requirements of the compatible use districts in which an NLR 35 is specified

General:

a. Brick veneer, masonry blocks or stucco exterior walls shall be constructed

airtight. All joints shall be grouted or caulked airtight.

b. At the penetration of exterior walls by pipes, ducts or conduits, the space between the wall and pipes, ducts or conduits shall be caulked or filled with mortar.
c. Window and/or through-the-wall ventilation units shall not be used.
d. Operational vented fireplaces shall not be used.
e. All sleeping spaces shall be provided with either a sound absorbing ceiling or a carpeted floor.
f. Through-the-wall/door mailboxes shall not be used.
g. No glass or plastic skylight shall be used.

Exterior Walls:

a. Exterior walls other than as described below shall have a laboratory sound transmission class rating of at least STC-49.
b. Masonry walls having a surface weight of at least 75 pounds per square foot do not require a furred (stud) interior wall. At least one surface of concrete block walls shall be plastered or painted with heavy "bridging" paint.
c. Stud walls shall be at least 4" in nominal depth and shall be finished on the outside with siding-on-sheathing, stucco, or brick veneer.

(1) Interior surface of the exterior walls shall be of gypsum board or plaster at least 1/2" thick, installed on studs, The gypsum board or plaster may be fastened rigidly to the studs if the exterior is brick veneer. If the exterior is stucco or siding-on-sheathing, the interior gypsum board or plaster must be fastened resiliently to the studs.
(2) Continuous composition board, plywood or gypsum board sheathing shall cover the exterior side of the wall studs behind wood or metal siding. The sheathing and facing shall weigh at least 4 pounds per square foot.
(3) Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper. The top and bottom edges of the sheathing shall be sealed.
(4) Insulation material at least 3-1/2" thick shall be installed continuously through the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.

Windows:

a. Windows other than as described in this section shall have a laboratory sound transmission class rating of at least STC-38.
b. Glass of double-glazed windows shall be at least 1/8" thick; Panes of glass shall be separated by a minimum 3/4" air space and shall not be equal in thickness.
c. Glass of windows shall be sealed in an airtight manner with a non-hardening sealant, or a soft elastomer gasket or glazing tape.

Note: Standards may differ by geographic region.

d. The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal Specifications: TT-S-00227, TT-S-00230, or TT-S-00153.
e. The total area of glass of both windows and exterior doors in sleeping spaces shall not exceed 20% of the floor area.

Doors:

a. Doors, other than as described in this section, shall have a laboratory sound transmission class rating of at least STC-38.
b. Double door construction is required for all door openings to the exterior. The door shall be side-hinged and shall be solid-core wood or insulated hollow metal, at least 1-3/4" thick, separated by a vestibule at least 3 ft in length. Both doors shall be tightly fitted and weather-stripped.
c. The perimeter of doorframes shall be sealed airtight to the exterior wall construction.

Roofs:

a. Combined roof and ceiling construction other than described in this section and Section 3-7 shall have a laboratory sound transmission class rating of at least STC-49.
b. With an attic or rafter space at least 6" deep, and with a ceiling below, the roof shall consist of closely butted 1/2" composition board, plywood, oriented strand board or gypsum board sheathing topped by roofing as required.
c. If the underside of the roof is exposed, or if the attic or rafter spacing is less than 6" the roof construction shall have a surface weight of at least 75 pounds per square foot. Rafters, joists or other framing may not be included in the surface weight calculation.

Ceilings:

a. Gypsum board or plaster ceilings at least 1/2" thick shall be provided where required by Paragraph 3-6. Ceilings shall be substantially airtight, with a minimum number of penetrations. The ceiling panels shall be mounted on resilient clips or channels. A non-hardening sealant shall be used to seal gaps between the ceiling and walls around the ceiling perimeter.
b. Glass fiber or mineral wool insulation at least 3 1/2" thick shall be provided above the ceiling between joists.

Floors:

The floors of the lowest occupied rooms shall be slab on fill or below grade.

Note: Standards may differ by geographic region.

Ventilation:

a. A mechanical ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirements for various uses in occupied rooms without need to open any windows, doors, or other openings to the exterior.
b. Gravity vent openings in attic shall not exceed code minimum in number and size. The opening shall be fitted with transfer ducts at least 6 ft. in length containing internal sound absorbing duct lining. Each duct shall have a lined 90-degree bend in the duct such that there is no direct line of sight from the exterior through the duct into the attic.
c. If a fan is used for forced ventilation, the attic inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with 1" thick coated glass fiber, and shall be at least 10 ft long with one 90 degree bend.
d. All vent ducts connecting the interior space to the outdoors, excepting domestic range exhaust ducts, shall contain at least a 10 ft length of internal sound absorbing duct lining. Each duct shall be provided with a lined 90-degree bend in the duct such that there is no direct line of sight through the duct from the venting cross section to the room-opening cross section.
e. Duct lining shall be coated glass fiber duct liner at least 1" thick.
f. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a baffle plate across the exterior termination, which allows proper ventilation. The dimensions of the baffle plate should extend at least one diameter beyond the line of sight into the vent duct. The baffle plate shall be of the same material and thickness as the vent duct material.
g. Building heating units with flues or combustion air vents shall be located in a closet or room
closed off from the occupied space by doors.
h. Doors between occupied space and mechanical equipment areas shall be solid core wood or 20 gauge steel hollow metal at least 1-3/4" thick and shall be fully weather-stripped.

Methods for Exterior Wall Sound Insulation in New Homes

Typically, most wall construction consists of a 3.5-inch stud cavity with studs spaced 16 inches on center, %-inch gypsum drywall on the interior, 7/16 structural sheathing on the exterior and either siding or brick veneer as the finish on the exterior, Consider using the construction techniques below:

1. Increase the wall stud cavity to 5.5-inches, spaced 24 inches on center. The increased depth of the stud cavity will allow for the installation of R-1 9 insulation.

2. When considering the type of insulation material, consider using cellulose insulation material. This material is of a higher density. The method of installation

is a spray method that tends to completely fill the cavity without voids.

3. Prior to the installation of insulation material in the walls, seal all penetrations through the top and bottom plates. Remember if air can enter, so can sound. Seal all penetrations through the bottom plate with caulk. Seal all penetrations through the top plate with caulking materials meeting the requirements of ASTM E-136. Sealing the penetrations is a requirement of the North Carolina State Building Code.

4. Increase the thickness of the interior wall finish from 1/2-inch to 5/8-inch gypsum wallboard.

5. Caulk around all openings through the drywall such as receptacles, switches, plumbing drains, etc.

6. Increase the thickness of the exterior sheathing material to 5/8-inch or thicker material.

7. Consider using brick veneer instead of siding material for the exterior finish. Insure at least a one-inch air space between the brick veneer and the siding.

8. If siding is to be used, avoid using vinyl siding. Choose siding with a higher density such as Hardiplank, or wood siding. Install 30-pound felt between the siding and sheathing lapped 2 inches on horizontal joints and 6 inches on vertical joints.

9. If vinyl siding is a must, install 1/4-thick fanfold insulation board between the siding and sheathing.

10. Avoid large openings or breaks in continuity in the walls, such as large windows.

11. Install bathroom vent and kitchen hood vents on the side of the home away from the flight track. Make sure that vent terminations have an automatic closure on the end. Always use metal pipe for the vent pipe.

Methods for Improving Attic and Ceiling Sound Insulation In New Homes

1. Consider using energy trusses. Energy trusses allow for the installation of ceiling insulation to a full depth along the plate lines at exterior walls.

2. Install baffles on attic vents where practical.

3. Install acoustically absorptive material to a thickness equal to R-38 to the attic space to reduce reverberant sound level buildup. Apply material evenly throughout the attic space, taking care to keep it away from eave vents and

Note: Standards may differ by geographic region.

openings. Consider the use of cellulose insulation. This material fills the cavity without leaving voids in the material and is of a higher density than fiberglass.

4. Install 5/8-inch gypsum board as the interior ceiling finish.

5. Caulk around all penetrations through the ceiling membrane such as light fixtures.

6. Avoid the use of "can-type — recessed light" light fixtures.

7. Avoid the use of true exposed wood beams on the ceiling. This creates a continuous path for sound through the ceiling structure.
8. Avoid the use of whole house exhaust fans in the ceiling.

Methods for Improving Floor Sound Insulation In New Homes

1. Install R-30 insulation batts between the joists. The North Carolina State Building Code requires R-19.

2. Seal all penetrations through the floor assembly such as Heating and Air Conditioning supplies; exhaust ducts such as down draft exhaust from dryers and ranges, etc.

3. Install foundation vents of the swing cover awning type instead of the horizontal slider type.

4. Consider a sealed crawlspace and insulate the foundation walls, If this method is chosen, caulk between the mudsill and the foundation.

Methods for Improving Window Sound Insulation in New Homes

1. The most effective method of reducing sound transmission by a window is by increasing thickness of the glass panes. Basically, thicker is better. Thicker glass tends to bend less, and therefore vibrates less when exposed to sound waves. Using 6mm glass combinations or laminated glass is the simplest, most cost effective method of reducing sound transmission.

2. When choosing windows for your new home remember windows are generally the weakest link in sound attenuation

3. Choose windows that are double-glazed with panes at least 3/16 inch thick. Windows shall be double glazed with panes at least three/sixteenths inch ***(3/16")*** thick. Panes of glass should be separated by a minimum one-half inch ***(1/2")***

Note: Standards may differ by geographic region.

airspace, and should not be equal in thickness.

4. Double glazed windows should employ fixed sash or efficiently weather-stripped, operable sash. The sash shall be rigid and weather-stripped with material that is compressed airtight when the window is closed.

5. Glass should be sealed in an airtight manner with a non-hardening sealant or a soft
elastomer gasket or gasket tape.

6. The perimeter of the window frames should be sealed airtight to the exterior wall construction with a sealant. The usual installation of windows employs stuffing the void between the window and framing with fiberglass insulation. The use of a sealant on top of the insulation material acts as an air infiltration barrier. Insulation by itself is not a good air infiltration barrier. Remember, if air can pass through, so can sound.

7. Avoid large picture windows and sliding glass doors on sides of the dwelling, which face the flight track.

Methods for Improving Door Sound Insulation in New Homes

1. Double door construction should be considered for all hinged door openings to the exterior. Such doors should be side hinged and shall be solid core wood or insulated hollow metal at least one and three-fourths inch (1-3/4") thick separated by an airspace of at least three inches (3") from another door, storm door. Both doors shall be tightly fitted and weather-stripped.

2. All doors, shall be at least three-sixteenths (3/16") thick. Glass of double sliding doors shall not be of equal thickness.

3. The perimeter of doorframes shall be sealed airtight to the exterior wall construction (framing). Stuff the gap between the doorframe and the framing with insulation and seal with a non-hardening caulk. Remember, if air can pass through, so can sound.

4. Glass in doors should be sealed in an airtight non-hardening sealant or in a soft elastomer gasket or gasket tape.

Methods for Improving Sound Insulation in Existing Homes

The best time to consider sound attenuation is during the construction of new homes. Retrofitting an existing home for sound attenuation can be costly. If one is considering retrofitting for sound attenuation, it is best done during a planned renovation project. As mentioned earlier in this guide, windows are generally the weakest link in sound

attenuation. Some of the simpler and easiest ways to attain sound attenuation is by a combination of the following:

1. Add insulation in the attic to an overall R-Value thickness of R-38.

2. Caulk around all penetrations through the interior finishes. (Receptacles, light fixtures, plumbing drains, etc.)

3. Install single pane storm windows over existing single pane windows.

4. Install weather-stripping on all doors.

5. Employ any of the methods described in Methods for Improving Sound Attenuation in New Homes as the project allows.

Methods of Noise and Vibration Control In Residential HVAC Systems

1. Mount the motor/fan at grade level on factory-supplied vibration isolators to minimize vibration transmitted to the house.

2. If fans or other pieces of equipment are located in the attic, use mounting bases and vibration isolators to reduce structure borne noise and vibration transmission.

3. Install flexible duct connectors to limit vibration transmitted to the ductwork or the dwelling structure.

4. Use standard sheet metal ductwork in attics and crawlspaces. Ductwork is exposed to higher levels of aircraft noise in these spaces. Do not use flexible ductwork in attic spaces since it does not have as good sound-insulating properties as standard sheet metal.

5. Supply grilles in rooms should be of the opposed-blade type and be designed for low noise.

6. A duct sound trap (muffler) should be installed just inside the fresh-air inlet opening. The sound trap will reduce any aircraft noise that passes through this opening and will eliminate the possibility of aircraft noise being transmitted via the duct path.

Note: Standards may differ by geographic region.

COMPARISON OF COMPONENTS FOR SOUND ATTENUATION

Component	*Regular*	*Sound Attenuation*
Door		
3/0 X 6/8 insulated embossed 6 panel exterior steel door	$ 175.00	175.00
Windows Length X Width United Inch = UI Windows compared are 1 over 1 with grids		
Up to 64 UI	$214.00	$222.90
64 to 69 UI	$231.20	$241.10
69 to 74 UI	$248.40	$259.30
74 to 79 UI	$ 265.60	$ 277.40
79 to 84 U1	$282.80	$295.60
84 to 89 UI	$ 300.20	$ 314.00
89 to 94 UI	$317.30	$332.00
94 to 99 U1	$334.50	$350.30
99 to 104 UI	$352.00	$368.00
Over IO4 UI	$3.52 per UI	$3.68perUi
Insulation/Sound Batting Walls		
3.5inch stud cavity: R-13 Fiberglass Batt	$ 0.36 psf	$0.36 psf
3.5inch stud cavity: R-13 Cellulose Sprayed	$ 0.70	$0.70 psf
5.5inch stud cavity: R-19 Fiberglass Batt	$ 0.39	$0.39 psf
5.5inch stud cavity: R-19 Cellulose Sprayed	$ 0.90	$ 0.90 psf
Insulation/Sound Batting Ceilings		
R-30 Fiberglass Batt	$ 0.61 psf	$ 0.61 psf
R-38 Fiberglass Batt	$ 0.80 psf	$ 0.80 psf
R-30 Fiberglass Blown	$ 0.40 psf	$ 0.40 psf
R-38 Fiberglass Blown	$ 0.50 psf	$ 0.50 psf
R-30 Cellulose Sprayed	$ 0.32 psf	$ 0.32 psf
R-38 Cellulose Sprayed	$ 0.42 psf	$ 0.42 psf
Drywall		
1/2 inch X 4 ft. X 12 ft.	$ 8.98 per sheet	$ 8.98 per sheet
5/8 inch X 4 ft X 12 ft.	$10.56 per sheet	$ 10.56 per sheet
Miscellaneous		
Seal/Caulk around 3/0 X 5/0 window with non-hardening caulk assuming 3/8-inch crack		$ 5.00 per window
Seal/Caulk around 3/0 X 6/8 doors with non-hardening caulk assuming 3/8-inch crack		$ 6.00 per door
Insulate metal exhaust duct on exterior of duct		$ 2.50 per foot

Values in this table are for comparison only and are not intended to be a guaranteed price quote for any product.

Note: Standards may differ by geographic region.

Inventory of Tenants in the DMX/APZ Zone by Envelope and Building

Envelope

1 (Yellow)	Bldg #	Address / Unit Number	Tenant	Use/ Compat.	Max FAR
	11	21801 N. Shangri La Drive / B	ASEC	63/ B	/ 0.22
	11	21801 N. Shangri La Drive / C	The Book Store	40/ A	/ 0.16
	11	21801 N. Shangri La Drive / D	ASEC	63/ B	/ 0.22
	11	21801 N. Shangri La Drive / E	ASEC	63/ B	/ 0.22
	11	21801 N. Shangri La Drive / G	Morgan's Barber Shop	65/ B	/ 0.22
	11	21815 Millison Lane /	VACANT	Vac/ -	/ 0
	11	21815 Three Notch Road / B	Prometheus	63/ B	/ 0.22
	11	21815 Three Notch Road / J	Solute Consulting	63/ B	/ 0.22
	11	21815 Three Notch Road /	Bay Communication Support Services	63/ B	/ 0.22
	11	21815 Three Notch Road /	H&R Block	63/ B	/ 0.22
	11	21801 N. Shangri La Drive / A	ASEC	63/ B	/ 0.22
	12	21797 N. Coral Drive / D	Toby's Barber	65/ B	/ 0.22
	12	21880 Millison Lane / C	United Christian Church	38/ C	/
	12	21880 Millison Lane / B	Donna White Piano	64/ B	/ 0.22
	12	21803 Three Notch Road / A	Florida Institute of Technology	63/ B	/ 0.22
	12	21797 N. Coral Drive / C	Inventive Systems	63/ B	/ 0.22
	12	21797 N. Coral Drive / B	Mixing Bowl	73/ C	/
	12	21880 Millison Lane / A	Bunny Bailey Dance Studio	64/ B	/ 0.22
	13	21775 Great Mills Road / 900	Peeking House	73/ C	/
	13	21775 Great Mills Road /	St. Mary's County Department of Social Services	31/ B	/ 0.24
	13	21775 Three Notch Road / C	Jackson Hewitt	63/ B	/ 0.22
	13	21803 Three Notch Road / B	Anderson Engineering and Design	63/ B	/ 0.22
	14	21765 Great Mills Road /	Dominos	78/ B	/ 0.24
	14	21786 N. Coral Drive /	St. Mary's County Child Advocacy Center	31/ B	/ 0.24
	14	21789 N Coral Drive / 1B	Holmes and Tucker	63/ B	/ 0.22
	14	21789 N. Coral Drive / 2A	VACANT Transtecs Corporation	63/ -	/ 0.22
	14	21789 N. Coral Drive / 2B	VACANT Pax Partnership	63/ -	/ 0.22
	14	21803 Three Notch Road / C	VACANT Diverse Technologies Corporation	63/ -	/ 0.22
	15	21753 Great Mills Road /	Arby's (vacant)	Vac/ -	/ 0
	16	21743 Great Mills Road /	Verizon	77/ B	/ 0.28
	17	21795 N Shangri La Drive / 11	Sherwin Williams	77/ B	/ 0.28
	17	21795 N Shangri La Drive / A	Gryphon Technologies	63/ B	/ 0.22
	17	21795 N Shangri La Drive / B	Embry Riddle	65/ B	/ 0.22
	17	21795 N Shangri La Drive / C	IAMCAW	63/ B	/ 0.22
	17	21795 N Shangri La Drive / D-	Organizational Strategies Inc.	63/ B	/ 0.22
	17	21795 N Shangri La Drive / D-	Porter Tech Inc.	63/ B	/ 0.22
	17	21795 N Shangri La Drive /	VACANT	Vac/ -	/ 0.22

2 (Blue)	Bldg #	Address / Unit Number	Tenant	Use/ Compat.	Max FAR
	19	21710 Great Mills Road /	SOMD Vacuum and Sewing Center	65/ B	/ 0.22
	19	21712 Great Mills Road /	Executive Salon Suites	65/ B	/ 0.22
	20	21716 Great Mills Road /	Raley's Home Furnishings	76/ B	/ 0.4

Envelope

2 (Blue)	Bldg #	Address / Unit Number	Tenant	Use/ Compat.	Max FAR
	21	21726 Great Mills Road / 200	JWE	63/ B	/ 0.22
	21	21728 Great Mills Road /	Beauty and Barber	65/ B	/ 0.22
	21	21722 Great Mills Road /	Endless Summer	65/ B	/ 0.22
	21	21720 Great Mills Road / A-G	Pax Realty Apartments	63/ B	/ 0.22
	21	21724 Great Mills Road /	Clark's Flooring	76/ B	/ 0.4
	22	21730 Great Mills Road /	Mr. Tire	62/ A	/ 0.22
	23	46940 S Shangri La Drive /	MECA	63/ B	/ 0.22
	23	46940 S Shangri La Drive /	Patuxent Medical Clinic	39/ D	/
	23	46940 S Shangri La Drive / 15	Vesta Inc.	65/ B	/ 0.22
	23	46940 S Shangri La Drive /	St. Mary's Community Development	31/ B	/ 0.24
	23	46940 S Shangri La Drive / 20	Oxicool	63/ B	/ 0.22
	23	46940 S Shangri La Drive / 10	Jobs Connection Program	63/ B	/ 0.22
	23	46940 S Shangri La Drive / 10	DORS	63/ B	/ 0.22
	23	46940 S Shangri La Drive /	St. Mary's River Watershed Association	63/ B	/ 0.22
	24	46930 S Shangri La Drive /	Old Line Bank	51/ B	/ 0.22
	25	46924 S Shangri La Drive /	Cole Travel	65/ B	/ 0.22
	25	46920 S Shangri La Drive /	Corner Liquors	77/ B	/ 0.28
	25	46922 S Shangri La Drive /	Art Therapy Studio	64/ B	/ 0.22
	25	46922 S Shangri La Drive /	St. Mary's County Sheriff	31/ B	/ 0.24

3 (Green)	Bldg #	Address / Unit Number	Tenant	Use/ Compat.	Max FAR
	26	21736 Great Mills Road /	The Lexington	73/ C	/
	27	21740 Great Mills Road / C/B	MJ's	65/ B	/ 0.22
	27	21740 Great Mills Road / D	African Hair Gallery and Braiding	65/ B	/ 0.22
	27	21740 Great Mills Road /	VACANT	Vac/ -	/ 0
	28	21760 Great mills Road /	United Methodist Church	38/ C	/
	29	46935 S Shangri La Drive / 12	Nation Wide Insurance	65/ B	/ 0.22
	29	46935 S Shangri La Drive / 16	General Dentistry and Prostodontics	39/ C	/
	29	46935 S Shangri La Drive / 18	Phocus Video Communications	65/ B	/ 0.22
	30	46921 S Shangri La Drive /	Abundant Life	38/ C	/
	30	46925 S Shangri La Drive / A/	Nokleby Surveying Inc.	65/ B	/ 0.22
	31	46915 S Shangri La Drive /	VACANT	Vac/ -	/ 0
	32	21745 S Coral Drive /	Lexington Park Post Office	31/ B	/ 0.24

4 (Purple)	Bldg #	Address / Unit Number	Tenant	Use/ Compat.	Max FAR
	33	21768 S Shangri La Drive /	Habitat for Humanity	76/ B	/ 0.4
	34	21779 Tulagi Place / D	Smart Homes Plus	63/ B	/ 0.22
	34	21780 Great Mills Road /	SHA	31/ B	/ 0.24
	34	21779 Tulagi Place /	Vintage Values II	77/ B	/ 0.28
	34	21779 Tulagi Place / E	Pax River Realty	63/ B	/ 0.22
	34	21779 Tulagi Place / 37/39	Oasis of Victory Christian Church International	38/ C	/
	34	21779 Tulagi Place / C	Solute Consulting	63/ B	/ 0.22
	34	21779 Tulagi Place / A	Linda's Café	73/ C	/
	34	21764 Coral Place /	House of Disciples	38/ C	/

Envelope

4 (Purple)	Bldg #	Address / Unit Number	Tenant	Use/ Compat.	Max FAR
	34	21779 Tulagi Place / B	The Grapevine	77/ B	/ 0.28
	35	21744 S Coral Drive /	Three Notch Theater	26/ C	/
	36	21537 Old Missouri Street /	Three Oaks Homeless Shelter	22/ C	/

5 (Brown)	Bldg #	Address / Unit Number	Tenant	Use/ Compat.	Max FAR
	1	21847 Three Notch Road /	Days Inn	56/ D	/
	2	21800 N Shangri La Drive / B	PAE Applied Tech.	63/ B	/ 0.22
	2	21841 Three Notch Road / A	Chugach	63/ B	/ 0.22
	3	21800 N Shangri La Drive / 22	Bank Of America	51/ B	/ 0.22
	4	21800 N Shangri La Drive /	Donut Connection	74/ C	/ 0.24
	5	21729 Great Mills Road / A	Popeye's	74/ C	/ 0.24
	5	21729 Great Mills Road / C	Mattress Corner	77/ B	/ 0.28
	5	21729 Great Mills Road / B	Subway	74/ C	/ 0.24
	6	21719 Great Mills Road / 1	Sake	73/ C	/
	6	21719 Great Mills Road / 2	Rita's	78/ B	/ 0.24
	7	21800 N Shangri La Drive / 20	Big Lots	76/ B	/ 0.4
	8	21800 N Shangri La Drive / 13	Beacon of Hope	38/ C	/
	8	21800 N Shangri La Drive /	VACANT	Vac/ -	/ 0
	8	21800 N Shangri La Drive / 19	2000 Liquor	77/ B	/ 0.28
	8	21800 N Shangri La Drive / 18	Lexington Park Cleaner's	65/ B	/ 0.22
	8	21800 N Shangri La Drive / 17	Kim's Nails	65/ B	/ 0.22
	8	21800 N Shangri La Drive / 15	Underground Tattoo	65/ B	/ 0.22
	8	21800 N Shangri La Drive / 12	Safety Zone Motorcycles	64/ B	/ 0.22
	8	21800 N Shangri La Drive / 11	Castilian Hair Fashions	65/ B	/ 0.22
	8	21800 N Shangri La Drive / 8	God's House of Refuge	38/ C	/
	8	21800 N Shangri La Drive / 7	Filipino Mart	48/ B	/ 0.16
	8	21800 N Shangri La Drive / 16	Well Pet Clinic	42/ B	/ 0.22
	9	21703 Great Mills Road /	Los Primos	48/ B	/ 0.16
	9	21800 N Shangri La Drive /	VACANT	Vac/ -	/ 0
	9	21703 Great Mills Road / A	Arron's	77/ B	/ 0.28
	9	21770 FDR Blvd / 150i	Recreation and Parks Gymnastics Center	64/ B	/ 0.22
	9	21703 Great Mills Road / C	Jump Yard	69/ B	/
	9	21703 Great Mills Road / B	Family Dollar	77/ B	/ 0.28
	9	21770 FDR Blvd /	Hope Place Walden	63/ B	/ 0.22
	10	21800 N Shangri La Drive / 1	Southern Tire	75/ A	/ 0.28
	10	21800 N Shangri La Drive / 2	Hibachi Grill & Buffet	73/ C	/
	10	21800 N Shangri La Drive / 3	PakMail	65/ B	/ 0.22
	10	21800 N Shangri La Drive / 4	Expose Nails and Spa	65/ B	/ 0.22
	10	21800 N Shangri La Drive / 5	Hong Kong	74/ C	/ 0.24
	10	21800 N Shangri La Drive / 6	Rite Aid	77/ B	/ 0.28
	18	21697 Great Mills Road /	Exxon	60/ A	/ 0.28

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Date: October 15, 2013 Revised Date: November 6, 2013		2/18/2014
Review and comparison of Zoning Classification – St. Mary County		
Use Type from Schedule 50.4	**Comments from NAVFAC ATLANTIC**	**County response**
No 1. Agricultural Industry, Major	"Fertilizer manufacture" See note 3 of 2009 AICUZ Study. Fertilizer manufacturing can have explosive physical properties. Recommend SLUCM No. 28 Chemicals and allied products; manufacturing. Not allowed in APZ-I or APZ-II	Agreed, change made
No 4. Aquaculture	"Lakes, and other natural or other artificial bodies" – Presents a significant BASH concern – Recommend SLUCM No. 93 – Water areas – Not allowed in APZ-I or APZ-II	Agreed, change made
No. 6 Farmers Market	Concern the" Farmer Market" will accommodate an excess of maximum occupant per acre – See note 2. of 2009 AICUZ Study.	Agreed, change made but Note 2 is not applicable.
No. 7. Auction House	Concern the "Auction House" will accommodate an excess of maximum occupant per acre – See note 2. of 2009 AICUZ Study.	Agreed, change made but Note 2 is not applicable.
No 10. Equestrian Facility, Major	No spectator sports allowed in APZ-I or APZ-II. Recommend SLUCM No. 72.2 Outdoor sports arenas, spectator sports	Agreed, change made
No. 11. Equestrian Facility, Minor	No spectator sports allowed in APZ-I or APZ-II. Recommend SLUCM No. 72.2 Outdoor sports arenas, spectator sports	Agreed, change made
No. 13. Agricultural Tourism	No spectator sports allowed in APZ-I or APZ-II. Recommend SLUCM No. 73 Outdoor sports arenas, spectator sports	Agreed, change made
No. 15. Dwelling Unit, Detached	Max 1-2 du/AC conflicts with current county zoning of no dwellings in APZ-I or APZ-II. Recommend following current zoning.	Agreed, change made except that lots of record may be improved with 1 dwelling per CZO
No. 20. Mobile Home	Mobile home construction not rated for Noise abatement	Agreed, change made
No. 24. Burial Grounds	No chapels allowed in APZ –I or APZ-II. See note 9. of 2009 AICUZ Study.	Agreed, change made
No. 28. Day Care, Non-medical	Day care is not allowed in APZ –I or APZ-II. See note 10. of the 2009 AICUZ Study	Agreed, change made

Date: October 15, 2013 Revised Date: November 6, 2013		2/18/2014
Review and comparison of Zoning Classification – St. Mary County		
Use Type from Schedule 50.4	**Comments from NAVFAC ATLANTIC**	**County response**
No. 40. Adult Entertainment	"Adult Entertainment" Concern for excess of maximum occupant per acre – See note 2. of 2009 AICUZ Study. Recommend SLUCM No. 58 or 72	Prohibition of SLUCM codes 58 (Eating and drinking) & 72 (public assembly) addresses the excess occupancy concerns
No. 49. Corporate Campus	"Large Office Complex" - Concern for excess of maximum occupant per acre – See note 2. of 2009 AICUZ Study.	FAR limit at .22 and 50 persons per acre criteria address APZ-II occupancy concerns
No. 50 Fair Grounds and Flea Markets	"Fair Grounds and Flea Markets" - Concern for excess of maximum occupant per acre – See note 2 of 2009 AICUZ Study.	Agreed, change made but Note 2 is not applicable
No. 53. Golf Courses	Country Clubs and Club houses are not allowed in in APZ –I or APZ-II. See note 10 of the 2009 AICUZ Study.	Agreed, change made
No. 60. Fuel Sales	No above ground fuel storage allowed in APZ-I or APZ-II.	Agreed, change made
No. 67. Personal Storage	Recommend storage be limited to single story facilities.	Contrary to planning area criteria which encourages small footprint low to mid rise buildings. Zone height limits apply
No. 70. Recreational Facility, Minor Indoor	" movie theaters & dance halls, etc." Concern for excess of maximum occupant per acre – See note 2 of 2009 AICUZ Study. Recommend SLUCM No. 72.2	Agreed, change made but Note 2 is not applicable.
No. 74. Restaurant, Fast Food	Not recommended in APZ-I or APZ-II. Recommend SLUCM No. 54.	Agreed, change made
No. 76 Retail General	"high volume retail sales of goods" See note 7 of 2009 AICUZ study. Recommend SLUCM No. 53. Occupancy concerns.	Defined SLUCM use types and their FAR limits and 50 persons per acre criteria address APZ-I & APZ-II occupancy concerns
No. 82. Extractive Industry	Mining operations can present a dust issue hazard to aviation – Included FAR values along with SLUCM No. 85	Agreed, change made

Date: October 15, 2013 Revised Date: November 6, 2013		2/18/2014
Review and comparison of Zoning Classification – St. Mary County		
Use Type from Schedule 50.4	**Comments from NAVFAC ATLANTIC**	**County response**
No. 88. Airport landing Strip and Heliport	Not compatible in APZ-I and APZ-II. Conflicts with military traffic.	Agreed, change made
No. 90. Communication tower, Public Safety or Other non- commercial.	Concern over tower heights.	Existing standards for review and approval sufficient to address APZ concerns
No. 91. Communication tower, commercial	Concern over frequency conflicts.	Existing standards for review and approval sufficient to address APZ concerns
No. 93. Passenger terminal	Not allowed in APZ-I or APZ-II. See Note 5 of 2009 AICUZ study.	Agreed, change made
No. 94. Regional Flood and Storm Water Management Facility	Concern over BASH issues. Not recommended in APZ-I or APZ-II.	Not all BMPs present BASH issues. Suggest adding a general standard to use 94 to address concern
No. 95. Small Wind Energy System	Concern over tower height and radar impacts. Not recommended in APZ-I or APZ-II	Agreed, change made
No. 97. Utility, Major	Water reservoir, water or waste water treatment plant and associated disposal ponds present a BASH concern. Not recommended in APZ-I or APZ-II	Agreed, change made
No. 104. Marina	Description includes swimming pools, lodging and restaurant... entertainment There is a concern over occupancy levels. Not recommended for APZ-I or APZ-II.	Concern over listed accessory uses is moot. Accessory uses allowed only if permitted as a principal use. If APZ criteria prohibits, then accessory use is prohibited at the marina..
No. 107. Seafood industry	Description includes water based aquaculture for- profit operations. This presents a BASH issue.	By definition, only occurs in existing natural water bodies, therefore no new BASH issues created.
No. 108. Accessory Apartment	Occupancy concerns - Housing not recommended in APZ-I or APZ-II.	Agreed, change made

Date: October 15, 2013 Revised Date: November 6, 2013		2/18/2014
Review and comparison of Zoning Classification – St. Mary County		
Use Type from Schedule 50.4	**Comments from NAVFAC ATLANTIC**	**County response**
No. 113 Day Care	Not recommended in APZ-I or APZ-II. See note 10 of 2009 AICUZ study.	Accessory only to existing principal residential use. Existing use standard limitations assure that use *is* low intensity with maximum 12 children.
No. 116. Home Occupation	Not recommended in APZ-I or APZ- II. See note 2 of 2009 AICUZ study.	Accessory only to existing principal residential use. Existing use standard limitations assure that use *is* low intensity with only 2 or 3 employees.
No. 117. Live Entertainment	Not recommended in APZ-I or APZ-II. See note 12 of 2009 AICUZ study	Agreed, change made
No. 118. On-Site Workers' Housing.	--	No Navy comment but residential uses not allowed in APZ therefore table changed to prohibit
No. 123 Recreational Vehicles	Not recommended in APZ-I or APZ-II. Recommend SLUCM 75.	Existing use standard limitations on duration and frequency of use address AICUZ concerns
General Comment	Include the "notes" at the end of the SLUCM codes reflected in the NAVY document as a reference.	Add appropriate note(s) to each use in the standards do Chapter 50

BASH – Bird Aircraft Strike Hazard