



## Chapter 7 –ENVIRONMENTAL STUDY

### 7.01 BACKGROUND

This chapter briefly discusses 23 specific categories of potential environmental impact to determine what effects would result from development at the airport. Before any major development would occur (as specified in Federal Aviation Administration Order 5050.4A, *Airport Environmental Handbook*), a federal-level environmental assessment may need to be undertaken to fully assess any possible project-related environmental impacts. This environmental study is not a federal-level environmental assessment, but rather a brief review of the areas of potential environmental impacts. For additional information, see Appendix C for environmental correspondence.

### 7.02 NOISE

A range of aircraft, from small single-engine propeller driven airplanes to large business jets, fly in and out of the Dutchess County Airport. Aircraft generated noise is generally the most serious environmental impact at airports of all types. These impacts are strongly affected by the volume and type of traffic at the facility.

The impact of existing and future noise levels is described through the use of the Day-Night Average Sound Level (DNL) methodology, an official system for quantifying cumulative aircraft noise. DNL is an energy summation methodology that depicts the total aircraft generated sound over a 24-hour period. The FAA's Integrated Noise Model (INM), Version 6.0B was used to calculate nested contours (lines of equal cumulative noise exposure) based on a typical day's traffic to produce Noise Exposure Maps for Dutchess County Airport. These also reflect the statistical average of the conditions, which exist throughout the entire year. Determinations of exposure levels are typically displayed as contours with values ranging from DNL 55 dB, to DNL 75 dB in five unit increments.

The DNL methodology also considers the following factors in developing noise exposure contours:

- Aircraft and engine type (i.e., the source noise characteristics)
- Mix of differing aircraft types
- Flight tracks and operational profiles
- Volume of daily operations by runway
- Runway elevation and runway length

The DNL system is useful primarily as a means of gauging the degree of compatibility of various land uses impacted by the differing levels of noise, and comparing the noise impacts between several different airports or variations in traffic levels. If this system is effectively used to control development in the airport vicinity, it can prevent noise sensitive development in areas, which have unacceptable noise exposure. This does not necessarily mean that there will never be a noise complaint. Individuals react differently to specific events, as well as to elevated average levels of noise exposure. Thus, unusually noisy aircraft operating normally or relatively quiet aircraft flying unusually close to neighborhoods can trigger occasional or isolated complaints when no widespread noise problem may exist.



## NOISE EXPOSURE CONTOURS

At Dutchess County Airport, a total of 137,025 aircraft operations are estimated to have taken place in 2000. The DNL for an average day within a peak month was modeled for “worst case” existing aircraft noise at Dutchess County Airport. Most operations are conducted during the day period, with 20% of the operations occurring on Runway 6 and 60% occurring on Runway 24; 5% on Runway 15 and 15% occurring on Runway 33. On the average, approximately 419 operations occur daily. Of 419 daily operations, 90% are single engine, 8% are multiengine aircraft and 2% are jet aircraft operations (*see Appendix D, Noise Data*).

Likewise, the DNL for an average day within a peak month was modeled for future aircraft noise at Dutchess County Airport. An estimated 166,750 annual operations are forecasted for Dutchess County Airport in the year 2020. On the average, approximately 510 daily operations were modeled. Out of an estimated 510 daily operations, 90% are single engine, 8% are multiengine aircraft and 2% are jet operations.

Figures 7-1 and 7-2 illustrate the resulting noise contour plots. The contours are depicted in 5dB unit intervals. In Figure 7-1, the existing DNL 65 dB extends off airport property and contains approximately 820 acres of land area. Out of the 820 acres above the DNL 65 dB, 243 acres include airport property. The remaining acreage above the DNL 65 dB consists of forest, water, wetlands, highways, agriculture, commercial and residential acreage. Figure 7-2 shows the future DNL 65 dB for the year 2020.

For airport development and other actions in the vicinity of an airport, FAA guidelines for screening based on changes in aviation noise impacts above and below 65 DNL are as follows (according to the Draft Aviation Noise Abatement Policy 2000, Federal Register, July 14, 2000):

- 65 DNL and greater – an increase in noise exposure of 1.5 dB or more is considered a significant addition of noise. If such an increase were to exist as a result of a future airport improvement project, such an action would require and EA/EIS.
- 60-65 DNL – increases in noise of 3dB or more that remain between the 60-65 DNL *do not result in significant exposure* but can be noticeable and highly annoying to some people. The FAA will consider mitigation options, but *would not* require an EA/EIS, in noise sensitive areas between 60-65 DNL that are projected to have an increase of 3 dB or more as a result of proposed airport improvement changes.

A detailed grid analysis conducted for the airport indicates the potential for an increase 1.5 dB or more exposure over a noise sensitive area off the Runway 33 end. An Environmental Assessment is anticipated in the Phase I Capitol Improvements Program (CIP) and will be conducted for capitol projects listed in Chapters 9 and 10 of Master Plan Update where noise effects will be revisited.

Preventative noise mitigation measures are already in effect at the airport and include a noise abatement procedures plan and land use noise compatibility planning coordination between municipalities and Dutchess County Airport. Noise abatement procedures are accessible to the public through the Dutchess County Airport’s website.



### 7.03 COMPATIBLE LAND USE

The compatibility of existing and planned land uses near an airport is usually associated with the extent of noise impacts related to the airport. Land use compatibility standards have been developed through surveys of residents living near airports worldwide. The normal standards, which are associated with the Day-Night Average Sound Level Methodology, are shown in Table 7-1. These standards are incorporated from Federal Aviation Regulations (FAR) Part 150 and are intended as guidelines for development recommendations in noise exposure areas. Table 7-1, FAR 150 Land Use Compatibility, with Yearly Day-Night Average Sound levels, provides a preliminary basis for the determination of impacts for land use compatibility. All land uses are considered compatible below the DNL 65 dB level.

Residential lands above the bounds of DNL 65 dB, and therefore incompatible land uses, lie contiguous to the airport and fall principally within the Town of Poughkeepsie. There are no hospitals or churches located within the vicinity of the airport. There is one school located in proximity of the airport located approximately two miles north of the airport. The school is located outside of the DNL 55 dB noise contour.

A review of the *Town of Poughkeepsie Comprehensive Master Plan* (1990) indicates that the land north and adjacent airport property off Runway 15 in the “Long Range Land Use Plan” will remain *medium density residential* land use. Additionally, a review of the *Zoning Code for the Town of Poughkeepsie* (1998) indicates that the Town does not contain airport height restrictions with regard to FAR Part 77 imaginary surfaces (FAR Part 77, *Objects Affecting Navigable Airspace*). Neither municipal code nor master plan contains special provisions regarding airport compatible land uses.

A review of the *Town of Wappinger Comprehensive Master Plan* (1988) indicates that the land use off Runway 6 will continue to contain *medium density residential*. Additionally, *agricultural* land uses will continue to remain off Runway 24 and *agricultural, commercial* and *medium density residential* will remain off Runway 33 throughout the planning period. Though most of the projected land use is compatible with the operation of the airport, there is no special provision within the plan pertaining to compatible land uses surrounding the airport. Additionally, a review of the *Town of Wappinger Zoning Code* (1999) indicates that the code does not contain special provisions pertaining to FAR Part 77 imaginary surfaces. The zoning code and map does contain; however, an “Airport Industry – AI” district absent of specific land use or bulk regulations, standards or requirements related to the viability of airport operation.

Land areas surrounding the airport are near completely built out. Therefore, development of appropriate compatible land use controls or proper zoning near the airport are currently being encouraged within local planning jurisdictions by the County Airport. Additionally, the Airport is currently collaborating on noise abatement procedures with effected municipal jurisdictions as well as maintains a policy of rapid response to any neighborhood complaints regarding the airport. Protection of FAR Part 77 imaginary surfaces is also encouraged through height limitations on development both on and around the airport, especially in the approach and departure areas of the runways. The FAA advisory circular “*A Model Zoning Ordinance to Limit the Height of Objects Around Airports*” (AC 150/5190-4A) provides guidance for this purpose and is included in Appendix H.



## Dutchess County Airport Master Plan Update

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As previously stated noise abatement procedures are currently in place to lessen noise impacts and are presented on the Dutchess County Airport Website and Notices to Airmen (NOTAMS). Runway 24 has been designated the primary runway and by designating Runway 24 as priority, the majority of traffic would approach over the least congested or sensitive areas in terms of noise. No night time maintenance run-ups are permitted from 11:00 PM to 7:00 AM local time. This does not apply to pre-flight run-ups required by FAA; however, the airport asks that all pilots who are operating between 11:00 p.m. and 7:00 a.m. to use a lower rpm setting for pre-flight engine run-ups where possible.

The National Business Aircraft Association (NBAA) has published a Noise Abatement Program for turbojets that will reduce noise, ensure safety and flexibility in various circumstances. Dutchess County Airport has accepted the recommended procedure to reduce noise levels and maintain a relatively steep low-power approach to landing at the airport.

In addition, the airport requests that the use of reverse thrust be limited to only the amount necessary for safety purposes. For example, reverse thrust for landing generates considerable noise. All pilots who utilize reverse thrust for landing are requested to minimize use where safety is not compromised.

Presently most instruction is accomplished outside of our Airport Control Zone, to the north and across the Hudson River. Dutchess County Airport requests that training involving emergency procedures, unusual attitude or exaggerated maneuvers to be accomplished in those areas. In addition, all professional, corporate and general aviation training programs are strongly urged to incorporate Noise Abatement Procedures.

When based turbojet operations are required from 11:00 p.m. to 7:00 a.m., it is recommended to give advance notice to the County Department of Aviation during business hours. If flights during these hours become necessary, notify the Department of Aviation before 10:00 a.m. or the next business day. This requirement is being established to improve communications and awareness and for the County Department of Aviation to effectively respond to any noise level complaints that may arise as a result.

Special provisions are recommended for Helicopter operations as well as FAR guidelines for maintaining VASI and Instrument Landing System Glide Slope to the runway procedures emphasizing the requirements specifically to Runway 6 because of the close proximity to residential land uses.

A Part 150 study is a process for airport operators to identify potential noise impacts and mitigation measures to address those impacts. The FAA's Part 150 program is a voluntary program for airport sponsors involving the development noise exposure maps and a noise compatibility program (NCP). FAA is not required to approve an NCP in its entirety, but can separately approve some measures and not others. Once an NCP is approved, the Airport can apply for federal noise mitigation funds to implement approved measures. However, federal funds for mitigation are not guaranteed. Each airport must compete with other airports for the noise mitigation funds available.

Finally, the Airport Sponsor has indicated that there is currently few noise complaints received at the airport; especially with regard to small aircraft using Runway 15-33. Therefore, it is recommended to revisit the potential for noise impact in the Master Plan Update's subsequent CIP Environmental



## **Dutchess County Airport Master Plan Update**

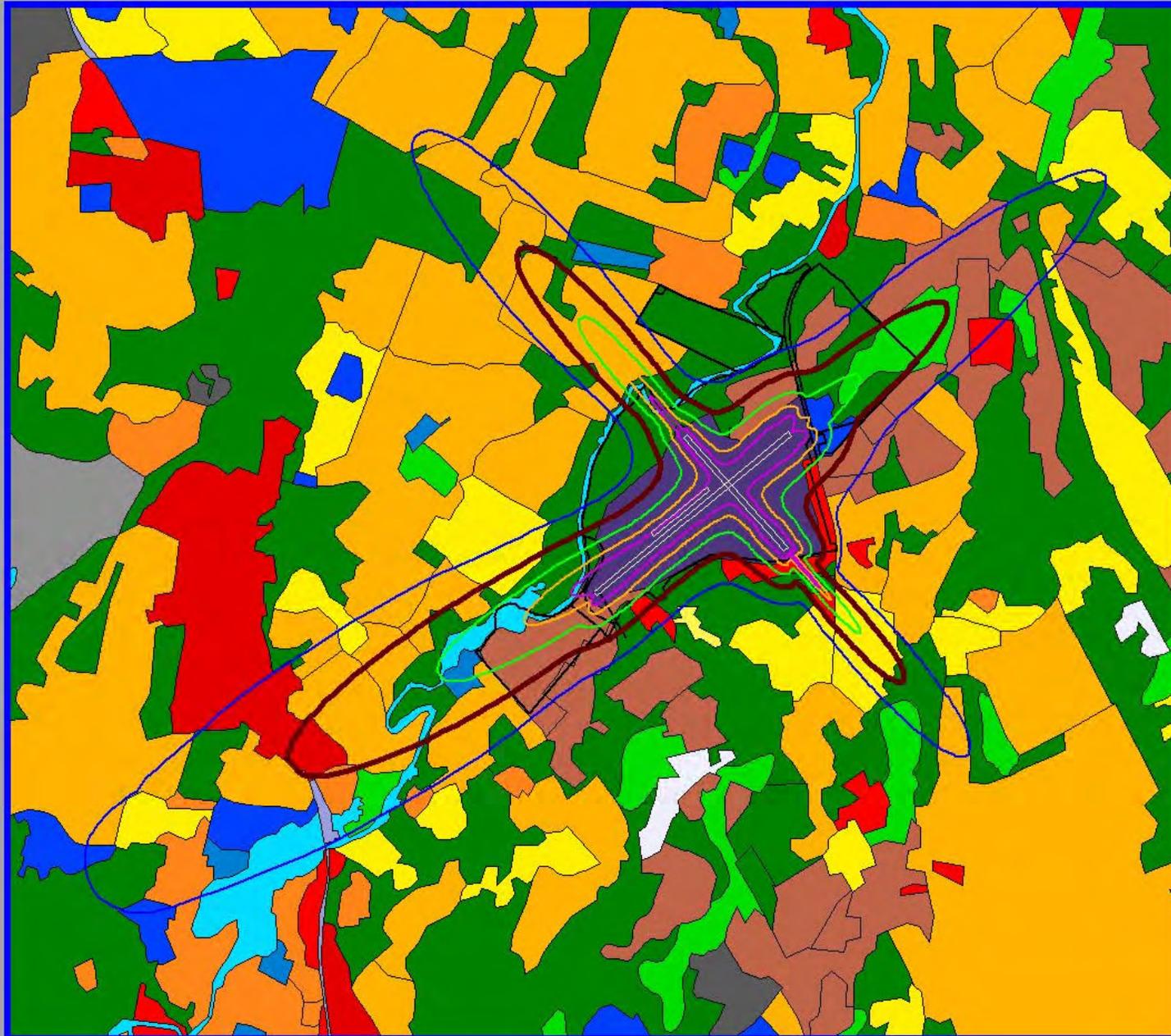
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Assessment in order to determine the extent of mitigation required, if any. In view of the practical preventive mitigation measures currently being implemented regarding potential noise impact and that of a recommendation to conduct a Part 150 Noise study resulting in a 1.5 decibel increase off the Runway 33 End, the sponsor has articulated that a Part 150 Noise Study is not warranted.

# Dutchess County Master Plan



## Existing Noise Contours



### Legend

- |                                   |                               |
|-----------------------------------|-------------------------------|
| 2000 Contour Lines                | Residential - High Density    |
| CO N TO U R 60                    | Residential - Medium Density  |
| CO N TO U R 65                    | Residential - Low Density     |
| CO N TO U R 70                    | Residential - Rural Estates   |
| CO N TO U R 75                    | Residential - Farm Labor Camp |
| CO N TO U R 80                    | Industrial                    |
| RAILWAY                           | Extractive                    |
| Airport Property                  | Service Facilities            |
| Agricultural                      | Highway                       |
| Airport                           | Outdoor Recreation            |
| Commercial - Urban                | Public                        |
| Commercial - Shopping Center      | Forestland                    |
| Commercial - Strip with Mixed Use | Wetlands                      |
|                                   | Water                         |

0 0.5 1 Miles



**Figure 7-1**

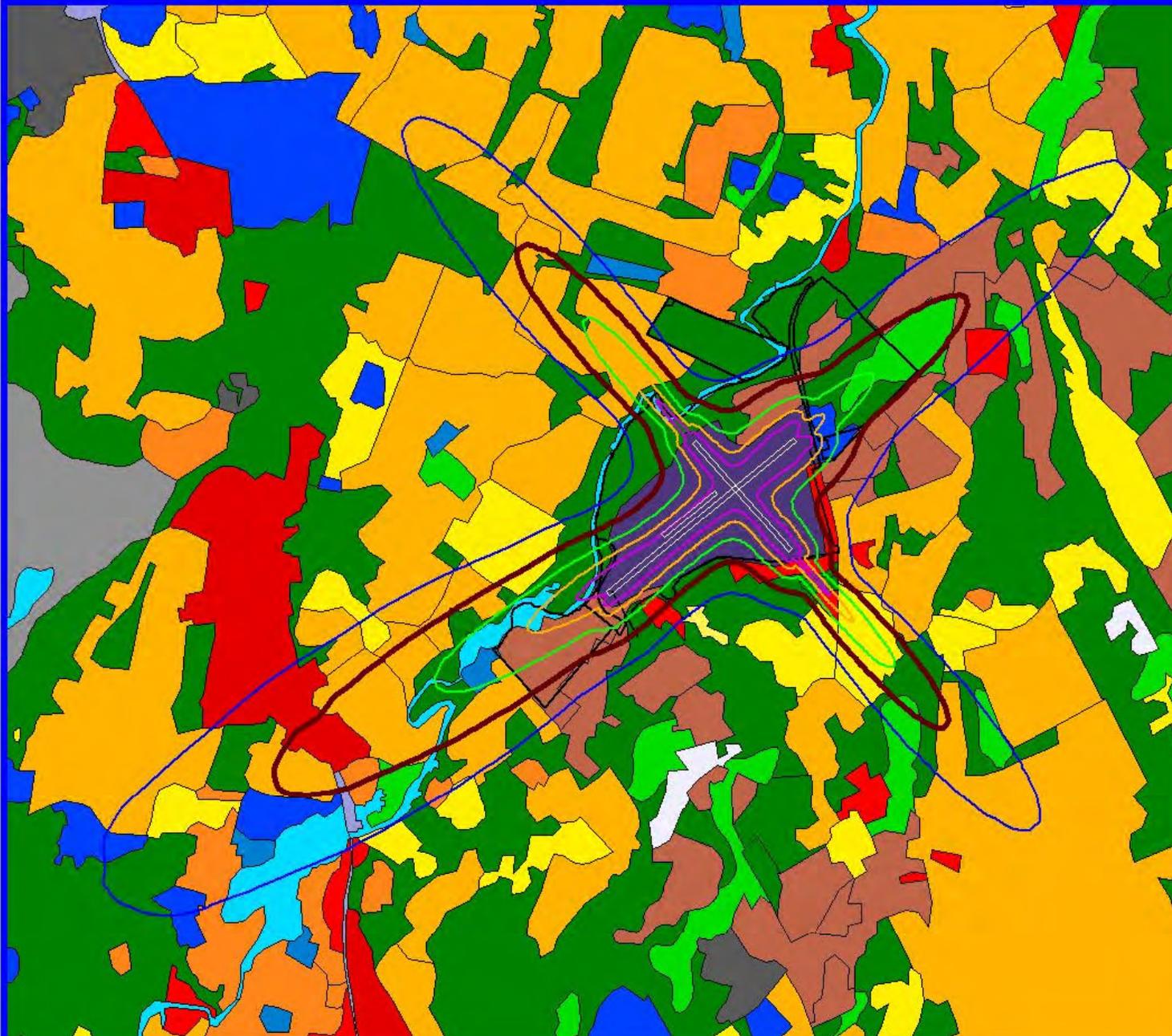
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# Dutchess County Master Plan

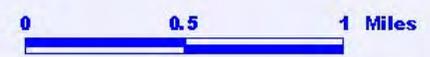


## Future Noise Contours



### Legend

- |                                   |                               |
|-----------------------------------|-------------------------------|
| 2020 Contour Lines                | Residential - High Density    |
| CO # TO # R # 60                  | Residential - Medium Density  |
| CO # TO # R # 65                  | Residential - Low Density     |
| CO # TO # R # 70                  | Residential - Rural Estates   |
| CO # TO # R # 75                  | Residential - Farm Labor Camp |
| CO # TO # R # 80                  | Industrial                    |
| RR # HWAY                         | Extractive                    |
| Airport Property                  | Service Facilities            |
| Land Cover                        | Highway                       |
| Agricultural                      | Outdoor Recreation            |
| Airport                           | Public                        |
| Commercial - Urban                | Forestland                    |
| Commercial - Shopping Center      | Wetlands                      |
| Commercial - Strip with Mixed Use | Water                         |



**Figure 7-2**

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**TABLE 7-1**  
**Land Use Compatibility with Yearly Day-Night Average Sound Levels**

Land Use	Yearly day-night average sound level (Ldn) in decibels					Over 85
	Below 65	65-70	70-75	75-80	80-85	
<b>RESIDENTIAL</b>						
Residential, Other Than Mobile Homes And Transient Lodgings	Y	N (1)	N (1)	N	N	N
Mobile Home Parks	Y	N	N	N	N	N
Transient Lodgings	Y	N (1)	N (1)	N (1)	N	N
<b>PUBLIC USE</b>						
Schools	Y	N (1)	N (1)	N	N	N
Hospitals and Nursing Homes	Y	25	30	N	N	N
Churches, Auditoriums and Concert Halls	Y	25	30	N	N	N
Government Services	Y	Y	25	30	N	N
Transportation	Y	Y	Y (2)	Y (3)	Y (4)	Y (4)
Parking	Y	Y	Y (2)	Y (3)	Y (4)	N
<b>COMMERCIAL USE</b>						
Offices, Business and Professional Wholesale and Retail-Building Materials, Hardware and Farm Equipment	Y	Y	25	30	N	N
Retail Trade-General	Y	Y	25	30	N	N
Utilities	Y	Y	Y (2)	Y (3)	Y (4)	N
Communications	Y	Y	25	30	N	N
<b>MANUFACTURING AND PRODUCTION</b>						
Manufacturing-General	Y	Y	Y (2)	Y (3)	Y (4)	N
Photographic and Optical	Y	Y	25	30	N	N
Agriculture (except Livestock) and Forestry	Y	Y (6)	Y (7)	Y (8)	Y (8)	Y (8)
Livestock Farming and Breeding	Y	Y (6)	Y (7)	N	N	N
Mining and Fishing, Resource Production and Extraction	Y	Y	Y	Y	Y	Y
<b>RECREATIONAL</b>						
Outdoor Sports Arenas and Spectator Sports	Y	Y (5)	Y (5)	N	N	N
Outdoor Music Shells, Amphitheaters	Y	N	N	N	N	N
Nature Exhibits and Zoos	Y	Y	N	N	N	N
Amusement Parks, Resorts and Camps	Y	Y	Y	N	N	N
Golf Courses, Riding Stables and Water Recreation	Y	Y	25	30	N	N



**TABLE 7-1 Cont.  
Land Use Compatibility with Yearly Day-Night Average Sound Levels**

\*The designation contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving compatible land uses.

**Key:**

- Y (yes) Land use related structures compatible without restrictions
- N (No) Land use and related structures are not compatible and should be prohibited
- NLR Noise Level Reduction (outdoor to indoor) to be achieved though incorporation of noise attenuation into design and construction of structure.

**NOTES:**

- (1) Where the community determines that residential uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal construction can be expected to provide ad 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 and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
- (2) Measures to achieve NLR of 25 must be incorporated in the design and construction of portions of these buildings where the public is received; office areas, noise sensitive areas ore where the normal noise level is low.
- (3) Measures to achieve NLR of 30 must be incorporated in the design and construction of portions of these buildings where the public is received; office areas, noise sensitive areas ore where the normal noise level is low.
- (4) Measures to achieve NLR of 35 must be incorporated in the design and construction of portions of these buildings where the public is received; office areas, noise sensitive areas ore where the normal noise level is low.
- (5) Land use compatible provided special sound reinforcement systems are installed.
- (6) Residential buildings require an NLR of 25.
- (7) Residential buildings require an NLR of 30.
- (8) Residential buildings not permitted.

SOURCE: FAR 150 Airport Noise Compatibility Planning, Appendix A, U.S. Department of Transportation, Federal Aviation Administration (December 1995).

However, zoning alone to limit the height of objects around the airport is insufficient to prevent the construction of incompatible land uses such as residential housing. Airport land use planning should provide for the public health, safety and welfare through the adoption of land use standards that minimize the public’s exposure to air safety hazards and undesirable noise generated by airports. Further guidance is contained in the FAA advisory circular *"Noise Control and Compatibility Planning for Airports"* (AC 150/5020-1).

These standards are not the only ones relevant to airport compatibility determinations. The New York State Department of Transportation has developed its own set of land use compatibility standards that pre-date FAR Part 150. These are shown in Table 7-2. Applying these standards leads to basically the same conclusions (i.e., residential land uses should not be permitted within DNL 65). It is recognized here that there may be some impact occurring to a lower limit of DNL 55. The reasons for this may be varied. In some instances, individuals or community activities may be extremely noise sensitive (e.g., housing for the elderly, community facilities, schools, and libraries.)



**TABLE 7-2**  
**NYS DOT Land Use Compatibility with Yearly Day-Night Average Sound Levels**

<b>LAND USE CATEGORY</b>	<b>PRIMARY STANDARD*</b>	<b>LOWER BOUND **</b>
Residential – Single Family, Duplex, Mobile Homes	DNL 65	DNL 55
Residential – Multiple Family, Dormitories, Etc.	DNL 65	DNL 55
Transient Lodging	DNL 70	DNL 55
School Classrooms, Libraries, Churches	DNL 60	DNL 55
Hospitals, Nursing Homes	DNL 65	DNL 55
Auditoriums, Concert Halls, Music Shells	DNL 60	DNL 55
Sports Arenas, Outdoor Spectator Sports	DNL 60	DNL 55
Playgrounds, Neighborhood Parks	DNL 60	DNL 55
Golf Courses, Riding Stables, Water Recreation, Cemeteries	DNL 65	DNL 60
Office Buildings – Personal, Business & Professional	DNL 70	DNL 65
Commercial – Retail, Movie, Theaters, Restaurants	DNL 70	DNL 65
Commercial – Wholesale, Some Retail, Industrial, Manufacturing, Utilities	DNL 75	DNL 70
Manufacturing, Communications, (Noise Sensitive)	DNL 65	DNL 60
Livestock Farming, Animal Breeding	DNL 70	DNL 65
Agriculture (except for Livestock), Mining, Fishing	DNL 85	DNL 70
Public Right-of-Way	DNL 80	DNL 70
Extensive Natural Recreation Areas	DNL 70	DNL 65

\*Primary Standard identifies recommendations appropriate for most circumstances.

\*\*Lower Bound is provided for discretionary use to account for any special, local circumstances that might exist.

SOURCE: *Definitions of Airport Noise Impact Areas – Final Report*, New York State Department of Transportation, January 1977.

A second aspect of this relates to the fact that these noise determinations are based on averages that may or may not reflect the actuality of the daily situations. For example, peak traffic levels may be considerably higher than the average. During the summer months of the year, local residents who normally keep their windows open for ventilation or use outdoor living areas may experience some annoyance. Thus, the standards are not meant to supersede local judgements concerning what is or is not acceptable in a given community, but rather to define levels that are normal and reasonable.

## 7.04 SOCIAL IMPACTS

Social impacts that need to be considered are those associated with business or residential relocation, or other community disruption, which may be caused by the operation of a facility, or by development.

The airport environs can be described as predominantly residential to the east, vacant and undeveloped forested flood plain to the north, wetlands to the east and west. There is commercial strip development along Route 376/New Hackensack Road intersection, with mixed uses such as office/retail/travel tourism businesses and residential along portions of New Hackensack Road. Physical natural features such as Wappinger Creek, flood plain and steep slopes constrain airport development potential. Therefore, development of the airport would not alter surface transportation patterns, divide or disrupt established communities, or create an appreciable change in employment. Thus, there should be no significant impact.



## 7.05 INDUCED SOCIO-ECONOMIC IMPACTS

Induced socioeconomic impacts refer to the stimulation of residential housing construction or the institution of business or other activities which may result from the increases in use fostered by airport development.

Economic impacts that would be associated with the proposed development can be summarized as two types. The first type is business activity at the airport. These impacts include expenditures by airports and firms involved in the provision of aviation facilities and services (airports, fixed base operators, etc.). Expenditures of value to the local economy include such things as aircraft maintenance, runway improvements, flight schools, rental cars, and employee payroll.

The second type of economic impact is business activity off the airport. These impacts are associated with airport use. They contain expenditures by visitors (college students and family) who arrive via the airport, including spending on hotels/motels, etc. They also include expenditures by corporations which have aircraft and employees based at the airport.

Potential for induced impacts resulting from airport improvements is limited in the area southeast of the airport where the land area contains low-density development containing primarily residential land use. The potential for induced impacts is more likely to the south and north of the airport where there is greater potential to expand into undeveloped land areas. However, potential impacts from airport related development are not likely to disrupt community services such as emergency vehicle response times, transit bus services or school bus routing. Additionally, any airport related development on or off airport property is not likely to change the roadway network, either by eliminating a roadway or increasing traffic demand on connecting roadways that would disrupt community continuity.

## 7.06 AIR QUALITY

Dutchess County Airport is located in the NYSDEC Region 3. Dutchess County is within a nonattainment area for ozone. Proposed airport development is not subject to Indirect Source Review. Since the Dutchess County Airport is located within an air quality nonattainment area for ozone, federal and state conformity regulations do apply to the airport's development projects.

Annual operations are forecasted to grow from 144,275 in the year 2,005 to 166,750 in the year 2020. The annual operations are well below the threshold of significance of 180,000 annual operations necessary to require an air quality analysis as specified in the FAA Order 5050.4A, *Airport Environmental Handbook*. Therefore, no air quality analysis is required.

## 7.07 WATER QUALITY

The federal Clean Water Act, established in 1977, which is an amendment to the 1972 Federal Water Pollution Control Act (33 U.S.C. s/s 1251 et seq.) provides the authority to establish water quality standards. The act also provides the authority to regulate discharges into surface and subsurface waters, develop waste treatment management plans and practices, and issue permits for discharges (§402) and for dredged or fills material (§404). A separate federal issue associated with the permit application process is the need for a Water Quality Certification under Section 401 of the Federal Water Pollution Control Act.



## 7.07-1 GROUND AND SURFACE WATERS

Dutchess County contains entirely within its bounds the Wappinger Creek Watershed, which drains 210 square miles in ten towns and three villages. Wappinger Creek, located on the northern perimeter of the Dutchess County Airport, generally runs northeast to southwest draining from Wappinger Lake north into the Hudson River. It is a protected B(T) class stream. The best usage of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival. There is a small-unnamed tributary off Runway 33 that is designated a Class C stream. The best usage of Class C waters is fishing. These waters are suitable for fish propagation and survival. The water quality is suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

The Wappinger Creek corridor, as well as the airport site, overlays a large sand and gravel aquifer. The aquifer is not a sole source aquifer; however, measures are being taken by the county to develop a county-wide aquifer protection program that includes the aquifer underlying the airport site. Any future development should take into account the location and existence of the aquifer system and water supply, and consider measures to minimize impact.

For most airport actions, design considerations, controls during construction, and other mitigation measures can avoid significant impacts to water quality. Requirements regarding construction impacts on water quality pertain to stormwater discharges. On Nov. 16, 1990, the U.S. Environmental Protection Agency developed permitting regulations for stormwater discharges as required by the federal Clean Water Act. Effective Oct. 1, 1992, all construction activities proposing to disturb five or more acres of land must be authorized by a National Pollutant Discharge Elimination System (NPDES) Permit. Consequently, the following items will be required:

- Stormwater permit for construction activities according to Section 402 of the Clean Water Act; and
- Water quality certification according to the 1982 Airport Act.

New York State administers a State Pollutant Discharge Elimination System (SPDES) program, which serves as the authorizing mechanism for activities in the State to comply with the NPDES program. A SPDES permit also satisfies the federal NPDES requirements since the NYSDEC has an approved NPDES program. The SPDES program's administration is in lieu of the United States Environmental Protection Agency issuing NPDES permits in New York State.

- Dutchess County Airport currently holds an individual SPDES permit that requires the implementation of a Best Management Practices Plan (BMP) to prevent or minimize the potential for release of significant amounts of pollutants to the State of New York waters through site runoff, spillage and leaks, sludge or waste disposal, or drainage from raw material storage. A BMP (May 2000) was developed to address the recommended controls and procedures to minimize the potential for storm water runoff and pollutants from the facility.



Any proposed construction at the airport must have minimal impact on water quality. To ensure this, soil erosion and siltation controls would be used to minimize adverse water quality effects during construction as specified in Advisory Circular 150/5370-10A, *Standards for Specifying Construction of Airports*.

### POTABLE WATER

Presently, the airport is not served by a central water supply. However, there are central water systems near the airport. The Town of Wappinger has two smaller systems near the airport, the Atlas Water Company and the Hilltop District. The Town of Poughkeepsie has greater capacity and therefore, offers a better opportunity for any potential airport expansion for serving its water needs. These water supply systems are described in detail below.

All of the Town of Wappinger's central water system supplies are from groundwater sources (wells) rather than surface waters. The Village of Wappingers Falls is supplied by a central well field that taps from the aquifer beneath Wappinger Creek. Two small central water systems located within the Town of Wappinger to the southeast, (the Atlas Water Company and the Hilltop District) are sufficiently close to the airport. The Town of Wappinger has recently approved the construction of a new water storage tank to replace an old one in need of repair. The Cider Mill Loop water storage facility serves about 3,000 homes in the Central Wappinger Water Improvement District, which covers areas such as Cider Mill Loop, All Angels Hill Road and Kent Road, among others. The new water facility construction is part of an overall \$8.6 million water improvement planned for the town.

The Poughkeepsie Townwide Water District serves a population of approximately 40,000 in the Town of Poughkeepsie. This water supply is obtained from the Hudson River and three wells. The town also has three storage tanks with a combined capacity of 10.5 million gallons. This district is located northwest of the Wappinger Creek and the airport.

The City of Poughkeepsie's Water Treatment Facility, which is owned jointly by the City and Town of Poughkeepsie, provides the potable water supply to 77,000 people within the City of Poughkeepsie, Town of Poughkeepsie and portions of the Village of Wappingers Falls. The treatment plant was constructed in 1962. It is currently rated at a maximum production capacity of 16 million gallons daily (MGD) and draws its water directly from the Hudson River. In 1999, the treatment facility produced approximately 9.13 million gallons. The Town supplemented this supply with an additional 0.37 MGD of well water, resulting in a total supply of 9.49 MGD.

On August 3, 1995, the City and Town of Poughkeepsie entered into an inter-municipal agreement in which the Town purchased 5.33 MGD of the 16 MGD approved water treatment facility capacity. The agreement authorizes the Town to expand the treatment capacity from 16 MGD to a minimum of 19.3 MGD with a goal of 21.33 MGD. Consequently, the Town will no longer need their wells with the 21.33 MGD capacity. The Town is expected to complete its expansion by August 2001. Therefore, the water supply system will have an adequate amount of water to meet present and future demands.



Additionally, Dutchess County Water and Wastewater Authority is proposing the development of a water supply pipeline, between 13 and 18 miles in length, along the County-owned former Maybrook rail corridor. The pipeline is expected to carry in excess of six million gallons per day from the jointly owned City-Town of Poughkeepsie's Water Plant and the Hyde Park Water Plant to potential users in the Towns of East Fishkill, Wappinger, Hyde Park, and LaGrange. The project will ultimately provide a safe and secure water supply for existing and future development in the southern part of Dutchess County region.

There is potential for the airport to be served by both the City and Town of Poughkeepsie systems as well as the proposed Maybrook pipeline and it is desirable for the airport to do so according to the Airport Manager. There is adequate excess capacity for the airport to be served by these systems.

### WASTE WATER/SEWER

Presently, the airport is not served by an existing sanitary water and sewer service system and consists of on-site sewer and septic. However, the airport is sufficiently close to tap into municipal wastewater/sewer treatment systems in consideration for future development. The proposed airport development is not anticipated to require connection to municipal waste water/sewer systems since demand is not anticipated to be significant over existing demand. Again; however, the airport highly desires connection should an opportunity arise and as adequate waste water/sewer capacity allows.

The Town of Poughkeepsie is served by three principal systems with 27 separate sanitary sewer districts. Four wastewater treatment plants serve the Town: City of Poughkeepsie, Arlington, Country Club Estates and the Tri-municipal.

According to the Town of Wappinger Comprehensive Plan (1988), the town is served by five municipal sewer systems: Oakwood Knolls, Wildwood, Mid-Point Park, Rockingham Farms and Fleetwood Manor. These municipal systems serve five sewer districts and one sewer improvement area. The Town also contains many private central sewage treatment systems with another ten small wastewater treatment plants. The airport is sufficiently close to two of these sewer treatment plants, Mid-point Park and Wildwood. However, both of these systems have limited excess capacity.

## **7.08 DEPARTMENT OF TRANSPORTATION ACT SECTION 4(f) LANDS [RECODIFIED 49 U.S.C. 303 (c)]**

Section 4(f) of the DOT Act places restrictions on the use of any publicly-owned recreational land, public park, recreation area, wildlife and waterfowl refuge or historic site of national, state, or local significance.

There are no publicly owned parks and recreational lands, wildlife and waterfowl refuge or historic site of national, state, or local significance that are directly or indirectly affected by proposed airport development.



### 7.09 HISTORIC AND CULTURAL RESOURCES

There are two basic laws that apply to this category of impact. The first law is the National Historic Preservation Act (NHPA) of 1966, (as amended June 1999). Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation (an independent government agency) a reasonable opportunity to comment.

Through the requirements of the NHPA, any work at the airport that involves Federal funding, licensing, or permitting must consider the effects of a project on a historic property. The responsible Federal agency must determine whether an undertaking could affect historic properties that are included in the National Register of Historic Places or that meet the criteria for the National Register. If so, it must identify the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO) to consult with during the process.

The second law is the Archeological and Historic Preservation Act of 1974, which provides for the survey, recovery, and preservation of significant archeological and historical data.

Consultation with the office of New York State Parks, Recreation and Historic Preservation indicated that:

“...there are no State or National Register listed properties within the boundaries of the airport or in the immediate vicinity of the airport; however, there may be properties on or in the vicinity of the airport property that are eligible for listing on the State and National Registers. The SHPO recommends that a survey of historic resources be undertaken of all properties over 50 years old on the airport property or in an area likely to be impacted by airport development”.

Furthermore, the SHPO has determined that a Phase I archeology study is warranted (unless substantial ground disturbance can be documented) for proposed airport development due to the presence of archeological sites in or adjacent to the airport site. (See Appendix C, *Environmental Correspondence*).

### 7.10 BIOTIC COMMUNITIES/ ENDANGERED AND THREATENED SPECIES OF FLORA AND FAUNA

Consultation under the Fish and Wildlife Coordination Act (48 Stat. 410, 16 U.S.C. 661 et seq.) and pursuant to the Endangered Species Act, (87 Stat. 884, as amended; 16 USC 1531, *et seq*) requires consideration of biotic communities and endangered and threatened species for all proposals. Section 7 of the Endangered Species Act requires each Federal agency to insure that any action the agency carries out "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat" of critical species.

According to the United States Department of the Interior (USDOI) U.S. Fish and Wildlife Service, “except for an occasional transient species, no federally listed or proposed threatened or endangered flora and fauna under Service jurisdiction are known to occur within the project impact area”. Therefore, no biological assessment or further Section 7 consultation under the Act is required with the Fish and Wildlife Service.



Consultation with the New York State Department of Environmental Conservation (NYSDEC) Information Services NY Natural Heritage Program concluded that no occurrences of species of special concern are located within the project area according to their current database information. However, the NYSDEC does not rule out the *future* presence or absence of rare or state-listed species, natural communities or their significant habitats. They further state that “the information should not be substituted for on-site surveys that may be required for environmental assessment” as their databases are continually updated. Therefore, it is recommended to contact the NYSDEC for re-evaluation status of presence or absence of rare or state-listed species, natural communities or their significant habitats as project development progresses.

## 7.11 WETLANDS

Wetlands are defined in Executive Order 11990, *Protection of Wetlands*, as “those areas that are inundated by surface or ground water with a frequency sufficient to support...a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas...”

Federal designated wetlands are mapped on airport property and in the area surrounding the airport (see Figure 7-3, National Wetland Inventory Map). According to the NWI map, there are several federally regulated wetland areas located on and near the airport property. These include palustrine, unconsolidated bottom, permanent, excavated (PUBHx); palustrine, emergent, persistent seasonal (PEM1C); palustrine, forested, broad leaved deciduous, seasonal (PFO1C); palustrine, forested, broad leaved deciduous seasonal saturated (PFO1E); palustrine, emergent, persistent, seasonal saturated (PEM1E); palustrine unconsolidated bottom, permanent (R2Ubh) wetlands.

There is a DEC regulated Freshwater Wetland parcel (PV-51) located off runway end 24 (see figure 7-4, NYSDEC Freshwater Wetland Map).

According to FAA Order 5050.4A, *Airport Environmental Handbook*, “a proposal is considered to affect wetlands if it would involve development in a wetlands area; involve dredging, filling, draining, channelizing, diking, impounding, or otherwise directly impact a wetlands area; involve disturbing the water table of an area in which a wetland lies; or indirectly affect a wetland by impacting regions upstream or downstream or inducing secondary development”.

The federal Clean Water Act, established in 1977, which is an amendment to the 1972 Federal Water Pollution Control Act (33 U.S.C. s/s 1251 et seq.) provides for the protection of wetlands under the Army Corps of Engineers Section 404 permitting program. Consultation with Army Corps of Engineers Regulatory Branch indicated that “their only concern would be the need for required permits (Section 404,etc.), that would apply to corps *jurisdictional* wetlands. Permits would be required if any construction were to occur near, adjacent, or on water bodies, wetlands, or Wappinger Creek or its tributaries”.

Executive Order 11990, *Protection of Wetlands* provides that Federal agencies avoid possible adverse impacts associated with the destruction or modification of wetlands. It further states that Federal agencies avoid direct or indirect support of new construction of wetlands wherever there is a practicable alternative and to include all practicable measures to minimize harm to wetlands. If a



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proposal would affect a wetland and there is no practicable alternative, the following requirements apply:

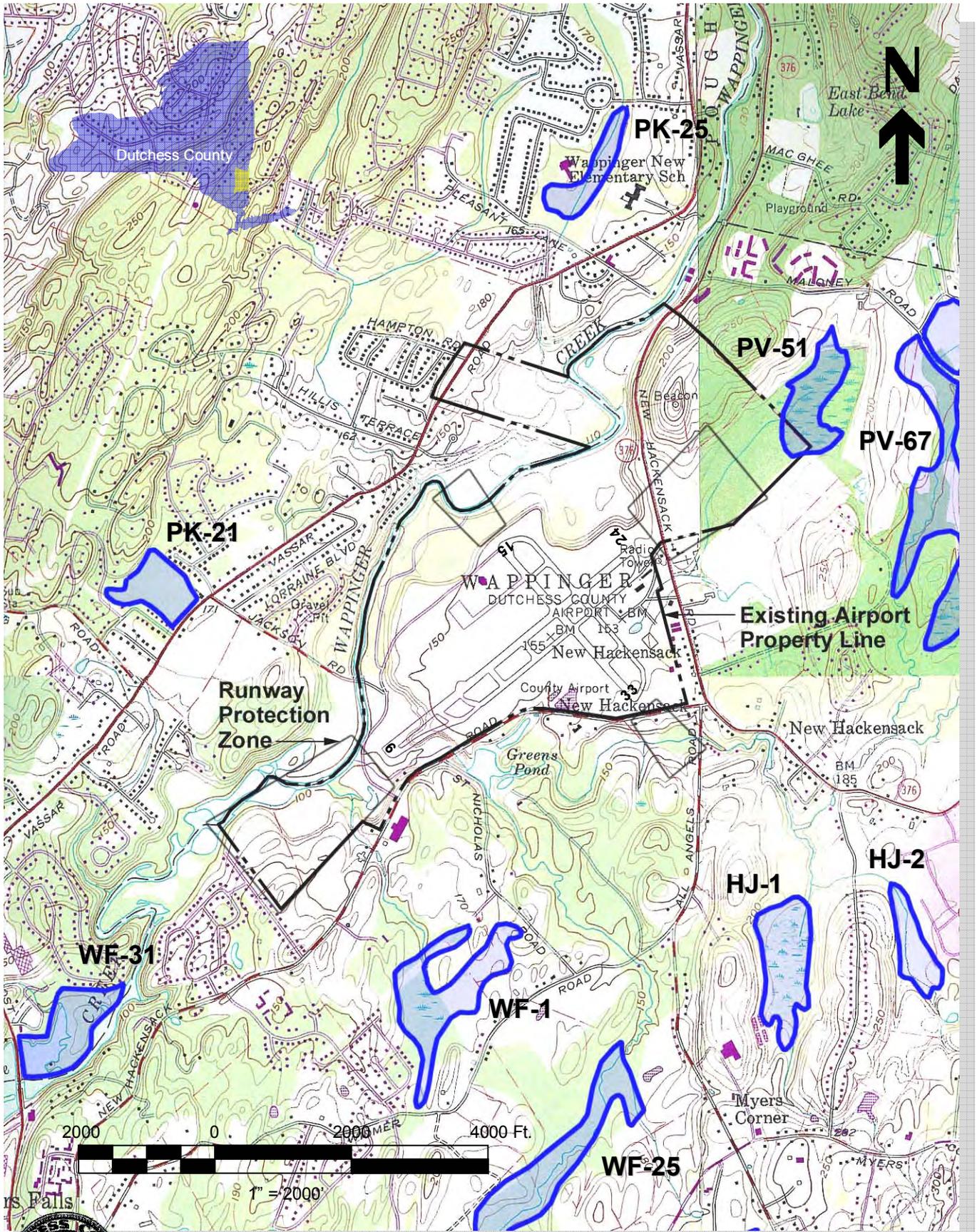
- Airport runoff may be considered to be a discharge subject to Federal or state National Pollutant Discharge Elimination system permit pursuant to the Clean Water Act when the surrounding environment is a wetland (*see* Section 7.07, Water Quality).
- If a project affects a water resource, than coordination is required under the Fish and Wildlife Coordination Act with the Fish and Wildlife service and the state agency having jurisdiction over the wildlife source. FAA Order 5050.4A, *Airport Environmental Handbook* states, “If a proposal would cause only a minor permanent alternation of existing habitat, it may be assumed that there would be no significant impact on biotic communities. *Minor alteration* generally refers to the removal of a few acres of habitat, which represent a small percentage of the area’s inventory, or which support a limited variety or number of common wildlife species”. (*See* Section 7.10, Biotic Communities/ Endangered and Threatened Species of Flora and Fauna).
- Additionally, a wetland, which is in or adjacent to a coastal area, may be subject to a state coastal zone management program (*see* Section 7.13, Coastal Zone Management).

Proposed mitigation includes, but is not limited to:

- Modification of the design, construction, or operation of the facility, including collection of pavement surface runoff to prevent direct discharge into sensitive areas;
- Waste treatment;
- Development of compatible land uses; and
- Special construction controls (*see* Section 7.20, Construction Impacts).

For any construction due to airport development, the necessary wetland permits will be acquired before any development will occur that would impact wetland areas. It is recommended to have a qualified professional evaluate the airport property and areas of potential acquisition to conduct a wetland survey and delineation, and that this survey be contained in any subsequent environmental assessment conforming to the procedures outlined in the Army Corps of Engineers Wetland Delineation Manual (1987).







### 7.12 FLOOD PLAINS

Flood plains are defined in Executive Order 11988, *Flood Plain Management*, as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year."

The Threshold of Significance (TOS) is exceeded when there is an encroachment on a base flood plain (100-year flood). An encroachment involves:

- A considerable probability of loss of life;
- Likely future damage associated with encroachment that could be substantial in cost or extent, including interruption of service or loss of vital transportation facilities; or
- A notable adverse impact on natural and beneficial flood plain values.

Based upon a review of the Flood Insurance Data Map, Wappingers Creek lies within a 100-year flood plain. A portion of the airport property is within the flood plain boundary along the creek in addition to a smaller stream tributary and flood prone area in the southeast quadrant of the airport near the present pilots lounge. The GA Welcome Center and other GA related development are proposed in the base flood plain and therefore, there is potential to impact this category. Therefore, development will need to be consistent with federal, state and local flood plain regulations.

### 7.13 COASTAL ZONE MANAGEMENT

The National Oceanic and Atmospheric Administration (NOAA) Regulations (15 C.F.R. Part 930) contain detailed procedures for determining whether an action is consistent with approved coastal zone management programs.

The TOS is exceeded if the proposed project is in a Coastal Zone Management Program or if any of the TOS are exceeded in the following areas:

- Coastal Barriers
- Water Quality
- Biotic Communities
- Construction Impacts

Consultation with the New York State Department of State Division of Coastal Resources indicates that the airport is not subject to consistency review under the New York State Coastal Management Program. Furthermore, they state that the project area is "located outside the State's designated coastal area and not likely to affect land and water uses and natural resources within the State's coastal area."

### 7.14 COASTAL BARRIERS

The Coastal Barriers Resources Act of 1982 prohibits most federal financial assistance for development within the Coastal Barrier Resource System, which consists of undeveloped coastal barriers along the Atlantic and Gulf coasts. Since there are no coastal barriers located on or adjacent to the airport, there would be no impact.



### 7.15 WILD, SCENIC AND RECREATIONAL RIVERS

The Wild and Scenic Rivers Act describes those river areas eligible to be included in a system that offers protection to rivers which "are free flowing and possess... outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values."

There are no wild and scenic rivers located in the immediate vicinity of the airport.

### 7.16 PRIME AND UNIQUE FARMLAND

If a proposed project involves the acquisition of farmland that will be converted to nonagricultural use, it must be determined whether any of that land is protected by the Farmland Protection Policy Act (FPPA). The FPPA provides guidelines for identifying the effects of Federal programs on the conversion of farmland to non-agricultural uses.

There are no known protected agricultural uses in the near vicinity of the airport and any proposed development would not include conversion of farmland to non-agricultural uses.

### 7.17 ENERGY SUPPLY AND NATURAL RESOURCES

Potential impacts to energy requirements usually fall into two categories: those that relate to changed demands for stationary facilities (e.g., airfield lighting) and those which involve the movement of air and ground vehicles.

No development of the airport is expected to significantly change aircraft or ground vehicle use which would increase fuel consumption, or change the use of any natural resources in short supply.

### 7.18 LIGHT EMISSIONS

In order to assess the potential light emissions impacts, the extent to which any airport lighting will create an annoyance among people near the installation must be addressed.

Any lighting aids for Dutchess County Airport will be designed so that they do not shine directly into homes near the airport.

### 7.19 SOLID WASTE IMPACTS

Airport actions that relate only to airfield development (e.g., runways, taxiways, and related items) will not normally result in an increase in the production of solid wastes after project completion. However, any terminal area development may involve circumstances that require consideration of solid waste impacts.

Proposed expansion or construction of terminal area buildings (e.g., hangars) will require measurements of solid waste production and disposal alternatives. In any case, construction debris would be disposed of at a site approved by Dutchess County and the project engineer.

## HAZARDOUS WASTE

There are two sites of environmental significance on the existing airport property. The sites are included in this discussion as they are related to the future development of the airport. One site located in the northeastern quadrant of the airport (north and west of Runway 15) contains a balefill. It is a 2.25-acre site used for baled refuse and operated between 1976 and 1977. The other is an



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abandoned sanitary landfill consisting of 60-acres, which operated between 1968 and 1972. This site is located northwest of Runway 24. The two sites are approximately 1,000 feet apart. Conversations with the NYSDEC Region 3 Solid and Hazardous Material Unit indicated that the two sites were closed as solid waste facilities, and that there is no documentation to confirm that the facilities were closed consistent with 6 NYCRR Part 360. Therefore, accordingly there are no state regulated post closure activities occurring at either of the sites.

Both of these sites are listed on the NYSDEC Division of Environmental Permits list of Critical Environment Areas (CEA) for Dutchess County. To be designated as a CEA, an area must have an exceptional or unique character with respect to one or more of the following:

- A benefit or threat to human health;
- A natural setting (e.g., fish and wildlife habitat, forest and vegetation, open space and areas of important aesthetic or scenic quality);
- Agricultural, social, cultural, historic, archaeological, recreational, or educational values; or
- An inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any change.

Following designation, the potential impact of any Type I or Unlisted Action on the environmental characteristics of the CEA is an area of environmental concern and must be evaluated in the determination of significance prepared pursuant to Section 617.7 of SEQR.

Development of the sites could involve any or the combination of the following issues:

- Poor Structural Conditions
- Uneven Settlement
- Encountering waste and/or leachate during construction
- Managing landfill gas during and post construction

Any proposed development on either site must be designed in such a manner as not to impede future remedial efforts or in any way compromise the function of the existing cap. Therefore, plans for such development will require conducting a Phase I Environmental Due Diligence Audit (EDDA) of the sites for potential hazardous substances that could result in future FAA liability and consistent if applicable to the following federal regulations: Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Pollution Prevention Act of 1990, and Toxic Substances Control Act (TSCA). In addition, any planning and resulting construction should be consistent with 6 NYCRR Part 360 solid waste management facility regulations and coordinated through the NYSDEC.

### 7.20 CONSTRUCTION IMPACTS

Limited short-term effects resulting from construction operations may occur due to proposed development. Specific effects could include noise of construction equipment on the site, noise and dust from the delivery of materials, air pollution, and water pollution from erosion.

For any future development at the airport, any impact would be controlled and limited by requiring the contractor to comply with all contract provisions for environmental protection. These short-term



construction impacts will not persist beyond the construction period, and no significant long-term construction impacts are expected as a result of development at the airport. All construction activities would take place in accordance with Advisory Circular 150/5370-10A, *Standards for Specifying Construction of Airports*.

### 7.21 ENVIRONMENTAL JUSTICE

Executive Order 12898 (February 11, 1994) was issued to address Environmental Justice in Minority Populations and Low-Income Populations. The intent of this Order is to ensure that each federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment in a manner that does not exclude persons or populations from participation, does not deny benefits, and does not subject to discrimination because of race, color, or national origin. Ensuring greater public participation and access to information by minority and low-income populations is part of the environmental justice strategy.

No discrimination based on minority status or low income will result with implementation of any proposed project and opportunities will be offered for receiving public comments. Recent population characteristics and those from the U.S. Bureau of the Census 1990 decennial census data indicates a very minute percentage of sensitive environmental justice populations are located near or in the vicinity of potential effects from proposed airport development. Therefore, any proposed action as a result of the Master Plan is not likely to have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

### 7.22 IMPACTS TO CHILDREN

Executive Order 13045 requires federal agencies to ensure that their policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks and safety risks. Federal agencies must identify and assess potential environmental health risks to children. Potential environmental health risks are defined to mean risks to health that are attributable to products or substances that the child is likely to come in contact with or ingest, such as air, food, water, soil, and products.

As a result, Executive Order 13045, dated April 21, 1997, states that each Federal Agency:

- (a) Shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and
- (b) Shall ensure that its policies, programs, activities and standards address disproportionate risks to children that result from environmental health or safety risks (i.e., risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest, such as the air, food, water, soil, etc.). (*Federal Register*, April 1997)

No concerns have been raised to date concerning potential environmental health risks to children in the area of the Dutchess County Airport. The airport is primarily surrounded by commercial business south and east of the airfield and residential farther northeast beyond Wappingers Creek. Therefore, disproportionate risks or impact by the airport on schools, playgrounds, and any other areas where children may frequent are not likely. Please refer to air, noise and water quality sections for additional information.



### 7.23 INDIRECT, SECONDARY AND CUMULATIVE IMPACTS

The Council of Environmental Quality regulations (40 CFR §§ 4321 et seq.) require that secondary (or indirect) consequences be included as part of the environmental review process. Direct effects and indirect effects of a project both are “caused by an action”. Direct effects “occur at the same time and place”, while indirect effects “are later in time or farther removed in distance, but are still reasonably foreseeable”.

The potential direct impacts of airport development to the surrounding environment is summarized below:

- Noise impacts
- Water quality impacts
- Construction impacts

The secondary or indirect effects by the proposed airport development that are reasonably foreseeable are:

- Beneficial impacts to local and regional economy resulting from the growth of the airport
- Potential to increase regional airport capacity and reduce airspace congestion in the New York Metropolitan area.
- Water quality impacts

As stated in (40 CFR § 1508.7), cumulative impacts are effects “on the environment, which result from incremental impact of the action when added to other past, present and reasonably foreseeable future actions”. It states furthermore that, “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time”. Impact could occur from concurrent construction of projects in a localized area.

Dutchess County has experienced a growth increase of 8.0 percent from 1990-2000, a rate higher than that of the state growth overall at 5.5 percent. The population increase in the county is attributed to migration patterns of movement out by younger, mobile, highly skilled-workers, and in-migration north from the lower Hudson Valley, New York City and metropolitan suburbs. The region is benefiting from this population pattern as well as a business migration north from New York City and northern New Jersey. The migration patterns are driving both the residential and commercial real estate markets and producing fast-changing business climate in the Hudson Valley. Population growth in Dutchess County over the planning period is estimated to increase by another 19% by the year 2020.

Recent census estimates indicate that Dutchess County is among the fastest growing counties in the State in terms of population. Other regional projections for the Hudson Valley include job growth in the region as among the highest in the State. Dutchess County has been experiencing an unemployment rate averaging around 3.9% over the past five years, a trend expected to continue. The job base has been increasingly become more diversified after the downsizing of IBM in the early 1990’s. For example, manufacturing provided 29,900 jobs in Dutchess County in 1990. In 2000, that industry only supplied 17,500, a 41 percent drop. Reflecting the national trend, service jobs have increased 37 percent during the same period, from 29,300 in 1990 to 40,000 in 2000.



Though the downsizing of IBM has left many abandoned structures in the Poughkeepsie-Kingston region, many of these buildings are in the process of being re-utilized. Therefore, these remaining buildings, equipment, and infrastructure are resources that will be exploited towards a more sustainable economy, and ultimately a more sustainable environment through adaptive reuse. However, the County is experiencing a resurgence of commercial development along major access roads according to the Dutchess County Department of Planning and Development *Major Projects Summary Report* for August 2000.

Housing construction is concentrated mostly in Southern Dutchess County that is catering to the commuter, 22 percent of whom work outside of Dutchess County. Westchester and the New York City metropolitan area are commuter destinations. Dutchess County has been averaging approximately an annual 2% growth rate in residential development between 1990-1999. However, the demand for available affordable housing is exceeding the job growth in the region according to a recent focus group study conducted by the Dutchess County Planning and Development Department with area employers. New single-family home construction is steadily increasing with the largest residential growth areas being the neighboring towns of Beekman, LaGrange and Clinton. The housing construction industry in Dutchess County has seen a major increase in higher-end homes built in LaGrange. Residential construction overall consists of houses ranging between \$350,000 to \$1 million-plus built on parcels of two to four acres.

Recent census figures exceed the projections of the Dutchess County Department of Planning for the year 2000 and reflect the county's growth pressure. This growth pressure throughout the Wappinger Creek watershed has resulted in environmental degradation, especially in the lower portion of the watershed. With extensive commercial and residential development in the southern part of the county and as with most development projects nationwide, there is potential for cumulative impacts to water quality. This is due to the volume of runoff created by stormwater drainage into the Wappinger Creek drainage basin created by increased development in the Towns of Wappinger and Poughkeepsie.

### POTENTIAL ENVIRONMENTAL CONSEQUENCES

The regional airspace near the New York Metropolitan area is congested. Through development of the Dutchess County Airport, indirect, secondary and cumulative impacts experienced as a result of proposed development is anticipated to be beneficial to the region overall. Neighboring Westchester County Airport has declared a no-expansion policy due to environmental issues, and Dutchess County is able to provide relief in both landside and airside future demand for the region.

Geophysical (steep slopes) and natural resource constraints (flood plain and wetlands) limit the extent of cumulative impacts that can be reasonably projected for the near future. This is particularly the case concerning the growth inducement aspects of proposed airport development. Furthermore, local, state and federal regulations exist to restrict growth within the flood plain.

With regard to water quality, proposed airport development resulting from this Master Plan Update would normally have a significant effect on the environment if it would by itself:

- Substantially degrade water quality;



- Contaminate a public water supply;
- Cause substantial flooding or siltation; or
- Substantially alter surface flow conditions, patterns, or rates.

However, the impact of airport development contributing to indirect, secondary or cumulative effects that can reasonably be foreseen is anticipated to be low. Proposed airport development is not directly attributable, nor will it influence the planned development of the region over the planning horizon and beyond.

## MITIGATION MEASURES PROPOSED TO AVOID OR REDUCE POTENTIALLY SIGNIFICANT IMPACTS:

For most airport actions, design considerations, controls during construction, and other mitigation measures, such as Best Management Practices (BMP) can avoid significant impacts to water quality. A BMP plan was developed for Dutchess County (2000) to prevent or minimize the potential for release of significant amounts of pollutants to waters through site runoff, spillage and leaks, sludge or waste disposal, or drainage from raw material storage.

Any proposed construction at the airport will have minimal impact on water quality. To ensure this, soil erosion and siltation controls will be used to minimize adverse water quality effects during construction as specified in Advisory Circular 150/5370-10A, *Standards for Specifying Construction of Airports*.

## MEASURES INCORPORATED BY REGULATION THAT AVOID OR REDUCE POTENTIALLY SIGNIFICANT IMPACTS:

As previously stated in Section 7.07 *Water Quality*, the federal Clean Water Act provides the authority to establish water quality standards. The act also provides the authority to regulate discharges into surface and subsurface waters, develop waste treatment management plans and practices, and issue permits for discharges (§402) and for dredged or fills material (§404).

Additionally, Section 401 of the Clean Water Act requires that federally permitted activities comply with the Clean Water Act, state water quality laws and any other applicable state laws. Any application for a federal permit (such as a Section 404 permit) that could result in pollutant discharge to a state's waters is required to obtain a certification from the state in which the activity is to occur. The state must certify that materials to be discharged into a wetland or watercourse will comply with the state water quality standards, applicable effluent limitations, and any other relevant conditions of state law. Therefore, a Section 401 Water Quality Certification would be required as a result of proposed airport development.

Regarding stormwater discharges as required by the federal Clean Water Act, all construction activities proposing to disturb five or more acres of land must be authorized by a National Pollutant Discharge Elimination System (NPDES) Permit. Consequently, the following items will also be required:

- Stormwater permit for construction activities according to Section 402 of the Clean Water Act; and



- Water quality certification according to the 1982 Airport Act.

New York State administers a State Pollutant Discharge Elimination System (SPDES) program, which serves as the authorizing mechanism for activities in the State to comply with the NPDES program. A SPDES permit also satisfies the federal NPDES requirements since the NYSDEC has an approved NPDES program. The SPDES program's administration is in lieu of the United States Environmental Protection Agency issuing NPDES permits in New York State. Dutchess County Airport currently holds an individual SPDES permit that requires the implementation of a BMP.

## 7.24 ANTICIPATED PERMITS AND APPROVALS

Several specific and/or general permits may be required for proposed airport development. A summary below lists anticipated permits and approvals:

- National Environmental Policy Act (NEPA) Environmental Assessment;
- State Environmental Quality Review Act (SEQRA) compliance;
- Historic and Archaeological Preservation – “Determination of Effect” coordination with the State Historic Preservation Office (SHPO) pursuant to project Memorandum of Understanding (MOU).
- U. S. Army Corp of Engineers Section 404 Wetland Permit (Individual Permit);
- Executive Order 11990 – Wetland Findings;
- New York State Department of Environmental Conservation (NYSDEC) Section 401 Water Quality Certification;
- NYSDEC State Pollution Discharge Elimination System (SPDES) permit for construction activities;
- Land Use Compatibility Planning with Town of Poughkeepsie and Town of Wappinger;
- Governor's certification of compliance with air and water quality standards (According to the Airport and Airway Improvement Act of 1982 (Public Law 97-248)).

The specific permitting and coordination activities are a function of the final Airport Layout and Master Plan. It is noted that although specific permits may not be required, coordination with several agencies (Towns of Poughkeepsie and Wappinger, SHPO, USACOE, and NYSDEC) will be required for various project activities.