Chapter 6
Environmental Overview

The National Environmental Policy Act of 1969 (NEPA) identifies 23 environmental categories that must be reviewed in preparing a NEPA-compliant document prior to implementation of any infrastructure improvement project receiving federal funds. As a part of the sustainable master planning process, a review of these categories was conducted to identify potential environmental concerns that should be considered when planning future development. It is important to note that this review does not determine or delineate any detailed environmental concern, nor can it be used in the place of a Categorical Exclusion (CatEx), Environmental Assessment (EA), or an Environmental Impact Statement (EIS) to fulfill NEPA requirements. Rather, this review is intended to identify preliminary potential environmental concerns that should be considered prior to implementation of the recommended alternatives.

Information presented in this chapter is based on data collected from a number of federal and state agencies as well as local resources, such as previous environmental studies, discussions from University Park Airport (Airport) officials, and input from the local community. This preliminary overview of categories that were known or easily visible upon a site inspection were completed in conformance with Federal Aviation Administration (FAA) Order 1050.1B, *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, FAA Advisory Circulars (ACs), and applicable federal, state, and local regulations. Further investigation of all 23 environmental categories, such as through cultural resource studies or wetland delineations will be needed at the time of preparation of a NEPA document prior to the design and construction of the recommended alternatives to verify the information presented in this chapter.

The following sections in this chapter present the NEPA categories that were reviewed for any potential environmental impacts that could be caused by the future infrastructure improvements that are being proposed from this sustainable master planning effort:

6.12 Summary

It should be noted that a detailed review was not conducted of all 23 NEPA categories since a number are not applicable due to the environs that surround the Airport and/or the nature of the proposed infrastructure improvement projects. The following lists each NEPA category that was excluded from a detailed environmental review along with a brief explanation as to why review of the category was not necessary.

- **Social Impacts –** Although the acquisition of land may be necessary, such as for an extension of Runway 6/24, it is not expected to impact the health and safety of children, significantly impact ground transportation patterns, or impact the vitality of businesses in the surrounding community.

- **Socioeconomic Impacts –** The proposed improvements are not expected to significantly change the population, alter public services, or reduce economic activity for the surrounding area; in fact, the proposed improvements are expected to have positive effects through the development of additional employment opportunities, business growth, and economic activity.

- **Environmental Justice –** The proposed improvements are not anticipated to impact minority and low-income populations that live in geographic proximity to the Airport.

- **Air Quality –** Typically, development actions occurring at airports having at least 180,000 annual general aviation (GA) operations or more than 1.3 million enplanements are required to perform an air quality analyses. Since projections for the Airport are significantly less than these thresholds, an air quality analysis is not required for any of the proposed development actions. However, air quality may be temporarily reduced during construction as a result of vehicles and equipment. Any reduction in air quality is not anticipated to be at levels that would pose significant short-term or long-term health risks to the Airport or the surrounding community.

- **Department of Transportation (DOT) Act, Section 4 (f) –** Land from a public park, recreational area, wildlife/waterfowl refuge, or historic site of national, state, or local significance will not be used to implement the proposed alternatives.

- **Floodplains –** Although the Airport is located near Spring Creek, its floodplain is not located within the project area of any of the proposed developments, thus, floodplain impacts are not anticipated.

- **Coastal Barriers and Coastal Zone Management –** The Airport is located inland and is not in the proximity of a coastal zone management area; therefore, the proposed infrastructure improvements will not impact coastal resources.

- **Wild and Scenic Rivers –** A review of the National Wild and Scenic Rivers System (NWSRS) database, as well as the Commonwealth of Pennsylvania's Department of Conservation and Natural Resources database found that no federally- or state-recognized wild and scenic rivers are within the proximity of the Airport. As such, impacts to wild and scenic rivers are not anticipated.

- **Energy Supply and Natural Resources –** Energy usage as a result of the proposed infrastructure improvements is not anticipated to significantly impact local supplies or increase strain on local and regional power grids. In fact, an overall reduction in energy consumption is possible with the implementation of energy saving features that are planned for each proposed infrastructure development. Likewise, the consumption of raw materials to implement the proposed infrastructure developments is not anticipated to significantly impact the supply of any local natural resources.

- **Light Emissions and Visual Effects –** Light emissions and visual effects as a result of the proposed developments are not expected to adversely impact local residences in proximity of the Airport or create unwanted glares for pilots and air traffic controllers.

- **Solid Waste –** While temporary increases in waste volumes may be experienced during construction of the proposed infrastructure developments, it is not anticipated to significantly impact facilities that process and dispose of waste. The use of recycling will be implemented, where possible, to reduce the volume of waste generated during construction.

- **Construction Impacts –** No significant short-term environmental impacts are anticipated during the construction of the proposed infrastructure developments. Any potential soil erosion, sediment runoff, storm water discharges, and emissions will be controlled with appropriate devices, where applicable, in accordance with federal, state, and local environmental regulations.

- **Cumulative Impacts –** In combination with past, present, and future development actions, the proposed infrastructure improvements are not anticipated to cumulatively impact any of the 23 environmental categories defined by NEPA.

While the review of environmental conditions surrounding the Airport determined that the previously mentioned NEPA categories would not be significantly impacted as a result of the proposed infrastructure improvements, each will need to be evaluated again in detail as part of a NEPA-compliant document to confirm the findings of this study prior to construction. Impacts to the NEPA categories that can be anticipated as a result of the proposed infrastructure improvements are discussed in the following sections.

6.1 Noise

FAA Order 1050.1E, *Policies and Procedures for Considering Environmental Impacts*, requires that a noise analysis be conducted when an airport experiences more than 90,000 annual piston-powered aircraft operations, more than 700 annual jet-powered operations, is being sited in a new location, or when a runway is relocated, strengthened, or extended. Since an extension of the runway is being proposed as a part of this sustainable master planning process, a noise analysis will be needed as part of a NEPA-compliant document that would be prepared for this project.

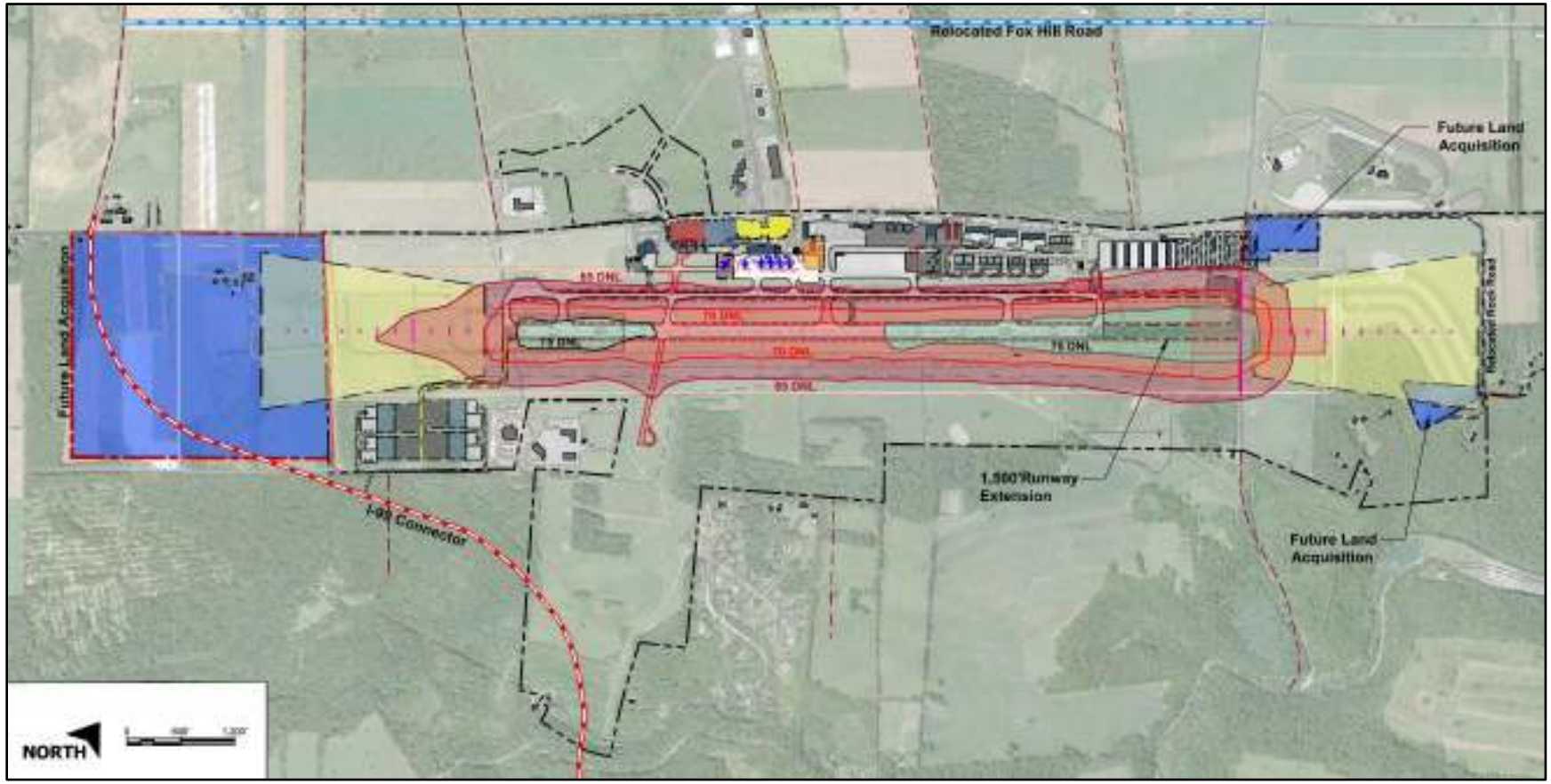
To measure the effects of aircraft noise, this analysis determines the Day Night Average Sound Level (DNL), or the average sound level in decibels (dB), from an average 24-hour operational day at an airport. The DNL contours prepared for an airport include a 10 dB noise penalty for each aircraft operation that occurs between 10 p.m. and 7 a.m. local time to account for the heightened sensitivity of noise during nighttime hours. By determining the locations of the DNL contours, a map is then developed to illustrate the impact of aircraft noise on surrounding land uses. Land within 65 DNL contour is considered to be incompatible by 14 Code of Federal Regulations (CFR) Part 150 and could require an airport to revise aircraft arrival and departure procedures, establish voluntary noise abatement procedures, or insulate affected structures depending on the types of land uses within this area and level of impact.

While a comprehensive noise analysis is not required until the preparation of a NEPA-compliant document prior to construction of the proposed runway extension, a review was conducted of the existing noise contours at the Airport and where a shift in noise intensity may occur as a part of the runway extension. Noise contours from the current Airport layout plan (ALP) and Federal Aviation Regulation (FAR) Part 150 noise study were used in this review to determine areas of land that may be impacted by a greater intensity of aircraft noise as a result of a future extension of Runway 6/24.

As illustrated in **Figure 6-1**, the 65 DNL, 70 DNL, and 75 DNL contours would move further to the east as a result of a runway extension; however, all of the land within these areas would remain on Airport property. No significant noise impacts to off-Airport land uses are anticipated as a result of the change in noise contours due to the proposed runway extension. While the height of the flight paths of aircraft landing on Runway 24 would be slightly lower over land uses at this end of the runway, it is not anticipated that these areas will experience a significant increase in the exposure of noise. It should be noted that the population density under the flight path of Runway 6/24 to the east of the Airport is lower than to the west. An extension of Runway 6/24 at the approach end of Runway 24 may, in fact, reduce the intensity of aircraft noise over higher density land uses to the west of the Airport. The height of departing aircraft flight paths for most types that will conduct operations at the Airport during the planning period are anticipated to be higher over these areas, thus reducing the intensity of aircraft noise that would be experienced.

The completion of a noise analysis as part of a NEPA-compliant document for the construction of the proposed runway extension will be able to further evaluate the impacts of aircraft noise and identify the change in noise intensity that can be anticipated for land uses under aircraft flight paths in more detail.

Figure 6-1: Anticipated Noise Contours with Proposed Runway Extension



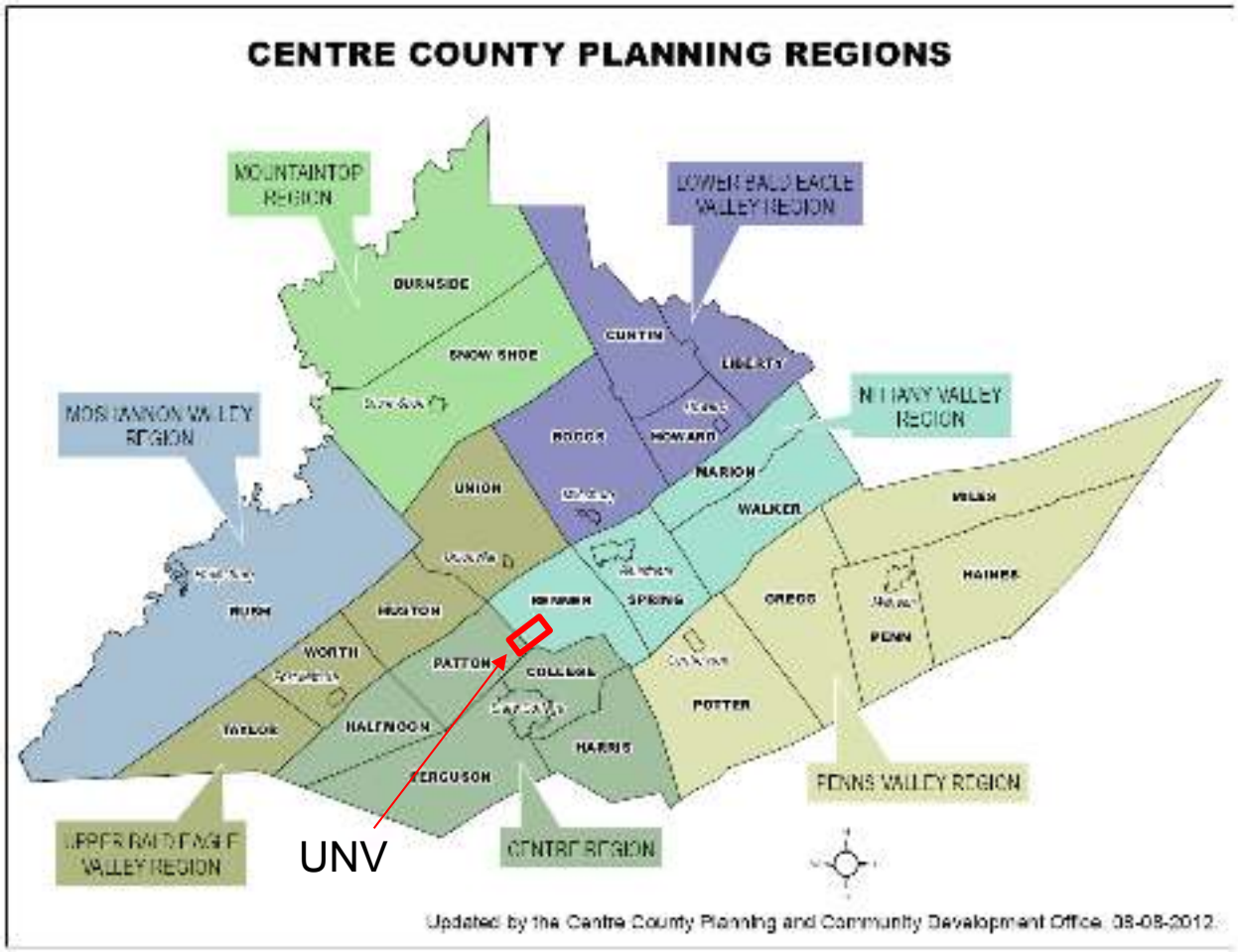
Note: = Future Pavement Removal

Source: Mead & Hunt, Inc. (2014)

6.2 Compatible Land Use and Local Land Use Controls

The Airport is located entirely within Centre County, which maintains the Centre County Comprehensive Plan that includes seven planning regions as shown in **Figure 6-2.** Phase I of the County's last comprehensive plan was adopted in December 2003 and included a transportation element for six public use aviation facilities located within Centre County. The plan notes specifically that planning for airport expansion must consider future growth in air traffic and air freight service in addition to ensuring that the roadways will accommodate increased traffic around the Airport. At the county level, it is recognized that the continued growth of aviation, especially at the Airport, will require forethought in planning to accommodate increased use.

Figure 6-2: Centre County Planning Regions

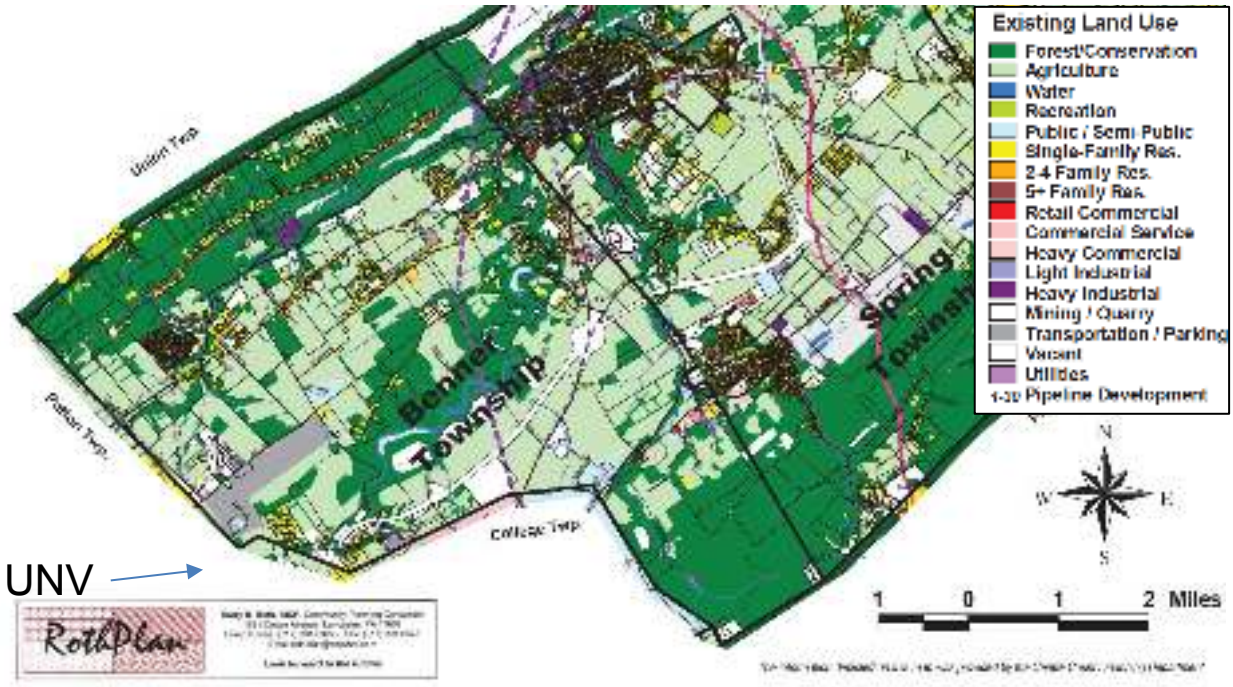


Source: Centre County Planning and Community Development Office

Most of the Airport is located in Benner Township, which is included in the Nittany Valley Region of the Official Comprehensive Plan of Centre County as shown in **Figure 6-3**. This plan includes a section (Section H) that illustrates two airports within the Nittany Valley Region, one being the University Park Airport and the other the Bellefonte Airport in nearby Bellefonte. This section specifically recognizes the University Park Airport and mentions that the FAA recommends airports manage land within their respective

Runway Protection Zones (RPZs) to prevent the construction of flight obstructions, development of incompatible uses, and to protect neighborhoods from excessive noise. The section also notes that in 1997 the University Park Airport acquired 15 properties to protect their RPZs and that the Airport's master plan at the time suggests the acquisition of another 187 acres associated with a planned extension of Runway 6/24.

Figure 6-3: Existing Land Use in Benner and Spring Townships

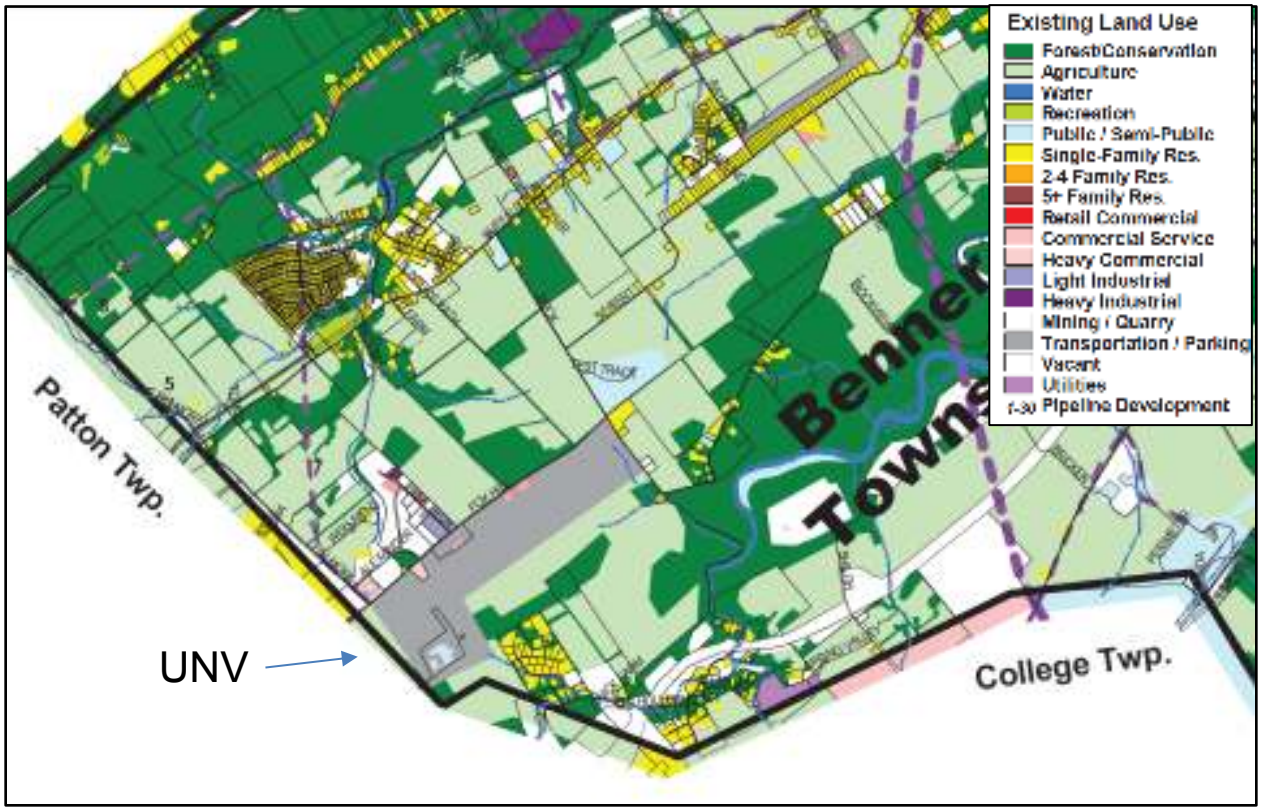


Source: Official Comprehensive Plan – Nittany Valley Region, Centre County, PA. 2004.

The Official Comprehensive Plan of Centre County states that local officials should coordinate community development goals to accommodate the Airport and prevent the development of new land uses that would adversely affect, or be adversely affected by, planned airport expansion. This regional plan recognizes the recommendations of the previous master plan, including land acquisition that will be needed to extend Runway 6/24. Additionally, it recognizes the issue of land use compatibility, as it relates to impacts on the Airport and its operations, as well as potentially adverse effects on the surrounding community.

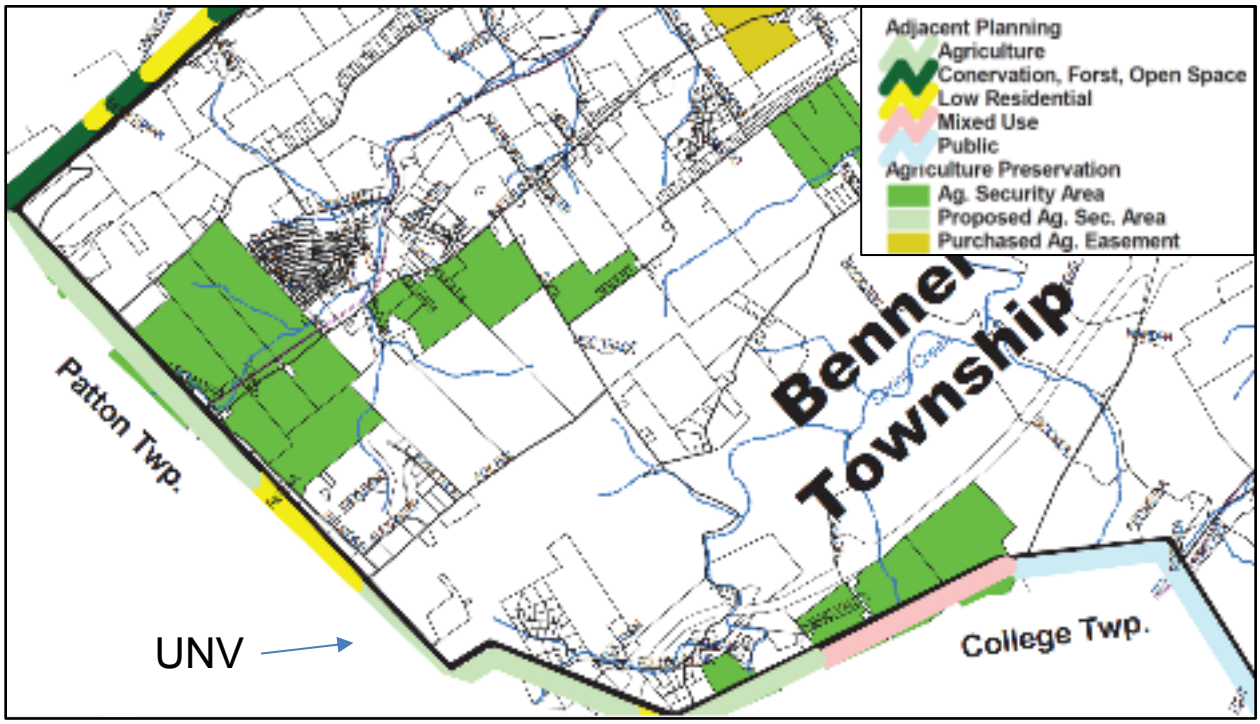
Several maps are included in the Nittany Valley Comprehensive Plan that illustrate existing land uses, agricultural preservation areas, and future land uses within the four township region. Portions of these maps have been included in the next several pages that show land use characteristics within Benner Township specifically. These maps include existing land use (**Figure 6-4**), agricultural preservation and adjacent planning (**Figure 6-5**), future land use (**Figure 6-6**), and transportation infrastructure (**Figure 6-7**).

Figure 6-4: Existing Land Use in Benner Township



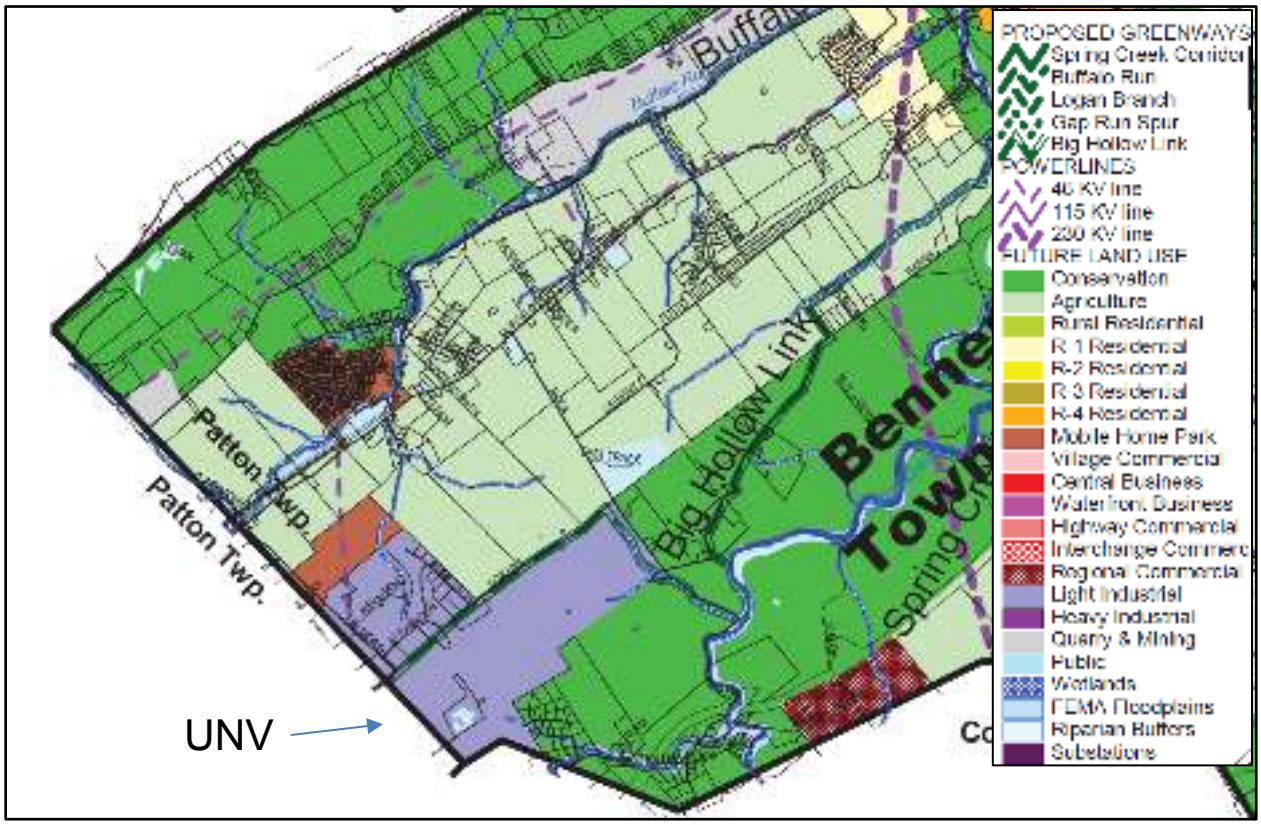
Source: Official Comprehensive Plan – Nittany Valley Region, Centre County, PA. 2004.

Figure 6-5: Agricultural Preservation and Adjacent Planning in Benner Township



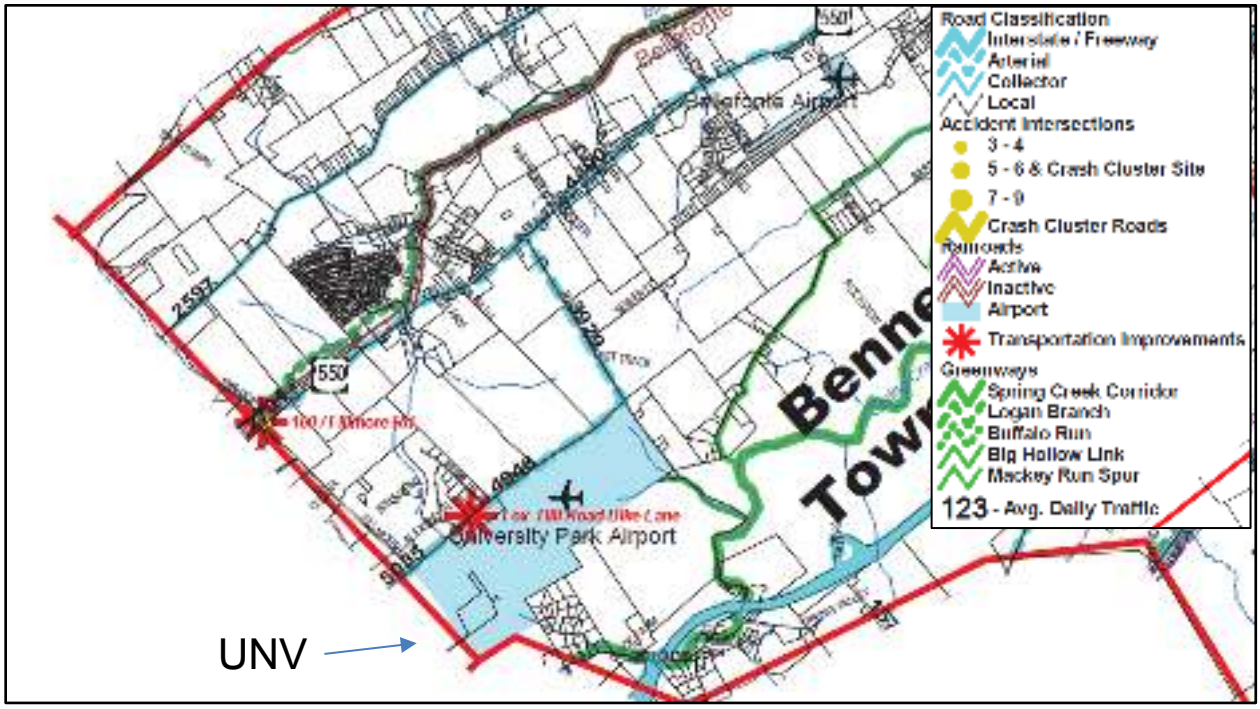
Source: Official Comprehensive Plan – Nittany Valley Region, Centre County, PA. 2004.

Figure 6-6: Future Land Use in Benner Township



Source: Official Comprehensive Plan – Nittany Valley Region, Centre County, PA. 2004.

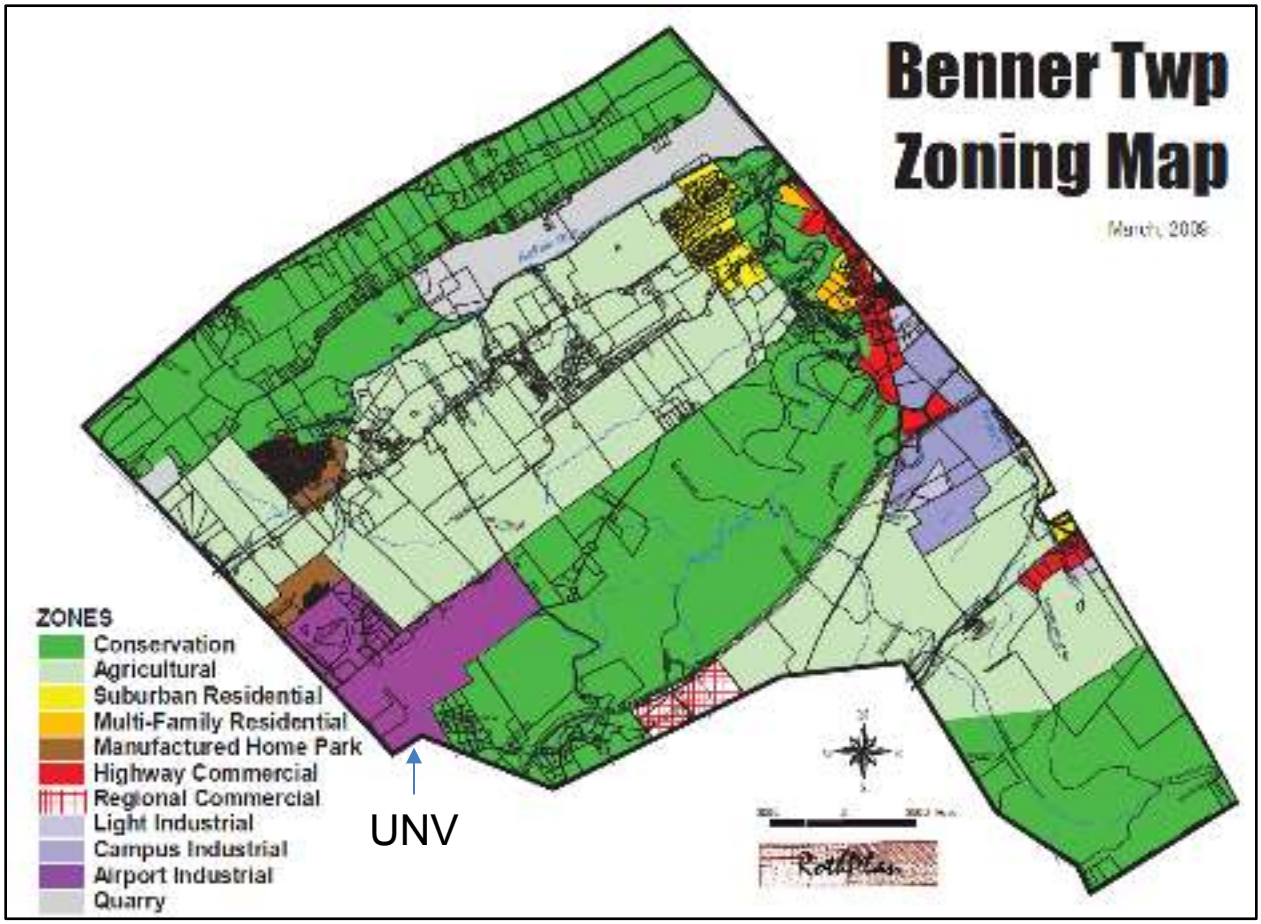
Figure 6-7: Transportation in Benner Township



Source: Official Comprehensive Plan – Nittany Valley Region, Centre County, PA. 2004.

At the township level, Benner Township maintains and periodically updates their township zoning ordinance. The last version was adopted in 2009, although at the time of this study a 2014 version was currently out for public comment. A map is included in the 2009 version that outlines existing zoning of property within Benner Township that is shown in **Figure 6-8**. This map matches the future land use map from the Nittany Valley Regional Comprehensive Plan.

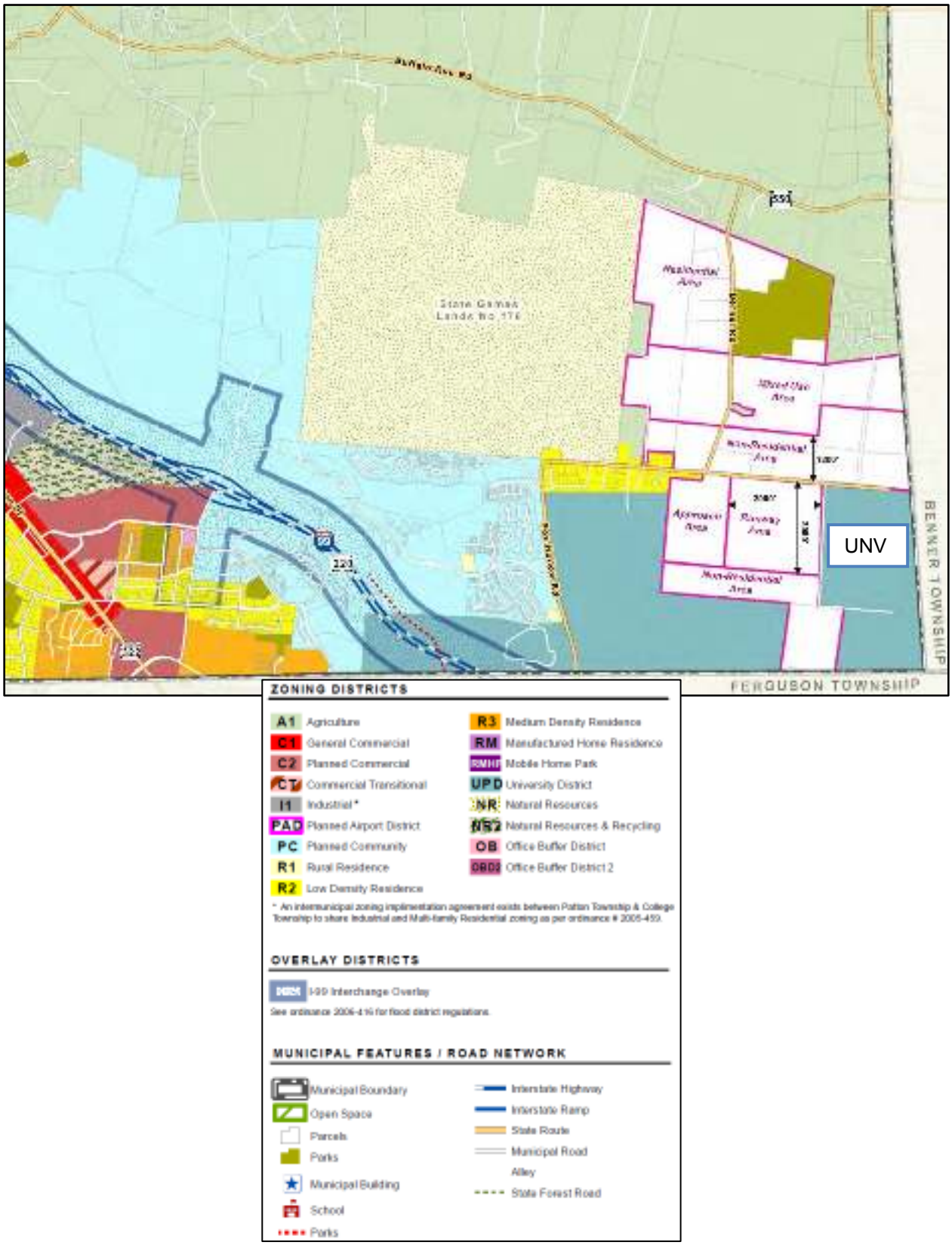
Figure 6-8: Benner Township Zoning Map



Source: 2009 Benner Township Zoning Ordinance

Although the Airport is mostly located within Benner Township, a portion of the Airport property to the southwest is located within Patton Township. The most recent zoning map for Patton Township was published in 2011 and is presented in **Figure 6-9**.

Figure 6-9: Patton Township Zoning Map



Source: 2011 Patton Township Zoning Map

The Airport is located to the north of State College in an area that is predominately used for agricultural purposes and conservation. Both existing and future land use/zoning maps for Benner and Patton Townships indicate that the majority of the area in the general vicinity of the Airport will be maintained as agricultural or conservation land, excluding areas that are used or zoned for airport-related uses, such as Airport Industrial (in Benner Township) and the Planned Airport District (in Patton Township). Some single-family residential uses are located in the vicinity; however, at this time the majority of the residential and heavier industrial and institutional uses are located to the south of the Airport and closer to State College and The Pennsylvania State University (Penn State). Currently, the Airport is surrounded mostly by land uses that are considered to be compatible with airport operations.

Both Benner and Patton Townships have made efforts to protect the Airport and surrounding land uses. Each township recognizes the importance of the Airport to the local community and the importance of planning for the anticipated growth that is expected to occur in the community and at the Airport.

Benner Township has developed a special zoning district (Airport Industrial Zone [I-3]) that includes the Airport and the immediate area to the northwest and outlines specific allowable uses that are generally considered to be compatible with airport operations while also benefitting from being in close proximity to the Airport. In addition to the special zoning classification, Benner Township has also adopted an Airport Overlay Zone that protects the FAR Part 77 Surfaces surrounding the Airport. This Overlay Zone regulates the height of structures in each area (called Airport Hazard Zones in the ordinance) as well as uses that could create electrical interference, visual obstructions, hazardous wildlife attractants, or other uses that could otherwise endanger or interfere with aircraft operations. The Overlay Zone requires compliance with FAA procedures in determining height hazards and encourages Airport administration to work with property owners and developers to create compatible development.

In Patton Township, the Planned Airport District from the township zoning ordinance includes five sub-areas for which permitted and prohibited uses have been defined based on their compatibility with Airport operations and the proximity to airport design surfaces. The goal of the district is to prevent obstructions and mitigate incompatible uses that affect airspace, create adverse noise impacts, attract large concentrations of people, and do not include sufficient open spaces.

It is important to note that the zoning ordinances of both Benner and Patton Townships support and encourage compatible development and the rights of property owners to use their land, and the coordination and collaboration between Airport administration, property owners, and developers.

In addition to these zoning ordinances, Benner Township adopted an additional ordinance to create a Spring Creek Canyon Conservation Overlay to implement land use and land development-related goals within the Spring Creek Canyon Cooperative Management Area, located adjacent to the Airport to the northeast (**Figure 6-10**). The intent of the overlay is to minimize site disturbance within the management area to promote conservation, restore native plant communities, preserve cultural and historic resources, and protect surface and groundwater quality.

Figure 6-10: Spring Creek Canyon Cooperative Management Area

Source: Pennsylvania Fish & Boat Commission (2015)

Permitted land uses within the Spring Creek Canyon Cooperative Management Area include those for conservation, restoration, and agricultural purposes with limited uses allowed that require site disturbance. As such, permitted land uses within the Spring Creek Canyon Cooperate Management Area are compatible with Airport operations. The Airport lies within the "Secondary Canyon Zone," which is subject to restrictions of the removal of forest canopy and the shielding of exterior lighting. FAA requirements, however, preempt these restrictions according to Benner Township Ordinance 125 since tree removal may be needed to protect aircraft from obstructions and light may need to be emitted without shielding for the operation of navigational aids. In summary, Centre County, Benner Township, and Patton Township appear to have adequate controls in place to protect the Airport from incompatible land uses. It is encouraged that these controls continue to be enforced to protect the Airport from future development that could be incompatible with its operation. Likewise, land use compatibility should be continually reviewed throughout the planning period to confirm land uses surrounding the Airport are compatible with its operations.

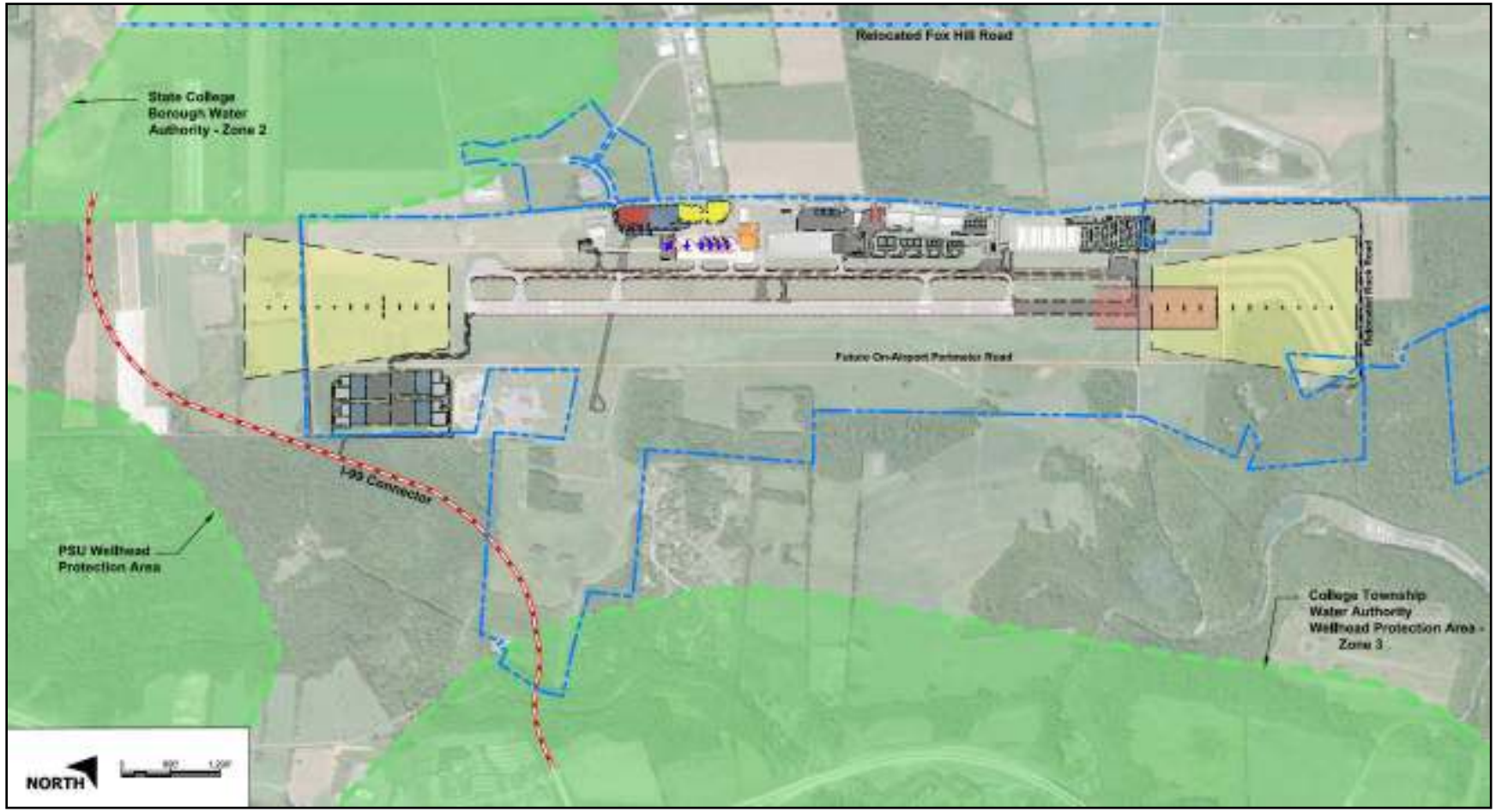
6.3 Water Quality

Sediment from construction activities on an airport and fluids from aircraft fuels, lubricants, hydraulics, and anti-icing/de-icing chemicals have the potential to pollute above and below ground water sources. As such, it is important to review the impact of Airport development on surrounding water quality. Activities that could impact navigable waterways, municipal drinking water supplies, important sole-source aquifers, or protected groundwater supplies must be evaluated to determine their impact on water quality. The Clean Water Floodplains and Floodways Act of 1977, also known as the Clean Water Act (CWA), and several other federal, state, and local regulations provide guidelines and requirements for the discharge of waste and storm water to protect waterways and drinking water supplies. Permits, such as a National Pollution Discharge Elimination Systems (NPDES) permit, may be necessary from federal, state, and local agencies to discharge storm and waste water.

In an effort to preserve sources of drinking water, the State College Borough Water Authority (SCBWA), Penn State, and the College Township Water Authority (CTWA) have designated wellhead protection areas in the local community to prevent and protect surface and subsurface aquifers that supply water to wells and well fields. As illustrated in **Figure 6-11**, the wellhead protection areas for these three entities surround the Airport. Only the proposed relocation of Fox Hill Road and the construction of the connector to Interstate 99 is planned to occur within the wellhead protection areas. Coordination as a part of the environmental review phase should occur with the wellhead protection area entities prior to the design and construction of any future project in these areas, or which could potentially impact these areas such as storm water runoff. Coordination with the wellhead protection area entities may result in the need for permits and/or other mitigation measures. It is not anticipated that the construction of these roadways will significantly impact the wellhead protection areas; however, once the final routing of these roadways have been determined further review will be needed to determine their impact on the wellhead protection areas. Best management practices should be implemented during construction to control sediment and waste water runoff from impacting above and below ground water quality in these areas.

An expansion of the aircraft deicing apron and an increase in impermeable surfaces at the Airport as a result of the proposed runway, taxiway, and taxilane improvements should also consider the incorporation of storm and waste water control measures to prevent or limit the impact of aircraft deicing fluids and storm water runoff on local water quality. The inclusion of controls for the continued capture and discharge of deicing fluid into the design of the apron expansion is recommended to prevent deicing fluid, such as glycol, from entering area waterways. Likewise, storm water runoff controls should be incorporated into the designs of the extension of Runway 6/24, as well as for the construction of taxiways and taxilanes to support GA development, so that mechanisms are in place to prevent the contamination of water supplies and sanitary sewers. Finally, best management practices should be used during the construction phase of these projects and all other proposed infrastructure improvement projects at the Airport to prevent sediment from infiltrating local water supplies. Water quality permits and assessments from federal, state, and local agencies may also be needed.

Figure 6-11: Wellhead Protection Areas



Source: Mead & Hunt, Inc. (2014)

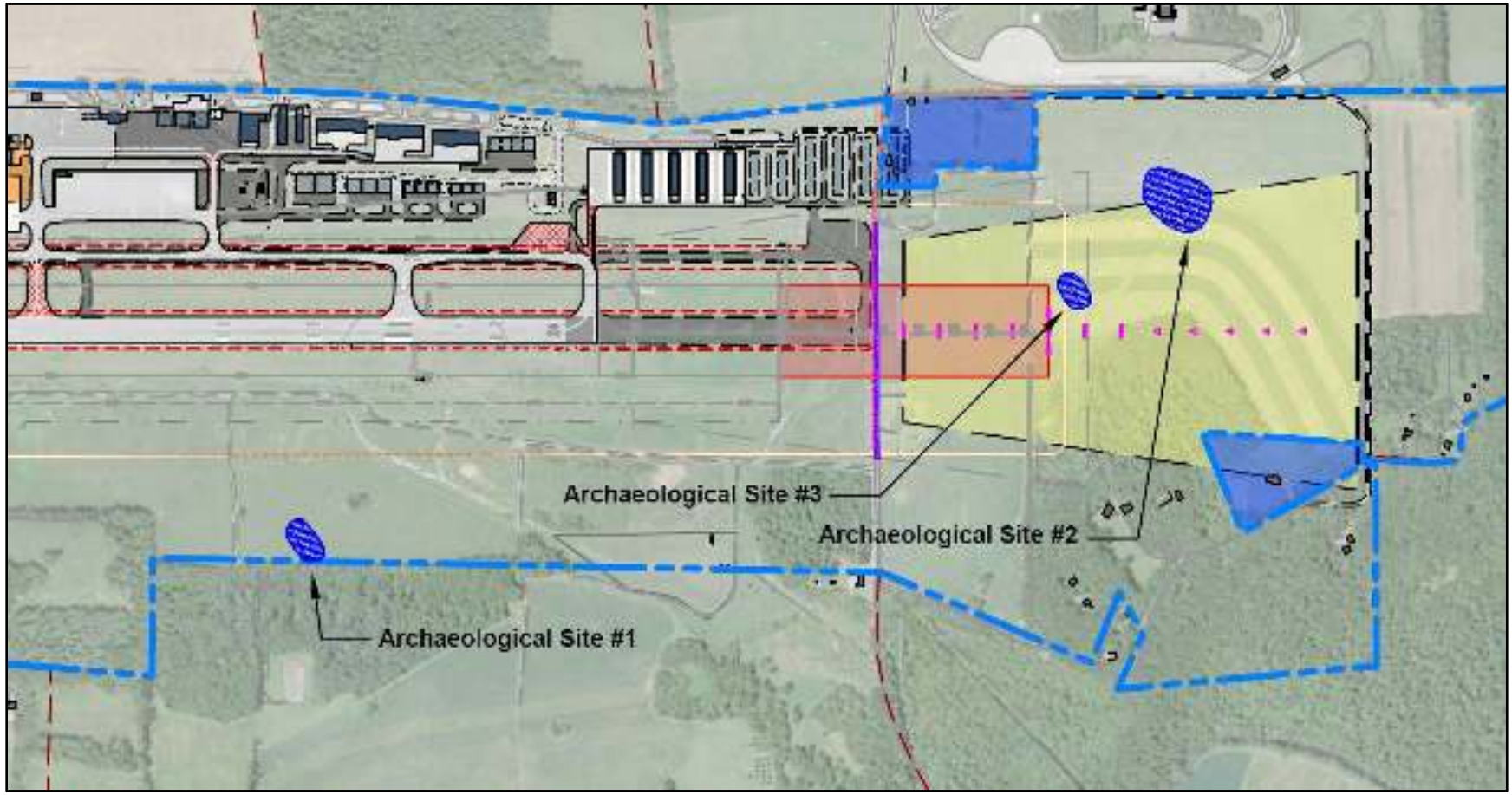
6.4 Historic and Archeological Resources

Section 106 of the National Historic Preservation Act (NHPA) requires that any action by a federal agency consider potential impacts to historic properties. This includes any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. Also included are any properties or sites that may have traditional religious or cultural importance to Native American Tribes and Hawaiian organizations. As a part of the preparation of a NEPA-compliant document, consultation with State Historic Preservation Offices (SHPOs), as well as Tribal Historic Preservation Offices (THPOs) are required to determine if a proposed development could impact a site of historic or cultural significance.

In 1993, a cultural resource survey was conducted at the Airport in support of a then proposed runway extension. This survey consisted of controlled surface collection in fields that could be plowed and the excavation of 527 shovel test pits in wooded areas and alfalfa fields that could not be plowed. In all, over 300 acres of land were evaluated. Through this effort, three archeological sites were identified at the Airport as illustrated in **Figure 6-12**. As illustrated in the figure, the first site is located near the property boundary of the Airport south of the touchdown zone area of Runway 24. The second site is located within the boundary of the RPZ at the approach end of Runway 24 while the third site is located near the Runway 24 medium intensity approach lighting system with runway alignment indicator lights (MALSR) unit. Information obtained as a part of this effort did not focus on the historical or archeological significance of these sites, but rather their locations and how they could be impacted by future proposed infrastructure development.

As indicated in the drawing, it does not appear these archeological sites will be impacted by the future infrastructure improvements proposed by this sustainable master plan. Further evaluation of the historical or archeological significance of these sites will be needed as part of the preparation a NEPA-compliant document prior to the construction. Given the proximity of these sites to existing and proposed development, artifacts could be uncovered during excavation or earth work at other locations during construction at the Airport. If any historic, archeological, or tribal artifacts are found, all work should be halted until the Pennsylvania Historical and Museum Commission (PHMC), Bureau for Historic Preservation (BHP) is contacted, and, if needed, the appropriate THPOs, to determine their historical significance. If any artifacts of significance are found, additional environmental clearance may be necessary to review and determine historical and cultural importance. No additional sites of historic, archeological, or cultural importance were identified on or adjacent to the Airport.

Figure 6-12: Archeological Sites



Source: Mead & Hunt, Inc. (2014)

6.5 Biotic Resources

Biotic resources are considered to be various types of flora (plants), and fauna (fish, birds, reptiles, amphibians, marine mammals, coral reefs, etc.) in a particular area, such as rivers, lakes, wetlands, forests, and upland communities that support flora, aquatic fauna, and avian fauna. Developments that could affect biotic resources such as a stream or water body must consult with the U.S. Fish and Wildlife Service (USFWS) to assess potential impacts. Consultation with the Pennsylvania Department of Conservation and Natural Resources (DCNR), Pennsylvania Department of Environmental Protection (PA DEP), and the Pennsylvania Fish and Boat Commission (PFBC) may also be required.

A few small wetland areas are located on Airport property, which will be discussed in greater detail in Section 6.7. These wetland areas are not capable of supporting fish; however, they could support other aquatic species, such as reptiles, amphibians, and plant life common to a wetland ecosystem. Mitigation of these small wetland areas may be needed to support future infrastructure development. If found to be needed, additional review of the flora and wildlife found within these areas should be completed as required in the development of a NEPA-compliant document to determine if the area supports a biotic community and to determine the level of impact the proposed developments would have on this area. Due to their small size, it is not anticipated that mitigation of these wetland areas will be a significant impact to biotic resources.

Adjacent to the Airport is the Big Hollow Road Biological Diversity Area which is capable of supporting biotic resources. While most of the proposed projects would not impact this area, the construction of a future connector to Interstate 99 would be routed through this area and has the potential to impact biotic resources. Prior to the design and construction of this project a review of biotic resources located within this area will be needed as a part of the NEPA process to evaluate any potential impacts from the construction of the Interstate 99 connector.

6.6 Endangered and Threatened Species

The Endangered Species Act of 1973 (ESA) protects endangered plants and animals, as well as the habitats in which they are found. In compliance with the ESA, federally-funded projects are required to obtain from the USFWS information concerning any species listed, or proposed to be listed, which may be present in the area of the proposed project. An initial review of endangered and threatened species in Pennsylvania from the Pennsylvania Game Commission found that a few are known to breed in Centre County, such as the endangered American bittern, Indiana bat, and short eared owl, as well as the threatened long eared owl, northern harrier, and eastern small-footed bat. An additional review of the Pennsylvania Natural Heritage Program (PNHP) database found that side-oats gramma grassland is present south of the Airport that could host several plant species of concern while Spring Creek to the northeast of the Airport could contain several species and natural communities of concern.

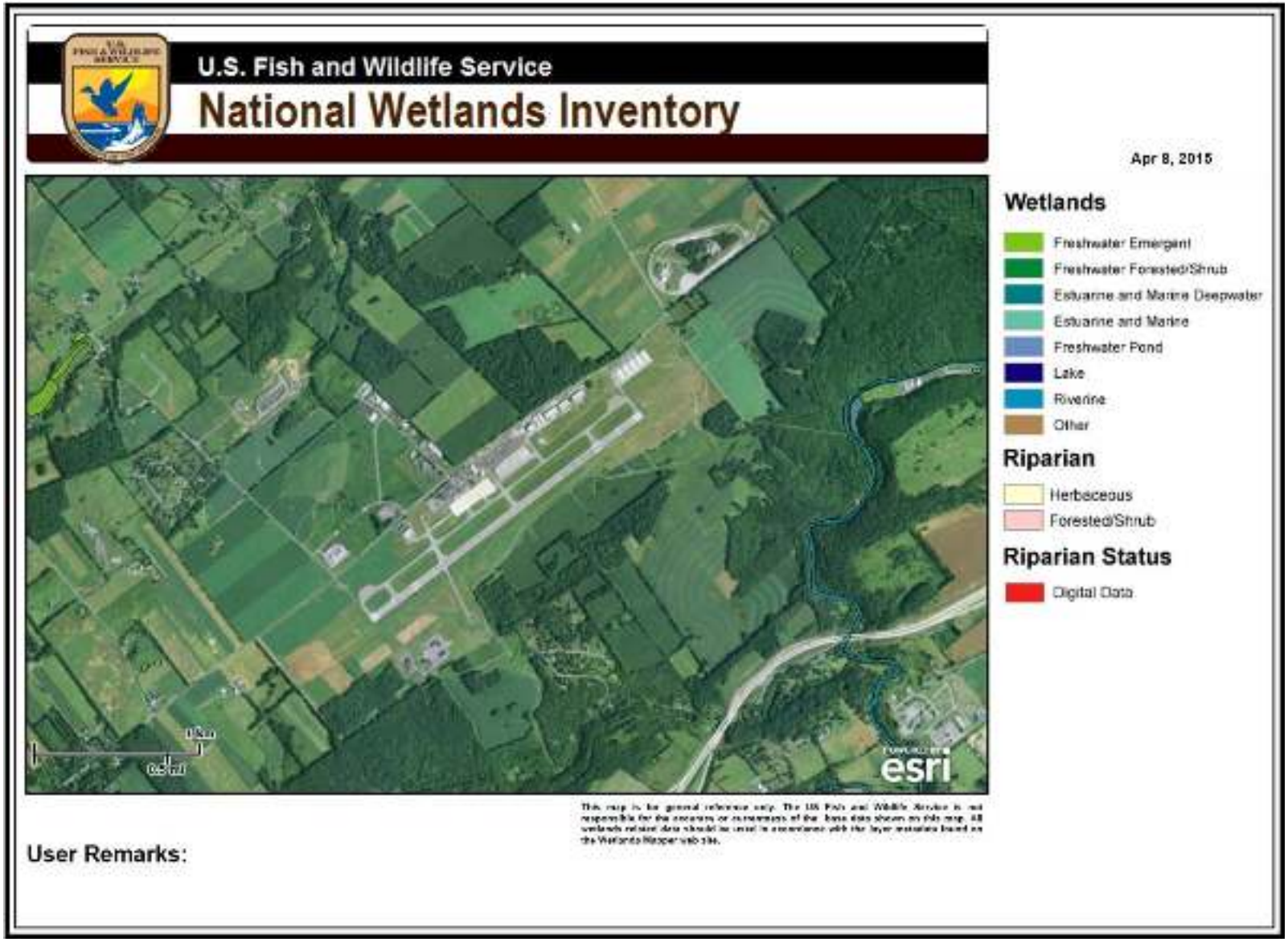
While endangered and threatened species are located in proximity of the Airport, it is not anticipated that future planned Airport development will impact these species or the habitats in which they are found; however, confirmation will be needed as part of the preparation of a NEPA-compliant document prior to construction. It is recommended that the USFWS, National Marine Fisheries Service (NMFS), Pennsylvania Game Commission, DCNR, PNHP, and the PFBC be contacted during the preparation of a NEPA-compliant document to determine which endangered or threatened species, if any, could be impacted by the proposed project. It is important to note that federal and state protected species lists change, so updated assessments of species and habitats to support them on, or in the vicinity of, the Airport will be needed prior to construction of the proposed infrastructure improvements.

6.7 Wetlands

Wetlands are defined by U.S. DOT Order 5660.1A, *Preservation of the Nation's Wetlands*, as lowlands covered with shallow and sometimes temporary or intermittent waters. This includes swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, tidal overflows estuarine areas, and shallow lakes and ponds with emergent vegetation. To determine if an area is a wetland, a delineation is needed by a qualified specialist. If an area is determined to be a wetland and will be disturbed by development, permits and credits from federal and state agencies may be needed in addition to the creation of wetlands off Airport property to achieve a no net loss ratio in accordance with Presidential Executive Order 11990. However, if practicable alternatives exist, development is to be avoided in wetland areas.

Though an on-site evaluation is required to delineate wetland boundaries, the National Wetlands Inventory provided by the USFWS shows the sites and extend of potential wetlands using the previously defined definition of wetlands. **Figure 6-13** shows the potential wetland areas on and in proximity of the Airport. As illustrated in the figure, only a few small pockets of freshwater emergent and freshwater forested / shrub wetlands are located on Airport property. Potential wetland areas to the east of Runway 6/24 are not anticipated to be impacted by development proposed through this sustainable master planning effort.

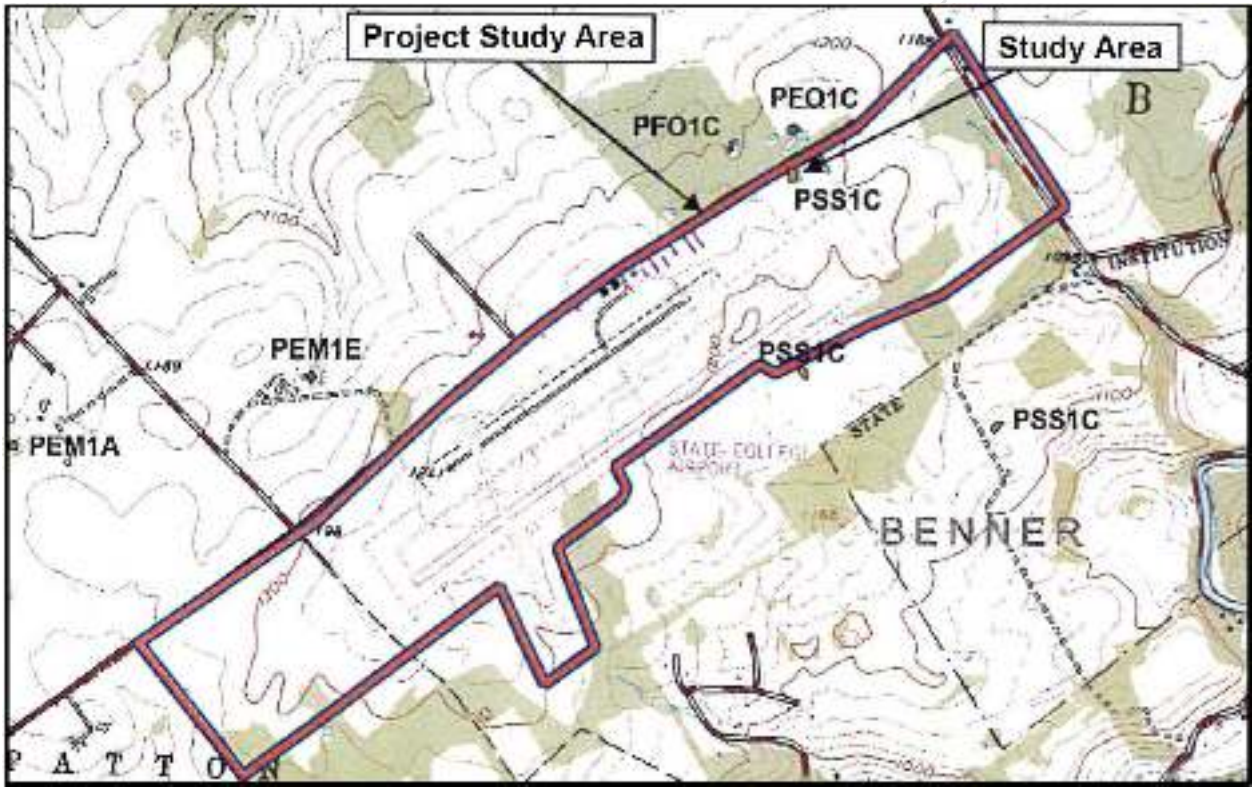
Figure 6-13: Potential Wetland Areas



Source: U.S. Fish and Wildlife Service, National Wetlands Inventory (2015)

Information obtained from the USFWS National Wetlands Inventory database identified a small wetland area could be present on Airport property near the existing box-style hangars (**Figure 6-14**). To verify this, a wetland delineation study was conducted by GAI Consultants which determined this site did not exhibit wetland characteristics and thus was not considered to be a wetland (Land Use Determination Report, May 2015). As such, it does not appear that future hangar development proposed for this area will impact any wetlands. At the time plans are finalized for development, field verification by a qualified specialist will be required to determine if these areas are wetlands as a part of the NEPA environmental review process. If any areas on- or off-Airport property are found to be wetlands, and it is determined that they will be impacted as a result of the proposed development, permits from the appropriate federal and/or state agencies may be required to fill, dredge, remove soil, or drain from these areas. Analysis as a part of the NEPA process can determine if additional mitigation measures are needed to reduce any adverse impacts to these areas, if they are found to be wetlands. Due to the small size of the wetland areas found both on and surrounding the Airport, it is not anticipated that future planned development will have significant impacts to wetlands.

Figure 6-14: Site of Study Area for Non-Wetland Determination



Note: Study area was found to not exhibit wetland or wetland ecosystem characteristics
Source: Land Use Determination Report, GAI Consultants (2015)

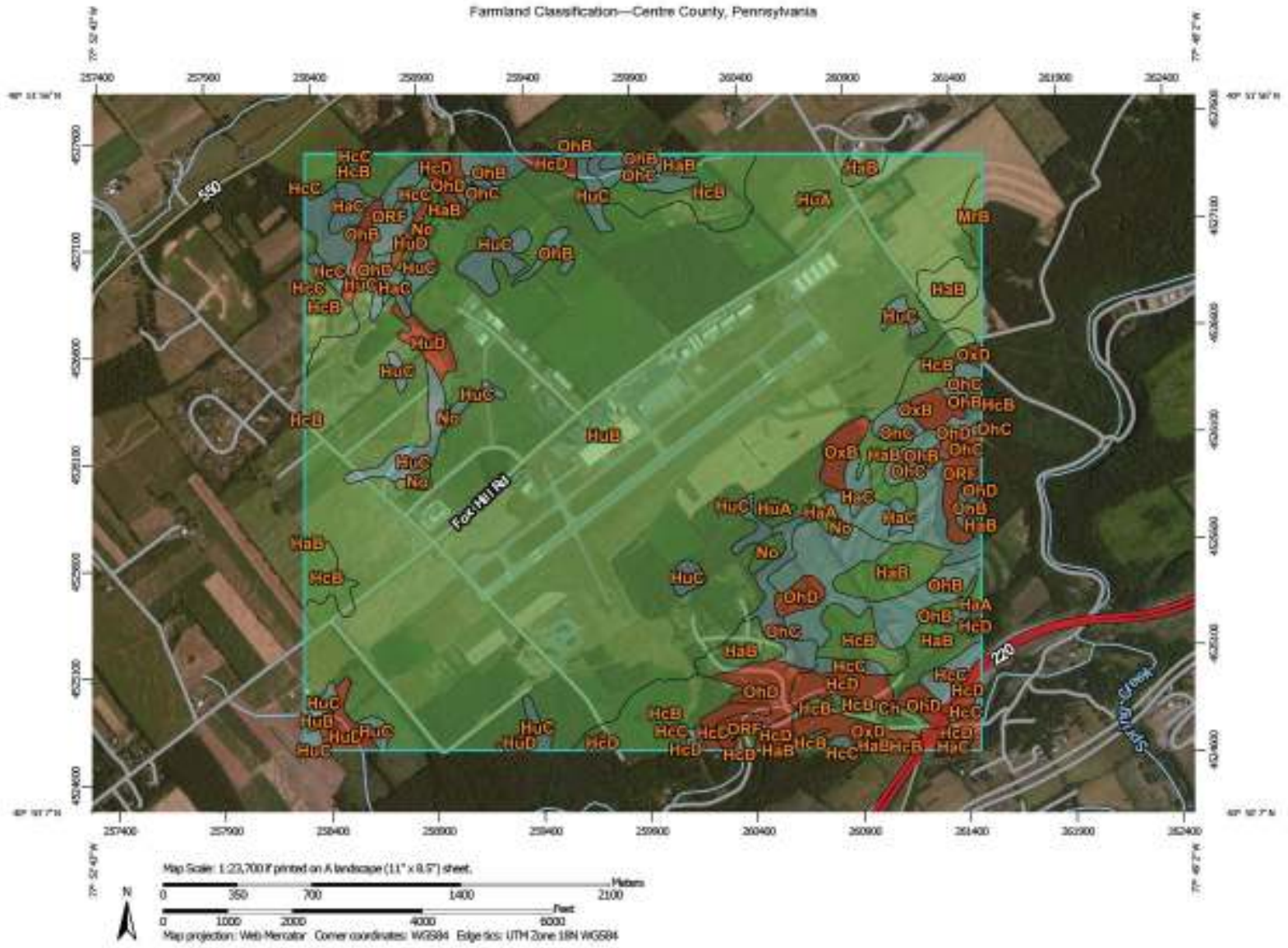
6.8 Farmlands

Land that has ideal soil composition to support agriculture is protected by the Farmland Protection Policy Act (FPPA) of 1981 from unnecessary and irreversible non-agricultural uses. Land used to grow crops and

forests can be considered “prime,” “unique,” or “statewide and locally important” if it meets certain soil composition characteristics. “Prime” farmland is considered to have the best combination of physical and chemical characteristics for producing crops with minimal use of fuel, fertilizer, pesticides, or products. “Unique” farmland is considered to have a special combination of soil quality, location, growing season, and moisture necessary to economically produce, or produce high yields of, crops. Finally, “statewide and locally important” land has been determined to be of agricultural importance by state or local officials.

Figure 6-15 presents the web soil survey map for the Airport and surrounding lands from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). As identified in the figure, a majority of the Airport’s property and surrounding land is Hublersburg silt loam, which is considered to be “prime” farmland. It is recommended that the USDA Farmland Conversion Impact Rating Form AD-1006 be submitted to evaluate whether the land still rates as “prime” and whether other measures, such as reducing the acreage of impact or using land with a lower relative value, should be considered if development occurs on this land. Additional coordination with the NRCS is encouraged as a part of the NEPA environmental review process prior to construction.

Figure 6-15: Farmland Classification Map



Source: USDA Natural Resources Conservation Service Web Soil Survey (2015)

6.9 Solid Waste

Airport construction, renovation, and demolition projects produce different types of waste that must be properly disposed. Waste from construction projects, such as bricks, steel, wood, glass, concrete, asphalt, and other materials, can increase the volume of waste generated at an airport and potentially impact processing and disposal facilities. The volume of waste generated at an airport can also be impacted by daily airport activities, such as passenger terminal building operations, air cargo processing, and GA operations. To minimize the impact of waste generated from an airport, either temporarily during a construction project or permanently as a result of daily operations, a NEPA-compliant document should review what effects, if any, proposed development could have on an airport's waste stream.

It is anticipated that waste volumes will temporarily increase during construction of the proposed infrastructure improvements; however, any temporary increase is not anticipated to significantly impact local facilities that process and dispose of solid waste. Waste generated as a result of daily operations from the proposed infrastructure improvements is also not anticipated to increase the volume of waste generated from the Airport, thus limiting any potential significant impacts to local waste processing and disposal facilities.

As a part of the evaluation of solid waste, a review was also conducted of the proximity of landfills to the Airport and their potential impacts to Airport operations. Landfills are considered to be wildlife attractants that, in close proximity to an airport, can be a hazard to aircraft operations. FAA AC 150/5200-33B, *Hazardous Wildlife Attractants on or near Airports*, requires a minimum separation of 5,000 feet between landfills and airports serving piston-powered aircraft and 10,000 feet between landfills and airports serving turbine-powered aircraft. According to the PA DEP, the nearest landfill to the Airport is the Wayne Township Landfill located approximately 34 miles away to the northeast in McElhattan. Since this landfill exceeds the required separation distance, it is not considered a wildlife attractant that could pose a threat to Airport operations.

6.10 Hazardous Materials

Hazardous materials are considered to be solids, liquids, or gases that have ignitable, corrosive, reactive, or toxic properties that are often associated with industrial wastes, petroleum products, dangerous goods, and other contaminates. Since these materials could adversely affect the safety of the public, a number of federal, state, and local environmental laws have been established to regulate the use, storage, transport, and disposal of hazardous materials. As a part of the environmental review process, an evaluation was conducted of potential known hazardous material sites, facilities, or properties located on and off the Airport that could impact the implementation of a proposed infrastructure improvement.

A review was conducted of the PA DEP eMapPA Geographic Information System (GIS) database to identify the locations of known hazardous material handlers and release sites either on, or adjacent to, the Airport. There are a few entities located on the Airport that have permits for hazardous materials, which are

identified by the red triangle "Envirofacts Facilities" icon and highlighted in bold in **Figure 6-16** on the following page. These entities and the associations for their permits are:

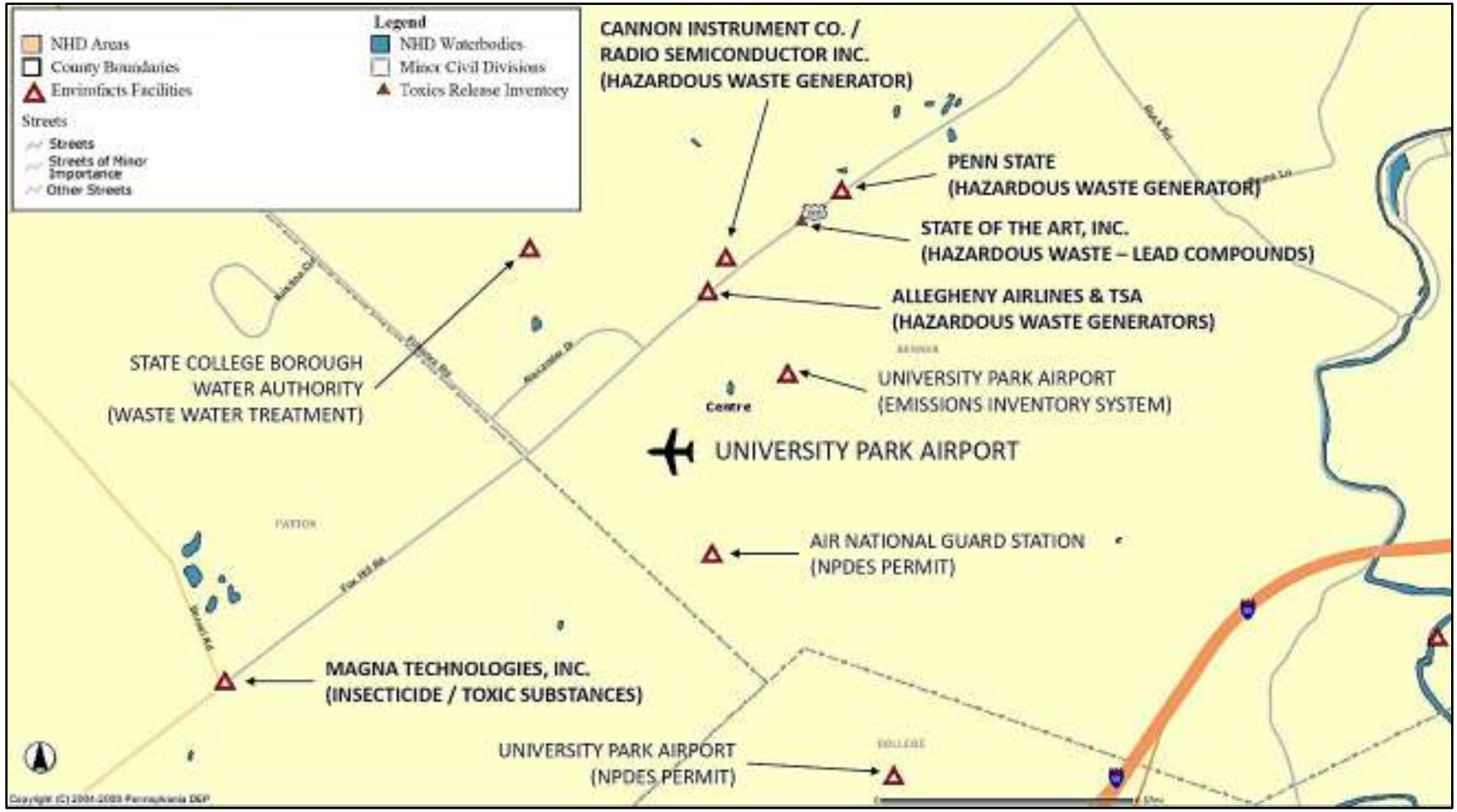
- Penn State for aviation activities at the Airport
- Allegheny Airlines for commercial airline ground service activities
- Transportation Security Administration for commercial airline passenger screening activities

In addition, there are three entities located adjacent to the Airport that were identified in the PA DEP eMapMP database as having permits for hazardous materials. These entities and the associations for each permit are:

- State of the Art, Inc. for thin film resistance components used in the biomedical, communications, aerospace, and defense industries
- Cannon Instrument Company/Radio Semiconductor Inc. for laboratory instrument assembly
- Magna Technologies, Inc. for an unknown substance meeting criteria defined by the National Compliance Data Base System (NCDB), which is a U.S. EPA database that tracks regional compliance and enforcement activity for the National Pesticides and Toxic Substances Compliance and Enforcement program.

One entity located off Airport, State of the Art, Inc., was identified in the PA DEP eMapPA database as having "toxic releases" of lead compounds, which is likely attributed to the handling of this material in the production of film resistance components. Since a small amount of lead is likely used for production of these components, is not anticipated that this will be a significant hazardous material environmental concern that could impact future Airport development.

Figure 6-16: Locations of Entities with Hazardous Material Permits



Source: Pennsylvania Department of Environmental Protection eMapPA database (2015)

6.11 Anticipated Environmental Documents

Preparation of a NEPA-compliant document will be necessary prior to the implementation of the infrastructure improvements proposed by this sustainable master plan. Determination on the type of document that will be needed is based on the type of project and the level of analysis that will be needed to review the 23 NEPA categories. Typically, a CatEx is prepared when actions are not anticipated to induce significant impacts to planned growth or land use; natural, cultural, recreational, or historic resources; travel patterns; air, noise or water quality; do not require the relocation of substantial numbers of people; and, based on previous experiences with similar projects, do not significantly impact the environment. Examples of projects that would qualify for a CatEx are the remarking of airfield pavement markings, replacement of an existing navigational aid, or any project that occurs on previously disturbed land.

If the significance of potential impacts is unknown, an EA will be prepared, which is a more detailed analysis to determine the level of impact the proposed development has on the 23 NEPA environmental categories. EAs are typically prepared when a significant development occurs at an Airport, such as a runway extension, or when proposed development occurs on previously undisturbed land. If it is determined through this process that a proposed development will not significantly impact the 23 NEPA categories, a Finding of No Significant Impact (FONSI) will be prepared to document the decision. If found significant impacts are anticipated, an EIS will instead be prepared to document the decision-making process, which includes a full range of alternatives and an analysis why alternatives were eliminated from consideration. This process is used to justify why the preferred alternative is the logical course of action.

It is not anticipated that an EIS will be needed for any of the infrastructure improvements proposed by this sustainable master plan; however, EAs are anticipated to be needed for significant infrastructure improvements such as the extension of Runway 6/24, construction of new hangars, and construction of a new aircraft rescue and firefighting (ARFF)/snow removal equipment (SRE) facility. Projects such as reconfiguration of existing Airport long-term parking and the removal of closed pavement surfaces are anticipated to be eligible for a CatEx. It should be noted that unforeseen circumstances, such as significant environmental impacts, substantial public controversy, significant impacts to Section 4(f) or Section 106 historic properties, or inconsistencies with federal, state, or local regulations, could be experienced during the preparation of a NEPA-compliant document. If so, a CatEx may need to become an EA and an EA may need to become an EIS. As plans are finalized for the proposed infrastructure improvements, a better determination can be made of potential environmental impacts, if any, and the type of NEPA-compliant document that is appropriate to document these findings.

6.12 Summary

This environmental overview is not intended to meet requirements addressed by the National Environmental Policy Act of 1969 or FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. Development of a NEPA-compliant document (CatEx, EA,

or EIS) will be required prior to implementation of each future infrastructure improvement proposed by the sustainable master plan to evaluate potential environmental impacts and determine mitigation measures, if needed, to reduce adverse effects. It is the intent of this environmental overview to provide data and information that can be used in preparing a NEPA-compliant document for these future Airport projects.

The following summary recaps the environmental concerns that could be experienced with implementation of the proposed infrastructure improvements. Though several concerns are identified, potential environmental impacts are not anticipated to be significant and should be easily mitigated. These environmental concerns are:

- **Noise –** An increase in the intensity and duration of aircraft noise resulting from the proposed infrastructure improvements is not anticipated; however, a noise analysis will be needed prior to an extension of Runway 6/24 in accordance with FAA Order 1050.1E, *Policies and Procedures for Considering Environmental Impacts*.

- **Compatible Land Use and Local Land Use Controls –** Centre County, Benner Township, and Patton Township appear to have adequate controls in place to protect the Airport from incompatible land uses. Land use compatibility should be continually reviewed throughout the planning period so that the Airport can continue to be protected from incompatible uses.

- **Water Quality –** The following water quality items should be considered as a part of the implementation of the proposed infrastructure improvements:

    - Best management practices are recommended during construction of the proposed infrastructure improvements to control sediment and waste water runoff from impacting above and below ground water quality. Water quality permits and assessments from federal, state, and local agencies may also be needed.
    - Additional storm and waste water control measures will be necessary as impermeable surfaces are increased at the Airport.
    - Expansion of the deicing apron should include additional controls to capture and properly discharge deicing fluid so that it does not improperly enter area waterways.
    - Storm water runoff controls should be incorporated into the design of the extension of Runway 6/24, as well as the construction of taxiways and taxilanes to support general aviation development.

- **Historic and Archeological Resources –** Three archeological sites were identified on Airport property as a part of a 1993 cultural resource study. While it does not appear these archeological sites will be impacted by the proposed infrastructure improvements, it is recommended an additional study be conducted to determine the archeological significance of these sites.

- **Biotic Resources –** A few small potential wetland areas were identified on Airport property that could support biotic resources; however, due to their small size, mitigation of these areas, if it is

found to be needed to support the proposed infrastructure improvements, is not anticipated to significantly impact biotic species.

- **Endangered and Threatened Species –** A review of endangered and threatened species found that some are known to breed in Centre County; however, it is not anticipated that the proposed infrastructure improvements would impact these species or the habitats in which they are found. Confirmation these species and their habitats will not be impacted by the proposed infrastructure improvements will be needed prior to construction since federal and state protected species lists change.

- **Wetlands –** Wetland areas are not anticipated to be impacted by future proposed development; however, field verification by a qualified specialist will be required as a part of the NEPA environmental review process to determine wetland areas will not be impacted by the proposed development prior to construction.

- **Farmlands –** Most land on and immediately surrounding the Airport is considered to be "prime" farmland, thus requiring submittal of USDA Farmland Conversion Impact Rating Form AD-1006 prior to implementation of the proposed infrastructure improvements to determine its value and whether other mitigation measures should be considered.

- **Solid Waste –** Waste volumes are anticipated to temporarily increase during construction of the proposed alternatives; however, the temporary increase in the volume of waste generated is not anticipated to impact local facilities that process and dispose of solid waste. Likewise, the volume of solid waste generated from the day-to-day operations of the proposed infrastructure improvements is also not anticipated to impact local waste processing and disposal facilities.

- **Hazardous Materials –** Entities with hazardous material permits were identified on and adjacent to Airport property. One of these off-Airport entities was identified as having "toxic releases" of lead compounds, which were likely attributed to the handling of this material during the production of film resistance components. These known entities with hazardous materials are not anticipated to impact implementation of the proposed infrastructure improvements.

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