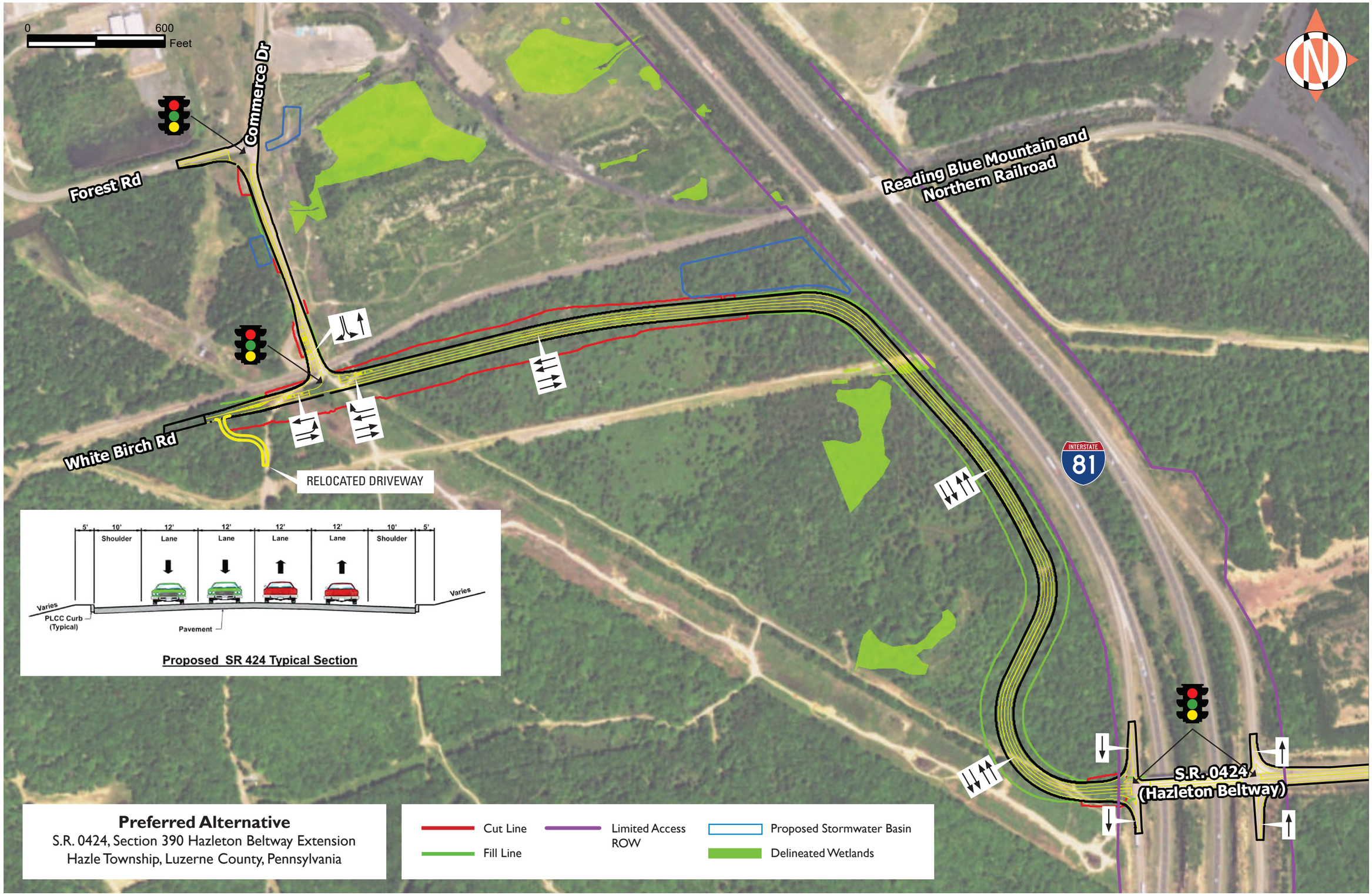
APPENDIX A

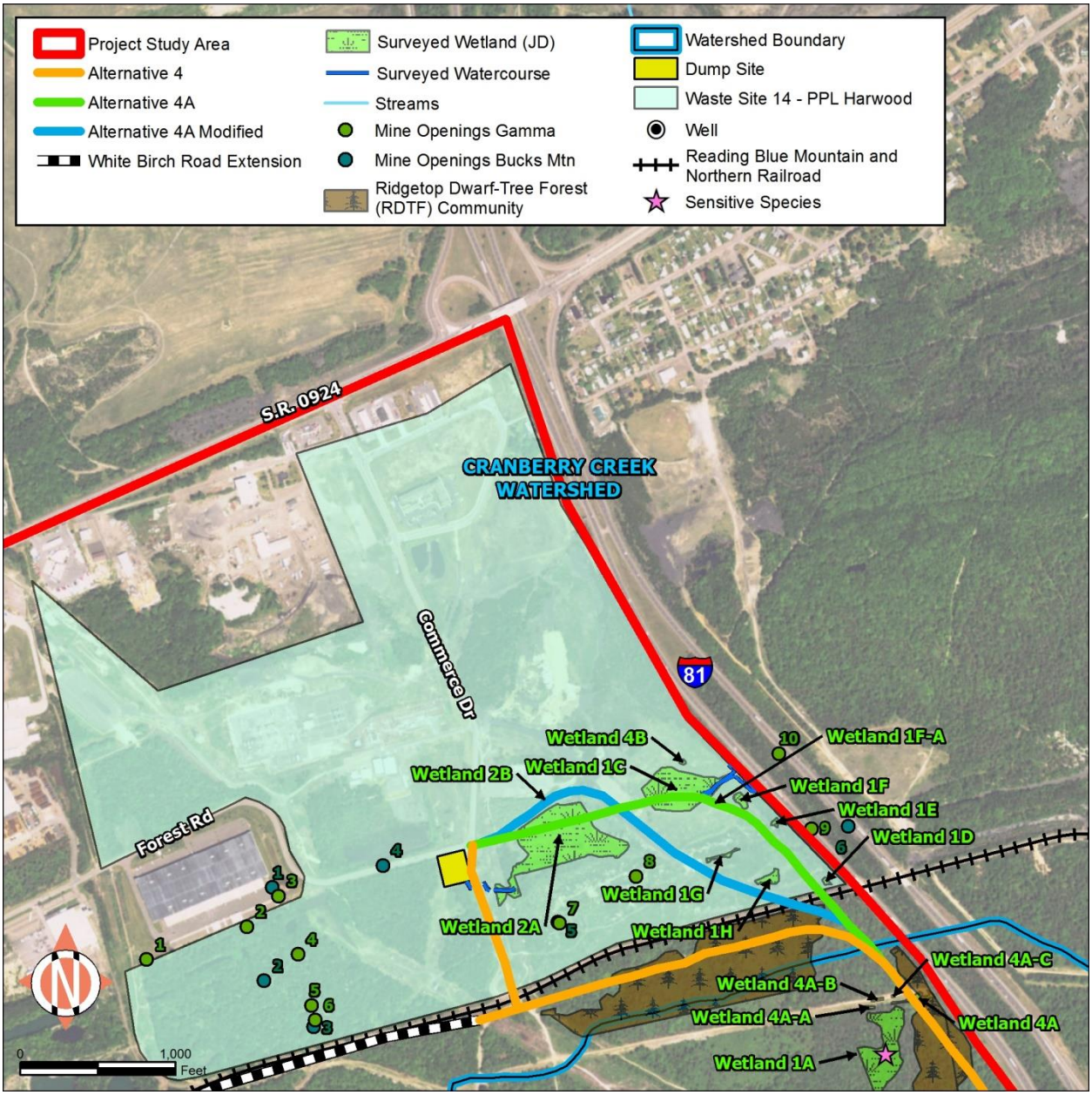
Design Plans


0
600
Feet
Commerce Dr
Forest Rd
White Birch Rd
RELOCATED DRIVEWAY
Reading Blue Mountain and Northern Railroad
INTERSTATE
81
S.R. 0424
(Hazleton Beltway)
5'
10'
Shoulder
12'
Lane
12'
Lane
12'
Lane
12'
Lane
10'
Shoulder
5'
Varies
PLCC Curb
(Typical)
Pavement
Varies
Proposed SR 424 Typical Section
Preferred Alternative
S.R. 0424, Section 390 Hazleton Beltway Extension
Hazle Township, Luzerne County, Pennsylvania
Cut Line
Fill Line
Limited Access ROW
Proposed Stormwater Basin
Delineated Wetlands

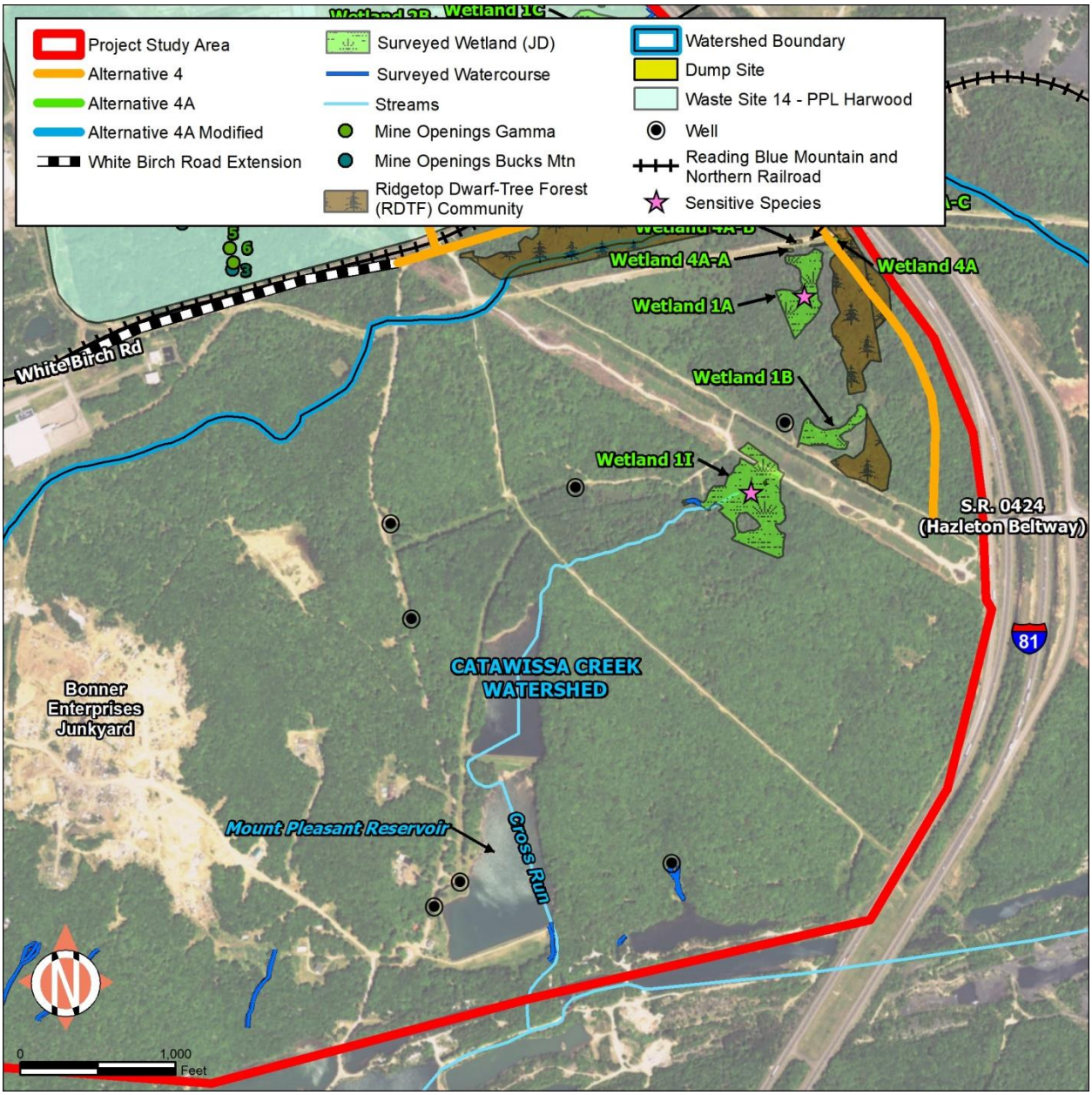
APPENDIX B

Environmental Features/Constraint Mapping; Stormwater Basin Locations (Alternatives 4A and 4A Modified)

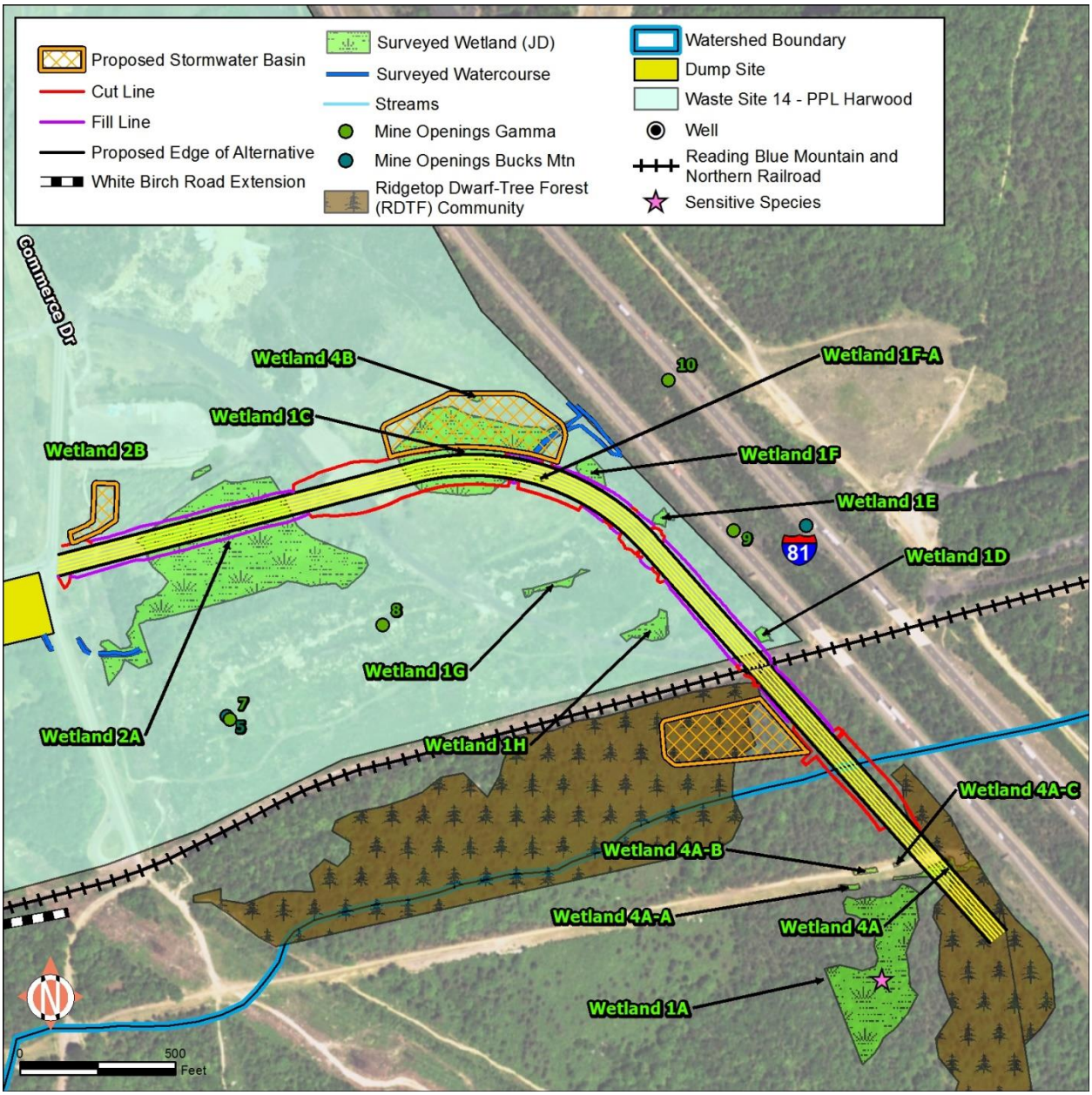
Environmental Features/Constraint Mapping – North



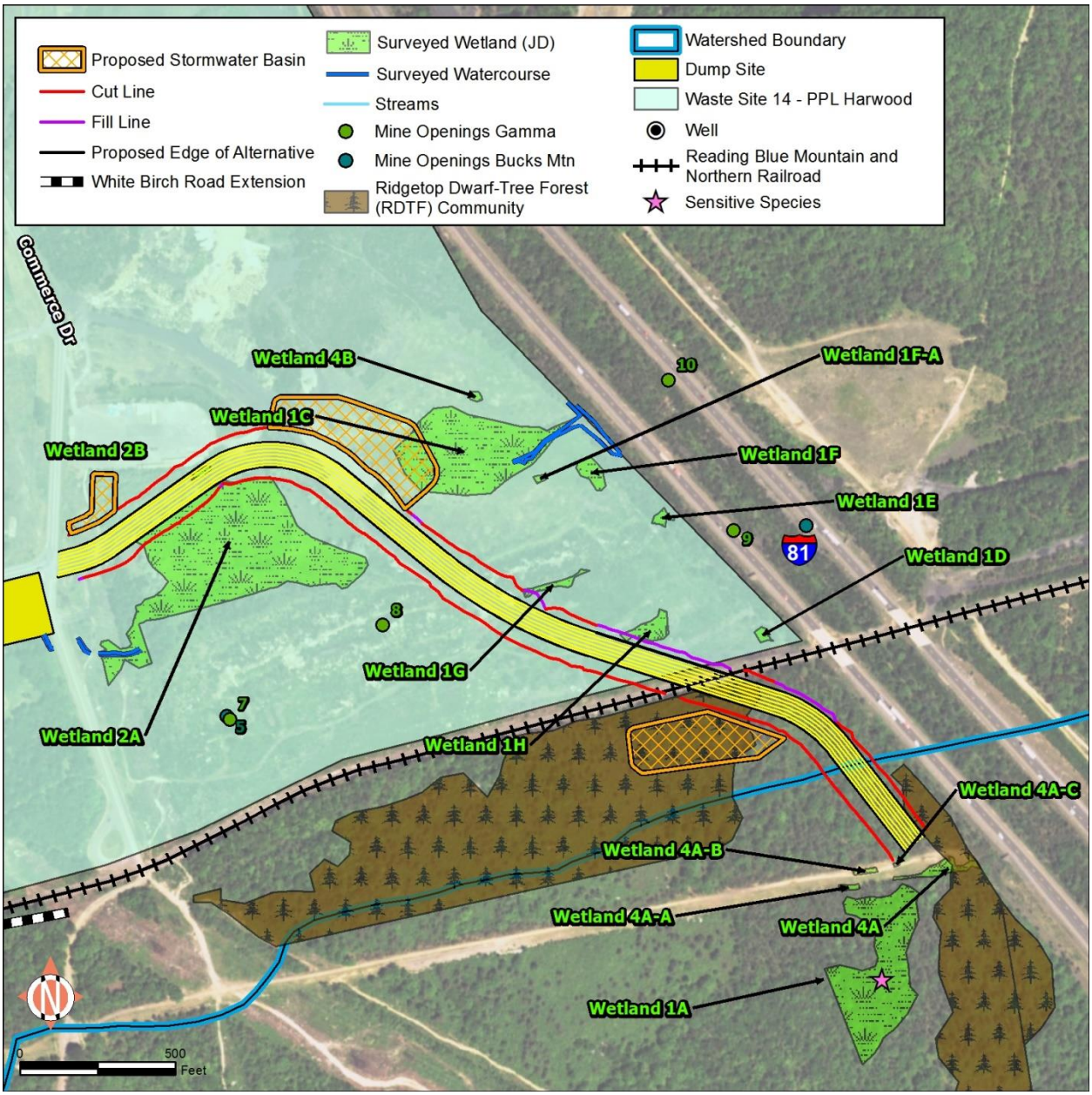
Environmental Features/Constraint Mapping – South



Alternative 4A Stormwater Basin Location



Alternative 4A Modified Stormwater Basin Location



APPENDIX C

Additional Resources in Project Study Area

A. Agricultural Resources - Prime Agricultural Land and the Federal Farmland Protection Policy Act

Methodology:

The Federal Farmlands Protection Policy Act of 1981, as amended, requires that any federally funded project evaluate the affect it would have on farmland soils. The Act defines farmland soils as those soils classified by the Natural Resource Conservation Service (NRCS) as prime farmland, unique farmland, farmland of statewide importance, or farmland of local importance, but does not afford protection to those soils that are in or committed to urban development or water storage.

In addition, the Agricultural Land Preservation Policy (ALPP) requires the protection and preservation of the Commonwealth's prime agricultural land. The policy requires the Pennsylvania Department of Transportation (PennDOT) to consider other feasible alternatives to the permanent conversion of prime agricultural land to nonagricultural use if they are available.

PA Act 1979-100 requires Agricultural Land Condemnation Approval Board (ALCAB) approval for the condemnation of agricultural lands for highways and solid and liquid waste disposal facilities. PA Act 1981-43, as amended, requires ALCAB's approval for condemnation of land in Agricultural Security Areas (ASAs) and land protected by Agricultural Conservation Easements. Since there is no productive agricultural land, ASAs, or conservation easements within the project area, ALCAB is not involved in this project.

Existing Conditions:

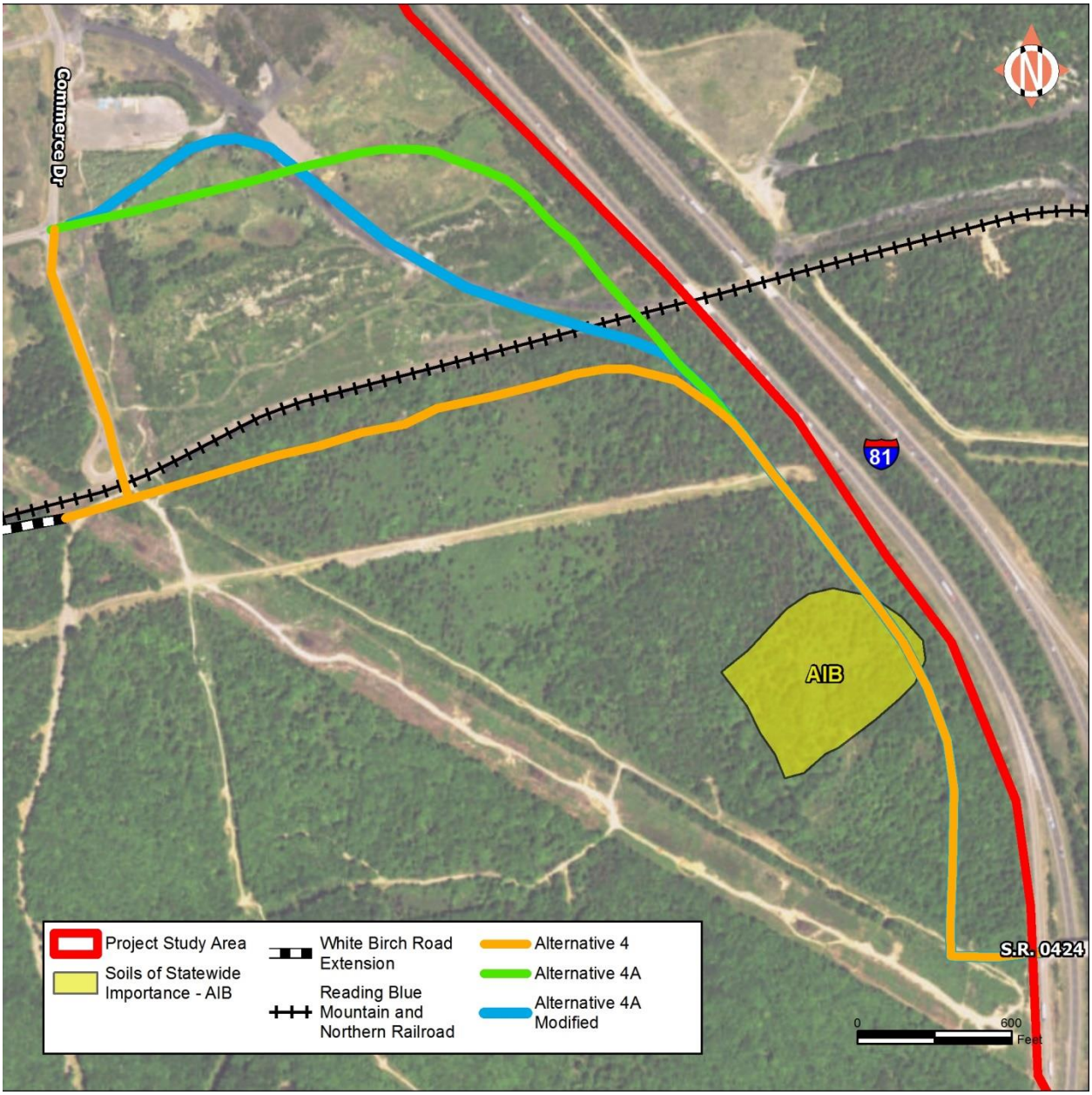
According to the NRCS, the following soils are present in the project study area:

- Alvira silt loam, 3 to 8 percent slopes (AlB); Farmland of Statewide Importance;
- Alvira very stony silt loam, 0 to 8 percent slopes (AnB); Not Prime Farmland;
- Buchanan extremely stony loam, 3 to 8 percent slopes (BxB); Not Prime Farmland;
- Buchanan extremely stony loam, 8 to 25 percent slopes (BxD); Not Prime Farmland;
- Cut and Fill Land (CF), Not Prime Farmland;
- Dekalb extremely stony sandy loam, 0 to 8 percent slopes (DdB); Not Prime Farmland;
- Dekalb extremely stony sandy loam, 8 to 25 percent slopes (DdD); Not Prime Farmland;
- Dekalb extremely stony sandy loam, steep (DEF); Not Prime Farmland;
- Mine dump (Mg); Not Prime Farmland;
- Pocono extremely stony sandy loam, 3 to 8 percent slopes (PpB); Not Prime Farmland;
- Pocono extremely stony sandy loam, 8 to 25 percent slopes (PpD); Not Prime Farmland;

- Shelmadine very stony silt loam, 0 to 5 percent slopes (SkB); Not Prime Farmland; and
- Strip mine (Sm); Not Prime Farmland.

Alvira silt loam (AlB) qualifies as Farmland of Statewide Importance (Figure C-1). A total of 23.2 acres of Alvira silt loam is present in the project study area, most of which is located to the north in the vicinity of S.R. 0924 within the Humboldt Industrial Park (HIP) and is currently developed. A small area of this soil type is also located in an undeveloped forested area just west of I-81. This qualifying farmland soil is not currently in productive agricultural use.

Figure C-1. Agricultural Resources



Land qualifies as prime agricultural land if it is in active agricultural use (not including the growing of timber) that has been devoted to active agricultural use for the preceding three years (4 Pa Code, Chapter 7, Section 7.301 et seq.).

Impacts:

No Build Alternative: The No Build Alternative would have no impacts on agricultural resources.

Build Alternatives: The reasonable build alternatives would have minor impacts on Alvira silt loam (AlB), a Farmland of Statewide Importance. According to the reasonable build alternatives, a small area of this soil type (5.7 acres) is located within the proposed limit of disturbance for **Alternatives 4, 4A, and 4A Modified** near I-81. This qualifying farmland soil is not currently in productive agricultural use. A submittal of a Federal Farmlands Protection Policy Act farmland conversion rating form (AD-1006) was completed and is provided in the Project Technical File. This form indicates that an assessment of the reasonable build alternatives resulted in a score below 160 (27), and the consideration of alternative actions to reduce adverse impacts is not warranted.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

The alternatives that would impact the Farmland of Statewide Importance would not require any mitigation.

B. Air Quality

Methodology:

Project-related air quality concerns were evaluated in accordance with PennDOT Publication 321, "Project-Level Air Quality Handbook," December 2015. It is PennDOT policy to assess the potential air quality impacts of transportation improvement projects and to give consideration to the incorporation of appropriate avoidance strategies into the preliminary engineering designs for those highway projects which have the potential to impact local or regional air quality.

<u>Regional Conformity</u>

In accordance with the Clean Air Act Amendments of 1990, all transportation projects, plans, or programs in non-attainment and maintenance areas must conform to the State Implementation Plan (SIP). A final conformity rule was issued by the Environmental Protection Agency (EPA) on November 24, 1993, as part of 40 Code of Federal Regulations (CFR) Part 51. The final conformity rule requires that transportation plans and programs in non-attainment (and maintenance) areas are consistent with the most recent estimates of mobile source emissions; provide for expeditious implementation of transportation control measures in the applicable

implementation plan; and contribute to annual emission reductions in ozone (O3) and carbon monoxide (CO) non-attainment areas.

The level of analysis required for specific pollutants is based on several factors, including:

- The air quality attainment status of the county in which the project is located;
- The magnitude and scope of the proposed project;
- Future traffic volumes in the corridor;
- The overall efficiency of existing and future signalized intersections in the project corridor; and
- The presence of air quality-sensitive receptors adjacent to the project corridor.

Existing Conditions:

Carbon Monoxide (CO) and Particulate Matter ($PM_{2.5}$ and PM_{10})

Luzerne County has been designated as "in attainment" for all regional air pollutants (as well as all criteria pollutants); therefore, the conformity requirements, as outlined in the Clean Air Act, do not apply to this project.

Mobile Source Air Toxics (MSATs)

The purpose of the S.R. 0424, Section 390 Transportation Improvement Project is to ease traffic congestion and improve the efficiency and traffic flow within the roadway corridor. This project is not anticipated to result in any meaningful changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in emissions impacts in comparison to the No Build Alternative. Therefore, this project would generate minimal air quality impacts for the criteria pollutants that have been linked with any special MSAT concerns. Also, MSAT emissions under design year build conditions would likely be lower than existing levels as a result of the EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national trends in terms of fleet mix and turnover, vehicle miles traveled growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Impacts:

No Build Alternative: The No Build Alternative would have no air quality impacts.

Build Alternatives: The reasonable build alternatives, **Alternatives 4, 4A, and 4A Modified,** would have no air quality impacts.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

No mitigation of air quality impacts is required for the S.R. 0424, Section 390 Transportation Improvement Project.

C. Noise Evaluation

Methodology:

A preliminary design noise analysis was conducted for the S.R. 0424, Section 390 Transportation Improvement Project in Hazle Township, Luzerne County, Pennsylvania. The noise analysis was conducted in accordance with PennDOT Publication No. 24, "Project Level Highway Traffic Noise Handbook," November 2015. PennDOT Guidelines are based on the U.S. Department of Transportation, Federal Highway Administration (FHWA), Federal Aid Policy Guide 23, CFR, Part 772 – "Procedures for Abatement of Highway Traffic Noise and Construction Noise."

Review of the project area indicates that no noise-sensitive land uses are present in proximity (i.e., within 1,000 feet) to the three reasonable build alternative for the project. Noise-sensitive land uses are typically categorized as PennDOT Activity Category B, C, and E receptors. Table C-1 provides a description of the different activity categories evaluated for PennDOT/FHWA projects, as well as the appropriate noise level criteria for each category.

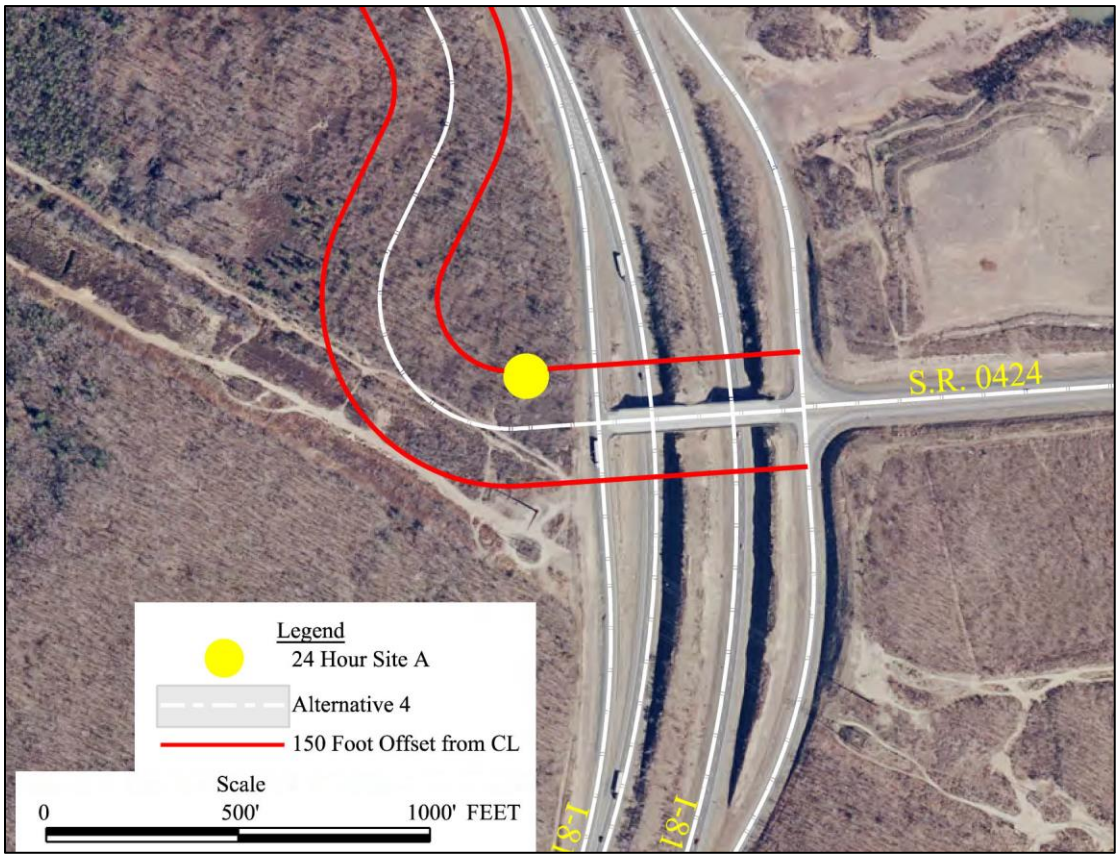
Table C-1. PennDOT and FHWA Land Use Activity Categories (Weighted Sound Levels [dBA]).*

Land Use Activity	Leq(h)[1]	Description of Land Use Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[2]	67 (exterior)	Residential.
C[2]	67 (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.

Land Use Activity	Leq(h)[1]	Description of Land Use Activity Category
E[2]	72 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A, B, or C.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	Undeveloped lands that are not permitted.

* PennDOT has chosen to use Leq(h) (not L10[h]) on all of its transportation improvement projects.
1 - Impact thresholds should not be used as design standards for noise abatement purposes.
2 - Includes undeveloped lands permitted for this activity category.

Figure C-2. Noise

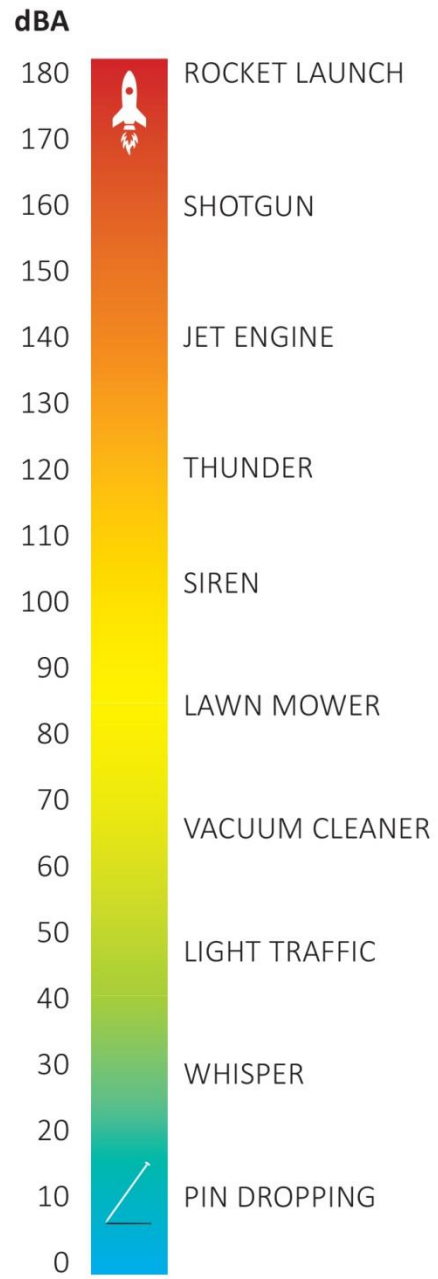


Review of the project area and the footprint of the reasonable build alternatives indicate that the study area is mainly comprised of undeveloped lands (Activity Category G). Existing land uses beyond project area (and within the limits of the HIP) consist of Land Use Activity Category F. As per PennDOT Publication No. 24, "Project Level Highway Traffic Noise Handbook," Category F land uses are not sensitive to noise levels, and a highway-related noise level analysis

is generally not required for these locations. There is no PennDOT/FHWA Noise Abatement Criteria (NAC) for Activity Category F or Activity Category G land uses.

Based on coordination with CAN DO, Inc., as of June 2017, there are no undeveloped lands which are currently permitted for development within 1,000 feet of the reasonable build alternatives. Additionally, beyond the immediate project area, the HIP currently consists of (Land Use Activity Category F) industrial land uses, with similar development patterns anticipated in the future. Therefore, while no planned development has been identified, any future development within the industrial park is anticipated to remain not sensitive to highway-related noise.

Figure C-3. Decibel Levels for Common Noises



A brief noise analysis, which included 24-hour noise monitoring and design year noise modeling throughout the undeveloped areas, was conducted to quantify existing and future noise levels throughout the study corridor. Twenty-four-hour noise monitoring was conducted on January 27 and 28, 2010, to evaluate the fluctuation of existing noise levels and to identify existing peak noise hours in the area. Noise monitoring was conducted at one location in the southeast limits of the project area. Figure C-2 identifies the location of the 24-hour monitoring site (Site A). The noise monitoring site was placed along the existing PennDOT right-of-way (ROW), adjacent to the existing S.R. 0424/I-81 ramps. The site was placed approximately 50 feet from the S.R. 0424/I-81 on/off ramps and represents the existing worst-case noise area within the project limits.

Noise level modeling of future design year conditions was performed using the FHWA Traffic Noise Model (TNM), Version 2.5 computer program. This program allows for a worst-case assessment of future noise levels at discreet distances from the roadway centerline under design year traffic volumes, speeds, and composition projected for the proposed roadway.

As part of the noise evaluation, noise modeling was performed for design year (2038) build conditions at distances between 50 feet and 750 feet from the roadway centerline, modeled at 50-foot intervals.

Existing Conditions:

The results of the 24-hour monitoring effort indicate that existing (2010) noise levels at this location range from 53 to 61 decibels (dBA). The peak noise hour occurred during the 1:00 AM hour, which may be attributed to idling heavy trucks parked along the I-81 on and off ramps. Noise levels during peak travel hours (i.e., 6:00 to 9:00 AM and 3:30 to 6:30 PM) ranged from 53 to 58 dBA.

Table C-2. S.R. 0424, Section 390 Design Year (2038) Build Condition Peak Hour Noise Levels (in dBA).

Distance from Alignment Center Line	Design Year (2038) Build Noise Level (in dBA)
50	70.9
100	67.4
150	65.3
200	63.6
250	62.2
300	60.1
350	58.2
400	56.7
450	55.4
500	54.2
550	53.2
600	52.2
650	51.3
700	50.5
750	49.7

Impacts:

No Build Alternative: The No Build Alternative would have no effects on future noise levels adjacent to the project corridor.

Build Alternatives: There are currently no noise-sensitive land uses present in proximity (i.e., within 1,000 feet) of **Alternatives 4, 4A, and 4A Modified**. Based on a brief noise modeling analysis, future design year (2038) noise levels are anticipated to remain below the PennDOT/FHWA NAC for Activity Category B and C receivers at a distance beyond 150 feet from the roadway centerline. Therefore, any future development of Activity Category B or C land uses should maintain at least a 150-foot offset from the proposed roadway centerline (see Table C-2). Any future Activity Category E or F development should be unaffected by the proposed roadway. Additionally, based on the lack of noise-sensitive land uses adjacent to the project area, no construction-related noise impacts are anticipated.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

Since no noise-sensitive land uses are present adjacent to the project area and no noise impacts are anticipated as a result of the proposed project, no noise mitigation measures are necessary or recommended for the project.

D. Waste Site Evaluation

Methodology:

Waste facilities, including municipal, industrial, and hazardous waste sites, are considered during the highway development process because roadway improvements can disturb areas that may cause environmental damage, health hazards, and excessive cleanup cost.

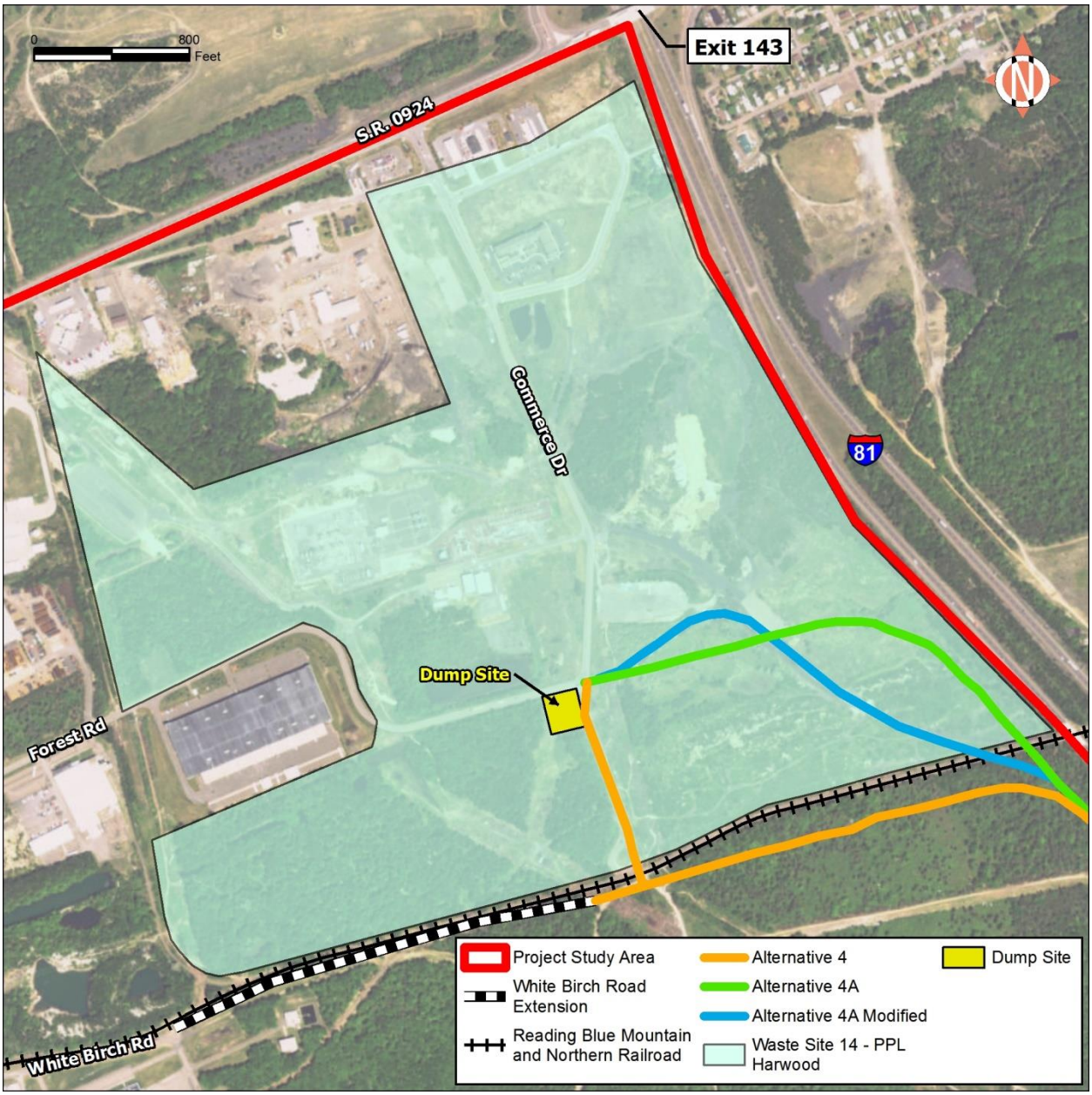
Waste site investigations were completed in accordance with the PennDOT Bureau of Environmental Quality Publication 281, entitled, *Waste Site Evaluation Procedures Handbook Volumes I and II*. The initial Phase I Environmental Site Assessment (ESA) was completed in January 2009 (Navarro & Wright), and a Phase I ESA Addendum was completed in November 2009 (Navarro & Wright) based on updated plans. Due to a lull in project activity, a Phase I ESA Reevaluation was completed in April 2014 (Navarro & Wright). Background file reviews included: U.S. EPA's Envirofacts Warehouse Database; EPA's Region III Database of Storage Tank Release Sites, and a Pennsylvania Department of Environmental Protection (PADEP) file review.

Existing Conditions:

The findings for all three ESAs were the same: Recommended initiations of Phase II ESA if the soil from the PPL Harwood Site (Waste Site 14) is removed from the site. The PPL Harwood Site was used for power generation. Three aboveground storage tanks (ASTs) are registered to the site. These include a 1,500-gallon AST containing diesel fuel, a 1,500-gallon AST containing kerosene, and a 5,000-gallon AST containing an unspecified material. A confirmed release of a petroleum product occurred on January 3, 1990, from an AST. The case status is "inactive." A local dumping site was located at the southwest quadrant formed by Commerce Drive and Forest Road. A release of liability for the site was approved on April 15, 2002, by the PADEP. The property is limited to non-residential uses, and use of the water table aquifer on this property is prohibited. The PADEP indicated that there may be spots with elevated concentrations above the standards, particularly for metals, but that localized exceedances of the soil standards should not be a concern as long as the material remains on-site.

The findings of the Phase I ESA and Phase I ESA Addendum indicated that if impacts to the PPL Harwood Site occur, all excavated soil should remain on-site within the site boundaries. If soil is to be removed from the site, further analytical testing (Phase II) is required. If the mounded area in the southwest quadrant of Commerce Drive and Forest Road is impacted, further investigation is required.

Figure C-4. Hazardous Waste



Impacts:

No Build Alternative: The No Build Alternative would not impact any waste sites.

Build Alternatives: If impacts to the PPL Harwood Site occur in association with **Alternatives 4, 4A, and 4A Modified**, all excavated soil should remain on-site within the site boundaries. If soil is to be removed from the site, further analytical testing is required. If the mounded area in the southwest quadrant of Commerce Drive and Forest Road is impacted, further investigation is required.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

During construction, coordination with the PADEP must occur, as needed, if waste material at the former the PPL Harwood Site is to be excavated. If waste is to be excavated due to constructability concerns, a Scope of Work Plan would be prepared and provided to the PADEP for approval of the proposed management options (e.g., disposal at an approved permitted facility or reburial on site). Additional sampling may also be required.

E. Historic Resources – Structures and Archaeology Sites

A Phase IA archaeological study was completed in November 2007 and was performed in accordance with federal and state laws for the preservation of significant cultural resources. In February 25, 2008, the PennDOT Interim District 4-0 archaeologist prepared a desk memorandum that agreed with the conclusions and recommendations contained in Phase IA report. Specifically, no archaeological investigations were recommended for the heavily disturbed areas related to previous surface mining in the northern half of the study area. Phase IB archaeological testing was recommended where intact soils exist on upland landforms in the southern portion of the study area. In addition, the memo noted that no intact complete historic structures remain.

A field view of the Area of Potential Effects (APE) was conducted on October 23, 2009, to confirm whether there existed the potential to have previously unrecorded cultural resources. The PennDOT Cultural Resources Professionals (CRPs) determined that the APE had been cleared of all topsoil in the northern portion of the study area, and that this area appeared to have little potential to yield archaeological resources. The Pennsylvania Historical and Museum Commission (PHMC) concurred with this assessment and signed off on a PennDOT Cultural Resources memo dated December 18, 2009.

Following the project restart in 2014, a PennDOT CRP conducted a field view with A.D. Marble's principle investigator along the entire proposed Alternative 4 alignment on April 15, 2016. This alignment consisted of the southern alignment adjacent to I-81, which matches the alignments of Alternatives 4A and 4A Modified. The CRP concluded that the alignment north of the railroad and a portion of the southern alignment that parallels the railroad do not have the potential for significant archaeological resources. A Phase IB archaeological survey was recommended for the relatively undisturbed southern portions of the alignment, and the survey was completed in November 2016. This survey indicated that no potentially significant archaeological resources were encountered along the Alternative 4 alignment. The project would also have No Effect on any historic properties, and A.D. Marble recommended no additional archaeological investigations are warranted for the proposed Alternative 4 as it is currently designed. The PennDOT CRP concurred with this finding, and the report was approved on April 21, 2017. A final finding by the PennDOT CRP was posted on PennDOT's ProjectPATH website, and PHMC concurred with the findings on July 13, 2017.

Existing Conditions:

Historic Structures

Photograph C-1: Coal yard stone and mortar wall exterior. View looking north (October 2007).

The project is located in a former industrial area of breakers and strip mines. The study area is dominated by recently built structures (light industry, warehouse and distribution, etc.) and a few scattered remnants of mining activity. Specifically, the study area contains a potentially historic stone wall associated with a former coal yard, two historic structures and two historic foundation fragments. The coal yard wall likely dates from the early twentieth century (Photograph C-2). The structures include an early-twentieth-century rowhouse that was used as a tenant house for local coal mine workers and a valve stone house that was related to mining operations. The dry-laid stone valve house (Photograph C-2), likely built in the late nineteenth to early twentieth centuries, was found between the upper and lower Mt. Pleasant reservoirs and was used to move water between the two reservoirs.

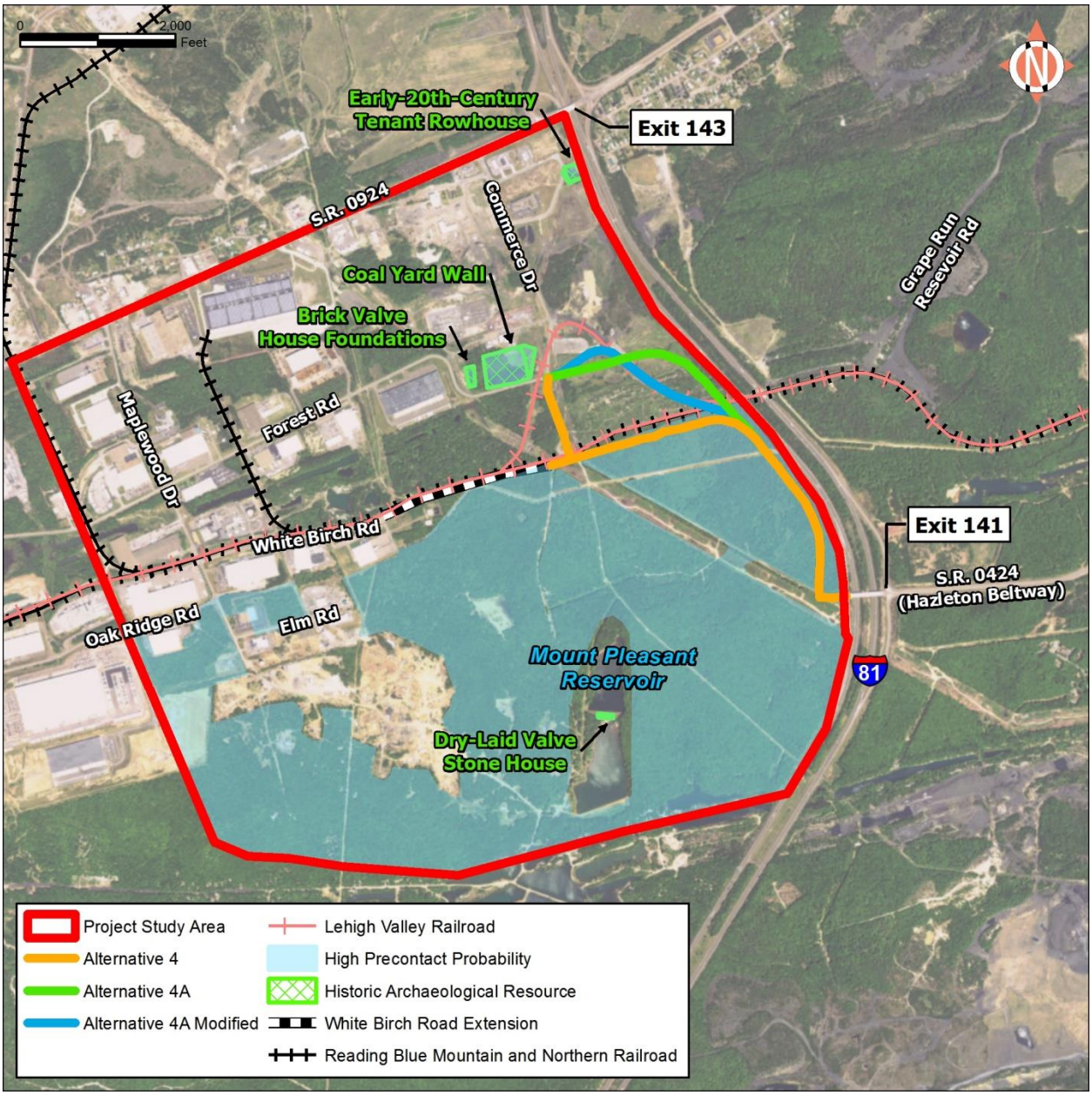
Photograph C-2: Stone valve house located between the upper and lower Mt. Pleasant reservoirs. View looking north (October 2007).

The two foundation fragments include a brick valve house and an unidentified brick structure west of the coal yard wall. The small brick valve house foundation was built in the mid-twentieth century and was identified to the west of the coal yard wall. This valve house was likely used to direct water into the coal yard.

In addition to these aboveground structures, the Reading Blue Mountain and Northern Railroad traverses the study area. Portions of the railroad have previously been determined eligible elsewhere in the state as part of the Lehigh Valley Railroad. However, the portion within the project area has not been evaluated to date. The line that runs through the project area appears to be a spur line that served the local mining

operations. During a field view with the PennDOT CRPs on October 23, 2009, it was determined that two sets of tracks were the only remaining remnants of the railroad and are not considered countable features. PHMC concurred with this assessment and signed off on a PennDOT Cultural Resources memo dated December 18, 2009.

Figure C-5. Cultural Resources



Archaeology

A review of the Pennsylvania Archaeological Site Survey (PASS) forms at the PHMC Bureau for Historic Preservation (PHMC-BHP) in Harrisburg indicated that no precontact or historic period archaeological sites have been previously recorded within the project study area. Extensive soil disturbance related to previous surface mining was observed throughout the

northern half of the study area. In the southern portion of the study area, intact soils exist on upland landforms.

Geomorphological investigations conducted for the project determined that portions of the study area contain undisturbed soils with the potential to contain intact archaeological resources. Phase IB archaeological investigations were recommended for undisturbed portions of the preferred alternative, as well as the stone and mortar wall if it would be impacted by the alignment. However, the reasonable build alternatives would not impact this area, and the wall was not included in any Phase IB testing.

Overall, the potential for archaeological resources is considered to be low throughout the majority of the proposed project study area. Only 267.8 of 446.3 acres is considered to have potential for undocumented cultural resources based on the soil types and the amount of pre-existing disturbances associated with strip mining activities within the survey area.

Impacts:

No Build Alternative: The No Build Alternative would have no impact on historic structures or archaeology.

Build Alternatives: During the Phase IA survey and subsequent PennDOT CRP field views on October 23, 2009 and April 15, 2016, the CRP determined that the area only contained remnants of the historic alignment of the Lehigh Valley Railroad and that these remnants were are not considered countable features. No historic structures would be impacted by **Alternatives 4, 4A, and 4A Modified**. While geomorphological investigations determined that the majority of the reasonable build alternatives adjacent and south of the railroad area contain undisturbed soils with the potential to contain intact archaeological resources, Phase 1B testing along the portion of the reasonable alternatives south of the railroad indicated that no potentially significant archaeological resources were encountered. A.D. Marble recommended that no additional archaeological investigations are warranted for the proposed Alternative 4 as it is currently designed. The PennDOT CRP concurred with this finding.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

There is no mitigation required for the historic structures because there would be no historic properties affected.

F. Groundwater Resources (i.e., Wells, Water Supply)

Methodology:

In August 2008, raw water (untreated) samples were collected and analyzed for three of the Hazleton City Authority (HCA) supply wells near the center of the study area (Wells #2, 5, and 6). Each of these supply wells are completely within the Mauch Chunk Formation and were the

primary supply wells being used at the time by HCA from the Mt. Pleasant Well Field (Well #11 was not in service at the time and could not be sampled). Samples were properly collected and placed in laboratory supplied containers and transported under Chain of Custody to Hawk Mountain Laboratory in Hazleton, Pennsylvania, for analyses of selected volatile organic compounds, inorganic chemicals, and a variety of secondary contaminants, bacteria, and micro-particulate analyses.

Existing Conditions:

Groundwater Resources (Wells)

The project study area is located within the Valley and Ridge Physiographic Province of Luzerne County, Pennsylvania, and is underlain by folded, faulted, and fractured bedrock of the Llewellyn Formation, Pottsville Group, and Mauch Chunk Formation (in descending stratigraphic order). Remnant features associated with former surface mining activities within the Llewellyn Formation can be seen within areas of the Humboldt Industrial Park (HIP) as the westernmost extension of the Hazleton Coal Basin. Further south, flooded surface mine pits for coal and/or clay can be found south of the Mount Pleasant reservoirs as part of the Jeansville Coal Basin. Both basins are situated within the Pennsylvania's Eastern Middle Anthracite Coal Field. (Please refer to Section V.A. Geologic Features of the report for a description of the geology and figures illustrating the geology and past mining activities in the project study area.)

Groundwater resources withdrawn within the project area are managed by the HIP (CAN DO, Inc.) and the HCA. Several drilled production wells and at least two surface water reservoirs within the study area provide potable water supplies (after treatment) to the industrial park and the Hazleton community. Each of these features can be found located on Figure C-6 below.

Water Quality

Limited, historical raw water quality data is available for the various individual water supply wells and reservoirs located inside the study area. In general, raw water quality from wells that are within or in proximity to the Llewellyn Formation is generally poor and often contains high concentrations of iron, manganese, and total dissolved solids as a result of the oxidation of pyrite within the coal seams and associated shales. Alternatively, groundwater and surface water associated with the Pottsville Group and Mauch Chunk Formation exhibit generally good quality with low dissolved solids and only minor quantities of iron and manganese.

Figure C-6. Groundwater

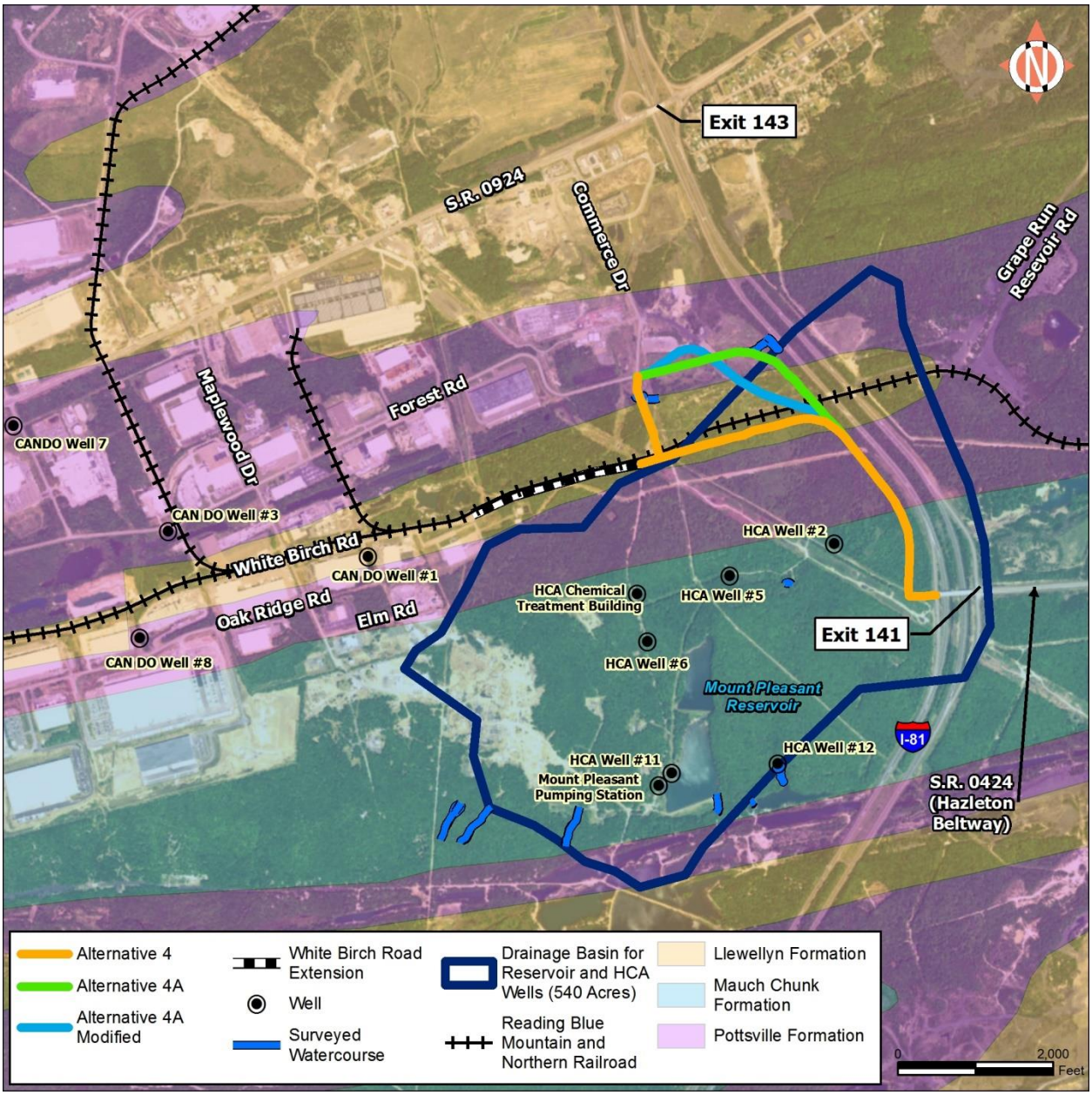


Table C-3 contains a brief summary of the reported characteristics of each of the permitted water supplies within, or in proximity to, the study area. Several other test wells and surface water features can also be found within the study area; however, these reportedly have low yields and/or poor water quality and are not permitted as public water supply sources. At this time, only the "Bonner Well" (a.k.a. Well #12), located approximately 900 feet east of the Lower Mt. Pleasant reservoir, is being considered as an additional potential water supply well by the HCA. This currently non-permitted well reportedly yields up to 700 gallons per minute from an 8- to 10-inch borehole and occasionally exhibits flowing artesian conditions.

Table C-3. Summary of Public Water Supplies.

Owner	PA Public Water Supply ID #	Source ID	Reported Yield / Capacity	Well Depth	Date Drilled/ Constructed
Humboldt Industrial Park	2400806	Well #1 (001)	365 gpm	256 ft	11/1969
		Well #3 (002)	280 gpm	545 ft	3/8/1977
		Well #7 (005)	200 gpm	495 ft	10/19/1989
		Well #8 (006)	185 gpm	500 ft	12/19/1990
Hazleton City Authority	2408001	Well #2 (013)	390 gpm	277 ft	Early-Mid 1900s
		Well #5 (014)	369 gpm	402.5 ft	Early-Mid 1900s
		Well #6 (015)	411 gpm	423.5 ft	Early-Mid 1900s
		Well #11(016)	292 gpm	292 ft	Early-Mid 1900s
		Upper Mt. Pleasant Reservoir (012)	≈26.7 Mgals		Mid-Late 1800s
		Lower Mt. Pleasant Reservoir (012)	≈44.4 Mgals		Mid-Late 1800s

* The reported safe yield for the above four HIP wells located in, or adjacent to, the study area totals 1.012 million gallons per day.

* In 1991, the reported combined safe yield for the four HCA wells was 400,000 gallons per day, and the safe yield of the two Mt. Pleasant reservoirs was 497,000 gallons per day with a permitted maximum withdrawal of 2.0 million gallons per day.

The well water testing for all three wells sampled in August 2008 indicate good quality overall. None of the wells were found to be under the direct influence of surface water based on the micro-particulate analysis results. Wells #2 and 5 both exhibited pH levels below regulatory limits (Well #2 ph = 5.7, and Well #5 pH = 5.8). Well #5 was also slightly above the regulatory limit for manganese (0.081 verses 0.05 mg/L) and had a low concentration of total coliform bacteria at 3.1 MPN/mls. The water quality results indicate that the wells tested were not in direct communication with area surface water resources at the time of sampling. Also, runoff from I-81, which is in proximity to the HCA wells, apparently has not had any impact on the groundwater quality despite its presence for several decades.

Water Supply Contribution Areas

The Upper and Lower Mount Pleasant reservoirs' surface waters managed by HCA appear to receive much of their flow from surface water runoff and springs located with a drainage area approximately 540 acres in size (see Figure C-6). Excess drainage from these surface features

flow south into a series of flooded surface mine pits that drain westward into Catawissa Creek. Any artesian flow from the "Bonner Well" (a.k.a. Well #12) also flows into the abandoned strip pits leading to Catawissa Creek. All of the principal, permitted water supply wells of the Mount Pleasant Well Field, managed by the HCA (Wells #2, 5, 6, and 11) also lie within this local drainage basin to Catawissa Creek. According to the HCA, many of the area wells occasionally (seasonally) display artesian conditions. Individual drawdown testing of at least two of these wells (HCA Wells #2 and 5) indicated a direct connection between these two wells approximately 1,200 feet along bedrock strike (east-west). Secondary porosity features (bedding planes, fractures, faults, etc.) serve to supply the high yield to these supplies. The HCA also reports Wells #6, #11, and the "Bonner Well" may also be interconnected with the two Mount Pleasant reservoirs. Based on this limited data, individual water supply wells within the Mount Pleasant well field appear to have an area of influence upwards of 1,500 feet along bedrock strike and nearly 1,000 feet down dip. Additionally, the bedrock aquifer system appears to be seasonally influenced by surface water infiltration within the basin.

Only one of the permitted water supply wells within the HIP (Well #1) is located within the current S.R. 0424 study area. The other three wells listed in Figure C-6 (Wells #3, 7, and 8) are located over 1,500 feet from the study area. At this time, detailed hydraulic testing data for the Humboldt wells has not been reviewed. Generally, all of the HIP and much of the area to the north lies within the Nescopeck Creek drainage basin. Secondary porosity features (bedding planes, fractures, faults, etc.) likely contribute to each well's reported yield. Like the HCA wells, the area of influence of each well is likely wider along bedrock strike (east-west) than down dip.

Impacts:

No Build Alternative: The No Build Alternative would have no impacts on groundwater resources.

Build Alternatives: The impact on groundwater by the reasonable build alternatives (**Alternatives 4, 4A, and 4A Modified)** would vary very little based on the alignment chosen and control of stormwater runoff into adjacent detention basins that outlet north into the Cranberry Creek watershed. All three alternatives would pass through a portion of the Mt. Pleasant watershed, yet remain over 300 feet from the closest HCA well. All alternatives would require curbing, inlets, pipes, and swales to convey the on-site runoff to the proposed stormwater Best Management Practices (BMPs). Detention basins with bioretention areas are proposed to manage, treat, and reduce the amount of runoff discharging to the Cranberry Creek Watershed. Any stormwater discharging within the HCA watershed would consist mainly of runoff from vegetated areas, which would be treated with vegetated swales prior to being discharged. As a result, no impacts to HCA wells are anticipated.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

The preferred alternative should be designed as close to the existing I-81 roadway alignment as possible to limit impacts to the watershed and associated wetlands. Approved standard BMPs should be implemented to collect and direct surface drainage to the Cranberry Creek watershed and away from the HCA well field and reservoirs.

G. Proposed Development and Local Planning

Methodology:

During the assessment of the study area and development of alternatives, the project team continuously coordinated with a task force that consisted of representatives from Luzerne County Planning Commission, the Hazleton Chamber of Commerce, the HCA, and Hazleton Township (police, emergency response); as well as local businesses, including CAN DO, HIP Business Association, local and regional politicians, and the general public. The task force and public meetings helped define the stakeholder and community concerns, but also identified proposed development within the area surrounding the project study area.

Traffic Impact Studies were completed (by others) to analyze the level of service (LOS) for all major roads within and adjacent to the project study area. These studies included research on existing and proposed development that may impact local traffic volumes. In addition to the traffic impact studies, the following documents were reviewed to determine if additional proposed developments would be affected by this project.

- *Open Space, Greenways, & Outdoor Recreation Master Plan (2004)* – This plan was prepared by Lackawanna and Luzerne counties to provide a planning framework for the preservation of open spaces and the development of greenways and outdoor recreation areas. The reasonable build alternatives fall within the 2,388-acre Pismire Ridge Natural Area. According to the plan,

  > *Natural areas contain unique ecological communities or critical watersheds…Many areas identified as natural also have extensive forest cover, one or more streams or tributaries and floodplains and wetlands that aid in filtering pollutants from surface water. These areas are viewed as important for protecting water quality and providing habitat.*

  This description matches field studies of the project study area, which is within the HCA's drinking water watershed and is listed as one of the long-term Luzerne County Proposed Conservation Areas in the Master Plan. It should be noted that the majority of the project study area falls within the HCA drinking water watershed and the Bonner family's private property; therefore, there are limited opportunities to manage it for public recreation.

- *Lackawanna-Luzerne Regional Plan, Comprehensive Plan and Long-Range Transportation Plan for Lackawanna & Luzerne Counties, Pennsylvania (2012)* – This plan focused on providing an overall planning guide for the two counties and their

municipalities. It establishes a framework for future growth, conservation, and preservation that strengthens existing communities and responsibly stewards natural, agricultural, and cultural resources. It also provides a Long-Range Transportation Plan (LRTP) to develop, maintain, and manage an adequate, safe, accessible, and environmentally sound transportation system. This plan includes the S.R. 0424 beltway extension project as a way to improve traffic and safety and alleviate traffic congestion associated with the growing HIP and S.R. 0924.

- *Lackawanna Luzerne Long Range Transportation Plan Update (Update of Lackawanna-Luzerne Regional Plan; September 28, 2015)* – This document serves as an update of the long range transportation plan for the Lackawanna Luzerne Metropolitan Planning Organization (MPO) region. The last LRTP was completed as a combined Comprehensive Plan and LRTP in 2011. This plan indicates the project study area as most likely to be moderately suitable for development due to its proximity to interchanges, urban places, and highways, as well as the large portion of the area that falls within the HIP, and is not designated for preservation.

Existing Conditions:

According to the *Lackawanna Luzerne Long Range Transportation Plan*, the Greater Hazleton Chamber of Commerce Beltway (S.R. 0424) was opened in 1999. The mile-long road connects S.R. 0309 with I-81 at Interchange 141, which is located between Exit 138 in McAdoo and Exit 143 in Hazleton. The goal of the $10.25 million project was to reduce regional truck traffic on local roads and provide direct access from I-81 to the Hazleton Commerce Center. The beltway also provides additional access to approximately 200 acres in Hazleton's Enterprise Zone for economic development.

This proposed beltway extension project represents the fourth segment of a five-segment "beltway" highway system proposed in the 1960s. The fifth and final segment would eventually connect the beltway with Stockton Road. This fourth segment would provide a necessary access to the HIP from the south and would alleviate traffic congestion on S.R. 0924.

The project study area for the S.R. 0424, Section 390 project contains multiple land uses that range from existing and planned industrial/commercial land to residential dwellings (see Figure C-7). They include the following.

- Humboldt Industrial Park (Proper)
- Humboldt Station
- Humboldt West
- Hazleton City Authority (HCA)
- Bonner Family Enterprises

- Harwood
- Eagle Rock Resort

The HIP developments are noted on Figures C-7 and C-8. HCA owns land associated with wells and the Mount Pleasant Reservoir in the southeast of the project study area. The Bonner family manages a junk yard, residential property, and the 8 Bees campground in this region. The village of Harwood is a small residential community in the southeast quadrant of the I-81 and S.R. 0924 Interchange. The Eagle Rock Resort is located along S.R. 0924, 2.3 miles west of Scotch Pine Drive and the HIP campus.

Humboldt Industrial Park (Proper)

CAN DO's HIP is located on the north and south sides of S.R. 0924 west of I-81. The entire park encompasses 3,000 acres, with a majority of the acreage located to the south of S.R. 0924. All HIP traffic utilizes S.R. 0924 and, based on previous traffic counts and projections, approximately 85 percent of the HIP traffic travels through the I-81/S.R. 0924 (Exit 143) Interchange area. Although a majority of the traffic generated by HIP utilizes I-81 (45 to 50 percent), approximately 40 percent of the traffic utilizes S.R. 0924 to access areas east of I-81. This suggests a large commuter population originating from the City of Hazleton and surrounding areas.

Humboldt Proper is the oldest part of the park and is close to full build-out. It includes industrial and commercial tenants, in addition to the McCann School of Business & Technology (Hazleton Campus). It is located on the south side of S.R. 0924 and is accessed by Maplewood Drive, Scotch Pine Drive, Chestnut Hill Drive, and Oak Ridge Road. In the future, Humboldt Proper would also be accessed via Pin Oak Drive. Humboldt Proper includes White Birch Road and Forest Road.

Humboldt Station

Within HIP, located within the southwest quadrant of the I-81/S.R. 0924 Interchange (Exit 143), lies Humboldt Station, CAN DO's planned commercial development. This site has recently experienced development, and contains several fast food and sit-down restaurants, and a gas station/convenience store. A hotel was recently built, and several parcels are available for additional restaurants and a large retail site (Figure C-8).

Humboldt West

Humboldt West is also located on the south side of S.R. 0924 and is accessed by Oak Ridge Road and Green Mountain Road. Humboldt West is a mix of warehousing and manufacturing land uses and is close to full build-out.

Figure C-7. Humboldt Industrial Park Map

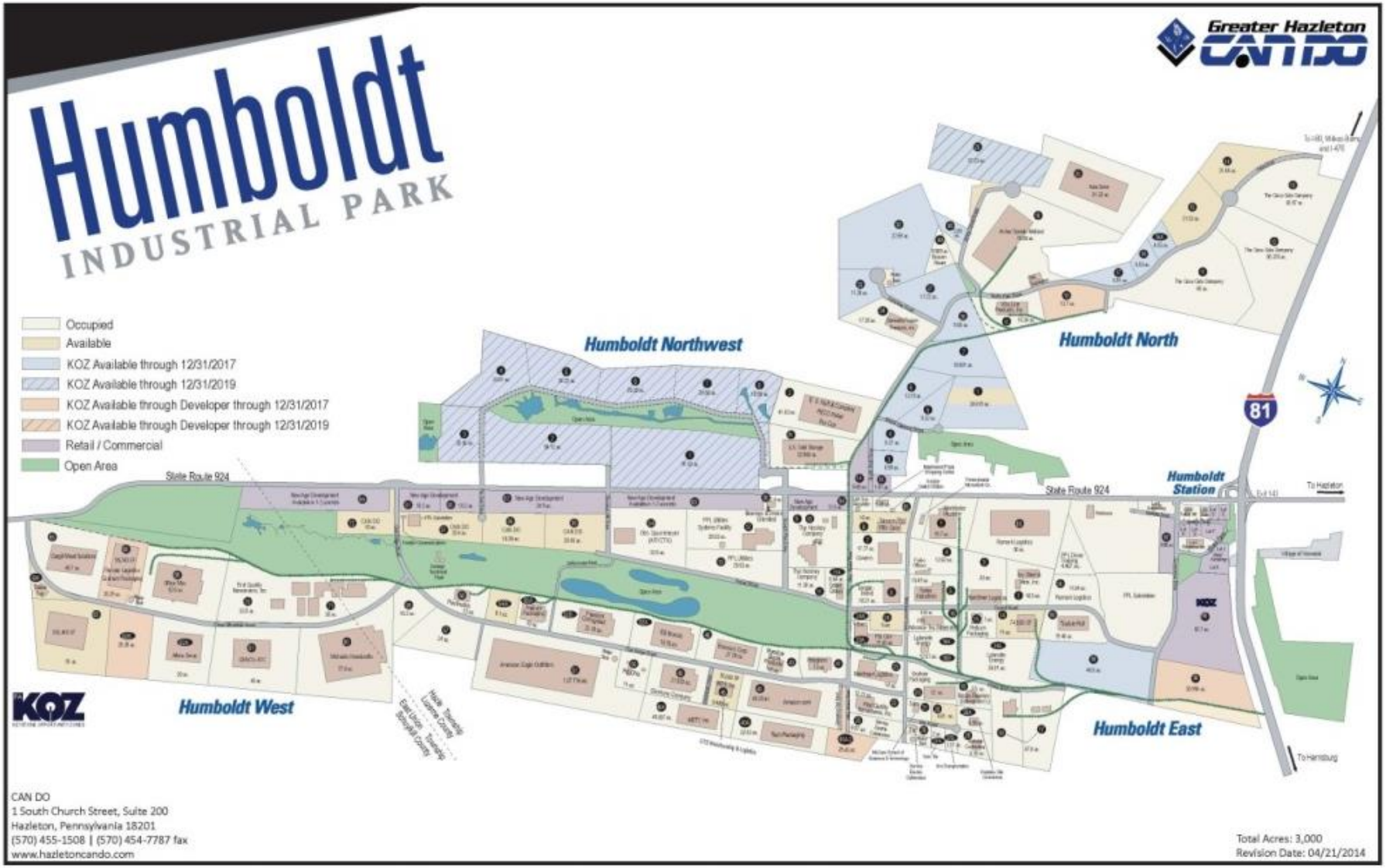
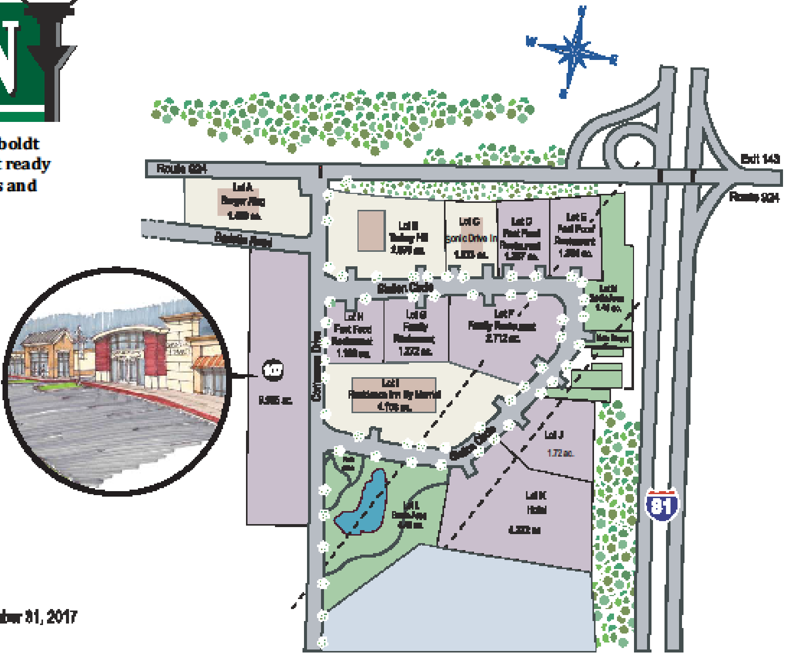


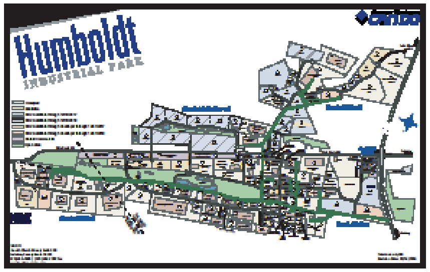
Figure C-8. Humboldt Station Map

HUMBOLDT STATION

Within Humboldt Industrial Park lies Humboldt Station, CAN DO's commercial/retail project ready for hotels, fast food and family restaurants and retail shopping.

Greater Hazleton CAN DO





Aerial photograph of the site, looking Northeast

KOZ

▨ Retail / Commercial - KOZ Available through December 31, 2017
🟩 Open Area
☐ Occupied

CAN DO
1 South Church Street, Suite 200
Hazleton, Pennsylvania 18201
(570) 455-1508 | (570) 454-7787 fax
www.hazletoncando.com

Revision Date: 01/18/2016

For additional information, please visit www.hazletoncando.com

Hazleton City Authority (HCA)

The HCA owns property between I-81 and HIP. This area contains several wells and the Mt. Pleasant reservoirs that help to supply water to the greater Hazleton area and some HIP tenants (see Figure C-6 for locations of wells). CAN DO also operates several wells that provide water to the industrial park. This area is identified as a Natural Area in the Open Space, Greenways, & Outdoor Recreation Master Plan (2004) and is part of a long-term conservation plan as well as protected water source for HCA's wells.

Eagle Rock Resort

Eagle Rock Resort is located on the north side of S.R. 0924 and is accessed by its main driveway on S.R. 0924. Eagle Rock Resort is a planned residential development boasting over 6,000 property owners and contains several public amenities. The resort includes a golf course, ski lift, and restaurants. Eagle Rock Resort is not near capacity and has space to grow its residential stock in the future. A current search of their real estate database indicates over 225 vacant lots are currently available for purchase.

Photograph C-3: Humboldt Station at Commerce Drive and S.R. 0924 (May 2016).

Bonner Family

On the south side of the project area, south of HIP and west of the I-81/S.R. 0424 Interchange (Exit 141), exists the Bonner Enterprises Junkyard; residential properties; and the 8 Bees campground, which is a seasonal fishing and hunting community comprised of older camping trailers and part-time residences that are owned and operated by the Bonner family.

Proposed Development

As noted above, meetings with local stakeholders, including the task force and the public, helped identify additional planned development in and adjacent to the project study area. Listed below are land parcels available for development. Table C-4 indicates the number of lots available for development in and adjacent to the project study area. The majority of these properties are managed by CAN DO.

Pagnotti Property

The Pagnotti Property is a future development that would be located in the northwest quadrant of the I-81 and S.R. 0924 Interchange. It would be accessed by two driveways from S.R. 0924. It is planned to contain high cube warehousing and distribution centers as well as sections of commercial development, such as restaurants and gas stations. However, the parcel is currently undeveloped, and no schedule has been provided for its construction (see the Project Technical File).

Table C-4. Land Available for Development.

Property Name	Proposed Use	Zoned Use	Keystone Opportunity Zones (KOZ)	Acres Available for Development
Pagnotti Property	High cube warehousing and distribution centers, commercial development (restaurants/gas stations)	Mining District	NO	Approx. 250 acres
Cranberry Creek (CAN DO)	Mixed-use consisting of commercial, retail, residential, and recreation options	Mining District	NO	Approx. 366 acres
Humboldt (Proper) (CAN DO)	Manufacturing, warehouse/distribution, retail/commercial, corporate (8 lots remain)	Industrial	YES	Approx. 105 acres
Humboldt Station (CAN DO)	Retail/commercial (8 lots remain)	Neighborhood Business District	YES	Approx. 25 acres
Humboldt East (CAN DO)	Manufacturing, warehouse/distribution, retail/commercial, corporate	Industrial	YES	Approx. 100 acres
Humboldt North (CAN DO)	Manufacturing, warehouse/distribution, retail/commercial, corporate (19 lots remain)	Industrial	YES	Approx. 285 acres

Property Name	Proposed Use	Zoned Use	Keystone Opportunity Zones (KOZ)	Acres Available for Development
Humboldt Northwest (CAN DO)	Manufacturing, warehouse/distribution, retail/commercial, corporate (8 lots remain)	Industrial	YES	Approx. 305 acres
Humboldt West (CAN DO)	Manufacturing, warehouse/distribution, retail/commercial, corporate (2 lots remain)	Industrial	YES	Approx. 35 acres

Cranberry Creek

The Cranberry Creek Gateway Site is managed by CAN DO and is a conceptual planned development in the northeast quadrant of the I-81 and S.R. 0924 Interchange. A portion of the site is south of S.R. 0924 and east of the village of Harwood. The conceptualized project includes the development of 366 acres into a mixed-use project consisting of commercial, retail, residential, and recreation options (see the Project Technical File).

Humboldt Industrial Park (Proper)

The remaining lots available for development occur in the HIP. Many of these lots are designated as Keystone Opportunity Zones (KOZ). The KOZ program utilizes state and local tax exemptions to attract development. It is considered one of the most powerful market-based incentives to revive economically distressed urban and rural communities. Still, many of these properties remain vacant within the HIP even though the KOZ status for many lots would expire in 2017.

Approximately eight lots remain vacant within the HIP Proper section of the campus. Infrastructure is available for these properties in the form of road entrances and utilities.

Humboldt Station

As noted above, Humboldt Station is located on the south side of S.R. 0924 and is accessed by Commerce Drive. Several lots are still available for development and contain the infrastructure to attract tenants. These lots are ideal for fast food and sitting restaurants or retail.

Humboldt East

Humboldt East is also located on the south side of S.R. 0924 and accessed by Commerce Drive. This area is predominantly a future planned industrial area, zoned as KOZ, which consists of Lots 103, 105, and 106. No businesses are currently located there; however, at least two lots (103 and 105) have plans for development. Lot 103 has a conceptual plan that is close to ten years old and has not progressed. As of May 2016, Lot 105 has been cleared for the development of a 422,500-square foot warehouse facility and has been recently graded. This area has all infrastructure and utilities in place for future development (see Photograph 2 in the Project Technical File).

Photograph C-4: Development of Lot 105 in Humboldt East (May 2016).

Humboldt North

Humboldt North is located on the north side of S.R. 0924 and is accessed by North Park Drive. Humboldt North is a mix of warehousing and manufacturing land uses and has potential for growth in a limited number of unsold lots. Infrastructure exists to serve the remaining available lots. Please refer to Figure C-7 for a current occupancy status.

Humboldt Northwest

Humboldt Northwest is located on the north side of S.R. 0924 and is accessed by Scotch Pine Drive and Chestnut Hill Drive. Humboldt Northwest is completely unoccupied but is ready for development to accommodate larger manufacturing and distribution projects. It currently lacks any infrastructure. Please refer to Figure C-7 for a current occupancy status.

Humboldt West

Humboldt West is also located on the south side of S.R. 0924 and is accessed by Oak Ridge Road and Green Mountain Road. Humboldt West is a mix of warehousing and manufacturing land uses and is close to full build-out. Infrastructure exists to serve the remaining available lots.

Local Planning

The majority of the project study area, as well as along its northern and western limits, is zoned for industrial use and falls within the Humboldt Center Priority Area. The Lackawanna-Luzerne Comprehensive and Long Range Transportation Plan (2010) selected areas for the Priority Area designation to help promote development and expansion of the public transportation network. In addition, much of the HIP was assigned as a KOZ to further encourage the development of the vacant lands, much of which was previously mined.

In contrast to this planned development, the southern region of the project study area is privately owned by the Bonner Family and the HCA and designated as a Conservation Area in the Open Space, Greenways, & Outdoor Recreation Master Plan (2004). According to the Open Space Plan, this region is part of the Pismire Natural Area and targeted for recreation and open space. Development is generally discouraged in these areas, in particular, where incentives for development occur on adjacent properties. At this time, the Bonner family manages their property for residential and recreational use, as well as a junk yard. The family has expressed an objection to adjacent development and is unlikely to encourage any future development on their property. In addition, the HCA manages several wells and the Mount Pleasant Reservoir as part of their drinking water source. Development within their watershed has been restricted, and the three reasonable build alternatives reflect their interest in directing the S.R. 0424 extension away from existing wells and aquatic resources that may provide water quality benefits.

Impacts:

No Build Alternative: The No Build Alternative would have no impact on those areas proposed for development. In addition, this alternative would not be compatible with proposed developments within the HIP and local areas served by I-81, S.R. 0924, and S.R. 0424.

Build Alternatives: The project team coordinated with local officials, the public, and a task force comprised of local stakeholders to determine the local and regional needs for development and the constraints on this development. In particular, the project team recognized the effect of the reasonable build alternatives on planned development within the HIP, water quality adjacent to HCA's drinking water well intakes, utilities, and the Bonner family private property. The reasonable build alternatives are being designed to alleviate the traffic congestion and improve safety along I-81 and S.R. 0924 that would also serve the HIP businesses, as well as businesses and the public within the Greater Hazelton area. The proposed S.R. 0424 beltway extension is compatible with local and regional planning initiatives and has the support of local developers and municipal and county planners and officials.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

The S.R. 0424 Hazleton Beltway extension is being designed to provide access from I-81 into the HIP and connect with White Birch Road (extension) and Commerce Drive. The roadway

would feature four lanes with shoulders that would accommodate traffic associated with future growth.

H. Utilities

Methodology:

The Pennsylvania OneCall System, Inc., was contacted to identify utilities within the project's study area. The serial numbers for the study area are 20160200841, 20160200869, and 20160200883.

Existing Conditions:

Public utilities identified within the study area include the following:

- Hazleton City Authority (HCA) – Underground water lines are located within the project study area in various locations.
- PPL Electric Utilities Corporation (PPL) – Underground and overhead (transmission and distribution) electric lines are located within the project study area.
- UGI Utilities Inc. (UGI) - Underground gas lines are located within the project study area.

See Figure C-9 for location of utilities in the project study area.

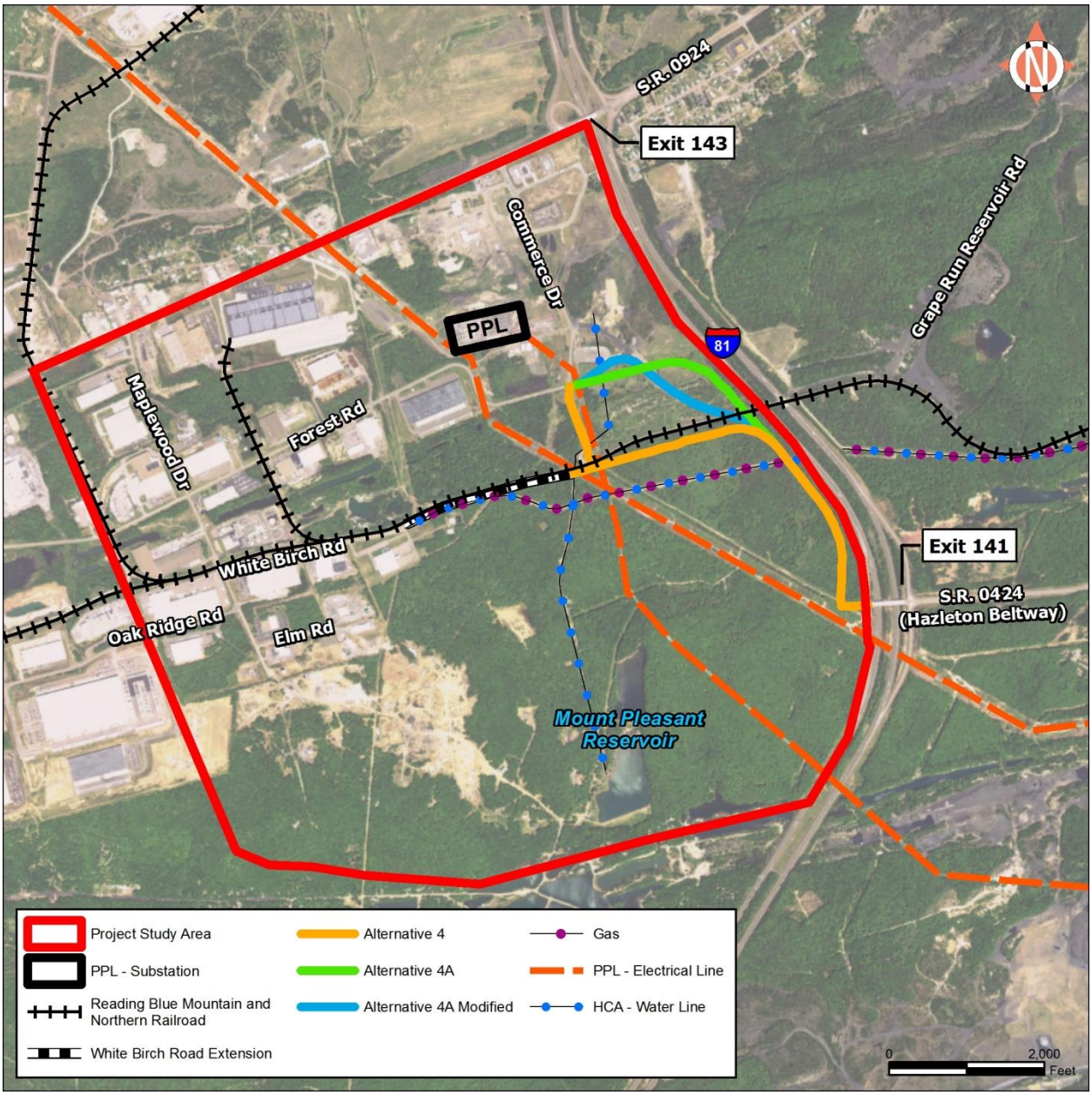
Impacts:

No Build Alternative: The No Build Alternative would not have any impacts to utilities and no relocations would be required.

Build Alternatives: All three alternatives would be designed to minimize impacts to public utilities. The minimum horizontal curve radius for 35 mph would be utilized to avoid the PPL electric transmission towers west of the interstate and to maximize the horizontal distance between the roadway and HCA Well No. 2. The proposed roadway alignment would be infill as it crosses a water line and gas line south of the railroad tracks.

Alternative 4's vertical alignment along with 1.5:1/2:1 cut and 2:1 fill slopes can provide adequate slope tie-ins near the two PPL electric transmission towers south of the Commerce Drive cul-de-sac without the need for relocation of the utilities. Roadway widening to the west of Commerce Drive near Forest Road would also avoid impacts to a PPL transmission tower and concrete retaining wall. Preliminary design, however, indicates that nine PPL distribution poles and three street light poles would be affected by this project. Underground water and gas lines near the intersections of S.R. 0424, Commerce Drive and White Birch Road; and Commerce Drive and Forest Road would also be affected by proposed roadway widening.

Figure C-9. Utilities



For **Alternatives 4A** and **4A Modified**, the alignments would continue across the railroad in a northwesterly direction and tie into the intersection of Commerce Drive and Forest Road. Preliminary design indicates that retaining wall modifications and access improvements would be needed to the PPL transmission tower at the intersection of Commerce Drive and Forest Road to accommodate the new alignments. Nine PPL distribution poles and three street light poles would be affected by these two alternatives. Underground water and gas lines near the intersection of Commerce Drive and Forest Road would also be affected by proposed roadway widening. Based on the above, **Alternatives 4A and 4A Modified** would have greater impacts to utilities than Alternative 4.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

Additional coordination would be conducted during final design. Proposed drawings, letters, and forms would be sent to the affected utility companies in accordance with the PennDOT project development process. The project engineers would work closely with the PennDOT District Utility Coordinator to facilitate any utility relocations.

I. Environmental Justice

In accordance with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (February 11, 1994), Title VI of the Civil Rights Act of 1964, and related statutes, an assessment of environmental justice issues was conducted for the project. The purpose of the assessment is to identify and address disproportionately high and adverse human health or environmental effects associated with the proposed project on minority and low-income populations.

The first component of the analysis involved the identification of the locations and characteristics of minority and low-income populations in geographic proximity to the project. A minority person is defined as a person who is Black, Hispanic, Asian American, American Indian, or Native Alaskan; and a low-income person is generally defined as persons having incomes at or below the Federal poverty level as defined by the Department of Health and Human Services guidelines. Census data (2010) were obtained at the Census Tract level for the entire study area. The study area is completely contained within Census Tract 2170.01 in Hazle Township. The city of Hazleton is located near the study area; therefore, data for the City was included in the study for comparison. In order to determine the presence of low-income populations, census data were consulted for persons under the poverty level. Data were also collected for race to identify minority populations within the project study area. Table C-5 is a summary of the compiled census data for the project area municipalities.

Table C-5. Minority and Low Income Census Data.

	Total Population	Minority Percentage (%)	Hispanic or Latino Percentage (%)	Percentage Living below the Poverty Level (%)
Pennsylvania	12,702,379	18.1	5.7	13.5
Luzerne County	320,918	9.3	6.7	16.3
City of Hazleton	25,340	30.6	37.3	28.70
Hazle Township	9,549	7.8	8.9	18.7
Census Tract 2170.01	1,881	7.3	9.1	8.9

Source: U.S Census Bureau, Census 2010

The Census data indicated that the percentage of people living below the poverty level in the project study area is well below the percentages in the state, county, and local municipalities. The minority percentage is also lower for the study area compared with the state, county, and local municipalities. However, the percentage of Hispanics or Latinos is slightly higher in the study area than in the state or county, but is similar to the Township and is significantly lower than the City of Hazleton. In addition, field views did not identify any minority populations within the project area limits. Therefore, no environmental justice communities were identified in the project study area.

Impacts:

No Build Alternative: The No Build Alternative would have no impact on low income or minority communities; however, the No Build Alternative would deny the local low-income populations surrounding the City of Hazleton the benefits of a new road that would not only provide improve traffic operations and incident management in the HIP area, but could also provide development opportunities in a region that has, in the past few decades, been experiencing a declining local economy and relatively high unemployment rates.

Build Alternatives: Alternatives 4, 4A and **4A Modified** would not impact environmental justice communities since there would be no displacements and travel in the study area would not be impacted by the construction, as no detours would be necessary. The project would have a positive impact to all members of the community, include environmental justice communities, by easing congestion on other roadways, allowing more efficient incident management response times and allowing improved access to the HIP.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

No minimization or mitigation is necessary for the proposed alternatives.

J. Residential and Commercial Displacements

The project study area primarily encompasses the HIP and the adjacent industrial and retail/commercial campuses of Humboldt East and Humboldt Station. These campuses were developed on previously strip-mined land that has since been reclaimed for development. South of these industrial areas are forest lands managed by the HCA for drinking water, containing wells, and the Mount Pleasant Reservoir; and the Bonner family's residential property, campground, and junkyard business. Two residential communities are located adjacent to the study area. The village of Harwood is located in the northeast corner at the intersection of S.R. 0924 and I-81. In addition, the Eagle Rock Resort, an upscale retreat and golf community, is located along S.R. 0924 to the northwest of the project study area. The town of Hazleton is located approximately 2 miles from the HIP.

Right-of-Way Acquisitions

The build alternatives all connect S.R. 0424 through the forested HCA drinking water watershed and northwestward into the HIP's Humboldt East campus. Table C-6 identifies the parcel type (land use) and total acreage impacted for right-of-way takes for all three build alternatives. No residential or commercial displacements would be required for Alternative 4; however, Alternative 4A and 4A Modified would result in the displacement of the newly built warehouse on Lot 105.

Table C-6. ROW Takes for Build Alternatives 4, 4A, and 4A Modified in Hazle Township.

Alternative 4	
Land Use Type	**Impacted Acres**
Utility (Railroad)	8.3
Commercial/Industrial	4.4
Utility (HCA)	23.2
Residential	0.4
Total:	36.3

Alternative 4A	
Land Use Type	**Impacted Acres**
Utility (Railroad)	3.9
Commercial/Industrial	11.76
Utility (HCA)	16.53
Residential	0.4
Total:	32.59

Alternative 4A Modified	
Land Use Type	**Impacted Acres**
Utility (Railroad)	3.99
Commercial/Industrial	12.92
Utility (HCA)	16.53
Residential	0.4
Total:	33.84

Impacts:

No Build Alternative: The No Build Alternative would require no new ROW and therefore would result in no displacements.

Build Alternatives: Alternative 4 involves a 1.1-mile long, four-lane paved access road with shoulders from the southern limit of Commerce Drive (at the southeastern portion of HIP East) to the western limit of S.R. 0424 at I-81/Exit 141. While minor sliver takes are required from

commercial properties along Commerce Drive and Forest Road and from a forested property owned by the Bonner family, a parcel from HCA and a parcel owned by Reading Blue Mountain and Northern Railroad south of the railroad tracks would experience larger takes. No displacements are necessary with this alternative, and there are no impacts to residential properties.

Impacts associated with **Alternatives 4A** and **4A Modified** are similar to **Alternative 4**; however, the large take from the railroad would not be necessary. In addition, these alternatives could have a major impact on a warehouse facility currently under construction in Lot 105. Alternative 4A would avoid the warehouse but would impact much of the parking and stormwater management facilities, while Alternative 4A Modified would cut directly through the warehouse and require a full take.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Map in Appendix B.

Minimization/Mitigation:

No minimization or mitigation is necessary for the proposed alternatives.

K. Greenhouse Gas Emissions Assessment

To date, no national standards, criteria, or thresholds have been established for greenhouse gas (GHG) emissions. However, a considerable body of scientific literature exists addressing the sources of GHG emissions and their potential impacts on climate change, including reports from the Intergovernmental Panel on Climate Change (IPCC), the National Academy of Sciences, the Environmental Protection Agency (EPA), and other federal agencies. Unlike other air pollutants evaluated in federal National Environmental Policy Act (NEPA) reviews, sources for GHG emissions, both direct and indirect, are typically evaluated globally or per broad scale sector (e.g., transportation, industrial, etc.) and not assessed at the local or project level because the impacts are global and not localized or regional. In addition, from a quantitative perspective and in terms of both absolute numbers and types, global climate change is the cumulative result of numerous and varied natural and human emission sources. Each source makes a relatively small addition to global atmospheric GHG concentrations. In contrast to broad scale actions such as those involving an entire industry sector or very large geographic areas, it is unlikely that any individual transportation project would generate enough GHG emissions to significantly influence global climate change.

It should be noted that appropriate techniques and methodologies to assess GHG emissions and climate change continue to evolve. The assessment of a proposed set of alternatives (both No Build and Build), adverse or not, can be influenced by the uncertainty introduced into the process through assumption and speculation rather than genuine insight into the actual impacts directly attributable to GHG emissions associated with a proposed project.

Methodology:

Within Publication 321, PennDOT has developed a standard analytical process and template for addressing GHG emissions within the context of NEPA. It is expected that this guidance will evolve over time as new procedures, data, and tools become available. The GHG emission analysis screening for the S.R. 0424, Section 390 transportation improvement project began with determining the appropriate level of analysis as described in Publication 321.

The project build alternatives are not anticipated to result in any meaningful changes in regional vehicle miles of travel (VMT) in comparison to the No Build Alternative. In addition, it is expected that the project will provide reductions in vehicle delay. Therefore, based on PennDOT's screening guidelines, a qualitative assessment was determined to be the appropriate level of analysis for the proposed project.

Existing Conditions:

Studies regarding GHG emissions exist only at the state level. There are no existing analyses or GHG inventories for the S.R. 0424, Section 390 project study area. The PADEP's 2015 Climate Change Action Plan Update identifies that emissions attributed to the transportation sector result from fuels combusted by gasoline, diesel, jet fuel, and natural gas vehicles in the Commonwealth. Several factors have an effect on the future amount of a fuel consumed, including VMT, modal shifts, vehicle efficiency, and the price and availability of a particular fuel. According to the study projections, the transportation sector GHG emissions in Pennsylvania will decrease by approximately 0.9 percent between 2015 and 2030.

Publication 321 highlights expected improvements in vehicle fleet CO2e (a primary component of total GHG) emission rates over the next 10 to 20 years, primarily related to continued improvements to vehicle fuel economy. In addition, the emission rates (by travel speed) highlight the significant benefits in GHG emissions that may be realized by reducing travel delay. Thus, only projects that significantly increase VMT are expected to have negative impacts on regional GHG emissions.

Impacts:

No Build Alternative: Under the No Build Alternative, S.R. 0424 would not be extended and the Level of Service (LOS) would continue to worsen through the design year.

Build Alternative: As summarized in Table C-7, the primary objectives and expected outcomes of the build alternatives (**Alternatives 4**, **4A**, and **4A Modified**) would support the reduction of GHG emissions over the infrastructure's life span. GHG emission reductions would also be supported through national strategies, including the United States Department of Transportation's (USDOT's) more stringent fuel economy and GHG emissions standards starting in 2012 model year vehicles.

Table C-7. Project Outcomes that Support Reduction in GHG Emissions.

Outcomes of the Project	Impacts to GHG Emissions
• Secondary and emergency access between I-81 and HIP • Incident management for local roadways	• The S.R. 0424, Section 390 project has a projected average daily traffic of 9,800 vehicles per day in 2038. The build alternatives would provide a new roadway with low traffic volume and minimal influence on overall VMT. • The project is expected to redistribute traffic within the area roadway network. It would not result in meaningful changes in traffic volumes or vehicle mix. Therefore, the project impacts on GHG emissions would be negligible. • The build alternatives would alleviate backup or traffic queueing during traffic incidents between Exits 141 and 143 on I-81, thereby reducing GHG emissions during those localized events.

Construction of the build alternatives is estimated to last two construction seasons and will result in additional GHG emissions from both direct on-site construction and indirect upstream construction materials. Direct on-site construction emissions sources include on-site, non-road construction engines and on-road engines from worker trips and trucks delivering and removing materials from the project area. Indirect upstream construction emissions sources include emissions from the production and disposal of the materials used for construction. The emissions will be short-term and temporary during the construction period.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Mapping in Appendix B.

Minimization/Mitigation:

The S.R. 0424, Section 390 transportation improvement project is not expected to increase GHG emissions, and as such, specific mitigation measures are not warranted. In addition, national fuel economy standards including the GHG emission standards established by USDOT and EPA are expected to provide further reductions in transportation sector emissions.

L. Climate Change Assessment

Historic changes in the climate have been documented by researchers, including changes in temperature, precipitation, storm activity, sea level, and wind speeds. When climatic activity results in an effect on the human and/or natural environments, it is often referred to as a climate "stressor." Since transportation infrastructure is designed to withstand locally expected climate stressors of the magnitude and frequency that have historically been experienced, the risks from climate change can come from an amplification of existing stressors.

Methodology:

The climate change assessment considered both the impacts of climate change on the proposed project as well as the effects on the affected environment. PennDOT's Publication 321 recommends a qualitative assessment of climate change impacts utilizing resources and data that are readily available. This assessment utilized existing state climate research and region-specific data from available national studies.

Climate stressors applicable to the project were analyzed based on the sensitivity of the existing and planned transportation assets within the project area. This includes evaluating how climate stressors may impact the project design, maintenance, or operation, and identifying the project's vulnerability to those stressors. Considerations of resiliency and adaptation are addressed through existing PennDOT design standards and ongoing state and national technical research. It should be noted that there are several major sources of uncertainty inherently included in the data source projections regarding climate change, such as the effects of natural variability, future human emissions, sensitivity to GHG emissions, and natural climate drivers.

Existing Conditions:

The PADEP study Pennsylvania Climate Impacts Assessment Update (2015) indicates that the state has undergone a long-term warming trend over the last century, interrupted by a brief cooling period in the mid-twentieth century. Over that time, the state has also had a decreasing number of very dry months and an increasing number of very wet months, which reflects an overall wetting trend. Additional resources, including the National Oceanic and Atmospheric Administration (NOAA) Climate Explorer, provide observed and projected temperature, precipitation, and related climate variables for counties within the United States. Table C-8 summarizes data derived from the available resources for the project area.

Table C-8. Climate Data Sources and Data for the Project Study Area.

Source	Data or Statements from Resource
Pennsylvania Climate Impacts Assessment Update (2015)	• Pennsylvania's current warming and wetting trends are expected to continue at an accelerated rate. • Within Pennsylvania, a 5.4°F increase in average temperature if forecast by the middle of the 21st century. • The forecasted annual precipitation increase is expected to be 8%, with a winter increase of 14%. • The likelihood for drought is expected to decrease, while months with above-normal precipitation are expected to continue increasing.
NOAA Climate Explorer (Luzerne County Data)	• Increase in a total number of days with precipitation above 1 inch. • Increase in days with a maximum above 95°F.

Climate change vulnerability or risk assessments conventionally focus on the direct impacts of climate change on human or natural systems (such as transportation infrastructure). The vulnerability of the system depends on the climate change to which the system is exposed, the sensitivity of the system to the exposure, and the adaptation of the system to ameliorate harms or exploit opportunities. The costs (and possible benefits) of climate change to Pennsylvania's transportation infrastructure have not been systematically investigated and are thus highly uncertain. However, the presence of certain climate stressors may result in impacts to infrastructure as well as changes in operations/maintenance of the facility. Based on the changes in temperatures and precipitation predicted in the state of Pennsylvania, applicable examples of these include:

- Maximum temperature increases resulting in premature deterioration of infrastructure, buckling/rutting, and thermal expansion of bridge joints.
- Greater changes in precipitation levels causing changes in soil moisture levels and accelerated deterioration, road embankment upheaval, and flooding resulting in increased road closures.
- Increased winter precipitation can result in increased deterioration of infrastructure due to snow/ice removal and salting use.
- Increased intensity of storms can result in damage to culverts and roads near flood zones, increased scour potential for bridges, and high wind events cause more infrastructure vulnerability.

Impacts:

No Build Alternative: Under the No Build Alternative, existing transportation assets (i.e., the existing roadway network) would be sensitive to climate stressors such as the effects of precipitation, extreme heat, and higher temperatures.

Build Alternative: Climate change is not anticipated to have significant impacts on the selection of project alternatives within the expected infrastructure lifespan. A qualitative discussion of the key climate stressors applicable to the project study area is presented below.

Extreme Heat/Higher Temperature

Available data indicate a potential for an increase in the number of hottest days in Luzerne County. Extreme heat conditions and higher temperatures can contribute to pavement deterioration and increased maintenance costs. Temperature increases are expected to occur regionally. As such, it is expected PennDOT will continue to evaluate pavement design standards and materials to address excessive heat conditions.

Precipitation

According to the NOAA Climate Explorer, both mean daily precipitation and days of precipitation above 1 inch of rainfall are anticipated to increase in the future. Available global climate models do not provide information and/or locations of future flooding. As a result, qualitative assessments require supplemental information, including existing floodplain boundaries, historic flooding, and other forecast scenario analyses, if available.

The project build alternatives are not within the current 100-year floodplain boundaries. Thus, flooding is not anticipated to have significant impacts on the project. As referenced in Publication 321, PennDOT has completed an Extreme Weather Vulnerability Study that serves as an additional resource for project evaluation. The mapping products from that study include a historic assessment of flooding on state roadways. The study does not indicate any flooding closures or vulnerabilities for the existing roadway network in the study area. At this time, the study does not include forecast flooding scenarios for Luzerne County. However, post-NEPA design phases should consider forecast flood boundaries if completed at that time.

Extreme Weather Events

It is uncertain how climate change impacts the frequency or severity of severe weather events. Although extreme weather events individually do not represent or indicate climatic changes within an area, it is important to evaluate projected increases or decreases in extreme weather events and whether the proposed project would be more susceptible or provide greater benefit to the project area. The build alternatives would provide a benefit by providing additional local area access (compared to the No Build Alternative) in response to increased extreme weather events (hurricanes, tornadoes, etc.), and therefore would contribute to safeguarding communities and infrastructure against the effects of extreme weather events.

Environmental Features/Constraint Mapping:

Please refer to the Environmental Constraints Mapping in Appendix B.

Minimization/Mitigation:

Specific mitigation measures regarding climate change stressors are not warranted. However, there are a number of national research projects underway that are aiming to identify how climate stressors may impact current transportation design, construction, and maintenance activities. PennDOT has initiated a multi-phase effort aimed to better anticipate the consequences and impacts of extreme weather events and to identify funding priorities and strategies to improve transportation system resiliency. The S.R. 0424, Section 390 transportation improvement project will include significant improvements to the stormwater infrastructure as part of the roadway extension. These changes are expected to improve the resiliency of the roadway and bridge infrastructure to storm events. Additional improvements to ensure infrastructure resiliency may also be addressed in post-NEPA design activities.

APPENDIX D

Agency Correspondence

Pennsylvania Department of Conservation and Natural Resources

Bureau of Forestry **January 16, 2008**

Gina Tartamosa
A. D. Marble & Company
FAX: 484-533-2599

Pennsylvania Natural Diversity Inventory Review, PNDI Number **019475**
Hazelton Beltway Extension (Study Area)
Hazle Twp; Luzerne County

Dear Ms. Tartamosa,

This responds to your request about a Pennsylvania Natural Diversity Inventory (PNDI) ER Tool "Potential Impact" or a species of special concern impact review. We screened this project for potential impacts to species and resources of special concern under the Department of Conservation and Natural Resources' responsibility, which includes plants, natural communities, terrestrial invertebrates and geologic features only.

PNDI records indicate that species and communities of special concern under DCNR's jurisdiction are known to occur in the vicinity of the above-mentioned project. **The following species and community of special concern were known in the vicinity of your project area for the five alternatives being studied. If any earth disturbance is planned or more detailed project information becomes available, please submit this project to our office for further review of potential impacts to the species and community of special concern.**

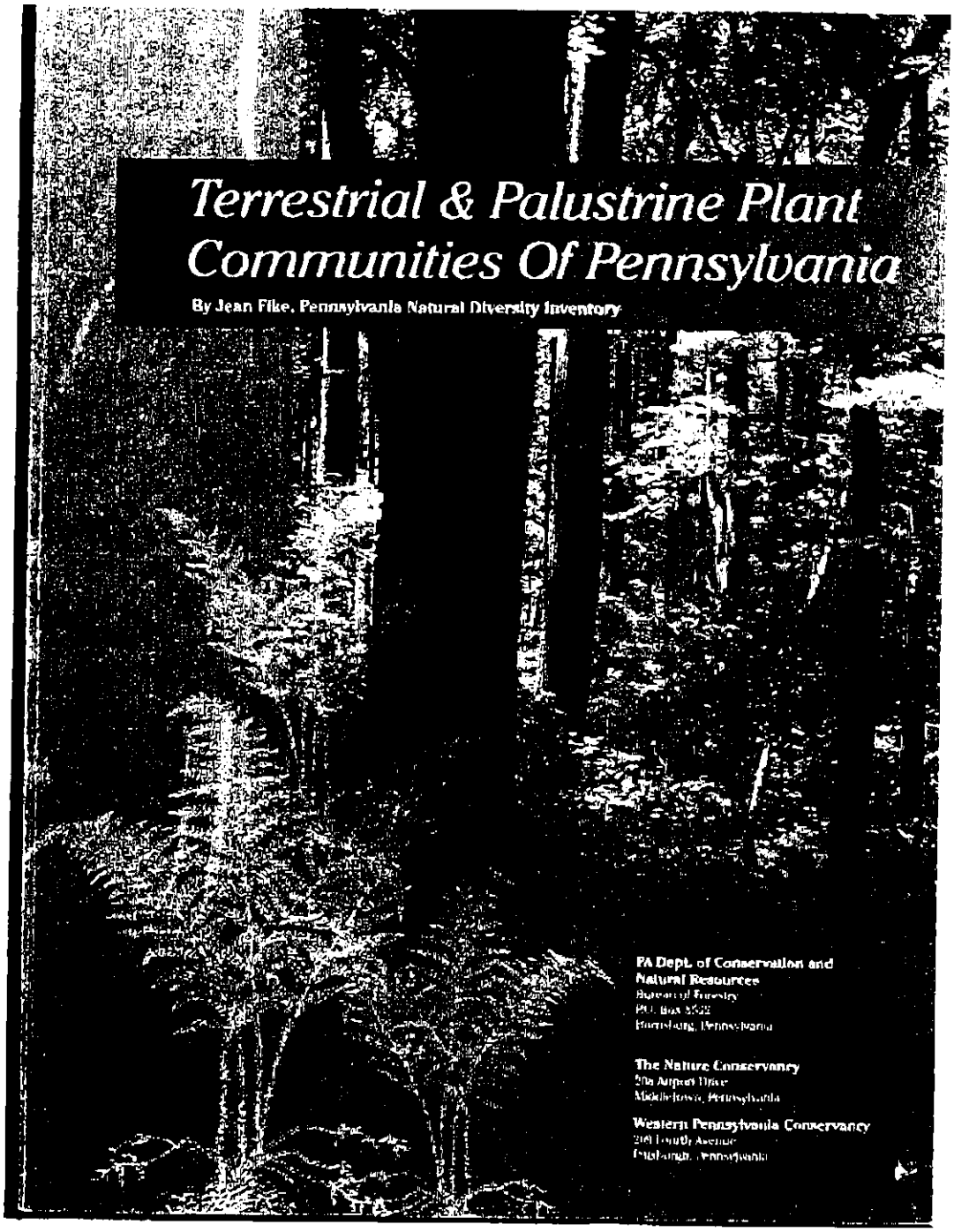
Juncus filiformis **(PA-Rare) – bog and sandy shores**

Ridgetop Dwarf-Tree Forest Community – Refer to the attached information (page 66) from "Terrestrial & Palustrine Plant Communities of Pennsylvania" by Jean Fike for a description of this community.

This response represents the most up-to-date summary of the PNDI data files and is good for one (1) year from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on-site. A field survey of any site may reveal previously unreported populations. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

This finding applies to impacts to plants, natural communities, terrestrial invertebrates and geologic features only. To complete your review of state and federally-listed species of special concern, please be sure the U.S. Fish and Wildlife Service, the PA Game Commission and the Fish and Boat Commission has been contacted regarding this project either directly or by performing a search with the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

, Richard L. Shockey Environmental Review Specialist, PNHP
DCNR/BOF/PNDI, PO Box 8552, Harrisburg, PA 17105 ~ Ph: 717-772-0263 ~ F: 717-772-0271 ~ c-rshockey@state.pa.us



Terrestrial & Palustrine Plant Communities Of Pennsylvania

By Jean Fike, Pennsylvania Natural Diversity Inventory

PA Dept. of Conservation and Natural Resources
Bureau of Forestry
P.O. Box [illegible]
Harrisburg, Pennsylvania

The Nature Conservancy
[illegible] Airport Drive
Middletown, Pennsylvania

Western Pennsylvania Conservancy
[illegible] Fourth Avenue
Pittsburgh, Pennsylvania

RIDGETOP ACIDIC BARRENS COMPLEX

Community types that characterize this complex*:

Pitch pine - scrub oak woodland
Pitch pine - mixed hardwood woodland
Pitch pine - heath woodland
Dry oak - heath woodland
(Red spruce rocky summit-rare)
Scrub oak shrubland
Low heath shrubland
Low heath - mountain ash shrubland
Little bluestem - Pennsylvania sedge opening

(*Note: Most of these community types also occur in other landscape settings. Examples of the complex need not contain all community types listed.)

Description: The "Ridgetop acidic barren complex" represents a group of open-canopy ridgetops and summits, which occur throughout central and northeastern Pennsylvania. This complex is found on high ridgetops and summits (1200-2200 ft), where low soil moisture, shallow soils, high wind velocities, frequent fires, and usually a history of cutting limit tree growth. Similar patterns continue into New York, New Jersey, Maryland, and southward along the Appalachian highlands. More information is needed to evaluate the variation in this complex across its range.

Ridgetop Acidic Barrens Complex- Broad Mountain Barrens, Carbon County. Photograph by Staff of the Pennsylvania Science Office of The Nature Conservancy.

Structurally, these areas contain a mosaic of physiognomic types, including woodlands, shrublands, and open grassy areas. Where trees become established, they are typically stunted, and in areas exposed to high winds, flagged. The bedrock geology in these areas may be sandstone, conglomerate, acidic shale, schist, gneiss, or quartzite. Soils are usually thin, well drained to excessively well-drained, and acidic. There may be extensive areas of unvegetated or sparsely vegetated bedrock outcrops. There may also be areas of bare soil.

The vegetation is dominated by oaks *(Quercus ilicifolia, Q. velutina, Q. montana, Q. coccinea)* and heaths

Ridgetop Acidic Barrens Complex- State Game Lands 57, Wyoming County. Photograph by Jean Fike

(Vaccinium angustifolium, V. pallidum, Gaylussacia baccata, Kalmia angustifolia), with or without pine *(Pinus rigida, P. strobus, P. virginiana, P. pungens)*. A variety of other hardwood species *(Acer rubrum, Sassafras albidum, Betula lenta, Nyssa sylvatica, Populus tremuloides)* and non-ericaceous shrubs *(Comptonia peregrina, Aronia melanocarpa, Sorbus americana)* may also be present. The herbaceous layer is dominated by sedges, grasses, and bracken *(Pteridium aquilinum)*. There is frequently an abundance of mosses and lichens; more information is needed on nonvascular species.

The arrangement of individual community types appears to be influenced by a combination of factors including elevation, soil depth, exposure, cutting history, fire history, and microclimate (the "frost pocket" phenomenon). In general, the physiognomy becomes more open at higher elevations and on southern exposures. Where fires are frequent, *Pinus rigida* (pitch pine) will typically be present. In the absence of fire, other pines *(P. strobus, P. virginiana, P. echinata, P. pungens)* may accompany or replace *P. rigida*, or pine may be absent altogether. Frost pockets may play a part in maintaining open areas; this is especially true of the "Little bluestem - Pennsylvania sedge opening" type. If fire is suppressed on these sites over the long term, their distinctive vegetation may gradually give way to more mesic species typical of the surrounding forests at lower elevations.

Two of the community types associated with this complex appear to be elevation-restricted in Pennsylvania. The "Low heath -mountain ash shrubland" type generally only occurs at elevations above 1900 ft. The "Red spruce rocky summit" type is known in Pennsylvania from only one site, with an elevation of about 2200 ft.

The forest types that most typically surround this complex are the "Dry oak - heath forest" and "Pitch pine - mixed oak forest," although a variety of other types may also occur.

Range: Glaciated NE, Pocono Plateau, Ridge and Valley, South Mountain, Unglaciated Plateau.

Crosswalk: This complex is roughly equivalent to a combination of Smith's (1991) "Ridgetop Dwarf-Tree forest" and "Northern Appalachian Acidic Rocky Summit" community types.

Selected references: Duppstadt 1972, Illick and Aughanbaugh 1930, McVaugh 1957, Olsvig 1979, PNDI field forms, Reschke 1990.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANPORTATION
DESK MEMORANDUM

SUBJECT: Luzerne County, Hazle Township, S.R. 0424, Section 390, Hazleton Beltway Extension Project	
TO: Greg Augustine, District 4-0 Environmental Manager	FROM: Lisa Benack, Interim District 4-0 Archaeologist; Matt Hamel, District 4-0 Architectural Historian
DATE SENT: February 25, 2008	DATE NEEDED:

	PLEASE CALL		APPROVAL		SEE ME
	RETURNED YOUR CALL		AS REQUESTED		COMMENT
x	INFORMATION & FILE		PREPARE REPLY		NOTE AND RETURN
x	NECESSARY ACTION		SIGNATURE		

MESSAGE: On December 4, 2007, a cultural resources field view involving representatives of the Bureau of Design, Environmental Quality Assurance Division (BOD, EQAD) was conducted for the project referred to above. The following recommendations are based on the results of background research and the observations made during the field view.

ARCHAEOLOGY: EQAD reviewed A.D. Marble's (November, 2007) Draft *Phase IA Archaeological Survey Report* for the S.R. 0424, Section 390 Hazleton Beltway Extension Project prior to the December 4, 2007 field view. The report considers a study area within which several potential roadway alternatives have been designed. The Phase IA archaeological study consisted of background research and a geomorphological reconnaissance of the study area. A review of the Pennsylvania Archaeological Site Survey (PASS) forms at the Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation (PHMC, BHP) in Harrisburg indicated that no pre-contact or historic period archaeological sites have been previously recorded within the study area.

EQAD agrees with the conclusions and recommendations contained in the Draft *Phase IA Archaeological Survey Report*. The December 4, 2007 field view served to confirm the basic information that is contained in the report. Extensive soil disturbance related to previous surface mining was observed throughout the northern half of the study area. No archaeological investigations are recommended for this heavily disturbed area. In the southern portion of the study area, intact soils exist on upland landforms. Phase IB archaeological testing is should be conducted after a Preferred Alternative is selected for the project; Phase IB testing should be performed only within the limits of the Preferred Alternative. Testing should consist of the excavation of 50 x 50 cm (19.7 x 19.7 inch) shovel test pits (STPs) spaced at 15 meter (49.2 foot) intervals in undisturbed upland areas of the Preferred Alternative.

If any foundation remnants or other, mine-related features may be impacted by the construction of the Preferred Alternative, these features will need to be documented (mapped and photographed), and subsurface archaeological testing for Historic Period archaeological resources may need to be performed. The testing strategy for historic period cultural resources should be developed in consultation with the PennDOT District 4-0 Archaeologist.

HISTORIC STRUCTURES: The project is located in a former industrial area of breakers and strip mines. The study area is dominated by recently-built structures (light industry, warehouse and distribution, etc.) and a few scattered remnants of mining activity. No intact complete historic structures remain, but the remnants may need to be documented as either archaeological resources or above-ground resources, depending on the level of environmental documentation and/or the alignment of the Preferred Alternative.

If you have any questions regarding the recommendations for archaeology, please contact Lisa Benack at (610) 871-4460 or c-lbenack@state.pa.us. If you have any questions regarding the recommendations for historic structures, please contact Matt Hamel at (570) 368-4414 or mhamel@state.pa.us.

Cc: Project file.

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Meeting Minutes

Current Date: August 1, 2016

Project: **SR 424, Section 390, Hazle Township, Luzerne County**

Project No.: 8797.01

Date/Time: July 14, 2016

Place: 1 South Church Street, 2nd Floor, Hazleton, PA 18201 (Alfred Benesch & Company)

Attendees: See attached Field Checklist

The purpose of this Pre-Application Meeting was to discuss the applicable permitting for the SR 424 Section 390 Beltway Extension project. The following items were noted:

1. Mr. Cera provided a project overview:
    a. SR 424 will extend from the I-81 Exit 141 interchange and connect with Commerce Drive and the White Birch Road extension at a new signalized T intersection just south of the existing cul-de-sac and railroad tracks.
    b. Several alternatives were evaluated; Alternative 4 was selected.
    c. The SR 424 extension will be four lanes from I-81 Exit 141 to the Commerce Drive/White Birch Road extension intersection.
    d. The White Birch Road extension project is being completed by CAN DO and is separate from the SR 424 Extension project. It is currently in the environmental scoping phase.
    e. Construction is anticipated in 2019.
    f. Line and grade approval for roadway design was received on July 5, 2016.
2. Mr. Riva presented an overview of the project's environmental resources:
    a. An approved Jurisdictional Determination was received from the Army Corps of Engineers on December 15, 2015. This JD focused on a study area encompassing the 3, alternatives (Alt 4, 4A and 4A Modified).
    b. The project is within the Catawissa Creek (Cold Water Fishery, MF and Natural Producing Wild Trout) and Cranberry Creek Watersheds. Cross Run is the only waterway in the study area. It flows into the Mt Pleasant Reservoir and into Catawissa Creek.
    c. Wetland 1A is classified as exceptional value (EV) due to its association with drinking water wells The selected alternative was shifted closer to I-81 to avoid this wetland. The toe-of-slope is within approximately 30 feet of the wetland boundary.
    d. Wetland 4A is an isolated, emergent wetland along the existing utility right-of-way access road. The proposed alternative will permanently impact the center of the wetland (0.16 acres of impact).
    e. There are no threatened and endangered species impacts. Plant Species of Concern were not identified in any wetland to be impacted (thread rush, white fringe orchid) and DCNR

required voluntary action to limit disturbance to the Ridgetop Dwarf Tree Forest. Impacts will be minimized to this forest community. The project study area is in the known swarming range of several bat species. No hibernaculum were identified during Bat Habitat Assessment surveys. Coordination with USFWS and PGC were completed for the Indiana, Northern long-eared, and Eastern small-footed bats. A seasonal restriction on tree cutting (Nov 15- March 31) was recommended by the USFWS.

f. A Phase I Archeology study will need to be completed in the southern portion of the study area (south of the railroad)
g. Ms. Williams and Mr. Cera indicated that acid mine rock is not anticipated, but testing will completed.

3. Mr. Riva indicated that mitigation for the impacts to emergent wetland would be difficult adjacent to the impact as the area is forested except for the utility ROW. A mitigation site developed by CAN DO is located in the study area. Mr. Riva asked if any mitigation banks have been developed in the local watershed. Mr. Kawash and Ms. Dobbins indicated that he was not aware of any and that first priority is to consider on-site mitigation. . Ms. Graham indicated that a wetland mitigation site is located on Humboldt West. Mr. Riva would check with Mr. Kawash about the performance of the CAN DO mitigation sites and whether they could be expanded to include required mitigation (1:1 ratio for 0.16ac of PEM required)
4. Mr. Kawash indicated that any project discharging to the EV wetland will need to be evaluated in the NPDES permit for secondary impacts (cutoff of drainage area, pollutant discharges). Mr. Kawash expressed a concern with the proposed roadway only 30ft from the EV wetland and whether impacts could be avoided. The project team indicated that no direct impacts are anticipated. Curbing and a closed drainage system will direct roadway runoff away from the wetland. Only runoff from the vegetated slopes will reach this wetland.
5. Mr. Fasnacht provided a summary of stormwater and erosion control design:
    a. The project design was previously coordinated with PADEP and Hazleton City Authority (HCA) in 2009. It was identified to minimize the risk for accidental spills within the HCA watershed, and collectively agreed upon to collect the SR 424 pavement and direct the flow to a basin in the north (Cranberry Creek) watershed.
    b. The project has five (5) points of interest (POIs):
        1) Commerce Drive discharges to UNT to Cranberry Creek
        2) SR 424 basin discharge to 24” pipe below I-81 SB
        3) Discharge to HCA watershed (Cross Run)
        4) I-81/SR 424 interchange discharge to existing I-81 basin (north)
        5) I-81/SR 424 interchange discharge to existing I-81 basin (south)
    c. Approximately 5.3 acres of pavement will be collected from POI #3 and directed to a basin in POI #2. The existing basin in POI #4 and areas outside of the pavement will discharge to the HCA watershed (POI #3).
    d. Cranberry and Cross Run are designated as CWF with migratory fishes; they are impaired by abandoned mine drainage and not by stormwater.
    e. There is an Act 167 Plan for Luzerne County that indicates a 60% release rate in the Cranberry Creek watershed.
    f. Infiltration testing needs to be completed.
    g. Should infiltration testing not result in adequate rates, bioretention/planting soil with an underdrain will be placed in the basin(s). Other BMPs include basin forebays, swales, and spill notification signs in the HCA watershed.

h. Erosion controls will primarily include sediment traps/basins, inlet protection and perimeter controls.

6. Ms. Dobbins indicated the Act 167 60% release rate must be followed.
7. Ms. Dobbins agreed the POI #3 and #4 can be analyzed as one POI. POI #5 will need to be analyzed separately since it drains to the south along I-81.
8. Mr. Fasnacht and Mr. Cera indicated the existing stormwater design for the SR 424 Interchange accommodated a paved 4-lane roadway. It will be assumed the peak rate analysis is satisfied, but the increase in volume will be analyzed. Ms. Dobbins agreed with this approach.
9. Ms. Dobbins indicated the wetland impacts will require a Joint Permit and discharge of stormwater toward the EV wetland would require an Individual NPDES Permit. Stormwater will be directed to an existing basin on the eastern side of I-81. The outlet for this basin is directed westward back under I-81 and the flow path eventually reaches an EV wetland outside of the project study area.
10. The PCSM design will follow the PennDOT policy for water quality treatment. Ms. Dobbins stated the water quality analysis has a treatment goal of 85%-85%-50% per the NPDES Permit and a minimum goal of maintaining Pre-Project to Post-Project water quality. A "step down" method must be investigated to achieve as much treatment as possible.
11. Ms. Dobbins asked if the loading ratios can be provided. Mr. Fasnacht said the loading ratio are less of a factor for BMP sizing as compared to the 60% release rates. The actual loading ratios have not be calculated from the preliminary design.
12. Mr. Marchegiani asked how access will be provided to the large detention basin. Mr. Fasnacht said access will be provided from the SR 424 roadway since the basin berm will be approximately at roadway grade.

All Attendees are requested to review the above minutes for corrections and/or comments. If no comments are received within ten (10) business days, these minutes will become the basis for all official action.

Respectfully submitted,

Ryan T. Fasnacht, P.E.
Project Manager

Michael A. Cera, P.E.
Project Manager

Enclosure

cc: All Attendees
Ms. Susan Hazelton, PennDOT District 4-0 ADE – Design
Mr. Carl DeLuca, PADEP Region –Waterways and Wetlands Section
Mr. Christopher Urban, PA Fish & Boat - Division of Env. Services, Natural Diversity Section
Mr. Wade B. Chandler Chief, Regulatory Branch USACE –State College Field Office
Mr. Michael Dombroskie, Regulatory Branch USACE – State College Field Office

U.S. Fish & Wildlife Service
110 Radnor Road
Suite 101
State College, PA 16801
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PENALTY FOR PRIVATE USE, $300

JOHNSTOWN PA 159
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PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
15 JUL 13 AM 11:20

Susan Williams
PennDOT Engineering District 4-0
55 Keystone Industrial Park
Dunmore, PA 18512

16512\$1540

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

July 8, 2015

Susan Williams
PennDOT Engineering District 4-0
55 Keystone Industrial Park
Dunmore, PA 18512

RE: USFWS Project #2008-0173
PNDI Review #20140401444964

Dear Ms. Williams:

Thank you for your electronic mail of June 9, 2015, which requests our review of a bat habitat assessment for the proposed Hazleton Beltway Extension (State Route 424, Section 309) project located in Luzerne County, Pennsylvania. Pennsylvania Department of Transportation (PennDOT) proposes to extend the Hazleton Beltway to provide better access to the Humboldt Industrial Park. If Alternative 4A is advanced to final design, PennDOT anticipates that the project will result in about 12 acres of forest removal and 75 acres of preserved forest (143 acre total project area). The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species and the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species. We have previously commented on this project by letter dated November 8, 2007.

Federally Listed Species

The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered and within the range of the federally threatened northern long-eared bat (*Myotis septentrionalis*). On April 2, 2015, the northern long-eared bat was determined to be federally threatened. The listing became effective on May 4, 2015. More information on the new listing of this species can be found at:
http://www.fws.gov/midwest/endangered/mammals/nlba/index.html

We reviewed the document entitled *Rare/Threatened/Endangered Bat Habitat Assessment, Hazelton Beltway Extension, SR 0424, Section 390 Project, Luzerne County, Pennsylvania.* Based on this report, Michael O'Mahony, a qualified bat surveyor, reported no cave or mine entrances in the investigation area and few potential. The report identified suitable roosting and

foraging habitat locations for bats within the surrounding landscape. The report concluded that the project would "likely not cause significant direct harmful effects to rare/threatened/ endangered bat habitat" (Page 1, Executive Summary) We do not concur with this conclusion.

Due to the close proximity of the project area a known Indiana bat hibernaculum, removal of trees and forested areas within the project area could result in the direct take of roosting Indiana bats, which could be injured or killed when trees are cut. Studies have found that forested areas near hibernacula provide important foraging and roosting habitat for Indiana bats, especially during the fall and spring, when bats are building up their fat reserves prior to and after hibernation. In addition, female maternity colonies and individual male bats may be found in the vicinity of hibernacula throughout the summer months.

To avoid killing or injuring Indiana bats, PennDOT has agreed (via phone call of July 2, 2015) to cut trees between November 16 and March 31. Wherever possible, they will retain shagbark hickory trees, dead and dying trees, and large diameter trees (greater than 12 inches d.b.h.) to serve as roost trees for bats. Where possible, PennDOT will also retain forested riparian corridors and forested wetlands.

Based on a review of the project information, including the size of the project area and the anticipated effects on forest habitat, the Service has determined that the proposed project will not have a significant adverse effect on overall habitat quality or availability for the Indiana bat. Therefore, if a seasonal restriction on tree cutting is implemented to avoid the take of Indiana bats, we have determined that the project is not likely to adversely affect the Indiana bat. However, if you are unable to implement the seasonal restriction on tree cutting, further consultation with this office will be necessary.

No known northern long-eared bat hibernacula occur within ¼ mile of the proposed project area. Further, implementing a seasonal restriction on tree clearing between November 15 and March 31, as is proposed for the Indiana bat, will also minimize impacts to northern long-eared bats. Therefore, with the seasonal restriction on tree cutting, this project is also not likely to adversely affect the northern long-eared bat.

Assessment of Risks to Migratory Birds

The Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features. Please review the enclosed information for general recommendations for

avoiding and minimizing impacts to migratory birds within and around the project area. Please be aware that since these are general guidelines, some of them may not be applicable to the current project design or they may have already been included in the project design.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Jennifer Kagel of my staff at 814-234-4090.

Sincerely,

Lora L. Zimmerman
Field Office Supervisor

Enclosure

cc:
PGC – Librandi Mumma
PADEP - Kawash
Corps - Dombroskie

Adaptive Management Practices for Conserving Migratory Birds

The Fish and Wildlife Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features.

We offer the following recommendations to avoid and minimize impacts to migratory birds within and around the project area:

1. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.*, mowing) between September 1 and March 31, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

2. Minimize land and vegetation disturbance during project design and construction. To reduce habitat fragmentation, co-locate roads, fences, lay down areas, staging areas, and other infrastructure in or immediately adjacent to already-disturbed areas (*e.g.*, existing roads, pipelines, agricultural fields) and cluster development features (*e.g.*, buildings, roads) as opposed to distributing them throughout land parcels. Where this is not possible, minimize roads, fences, and other infrastructure.

3. Avoid permanent habitat alterations in areas where birds are highly concentrated. Examples of high concentration areas for birds are wetlands, State or Federal refuges, Audubon Important Bird Areas, private duck clubs, staging areas, rookeries, leks, roosts, and riparian areas. Avoid establishing sizable structures along known bird migration pathways or known daily movement flyways (*e.g.*, between roosting and feeding areas).

4. To conserve area-sensitive species, avoid fragmenting large, contiguous tracts of wildlife habitat, especially if habitat cannot be fully restored after construction. Maintain

contiguous habitat corridors to facilitate wildlife dispersal. Where practicable, concentrate construction activities, infrastructure, and man-made structures (*e.g.*, buildings, cell towers, roads, parking lots) on lands already altered or cultivated, and away from areas of intact and healthy native habitats. If not feasible, select fragmented or degraded habitats over relatively intact areas.

5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts to birds, and that creates functional habitat for a variety of bird species. Use only plant species that are native to the local area for revegetation of the project area.

If you have any questions regarding these measures, please contact Lora Zimmerman of the Pennsylvania Field Office located in State College, PA at 814-234-4090.

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

20 August 2008

Brian G. Thompson, P.E., Director
Pennsylvania Department of Transportation
Bureau of Design
P O Box 2966
Harrisburg PA 17105

Re: ER# 08-8040-079-A
Phase Ia Archaeological Survey Report, S.R. 0424, Section 390, Hazleton Beltway Extension Project, Hazle Township, Luzerne County, Pennsylvania

Dear Mr. Thompson:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

This report meets our standards and specifications as outlined in *Cultural Resource Management in Pennsylvania: Guidelines for Archaeological Investigations* (BHP 1991) and the Secretary of the Interior's guidelines for the treatment of archaeological properties. We agree with the recommendation of this report that Phase Ib archaeological testing is necessary to determine whether eligible historic and prehistoric archaeological sites are located within the project area. We look forward to reviewing the full Phase I report when it has been completed.

If you need further information in this matter please consult Steven McDougal at (717) 772-0923.

Sincerely,

Douglas C. McLearen, Chief
Division of Archaeology & Protection

DCM/srm

Pennsylvania Department of Conservation and Natural Resources

Bureau of Forestry

November 05, 2008

Deanna M. Whitman
A.D. Marble & Company
FAX: 484-533-2599

Pennsylvania Natural Diversity Inventory Review, PNDI Number **19475**
S.R. 0424, Section 390, Hazleton Beltway Extension
Hazle Township;Luzerne County

Dear Ms. Whitman,

I have reviewed the "Threatened and Endangered Plants Survey Report" for the Hazelton Beltway Extension (S.R. 0424, section 390) and concur with your conclusions.

When the alternative for the Hazelton Beltway Extension is selected, the specific information for that alternative needs to be submitted for review when available. If the alternative where access is denied is selected, this area will need to be surveyed. I appreciate you finding and documenting the occurrences of *Bartonia paniculata* and *Platanthera blephariglottis*. Please try to avoid these populations when selecting the final alternative for the Hazleton Beltway Extension.

If you have any questions, please contact me at 717-772-0263.

, Richard L. Shockey Environmental Review Specialist, PNHP
DCNR/BOF/PNDI, PO Box 8552, Harrisburg, PA 17105 ~ Ph: 717-772-0263 ~ F: 717-772-0271 ~ c-rshockey@state.pa.us

OS-600

pennsylvania
DEPARTMENT OF TRANSPORTATION

PENNDOT Cultural Resources Submission

DATE: 18 December 2009

SUBJECT: Hazleton Beltway Cultural Resources Studies

District: **4-0** County: **Luzerne** MPMS Num: **70467**
Municipality: **Hazle Township**

SR: **0424** Section: **390**
Project Name: **Hazleton Beltway Extension Project**

ER Number: **08-8040-079** BC Fed-Aid: Y/N Fed Permit: Y/N

Contact Name: Kevin Mock FAX: 570 963 4949

TO: Jean H. Cutler, Director
Bureau for Historic Preservation
Pennsylvania Historical and Museum Commission

FROM: Brian G. Thompson, PE
For Director
Bureau of Design

The Pennsylvania Department of Transportation (PennDOT), on behalf of the Federal Highway Administration (FHWA), previously consulted with the Pennsylvania Historical and Museum Commission (PHMC) on the State Route (SR) 0424-390 Hazleton Beltway Extension Project through a letter dated 23 July 2008. With this letter, PennDOT enclosed a Phase Ia archaeological report, which concluded that a portion of the proposed project area had a high potential for historic and prehistoric archaeological resources; in a letter dated 20 August 2008, PHMC concurred on this recommendation. Since this time, the project scope has changed and a preferred alternative selected (see attached figures).

The preferred alternative (Alt 4a) will intersect with SR 424, the Project's southern terminus, and extend north along the west side of SR 81 for approximately 2,690 feet (820 meters). The roadway will then curve westward and extend west for approximately 2,155 feet (657 feet), at which point it will intersect with Barlesta Road and cross over the Norfolk-Southern Railroad line. The Project's northernmost terminus will end with a round-about on the north side of the railroad line and the current terminus of Barlesta Road. This then defines the Project's Area of Potential Effects (APE) for cultural resources.

Previous correspondence between PennDOT, FHWA and PHMC determined that the area south of the Norfolk-Southern Railroad and north of SR 424 had a high potential for cultural resources, particularly archaeological resources. A subsequent review of the CRGIS database indicates that the Project APE had been previously surveyed for the Hazleton Beltway expansion project (see ER#: 1991-1312-079) and no cultural resources were identified within the proposed Alt 4a

preferred alternative. The District's Cultural Resources Professionals then held a field view on 23 October 2009 to field verify if the APE indeed did have the potential to have previously unrecorded cultural resources. The Alt 4a APE has been cleared nearly of all topsoil to the point that bedrock is visible in much of the alignment. The majority natural landscape within the APE is dominated by scrub tree species comprised of pioneer species (e.g., Birch and Virginia Pine) providing further evidence that the natural landscape has been modified. Additionally, the area is bisected by a large powerline and associated maintenance road. There also exists many off-road vehicle trails in and near the project APE. As suspected and not carried forward in the Phase Ia report (based on previous experience in this area and from information gleaned from the CRGIS and other resources), the APE appears to have little potential to yield archaeological resources.

The APE was also surveyed for National Register-eligible structures. The historic alignment of the Lehigh Valley Railroad is located within the APE, and currently serves as an active Norfolk-Southern line. However, two sets of tracks are the only remaining remnants of the historic railroad. As per the recent PHMC guidance, tracks are considered uncounted features of a railroad; therefore, there are no countable features of this potential resource to evaluate for significance. No other historic resources were identified within the APE. Therefore, this project will have no effect to any NR-eligible structures.

PennDOT, on behalf of the FHWA, requests that the PHMC concur that this project will have no effect to any historic properties per Section 106 of the National Historic Preservation Act of 1966, as amended.

If you have any questions regarding this submittal, please contact Kevin Mock (570.963.4364 or kmock@state.pa.us) or Kris Thompson (610.871.4459 or krthompson@state.pa.us).

Enclosure

4380/KWM/km

cc: FHWA: R. Mantione, Environmental Specialist (w/enclosure)
PennDOT BOD: C. Brown, PE, Group Leader
PennDOT BOD-EQAD: File (w/enclosure)

ec: PennDOT District 4-0: G. Augustine, Environmental Manager
PennDOT District 4-0: B. Kretschmer, Project Manager

Susan Zacher for
Agreement by: Douglas C. McLearen Date: 12/22/09
PHMC Representative

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

July 8, 2015

Susan Williams
PennDOT Engineering District 4-0
55 Keystone Industrial Park
Dunmore, PA 18512

RE: USFWS Project #2008-0173
PNDI Review #20140401444964

Dear Ms. Williams:

Thank you for your electronic mail of June 9, 2015, which requests our review of a bat habitat assessment for the proposed Hazleton Beltway Extension (State Route 424, Section 309) project located in Luzerne County, Pennsylvania. Pennsylvania Department of Transportation (PennDOT) proposes to extend the Hazleton Beltway to provide better access to the Humboldt Industrial Park. If Alternative 4A is advanced to final design, PennDOT anticipates that the project will result in about 12 acres of forest removal and 75 acres of preserved forest (143 acre total project area). The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species and the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species. We have previously commented on this project by letter dated November 8, 2007.

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The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features. Please review the enclosed information for general recommendations for

avoiding and minimizing impacts to migratory birds within and around the project area. Please be aware that since these are general guidelines, some of them may not be applicable to the current project design or they may have already been included in the project design.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Jennifer Kagel of my staff at 814-234-4090.

Sincerely,

Lora L. Zimmerman
Field Office Supervisor

Enclosure

cc:
PGC – Librandi Mumma
PADEP - Kawash
Corps - Dombroskie

Adaptive Management Practices for Conserving Migratory Birds

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We offer the following recommendations to avoid and minimize impacts to migratory birds within and around the project area:

1. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.*, mowing) between September 1 and March 31, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

2. Minimize land and vegetation disturbance during project design and construction. To reduce habitat fragmentation, co-locate roads, fences, lay down areas, staging areas, and other infrastructure in or immediately adjacent to already-disturbed areas (*e.g.*, existing roads, pipelines, agricultural fields) and cluster development features (*e.g.*, buildings, roads) as opposed to distributing them throughout land parcels. Where this is not possible, minimize roads, fences, and other infrastructure.

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4. To conserve area-sensitive species, avoid fragmenting large, contiguous tracts of wildlife habitat, especially if habitat cannot be fully restored after construction. Maintain

contiguous habitat corridors to facilitate wildlife dispersal. Where practicable, concentrate construction activities, infrastructure, and man-made structures (*e.g.*, buildings, cell towers, roads, parking lots) on lands already altered or cultivated, and away from areas of intact and healthy native habitats. If not feasible, select fragmented or degraded habitats over relatively intact areas.

5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts to birds, and that creates functional habitat for a variety of bird species. Use only plant species that are native to the local area for revegetation of the project area.

If you have any questions regarding these measures, please contact Lora Zimmerman of the Pennsylvania Field Office located in State College, PA at 814-234-4090.

1. PROJECT INFORMATION

Project Name: **Hazelton Beltway Ext, SR424 Sec 390**
Date of review: **7/20/2015 8:35:13 AM**
Project Category: **Transportation,Roads,New construction/ New alignment**
Project Area: **545.3** acres
County: **Luzerne** Township/Municipality: **Hazle**
Quadrangle Name: **CONYNGHAM** ~ ZIP Code: **18202,18201**
Decimal Degrees: **40.929661 N, -76.026244 W**
Degrees Minutes Seconds: **40° 55' 46 N, W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Department of Conservation and Natural Resources	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

RESPONSE TO QUESTION(S) ASKED

Q1: The proposed project is in the range of the Indiana bat. Describe how the project will affect potential Indiana bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this.
Your answer is: **3. The project will affect 20 to 39 acres of forests, woodlots and trees.**

Q2: Is tree removal, tree cutting or forest clearing necessary to implement all aspects of this project?
Your answer is: **2. Yes**

Q3: Aquatic habitat (stream, river, lake, pond, etc.) is located on or adjacent to the subject property and project activities (including discharge) may occur within 300 feet of these habitats
Your answer is: **1. Yes**

Q4: "Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?"
Your answer is: **2. No**

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

PGC Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)
Scientific Name: Myotis leibii
Common Name: Eastern Small-footed Myotis
Current Status: Threatened

PA Department of Conservation and Natural Resources

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send

project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)
Scientific Name: Bartonia paniculata
Common Name: Screw-stem
Current Status: Special Concern Species*
Proposed Status: Special Concern Species*

Scientific Name: Juncus filiformis
Common Name: Thread Rush
Current Status: Special Concern Species*
Proposed Status: Special Concern Species*

Scientific Name: Pitch pine - scrub oak woodland
Common Name:
Current Status: Special Concern Resource*
Proposed Status: Special Concern Resource*

Scientific Name: Sensitive Species**
Common Name:
Current Status: Special Concern Species*
Proposed Status: Endangered

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.
** Sensitive Species - Species identified by the jurisdictinal agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

Check-list of *Minimum* Materials to be submitted:

____**SIGNED** copy of this Project Environmental Review Receipt
____Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____Project location information (name of USGS Quadrangle, Township/Municipality, and County)
____USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.
____A basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at http://www.naturalheritage.state.pa.us.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA. 17105-8552
Fax:(717) 772-0271

U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Rd; Suite 101, State College, PA 16801
NO Faxes Please.

PA Fish and Boat Commission
Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax:(717) 787-6957

7. PROJECT CONTACT INFORMATION

Name: Xavier Riva
Company/Business Name: A.D. Marble & Co
Address: 375 E. Elm Str
City, State, Zip: Conshohocken Pa
Phone:(484) 533-2568 Fax:( )
Email: xriva@admarble.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

applicant/project proponent signature 7/21/15 date

Division of Environmental Planning and Habitat Protection
717-783-5957

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

"To manage all wild birds, mammals and their habitats for current and future generations."

ADMINISTRATIVE BUREAUS:

ADMINISTRATION.....717-787-5670
HUMAN RESOURCES.....717-787-7836
FISCAL MANAGEMENT.....717-787-7314
CONTRACTS AND PROCUREMENT.....717-787-6594
LICENSING.....717-787-2084
OFFICE SERVICES.....717-787-2116
WILDLIFE MANAGEMENT.....717-787-5529
INFORMATION & EDUCATION.....717-787-6286
WILDLIFE PROTECTION.....717-783-6526
WILDLIFE HABITAT MANAGEMENT.....717-787-6818
REAL ESTATE DIVISION.....717-787-6568
AUTOMATED TECHNOLOGY SERVICES.....717-787-4076

www.pgc.state.pa.us

September 15, 2015 PNDI Number: 20140401444964

Mr. Xavier Riva
A.D. Marble & Company
375 East Elm Street, Suite 101
Conshohocken, PA 19428

PNDI Number: 20140401444964
Re: SR 0424, Hazleton Beltway (Southern Section) - Update
Hazle Township, Luzerne County, Pennsylvania

Dear Mr. Riva,

Thank you for submitting the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 20140401444964 for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office as well as PNDI data, and has determined that potential impacts to threatened, endangered, and species of special concern birds and mammals may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below.

Scientific Name	Common Name	PA Status	Federal Status
Myotis sodalis	Indiana Bat	ENDANGERED	ENDANGERED
Myotis septentrionalis	Northern Long-eared Bat	THREATENED	THREATENED
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A

Next Steps

Indiana Bats: Indiana bats are a federally listed endangered species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana bats to the U.S. Fish and Wildlife Service.

Northern Long-eared Bats: Northern long-eared bats are a federally listed threatened species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Northern long-eared bats to the U.S. Fish and Wildlife Service.

Eastern Small-footed Bat: PNDI records indicate species or resources of concern are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, the 2015 bat habitat assessment survey results, and our detailed resource information, the PGC has determined that no impact to eastern small-footed bats are likely. Therefore, no further coordination with the PGC will be necessary for this project at this time.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3614
Fax: 717-787-6957
E-mail:tlibrandi@pa.gov

A PNHP Partner

PNHP
Pennsylvania Natural Heritage Program

TLM/tlm

cc: Brian Scofield, U.S. Fish & Wildlife Service
Jennifer Kagel, U.S. Fish & Wildlife Service
Camille Otto, FHWA
Barbara Shaffer, FHWA
Greg Augustine, PennDOT
Susan Williams, PennDOT
Laroche
Brauning
Turner
Figured
Beahm
Wenner
File

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

October 2, 2015 **PNDI Number: 20150513511281**

Xavier Riva
A.D. Marble & Co.
375 East Elm Street, Suite 101
Conshohocken, PA 19003
Email: Xavier@admarble.com (hard copy not to follow)

Re: Hazleton Beltway Ext, SR424 Sec 390
Hazle Township, Luzerne County, PA

Dear Mr. Riva,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Environmental Review Receipt Number **20150513511281** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated per avoidance

PNDI records indicate species or resources under DCNR's jurisdiction located in the vicinity of the project. The updated alternative routes of this new beltway construction (*shared Alternate Alignment, Alternate 4, Alternate 4A, and Alternate 4a modified) will not directly impact known populations of *Platanthera blephariglottis* (white-fringed orchid), and *Bartonia paniculata* (screw-stem). Therefore, based the information you submitted concerning the nature of the project, your avoidance of wetlands that contain populations of *P. blephariglottis* and *B. paniculata*, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project.

Conservation Measure—Voluntary Action

- The following PA natural community of concern has been documented within the proposed project area, and current alignments will impact this natural community, but natural communities are not currently listed. However, because of the ecological significance of this natural community, please be aware of this natural community, and hence, the disturbance associated with this project should be minimized to the fullest extent possible that would help protect the integrity of this significant woodland; this will help to lessen the area of soil and vegetation disturbance associated with this project.

- *Pitch pine-scrub oak woodland* (previously known as the broader *Ridgetop dwarf tree forest*)-for more information, please see http://www.naturalheritage.state.pa.us/factsheets/16096.pdf.

DCNR also recommends the following steps to help prevent the spread of invasive plant species and to encourage the use of native plants:

- If possible, please clean all construction equipment and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site, this will remove invasive plant seeds from the equipment and undercarriages of the vehicles that may have been picked up at other sites.
- Avoid using seed mixes that include invasive plant species to re-vegetate the area. Please also attempt to use weed-free straw or hay mixes when possible. A complete list of all Pennsylvania invasive plant species can be found here: http://www.dcnr.state.pa.us/forestry/wildplant/invasivelist.aspx.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Frederick Sechler, Jr., Ecological Information Specialist, by phone (717-705-2819) or via email (c-frsechle@pa.gov).

Sincerely,

Greg Podniesinski, Section Chief
Natural Heritage Section
DCNR Bureau of Forestry

Alfred Benesch & Company
One South Church Street
300 Renaissance Center
Hazleton, PA 18201-6200
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Meeting Minutes

Current Date: February 17, 2017

Project: SR 424, Section 390, Hazle Township, Luzerne County

Project No.: 8797.01

Date/Time: January 19, 2017/10:00 AM

Place: PennDOT District 4-0 Office

Attendees: See attached Sign-In Sheet

The purpose of this meeting was to discuss the permitting and design requirements for the Joint Permit and NPDES Permit applications. The following items were noted:

1. Prior to starting the meeting, a status of the Environmental Assessment (EA) document was provided by Ms. Williams. The project schedule has been impacted by the EA review time and there are now 45 days of negative float. Initial comments from PennDOT's Environmental Unit were addressed and a revised document was provided for review and approval in October of 2016. The Phase I ESA, Phase II ESA HASP/FSP were also submitted in October of 2016, while the Noise analysis and Phase 1b Archeological reports were submitted in November and December of 2016, respectively. These submissions are currently under review by the District staff. Mr. Shunk indicated that approval of the EA is now critical as this affects the schedule for ROW acquisition, which must begin by the end of the fiscal year.
2. A project overview and current status of the project design was provided by Benesch to the meeting attendees.
3. Mr. Riva provided a summary of proposed wetland impacts associated with the preferred Alternative 4 alignment. Direct impacts to portions of Wetland 4A and Wetland 4A-C are anticipated, however, due to the nature of these impacts, wetland mitigation is proposed to account for their entire acreage. Specifically, impact calculations are based on assuming a total impact to these two wetlands. Therefore, wetland mitigation is sought for 0.16 acres of Palustrine Emergent (PEM) wetland to account for the entire Wetland 4A (0.157 acres) and Wetland 4A-C (0.005 acres) impacts.
4. Mr. Riva noted his discussions with Michael Tarconish (PaDEP) and CANDO's consultant, Barry Isett & Associates (BIA), regarding potential wetland mitigation sites within Humboldt Industrial Park. The wetland mitigation site on Lot 106 has underperformed and would not be a good candidate for wetland expansion. However, Pit G, a mitigation site currently under construction in Humboldt Industrial Park, could be a viable option for expansion. This site was constructed from a former mine pit that contained approximately 20-30 feet of groundwater. CANDO studied the site and was permitted to fill it with adjacent soil piles. A portion of Pit G had been completed (and vegetated) as of our field visit in September 2016; however they need to finish grading the remainder of the site. During this site visit, the consultant noted that the slope in the southeast corner could be graded back to create additional wetland. Hydrology appears to be sufficient with surface water noted during high groundwater elevations which are supplemented with surrounding stormwater runoff.

5. Mr. Kawash (DEP) noted that he had visited the site with Mike Tarconish (DEP). If PennDOT utilizes the site, the PennDOT mitigation site should be delineated from CANDO's site with either a berm or boulders.
6. Mr. Augustine asked if soil testing was necessary and whether backhoe pits could provide additional information about the site. Mr. Riva noted that Pit G was a previous pond that was filled with adjacent soil to a target elevation determined by the adjacent wetlands. However, soil data and site information can be requested from CANDO to further supplement the information of this site. In addition, Mr. Riva noted that BIA provided a copy of the CANDO's mitigation report that includes a consent order and agreement which should indicate how the Pit G site will be managed following completion of the monitoring protocol. The project team will complete additional research to determine if the PennDOT site could be incorporated into Pit G and managed by CANDO or another land conservation entity.
7. Mr. Augustine thinks the proposed mitigation area would be a viable option; however, test pits would be required to verify the hydrology and piezometers should be installed for monitoring. The pits would be required prior to permit application and could be dug in final design. Mr. Kawash agreed with Mr. Augustine that test pits should be dug.
8. Mr. Kawash indicated that the mitigation site will need to be monitored for a 5 year period.
9. Mr. Kawash indicated that a second conservation easement may not be necessary if the Pit G mitigation site is already protected by an existing conservation easement. Mr. Del Rosso said that the Pit G mitigation area does not need to be included in the ROW plan submission. Mr. Del Rosso suggested that Benesch send him the existing easements for Pit G so he can send to Central Office for review.
10. Long-term maintenance responsibilities for Pit G will need to be discussed with CANDO. PennDOT would prefer that CANDO assume long-term O&M responsibilities once the monitoring and mitigation permit conditions are met. The mitigation site responsibilities will be documented in the Joint Permit.
11. Ms. Dobbins indicated that Pit G does not need to be included in the NPDES Permit for the project as the mitigation site will involve less than 1.0 acre. A standalone E&S plan will be required for the mitigation site, in accordance with the Permit requirements. PennDOT agreed that the Pit G E&S plan can be an "Also" plan to the SR 424 Construction plan set.
12. Mr. Del Rosso indicated that either an easement or permanent right-of-way will be required for the mitigation site. Financial compensation will be paid to CANDO for the use of the land.
13. It was noted that CANDO may expand Pit G in the future, depending on the impacts that additional development will have on wetlands in Humboldt Industrial Park.
14. Benesch provided an overview of the SWM design for the project. The Luzerne County Act 167 Plan requires a reduction of post development peak flow rates to 60% of the predevelopment rates. The project currently proposes three (3) stormwater management facilities that will attenuate the post development flows to meet the requirements.
15. Benesch explained that the SWM Best Management Practices (BMP's) will also be used as infiltration facilities, where deemed suitable by the infiltration testing. Infiltration testing was performed throughout the site in areas that runoff could be collected. Since the testing showed some areas are unsuitable for infiltration, and most of the roadway is being collected into one Area of Interest (AOI), the volume requirements will not be met for every AOI.
16. Ms. Dobbins suggested that Benesch consider adding a BMP on the south side of the proposed roadway, across from the large basin. Mr. Augustine and Mr. Atkins expressed concern with adding an infiltration BMP in this area, since it would be located in the HCA watershed. Mr. Augustine pointed out that the salt from the road may pose a threat to the watershed if contaminated water is

infiltrated into the public water supply over a long period of time. Benesch will discuss these concerns with HCA.

17. If the volume requirements are not met for each AOI, the water quality worksheets (BMP worksheets 11-13) will be completed for the subject AOI. Ms. Dobbins and Mr. DeAngelo will have a follow-up conversation to further discuss the methodology for the completion of these worksheets.
18. Benesch will look into reconfiguring the large basin to maximize the volume reduction capabilities of the BMP.
19. Due to the presence of EV wetlands in the study area, Mr. Kawash, added that a functional assessment of the wetlands that will be impacted by the project should be included as part of the NPDES permit package.
20. Mr. Augustine asked if agency coordination had been completed as part of the threatened and endangered species impacts. Mr. Riva outlined the threatened and endangered species that were identified. Mr Riva explained that the bat and plant species coordination has been completed with USFWS, PGC and DCNR. Mr. Riva and Mr. Cera confirmed that the PNDI impacts have been cleared by the appropriate agencies and included provisions for tree clearing. Mr. Augustine recommended that the tree clearing timing restrictions be considered when planning the project construction schedule. Mr. Atkins suggested adding the limitations in a special provision.
21. Mr. Shunk indicated that the CE document for the White Birch Road project must be approved before the EA for SR 424 can be approved.
22. Mr. Atkins asked if there is a ROW subconsultant on the project team. Mr. Cera replied that the current contract does not include a ROW subconsultant. Mr. Atkins suggested that one be added in Final Design.

All Attendees are requested to review the above minutes for corrections and/or comments. If no comments are received within ten (10) business days, final minutes (with signatures) will be provided and they will become the basis for all official action.

Respectfully submitted,

Jeffrey N. DeAngelo, E.I.T.
Project Designer

Michael A Cera, P.E.
Project Manager

cc: All Attendees
Mr. Greg Kurtz, CANDO
Ms. Cami Otto, FHWA

Attachment

SIGN-IN-SHEET
PADEP PRE-APPLICATION MEETING
SR 424, SECTION 390
Hazle Township, Luzerne County
PennDOT District 4-0 Office
Benesch Project No. 8797.01
January 19, 2017 - 10:00 A.M.

NAME	COMPANY	PHONE #	EMAIL
Michael Cera, PE	Benesch	(570) 454-2750	mcera@benesch.com
Jeffrey DeAngelo, EIT	Benesch	(570) 454-2750	jdeangelo@benesch.com
Xavier Riva	A.D. Marble	484-533-2568	XRiva@admarble.com
Susan Williams	PADOT.	570-963-4253	susawillia@pa.gov
Greg Augustine	District Env Unit	570-963-4070	gAUGUSTINE@PA.gov
Brian Shunk	BOPD	717-214-1276	bshunk@pa.gov
Ralph Del Rosso	PENN DOT R/W	570.963-4071	rdelrosso@pa.gov
Julianne Lawson	PennDOT Design	570 963 3028	julawson@pa.gov
Kevin Atkins	PennDOT Liaison	570 963 3190	katkins@pa.gov
Pamela Dobbins	PADEP	570-820-4920	padobbins@pa.gov
Justin Marchegiani	PDOT	570-963-3504	jmarchegia@pa.gov
PETER KAWASH	PADEP	570-826-2581	PKAWASH@PA.gov

SIGN-IN-SHEET
PADEP PRE-APPLICATION MEETING
SR 424, SECTION 390
Hazle Township, Luzerne County
PennDOT District 4-0 Office
Benesch Project No. 8797.01
January 19, 2017 - 10:00 A.M.

NAME	COMPANY	PHONE #	EMAIL
SUSAN HAZELTON	PENNDOT	570-963-4045	shazelton@pa.gov
Jordan Tracy	PennDOT CET	240-675-4160	jortracy@pa.gov

APPENDIX E

Technical Support Data Index

TECHNICAL SUPPORT DATA INDEX

Technical reports and/or white papers have been prepared for the following subject areas and are included in the project technical file:

- Traffic (Traffic Analysis Report)
- Noise (Noise Analysis Report)
- Wetlands and Waterways (Waters of the U.S. Identification Report)
- Water Quality (Mount Pleasant Watershed Impact Assessment Memorandum; included field testing results of Mount Pleasant water supply)
- Threatened & Endangered Species (Bat Habitat Survey Report, T&E Plants Survey Report)
- Hazardous Waste Sites (Phase I ESA)
- Historic Resources (Phase IA and IB Archeological Reports)
- Soil Characteristics (Roadway Borings/Infiltration Testing Report)

Technical files are being maintained for the following subject areas:

- Agriculture (AD-1006 Farmland Form)
- Geology (Mine Map)
- Proposed Development and Local Planning
- Wetlands and Waterways (Including Wetland Mitigation)
- Threatened & Endangered Species
- Water Quality (Groundwater)
- Public Involvement and Agency Coordination (Meeting Minutes)
- Hazardous Waste (Phase I ESA)
- Environmental Commitment and Mitigation Tracking System (ECMTS)
- Alternatives Assessment

APPENDIX F

List of Preparers

LIST OF PREPARERS

Federal Highway Administration (FHWA) – Pennsylvania Division

Camille Otto	**Environmental Program Manager**
Professional Experience:	19 years

Pennsylvania Department of Transportation (PennDOT)

Susan Williams	**PennDOT Project Manager**
Professional Experience:	25 years
Brian Shunk, P.E.	**Bureau of Project Delivery**
Professional Experience:	31 years
Greg Augustine	**Environmental Manager**
Professional Experience:	25 years

A.D. Marble

Xavier Riva	**Senior Environmental Scientist**
Professional Experience:	20 years
Sharon S. Yates	**Senior Project Manager**
Professional Experience:	34 years
Abigail Koenig	**Environmental Scientist**
Professional Experience:	8 years
Aaron Grove	**Environmental Scientist**
Professional Experience:	6 years
Erin Carson	**Editor**
Professional Experience:	13 years

Alfred Benesch & Company

Michael Cera, P.E.	**Project Manager**
Professional Experience:	24 years
Ryan Sands, P.E.	**Engineer**
Professional Experience:	12 years

Navarro & Wright Consulting Engineers, Inc.

Kyle Brubaker	**Hazardous Waste, Air/Noise, Geology**
Professional Experience:	9 years

Hydro-Geo Services, Inc.

Robert C. Kolmansberger	**Air Quality and Noise Analysis**
Professional Experience:	25 years
Gerry Ahnell	**Water Quality/Groundwater**
Professional Experience:	39 years

APPENDIX G

References

REFERENCES

A.D. Marble & Company (A.D. Marble). 2008. *Phase IA Archaeological Survey Report, S.R. 0424, Section 390, Hazleton Beltway Extension Project, Luzerne County, Pennsylvania.* Prepared for PennDOT District 4-0 and Alfred Benesch & Company. On file at A.D. Marble, Conshohocken, Pennsylvania.

Alfred Benesch. October 2015. T*raffic Analysis Report, Hazleton Beltway Extension (S.R. 0924).* Report prepared for PennDOT Engineering District 4-0.

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