

**CENTRAL SUSQUEHANNA VALLEY
TRANSPORTATION PROJECT
S.R. 0015, SECTION 088
SNYDER, UNION, AND
NORTHUMBERLAND COUNTIES**

**REEVALUATION NO. 2 OF
FINAL ENVIRONMENTAL IMPACT STATEMENT
AND RECORD OF DECISION**



**SUBMITTED TO
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION**

**SUBMITTED BY
SKELLY AND LOY, INC.**

JUNE 2015



U. S. DEPARTMENT
OF TRANSPORTATION

Federal Highway
Administration

Pennsylvania Division

JUN 30 2015

228 Walnut Street, Room 508
Harrisburg, PA 17101-1720

In reply refer to:

HPD-PA

Snyder, Union & Northumberland Counties,
Pennsylvania
Central Susquehanna Valley Transportation Project
(CSVT) S.R. 15, Section 088
NEPA Reevaluation #2

Mr. Scott Christie, P.E.
Deputy Secretary for Highway Administration
Pennsylvania Department of Transportation
Harrisburg, Pennsylvania

ATTN: Ms. Melissa Batula, P.E., Chief, Highway Delivery Division

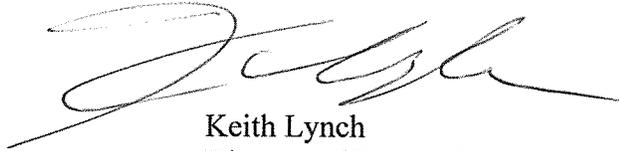
Dear Mr. Christie:

The Federal Highway Administration (FHWA) has reviewed the written reevaluation of the Final Environmental Impact Statement and Record of Decision prepared for the advancement of the first construction contract for the CSVT project. The referenced project includes the construction of approximately 13 miles of new, four-lane, limited access highway that will connect U.S. Routes 11/15 Near Selinsgrove to U.S. Route 15 near Winfield to PA Route 147 near Montandon, Pennsylvania. Consistent with 23 CFR 771.129, the documentation attached and the referenced records support the determination that the preparation of a supplemental NEPA document is not warranted. Please continue to ensure that all design and mitigation commitments are implemented and documented appropriately.

A copy of the complete final documentation is enclosed for your files and a link to the Final Individual Section 4(f) Evaluation is located [http://www.skellyloy-gis.com/downloads/CSVT_FINAL_SECTION_4\(f\)_EVALUATION_06-30-2015.pdf](http://www.skellyloy-gis.com/downloads/CSVT_FINAL_SECTION_4(f)_EVALUATION_06-30-2015.pdf). Should conditions change in final design or construction, please consult with this office promptly. We anticipate continuing to work with your office as this and the other construction stages advance through design and construction.

If you have any questions or need additional information, please contact Deborah Suci Smith of my staff at 717-221-3785 or Deborah.Suci.Smith@dot.gov.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Keith Lynch', with a long horizontal flourish extending to the right.

Keith Lynch
Director of Project Development

Attachments

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SUBMITTED TO

**PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 3-0
715 JORDAN AVENUE, POST OFFICE BOX 218
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JUNE 25, 2015

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1.0 INTRODUCTION

The Central Susquehanna Valley Transportation (CSVTV) project entails the construction of approximately 12.4 miles of new, limited access, four-lane highway extending from the existing U.S. Route 11/15 Interchange in Monroe Township (north of Selinsgrove) in Snyder County to PA Route 147 in West Chillisquaque Township (at a location just south of the PA Route 45 interchange near Montandon) in Northumberland County. The new highway includes a connector to PA Route 61 in Shamokin Dam and a new bridge crossing over the West Branch of the Susquehanna River extending from Union Township, Union County to Point Township, Northumberland County. Refer to Figure 1, Regional Setting.

The Federal Highway Administration (FHWA) and the Pennsylvania Department of Transportation (PennDOT) completed an Environmental Impact Statement (EIS) for the project to fulfill the requirements of the National Environmental Policy Act (NEPA) of 1969. The Draft EIS (DEIS) and Final EIS (FEIS) documents were also prepared to serve as documentation required by the U.S. Army Corps of Engineers (USACE) for review and evaluation of the Clean Water Act Section 404 Permit application. A Record of Decision (ROD) was prepared and issued by FHWA in October 2003. PennDOT prepared an FEIS/ROD Reevaluation No. 1 in 2005-2006 to identify design changes and associated environmental impacts between what was approved in the FEIS/ROD and the further developed design plans. The FEIS/ROD Reevaluation No. 1 was approved on May 10, 2006.

Following the approval of the FEIS/ROD Reevaluation No. 1, pre-construction activities progressed. However, in July 2008, PennDOT placed the project on hold. At that time, it was determined that the Susquehanna Economic Development Association-Council of Governments (SEDA-COG) Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) could not afford to complete the project given the need to focus transportation resources on system preservation. Since there was no funding for the CSVTV Project on the 2009-2012 TIP and there were no sufficient other dedicated funds identified for the project's construction, the project was placed on hold to allow additional time to pursue other funding options without losing the past investment in the project.

In April 2009, PennDOT reactivated final design of the Northern Section of the project (but not other pre-construction activities) in an effort to expedite project development once sufficient funding to complete the entire project was identified. On December 2, 2010, the Appalachian Regional Commission approved the establishment of a new Appalachian Development Highway System (ADHS) corridor, designated as Corridor P-1 and which included the CSVTV project corridor. This new corridor designation made the CSVTV Project eligible for ADHS funding. However, the ADHS funding allocation was capped at a level significantly less than the estimated cost of the CSVTV Project and ADHS funds also required a state or local matching contribution of 20 percent of the project cost. (In 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) eliminated the requirement for a 20 percent state or local matching contribution.) Finally, in November 2013, Pennsylvania passed a comprehensive transportation funding plan (Act 89). That legislation will allow PennDOT to allocate sufficient state transportation funding (along with the available ADHS funds referenced above) to complete the CSVTV Project, and as a result, PennDOT subsequently reactivated all pre-construction activities for the project.

This reevaluation report was completed as a continuation of the National Environmental Policy Act (NEPA) project development process to establish whether or not the project's NEPA documentation, including the Record of Decision, remains valid for subsequent federal action.



1.1 PROJECT DESCRIPTION

The CSVT project involves the construction of approximately 12.4 miles of a new four-lane, limited-access roadway with two 12-foot-wide travel lanes in each direction, 12-foot-wide (10-foot paved and 2-foot graded) right shoulders, 10-foot-wide (4-foot paved and 6-foot graded) left shoulders, and a 36-foot-wide median on new alignment. The project's southern terminus is the end of the existing Selinsgrove Bypass, where the existing U.S. Route 11/15 roadway changes from a four-lane, limited access expressway to a five-lane (four lanes with center left-turn lane) free access facility. The northern terminus is located just south of the PA Route 147 and PA Route 45 interchange. In addition, a PA Route 61 Connector will be constructed as part of the CSVT project. This new one-mile, two-lane limited access roadway will connect the CSVT mainline to the existing U.S. Route 11/15 in Shamokin Dam Borough at the west end of the existing PA Route 61 Veterans Memorial Bridge. The mainline portion of the CSVT project is designed for a posted speed limit of 65 mph.

The CSVT project was separated into two sections during the development of alternatives for the EIS. The Southern Section (Section 1) extends from the existing U.S. Route 11/15 interchange near Selinsgrove, northward to the vicinity of the U.S. Route 15/County Line Road (State Route 1022/2002) intersection, near the Snyder County/Union County border and just south of Winfield. The Southern Section includes the existing U.S. Route 11/15 interchange and a new interchange and connecting roadway with PA Route 61 at Shamokin Dam.

The Northern Section (Section 2) of the project extends from U.S. Route 15 near the Snyder County/Union County border across the West Branch Susquehanna River to PA Route 147 near Montandon, just south of the PA Route 147 interchange with PA Route 45. The northern project terminus was initially identified as the PA Route 147 interchange with I-80, north of the Borough of Milton. At this location, PA Route 147 widened from a two-lane, limited access facility on a four-lane right-of-way, to a four-lane, limited access roadway once it crossed I-80 and where PA Route 147 becomes I-180 to serve the Williamsport metropolitan area. Following the completion of the Phase 1 (preliminary) alternatives analysis phase of the CSVT Project development process, the northern terminus for the Northern Section was revised to the current terminus. On October 7, 1997, FHWA granted approval to separate the newly named "2-on-4" Section (extending from the Northern Section to I-80) from the CSVT Project and advance the widening of this section as an independent project on its own merits. Construction of this section (widening from two to four lanes) was completed in 2004.

The Northern Section includes the construction of a new bridge, approximately 4,500 feet long, to cross over the West Branch of the Susquehanna River. In addition to the new bridge across the West Branch of the Susquehanna River, the Northern Section includes two new interchanges: the Winfield Interchange which is an interchange with U.S. Route 15 just north of the Snyder/Union County line in Union Township, Union County and the PA Route 147 Interchange that includes a relocated Ridge Road (Township Road 703/State Route 1024) in Point Township, Northumberland County.

In Pennsylvania, U.S. Route 15 travels through the mid-state. It is the only major north-south corridor in this part of central Pennsylvania and one of the major north-south highways in the Commonwealth that extends from Maryland to New York. The location of U.S. Route 15 makes it strategically important, not only to Pennsylvania but to the entire northeast and Canada. It provides the most direct route between the Baltimore-Washington metropolitan area and Harrisburg to the south and Williamsport, Rochester, Buffalo, and Canada to the north. For this reason, a significant proportion of its traffic is interstate and international, and it is a vital route

for long distance carriers. Over 50% of the cars and over 90% of the trucks surveyed during the project's origin/destination survey did not have an origin or destination in the study area. However, the project region also contains a large number of manufacturing and commercial industries that generate truck traffic, particularly to the north and east of Northumberland. The Average Daily Traffic (ADT) on the corridor is currently approximately 50,000 vehicles (based on traffic counts completed in 2014) and is projected to increase to over 100,000 vehicles by 2044.

The proposed CSVT project will separate trucks and other through traffic from local traffic and will thereby improve safety by reducing traffic conflicts, reduce congestion, provide better access to the region, and support population and economic growth that is expected in the region. The roadways in the corridor bind together the towns of Selinsgrove, Shamokin Dam, Sunbury, Northumberland, Milton, and Lewisburg.

1.2 NEPA HISTORY AND REEVALUATION STATUS

The FHWA approved the project's FEIS for public review in July of 2003. After consideration of the received comments, a Record of Decision (ROD) was prepared and issued by the FHWA on October 31, 2003. The ROD identified Alternative DA Modified Avoidance (DAMA) in Section 1 (Southern Section) of the project and River Crossing 5 (RC5) in Section 2 (Northern Section) as the Selected Alternative for the CSVT project (see Figure 2 and Figure 3). The alternatives were jointly referred to as Alternative DAMA/RC5. Alternative DAMA/RC5 was identified as the Recommended Preferred Alternative in the FEIS. The DA Modified Avoidance was so named due to the fact that it was designed to avoid an historic property, the Simon P. App farm, determined to be eligible for the National Register of Historic Places (NRHP) on July 17, 2001. One of the commitments of the FEIS included a provision for PennDOT to reevaluate the areas of impact should conditions in the study area change prior to construction, particularly with respect to the Simon P. App Property.

In Spring 2005, the Pennsylvania Historical and Museum Commission (PHMC), Department of Agriculture, and PennDOT, in conjunction with FHWA, took part in an independent statewide initiative to develop a regional historic agricultural context of farms in Pennsylvania. Based on this new research information and the methodology outlined in the property types and registration requirements developed for the *North and West Branch Susquehanna Diversified Farming Region*, the FHWA determined that the Simon P. App Property was no longer eligible for listing on the NRHP under the new historic context. The PHMC concurred with this finding. The Keeper of the National Register also concurred with the non-eligible finding and rescinded the Determination of Eligibility previously issued for the App farm.

The project's FEIS/ROD Reevaluation No. 1 was prepared throughout 2005 and identified the design changes and associated environmental impacts between what was approved in the FEIS in July 2003 and the further developed design plans. The most significant changes resulted from the NRHP non-eligibility determination for the Simon P App Farm. The DAMA Alternative that had avoided this potential resource was replaced with the DA Modified (DAM) Alternative in the Southern Section of the project, resulting in the reduction of residential and commercial displacements and impacts to agriculture, wetlands, waste sites, and wildlife habitat. In addition, this alternative provided the opportunity to use the existing U.S. Route 11/15 Interchange at the southern terminus of the project area. The FEIS/ROD Reevaluation No. 1 also determined that the nature of the CSVT project in the Northern Section had not changed significantly since FHWA had issued the ROD and that the RC5 Alternative impacts presented in the FEIS were generally still valid. Accordingly, the Reevaluation No. 1 determined that a



supplemental EIS was not warranted. The FEIS/ROD Re-evaluation No. 1 was approved on May 10, 2006.

This FEIS/ROD Reevaluation No. 2 has been prepared to address environmental impact changes associated with continuing final design refinements in both the Northern and Southern Sections of the project. Resource and impact changes since the approval of FEIS/ROD Reevaluation No. 1 have been quantified and are presented and discussed herein. This Reevaluation is required for the issuance of further funding authorizations.

1.3 PROJECT PURPOSE AND NEED

The following Purpose and Need narrative was summarized from the CSVT Project's FEIS (dated July 2003) and the Traffic Analysis completed for the current FEIS/ROD Reevaluation (dated January 2015). More detailed Purpose and Need information can be found in the CSVT Project Needs Analysis Report (June 1996), the FEIS (July 2003), the FEIS Technical Support Data Files, and the latest Traffic Analysis (January 2015).

A comprehensive Needs Analysis conducted for this project in 1995 to 1996 revealed substantial current and future transportation problems in the Central Susquehanna Valley. The study determined that each major roadway in the study area experienced substantial congestion, a high volume of trucks in the traffic stream, and multiple access points that serve as potential points of conflict. In addition, continued growth is anticipated for the Central Susquehanna Valley causing greater impediments to safe and efficient traffic flow throughout the entire study area. The conclusions of the Needs Analysis indicated the following.

- Nearly all of the primary traffic routes in the study area will be congested by 2020.
- Six miles of the primary roadways in the study area exceed the statewide average crash rate.
- Eight miles of the primary roadways in the study area exceed the statewide average fatal crash rate.
- Almost 50% of the crashes on the primary roadways involved a truck.
- High truck volumes and through traffic volumes cause conflicts on the study area roadways.

As part of the current FEIS/ROD Reevaluation, additional traffic studies were completed to investigate the current (2014) and future (2044) traffic volumes and to determine if the findings of the earlier Needs Analysis are still valid. In June, July and August of 2014, turning movement counts and automatic traffic recorder counts were taken at 10 intersections in the CSVT study area. A review of this data indicated that the evening (PM) peak hour is the critical hour for analysis. This new data was used to update parameters in the CSVT Project's traffic model. Since existing and projected population is also a parameter in the traffic model, 2010 census data was reviewed and compared to the 2000 census data, which was the basis for the population growth used in previous traffic projections for the project. A review of the 2010 census data indicated that the population growth assumptions used in the original traffic model are on trend. Additionally, the previously used traffic growth rates were compared to actual

recent growth illustrated by the 2014 traffic counts. A review of the growth rates used previously (1.5% for cars and 3% for heavy vehicles) indicated the rates are on trend and are consistent with overall traffic counts in the study area.

Updated current traffic volumes (2014) on US Routes 11/15 in the southern part of the study area near Shamokin Dam range from 33,100 to 54,700 vehicles per day. US Route 15 north of the US Routes 11/15 intersection carries 18,600 to 22,700 vehicles per day, while US Route 11 in the Northumberland area carries 16,700 to 18,700 vehicles per day. Volumes on PA Route 147 range from 10,700 vehicles to 16,800 vehicles between US Route 11 and the PA Route 147/PA Route 45 interchange.

Based on the growth assumptions described above, by the year 2044, traffic is anticipated to increase substantially on study area roadways if no improvements are made. US Routes 11/15 near Shamokin Dam Borough in the southern part of the study area is anticipated to experience an increase in traffic from 54,700 to 118,400 vehicles per day, an increase of 117%. North of the US Routes 11/15 intersection, traffic on US Route 15 is predicted to increase from 18,600 vehicles per day to 56,300 vehicles per day, with volumes near Lewisburg increasing from 22,700 vehicles per day to 62,800 vehicles per day, an increase of approximately 200%. Similarly, increases are expected on PA Route 147, which is anticipated to grow from 16,800 to 27,100 vehicles per day, an increase of 61%. On US Route 11, traffic is expected to increase from 18,700 to 49,500 vehicles daily, an increase of 165%. These anticipated increases in traffic volumes are generally consistent with the previous traffic projections documented in the FEIS and the supporting technical files. Section 2.4, Traffic Analysis Update, provides additional detail that documents how the new estimates compare to the FEIS projections. A review of the current (2014) traffic volumes and current census data (2010) indicates that the traffic projections in the FEIS remain on trend. Due to these high volumes and the continuing conflict between through and local traffic, safety along this facility remains a major concern.

Future truck volumes are also anticipated to increase. By the year 2044, they are predicted to range from 8,800 trucks per day on US Routes 11/15 in the Shamokin Dam area (an increase of more than 100% above current volumes) to 6,000 trucks per day on PA Route 147 (an increase of approximately 80% above current volumes).

Analysis of current (2014) traffic operations confirms that congestion exists in the Northumberland, Shamokin Dam, and Lewisburg areas, with undesirable levels of service (LOS) during the evening peak hour at several intersections on US Routes 11, 15, and 11/15 and PA Route 147. LOS is a qualitative measure describing operational conditions within a traffic stream and the perception of the condition by motorists. Generally, as traffic volumes increase, the LOS decreases with LOS E indicating a facility near capacity and LOS F indicating a facility that is over capacity. Based on the projections of future traffic volumes referenced above, if no improvements are made, it is predicted that 16 of the 19 signalized intersections on those primary roadways within the study area will operate at LOS F during the evening peak hour by the year 2044.

On US Routes 11/15, access control is another key issue affecting the traffic carrying capacity of the roadway. A recent review of the number and types of crashes on the existing roadway system indicates that, as illustrated by previous data, a number of the crash types occurring are rear-end collisions, angle collisions, or side-swipes. These types of crashes can often be associated with conflicts between through and local traffic. In short, the free access nature of US Routes 11/15 creates multiple conflict points as vehicles turn off and onto the roadway, contributing to the high crash rate in the study area. Additionally, the mix of local and through

traffic is a contributor to the crash and congestion situations on US Route 11 and PA Route 147 in and around the Borough of Northumberland, as each roadway is lined with many side streets and driveways.

Updated crash data for the years 2000 through 2012 was obtained as part of the CSVT Project's FEIS/ROD Reevaluation. These data were analyzed to determine whether or not the crash patterns identified in the Needs Analysis and the FEIS were still the same. For example, the Needs Analysis and the FEIS reported that 694 crashes within the ten-year period of 1990-1999, which is an average of 69 crashes per year, occurred on the free access, urbanized section of US Routes 11/15 in the Shamokin Dam area. Specifically, of the 323 crashes that occurred in that area between 1990 and 1994, 84% of the crashes occurred at or because of intersections and driveways. This high percentage is indicative of the conflict that exists between local and through traffic. The analysis of updated crash data from the thirteen-year period of 2000-2012 verified the previous safety concern by showing 872 crashes, which is an average of 67 crashes per year, on this same section of US Routes 11/15. Further, the analysis showed that recent crash statistics (for the period of 2000-2012) on the other primary roadways of US Route 11, US Route 15, and PA Route 147 are similar to those reported in the Needs Analysis and the FEIS (for the period 1990-1999). Therefore, the separation of through and local traffic remains important not only to reduce congestion, but also to improve safety.

The conclusions of the CSVT Project Needs Analysis originally completed in 1996 indicated that there is a need to reduce congestion, provide for future growth, and improve safety for the users of the roadway system. The updated traffic information collected and analyzed as part of the FEIS/ROD Reevaluation substantiates that the previously determined needs are still valid. Therefore, the purposes of the CSVT Project are to:

- (1) Reduce current congestion on study area roadways.
- (2) Improve safety for the users of the roadway system through better accommodation of all traffic, with particular attention to separating trucks and through traffic from local traffic.
- (3) Ensure sufficient capacity for the growth in population and employment that is expected for the study area.

2.0 PROJECT OVERVIEW

As described in Section 1.1 Project Description, the CSVT project was divided into two sections, Section 1 (Southern Section) and Section 2 (Northern Section), to facilitate the development and evaluation of alternatives during the preliminary engineering and EIS process. Both project sections have been granted Design Field View Approval and are proceeding separately through the final design and construction project development phases.

2.1 ANTICIPATED CONSTRUCTION SEQUENCING/SCHEDULE

The Southern and Northern Sections are both planned to be constructed through multiple construction contracts to accommodate practical construction phasing and funding availability. The Southern Section construction contracts are anticipated to consist of the following:

- Contract S1 – Earthwork for the CSVT mainline,
- Contract S2 – Construction of CSVT mainline bridges,
- Contract S3 – Completion of the CSVT mainline pavement and remaining appurtenances, and
- Contract S4 – Construction of the PA 61 Connector.

The Northern Section will consist of three construction contracts including:

- Contract N1 – Construction of the bridge structure crossing the West Branch Susquehanna River including approach roadway earthwork,
- Contract N2 – Completion of remaining earthwork and non-river bridges, and
- Contract N3 – Completion of pavement and remaining appurtenances.

The anticipated project schedule for the remaining project development phases are summarized below, including when bids are anticipated to be opened for the various construction contracts (i.e., when each construction contract is anticipated to be “let”).

- Final Design of Northern Section is ongoing with completion of the River Bridge design anticipated in mid-2015.
- Final Design of Southern Section was initiated in February 2015.
- Let Contract N1 (River Bridge) for Construction – August 2015
- Let Contract N2 (Earthwork and Non-river Bridges) for Construction – Mid-2016
- Let Contract S1 (Mainline Earthwork) for Construction – Mid-2019
- Let Contract N3 (Paving) for Construction – Early 2020
- Let Contract S2 (Mainline Bridges) for Construction – Mid-2020
- Let Contract S3 (Mainline Paving) for Construction – Mid-2022



- Let Contract S4 (PA 61 Connector) for Construction – Early 2023
- Completion of Construction and Open to Traffic – 2024

PennDOT intends to open the entire project to traffic at one time. However, the Northern Section has independent utility, providing a bypass of the congestion in Northumberland, and could be opened prior to the completion of the Southern Section if the Southern Section is delayed. It should be noted that the Northern Section is currently advancing through final design and those efforts allow for detailing the impacts and the avoidance and minimization measures associated with construction. Since final design was just recently initiated for the Southern Section, the design impacts and associated avoidance and minimization information reflect the best available information based on preliminary engineering work completed for the Southern Section. As the Southern Section advances through final design, changes in project impacts will be addressed through the submission of additional FHWA/PennDOT coordination documents to be developed prior to construction of the Southern Section. An additional NEPA reevaluation will be prepared accordingly.

2.2 DESIGN UPDATE/MODIFICATIONS

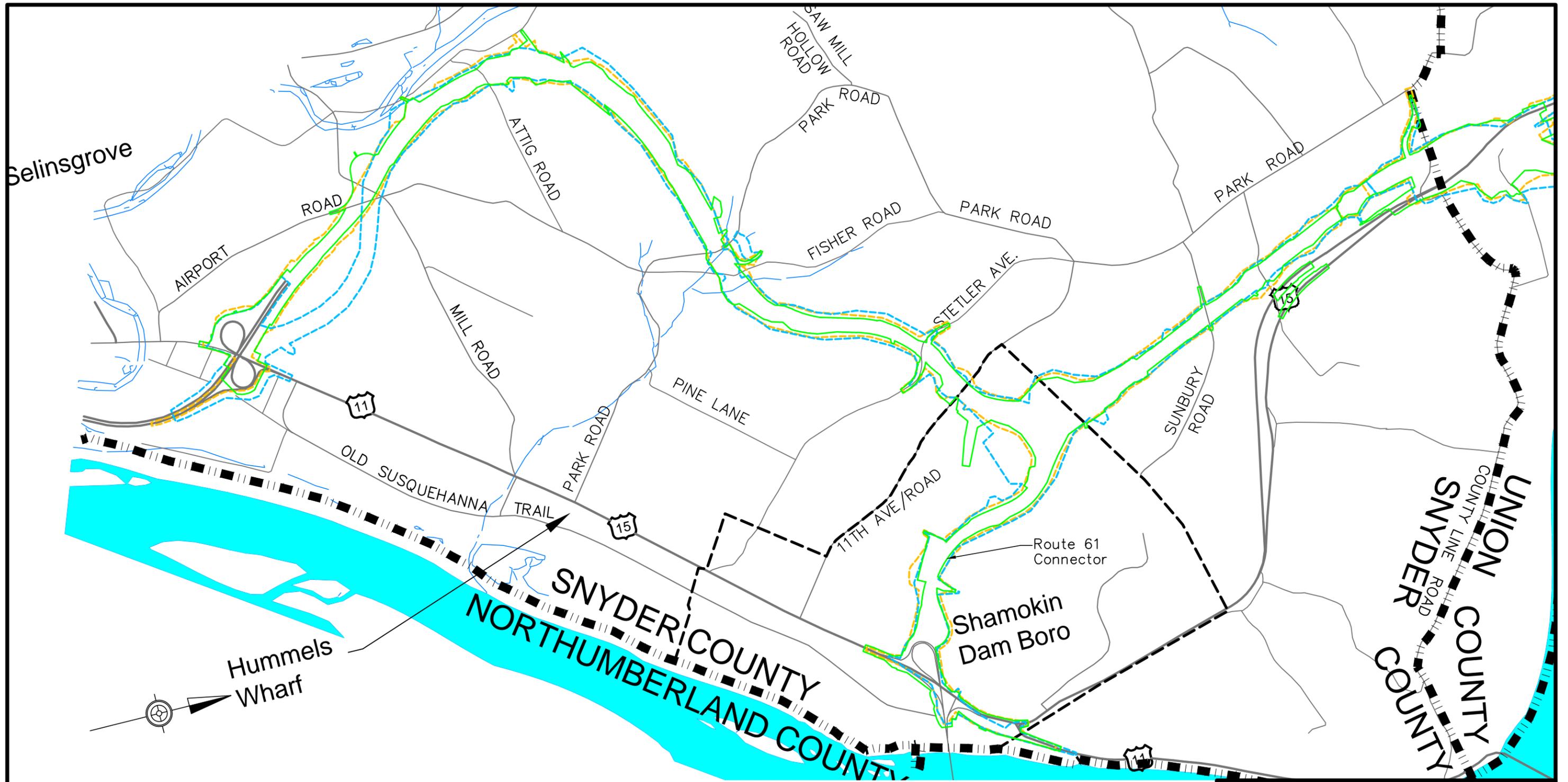
Southern Section/Section 1 – DAM Alternative

Following FHWA's issuance of the ROD and approval of the subsequent FEIS/ROD Reevaluation No. 1, the design of the southern section has been refined through the approval of the Design Field View plans and Final Design has just recently been initiated. Further refinements and minor changes to the proposed design will occur and will include an attempt to balance the earthwork (as per an environmental mitigation commitment in the FEIS/ROD intended to reduce the volume of waste material to be disposed of), siting and design of stormwater management facilities, and property/construction access issues. The Limits of Disturbance (LOD) have generally been reduced as shown on Figure 2, in part because the proposed median width has been reduced to 36 feet. One noteworthy change to the LOD in this section is associated with the proposed relocation of Airport Road. As the Final Design progresses for this section, it is anticipated that additional minor changes to the impacts will occur, such as to account for temporary construction easements and permanent drainage easements.

Northern Section/Section 2 - RC5 Alternative

The Northern Section has progressed considerably further into Final Design than the Southern Section and therefore more design modifications resulted in changes to the LOD (see Figure 3). The following briefly notes major design changes from the 2003 FEIS/ROD and 2006 FEIS/ROD Reevaluation to the present.

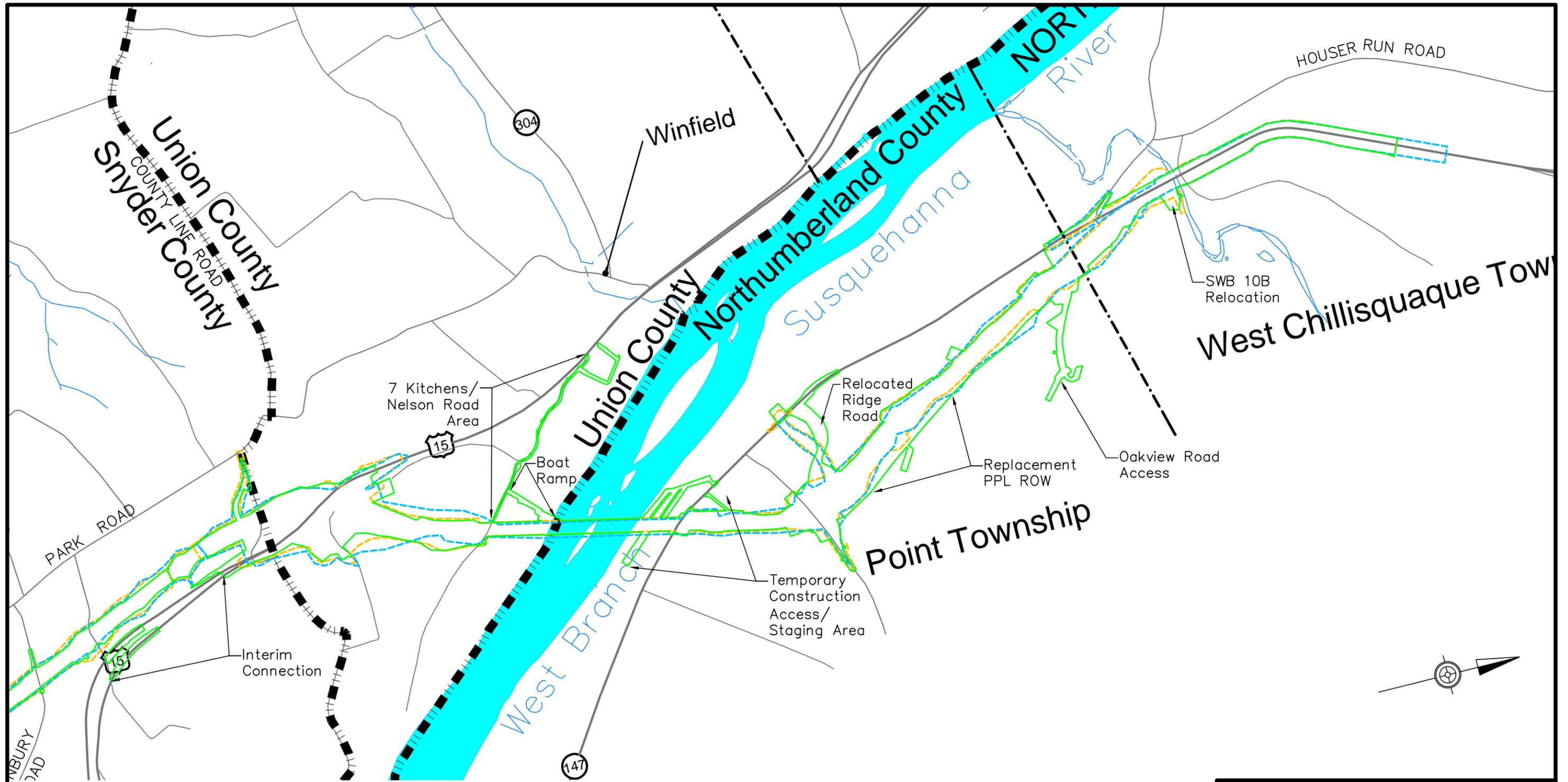
- 7 Kitchens/Nelson Road Area: Construction access to the western bank of the new river bridge will be provided through 7 Kitchens Road, Reitz Avenue, and Nelson Road. These township roads will require improvements to support the additional construction traffic and access to the proposed new boat launch. The additional LOD required to address these improvements were refined and associated impacts evaluated.



LEGEND

- Current Design LOD (2014)
- - - Reevaluation No. 1 LOD (2006)
- - - Final EIS LOD (2003)

SKELLY and LOY, Inc.	Dec., 2014	Figure 2
Pennsylvania Department of Transportation - District 3-0 Central Susquehanna Valley Transportation Project		
LOD Comparisons (Southern Section)		
Northumberland, Snyder, and Union County, Pennsylvania		
Job No.: R95-0129.000	Scale: 1" = 2,000'	



LEGEND

- Current Design LOD (2014)
- - - Reevaluation No. 1 LOD (2006)
- - - Final EIS LOD (2003)

SKELLY and LOY, Inc.	Dec., 2014	Figure 3
Pennsylvania Department of Transportation - District 3-0 Central Susquehanna Valley Transportation Project		
LOD Comparisons (Northern Section)		
Northumberland, Snyder, and Union County, Pennsylvania		
Job No.: R95-0129.000	Scale: 1" = 2,000'	

- Temporary Construction Access/Staging for East Shore: Temporary access on the eastern shore of the West Branch Susquehanna River is required to facilitate the construction of the new river bridge.
- Interim Connection: PennDOT intends to open the entire project to traffic at one time. However, the Northern Section has independent utility, providing a bypass for the congestion in Northumberland Borough, and could be opened prior to the completion of the Southern Section if the Southern Section is delayed. An interim connection ramp has been designed that will provide a free-flow connection for southbound traffic on the CSVT mainline to continue traveling southbound on existing U.S. Route 15. As the design progresses in the Southern Section, the completion schedule can be more clearly defined and the need for the interim connection and associated impacts will be evaluated in a future NEPA reevaluation if necessary.
- Ridge Road/PA Route 147 Intersection Relocation: The proposed intersection of Ridge Road and PA Route 147 was relocated approximately 450 feet to the north of the previously proposed intersection. The original intersection would impact the septic system and parking area of the Ridgeview Church and would have resulted in a displacement if the septic system and parking issues couldn't be resolved. The proposed relocated intersection avoids the impacts to the church property.
- Stormwater Management Basin 10B Relocation: Potential breeding pools associated with the threatened Eastern Spadefoot Toad were identified on either side of Hidden Paradise Road adjacent to PA Route 147 and the Chillisquaque Creek. Stormwater Basin 10B was designed in this vicinity and, at its previously proposed location, would have caused direct impacts to the protected species' potential habitat. The location of this basin was therefore moved to the other side of PA Route 147 to avoid impact to the critical toad habitat. Best Management Practices (BMPs) (e.g., silt socks, etc.) have been specified for the construction activities in the vicinity of this area (to be included in the approved Erosion and Sediment Control Plan) to further prevent impacts to the species.
- Oakview Road Access: Access to properties to the east of the CSVT along Oakview Road will require improvements to the local road.
- Replacement PPL Right-of-Way: The PPL electric transmission line will need to be relocated. Additional replacement right-of-way for the transmission line has been incorporated into the project's LOD.
- Boat Ramp: The FEIS mitigation commitment for the construction of a new boat ramp to help mitigate the CSVT project's impacts on the river (specifically, the impact of the new bridge piers on recreation, fishing, and boating) was incorporated into the design and additional right-of-way was required for the new boating facility. As a result, upgrades to Silo Road are also required in this area.
- Drainage areas in median of U.S. Route 15: Additional drainage improvements are necessary in the median of existing U.S. Route 15. The existing drainage facilities (swales) will be widened to account for additional runoff flows associated with the proposed improvements.

2.3 PERMITTING UPDATE

An Individual USACE Section 404 Permit was issued for the CSVT project in 2007 (Expiration December 31, 2017), and a modification was issued by the USACE on June 17, 2015, to update the permit conditions based on the further developed project design and current impacts. Water Quality Certification for the project, under Section 401 of the Federal Clean Water Act, was granted by the Pennsylvania Department of Environmental Protection (PA DEP) in 2004. The CSVT Project will also require Standard PA DEP Waterways Obstruction and Encroachment Chapter 105 permits and Individual National Pollutant Discharge Elimination System (NPDES) Chapter 102 permits, including detailed Erosion and Sedimentation Pollution Control Plans (ESPC Plans) and Post-Construction Stormwater Management Plans (PCSM Plans), prior to any associated earthmoving activities.

The Chapter 105 permit applications associated with the Northern Section were submitted to PA DEP for review on November 26, 2014. The Waterways Obstruction and Encroachment Chapter 105 Permits and associated special conditions were received from the PA DEP on May 7, 2015. (Note that separate Standard Chapter 105 Permits were issued for the Northern Section's impacts in each county, and a Small Projects Chapter 105 Permit was specifically issued for the proposed boat launch. In addition, the Union County Conservation District separately issued a Chapter 105 General Permit-7/8 for the proposed Mulls Hollow Run culvert replacement on 7 Kitchens Road.) The NPDES permit application for the Northern Section was submitted December 12, 2014. The individual NPDES Chapter 102 permit and associated special conditions were received from the PA DEP on May 7, 2015.

As design progresses on the Southern Section, additional permit application submissions will be necessary.

2.4 TRAFFIC ANALYSIS UPDATE

The traffic modeling prepared for the CSVT project has been updated several times to account for changes in the design year of the project. The DEIS contained 2020 Design Year traffic projections, and the FEIS presented 2030 Design Year traffic projections. After CSVT project reactivation in late 2013, additional traffic analyses were undertaken to establish current baseline traffic volumes in the study area, adjust the modeling based on review of recent census data and local growth rates and modify the design year to 2044 (20 years after the project is anticipated to be opened to traffic).

In June, July, and August of 2014 turning movement counts and automatic traffic recorder counts were taken at 10 intersections in the study area. A review of this data indicated that the evening (PM) peak hour is the critical hour for analysis. This new data was used to update parameters in the traffic model. Since existing and projected population is also a parameter in the traffic model, 2010 census data was reviewed and compared to the 2000 census data, which was the basis for the population growth used in previous traffic projections for the project. A review of the 2010 census data indicated that the population growth assumptions used in the original traffic model are on trend. Additionally, the previously used traffic growth rates were compared to actual recent growth illustrated by the 2014 traffic counts. A review of growth rates used previously (1.5% for cars and 3% for heavy vehicles) indicated the rates are on trend and are consistent with overall traffic counts in the study area.

Therefore, based on a comparison of the 2001 to 2014 traffic data, a comparison of the 2000 to 2010 census data, a review of the growth rates and looking at the overall study area, it was

determined that the previous assumptions used in the traffic model were still on trend and are valid. New traffic data (from the 2014 counts) was input into the model, but the remainder of the model parameters were not altered for the 2014 model update.

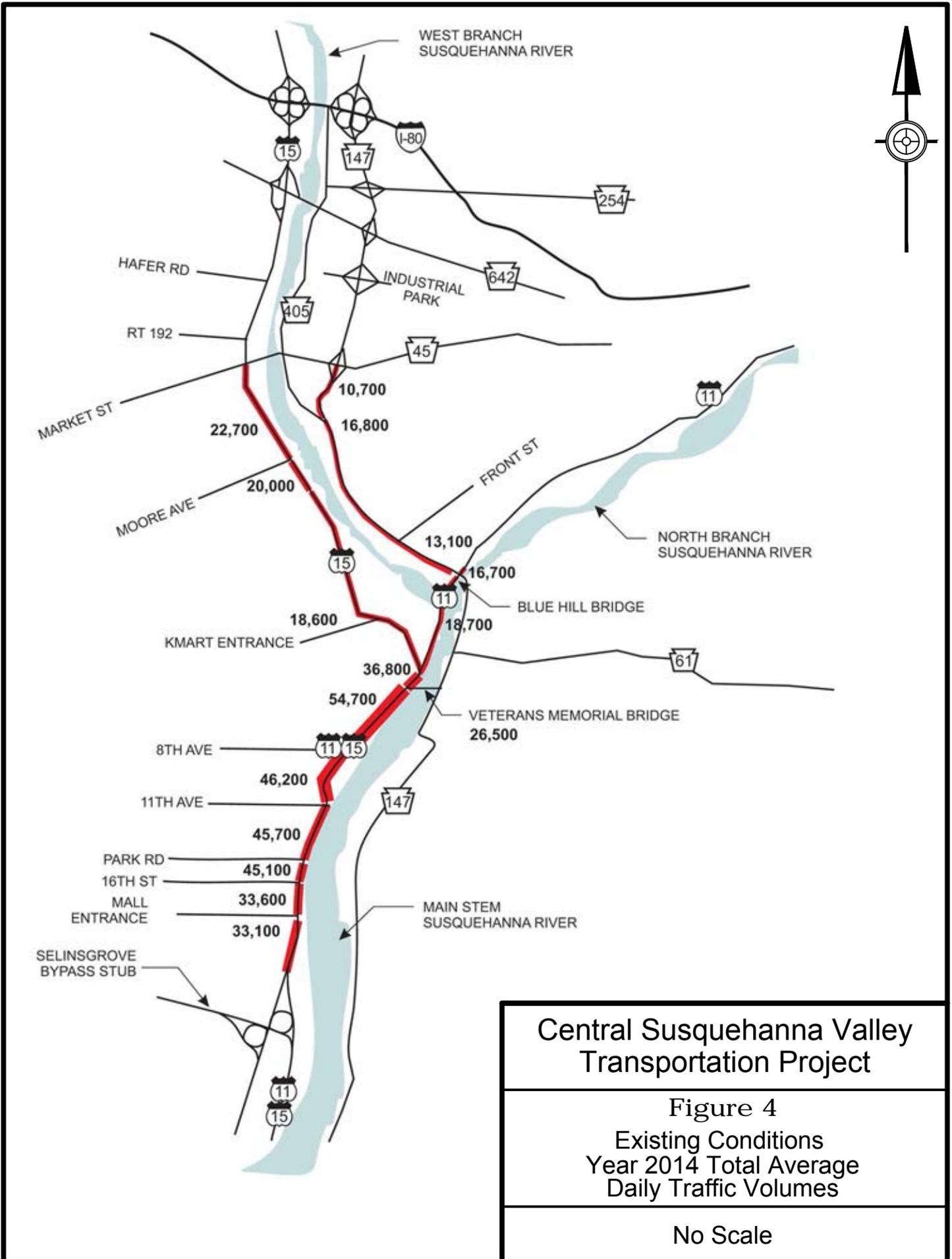
The following scenarios were modeled in the update:

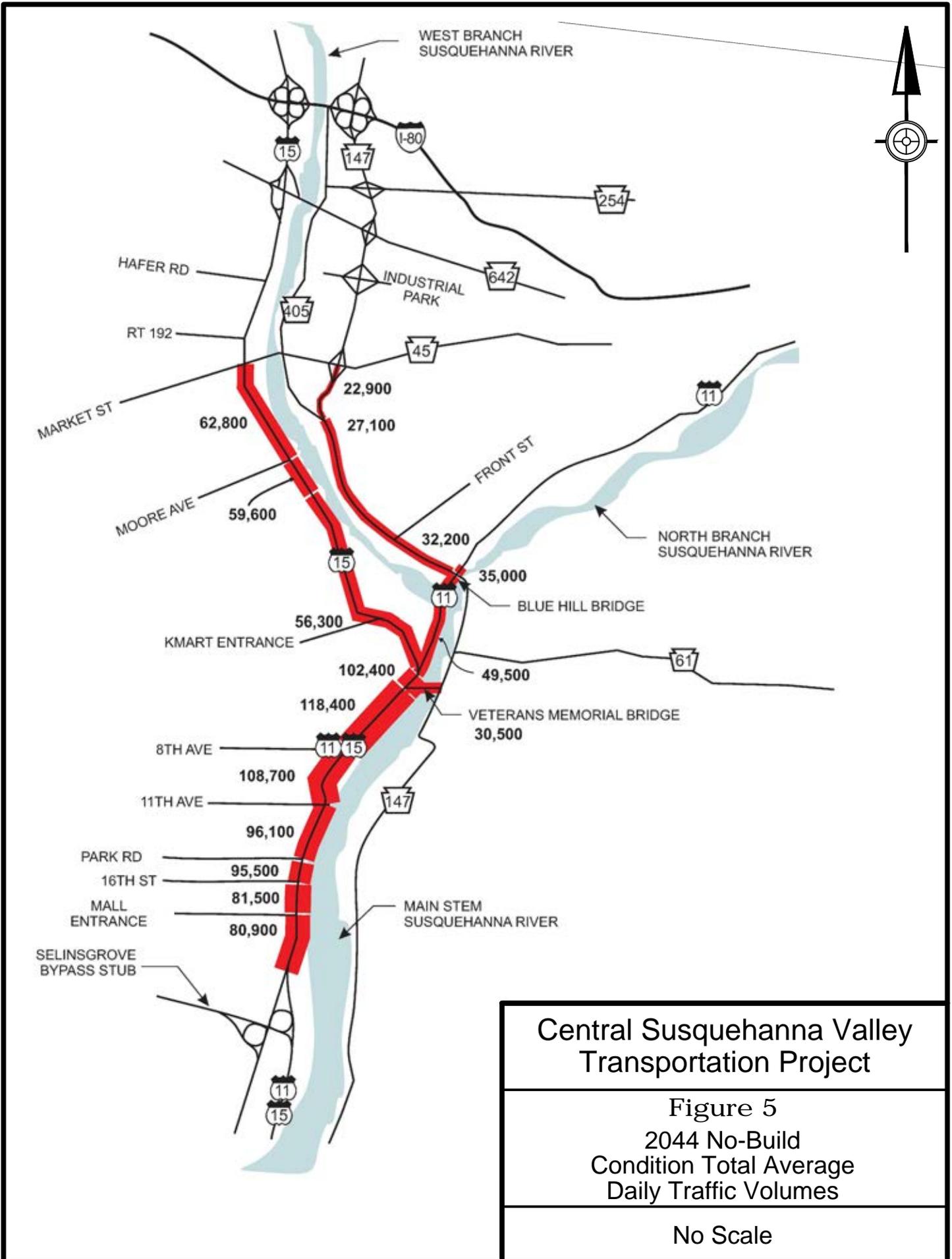
- 2014 Existing Condition
- 2044 (Design year) No Build Condition
- 2044 (Design year) DAM/RC5 Alternative

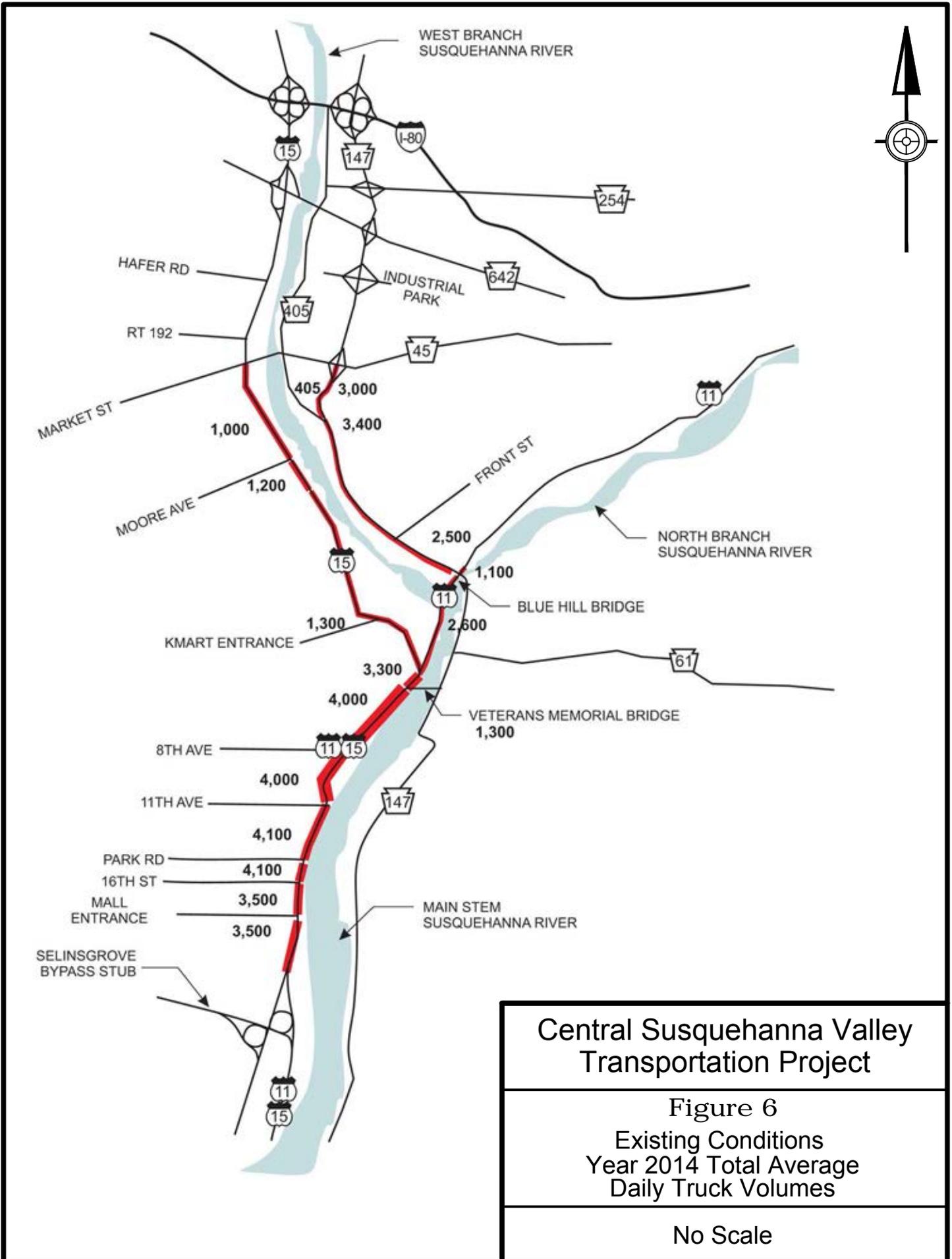
Figure 4 depicts the 2014 Existing Condition and shows traffic volumes on US Routes 11/15 ranging from approximately 33,000 to over 54,000 vehicles per day (VPD). North of the US Routes 11/15 split, US Route 15 carries approximately 20,000 VPD and US Route 11 carries approximately 19,000 VPD. PA Route 147 north of Northumberland carries approximately 17,000 VPD. Regardless of whether any roadway improvements are made to the transportation network, traffic will increase substantially on the study area roadways. The 2044 traffic volumes for the No-Build Condition are shown on Figure 5. A comparison of existing (2014) to future (2044) traffic volumes shows that traffic is anticipated to increase between 111% and 200% on US Routes 11/15 and US Route 15 and between 61% and 146% on PA Route 147 in Northumberland and north. Not only will overall traffic increase, but truck traffic is also expected to increase substantially with volume increases on study area roadways ranging from 76% to 137%. Existing (2014) truck volumes are shown on Figure 6 and future (2044) truck volumes for the No-Build Condition are shown on Figure 7.

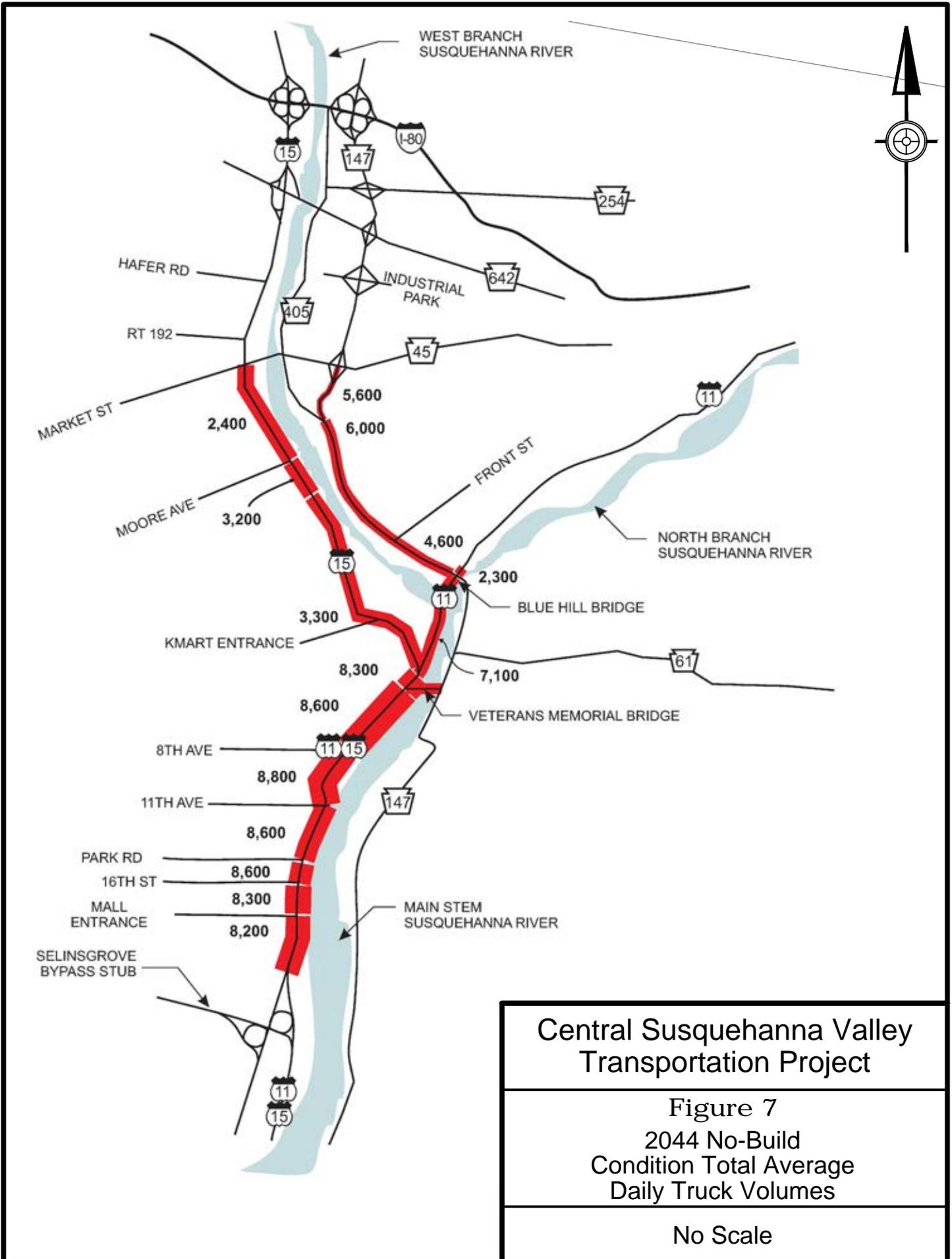
Figure 8 depicts the future conditions with the DAM/RC5 alternative constructed. Volumes are shown for the design year (2044). In the design year, it is predicted that the CSVT will carry approximately 64,000 VPD south of the PA Route 61 Connector, 61,000 VPD between the Connector and the CSVT/US Route 15 Interchange, and nearly 40,000 VPD north of the CSVT/US Route 15) Interchange. The PA Route 61 Connector is anticipated to link the CSVT to the business district in Shamokin Dam and is expected to carry approximately 26,000 VPD. As a result of the proposed construction of the CSVT, traffic volumes along US Routes 11/15 south of the split will be similar to the 2014 existing condition. Volumes on US Route 15 north of the split will decrease, but north of the CSVT/US Route 15 Interchange traffic volumes will be greater than the 2014 existing condition (although less than the 2044 No-Build condition). PA Route 147 is also expected to carry lower volumes than in the 2044 No-Build condition. Figure 9 shows truck volumes in the future with the CSVT Project constructed. It is noted that truck volumes on US Routes 11/15 are predicted to experience a reduction of more than 50% from the 2044 No-Build condition, while US Route 15 north of the split will experience a higher reduction in truck traffic of approximately 80%.

Levels of service (LOS) were also investigated at the intersections in the study area for both the existing and future conditions. Without improvements to the roadway network, traffic congestion will worsen, leading to compromised capacity at study area intersections. Table 1 shows a summary of signalized intersection levels of service for existing (2014) and 2044 No Build Conditions. In the Existing 2014 Condition, 7 intersections operate at undesirable levels of service (LOS E or F). This number increases to 17 in the design year if no improvements are made to the system. With the construction of the CSVT, the number of intersections operating at undesirable levels of service drops significantly, to 5 intersections as shown on Table 1.

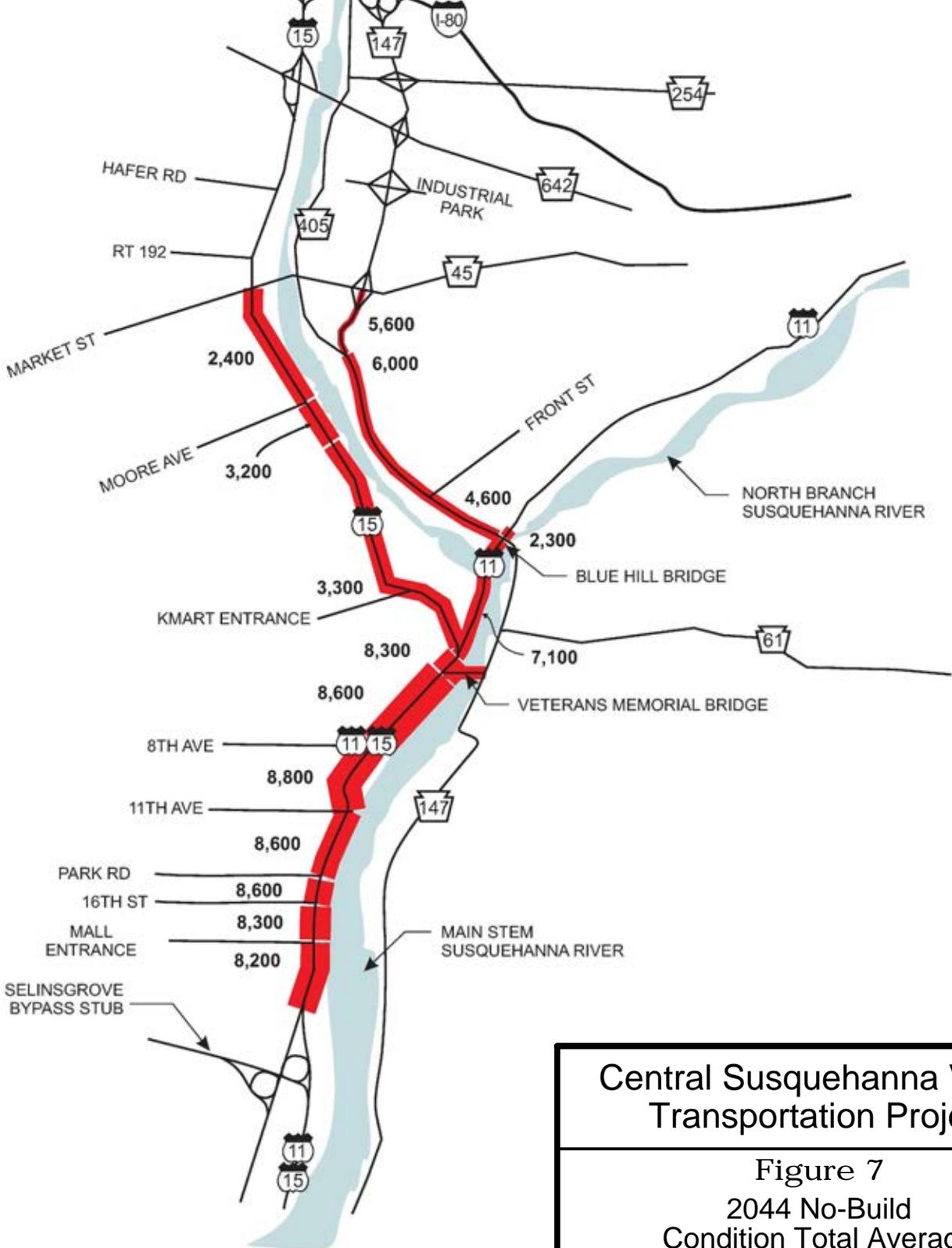






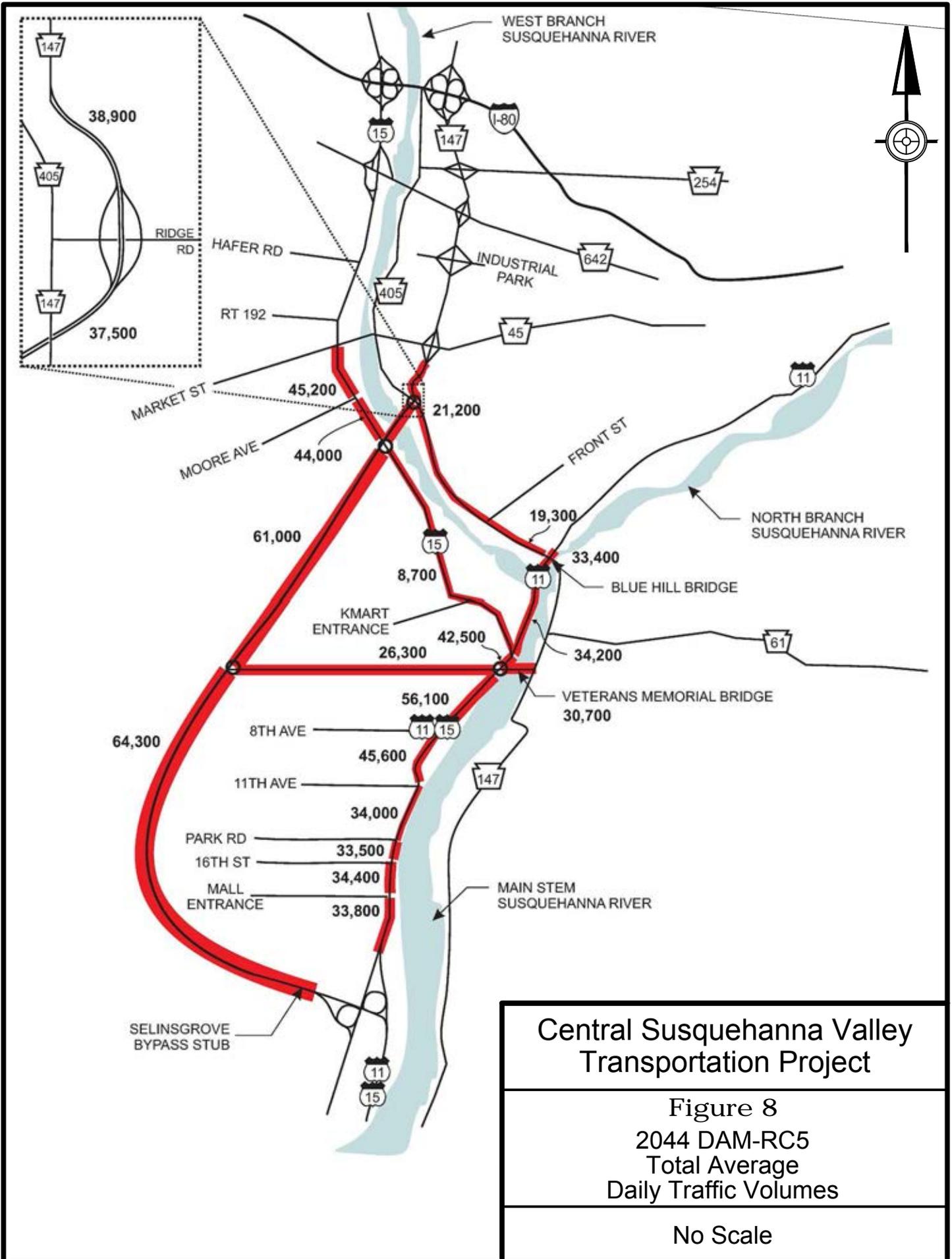


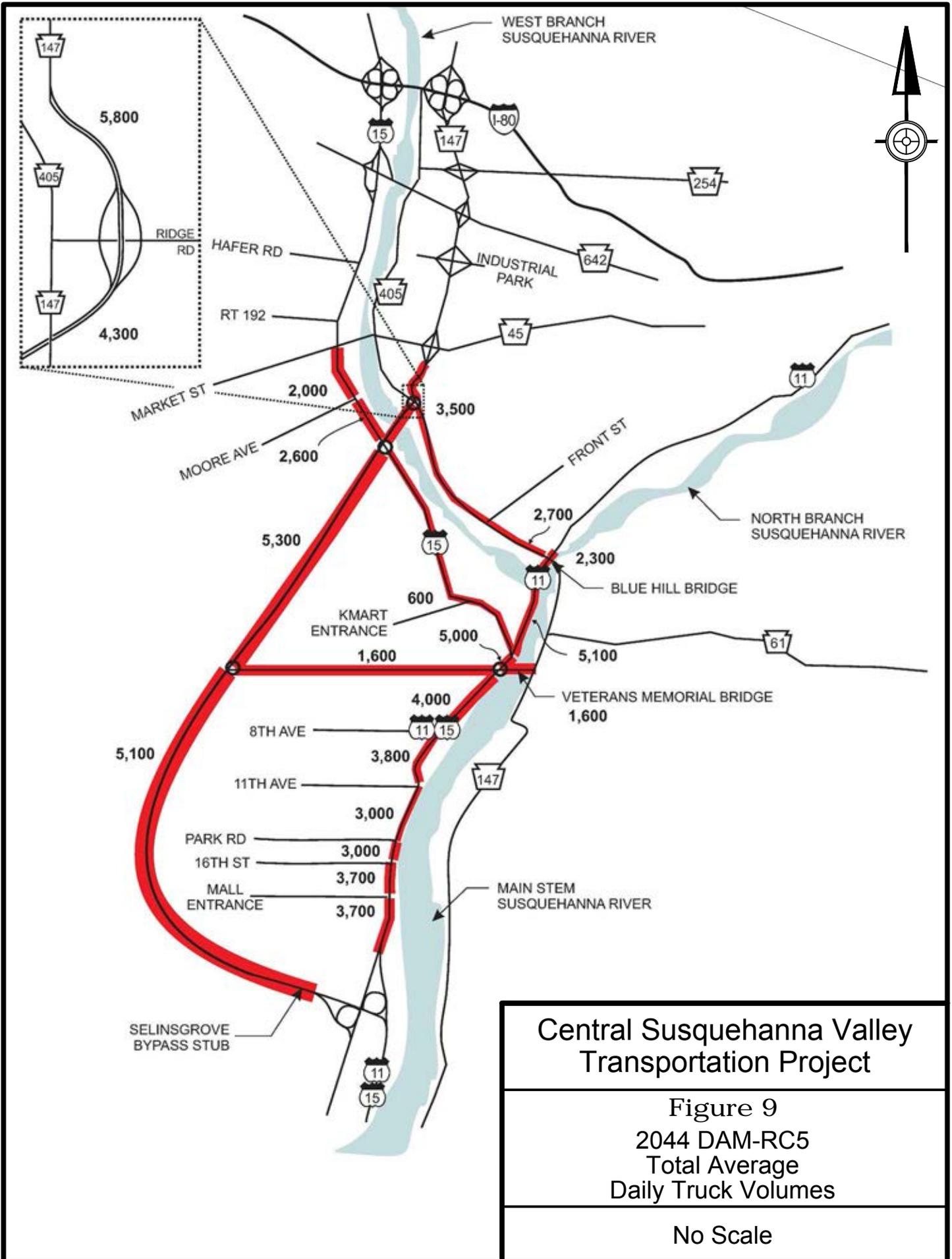
WEST BRANCH
SUSQUEHANNA RIVER



NORTH BRANCH
SUSQUEHANNA RIVER

MAIN STEM
SUSQUEHANNA RIVER





**TABLE 1
OVERALL INTERSECTION LEVELS OF SERVICE*
EVENING PEAK HOUR
EXISTING, FUTURE NO-BUILD, AND FUTURE BUILD CONDITIONS**

Signalized Intersection	2014 Existing	2044 No-Build**	2044 Build (DAM/RC-5)
Water St. (US 11) & Duke St. (PA 147)	C	F (176)	D (50)
King St. (PA 147) & Shikellamy Ave.	E (69)	F (110)	F (113)
Water St. (US 11) & King St. (US 11 S/PA 147)	F (83)	F (485)	F (347)
US 15 & Hafer Rd.	B	E (74)	C
US 15 & PA 192	F (169)	F (268)	F (179)
US 15 & Market St. (PA 45)	F (82)	F (466)	F (284)
US 15 & Moore Ave.	D (46)	F (118)	D (47)
US 15 & K-Mart Driveway	A	B	A
US 11 & US 15 (US 11-15 Split)	C	F (153)	B
US 11/15 & Baldwin Blvd.	E (68)	F (242)	E (55)
US 11/15 & Eighth Ave.	F (95)	F (266)	B
US 11/15 & Eleventh Ave.	B	F (249)	A
US 11/15 & Park Rd.	D (48)	F (162)	A
US 11/15 & Marketplace Blvd.	B	D (36)	A
US 11/15 & Nina Drive	C	F (147)	A
US 11/15 & Lori Lane	C	F (140)	B
US 11/15 & Roosevelt (16th) St.	E (63)	F (114)	C
US 11/15 & Susquehanna Valley Mall Entrance	B	F (93)	A
US 11/15 & Susquehanna Mall Drive	C	F (598)	C

* All listed signal locations occur in urban areas with the exception of the intersection between US 15 and Hafer Road, which occurs in an area classified as rural. LOS D and above is considered acceptable in urban areas, while LOS C and above is considered acceptable in rural areas. Intersection delay is provided in the table for LOS D and lower.

** Optimized Corridor Timings.

In summary, the FEIS reported that the construction of the CSVT is expected to reduce traffic volumes including truck volumes on the existing roadways in the project study area, including US Routes 11, 15, and 11/15, and PA Route 147. The Traffic Analysis undertaken in 2014 validates this projection. This analysis verifies that future traffic volumes with the construction of the CSVT will be significantly lower than in the 2044 No Build Condition and that the diversion of traffic to use the proposed CSVT will result in design-year volumes along US Routes 11/15 and sections of US Route 15 similar to the current (2014) conditions. Additionally, the construction of the CSVT will improve the LOS at a number of signalized intersections in the study area.



Despite the reduction in traffic on the existing system with the construction of the CSVT, a few areas with undesirable levels of service remain and additional studies will need to be completed at these intersections including:

- US Route 15/Market Street (PA Route 45) in Lewisburg
- US Route 15/PA Route 192 in Lewisburg
- King Street (PA Route 147)/Shikellamy Avenue in Sunbury
- Water Street (US Route 11)/King Street (US Route 11S/PA Route 147)
- Ridge Road/PA Route 147 (Potential design modifications that could improve traffic operations at this proposed intersection will be considered as final design of the Northern Section continues.)

These areas of concern are discussed in greater detail in Section 3.2.5, Indirect and Cumulative Impacts.

In addition, following the CSVT Project's reactivation, some residents of Point Township expressed concern about potential increases in traffic on Ridge Road (Township Road 703/State Route 1024) caused by the proposed new interchange intended to connect the new highway to PA Route 147. Although no signs are proposed that would direct traffic to use Ridge Road as a connection between the new highway and US Route 11 (east of Northumberland Borough) upon completion of the project, the concerned residents, as well as the Point Township Supervisors, believe that some motorists will use the road to travel between the new highway and US Route 11. The residents and supervisors believe the proposed interchange will cause an increase in traffic on Ridge Road (above the approximately 1,400 vehicles that currently travel on the road each day), and the residents are specifically concerned that the interchange will therefore have a negative impact on Ridge Road and the township.

As a result, a meeting was held with residents along the Ridge Road corridor on March 5, 2015. At that time, PennDOT committed to completing additional traffic studies, including travel time analyses and additional traffic modeling, to estimate the future traffic volume on Ridge Road. The travel time analyses will be used to consider the potential diversion of existing traffic that may use Ridge Road as a connection between the new highway and US Route 11, and in addition to that potentially diverted traffic, the additional traffic modeling will also account for new traffic anticipated to be generated by future local development. A follow-up meeting was held with Point Township officials and other stakeholders involved with local and regional planning on April 8, 2015, to discuss the residents' concerns, the planned traffic analysis and model update, and planned growth in the area that may generate more traffic on Ridge Road.

Travel time analyses were undertaken in April 2015. The results of those analyses indicate that the CSVT Project and the proposed interchange may cause an increase in traffic on Ridge Road, but only significantly during the evening peak hour. Specifically, based on the travel times for various alternate routes, motorists traveling between Danville and Selinsgrove during the evening peak hour may divert from US Route 11 and use Ridge Road and the proposed interchange to access the new highway. Making the very conservative assumption (to consider the worst case scenario) that all motorists traveling between Danville and Selinsgrove during the evening peak hour will divert onto Ridge Road, approximately 400 additional vehicles would be

anticipated to travel on Ridge Road during that peak hour by the design year of 2044. (See summary of travel time analyses titled “CSVT Impact & Ridge Road” in Appendix E.)

Based on the above very conservative estimate of trip diversions, the potential increase in traffic on Ridge Road caused directly by the CSVT Project and the proposed PA Route 147 interchange is manageable, without the need for major improvements (e.g., additional lanes or significant realignment) that would significantly change the road’s existing characteristics or that would potentially have negative impacts on the township. These results were reviewed with the Point Township Supervisors at their monthly meeting on May 12, 2015. The Point Township Supervisors recognized that traffic may increase on Ridge Road but agreed the increase should be manageable and major improvements should not be needed to Ridge Road. The supervisors continue to express their support for the inclusion of the proposed interchange at Ridge Road in the CSVT Project (please see Point Township letter in Appendix E).

As final design of the CSVT Project’s Northern Section proceeds, further coordination and analysis is needed to also consider the effects of potential future development and to thereby fully estimate the future traffic volume on Ridge Road. With that estimate and considering input from township officials and local property owners, PennDOT will identify what anticipated minor improvements (such as pavement resurfacing, shoulder widening, and/or minor curve improvements) are feasible, necessary, and appropriate to safely accommodate the projected volume of traffic. Coordination will continue to occur not only with Point Township officials, but also with residents of the Ridge Road corridor, and it is currently anticipated that improvements to Ridge Road will ultimately be implemented near the completion of the CSVT Project.

2.5 PROGRAMMING STATUS

2.5.1 Long-Range Transportation Plan

The SEDA-COG Metropolitan Planning Organization (MPO) identified the CSVT project as an “illustrative project” in the 2011-2035 Long Range Transportation Plan (LRTP). (Note, in 2013, SEDA-COG changed from a Rural Planning Organization to a MPO. The 2010 Census resulted in a new urbanized area [UZA] determination that required the formation of an MPO for the affected Bloomsburg-Berwick UZA; local and state parties agreed to make the MPO coverage contain the entirety of 8 counties, including those in the CSVT project area.) The project was ranked as the highest priority project in the SEDA-COG region by the previous RPO (now MPO) project selection subcommittee. However, funding for the project was not available at the time the LRTP was adopted on December 16, 2011. Illustrative projects are those that are outside the fiscal constraint of the LRTP’s Financial Plan which must indicate resources available and how the plan can be carried out. This fiscal constraint means that the plan can recommend only projects that can be reasonably constructed given the total funding available. Illustrative projects can be included in an LRTP to indicate those projects to be considered against future funding sources. In 2014, the MPO amended their 2011-2035 LRTP to incorporate the additional funding provided by PA Act 89. Act 89 will provide \$2.3 billion in additional annual transportation funding, ramping up over a five-year period. Based on the additional funding available, PennDOT and the MPO propose to allocate over \$612 million over a nine-year period (including Federal Fiscal Year 2014) to complete the CSVT project. The purpose of the amendment to the 2011-2035 SEDA-COG LRTP was to list the CSVT as a fiscally constrained project. The amendment was adopted on July 18, 2014.



2.5.2 Transportation Improvement Program

Portions of the CSVT Project are funded and included in the adopted SEDA-COG Transportation Improvement Program (TIP) for the Federal Fiscal Years (FFY) 2015-2018. Table 2 is a summary of the funding provided for the CSVT project in the 2015-2018 TIP.

**TABLE 2
SEDA-COG 2015-2018 TIP FUNDING ⁽¹⁾**

MPMS NO.	PROJECT PHASE	FEDERAL FISCAL YEAR				TOTAL
		2015	2016	2017	2018	
7588	Final Design	Fed sSXF \$3,750,000 State s581 \$1,351,482	Fed sSXF \$1,250,000 State s581 \$2,285,945	State s581 \$2,329,567	State s581 \$2,262,446	\$37,779,440
	Utilities	State s581 \$4,150,000	State s581 \$5,100,000	State s581 \$3,125,000	State s581 \$3,750,000	
	Right-of-Way Acquisition	Fed sSXF \$600,000 State s581 \$3,600,000	State s581 \$975,000	State s581 \$1,625,000	State s581 \$1,625,000	
76397	Northern Section River Bridge	Fed APD \$8,883,871 State s581 \$748,518	Fed APD \$44,419,353 State s581 \$3,742,589	Fed APD \$44,419,353 State s581 \$3,742,590	Fed APD \$44,419,353 State s581 \$3,742,589	\$154,118,216
76398	Northern Section Earthwork	---	State s581 \$16,848,867	State s581 \$28,081,445	State s581 \$33,697,734	\$78,628,046
76401	Southern Section Earthwork	---	---	---	State s581 \$28,857,699	\$28,857,699
TOTALS		\$23,083,871	\$74,621,754	\$83,322,955	\$118,354,821	\$299,383,401

- (1) Funding categories include:
 Fed sSXF – Special Federal Funds; Includes high priority Congressional projects from ISTEAs, TEA-21, SAFETEA-LU, Appropriations Acts, Scenic Byways, Innovative Bridge and Historic Covered Bridge
 Fed APD – Federal Appalachian Development Highway System
 State s581 – State Highway Capital Construction (Formerly State Appropriation 185)

The State's Twelve Year Program (TYP) for FFY 2015 to 2026, includes the TIP project funding in its first four years. Due to the costs and timing of activities required for a project the size of the CSVT project, its funding and construction will overlap and continue into the second four years of the TYP from 2019 to 2022 (the TYP is a multi-modal, fiscally constrained program of transportation improvements spanning a 12-year period). The additional CSVT project funding planned for the second four years is summarized in Table 3.



**TABLE 3
SEDA-COG SECOND FOUR YEARS OF TYP ⁽¹⁾**

MPMS NO.	PROJECT PHASE	FEDERAL FISCAL YEAR				TOTAL
		2019	2020	2021	2022	
7588	Final Design	State s581 \$1,195,560	---	---	---	\$3,420,560
	Utilities	State s581 \$1,250,000	---	---	---	
	Right-of-Way Acquisition	State s581 \$975,000	---	---	---	
76397	Northern Section River Bridge	Fed APD \$6,958,070 State s581 \$31,571,484	---	---	---	\$38,529,554
76398	Northern Section Earthwork	State s581 \$28,081,445	State s581 \$5,616,289	---	---	\$33,697,734
76400	Northern Section Paving	State s581 \$9,413,305	State s581 \$9,413,305	State s581 \$8,068,548	---	\$26,895,158
76401	Southern Section Earthwork	State s581 \$28,587,698	State s581 \$6,352,822	---	---	\$34,940,520
76402	Southern Section Structures	State s581 \$31,908,912	State s581 \$32,239,412	State s581 \$7,494,814	---	\$71,643,138
76403	Southern Section Paving	---	State s581 \$10,113,623	State s581 \$10,113,623	State s581 \$8,668,820	\$28,896,066
76404	PA 61 Connector	---	State s581 \$14,678,545	State s581 \$14,678,545	State s581 \$12,581,610	\$41,938,700
102810	Northern Section Ridge Road Improvements	---	State s581 \$5,223,979	State s581 \$5,223,979	State s581 \$4,477,696	\$14,925,654
102811	Intelligent Transportation Systems Devices	---	State s581 \$5,595,926	State s581 \$5,595,926	State s581 \$4,796,508	\$15,988,360
TOTALS		\$139,941,474	\$89,233,901	\$51,175,435	\$30,524,634	\$310,875,444

- (1) Funding categories include:
 Fed APD – Federal Appalachian Development Highway System
 State s581 – State Highway Capital Construction (Formerly State Appropriation 185)

2.6 PUBLIC INVOLVEMENT UPDATE

Public involvement activities between the project being placed on hold in 2008 and its full reactivation in 2013 primarily occurred through the project website and individual inquiries to PennDOT regarding the project status. Newspaper articles appeared after PennDOT District 3-0 District Executive Sandra Tosca and then Secretary of Transportation Barry Schoch's news conference on November 27, 2013, announcing funding for the project and its full reactivation.



The following lists public involvement opportunities and public notifications of the ongoing preparation of a new FEIS/ROD Reevaluation that have occurred since that time.

- Project updates provided by PennDOT representatives at monthly meetings of Greater Susquehanna Valley Chamber Of Commerce's (GSVCC's) Transportation Committee and roughly quarterly meetings of GSVCC's CSVT Project Task Force
- Project update provided by PennDOT representatives during February 27, 2014, "On-the-Mark" 1070 WKOK radio call-in program
- Project update article in The Daily Item's March 15, 2014, Commerce Edition
- March 26, 2014, meeting requested by Point Township Supervisors and attended by the supervisors, PennDOT representatives, PA State Representative Culver, and Northumberland County Commissioner Shoch to discuss potential future township rezoning, bridge/interchange lighting, emergency river access, Ridge Road, and Oakview Road
- Project website (www.csvt.com) update in April 2014
- Project fact sheet attached to reissued Notice of Intent-to-Enter (NOITE) letters sent to affected property owners in April 2014
- Project update article in PA State Representative Culver's Summer 2014 newsletter
- August 2014 meetings with West Chillisquaque, Point, Union, and Monroe Townships to discuss proposed stormwater management design and necessary floodplain map revisions for Northern Section
- Project update provided by PennDOT representatives at request of PA State Representative Culver during August 26, 2014, meeting of local municipal officials
- Public notice to recreational users of West Branch Susquehanna River of proposed new bridge's permanent and temporary impacts, distributed to local tackle shops, marinas, boat/marine retail stores, and boat license/registration issuing agents and also posted at all local boat launching sites and on PFBC's Water Trail Guides website in September 2014
- December 15, 2014, meeting with Union Township supervisors to discuss anticipated temporary river impacts during construction, proposed improvements to 7 Kitchens Road/Reitz Avenue/Nelson Road, and other items related to construction of proposed new river bridge
- January 27, 2015, meeting with local property owners in Union Township to discuss anticipated temporary river impacts during construction of proposed new river bridge



- March 5, 2015, meeting with property owners along Ridge Road in Point Township to discuss proposed PA Route 147 Interchange at Ridge Road and potential increase of traffic on Ridge Road caused by CSVT Project
- April 8, 2015, meeting with Point Township officials and other stakeholders involved with local and regional planning to discuss residents' concerns, planned traffic analysis and model update, and planned growth that may generate more traffic on Ridge Road
- May 12, 2015, Point Township Supervisors Meeting attended by PennDOT representatives to discuss Ridge Road travel time analysis results and planned future traffic modeling
- May 21, 2015, meeting with local public officials to kick off final design of Southern Section
- June 16, 2015, public meeting to kick off final design of Southern Section

2.7 LOCAL PLANNING INITIATIVES/STUDIES

Since the approval of the 2003 FEIS and 2006 FEIS/ROD Reevaluation No. 1, multiple planning initiatives have been undertaken in the project area, including new comprehensive plans adopted by Northumberland and Union Counties and local studies undertaken by SEDA-COG. The studies sponsored by SEDA-COG recognize the CSVT project is critically needed for the region to reduce congestion, provide for future growth and improve safety on the existing transportation network. These documents confirm the widespread support for the project among chambers of commerce, the media, local officials, planning agencies and the general public.

VALLEY VISION 2020: A PLAN FOR PENNSYLVANIA'S HEARTLAND (SEDA-COG, 2008)

The Valley Vision Plan establishes future direction for managing growth, change, and development in 11 Central Pennsylvania counties joined through membership in SEDA Council of Governments (SEDA-COG). Reference to the CSVT: "Completion of projects like the planned Central Susquehanna Valley Thruway will have a profound influence on the region's future economy and livability."

THE MIDDLE SUSQUEHANNA HERITAGE AREA FEASIBILITY STUDY (SEDA-COG, 2009)

The Middle Susquehanna Heritage Area Feasibility Study was undertaken to allow the five counties in the Middle Susquehanna Region to be designated as a Pennsylvania State Heritage Area. Based on the findings of this study, it was the recommendation of the project team and task force that the Middle Susquehanna Region receive approval for designation as a Pennsylvania State Heritage Area. This designation has no impact on the CSVT project.

SUSQUEHANNA RIVER SPORTS PARK FEASIBILITY STUDY (SEDA-COG, 2010)

The Susquehanna River Sports Park Feasibility Study identified and evaluated five potential boathouse sites before selecting a preferred site at the intersection of US Routes 11 and 15 in Shamokin Dam Borough and Monroe Township, Snyder County. This planned development

area is within the Southern Section of the CSVT study area and a re-design of the proposed US Routes 11 and 15 intersection is desired by involved stakeholders. Therefore, potential future development of this property for a recreational facility will be considered during the Southern Section final design. Any design revisions made at that time will be addressed in the next NEPA Reevaluation.

As the Final Design progresses on the southern section, PennDOT will coordinate with local officials to ensure the design of this intersection (and adjacent roadways) considers the potential future development of this riverside property. A preliminary meeting was held on October 7, 2014, with the Susquehanna Greenway Partnership and other stakeholders in the sports park. Concerns were raised related to using land that may possibly be desirable for the sports park for the currently proposed realignment of the US Routes 11 and 15 intersection. Additional coordination will be necessary as final design and the subsequent NEPA reevaluation are pursued for the Southern Section.

LAKE AUGUSTA GATEWAY CORRIDOR PLAN (SEDA-COG, May 2012)

The Lake Augusta Gateway Corridor Plan is a regional planning initiative of SEDA-COG funded through PennDOT and FHWA, developed with public input and the assistance of public-private stakeholders representing local and county governments; local, regional and statewide organizations; area residents, business and property owners; and state and regional agencies. This document outlines several planning possibilities for the region and recognizes the CSVT project as being a very important component of the future Lake Augusta Gateway Corridor.

THE WEST BRANCH SUSQUEHANNA WATER TRAIL STEWARDSHIP AND CONSERVATION PLAN (North Central Pennsylvania Regional Planning and Development Commission, August 2009)

The West Branch Susquehanna Water Trail Stewardship and Conservation Plan was developed to further the development and sustainability of the Water Trail by creating a plan for maintenance of existing and future facilities, identifying the needs at existing access sites and water trail related points, and deciding if there is a need for additional access points. The recommendations for the portion of the West Branch of the Susquehanna River in the CSVT project area included the following.

“An additional public river access in this area would provide options for shorter trips. It would also allow trail users to be less concentrated in this section of trail, and to relieve pressure from the Chillisquaque Access during the summer months. This area is part of the popular motor boating area of the Adam T. Bower Memorial Dam; there is an expressed need to provide additional access and public restrooms to serve boaters in this area.”

The implementation of a boat ramp along the West Branch of the Susquehanna in this vicinity is a mitigation measure that has been integrated into the Final Design of the northern section of the project. The location of the ramp along the stretch of river coincides with the recommendations of this planning document.

MUNICIPAL PLANNING INITIATIVES

Table 4 below summarizes the status of local planning initiatives in the project area counties and municipalities in addition to measures proposed and undertaken to manage land



development (including zoning) as it relates to the development of the CSVT project. In summary, all three project area counties recognize the importance of the project and the significant impact it will have on traffic patterns and land development in the vicinity of the CSVT interchange areas. All three counties support the development of the project.

Northumberland County has identified the land area around the proposed PA Route 147 Interchange at Ridge Road in Point Township as a “Future Growth Area.” The current Northumberland Borough-Point Township Joint Comprehensive Plan recognizes the importance of and supports the CSVT project but also includes a detailed assessment of potential land development issues for the two municipalities associated with the project. As a result, the plan includes items as part of its Action Plans to help manage the anticipated development growth in Point Township and specifically the Ridge Road corridor. To date, the Point Township zoning ordinance has not been updated to incorporate measures to guide growth and facilitate implementation of a “corridor vision.”

Snyder County has identified the area along the existing U.S. Route 11/15 in and north of the Selinsgrove area as county-designated growth area. This area encompasses the land around the proposed upgraded U.S. Route 11/15 (Selinsgrove) interchange and the proposed new PA Route 61 Connector (Shamokin Dam) interchange. Monroe Township in Snyder County has amended their zoning ordinance to include a Highway Setback Zone overlay district to provide adequate setback from the CSVT right-of-way. However, the zoning ordinance has not yet been updated to include an “Interchange Overlay District” as proposed in the township’s 2003 Comprehensive Plan. The plan states that this type of overlay district would help protect and preserve agricultural lands by providing interchange development controls to prevent commercial sprawl around the CSVT access points in the township (includes the proposed Selinsgrove interchange and nearby Shamokin Dam and Winfield interchanges).

Union County also notes the benefits of the CSVT project, particularly the traffic diversions associated with the proposed U.S. Route 15 (Winfield) interchange in Union Township. Union Township has no zoning at this time and planning initiatives for Union Township do not specifically address land management in the vicinity of the proposed U.S. Route 15 interchange. However, the Winfield area north of the proposed interchange is within a county-designated growth area.

In addition to the studies and plans prepared for the CSVT project area by counties and municipalities, SEDA-COG initiated an interchange study in April 2004 as a response to local government interest in the “opportunities and threats” posed by construction of the CSVT project. Land use planning funds were received in 2003 from PennDOT to leverage local funding and in-kind services dedicated to the completion of this interchange study over a two-year period. This study’s “area of influence” encompassed eight municipalities within northern Northumberland County along the six-mile PA Route 147/I-180 corridor between PA Route 45 in Montandon and PA Route 54 at the Turbotville interchange. The study corridor is the portion of PA Route 147 north of the CSVT project’s tie-in to PA Route 147 (just south of the interchange between PA Route 147 and PA Route 45) and encompasses six existing interchanges, including those improved as part of the 2-on-4 Section to accommodate the increased traffic volumes expected from the CSVT project. The study’s findings and recommendations were documented in “The Central Susquehanna Valley Thruway Interchange Study” (July 2005). PennDOT participated in the study and provided review comments on the document. PennDOT and FHWA both received copies of the final report. The report documents a future planning strategy that includes both municipal-specific and corridor-wide recommendations for both immediate and longer term goals. These recommendations address the need for organization,



zoning law amendments, additional funding, intergovernmental agreements and multi-municipal planning to address anticipated growth and land development changes. A resolution was also drafted to serve as a formal document that recognizes the mutual needs, concerns, and interests of the study's municipalities and would act as an agreement that endorses the study recommendations and continuing inter-municipal efforts to develop a regional approach to land use planning. At this time, the report findings and recommendations continue to be considered by the affected municipalities in the northern region of Northumberland County.

In March 2007, SEDA-COG produced a second report related to the CSVT project entitled "Central Susquehanna Valley Thruway Gateway Project." This report addresses the proposed new bridge across the West Branch Susquehanna River and its related highway segments and interchanges along with the anticipated highway-related development adjacent to the proposed interchanges in the CSVT project area counties, Union, Snyder, and Northumberland Counties. The study and report were completed with funding assistance from the FHWA and PennDOT. In addition, the PennDOT CSVT Project Manager was a member on the CSVT Gateway Project Task Force. The purpose of the task force was to review, comment, and propose context sensitive design features and options for the CSVT Bridge. The PennDOT Project Manager also provided regular updates on the CSVT project and guidance for the bridge design options in addition to granting access to data developed as part of the CSVT Project. PennDOT also supported and helped sponsor a 2006 Open House public meeting for the Gateway Project and the CSVT Project. FHWA was consulted during the study on an as-needed basis. The purpose of the CSVT Gateway Project was to build a consensus vision on the bridge design character and future interchange development. Bridge design guidelines were developed as part of the study to provide PennDOT with guidance on how the Susquehanna Valley citizens would like to see the long-term transportation investment develop. During final design of the bridge, PennDOT has continued to consider the guidelines, specifically the recommendation to minimize the number of piers to be placed in the river. The report also includes a detailed assessment of the local land use regulations in the vicinity of the proposed CSVT interchanges and the public's vision for future land development in the vicinity of the interchange areas. The report's recommendations address the need for regional collaboration that includes an Intergovernmental Cooperation Agreement to engage in Multi-Municipal Planning, similar to what was proposed in the earlier Central Susquehanna Valley Thruway Interchange Study for the six interchanges in the PA Route 147/I-180 corridor of northern Northumberland County. In addition, the recommendations include the development of design guidelines for new land development as part of the local comprehensive planning process to provide a baseline of what is aesthetically appealing to local residents. It is intended that these new guidelines would be incorporated into each municipality's zoning ordinance. Lastly, the report recommends various land development growth management techniques and strategies for aesthetic enhancements and thematic concepts consistent with the Gateway Study's land development vision and recommendations and the established goals and adopted policies of local comprehensive plans and zoning ordinances.



**TABLE 4
SUMMARY OF LOCAL COMPREHENSIVE PLANS AND LOCAL ZONING/ORDINANCES**

PLANNING DOCUMENT	DATE ADOPTED	PLANNING COMPATIBILITY (AS OF 2015)
NORTHUMBERLAND COUNTY		
Northumberland County Comprehensive Plan	June 2005	<p>Section VI. Transportation</p> <ul style="list-style-type: none"> • Includes description of the CSVT project's design and status, including the upgrade of PA Route 147 from a 2-lane to a 4-lane limited access facility as it extends through the county. • Notes that the CSVT is projected to become a critical north-south transportation route for local, regional, and national traffic. • Identifies the land area around the proposed Ridge Road interchange in Point Township as a "Future Growth Area" (shown on plan's Generalized Proposed Land Use Map).
West Chillisquaque Township, Zoning Ordinance	Adopted 1979, April 11, 2011 Edition	Current edition of zoning ordinance does not address the CSVT, including the proposed relocation of PA Route 405 at the border with Point Township.
Northumberland Borough-Point Township, Joint Comprehensive Plan and Joint Parks, Recreation and Open Space Plan	July 2009	<p>Chapter 1. Plan Purpose</p> <ul style="list-style-type: none"> • Describes CSVT as a needed improvement for the community, but notes concern over potential urban sprawl. <p>Chapter 2. Profiles, Trends and Issues</p> <ul style="list-style-type: none"> • Describes potential commercial and industrial development due to CSVT and includes a map (Figure 4) that shows the CSVT alignment. <p>Chapter 4. Development and Conservation Strategy</p> <ul style="list-style-type: none"> • States proposed CSVT interchange at Ridge Road will directly consume land and indirectly improve access to adjacent parcels and the adjoining Ridge Road corridor. • Includes evaluation of CSVT impacts to land use and zoning conditions that includes projected land use and traffic changes associated with the CSVT project (notes that the community may want to request PennDOT study the feasibility of a traffic signal at the PA Route 147/Ridge Road intersection – preferably in advance of CSVT construction). • Includes assessment of land use alternatives for Ridge Road interchange area and Ridge Road corridor east of the proposed interchange. Identifies preferred land use patterns, including mixture of highway commercial and light industrial development for interchange area to provide additional land for commercial services and help balance the public services demand and tax revenue of increased residential development to the east. <p>Chapter 5. Action Plans</p> <p>Action Plans for Growth Management/Land Use Plan include two actions proposed to address CSVT project.</p>



PLANNING DOCUMENT	DATE ADOPTED	PLANNING COMPATIBILITY (AS OF 2015)
		<p>Action 1: Revise Point Township zoning ordinance/map to reflect preferred land use patterns particularly for the CSVT interchange area, Ridge Road corridor, and US Route 11 corridor.</p> <p>Action 4: Advocate for PennDOT to improve safety of the Ridge Road corridor, including consideration of intersections with PA Route 147 and US Route 11 in regard to current safety concerns and in anticipation of increased and heavier traffic use as a result of continued growth and the CSVT project. Township and Borough should participate in additional or related transportation-land use and traffic impact studies, if conducted.</p> <p>Chapter 7. Consistency and Interrelationships</p> <ul style="list-style-type: none"> • Notes that the County Comprehensive Plan and the CSVT Interchange Study (SEDA-COG, 2005) provide contextual information for local planning in borough and township. • Notes CSVT Interchange Study was prepared as response to local government interest in the opportunities and threats posed by construction of the CSVT Project.
SNYDER COUNTY		
Snyder County Comprehensive Plan and Future Land Use Map	May 2001	<p>Chapter 5. Transportation Analysis</p> <p>The CSVT project is listed with other TIP projects and is identified as the county's single major transportation improvement project.</p> <p>The CSVT alignment is shown on the county's Future Land Use Map and is identified as the "Proposed US 15 Corridor".</p>
Shamokin Dam Borough Zoning Map	April 2014	Current zoning does not address the proposed CSVT project.
Monroe Township Comprehensive Plan and Future Land Use Map	June 2003	<p>Chapter 2. Monroe Township Today</p> <p>Describes the need for CSVT to relieve the congestion of a growing population in the area.</p> <p>Chapter 3. Monroe Township Tomorrow</p> <ul style="list-style-type: none"> • States that Township Vision for Land Use includes controlling and managing land development around proposed CSVT interchanges through the use of Interchange Overlay Districts. • Includes the goal to protect and preserve agricultural lands by providing interchange development controls to prevent commercial sprawl around the proposed CSVT access points. <p>Chapter 4. Monroe Township Changes/Action Planning and Implementation Strategies</p> <ul style="list-style-type: none"> • Land Use Action Plan Item G-3: Manage development in areas adjacent to proposed CSVT access sites. The objective is to use an Overlay District to regulate the type of development that would occur in the proposed CSVT interchange areas. Requires amending zoning ordinance to



PLANNING DOCUMENT	DATE ADOPTED	PLANNING COMPATIBILITY (AS OF 2015)
		<p>provide for the overlay district and amending the zoning map to designate those areas where the overlay district would apply.</p> <ul style="list-style-type: none"> • Future Land Use Maps includes proposed CSVT alignment and 2 areas identified as Interchange Overlay Districts (vicinity of existing Selinsgrove interchange with US Routes 11/15 to the south and the proposed Winfield Interchange with US Route 15 in Union Township).
Monroe Township Ordinance of Definition	October 2007	Document does not include any references to an interchange or highway overlay district as proposed in the Comprehensive Plan (June 2003)
Monroe Township Zoning Ordinance	Adopted: December 28, 2004 Amended: October 23, 2007 Amended: January 29, 2008	<i>Article 2 Section 218 HS – Highway Setback Zone</i> Defines an overlay district to provide adequate setback from the right-of-way of the CSVT Project, which is a designated major transportation corridor traversing the township and providing a north/south route in central Pennsylvania. The purpose of the zone is to provide a safety buffer for the residents of township as well as the traveling public. The area is to be measured 200 feet from the CSVT right-of-way and no dwelling is to be located or erected within the Highway Setback Corridor.
UNION COUNTY		
Union County Comprehensive Plan	December 2009	<p>Part 1 – Vision and Framework</p> <p>The plan outlines the purpose, benefits, and the proposed location of the CSVT project. In particular, the plan states the CSVT project and construction of the Winfield interchange will have a significant impact on traffic operations within the county, namely along the U.S. Route 15 corridor south of Lewisburg Borough. It notes the anticipated decrease of traffic volumes on U.S. Route 15 south of PA Route 45 because the proposed Winfield interchange will divert existing heavy traffic volumes to the parallel route provided by the CSVT project.</p>
Union Township	---	The township currently has no zoning ordinance and land use planning is primarily overseen by the county. While the county's current comprehensive plan identifies the CSVT project as an important future transportation project, it does not specifically include any proposals for the management of land development in the vicinity of the proposed Winfield interchange located in Union Township.



3.0 ENVIRONMENTAL UPDATE

This FEIS/ROD Reevaluation No. 2 discusses the changes in impacts to the environmental, cultural and socioeconomic resources that have occurred based on the advanced design of the project, changes in regulations/procedures and land cover changes within the study area.

A summary of environmental issues at various milestones related to the southern (DAMA and DAM) and the northern (RC5) alignments for the CSVT project area is included in Table 5. The FEIS documented the DAMA as the preferred Southern Section alternative since it avoided a historic farmstead. Conditions subsequently changed related to this resource, and the 2006 FEIS/ROD Reevaluation No. 1 documented the change of the alignment from the DAMA alternative to the DAM alternative. Both the southern and northern section alignments underwent additional preliminary design as part of the Design Field View (DFV) process and the footprint was modified slightly based on the advanced design (e.g., stormwater management basin placement, inclusion of temporary construction easements, etc.). (See discussion in Section 2.2, Design Update/Modifications, of this document.)

Environmental consequences are presented primarily for those resources and subject areas that have experienced a change since the ROD, including changes in regulatory requirements and changes in impacts. All other subject areas outlined in the FEIS/ROD documents have either remained the same or had negligible changes that would not affect the decision-making process.

**TABLE 5
ENVIRONMENTAL IMPACT SUMMARY**

Environmental Impacts	2003 FEIS/ROD	2006 FEIS/ROD Reevaluation	2015 FEIS/ROD Reevaluation	Change from FEIS to Reevaluation 2
SOUTHERN SECTION				
Displacements (number)				
Residential	33	31	31	-2
Commercial Structures	4	1	1	-3
Agriculture (acres)				
Agricultural Security Areas	98.7	96.1	80.7	-18.0
Productive Farmland	151.6	111.9	91.4	-60.2
Habitat (acres)				
Wetlands (direct & temporary, acres)	4.79	4.05	3.33	-1.46
Forest Land (acres)	183.89	178.71	175.15	-8.74
Old Field (acres)	157.02	126.18	103.96	-53.06
Riverine Floodplain Forest (acres)	0.05	0	0	-0.05
Waste Sites (number)	5	3	3	-2
Surface Water Resources				
Stream Relocations (number)	3	-	3	---
Bridge Crossings (number)	2	-	3	1
Culverts (number)	14	-	13	-1
Total Impacts (linear feet)	16,445	13,770	12,964	-3,481
Threatened & Endangered Species	No	No	Yes (NLE Bat)	Yes (NLE Bat)
Historic Properties	No	No	No	No
Section 4(f) Resources	No	No	No	No
Net Earthwork (Cut – Fill; cubic yards)	2,357,000	202,912	321,088	-2,035,912
Construction/Right-of-Way/Utility Costs	\$114,027,492 (2003 \$)	\$110,250,000 (2005 \$)	\$213,650,000 (2014 \$)	---



Environmental Impacts	2003 FEIS/ROD	2006 FEIS/ROD Reevaluation	2015 FEIS/ROD Reevaluation	Change from FEIS to Reevaluation 2
NORTHERN SECTION				
Displacements (number)				
Residential	25	23	24	-1
Commercial Structures	0	0	0	---
Agriculture (acres)				
Agricultural Security Areas	49.0	49.0	50.0	+1.0
Productive Farmland	165.6	154.6	105.3	-60.3
Habitat (acres)				
Wetlands (direct & temporary, acres)	2.98	3.05	2.90	-0.08
Forest Land (acres)	181.13	182.01	219.42	+38.29
Old Field (acres)	38.92	34.25	53.04	+14.12
Riverine Floodplain Forest (acres)	5.66	6.23	9.40	+3.74
Waste Sites (number)	0	0	0	---
Surface Water Resources				
Stream Relocations (number)	2	2	1	---
Bridge Crossings (number)	4	4	4	---
Culverts (number)	5	5	1	---
Pipes (number)	*	*	8	
Total Impacts (linear feet)	8,480	9,360	14,216	+5,736
Threatened & Endangered Species	No	No	Yes (NLE Bat)	Yes (NLE Bat)
Historic Properties	No	No	Yes	Yes
Section 4(f) Resources	No	No	Yes	Yes
Net Earthwork (Cut – Fill; cubic yards)	2,108,000	28,602	44,685	-2,063,315
Construction/Right-of-Way/Utility Costs	\$149,742,157 (2003 \$)	\$170,115,794 (2005 \$)	\$329,650,000 (2014 \$)	---

* Number of pipes was not listed as part of preliminary engineering.

3.1 NATURAL ENVIRONMENT

As mentioned in Section 2.2 Design Update/Modifications, the Northern Section has progressed through a significant portion of the final design whereas the Southern Section is in the initial stages of that phase. The following information is presented in more detail for the Northern Section since the design and permitting is advanced. As the Southern Section progresses in the design, the impact and mitigation details will be refined and presented in future reevaluations.

3.1.1 Wetlands

As indicated in Table 5 (Environmental Impact Summary), the total wetland impacts (direct and temporary) associated with the Northern Section have slightly decreased as the design plans have been refined. The total impacts have decreased from 2.98 acres as presented in the 2003 FEIS/ROD to 2.90 acres for the final design as presented in this Reevaluation. The total wetland impacts (direct and temporary) associated with the Southern Section have had a greater decrease, from 4.79 acres presented in the 2003 FEIS/ROD to 3.33 acres for the final design as presented in this Reevaluation.

The construction of the Northern Section of the CSVT project will impact 50 wetlands, totaling 2.90 acres, including permanent direct and temporary encroachments. A breakdown of the impacts by type and county location for the Northern Section is presented in Table 6 (the



impacts are presented by county because the PA DEP Chapter 105 permits have been issued for the individual counties).

**TABLE 6
WETLAND IMPACTS BY COUNTY – NORTHERN SECTION**

COUNTY	WETLAND IMPACTS	
	DIRECT (ACRES)	TEMPORARY (ACRES)
Snyder	0.157	0.0
Union	0.569	0.832
Northumberland	0.997	0.342
Northern Section Total	1.723	1.174

The majority of the impacts occur to small riparian wetlands located along the different stream corridors. Mitigation for both wetland and stream impacts has already been completed for this project (see Section 5.1.3, Wetland Mitigation, for additional information). The permanent direct wetland impacts and associated mitigation requirements are summarized in Table 7.

**TABLE 7
WETLAND PERMANENT IMPACTS AND MITIGATION REQUIREMENTS
NORTHERN SECTION**

WETLAND TYPE	DIRECT PERMANENT IMPACT (ACRES)	MITIGATION (ACRES)
PEM	1.486	1.486
PSS	0.129	0.193
PFO	0.034	0.068
POW	0.075	0.075
TOTAL	1.723	1.821

For temporary wetland impacts, upon the completion of the construction, the wetlands will be returned to pre-construction contour elevation and seeded to promote vegetative growth and sediment stabilization. For the floodplain wetlands that will be encroached during the construction of the river bridge, the existing woody vegetation cover will be cut and timber matting will be installed to allow for construction access through the wetlands during construction. Upon completion of construction the timber matting will be removed and the areas will be returned to pre-construction contour elevations and expected to return to wetland habitat. To account for the impacted woody vegetation associated with the scrub shrub (PSS) and forested (PFO) areas, PennDOT will credit the impacted acreages associated with each type of lost woody vegetation against Vargo Mitigation Site. Therefore, for the following impacts shown in Table 8, an additional 0.448 acre of forested mitigation and 0.465 acre of scrub-shrub mitigation will be credited against the Vargo Mitigation site.



**TABLE 8
WETLAND TEMPORARY IMPACTS TO BE MITIGATED – NORTHERN SECTION**

WETLANDS	VEGETATIVE CLASS	TEMP IMPACT (ACRES)	PFO MITIGATION (ACRES)	PSS MITIGATION (ACRES)
DMG-016	95% PFO/ 5% PEM	0.072	0.068	0.000
AMB-022	100% PFO	0.015	0.015	0.000
DMG-049	100% PFO	0.070	0.070	0.000
AMB-023	40% PEM/ 40% PSS/20% PFO	0.5200	0.104	0.208
AMB-024	50% PSS/50% PFO	0.081	0.041	0.041
AMB-059	100% PFO	0.150	0.150	0.000
PJD-114	100% PSS	0.216	0.000	0.216
Total		1.124	0.448	0.465

Therefore, based on the mitigation requirements for the permanent direct impacts (Table 7) and temporary impacts to the scrub shrub and forested areas along the river floodplain (Table 8), the total mitigation to be credited against the Vargo Mitigation Site is summarized in Table 9.

**TABLE 9
TOTAL WETLAND MITIGATION REQUIRED – NORTHERN SECTION**

WETLAND TYPE	MITIGATION ACREAGE REQUIRED
PFO	0.516
PSS	0.658
PEM	1.486
POW	0.075
TOTAL	2.734

Based on the November 2014 Vargo and Center Sites Mitigation Monitoring Report, the wetland mitigation acreage available for crediting at the Vargo Site is summarized in Table 10.

**TABLE 10
WETLAND MITIGATION AVAILABLE AT VARGO SITE**

WETLAND TYPE	2014 MONITORED ACREAGE
PFO	1.360
PSS	1.140
PEM	12.669
POW	2.299
TOTAL	17.468

Additional information related to the Vargo Mitigation Site is provided in the 2014 Vargo and Center Sites Mitigation Monitoring Report included with the CSVT Northern Section Permit Application Package.



The Southern Section has not advanced through final design. Since the 2009 Design Field View, there have been minor adjustments to the southern section alignment. The updated wetland impacts total 2.16 acres of permanent direct impacts and 1.17 acres of temporary impacts. Further avoidance and minimization measures will be evaluated as part of the final design efforts for the Southern Section. The wetland impacts will be mitigated at the Center Site.

3.1.2 100-Year Floodplains

The project involves the construction of a new crossing over the West Branch of the Susquehanna River as well as a boat launch just upstream from the bridge. A detailed hydraulic analysis was performed for this proposed new bridge since the ROD and FEIS/ROD Reevaluation No. 1. There have been no new changes to the design that affects the findings of this previous analysis.

The site is located in an area where the Federal Emergency Management Agency (FEMA) published a Flood Insurance Study (FIS) and digital Flood Insurance Rate Map (D-FIRM) for Northumberland County on July 16, 2008. For Union County, the county-wide FIS was published on October 16, 2009 and the D-FIRM on September 28, 2007. The proposed structure over West Branch of the Susquehanna River is located in an area studied by detailed methods with published peak flows and base flood (100-year) elevations.

Detailed hydraulic analyses were completed for four bridge superstructure alternatives -- two concrete alternatives, one steel alternative, and one concrete/steel hybrid alternative. The backwater impacts of the hybrid alternative, the steel alternative, and the concrete alternatives were substantially different, with the concrete alternatives having the greatest impact on the 100-year water surface elevation. As a result, the steel and the hybrid alternatives are the two "hydraulically feasible" options due to the minimization of impacts required by FEMA regulations. While both alternatives are "hydraulically feasible", the 22-span hybrid alternative had slightly more impact on water surface elevations than the 15-span steel alternative and was therefore considered the proposed alternative for permitting purposes (as the worst case scenario). This alternative is discussed below.

The proposed crossing includes 22 spans (6 steel spans over the river's main channel and 16 concrete spans in overbanks), that will result in 6 piers in the channel and 11 piers in the floodplain. The 100-year flood event will not impact the proposed low chord or abutments, and the proposed piers are the only bridge components that influence the proposed hydraulics at the crossing site. Additional modifications to be completed within the floodplain include the proposed boat launch on the west bank upstream of the proposed bridge and improvements to Service Road B (Silo Road). At the existing Silo Road and Lees Lane intersection, a cul-de-sac and parking area will be constructed. The boat ramp will extend eastward from the parking area to the edge of the river. The proposed changes to the existing ground elevations due to the new parking area, boat ramp, and Service Road B (Silo Road) were also included in the hydraulic model.

The 22-span bridge will result in a maximum 100-year water level increase of 0.64 feet. The anticipated 100-year flood elevation increases above 0.10 foot will be local around the piers and will not impact the floodplain limits. Furthermore, the hydraulic model shows a localized increase of 0.10 foot immediately upstream of the proposed boat launch. Because the proposed project causes increases in the 100-year flood elevation in the floodway of the West



Branch of the Susquehanna River, the project requires a FEMA Conditional Letter of Map Revision (CLOMR). Existing structures within the area of impact, including one seasonal residence upstream of the boat launch, were acquired through appropriate easements and were removed, as required by FEMA regulations. The CLOMR application was submitted to FEMA on October 14, 2014, with approval anticipated in June 2014.

3.1.3 Streams

As indicated in Table 5 (Environmental Impact Summary), the total stream impacts (direct and temporary) associated with the Northern Section have increased from 8,480 linear feet as presented in the 2003 FEIS/ROD to 14,216 linear feet for the final design as presented in this Reevaluation. This increase of 5,736 feet is primarily associated with the approach in quantifying the impacts associated with the river bridge. The FEIS/ROD assessed the linear feet of impacts to the river by considering the width of the bridge and a buffer length upstream and downstream. During the USACE Section 404 permit application process, the agencies required the linear feet of impacts to the river to be redefined as the width of the river which was determined to be 1,600 feet. This approach was applied to both the quantification of the permanent impacts and the temporary impacts associated with the construction causeway. In addition, the impacts to John Deere Run (CHN-43) were revised (increased) to account for the portion of the channel that remained following the draining of a pond that previously was assessed as an open water wetland. Lastly, the final design plans included additional temporary construction easements that increased the impacts to the streams. The total stream impacts (direct and temporary) associated with the Southern Section have decreased from 16,445 linear feet presented in the 2003 FEIS/ROD to 12,964 linear feet for the final design as presented in this Reevaluation.

The construction of the Northern Section of the CSVT project will impact 14 watercourses (crossings and relocations) and include impacts that total 11,825 linear feet of permanent direct and 2,391 linear feet of temporary encroachments. A breakdown of the impacts by type for the Northern Section is described in Table 11.

**TABLE 11
WATERCOURSE IMPACT SUMMARY – NORTHERN SECTION
(linear feet)**

Watercourse	Direct Permanent	Temporary	Total
Perennial	4,509	2,059	6,568
Intermittent	6,178	332	6,510
Ephemeral	1,138	0	1,138
Total	11,825	2,391	14,216

The majority of the watercourse crossings will occur to small first to third order tributaries. The intent of the designs for the proposed crossings is to maintain the hydrologic patterns for each waterway. There is one large bridge crossing over the West Branch Susquehanna River. The river crossing spans 4,500 feet, supporting 4 lanes of traffic, with 6 piers proposed in the river channel. Each of the proposed watercourse crossings and encroachments are identified in Table 12.



**TABLE 12
WATERCOURSE IMPACTS BY WATERCOURSE – NORTHERN SECTION**

WATERCOURSE IMPACTS (APRIL 29, 2015)					
COUNTY	WATERCOURSE	TYPE (1)	DIRECT IMPACT (LF)	TEMPORARY IMPACT (LF)	MITIGATION (2)
Snyder	CHN-08	3	672	68	
Union	CHN-36 (Mulls Hollow)	1	1,797	163	1,850
Union	CHN-37 (Trib to Mull's Hollow)	3	62	18	
Northumberland	CHN-39 (Ridge Run)	3	935	51	
Northumberland	CHN-40	3	748	70	
Northumberland	CHN-41 (Wooded Run)	1	200	117	
Northumberland	CHN-41A/B (Trib to Wooded Run)	3	328	0	
Northumberland	CHN-42 (Trib to Wooded Run)	3	797	85	
Northumberland	CHN-43 (John Deere Run)	2	820	44	864
Northumberland	CHN-44 (Chillisquaque Creek)	1	92 (3)	135	
Union	CHN-45	3	971	5	
Union	CHN-46	3	1,665	35	
Northumberland	CHN-52	4	1,138	0	
Northumberland	WBSR Channel	1	1,600	1,600 (4)	
	TOTAL		11,825	2,391	2,714

(1) Type 1 – large perennial watercourse, Type 2 – small perennial watercourse, Type 3 – intermittent watercourse, and Type 4 – ephemeral watercourse

(2) Mitigation is required only for those stream impacts associated with permanent enclosures (culverts) or fill encroachments.

(3) 21 feet between spans

(4) The temporary impacts are associated with the 2 half-width causeways to be installed at separate times to construct the river bridge.

Proposed bridges have been designed to avoid and minimize impacts to the following perennial watercourses: West Branch of the Susquehanna River, Chillisquaque Creek, and Wooded Run.

Mitigation for watercourse impacts has already been completed for this project. Mitigation for the watercourse impacts was completed at the Center Site, located in Penn Township, Snyder County. This site was authorized by PA DEP Permit E55-204, with construction having been completed in the Summer of 2007. The watercourse mitigation was reviewed in the field by the

agencies on August 26, 2014 and the watercourse mitigation was approved for the project. (See discussion in Section 5.1.2, Stream Mitigation, of this document.)

The Southern Section has not advanced through final design. Since the 2009 Design Field View, there have been minor adjustments to the Southern Section alignment. The updated impacts for perennial watercourses total 4,302 linear feet of permanent direct impacts and 3,214 linear feet of temporary impacts as summarized in Table 13. Further avoidance and minimization measures will be evaluated as part of the final design efforts for the southern section. The watercourse impacts for the Southern Section have been compensated for through the completion of the stream mitigation at the Center Site.

**TABLE 13
WATERCOURSE IMPACT SUMMARY – SOUTHERN SECTION
(linear feet)**

WATERCOURSE	DIRECT PERMANENT	TEMPORARY	TOTAL
Perennial	4,302	3,214	7,516
Intermittent	2,998	1,222	4,220
Ephemeral	724	504	1,228
Total	8,024	4,940	12,964

The Northern Section impacts include 8 watercourses with intermittent flow, including Channels 8, 37, 39, 40, 41, 42, 45, and 46. The encroachments include pipe and culvert crossings. The impacts for each crossing are identified in Table 12. The pipe crossings are designed to maintain hydrologic flow patterns through the Northern Section.

The Southern Section has not advanced through final design. Since the 2009 Design Field View, there have been minor adjustments to the Southern Section alignment. The updated impacts for intermittent watercourses total 2,998 linear feet of permanent direct impacts and 1,222 linear feet of temporary impacts. Further avoidance and minimization measures will be evaluated as part of the final design efforts for the southern section.

3.1.4 Agricultural Resources

An Agricultural Land Condemnation Approval Board (ALCAB) hearing was held on March 31, 2005, and adjudication was issued on April 22, 2005, approving the DAMA Preferred Alternative in Section 1 and the RC5 in Section 2. The “Adjudication and Order” included the following statement:

“Should conditions with respect to the historical nature of the App farm change from those currently present at any point prior to the construction of the CSVT project, the board encourages PennDOT to reevaluate the area of impact and to revisit the DA Modified Alternative as the preferred Section 1 alternative.”

Subsequent to the 2005 adjudication, the FHWA determined that the Simon P. App farm was not eligible for the *National Register of Historic Places* under the new historic context outlined in the *North and West Branch Susquehanna Diversified Farming Region*. This finding changed the preferred alternative from the DAMA to the DAM Alternative (see discussion in Section 1.2). A second ALCAB hearing was held on May 4, 2006, and the adjudication was issued on May 8,



2006, approving the DAM/RC5 Preferred Alternative. The refinement of the DAM/RC5 Alternatives since the ROD was issued and the 2006 Reevaluation was approved has resulted in minor changes in agricultural resource impacts due to modifications to the footprint associated with local access; stormwater management facilities; utility relocations, etc. The DAM/RC5 Alternative remains the selected alignment and therefore agricultural impacts and mitigation have been documented under the 2006 Farmland Assessment Report (FAR), the subsequent ALCAB hearing and the adjudication and order on May 8, 2006.

No major changes have occurred related to the agricultural operations or project impacts as documented in the FAR and approved by ALCAB. Based on the current design for the Southern Section, the impacts to lands in Agricultural Security Areas have decreased by 18 acres and the impacts to land identified as productive farmland has decreased by approximately 60 acres. Likewise, the final design for the Northern Section indicates a decrease in impacts to productive farmland of approximately 60 acres. However, impacts to farmland in Agricultural Security areas for the Northern Section have stayed about the same. The decrease in impacts to productive farmlands is primarily associated with the design changes that reduced the overall project's limit of disturbances (LOD), including reducing the median width from 90 feet (FEIS impacts) to 60 feet (2006 Reevaluation impacts) to 36 feet (current design) in addition to balancing the earthwork. The FEIS impact numbers also used a "buffer" extending from the proposed cut and fill areas since right-of-way limits were not yet defined. The right-of-way limits are now being established and the LOD is better defined.

3.1.5 Vegetation and Wildlife

Land Cover (Wildlife Habitat)

Land cover within the CSVT LOD was updated, mapped and field verified in Spring/Summer 2014. No major changes were discovered, though certain land cover compartments have evolved over time, resulting in modifications to the overall impact numbers. Current impact numbers also reflect the reductions in impacts associated with a reduced project LOD related to various design changes, including a reduction of the median width from 90 feet (FEIS impacts) to 60 feet (2006 Reevaluation impacts) to 36 feet (current design) in addition to balancing the earthwork. The FEIS impact numbers also used a "buffer" extending from the proposed cut and fill areas since right-of-way limits were not yet defined. The right-of-way limits are now being established and the LOD is better defined. Overall, the total volume of earthwork has been reduced for both the Northern and Southern Sections from the FEIS/ROD by 2,063,315 cubic yards and 2,035,912 cubic yards, respectively.

Changes in land uses of particular concern are described in Section 3.1.1 (wetlands) and Section 3.1.4 (agricultural resources). In addition, the changes in impacts to forest land, old field, and riverine forested areas have been assessed. The impacts to these land cover types have decreased in the Southern Section (see Table 5), similar to the impacts to wetland areas and productive farmland. Any changes in impacts to these land use types will be reassessed as final design proceeds and presented in a future reevaluation.

Some land cover impacts associated with the Northern Section have increased. These include impacts to forested lands and old field areas. The increases in impacts to these land cover compartments are generally related to modifications made to the LOD as a result of refined engineering, including temporary construction access roads, local road and private access road improvements, drainage easements, stormwater management design, etc. Following coordination with the various resource agencies, as described below, it is anticipated that these



impacts can be mitigated through the mitigation requirements to address forested habitat impacts associated with the Indiana bat and the Northern long-eared bat. In addition, the wetland mitigation areas will also provide additional wildlife habitat (particularly old field areas and wetlands) to offset impacts to wildlife habitat.

Threatened and Endangered Species

The CSVT project has been designed to avoid and minimize impacts to threatened and endangered (T&E) species. Agency coordination letters and the subsequent responses (clearance letters and update letters) since the 2006 FEIS/ROD reevaluation have been included in Appendix B. Threatened and/or endangered species clearance coordination remains ongoing, and impacts to the T&E species are anticipated to be avoided and/or mitigated. There are no sanctuaries or refuges in the vicinity of the project area.

Most recently, project coordination letters were submitted to the Pennsylvania Department of Conservation and Natural Resources (DCNR) (Bureau of Forestry), the Pennsylvania Game Commission (PGC), Pennsylvania Fish and Boat Commission (PFBC), and the United States Fish and Wildlife Service (USFWS) in 2013 and 2014. The following potential conflicts were identified by each agency at various points during the project's development and the specific agency coordination is described below:

- PFBC identified a potential concern regarding the Eastern Spadefoot Toad (PA Threatened) and Mussel species of concern;
- USFWS identified potential concerns regarding the Indiana Bat (Federal Endangered) (*Myotis sodalis*) and the Northern Long-eared Bat (Federal Threatened) (*Myotis septentrionalis*);
- PGC identified potential concerns regarding the Bald Eagle and Northern Long-eared Bat; and
- DCNR identified concerns regarding several botanical species.

PFBC Coordination: PennDOT completed a habitat assessment and species surveys for the Eastern Spadefoot Toad in the Summer of 2014. The CSVT project design avoids impacts to the potential Eastern Spadefoot Toad areas and the PFBC provided concurrence on November 24, 2014, in addition to required mitigation measures that were incorporated into the project design. With respect to the concern regarding Mussel species of concern, the Department has implemented the necessary design measures and best management practices for the proposed temporary causeway (required for the construction of the new bridge across the West Branch of the Susquehanna River) to be consistent with the requirements of the USACE Section 404 permit and to obtain the PA DEP Chapter 105 authorization. The Department provided notification to the PFBC on September 11, 2014, that construction would begin in the Fall of 2015 so that mussel salvage and relocation surveys could be scheduled by the PFBC. Commitments will be tracked through the Environmental Commitment Mitigation Tracking Spreadsheets.

USFWS Coordination: Mist net surveys were completed for the project in 2001 (both Northern and Southern Sections) and 2009 (Northern Section only) and no Indiana Bats were captured. The mist net surveys did result in captures of the Northern Long-eared Bat. It is anticipated that



the project will result in the loss of approximately 458 acres of forest habitat. A Biological Assessment (BA) and Conference Report were prepared and submitted (October 2014, considered complete by USFWS in January 2015) to the USFWS to address the potential impacts to the endangered Indiana bat and to the threatened Northern long-eared bat. The BA and Conference Report concluded that the project action may affect - but is not likely to adversely affect - the Federally Endangered Indiana bat and may effect - and is likely to adversely affect - the Federally Threatened Northern Long-eared bat. Since the submission of the Conference Report, the Northern long-eared bat was listed (April 2, 2015, effective May 4, 2015) by the USFWS as threatened under the Endangered Species Act. The Biological Opinion (BO) issued by the USFWS, dated June 11, 2015, concludes that the proposed CSVT project may affect and is not likely to adversely affect Indiana bats and may affect and is likely to adversely affect Northern long-eared bats, but is not likely to jeopardize the continued existence of the species. (Note – The impacts to forest land shown in Table 5 for both the Northern and Southern sections total approximately 395 acres. The 458 acres of impact noted here includes an approximate 15% buffer of the impacted acreage to account for unforeseen contingencies.)

As reported in the CSVT Biological Opinion, the forested habitat in the action area provides roosting and foraging habitat for northern long-eared bats based on the demonstrated presence of the species in the action area during summer mist net surveys and likely use of forest habitats around the two PGC documented hibernacula, Doghty Mine No. 1 and Raccoon Cave. These hibernacula openings are between one and two miles from the proposed alignment and forested habitats surrounding the entrances are likely to support northern long-eared bats throughout the warmer seasons. Northern long-eared bats use a variety of roosts including conifers, structures, and smaller diameter trees (<3 inches diameter at breast height) than do Indiana bats. Numerous riparian corridors, streams and waterways associated with these resources provide potential roosting, foraging, and passage areas in the action area.

FHWA and PennDOT will ensure that Reasonable and Prudent Measures and Terms and Conditions are addressed as stipulated in the Biological Opinion. Commitments made as a result of Section 7 formal consultation will be incorporated into the construction contracts for the project and tracked through the Environmental Commitment Mitigation Tracking Spreadsheets. The BO can be accessed at the following [FHWA Link](#).

PGC Coordination: The PGC identified the potential for impact with the Northern Long-eared Bat. Refer to discussions under USFWS Coordination related to this species

DCNR Coordination: Review coordination with DCNR was conducted in 2001, 2003, 2007, 2009, 2010, 2012, 2013, and 2014. The list of plant species identified as potential species of concern for this project area to date includes the following species.

- Wild Blue Lupine (*Lupinus perennis*), PA Rare
- Shooting Star (*Dodecatheon amethystinum*, syn. *D. radicum*), PA Threatened
- Northern Water Plantain (*Alisma triviale*, syn. *A. plantago-aquatica* var. *americana*), PA Endangered
- Balsam Poplar (*Populus balsamifera*), PA Endangered
- Common Hemicarpha (*Hemicarpha micrantha*), PA Endangered

- Spotted Bee Balm (*Monarda punctata*), PA Endangered
- Eupatorium (*Eupatorium rotundifolium*), Tentatively Undetermined
- Slender Willow (*Salix petiolaris*), Tentatively Undetermined, Proposed Special Protection
- White Water-Crowfoot (*Ranunculus aquatilis* var. *diffusus*, syn. *R. trichophyllus*), PA Rare
- Golden Corydalis (*Corydalis aurea*), currently no Pennsylvania status but is proposed PA Endangered
- Common Shooting Star (*Dodecatheon meadia*), PA Endangered
- Tooth-Cup (*Rotala ramosior*), PA Rare
- False Loosestrife (*Ludwigia polycarpa*), PA Endangered
- River Bulrush (*Schoenoplectus fluviatilis*), PA Rare
- Bull Sedge (*Carex bullata*), PA Endangered
- Scirpus-Like Rush (*Juncus scirpoides*), PA Endangered

The most recent response from DCNR (September 8, 2014) stated that, based on the information submitted concerning the nature of the project, the immediate location, and the botanical surveys completed between 1996 and 2011, and in 2014, the DCNR has determined that no impact is likely.

Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

The USFWS also identified potential concerns regarding compliance with the Migratory Bird Treaty Act (MBTA). To avoid the potential for avian mortality from habitat alteration, the USFWS recommended that all clearing of vegetation for the CSVT project, occur between September 1 and March 31.

PennDOT provided an overview of actions that had been fulfilled with regard to the Migratory Bird Treaty Act during the development of the FEIS. The FEIS provided an analysis of impacts to major forest patch networks associated with the project as well as mitigation actions that are to be undertaken as compensation, including the development of the project's Center and Vargo mitigation sites.

The USFWS and PGC also identified that bald eagles are known to be nesting approximately 1,800 feet north of the northern limit of the CSVT project (these species are also protected under the Bald and Golden Eagle Protection Act). The USFWS requested confirmation that no blasting will occur within a half-mile of this nest. PennDOT confirmed there will be no blasting within a half-mile of the noted nest. In addition, CSVT project activities will not occur within 1,000 feet of any known bald eagle nest; therefore, impacts to bald eagles are not anticipated

from the project. PennDOT has completed yearly nest surveys in the vicinity of the proposed West Branch Susquehanna River bridge crossing (most recent survey completed April 2014). The combined ground and river surveys resulted in the identification of two bald eagle individuals in what appeared to be active nesting behavior. The nest was located on Catbird Island, a distance of approximately 1,800 feet north of the northern limits of the CSVT Project and approximately 8,300 feet upstream of the proposed West Branch Susquehanna River bridge crossing. Given that the identified bald eagle nest is located approximately 8,300 feet, or 1.5 miles, upstream of the CSVT bridge crossing, the proposed project is considered to be compliant with the USFWS National Bald Eagle Management Guidelines, and no impacts to the bald eagle are anticipated. Apart from continued (annual) monitoring of eagle nests in the project area that will be tracked as a mitigation commitment, no further avoidance or minimization measures are proposed by PennDOT at this time.

Wildlife Crossings

Impacts to wildlife corridors were assessed in the FEIS using the assessment of impacts to various landscape features, including impacts to riverine, hedgerow/line, and strip habitat areas. Following the FEIS/ROD, additional investigations into current studies related to wildlife movements and corridors indicate that these studies show that mortality from vehicles is a threat to wildlife populations when population numbers are already low or when vital habitats occur near roadways due to fragmentation. PennDOT recognizes the importance of reducing impacts to wildlife and improving, or at the very least, maintaining habitat connectivity. However, the emphasis on public safety is paramount and cannot be overstated. As a transportation agency, the function of PennDOT is first and foremost to provide a safe and efficient transportation infrastructure for the traveling public.

Planning and designing wildlife crossings typically focuses on a certain species of conservation interest (e.g., threatened or endangered species), a specific species group (e.g., amphibians) or abundant species that pose a threat to motorist safety (e.g., deer). The decision to incorporate wildlife crossings, exclusionary fencing, etc. into the highway design requires the consideration of three factors: public safety, cost factors (e.g., design, construction, and maintenance) and environmental benefits.

With respect to these three factors, the incorporation of wildlife crossings and exclusionary devices into the project design may be prudent when the project is a new roadway or bridge or a new alignment where the centerline deviates from the existing one enough that vertical and horizontal design controls for new construction are used to at least some degree, and all of the following conditions are present:

- Traffic volumes are $\geq 4,000$ ADT and the target species is subject to high mortality when crossing the road (if applicable);
- The project crosses areas where drainage ways are present;
- The project crosses areas that present minimal grade separations requiring little cut or fill to install the crossing;
- Target species have been documented to utilize habitat impacted by the project to fulfill life requisite values;
- The project is within the primary or secondary range of a listed species;

- The project has the potential to inhibit movement of target species between critical life requisite habitats or prohibits movement of target species along documented travel corridors;
- Habitat exists on both sides of the roadway; and
- Public lands or lands under conservation easement are present in sufficient amounts, on both sides of the road, where the crossing will be located in order to ensure future land use is compatible with the target species' needs.

While some of these conditions are associated with the project, the CSVT does not meet all of the referenced components. The Northern Section of the CSVT alignment traverses several different stream valleys including many small tributaries both east and west of the West Branch of the Susquehanna River. The general position of the CSVT crossing locations tend to be perpendicular to the valley slope which minimizes the overall encroachment. Several large bridge crossing structures have been incorporated into the project design throughout the alignment including the crossings at the West Branch of the Susquehanna River, Wooded Run, and Chillisquaque Creek. The bridge crossings maintain openness of the valley corridors to facilitate wildlife movements. Additionally, the bridges are distributed amongst multiple locations along the length of the highway alignment, facilitating the opportunities for wildlife movement.

Bridge structures conveying aquatic resources are frequently used by many groups of wildlife, particularly if riparian habitat or cover is retained within the underpass. These types of crossing structures will typically be utilized by the following wildlife groups:

- Large mammals (Deer, Bear);
- High-mobility medium-sized mammals (Bobcat, Fox, Coyote);
- Low mobility medium-sized mammals (Raccoon, Groundhog);
- Semi-aquatic mammals (Mink, Muskrat);
- Small mammals (Squirrel, Vole);
- Amphibians (Frogs, Salamanders); and
- Reptiles (Snakes, Turtles).

Overall, the project design maintains open stream valleys distributed along the alignment to accommodate wildlife movements throughout the Northern Section.

The Southern Section has not advanced through final design. Since the 2009 Design Field View, there have been minor adjustments to the Southern Section alignment. As part of the design of the Southern Section, there are bridges planned along the alignment that will maintain the openness of the traversed stream corridors and accommodate wildlife movements. Further avoidance and minimization measures will be evaluated as part of the final design efforts for the Southern Section.

Migratory Fishes

Impacts to aquatic resources including migratory fishes and wild trout were discussed in the FEIS under the general discussion of impacts to surface waters. The change in impacts to project area streams is documented in Section 3.1.3. This section addresses additional concerns raised by the USFWS (letter dated July 2, 2013). The USFWS indicated that the project has the potential to affect resident and migratory fishes during their spring runs downstream of the project during the construction phase. In particular, the USFWS recommended that all proposed Susquehanna River structures (temporary and permanent) be designed to maintain year round flow so as not to impact migratory fish passage. The river bridge design and the proposed half-width causeway construction (includes two causeways to be constructed and used at different times so the river flows are completely not obstructed) will ensure that year round flows are maintained. The USFWS also requested that PennDOT coordinate with the USFWS Susquehanna River Coordinator (SRC). The Department coordinated with the USFWS SRC in February of 2014. The SRC requested a description of the proposed bridge construction work and the plans showing the in-river construction. This information was subsequently sent to the SRC and the National Marine Fisheries Services.

3.2 SOCIAL ENVIRONMENT, ECONOMIC, AND LAND USE EFFECTS

3.2.1 Population and Housing

The number of proposed displacements has stayed relatively the same since the 2006 FEIS/ROD Reevaluation No. 1. The current estimated number of displacements in the Southern Section includes 31 residential structures (down from 33 in the 2003 FEIS/ROD and the same as in the 2006 FEIS/ROD Reevaluation) and 1 commercial structure (down from 4 in the 2003 FEIS/ROD and the same as the 2006 FEIS/ROD Reevaluation). These changes are primarily related to the change from the DAMA to the DAM alternative between the 2003 FEIS/ROD and the 2006 Reevaluation. When the DAMA alternative was preferred (2003 FEIS/ROD) it required the full reconstruction of the U.S. Routes 11/15 interchange, whereas the DAM Alternative uses the existing interchange stub. The additional right-of-way that would have been needed to accommodate the new interchange for the DAMA Alternative resulted in an additional 2 residential and 3 commercial structure removals whereas the DAM Alternative would not. The majority of the residential properties (28 of 31) have already been acquired by PennDOT.

The Northern Section will not cause any commercial displacements. Since the 2003 FEIS/ROD, there has been a decrease in the anticipated residential displacements, from 25 to 24. This current impact number includes 3 previously anticipated seasonal residence displacements. Following the Design Field View there was one additional seasonal residence acquisition required to comply with FEMA regulations related to the floodplain impact of the proposed new river bridge. The majority of the residential properties (22 of 24) have already been acquired by PennDOT. Two additional residential displacements (not included in the number above) are anticipated to be required if it is determined that the Interim Connection between the Northern Section and US Route 15 will be constructed, as described in Section 2.2, Design Update/Modification.

Census Data and Environmental Justice Populations

Since the FEIS and subsequent FEIS/ROD Reevaluation No. 1, the 2010 census data were released. This information was reviewed for Northumberland, Union, and Snyder Counties and was compared with the 2000 census data. The following compares the actual population



change between 2000 and 2010 with the FEIS projections (note – the FEIS projections were for the year 2030; therefore, the comparison assumes a straight-line change to calculate the projections for the year 2010).

- Northumberland County population had a negligible 0.03% decrease from 2000 to 2010. Point Township and West Chillisquaque Township experienced a 1.1% and 7.2% decrease, respectively. This compares to a projected 5.7% increase and a 1.2% decrease, respectively, for the same period, as presented in the FEIS.
- Union County population increased by 8.0% from 2000 to 2010, while Union Township experienced an 11.4% increase. This compares to a projected 14.9% increase for the same period as presented in the FEIS.
- Snyder County is showing a 5.7% growth from 2000 to 2010. Monroe Township experienced a 2.9% decrease, while Shamokin Dam Borough experienced a 12.3% increase. This compares to projected 6.7% increase for Monroe Township and a projected 3.1% decrease for Shamokin Dam for the same period in the FEIS.

Overall, the actual population growth in the study area municipalities was less than projected in the FEIS, and two municipalities, Point Township and Monroe Township, that anticipated significant growth actually experienced no growth and lost population, respectively. Only Union Township's actual growth of 11.4% appears to match the projected growth trend of 14.9% for the 10-year period from 2000 to 2010. West Chillisquaque Township was projected to lose population (decrease of 1.2% for the 10-year period) and the actual population did decrease but at a higher rate (7.2%). Shamokin Dam Borough was projected to experience the highest rate of population lost (a decrease of 3.1%) but the actual population data indicate that the Borough experienced an increase of 12.3% during the 10-year period. The lower than expected growths in the townships could be a result of the national economic recession and associated housing market problems that occurred in the second half of the decade. All municipalities experienced major increases (more than double their 2000 rates but still less than county and statewide rates) in the percentage of households receiving public assistance. Only Union Township's assistance rate remained relatively the same. The unexpected population growth in Shamokin Dam Borough could reflect the availability of existing housing during this time when the construction of new housing stalled due to the recession.

Information by state, county, municipality, census tract, and census block group was tabulated to assess the potential for environmental justice populations in the project area and the potential for disproportionately high and adverse impacts to these populations as defined under Executive Order (E.O.) 12898-Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. These data included census information for minority and Hispanic populations and households receiving public assistance. The 2010 data on the number of individuals below the poverty level were also compiled but were only available at the state and county levels. This information is summarized in Table 14.

Overall, while the levels of minority and Hispanic populations in the project area municipalities and individual census tracts and block groups are growing, similar to the state and county levels, they are significantly lower than the state and the county levels with the exception of Shamokin Dam Borough. Shamokin Dam Borough has a slightly higher percentage of minority population than Snyder County as a whole, although at 3.9%, the borough's percentage of

minority population is still substantially lower than the state level of 18.1%. Households receiving public assistance are defined as households where someone living in the household is receiving public assistance including Supplemental Security Income, Veterans' payments, or Temporary Assistance for Needy Families (TANF) (or its predecessor Aid to Families with Dependent Children [AFDC]). These data could indicate lower income households and populations. The 2010 data indicate a substantial increase in the percentage of households receiving public assistance from 2000 to 2010 for all jurisdictional levels. This may be a result of the 2007-2009 recession and/or the increase in the number of veterans receiving assistance. The percentage of households in the project area receiving public assistance appears to be significantly lower than the county and state levels. In addition, no Section 8 housing (federal subsidized housing for very low-income families, the elderly, and the disabled) was identified within the project area.

In summary, there appears to be far fewer minority and lower income populations in the project area municipalities than there are in the counties and state as a whole. These populations may be more concentrated in the urban areas of the counties and state. However, there are known clusters of lower income communities in the municipalities, primarily in the more developed areas of Shamokin Dam Borough and scattered throughout the townships. As documented in the FEIS and FEIS/ROD Reevaluation No. 1, it is again determined that the proposed project and recent design refinements will not have a disproportionately high and adverse impact on any environmental justice population. The proposed alignment of the project has attempted to avoid displacements and impacts to communities, including impacts to community cohesion. While there are some isolated areas of multiple residential displacements associated with the project, these are unavoidable impacts where the new roadway will cross over or connect to local roads. Information on the minority status and income levels of individual displacements is not available but given the proposed roadway design was developed to avoid all communities, the project is in compliance with the Environmental Justice Executive Order. Right-of-way acquisitions are already well underway at this time and displaced residents are being relocated within the community, as desired.



TABLE 14
ENVIRONMENTAL JUSTICE POPULATIONS
(U.S. CENSUS DATA YEAR 1990, 2000, 2010⁽¹⁾ AND 2010 AMERICAN COMMUNITY SURVEY ESTIMATE ⁽²⁾)

CENSUS AREA	TOTAL POPULATION	MINORITY POPULATION (% OF TOTAL)	HISPANIC POPULATION (% OF TOTAL)	TOTAL HOUSEHOLDS	HOUSEHOLDS RECEIVING PUBLIC ASSISTANCE (% OF TOTAL)	INDIVIDUALS BELOW POVERTY LEVEL (% OF TOTAL)
	1990 ⁽¹⁾ 2000 ⁽¹⁾ 2010 ⁽¹⁾	1990 ⁽¹⁾ 2000 ⁽¹⁾ 2010 ⁽²⁾	1990 ⁽¹⁾ 2000 ⁽¹⁾ 2010 ⁽²⁾			
Pennsylvania	11,881,643 12,281,054 12,702,379	1,459,585 (12.3%) 1,796,851 (14.6%) 2,296,091 (18.1%)	232,262 (2.0%) 394,088 (3.2%) 719,660 (5.7%)	N/A 4,777,003 5,018,904	N/A 149,689 (3.1%) 445,506 (8.9%)	N/A 1,304,117 (11.0%) 1,645,067 (13.0%)
Snyder County	36,680 37,546 39,702	420 (1.2%) 778 (2.1%) 1,226 (3.1%)	148 (0.4%) 368 (1.0%) 657 (1.7%)	12,697 13,654 14,750	576 (4.5%) 262 (1.9%) 1,033 (7.0%)	N/A 3,495 (9.9%) 4,909 (12.4%)
Monroe Township	3,881 4,012 3,895	N/A 92 (2.3%) 147 (3.8%)	N/A 21 (0.5%) 54 (1.4%)	1,454 1,633 1,601	N/A 25 (1.5%) 103 (6.4%)	N/A 173 (4.3%) N/A
Shamokin Dam Borough	1,690 1,502 1,686	N/A 31 (2.1%) 66 (3.9%)	N/A 13 (0.9%) 24 (1.4%)	724 688 803	N/A 17 (2.5%) 37 (4.6%)	N/A 125 (8.4%) N/A
Union County	36,176 41,624 44,947	1,800 (5.0%) 4,128 (11.4%) 5,533 (12.3%)	638 (1.8%) 1622 (3.9%) 2,346 (5.2%)	11,614 13,178 14,765	551 (4.7%) 396 (3.0%) 1,215 (8.2%)	N/A 2,910 (8.8%) 4,559 (10.1%)
Union Township	1,300 1,427 1,589	N/A 42 (2.9%) 35 (2.2%)	N/A 2 (0.1%) 10 (0.6%)	484 547 640	N/A 6 (1.1%) 12 (1.9%)	N/A 61 (4.3%) N/A
Northumberland County	96,771 94,556 94,528	1,112 (1.2%) 2,753 (2.9%) 4,372 (4.6%)	532 (0.6%) 1041 (1.1%) 2,253 (2.4 %)	38,78 38,835 45,125	2,741(7.1%) 868 (2.2%) 3,589 (8.0%)	N/A 10,818 (11.9%) 13,576 (14.4%)
Point Township	3,466 3,726 3,685	N/A 54 (1.5%) 102 (2.8%)	N/A 26 (0.7%) 50 (1.4%)	2,939 1,443 1,689	N/A 6 (0.4%) 20 (1.2%)	N/A 187 (5.3%) N/A
West Chillisquaque Township	3,119 2,832 2,627	N/A 49 (1.7%) 65 (2.5%)	N/A 12 (0.4%) 37 (1.4%)	1,202 1,205 1,145	N/A 11 (0.9%) 64 (5.6%)	N/A 252 (8.9%) N/A



CENSUS AREA	TOTAL POPULATION	MINORITY POPULATION (% OF TOTAL)	HISPANIC POPULATION (% OF TOTAL)	TOTAL HOUSEHOLDS	HOUSEHOLDS RECEIVING PUBLIC ASSISTANCE (% OF TOTAL)	INDIVIDUALS BELOW POVERTY LEVEL (% OF TOTAL)
	1990 ⁽¹⁾ 2000 ⁽¹⁾ 2010 ⁽¹⁾	1990 ⁽¹⁾ 2000 ⁽¹⁾ 2010 ⁽²⁾	1990 ⁽¹⁾ 2000 ⁽¹⁾ 2010 ⁽²⁾			
Project Area Census Tracts and Block Groups (2010 Only)						
Snyder County						
CT 701	5581	213 (3.8 %)	78 (1.4%)	2404	146 (6.1%)	N/A
BG 1	777	30 (3.9%)	5 (0.6%)	308	N/A	N/A
BG 2	1419	57 (4.0%)	20 (1.4%)	595	N/A	N/A
BG 3	1158	41 (3.5%)	7 (0.6%)	448	N/A	N/A
BG 5	1075	42 (3.9%)	20 (1.9%)	535	N/A	N/A
BG 6	611	24 (3.9%)	4 (0.7%)	268	N/A	N/A
CT 702	7,820	241 (3.1%)	111 (1.4%)	2,924	108 (3.7%)	N/A
BG 1	3,330	131 (3.9%)	46(1.4%)	824	N/A	N/A
CT 707.01	3,731	216 (5.8%)	143(3.4%)	1,679	134 (8.0%)	N/A
BG 3	1,382	70 (5.1%)	43(3.1%)	598	N/A	N/A
Union County						
CT 904	4101	76 (1.9%)	24 (0.6%)	1543	50 (3.2%)	N/A
BG 2	1499	34 (2.3%)	9 (0.6%)	605	N/A	N/A
Northumberland County						
CT 804	3295	71 (2.2 %)	39 (1.2%)	1410	62 (4.4%)	N/A
BG 1	974	9 (0.9%)	4(0.4%)	388	N/A	N/A
BG 2	1523	45 (3.0%)	28 (1.8%)	651	N/A	N/A
CT 805	3685	102 (1.0%)	50 (1.4%)	1548	41 (2.7%)	N/A
BG 001	1711	80 (4.7%)	26 (1.5%)	726	N/A	N/A



3.2.2 Major Utility Involvement

There is no change in the number of major utility relocations required by the project. There are significant PPL electric transmission line relocations required in each project section. In the Northern Section, PennDOT is acquiring substitute right-of-way for PPL adjacent to the highway alignment from approximately Ridge Road to Chillisquaque Creek (a length of approximately 2 miles). PPL will acquire its own permits for this relocation and the design is underway, with the relocation work anticipated to start in late 2015 and to be completed in advance of PennDOT's construction contract for Earthwork and Non-River Bridges on the Northern Section. There is also substitute right-of-way anticipated to be required for a transmission line in the Southern Section near the intersection of App and Fisher Roads. As the final design progresses on this section, additional coordination will be necessary with PPL, similar to the Northern Section.

Since the FEIS/ROD and FEIS/ROD Reevaluation No. 1, the Federal Energy Regulatory Commission (FERC) has submitted (March 2015) a Notice of Intent to prepare an environmental assessment for the UGI Sunbury Pipeline Project. The project will involve the construction and operation of approximately 34.5 miles of 20-inch-diameter natural gas pipeline and related facilities by UGI Sunbury, LLC in Snyder, Union, Northumberland, Montour, and Lycoming Counties. The pipeline will extend from Lycoming County to a new gas-fired power plant, Hummel Station LLC, that will be constructed at the existing site of the coal-fired Sunbury Generation LP facility near Shamokin Dam. PennDOT is currently in discussions with UGI to assess any direct impacts between the CSVT Project and the proposed pipeline (which is currently planned to cross the proposed PA Route 61 Connector and to be constructed prior to the CSVT Project, starting in 2016) and FERC is aware that the UGI project could impact the CSVT Project. PennDOT plans to participate during FERC's environmental assessment process with the intent to reach an amicable resolution concerning any potential conflicts for the two projects.

Recent coordination has occurred with Aqua America as final design has started in the southern section. Aqua America is a water company providing water locally to approximately 900 customers in the CSVT Project area, serviced by three wells. The current alignment of the DAM Alternative in the southern section will directly impact one of Aqua America's water supply wells. In addition, further study is needed to determine if one of Aqua America's other wells might be indirectly impacted. These studies are ongoing as final design proceeds in the southern section. The results of these studies, including the final impacts and associated mitigation measures, will be presented in future reevaluations.

3.2.3 Waste and Hazardous Materials

An assessment within the current LOD was performed to document if additional waste sites were identified since the FEIS or FEIS/ROD Reevaluation No. 1 was performed. As part of this study, secondary source data were reviewed, including the United States Environmental Protection Agency (US EPA) Envirofacts and Enforcement and Compliance History Online (ECHO) and the PA DEP Environmental Management Assistance Program (Emap) databases. These databases provide information about environmental activities that may affect air, water, and land within the project study area. Following a review of the databases, a "windshield" survey or field assessment was conducted to observe any changes in site conditions from previously identified waste sites and to determine if additional potential waste sites or environmentally sensitive wastes were identified within the project area. As a result of this study, no new or additional waste sites were identified.

The Northern Section will continue to have no impacts to known waste sites and the Southern Section is still anticipated to impact three known waste sites, including the PPL Ash Basin 2, PPL Ash Basin 3, and Tax Parcel No. 12-05-146 (a site of previous dumping and soil contamination), as identified in the FEIS and 2006 FEIS/ROD Reevaluation No. 1. Since the Southern Section alignment will cross PPL Ash Basins 2 and 3, coordination has been ongoing among PA DEP Northcentral Region, PA DEP Dam Safety Division, PA DEP Central Office, PPL, and PennDOT. These discussions are related to the design issues associated with constructing the new highway over the ash basins. Coordination meetings were held on July 1, 2014, and September 12, 2014. Additional coordination will be ongoing as the Southern Section Final Design progresses and any changes in impacts to these sites will be addressed in future reevaluations, as appropriate.

While the impacts to known waste sites have not changed since the last reevaluation, post-FEIS design modifications resulting in the placement of river bridge piers within railroad property and the findings of additional geotechnical investigations associated with Acid Bearing Rock have raised new waste-related issues not previously identified. These are discussed below.

River Bridge Piers within Railroad Property

In addition to the waste sites previously identified in the FEIS, the final design plans for the river bridge have encountered issues associated with railroad property. The river bridge traverses either current or former railroad property on both sides of the river. Bridge piers located in these areas will require excavation of soil. An environmental sampling program was established during the core boring activities at these locations to assess the concentrations of organic and inorganic compounds contained in the soils underlying the footprints of the proposed bridge pier foundations. The work scope followed the PA DEP Management of Fill Policy to evaluate the materials to be excavated beneath the proposed bridge piers and to determine if they could be reused on-site/off-site as fill or are required to be managed/disposed off-site as a regulated waste. The results indicated elevated levels of arsenic above the Clean Fill Concentration Limits though below the Regulated Fill Concentration Limits. The results do not prevent the soil excavated at these locations from being reused on-site to the extent practical.

Acid Bearing Rock (ABR) Issues

The FEIS included discussions on the geological formations that would be impacted by the various alternatives but there was no assessment of potential ABR concerns. Following the 2006 Reevaluation, geotechnical investigations were undertaken followed by Acid Base Accounting (ABA) testing on rock core samples obtained in sampling events conducted in 2006 and 2009. The geotechnical evaluation included the identification of the geologic units and features through a review of existing information and representative sampling and testing procedures. The purpose of the geotechnical evaluation was to document not only the structural stability of the underlying geology but also to identify any potential environmental concerns. Geotechnical evaluation and testing for ABR issues have progressed with the Final Design of the Northern Section and it is anticipated the Final Design of the Southern Section will include comparable analysis.

According to the PA DEP, deposits of ABR with greater than 0.5% Total Sulfur are considered a potential source of acid. In addition, PennDOT's ABR Policy (2009, currently being updated for Geotechnical Engineering Manual, Publication 293) indicates that a negative net neutralization potential can indicate a potential acid producing source. When excavated materials come in



contact with air and water the resultant acid can impact the local surface and groundwater as well as the local soils, if not managed properly.

A review of the Pennsylvania Geologic mapping was completed for the project. Testing of the bedrock encountered along the alignment in the Northern Section was conducted in 2006 and 2010 and identified two areas that have the potential for ABR:

1. Crossing over the West Branch of the Susquehanna River, Stations 907+00 to 956+33; and
2. Northern Cuts Area, Stations 1014 +00 to 1074 +00.

A Pyritic Material Handling Plan (PMHP) has been prepared for the Northern Cuts Area. The potential ABR associated with the new river bridge will be handled with only disposal at an approved landfill via special provision in the construction contract. The following information summarizes the potential ABR that is now reasonably expected to be encountered with the project.

West Branch of the Susquehanna River: The Hamilton Group is mapped under the West Branch of the Susquehanna River and the Trimmers Rock Formation is mapped along its western floodplain. Rock samples were collected and analyzed to determine the ABR potential associated with the River Bridge crossing, Station 907+00 to Station 956+33. Results of the testing indicated that the potential exists for the presence of ABR in significant amounts in the project area to be a concern for the expansion of rock and the development of acid rock drainage upon excavation and exposure to air and water. For this portion of the project alignment, ABR is anticipated to be encountered in foundation excavations from Station 918+15 (SB-9) to Station 954+33 (SB-32) and spoil material generated during foundation excavation between Stations 918+15 and 954+33 should be considered to be potentially acidic and subject to special handling and post excavation treatment. All FEIS alignments studied in detail would cross through the same two formations of concern; therefore this issue would not be avoided if other alignments were pursued. At this time, it is expected that the contractor will dispose of the material off-site at an approved landfill. Special Provisions will be included in the construction contract to ensure the proper handling and disposal of ABR.

Northern Cuts Area: The Northern Cuts Area is located between Wooded Run and Chillisquaque Creek, including Stations 1014+00 to 1074+00. The Tuscarora Formation, the Clinton Group and the undifferentiated Bloomsburg and Mifflintown Formations bedrock formations are mapped within the Northern Cuts Area. According to the PA DCNR Open File Report OFMI-05.-01.1 (Geologic Units Containing Significant Acid Producing Sulfide Minerals), dark shales, sulfide mineralized areas, fractured rock, and rock with little calcareous buffering potential are considered to have the potential to produce acid. The Tuscarora Formation is reported to produce acid elsewhere in Pennsylvania. Significant ABR in the Northern Cuts Area, if any, would most likely result from the presence of veined hydrothermal sulfide mineral deposits. The geologic formations of concern are found in and immediately south of the Montour Ridge area in West Chillisquaque and Point Townships. All Northern Section alignments studied in detail in the FEIS cross through (cut into) this formation to tie into PA Route 147. Therefore, it is believed that similar ABR concerns would occur with all FEIS alternatives studied in detail.

Because there is a potential for the construction of the CSVN Northern Section to encounter ABR material in the area of the Northern Cut Areas, a Pyritic Material Handling Plan has been developed and submitted to PA DEP for concurrence (through the Chapter 105 Permit

Application). The plan addresses the requirements for identifying and testing ABR during construction in addition to specifications for the management and disposal of ABR. Special Provisions for the construction contract are also included. It is anticipated that the ABR excavated in these cut areas will be managed on-site through treatment and encapsulation.

Groundwater and Surface Water Monitoring: The PMHP includes provisions to monitor the ground and surface water within the northern section. A groundwater sampling protocol will be implemented to document baseline conditions pre-construction (6 months prior) as well as during construction and 1-year post construction. All wells within ¼ mile of the northern cuts and potential encapsulation locations will be incorporated into the groundwater monitoring plan. In addition, surface water quality sampling will occur during the same time periods and durations, at locations approved by PA DEP.

3.2.4 Noise

A full reevaluation of noise impacts is being completed for both the Northern and Southern Sections as part of the Final Design phase of the project. This Final Design traffic noise study will completely reevaluate the traffic noise impacts and mitigation according to PennDOT Publication 24, Project Level Highway Traffic Noise Handbook, which is in accordance with FHWA Federal-Aid Policy Guide Title 23 CFR 772. The only noise analysis completed to date for this project was part of the FEIS and it was based on old modeling methodology (STAMINA), old design (proposed profile, cross section have changed significantly to reduce waste) and outdated noise policy. The final design assessment that will be completed for both sections will take into account the current design and the most recent policy, methodology and latest Traffic Noise Model version. The Final Design Noise Analysis is currently underway for the Northern Section.

3.2.5 Indirect and Cumulative Impacts

The recent traffic analysis identified several existing and proposed intersections where there will be failing Levels of Service (LOS) in the future design year. The following intersections are anticipated to operate at LOS F in the year 2044. For the existing intersections, improvements (beyond the construction of the CSVT Project) should be considered for inclusion on future Transportation Improvement Programs. For the proposed intersections, potential design modifications that could improve traffic operations will be considered as final design proceeds.

- US Route 15/Market Street (PA Route 45) (Lewisburg Borough): This intersection currently operates at LOS F and will continue to do so in the future build/no build scenarios. Dual left turn lanes on Market Street should be considered.
- US Route 15/PA Route 192 (Lewisburg Borough): This intersection will operate at LOS F in the future build/no build scenarios. Dual eastbound left turn lanes should be considered at the intersection to provide additional signal green time on US Route 15 mainline.
- King Street (PA Route 147)/Shikellamy Avenue (Sunbury): This intersection will operate at LOS F in the future build/no build scenarios. Intersection reconfiguration and possible dual left turn lanes should be considered.

- Water Street (US Route 11)/King Street (PA Route 147/US Route 11S) (Northumberland): This intersection is constrained geometrically and operates at LOS F currently. It will continue to operate at LOS F in the future build and no-build scenarios. This intersection is currently scheduled for construction improvements in the future and design is underway. Improvements at this intersection will be coordinated with the municipality.
- The CSVT southbound off-ramp at US Route 11/15 near Selinsgrove is indicating operation at LOS F under the current design configuration in 2044 due to the US Route 11/15 northbound through volumes. The off-ramp provides a channelized right turn with acceleration lane south of the proposed intersection and the traffic model shows no anticipated queuing on the ramp or on the proposed CSVT mainline for the 2044 Build Year. Design improvements are currently being investigated by the design team to improve the ramp intersection to an acceptable LOS.
- The PA Route 61 Connector on-ramp at US Route 11/15 south of Veterans Memorial Bridge as currently designed will also operate at LOS F in 2044 due to high through volumes on US Route 11/15, high ramp volumes, and high southbound US Route 11/15 through and right-turn volumes. Additional analysis and design is ongoing to address the poor LOS. One alternative being considered by the design team is a dedicated right turn lane for southbound right turns onto the PA Route 61 Connector on-ramp. This change will improve the intersection to LOS C. No major impacts are anticipated to result from the design change and this will be addressed in the next reevaluation.
- The CSVT northbound on/off-ramps at the Winfield (US Route 15) interchange are currently designed as an unsignalized configuration which requires a westbound right turn acceleration lane for US Route 15 northbound. A westbound right turn acceleration lane addresses the delay and backups in the stop controlled design scenario; the design team is currently evaluating the acceleration lane and other alternatives to ensure acceptable LOS at this location.

In addition, concerns related to traffic growth east of the CSVT along Ridge Road in Point Township have been brought up by residents and township officials. Additional analysis will be performed to determine the estimated future traffic volume on Ridge Road as well as the roadway improvements that are feasible, necessary, and appropriate to safely accommodate the projected volume.

3.2.6 Public Recreational Resources

As documented in the FEIS, the West Branch of the Susquehanna River serves a significant recreation function in the form of public fishing and boating. The river is used all year long for recreational activities, but the peak time for recreational use is when the fabridam is fully inflated. The inflatable dam is located just below the confluence of the West and North Branches of the Susquehanna River, between Shamokin Dam Borough and the city of Sunbury. It extends across the river immediately downstream of the PA Route 61 bridge. The pool of water resulting from the inflation of the fabridam, locally referred to as Lake Augusta (which is

generally inflated from Memorial Day through Labor Day, at a minimum, unless river conditions dictate otherwise), is used for boating, fishing, swimming, and water-skiing.

As reported in the FEIS, construction of any of the proposed Northern Section river crossing alternatives would result in the placement of bridge piers within the defined bed and banks of the river, thus rendering an impact to the recreational use of the river. To mitigate for this recreational impact, PennDOT has agreed, in consultation with PFBC, to construct a new public boat launch as part of the CSVT Project (see Appendix A). Upon completion of the project, the boat launch will be turned over to PFBC to be operated as part of its larger system of river access points. Further, PennDOT will implement a PFBC-approved Aids-to-Navigation (ATON) Plan to ensure the safe passage of boaters and other river users through the project area during construction of the new bridge crossing.

Since the FEIS/ROD and the 2006 FEIS/ROD Reevaluation No. 1, the West Branch of the Susquehanna River has been designated as a State Water Trail by PFBC, a National Recreation Trail by the National Park Service (NPS), and a Connector to the Captain John Smith Chesapeake National Historic Trail also by the NPS. Lastly, the Pennsylvania Department of Conservation and Natural Resources (DCNR) has identified the DCNR-managed islands within the West Branch of the Susquehanna River as public recreational areas. In regard to these federal and state designations, the findings outlined in the FEIS remain unchanged. The river was previously evaluated as a public recreational resource in the FEIS and appropriate mitigation (as noted above) was incorporated into the project. The addition of these federal and state recreational trail designations does not substantively change the recreational impact assessment presented in the FEIS. Despite the fact that the new bridge crossing will introduce visual and auditory impacts to the recreational users of the river, public accessibility to this section of the river is anticipated to be enhanced through the construction of the proposed boat launch. In addition, PennDOT has agreed to place signs on the new highway in each travel direction approaching the bridge, as well as at the proposed boat launch, highlighting the recreational significance of the West Branch of the Susquehanna River. See the Section 4(f) Evaluation section below for more details.

3.3 CULTURAL RESOURCES

3.3.1 Archaeological Resources

As part of the FEIS, a Programmatic Agreement (PA) was executed in 2003. This agreement established the protocol for the remaining archaeological work and was valid for five years. In 2009, an Extension to the Programmatic Agreement was signed. This agreement is valid until 2016. Based on the current construction schedule, it is anticipated that the PA will need to be revisited and extended to the end of construction for the overall project (northern and southern sections).

Consistent with the ROD commitments and the executed PA, Phase I archaeological testing has been conducted for the Archaeological Area of Potential Effect (APE) in both the Southern and Northern Sections. A Phase I/II Archaeological Report was originally submitted to the Pennsylvania State Historic Preservation Officer (PA SHPO) in May 2010. This report indicates that impacts to all identified archaeological sites in the APE will be avoided, and PennDOT received no concerns from the PA SHPO with these findings. As Final Design has progressed, minor changes to the roadway footprint have occurred outside the original APE covered in the 2010 Phase I/II Archaeological report.

Consistent with the terms of the project-specific PA, these areas have undergone additional Phase I archaeological testing and have been included in a 2014 addendum to the Phase I/II Archaeological Report. This report was transmitted to the federally recognized Tribes and to the PA SHPO on January 5, 2015. No new archaeological sites were identified within the modified APE. (Note Tribal Consultation for the project was resumed with a notification on October 16, 2014, that the project had restarted.)

On January 27, 2015, the PA SHPO concurred with the finding of no effect on archaeological resources (see Appendix C). PennDOT also received a response from The Delaware Nation on February 10, 2015, stating that, while the Lenape people occupied this area either prehistorically or historically, the project does not endanger cultural or religious sites of interest to the Delaware Nation and the project should continue as planned. The Nation also noted that if the project inadvertently uncovers an archaeological site or object(s), construction and ground disturbance activities are to be halted and the appropriate state agencies contacted as well as their office. For the Northern Section of the CSVT project, all stipulations of the PA have been successfully fulfilled. As Final Design progresses in the Southern Section, additional addendums may be necessary and will be addressed in subsequent NEPA reevaluations.

3.3.2 Historic Resources

Since the completion of the FEIS and FEIS/ROD Reevaluation No. 1, no new historic resources listed or eligible for listing on the *National Register of Historic Places* have been identified in the project's area of potential effect. However, a previously identified resource, the Sunbury-to-Erie Division of the Pennsylvania Railroad, will now be affected by the foundation of a pier associated with the new river bridge. It was determined that this impact will not adversely affect the property. Therefore, the project continues to have no adverse effects on historical resources (see Appendix C).

Upon reactivation of the project, the APE was reviewed in 2014 for any new potentially eligible historic properties. None was located. Additionally, the APE was reviewed for potential changes in status of resources already deemed eligible for the National Register. In August 2014, abbreviated historic resource survey forms were completed and submitted to the SHPO for nine resources following the reactivation of the project. Eight of the nine forms were for non-eligible resources that had been demolished. The ninth form was for a previously eligible property that no longer had historic integrity, due to a barn being demolished. The PA SHPO concurred (letter dated September 29, 2014) that the property was no longer eligible (see Appendix C).

In 2012, the West Branch of the Susquehanna River was designated by the Secretary of the Interior as a Connector Trail to the Captain John Smith Chesapeake National Historic Trail (CAJO-NHT). The Susquehanna River Trail is a 552-mile system of water trails along the main stem and West Branch of the Susquehanna River in Maryland, Pennsylvania, and New York that at its southern end links directly to the CAJO-NHT. The CAJO-NHT is a unit of the National Park System and subsequently falls under the administrative/management jurisdiction of the Chesapeake Bay Office of the National Park Service (NPS), which is located in Annapolis, Maryland. Locally, the Susquehanna River Connector Trail is managed by the Susquehanna Greenway Partnership in concert with a broad coalition of organizations that serve as local managers for the series of interconnected water trail sections that encompass the total length of the Susquehanna River.

For the purposes of the CSVT Project, PennDOT coordinated the proposed West Branch Susquehanna River Bridge with NPS in an effort to identify potential impacts and concerns. NPS responded by indicating that it treats the Susquehanna River Connector Trail as eligible for the National Register due to its association with the CAJO-NHT. Given the potential implications of this assertion, this issue was coordinated with PA SHPO, which concurred that the West Branch of the Susquehanna River does not qualify as a property for National Register eligibility consideration (see Appendix C). This issue was then elevated to the Keeper of the National Register, which indicated that the West Branch of the Susquehanna River's designation as a Connector Trail to the CAJO-NHT does not equate to an automatic National Register eligibility determination under Section 106. Further, the Keeper indicated that the CAJO-NHT is not a historic unit or area of the National Park System. However, based on additional archaeological information provided by NPS, the Keeper did indicate that the location of the proposed CSVT river bridge may be within the boundaries of an "as-yet-not-fully-defined National Register-eligible archaeological district" (see Appendix C). Following several communications, the FHWA met with representatives from the NPS and Department of the Interior on June 3, 2015 to discuss the CAJO-NHT and the efforts FHWA made to assess the potential for National Register eligibility of the CAJO-NHT or its components. In consultation with the SHPO, the FHWA has reviewed the documentation and information provided by the NPS, assessed the eight features associated with the CAJO-NHT identified by the NPS and determined that there are no National Register eligible resources associated with Captain John Smith in the APE (see June 23, 2015, letter from FHWA to NPS in Appendix C and see the Individual Section 4(f) Evaluation for more complete record of the coordination between PennDOT/FHWA and the NPS regarding this issue).

3.3.3 Programmatic Agreement (PA)

The PA for Section 106 issues was initially signed in October of 2003 and was included in the FEIS. The PA was valid for five years and expired in October of 2008. The FHWA undertook additional coordination with the PA SHPO and the federally recognized tribes to extend the PA, which was Amended and signed by the SHPO in January of 2009 and the FHWA in April of 2009. The expiration date for completing the work discussed in the Amended PA is April 2016. With the successful review of the Phase I/II Archaeological Report (and subsequent addendum), no outstanding actions remain to be completed under the PA at this time. However, the PA is a legally binding document signed by the FHWA, PHMC and PennDOT and it dictates how the Section 106 process will be resolved. The PA will be in effect until April 2016. Prior to April 2016, the PA will need to be revisited since the construction of the CSVT will not be completed. Whatever version of the PA is in effect at the time will expire with the completion of construction.

4.0 SECTION 4(f) EVALUATION

In the FEIS/ROD and in the FEIS/ROD Reevaluation No. 1, no Section 4(f) property was impacted by the project. However, since that time, several state and federal designations with Section 4(f) implications have been assigned to various resources located in the Northern Section of the project. Most notable of these designations are the classification of the West Branch of the Susquehanna River as a State Water Trail by PFBC and as a National Recreation Trail by NPS. These recreational trail designations now warrant Section 4(f) review of the West Branch of the Susquehanna River. Similarly, the publicly owned islands within the West Branch of the Susquehanna River, which are managed by the PA DCNR-Bureau of Forestry, also now qualify for Section 4(f) protection (see Section 3.2.6, Public Recreational Resources). Finally, the Sunbury-to-Erie Division of the Pennsylvania Railroad, which was identified as being eligible for listing in the *National Register of Historic Places* as part of the project's Section 106 Determination of Eligibility studies, now will be impacted by the proposed project because the foundation of a bridge pier will encroach into the property. As such, the CSVT Project is now subject to potential Section 4(f) implications.

The agencies with jurisdiction over these Section 4(f) resources (National Park Service, PFBC, PA DCNR, and PHMC) were provided de minimis impact findings for these resources. Three of the four officials with jurisdiction over the identified Section 4(f) resources have concurred that the CSVT Project will have a de minimis impact on the associated resource. Specifically, concurrence with de minimis impact findings has been secured from PFBC relative to the CSVT Project's impact to the West Branch of the Susquehanna River State Water Trail, from DCNR relative to the CSVT Project's impact to the publicly owned islands within the West Branch of the Susquehanna River, and from the Pennsylvania Historical and Museum Commission (PHMC), acting in its official capacity as the State Historic Preservation Officer, relative to the CSVT Project's impact to the National Register-eligible Sunbury-to-Erie Division of the Pennsylvania Railroad. As such, no further alternatives analysis is required for these resources because de minimis findings were approved for each. Conversely, NPS notified PennDOT and FHWA that it could not concur that the resulting impact on the recreational activities, features, and attributes of the West Branch of the Susquehanna River National Recreation Trail would be de minimis. As a result, an Individual Section 4(f) Evaluation has been prepared for the CSVT project. The Section 4(f) Evaluation prepared for the project focused specifically on the CSVT Project's river crossing's impact to the West Branch of the Susquehanna River National Recreation Trail, which is under the administrative/management jurisdiction of NPS. The Individual Draft Section 4(f) Evaluation documented that there is no feasible and prudent avoidance alternative to using the National Recreation Trail, and that all possible planning and measures to minimize harm have been incorporated into the CSVT Project accordingly. A Draft Section 4(f) Evaluation, dated March 27, 2015, was completed and provided to the Officials with Jurisdiction for review. Mitigation commitments for impacts to the recreational components are documented in the Draft and Final Section 4(f) Evaluations and include the following:

- construction of a new public access boat launch,
- development and installation of signs visible to motorists in each travel direction on the new roadway identifying the Trail, and the
- development and installation of a sign or kiosk (wayside exhibit) at the proposed boat launch highlighting the significance of the river and the Trail.

Legal Sufficiency approval of the Final Section 4(f) Evaluation was received in June 2015 and the Final Section 4(f) Evaluation was provided to the Officials with Jurisdiction.

5.0 MITIGATION UPDATE

A Mitigation Commitment Tracking spreadsheet was prepared as part of the original NEPA Mitigation Report (predates PennDOT's Environmental Commitment and Mitigation Tracking System [ECMTS] procedures as defined in Strike-Off Letter 432-12-06) for the project to continuously track the commitments made and included in the project's FEIS, ROD, permits, and other project authorizations. It is divided into two sheets: one sheet for the Southern Section (Section 1) and one sheet for the Northern Section (Section 2). These documents are provided in Appendix D and include all commitments and mitigation required including items from the NEPA environmental reviews, the Section 4(f) Evaluation, and the Section 404/Chapter 105 permit process. Major mitigation items completed to-date are discussed below.

5.1 NATURAL RESOURCE MITIGATION

The natural resource mitigation commitments related to wetland and stream impacts associated with the construction of the project have been met with the construction of the Center Mitigation Site and the Vargo Mitigation Site, constructed in 2007 and 2004, respectively. PennDOT has been providing regular post-construction monitoring for both sites. Below is a summary of the initial site features and current condition.

The Center Site is a 296-acre property that is controlled by the Snyder County Conservation District and includes features constructed to fulfill the project's wetland, stream, and terrestrial mitigation. The CSVT project's terrestrial mitigation was completed to fulfill a commitment contained in the ROD. The construction of the Center Mitigation Site was completed in 2007 to include a 10.1-acre (7.3 acres of creation and 2.8 acres of enhancement) wetland mitigation area and 6,123 linear feet (LF) of riverine and riparian restoration, including in-stream habitat improvement, channel restoration, and riparian revegetation. Plantings at the site included 535 trees, 2,536 shrubs, and 7,080 live stakes. Wetland mitigation acreage at the Center site was permitted to be advance wetland mitigation for the CSVT project's Southern Section. Stream mitigation at the Center Site was permitted as riverine mitigation for both the Northern and Southern Sections.

The Vargo Site is a 45-acre property jointly administered by the Pennsylvania Game Commission (PGC) and PennDOT. The Vargo Mitigation Site was constructed in 2004 as a 21-acre wetland mitigation area and included 1,000 LF of stream enhancement to Warriors Run. Plantings at the site included 1,510 trees and 1,132 shrubs. The stream enhancement is intended to be mitigation for stream impacts associated with the construction of PA Route 147 improvements (2-on-4 Section). Wetland mitigation acreage at the Vargo site was permitted to be advance wetland mitigation for both the PA Route 147 improvements (2-on-4 Section) and the CSVT project's Northern Section.

5.1.1 2014 Monitoring and Agency Coordination

The Center and Vargo Mitigation Sites were most recently monitored during the spring and summer of 2014. The results and findings of this monitoring were included in the CSVT Project Vargo and Center Mitigation Sites Wetland and Stream Mitigation Monitoring Report (November 24, 2014). A draft of this report was circulated to the permitting agencies (USACE and PA DEP) and resource agencies (US EPA, USFWS, DCNR, PGC, and PFBC) in mid-August 2014. Both the Vargo and Center Site mitigation areas were field viewed by the permit and resource agencies with PennDOT on August 26, 2014. A follow-up mitigation meeting was held with the USACE on September 23, 2014.

5.1.2 Stream Mitigation

Mitigation for the stream impacts was completed at the Center Site, located in Penn Township, Snyder County. This site was authorized by DEP Permit E55-204, with construction completed in the Summer of 2007. Based on 2014 monitoring, the Center Site stream mitigation included the following.

- 6,320 LF of total riparian restoration (USACE permit specified 6,123 LF)
- 2,914 LF of in-stream habitat improvements (USACE permit specified 2,178 LF)
- 9,595 LF of streambank revegetation (USACE permit specified 9,003 LF)

Overall, the riparian corridor within the Center Site Stream Mitigation area is stable and progressing toward a restored wooded riparian zone. Two small erosion areas and a somewhat unstable ford were noted and the USFWS identified small pockets of invasive species during the August 26, 2014, field view.

Based on the recent post-construction monitoring effort and the discussions at the agency field view, it was determined that the **CSVT stream mitigation has been successfully completed**. The PFBC emphatically concluded this at the August 26, 2014, field view meeting. The permitting agencies did not disagree with the PFBC conclusion.

5.1.3 Wetland Mitigation

Compensatory mitigation for the impacts associated with the Northern Section is provided at the Vargo Mitigation Site. This site was permitted under USACE Permit CENAB-OP-RPA 06-00698-12 and is located in Lewis Township, Northumberland County. Construction was completed at this site in Spring of 2004. Compensatory mitigation for the impacts associated with the Southern Section is provided at the Center Site located in Penn Township, Snyder County. This site was authorized by PA DEP Permit E55-204, with construction completed in the Summer of 2007. Table 15 summarizes the findings of the 2014 wetland mitigation monitoring at the Vargo and Center sites and the most current final design impacts associated with the CSVT North and South Sections.

**TABLE 15
CSVT FINAL DESIGN WETLAND MITIGATION SUMMARY**

SOUTHERN SECTION AND CENTER SITE				Wetland Type	NORTHERN SECTION AND VARGO SITE			
Required Mitigation			Available Mitigation		Required Mitigation			Available Mitigation
FEIS/ROD (2003)	404 Permit (2007)	2015*			FEIS/ROD (2003)	404 Permit (2007)	2015	
0.39	0.096	0.19	0.000	PFO	0.52	0.505	0.516	1.360
0.62	0.911	0.47	0.092	PSS	0.72	0.730	0.658	1.140
3.63	2.888	1.50	6.297	PEM	1.19	1.346	1.486	12.669
0.15	0.154	0.00	0.416	POW	0.57	0.574	0.075	2.299
4.79	4.049	2.16	6.805	TOTAL	3.00	3.155	2.734	17.468

* The 2015 numbers for the southern section are based on impacts derived from preliminary design plans (not final required mitigation acreages). As final design proceeds, these numbers will be updated and will be reported in subsequent re-evaluations.



The 2014 monitoring findings determined that the Vargo Site mitigation area possesses enough wetland credits (acreage by type) to mitigate the final design impacts for the Northern Section.

The 2014 monitoring finding determined that the Center Site mitigation area possesses enough wetland acreage to mitigate the final design impacts but does not possess sufficient PFO and PSS credit. Since the USACE has expressed that it is not receptive to allowing mitigation outside of the watershed subbasin where the impacts have occurred (i.e., using the Vargo Site for the shortages at the Center Site), PennDOT is required to address this mitigation shortage by establishing not less than 0.38 acre of PFO and 0.61 acre of additional PSS at the Center Site.

5.1.4 Terrestrial Mitigation

In partial fulfillment with the ROD mitigation requirements, PennDOT constructed 70 acres of grassland area and 82 acres of forested area at the Center Site in conjunction with the wetland and stream mitigation areas. The ROD committed to provide approximately 55 acres of old-field mitigation and 150 acres of forested mitigation. It is expected that the balance of the terrestrial mitigation (approximately 68 acres of forest mitigation) will be completed in conjunction with future bat habitat mitigation resulting from the Endangered Species Act Section 7 consultation process.

The success of the terrestrial mitigation was evaluated as part of the 2014 monitoring (see the CSVT Project Vargo and Center Mitigation Sites Wetland and Stream Mitigation Monitoring Report, November 24, 2014, Appendix I). It was determined that 59.5 acres of the 70 acres of grassland constructed were established (84% success) and 54.1 acres of the 82 acres of forest constructed were established (66% success) at the Center Site. The principal impediments to terrestrial mitigation success can be summarized as follows.

- Heavy browse damage by deer to planted seedlings
- Accidental mowing by the Middle Creek Valley Antique Machinery Association of forest and riparian mitigation areas
- Accidental repurposing of approximately 5 acres of forest mitigation into a cornfield

The deer damage is beyond the direct control of PennDOT; however, they continue to work with the Snyder County Conservation District to promote hunting on the site. PennDOT is currently coordinating with both the Snyder County Conservation District and the Middle Creek Valley Antique Machinery Association to prevent accidental mowing and return the cornfield to a natural state. Protective measures may include fencing and “No-Mow” signage. PennDOT, the Snyder County Conservation District, and the Middle Creek Valley Antique Machinery Association met on-site on September 19, 2014, to begin this process. To date, PennDOT has installed approximately 330 feet of protective fencing along riparian-forested area east of Wetland Mitigation Area 7. Additional coordination will continue.

The success of the terrestrial mitigation was not a condition of the USACE permit because terrestrial mitigation is generally beyond the scope of Section 404 of the Clean Water Act. The USACE did consider the terrestrial mitigation activities proposed at the Center site as enhancements to the stream and wetland mitigation, but did not establish terrestrial mitigation performance standards.

5.2 ENDANGERED SPECIES ACT (SECTION 7 CONSULTATION)

Terms and conditions of mitigation for the project's impact to bat habitat are listed in the Biological Opinion at the following [FHWA Link](#).

5.3 RIVER MITIGATION

Measures to minimize harm to the West Branch of the Susquehanna River have continued to be identified, developed, and incorporated into the CSVT Project to address commitments stated in the FEIS/ROD and to comply with multiple Section 404 permit conditions. Following the identification of the Recommended Alternative in the FEIS, various options were considered for the type and configuration of the proposed river crossing. While non-conventional structure types (e.g., suspension bridges, cable-stayed bridges, etc.) were determined to be cost prohibitive, several different configurations of conventional structures (i.e., beam-type bridges) and the use of both steel and concrete beams were investigated. Based on the various analyses performed, a structure that uses maximum conventional span lengths achievable by the current construction industry is proposed, thus minimizing the number of piers that need to be placed in the river. In addition, the current bridge design is a single structure proposed to carry both directions of traffic (rather than a bridge with two separate structures, one to carry each direction of traffic as proposed in the FEIS), thereby reducing the number of piers required to be placed in the river from 12 to 6 and the associated direct fill encroachment from 12,216 square feet to 10,400 square feet. In addition, the alignment of the river crossing avoids the need to place piers on the large privately owned mid-river island, which is known to contain a previously identified archaeological site.

During the development of the EIS, the PFBC requested the construction of a new boat launch to help mitigate the CSVT project's impacts on the river, specifically, the impact of the new bridge piers on recreation, fishing, and boating. It was proposed as a public facility that would be owned, managed, and maintained by the PFBC after being constructed by PennDOT. The plan is to construct the new boat launch as part of the first construction contract for the Northern Section and on the west bank (at a site known as the Bush site) to expand local public access to the river, including access to popular fishing areas at the northern end of the pool created by the fabridam near Sunbury (known as Lake Augusta). Since 2000, PennDOT has conducted considerable coordination with the PFBC, in addition to more recent outreach with other environmental resource agencies and local public officials, concerning the location and design of this proposed facility.

PennDOT has proceeded with final design and right-of-way acquisition for the proposed boat launch. When the CSVT project was fully restarted in late 2013, PennDOT reinitiated coordination with the PFBC to confirm the PFBC's desire for PennDOT to construct the proposed boat launch and the PFBC's commitment to own, manage, and maintain the facility thereafter. The PFBC has confirmed their commitment to this boat launch in a letter dated April 10, 2014 (see Appendix A).

The extensive public involvement for the project included the creation of a public advisory committee (consisting of community members and public officials) in 2005 to review and comment on context features related to the proposed new river bridge. Multiple meetings of this "Gateway Bridge Committee" were held over several years, and some of the more noteworthy design conclusions that were coordinated with this group include the following.

- A single structure is proposed to carry both directions of traffic (rather than two separate structures, one to carry each direction of traffic), thereby minimizing the number of piers required to be placed in the river.
- For the portion of the bridge over the river, the ratio of the proposed beam spans (which range approximately from 250 feet to 350 feet) to proposed pier heights (which range approximately from 130 feet to 160 feet) varies between 1.6:1 and 2.6:1. Those ratios bracket the value of 2:1 that was identified as desirable or “visually pleasing” by the committee.
- PA HT Barrier (consisting of metal railing on top of a short concrete barrier) is proposed to be installed on both sides of the bridge. This type of barrier offers an enhanced view of the river (from the bridge) and results in a more “slender” profile view of the bridge (from the river or ground below).

5.4 WOODED RUN CROSSING

The crossing over Wooded Run was proposed as a culvert in the FEIS. The Section 404 permit conditions include Special Condition 21 that lists the various streams to be bridged in lieu of a culvert crossing, and Wooded Run and its tributary (Channels 41 and 42, respectively) were included in the list. The proposed CSVT bridge design for the Wooded Run crossing is positioned to cross the valley at the location of the existing PPL electric transmission line. At this location, the CSVT crosses both the mainstem of Wooded Run (Channel 41) and the tributary (Channel 42). The proposed bridge is a three span structure with one pier located to the north of Channel 41 and the other between the two stream channels (Channels 41 and 42). The northern end bridge embankment is positioned close to the mainstem of Wooded Run so as to maximize the span length of the valley but also avoid fill encroachment to the stream (at Channel 41). The span length between the piers is approximately 150 feet. The bridge is approximately 40 feet above the ground/stream elevation and therefore there is a large amount of fill required for the crossing. The fill slope along the southern end of the bridge encroaches upon the tributary to Wooded Run (Channel 42). As such, Channel 42 will be relocated to the north to connect into the mainstem of Wooded Run upstream of the bridge crossing. Additionally, there is a private road that will need to be maintained for access to local residents upstream of the CSVT crossing. The current design provides the best balance between project costs, long term maintenance and environmental impacts. Additionally, the private access road along Wooded Run will also need to be relocated to maintain access under the bridge crossing.

During the permit application review process in 2007 and again at a field view on June 3, 2014, the natural resource agencies expressed concern regarding the stability and viability of the proposed relocation of Channel 42, noting concern for the loss of stream length, creating the opportunity for stream erosion (headcut) and stream instability. This concern was also included in Section 404 Special Permit Condition 21 that required PennDOT to provide additional information related to the need to relocate Channel 42. The original relocation was further evaluated to create a more enhanced stream habitat, including the

- addition of boulder riffles to provide grade stabilization and aquatic habitat;
- mild sinuosity to create lateral pools;
- inclusion of large woody debris embedded within the boulder toe along streambanks to provide overhead cover lateral scour pools;
- creation of floodplain/wetland mosaic areas with planted trees and shrubs and the addition of hydric soil from impacted Exceptional Value riparian wetland (PJD-500); and

- installation of a depressed culvert for private road crossing to maintain aquatic habitat and passage.

Recreating hardened riffles (with a concave cross-section) from somewhat larger streambed material will provide for reliable channel grade stabilization, provide good macroinvertebrate habitat, and will help to ensure prolonged surface water flow in this small first-order channel. It is anticipated that approximately 250 linear of stream channel would be relocated/created. Approximately 650 linear feet of Channel 42 will be filled. The existing stream channel is narrow with limited wetlands along the fringe, the enhanced design would create not only a similar amount of aquatic habitat but with the addition of the floodplain-wetland mosaic, additional habitat areas will be created along the channel to further enhance the overall quality and diversity of the resource. The Channel 42 Stream Relocation Plans are included in the Mitigation Section of the Chapter 105 permit application package.

6.0 CONCLUSION

Based on the information presented in this FEIS/ROD Reevaluation No. 2, it has been determined that the current design, which has advanced to final design beyond the Design Field View (DFV) phase, does not result in any new or additional adverse impacts when compared with the data presented in the FEIS for the Selected Alternative that would rise to the level of significance, therefore a supplemental NEPA document is not warranted at this time.

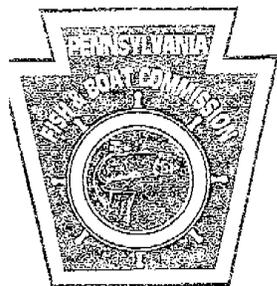
The preliminary design for all sections that has progressed into final design (after the DFV phase) resulted in increases and decreases to overall environmental, cultural, and socioeconomic resource impacts.

Given the context of the project area and resources, and the fact that the current scope of the project and the magnitude of the impacts have not changed meaningfully with respect to the preliminary design of the Selected Alternative, a supplemental EIS is not warranted. General public involvement activities (website, township meetings, etc.) and agency coordination have continued.

The environmental impact changes discussed herein have also been communicated to public officials, with whom the project team meets on a frequent basis. As all sections of the project proceed through final design, right-of-way acquisitions, utility relocation and construction, additional reevaluations will be undertaken. The need for additional written reevaluations will be determined as appropriate. This documentation of NEPA reevaluation is being undertaken consistent with 23 CFR 771.129(c).

APPENDICES

**APPENDIX A -
PFBC CORRESPONDENCE - BOAT LAUNCH**



Pennsylvania Fish & Boat Commission

EXECUTIVE DIRECTOR
P.O. BOX 67000
HARRISBURG, PA 17106-7000
717-705-7801 - 717-705-7802 (FAX)
E-MAIL: JARWAY@PA.GOV

established 1866

April 10, 2014

Ms. Sandra Tosca, P.E.
District Executive
Engineering District 3-0
Pennsylvania Department of Transportation
715 Jordan Avenue, Post Office Box 218
Montoursville, PA 17754

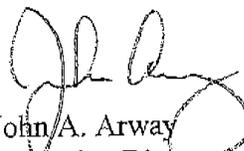
Dear Ms. Tosca:

Thank you for your letter dated March 25, 2014, providing an update on the status of the Central Susquehanna Valley Transportation (CSVT) Project and associated new boat launch facility that is planned for the West Branch of the Susquehanna River in Union County. The Commission remains committed to assisting the Department with this important transportation project.

Please consider this letter as confirmation of the Commission's support for the Department's planned development of the proposed site (known as the Bush Site) as a boat launch facility, and the Commission's interest to own, manage and maintain the facility thereafter. Commission ownership of the site is contingent upon Board approval. Commission staff will continue to coordinate the details of the development with your staff.

If you have any questions regarding this matter, please feel free to contact our director of Boating and Outreach, Ms. Laurel Anders, at 717-705-7849 or landers@pa.gov.

Sincerely,



John A. Arway
Executive Director

cc: Matthew S. Beck, Pennsylvania Department of Transportation
The Honorable Fred Keller, Pennsylvania House of Representatives
The Honorable Gene Yaw, Pennsylvania Senate

**APPENDIX B -
AGENCY CORRESPONDENCE -
THREATENED AND ENDANGERED SPECIES**

2014



COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

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

July 7, 2014

PNDI Large Project Review

Ms. Sandra Basehore
Skelly and Loy, Inc.
449 Eisenhower Blvd. Suite 300
Harrisburg, PA 17111

PNDI Large Project Review

Re: SR 15, Section 88, Central Susquehanna Valley Transportation (CSVT) Project - revised
Snyder, Union, and Northumberland Counties, PA

Dear Ms. Basehore,

Thank you for submitting the SR 15 - Central Susquehanna Valley Transportation (CSVT) Project to the Pennsylvania Natural Diversity Inventory (PNDI) 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 there are no known occurrences of state listed threatened or endangered bird or mammal species associated with your project. However, potential impacts to species of special concern may be associated with your project, and as a result, additional measures are recommended to avoid potential impacts to the species listed below.

Conservation Measure

The following is a mammal species of special concern and not a target species for a survey:

Scientific Name	Common Name
<i>Myotis septentrionalis</i>	Northern Long-eared Bat

However, because of their ecological significance, the following seasonal timber restriction is suggested to avoid potential impacts to roosting and swarming northern long-eared bats within the project area: *All trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off - R.O.W. work spaces) shall be cut between November 1 and March 31.*

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
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

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Pennsylvania Natural Heritage Program

TLM/tlm

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BUREAU OF FORESTRY

September 8, 2014

PNDI Large Project Number: 022364

Sandra K. Basehore
Karen Johnston
Skelly & Loy, Inc.
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302
Email: sbasehore@skellyloy.com, kjohnston@skellylov.com (hard copy not to follow)

Re: S.R. 0015, Section 088, Central Susquehanna Valley Transportation (CSVT) Project (update)
Multiple Townships, Snyder, Union, and Northumberland Counties, PA

Dear Ms. Basehore,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Large Project Number 022364 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 botanical surveys conducted from 1996-2014

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. Botanical surveys were conducted for this project from 1996 – 2011 for seventeen PA Threatened and Endangered, and PA plant species of concern. Again, in 2014, Skelly & Loy conducted five 5 days of botanical surveys in the same areas for all seventeen plant species: 5/13, 14, 15, 20 and 24) for the early season species and 3 additional days in August (8/19 & 28) and September (9/2) for the later blooming plant species of concern. No T & E or PA plant species of concern were found within the project area. Therefore, based on the information you submitted concerning the nature of the project, the botanical survey results from 1996-2014, 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. As a voluntary measure, please clean any construction equipment before it is brought on site; this will remove invasive plant seeds from the equipment that has been picked up from other sites and will help control continued invasive plant spread into adjacent forested and riparian habitats. If revegetating an area, please do not use invasive plants such as crown vetch in a seed mix. For more information, please see <http://www.dcnr.state.pa.us/forestry/plants/invasiveplants/invasiveplanttutorial/invasivercstoration/index.htm>.

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,

Rebecca H. Bowen, Section Chief
Pennsylvania Natural Heritage Program, Bureau of Forestry, Ecological Services Section

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

September 19, 2014

Sandra K. Basehore
Skelly and Loy
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

RE: USFWS Project # 2007-1654

Dear Ms. Basehore:

This is in response to your letter of June 12, 2013, requesting information about fish and wildlife resources within the area affected by the proposed Central Susquehanna Valley Transportation Project (CSVT) located in Snyder, Union, and Northumberland Counties, Pennsylvania. Pennsylvania Department of Transportation (PennDOT) proposes to construct a new 10-mile (Northern Section is about 5.26 miles, and Southern Section is about 4.64 miles), four-lane roadway; rehabilitate existing roadways; realign intersections; construct a new large stream crossing over the West Branch of the Susquehanna River; construct three smaller stream crossings over Ridge Run, Wooded Run, and the Chillisquaque River; and construct four new interchanges. At this time, PennDOT proposes first to advance the Northern Section of the project through final design and permitting (Section 1), then advance the Southern Section (Section 2). PennDOT anticipates completion of the entire project by 2024.

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 (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species, and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d) to ensure the protection of bald and golden eagles, and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) to ensure protection of other fish and wildlife resources.

We have previously written letters on this project dated July 28, 2010, June 8, 2012, and July 2, 2013. (enclosed).

Federally Listed and Proposed Species

Indiana Bat. The project is within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. Land-clearing, especially of forested areas, may adversely affect

Indiana bats by killing, injuring or harassing roosting bats, and by removing or reducing the quality of foraging and roosting habitat.

We understand that the Federal Highway Administration, together with PennDOT, is in the process of developing a Biological Assessment to evaluate the effects of the CSVT project on the Indiana bat under the Section 7(a)(2) process of the Endangered Species Act.

Northern Long-Eared Bat. The northern long-eared bat was proposed for listing as an endangered species on October 2, 2013. No critical habitat has been proposed at this time. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective, the prohibition against jeopardizing its continued existence and "take"¹ applies **regardless of an action's stage of completion**. Therefore, to avoid significant project delays we recommend that the effect of the project on northern long eared bats, and their habitat, be considered during the project planning and design. Additional information about northern long-eared bats, including ecology, habitat descriptions, listing status updates, and possible conservation measures may be found at www.fws.gov/midwest/endangered/mammals/nlba/index.html (click on Northern Long-eared Bat Interim Conference and Planning Guidance). We are available to discuss potential conservation measures specific to your project design.

In the event that the northern long-eared bat is listed before the project has been fully ~~implemented, and if voluntary conservation measures are not adequate to avoid take, additional~~ consultation with us will be necessary. Take incidental to an otherwise lawful activity may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of the project and a listed species will be adversely affected, then initiation of formal consultation between that agency and the Service pursuant to section 7 of the Act is required. Such consultation would result in a biological opinion addressing the anticipated effects of the project on the listed species, and may authorize a limited level of incidental take. If a Federal agency is not involved in the project, and federally listed species may be taken as a result of the project, then an incidental take permit pursuant to section 10(a)(1)(B) of the Act should be obtained. The Service may issue such a permit upon completion of a satisfactory habitat conservation plan for the listed species that would be taken by the project.

We understand that the Biological Assessment currently under development for the CSVT project will include an evaluation on the effects of the project of the Northern long-eared bat, and, pursuant to Section 7(a)(4) of the Endangered Species Act, will serve as a conferencing document for this species and this project.

¹ As defined in the Act, take means "... to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" in the definition of take means an act which kills or injures wildlife. Such act may include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering (50 CFR part 17.3). "Harass" means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

Bald and Golden Eagle Protection Act

Based on the information you provided, a pair of bald eagles was found to be nesting on Catbird Island, about 1,800 feet north of the northern limits of the CSVT project. We understand that Federal Highway Administration and PennDOT, evaluated the project in light of the *National Bald Eagle Management Guidelines*, and PennDOT does not anticipate any impacts to bald eagles. We would appreciate confirmation that this conclusion includes an evaluation of anticipated blasting activities within a half-mile of the nest, as described in our letter of July 2, 2013.

Assessment of Risks to Migratory Birds

Through the NEPA process, Federal Highway Administration and PennDOT evaluated impacts to forest networks. Based on the information provided, it appears that PennDOT is proposing to offset impacts to forested migratory bird habitat at the Selinsgrove Center and Vargo wetland and stream mitigation sites. Please provide mapping of the bank sites, showing the proposed forested areas intended to offset impacts to migratory bird habitat.

Migratory Fishes

Based on the information provided, PennDOT has coordinated with the Susquehanna River Basin Coordinator regarding the seasonal plan for in-stream construction.

Other Fish and Wildlife Resources

PennDOT produced a document in October 2004, entitled *Mitigation Report, Central Susquehanna Valley Transportation Project, S.R. 0015, Section 088, Snyder, Union, and Northumberland Counties, Pennsylvania*, which presents the commitments made during the development of the Environmental Impact Statement (EIS) to mitigate for the anticipated, unavoidable environmental impacts resulting from construction of the proposed project. The mitigation measures presented in the report were to be implemented during the project design, construction, and post-construction phases of the CSVT. Please provide a description of how each commitment element that is included in the report have, or will be, fulfilled. This description should include a time table and status update. We recommend that this information be presented in tabular form (*i.e.*, a matrix) and that this matrix be provided to all permitting and resource agencies.

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

cc:

Corps - Dombroskie

DEP - Starks

PGC - Mowrey, Librandi-Mumma

PFBC - Savage



Pennsylvania Fish & Boat Commission

Division of Environmental Services
Watershed Analysis Section
450 Robinson Lane
Bellefonte, PA 16823

November 24, 2014

IN REPLY REFER TO
SIR# 40845

SKELLY AND LOY
SANDRA BASEHORE
449 EISENHOWER BOULEVARD, SUITE 300
HARRISBURG, Pennsylvania 17111-2302

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
SR 0015, SECTION 088 - CENTRAL SUSQUEHANNA VALLEY TRANSPORTATION
(CSVT) PROJECT
SNYDER, UNION, NORTHUMBERLAND Counties**

Dear SANDRA BASEHORE:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search “potential conflict” or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

After reviewing the habitat assessment for pools 1- 4, the presence / presumed absence survey for pool 4 and the terms agreed to during coordination meetings held on May 14th and September 17th, 2014, it is unlikely the northern section of Central Susquehanna Valley Thruway project will adversely impact the Eastern Spadefoot Toad (*Scaphiopus holbrookii* State Threatened) provided that the following recommendations are adhered to.

- 1.) The storm water management basin which was to be sited in or near pools 1-3 in close proximity to Hidden Paradise Road is moved greater than 300 feet away from any identified suitable habitat.
- 2.) A standard silt fence of at least 18 inches in height or a 24 inch silt sock must be installed as an exclusionary device starting on the southern shoulder of Hidden Paradise Road near the intersection of State Route 147 and continue south paralleling route 147 for approximately 750 feet. This barrier should serve to prevent ingress of Eastern Spadefoot Toads from adjacent suitable habitats (i.e. pools 1 – 3).

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- 3.) The exclusion barrier should be monitored daily and any deficiencies fixed immediately.
- 4.) All construction entrances or interruptions in the exclusion fence should be blocked with hay bales or a suitable gate at the conclusion of each work day.
- 5.) All reptiles and amphibians encountered within the worksite should be photographed and safely moved outside the worksite.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Jordan R. Allison at 814-359-5236 and refer to the SIR # 40845. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Jordan R. Allison
Watershed Analysis Section

JRA/sh

2013



COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

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

May 24, 2013

PNDI Large Project Review

Ms. Sandra Basehore
Skelly and Loy, Inc.
449 Eisenhower Blvd. Suite 300
Harrisburg, PA 17111

PNDI Large Project Review

Re: SR 15 - Central Susquehanna Valley Transportation (CSVT) Project - revised
Snyder, Union, and Northumberland Counties, PA

Dear Ms. Basehore,

Thank you for submitting the SR 15 - Central Susquehanna Valley Transportation (CSVT) Project to the Pennsylvania Natural Diversity Inventory (PNDI) 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 there are bald eagles (*Haliaeetus leucocephalus*) nesting over 1000 feet from the proposed project area however, it has been determined that impacts to bald eagles are not anticipated from the project. However, potential impacts to **species of special concern** are associated with your project, and as a result, additional measures are recommended to avoid potential impacts to the species listed below.

Conservation Measure

Species of special concern northern long-eared bats (*Myotis septentrionalis*) have been documented within the project area. Therefore, the following seasonal restriction is recommended to avoid potential impacts to roosting northern long-eared bats: *All trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off - R.O.W. work spaces) shall be cut between November 1 and March 31.*

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,



Tracy 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



Pennsylvania Natural Heritage Program

TLM/tlm

cc: Robert Anderson, U.S. Fish & Wildlife Service
Zaffuto
Figured
Myers
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Brauning
Gross
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File



BUREAU OF FORESTRY

June 5, 2013

PNDI large project number: 022202

Sandra K. Basehore
Skelly & Loy, Inc.
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302
Email: sbasehore@skellyloy.com (hard copy not to follow)

Re: S.R. 0015, Section 088, Central Susquehanna Valley Transportation (CSVT) Project (update)
Multiple Townships, Snyder, Union, and Northumberland Counties, PA

Dear Ms. Basehore,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Large Project Number **022202** 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 botanical surveys conducted from 1996-2011

PNDI records indicate species or resources under DCNR's jurisdiction 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 botanical surveys conducted from 1996 – 2011, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project. As a voluntary measure, please clean all construction equipment before it is brought on site; this will remove invasive plant seeds from the equipment that has been picked up from other sites and will help control invasive plant spread into adjacent woodland and riparian habitats.

This response represents the most up-to-date review of the PNDI data files and is valid for **two years** only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. For PNDI project updates, please see the PNHP website at www.naturalheritage.state.pa.us for guidance. 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 don't hesitate to contact me at 717.705.2819 or [c: frsechle@pa.gov](mailto:frsechle@pa.gov).

Sincerely,

Frederick C. Sechler, Jr, Ecological Information Specialist
Pennsylvania Natural Heritage Program
Bureau of Forestry, Ecological Services Section

Rebecca H. Bowen, Section Chief
Pennsylvania Natural Heritage Program
Bureau of Forestry, Ecological Services Section

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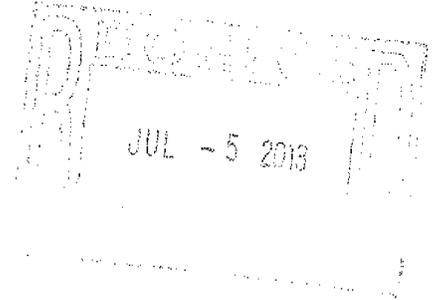


FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

July 2, 2013

Sandra K. Basehore
Skelly and Loy
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

RE: USFWS Project #2007-1654
PNDI Receipt #20120628361443



Dear Ms. Basehore:

This responds to your letter of May 17, 2013, requesting information on fish and wildlife resources within the area affected by the proposed Central Susquehanna Valley Transportation Project (CSVT, S.R. 0015, Section 88), located in Snyder, Union, and Northumberland Counties, Pennsylvania. Pennsylvania Department of Transportation (PennDOT) proposes to construct the CSVT Project, including SR 15, Section 088 from Selinsgrove to Chillisquaque. The project includes the construction of a new 10-mile (Northern Section is about 5.26 miles), four-lane, roadway; roadway rehabilitation; roadway realignments; a new large stream crossing over the West Branch Susquehanna River; three additional smaller stream crossings over Ridge and Wooded Runs and Chillisquaque River; and four new interchanges. At this time, PennDOT proposes to advance the Northern Section of the Project through final design and permitting. Permanent and temporary project impacts to aquatic resources are unquantified at this time.

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 (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species, and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d) to ensure the protection of bald and golden eagles, and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) to ensure protection of other fish and wildlife resources.

We have previously written letters on this project dated July 28, 2010, August 8, 2010, and June 8, 2012 (enclosed).

Federally Listed and Proposed Species

Indiana Bat. The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. The Northern section of the project

area was surveyed for the Indian bat in July 2001, during which Indian bats were not captured. Additionally, because of the lapse in time, and at the request of the Service, subsequent mist net surveys were conducted in during July and August of 2009, to determine whether Indiana bats are present within the project corridor. According to the survey report, 238 bats of five species were captured, but no Indiana bats were found. In addition, a trapping survey was also completed in October 2009, using a harp trap. A total of 46 bats representing two species were captured but no Indiana bats were collected.

In our letters dated July 28, 2010, and June 8, 2012, we concluded that construction of the CSVT – northern section may affect, but is not likely to adversely affect the Indiana bat. Based on the information provided, it appears that there have been minimal changes in the project scope. Therefore, the Service's comments, as detailed in our letter of June 8, 2012, remain unchanged. However, it is important to note that Indian bat survey results typically remain valid for 3 to 5 years, after which time species distributions and abundance may change. Please be advised that you are approaching the end of the validation date for your bat surveys (August 2014).

If the proposed project has not been implemented before the fall 2014, additional review by this office will be necessary, and we may recommend that the results of the former survey be verified using the same sampling methodology to assess what changes may have occurred and to validate the assumption that the Indiana bat is still absent. If the original mist-net surveys did not include all potential habitat in all areas that will be directly or indirectly affected by the proposed project and project-associated features (e.g., waste and borrow areas, cut and fill slopes, access ramps, stormwater features, sedimentation basins, or other features) you may be directed to expand the scope of the survey to include these areas.

Other Bat Species of Concern. The Service and several State wildlife agencies have growing concerns about the status of several bat species in the eastern United States. In particular, cave-hibernating bat species have suffered from substantial population declines (ranging from 41% to 98%) due to white-nose syndrome, an infectious fungal disease (Turner *et al.* 2011). As a result of white-nose syndrome and other threats, the Service has been petitioned to list (as endangered or threatened) the northern long-eared bat (*Myotis septentrionalis*) and eastern small-footed bat (*Myotis leibii*). We are conducting a comprehensive threat and status assessment of these species, as well as the little brown bat (*Myotis lucifugus*) and tri-colored bat (*Perimyotis subflavus*). The results of these status assessments should be available in the fall of 2013.

While most bat species in the eastern United States receive no regulatory protection under the federal Endangered Species Act, the Service strongly encourages federal agencies and other planners to consider them when planning and implementing their projects. Efforts to conserve these species now may preclude the need to list them as endangered or threatened under the Act in the future, and may avoid the need to consult with the Service with regard to these species, should they be listed under the Endangered Species Act.

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 (*i.e.* bird species that spend all or part of their lives in the

United States). 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.

Since the potential exists for avian mortality from habitat destruction and alteration within the project boundaries, we recommend minimizing land and vegetation disturbance during project design and construction. We also suggest keeping new activities constrained to previously disturbed areas wherever possible (*e.g.*, co-locate access roads, equipment staging areas, and so forth with existing roads, utility line rights-of-way, etc.). Finally, due to the difficulty in assessing the entire project site for all bird nests, we recommend that the clearing of natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, fencerows, shrubby areas) be carried out 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 direct take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings).

We recommend that PennDOT develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts on vulnerable wildlife, while enhancing disturbed areas for the benefit of avian species. Further, we recommend that any plan developed, use only plant species that are native to the local area for revegetation of the project area.

Bald and Golden Eagle Protection Act

The bald eagle has been removed from the federal *List of Endangered and Threatened Wildlife*, and is, therefore, no longer protected under the Endangered Species Act. However, it continues to be protected under the Bald and Golden Eagle Protection Act (Eagle Act). The Eagle Act protects bald eagles by prohibiting killing, selling, disturbing, or otherwise harming eagles, their nests or eggs. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

During the breeding season, bald eagles are sensitive to a variety of human activities. In general, the *National Bald Eagle Management Guidelines (Guidelines)* recommend that activities should be kept as far away from nest trees as possible; loud and disruptive activities should be conducted when eagles are not nesting; and activity between the nest and the nearest foraging area should be minimized.

Bald eagles are known to nest in the vicinity of the project area, with two nests being located within about 1,300 feet of the project site. Consequently, we recommend that you evaluate the project type, size, location and layout in light of the *Guidelines* to determine whether or not bald eagles might be disturbed as a direct or indirect result of this project. For instance, the *Guidelines* recommend avoiding blasting and other activities that produce extremely loud noises within 1/2 mile of active nests, unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the nesting area. If it appears that disturbance may occur, we

recommend that you consider modifying your project consistent with the *Guidelines* or pursue a disturbance permit. These guidelines, as well as general eagle information, are available at <http://www.fws.gov/northeast/ecologicalservices/eagle.html>. For more information regarding eagle permits, please contact Sarah Nystrom, Regional Bald and Golden Eagle Coordinator at Sarah_Nystrom@fws.gov or 413 253-8592.

Additionally, although the bald eagle is not listed as endangered or threatened at the federal level, the bald eagle is a Pennsylvania State-listed threatened species and therefore, it is protected under the Game and Wildlife Code. Hence, we recommend that you contact the Pennsylvania Game Commission Headquarters Office at 717-787-4250 prior to commencement of work.

Migratory Fishes

Fish passage, especially in relation to shad restoration, remains a primary concern for the proposed bridge over the Susquehanna River. Over the past 40 years, State and Federal resource agencies, utilities, and citizen interest groups have committed over \$75 million and many man-hours to rebuilding fish populations in the Susquehanna River and constructing fish passage at the four most downstream dams. The shad restoration program goal is to reestablish an annual spawning population of 2 million American shad (*Alosa sapidissima*) and 20 million river herring by 2025 (USFWS 2005).

We note that currently the Sunbury Fabridam, when inflated, is a barrier to upstream migration of migratory fish, including American shad, hickory shad (*Alosa mediocris*), blueback herring (*Alosa aestivalis*), American eels (*Anguilla rostrata*), and resident fish. However, the PA Department of Conservation and Natural Resources has developed designs, and plans to construct upstream fishways at both ends of the Sunbury Fabridam, an action we strongly support. We recommend that PennDOT design all structures (including causeways, bridge piers, scour protection, and other instream obstructions) in a manner that is mindful of maintaining year-round fish passage, and will allow up-and downstream movements for future generations of fish (including both shad and resident fish) within the Susquehanna River.

The project has the potential to affect resident and migratory fishes during their spring runs downstream of the project in the construction phase of the bridge. We request that you coordinate with the Service's Susquehanna River Coordinator (Sheila Eyler – sheila_eyler@fws.gov) or the Susquehanna River Anadromous Fish Restoration Cooperative (Joshua Tryninewski - jtryninews@pa.gov) for guidance on construction timing and sequencing that would be protective of these important fish resources.

Causeway construction

If the use of conventional causeway construction cannot be avoided, PennDOT should follow the following recommendations and guidelines:

- Use causeway construction methods and specifications that are, at a minimum, consistent with the PennDOT's revised specifications for causeway construction on the

Susquehanna River (Market Street Bridge Replacement, permit No. CENAB-OP-RPA 03-01302-12).

- Use “clean” quarry rock (*i.e.*, cut from cleaner vanes in quarry sections, which contain minimal “mudcutter” seams and debris) to construct the causeway.
- Construct the causeway using either limestone or sandstone. Siltstone should not be included.
- Do not line the beds of hauling trucks with sub-base or other fine materials (for bed protection). Contractors should use wood or other materials that do not cause contamination of the River.
- Use one foot of “clean,” R3 (minimum) quarry rock for the roadway riding surface to “choke” the surface of the R8 rock (gradations defined by Penn DOT publication 408, Section 850).
- Use “new” quarry rock. Rock once used for the causeway, should not be reused.
- Contractors should not refuel equipment on the causeways (remove vehicles to a contained area).
- Contractors should contact the U.S. Coast Guard at 1-800-424-8802 immediately if oil or oil-based products are spilled into the Susquehanna River.
- All temporary causeways and access roads should be removed and restored to original streambed or grade elevations upon completion of the project.

To further reduce adverse effects on the Susquehanna River that might be caused by the causeway installation, we recommend the use of best management practices when conducting in-stream construction, including working during periods of low flow, using sedimentation and erosion controls, and expediting all restoration efforts directly after construction to reduce sedimentation and erosion run-off into aquatic resources downstream. All rock materials used for new construction should be stockpiled on a “clean” surface (*i.e.*, gravel) prior to use, to minimize incidental conveyance of fines. All excavated materials from any earthmoving activities at the project’s completion should be removed to a predetermined upland site and precluded from re-entry into any aquatic resource. Any vegetation in impacted riparian areas should be re-established to pre-project conditions by using plant species that are native to the local area. Exotic, non-native plantings should not be used.

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 these comments, please contact Jennifer Kagel of my staff at 814-234-4090.

Sincerely,



Lora L. Zimmerman
Field Office Supervisor

Reference

Turner, G. G., D. M. Reeder, and J. T. H. Colcman. 2011. A five-year assessment of mortality and geographic spread of white-nose syndrome in North American bats and a look to the future. *Bat Research News* 52(2): 13-27.

U.S. Fish and Wildlife Service. 2005. Fact Sheet, *Susquehanna River Coordinator*. U.S. Fish and Wildlife Service, 1800/344-WILD, <http://www.fws.gov>.

cc:

Tracey Librandi-Mumma
PA Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

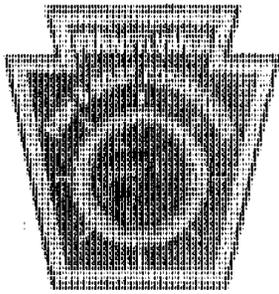
Bill Savage
PA Fish & Boat Commission
450 Robinson Lane
Bellefonte, PA 16823

Erin Gocek/Jake Carson
PA Department of Environmental Protection
Northcentral Regional Office
208 West Third Street
Williamsport, PA 17701

Michael Dombroskie
U.S. Army Corps of Engineers
Baltimore District
1623 Atherton Street, Suite 101
State College, PA 16801

Sheila Eyster
U.S. Fish and Wildlife Service
Susquehanna River Coordinator
177 Admiral Cochrane Drive
Annapolis, MD 21401

SRAFRC
c/o Joshua D. Tryniewski
Pennsylvania Fish & Boat Commission
1735 Shiloh Rd.
State College, PA 16801

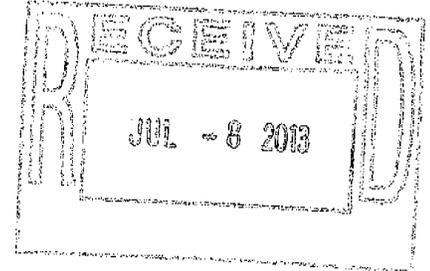


established 1866

Pennsylvania Fish & Boat Commission

Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823-9620
(814) 359-5145

July 3, 2013



IN REPLY REFER TO:

SIR# 40845

UPDATE TO SIR #38846

SKELLY AND LOY
SANDRA BASEHORE
449 EISENHOWER BOULEVARD, SUITE 300
HARRISBURG, PA 17111-2302

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
SR 0015, SECTION 088 - CENTRAL SUSQUEHANNA VALLEY TRANSPORTATION PROJECT
SNYDER, UNION, AND NORTHUMBERLAND Counties, Pennsylvania**

Dear Ms. Basehore:

I have examined the map accompanying your recent correspondence which shows the location for the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, the state endangered eastern spadefoot toad (*Scaphiopus h. holbrookii*) and two mussel species of concern, the yellow lampmussel (*Lampsilis cariosa*) and green floater (*Lasmigona subviridis*), are known from the vicinity of the project area.

The eastern spadefoot toad is an elusive toad species with a rather unusual life history. This toad species prefers sandy or other soft loamy, pliable soils that it uses for burrowing. Unlike the American toad (*Bufo americanus*) and Fowler's toad (*Bufo woodhousii fowleri*), the spadefoot toad is a sporadic breeder, breeding in temporary pools only when the proper environmental conditions develop (steep barometric drops accompanied by heavy rainfall). Breeding may span several years (up to six) before the proper conditions take place. Eggs hatch in as little as two days and tadpole larvae may fully metamorphose within two weeks.

A conference call was held on June 5, 2013 (meeting minutes attached) to discuss the project status and to determine the best approach in moving forward to resolve this conflict for the Northern Section of the proposed project. Based on the conference call, PennDOT Engineering District 3-0 will contract services to first conduct studies to evaluate spadefoot habitat for the entire Northern Section. Pending review of the habitat assessment evaluation and assuming that suitable habitat exists within the project corridor, species presence/absence surveys would then be necessary to evaluate potential impacts associated with the project.

Regarding the Southern Section and its proximity to a nearby extant population of the eastern spadefoot toad, we will need more information to help us continue with our review. Items such as color photographs of the project area highlighting any wetlands, vernal pools, or other waterbodies (keyed to a site map), detailed project plans, a wetland report, aerial photographs, and a description of the onsite soils would help us to continue with the review process. Based on evaluation of these additional materials, further surveys for the species of concern may be warranted, similar to the Northern Section.

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To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

With regard to the mussel species listed above, we are concerned about the direct and indirect impacts of any in-stream construction activities associated with the proposed project. Placement of temporary or permanent in-stream structures such as causeways, cofferdams, bridge piers, or rock for scour protection have the potential to adversely impact mussels through direct crushing, burial, sedimentation, induced scour, modified flow hydraulics, and other means of degrading the existing habitat. Mussels are also vulnerable to various types of water pollution. The downstream effects of siltation and other water quality degradation such as accidental fuel or chemical spills resulting from the proposed project could adversely impact these species.

Strict adherence to an approved Erosion and Sedimentation Pollution Control Plan and implementation of best management practices will minimize potential adverse impacts to the species of concern. We also request that any fuel storage tanks and equipment refueling operations be located in such a manner as to avoid accidental spills from occurring in any streams, wetlands, or drainage ways.

The proposed bridge over the West Branch Susquehanna River is a multi-span structure and project plans include the use of cofferdams and causeways for bridge construction. We request that construction of the temporary causeways be done using partial-width construction methods to retain open flow within a portion of the river channel at all times throughout construction of the new bridge.

In an effort to avoid adverse impacts to mussel species of concern, staff biologists of the Pennsylvania Fish and Boat Commission may conduct a mussel salvage within the proposed direct impact area. If such a survey is performed, live individuals of rare species found within the study area will be relocated to appropriate habitat upstream of the project site. We request that PennDOT Engineering District 3-0 notify this office nine (9) months prior to construction so that we will have enough lead time to possibly perform on-site surveys and mussel translocations in the area of disturbance during suitable conditions if our work schedule allows. The notification can be in the form of an email to this office and should include the project start date, a plan sheet showing the area to be impacted, description of the waterway in the disturbance area (i.e. depths, substrate, etc.), photos, and a detailed description of the proposed work activities and sequencing.

If you have any questions regarding this response, please contact this office at the above number or via email at wisavage@pa.gov and refer to the SIR number at the top of this letter. Thank you for your cooperation in this matter of endangered species conservation.

Sincerely,



Bill Savage
Watershed Analysis Section

Attachment

c: Steven Boughter, Chris Urban - PFBC
Erin Gocek - DEP NCRO
Ray Kennedy - PADOT 3-0



CSVT EASTERN SPADEFOOT TOAD (EST) COORDINATION

SKELLY AND LOY MEETING MINUTES JUNE 5, 2013 9:00AM

Meeting Attendees:

Tom Shervinskie, PA Fish and Boat Commission
Chris Urban, PA Fish and Boat Commission
Bill Savage, PA Fish and Boat Commission
Matt Beck, PennDOT, District 3-0
Ray Kennedy, PennDOT District 3-0
Kyle Bunce, PennDOT, District 3-0
Andy Brookens, Skelly and Loy
Sandy Basehore – Skelly and Loy

I. Introduction/Project Status

- A. Ray Kennedy began the conference call with introductions of all in attendance and clarified that the purpose of the meeting was to discuss the status of the Eastern Spadefoot Toad (EST), and the potential impact of the Central Susquehanna Valley Transportation (CSVT) Project on the species. Matt Beck gave an overview of the project, both the Northern and Southern Sections. Matt also explained the schedule for the project, noting that at this time, only the Northern Section of the project is in Final Design. Matt also reviewed PennDOT's intent to assemble the PA DEP Chapter 105 permit application package throughout the fall 2013 and submit the package for the Northern Section to the PA DEP in the spring of 2014. The ultimate goal is to let the first construction section of the CSVT Project, which would be the river bridge section over the West Branch Susquehanna River, as a design/build project in the spring of 2015. Sandy Basehore discussed that the last outreach to the PA Fish and Boat Commission on the CSVT Project was via a letter dated May 23, 2012, requesting a T&E update. The study team subsequently received a response letter from the PFBC dated June 25, 2012. The June 2012 letter discussed the proximity of the project to a nearby extant population of EST and requested additional information including color photos of the project area highlighting wetlands, vernal pools and other waterbodies, detailed project plans, a wetland report, aerial photos, and a description of onsite soils. Skelly and Loy acknowledged that they had not returned the materials to the PFBC as requested in 2012, but had done so in May of 2013. The purpose of this call was to follow up on the submitted materials, address the questions of the PFBC related to the project, and have the PFBC provide direction related to future work for the EST.



- B. PFBC noted that the EST has been located in Montandon, just north of the northern terminus of the CSVT project with State Route 147. There are also other records of the species near the study area on the east side of the West Branch Susquehanna River, as well as, on the western side of the river. Populations of EST have been recorded as far south as Selinsgrove, so the species may be present on both the eastern and western sides of the West Branch Susquehanna River and therefore within both the Northern and Southern sections of the CSVT project.

II. Approach to the Species

- A. The PFBC confirmed that the first order of business with respect to the EST is to review the study area for appropriate supporting habitat. If appropriate habitat is present, then a species presence/absence survey may need to be completed. Ray Kennedy asked if Andy Brookens with Skelly and Loy would be able to complete the habitat survey as the first step. Chris Urban responded that he did not believe Andy was qualified to complete this survey. Andy noted that he had completed habitat surveys in the past for the EST and they had been accepted by the PFBC. Chris acknowledged that this had occurred, but noted that due to the large and sensitive population of this species located in such close proximity to the project area, his preference was to have a surveyor qualified to review both the habitat conditions, and complete the species presence/absence surveys of the project area if necessary. The qualifications required by the PFBC to conduct habitat assessments and species presence/absence surveys are the same. Brandon Ruhe, with Ecological Associates, was noted as being the only qualified surveyor on the PFBC list at this time. Sandy Basehore noted that Brandon was a subconsultant to Skelly and Loy on a District 3-0 Environmental Open End Contract, thereby providing a vehicle through which to have Brandon complete this work.
- B. Through further conversation with the PFBC, the decision was made to reach out to Brandon and ask him to provide a technical and cost proposal to complete a habitat assessment of the CSVT Northern Section project area for conditions conducive to supporting populations of EST. If appropriate habitat exists, the findings would be reviewed with the PFBC in order to initiate discussions on the execution of appropriate species presence/absence surveys. The PFBC committed to providing comments on the findings of the habitat assessment work within a two-week period. The PFBC noted that there were records of the species on both sides of the river proximate to both the Northern and Southern Project sections and suggested that both sections of the project area be surveyed at the same time. PennDOT noted that only the Northern Section was moving at this time and preferred to keep the survey to the Northern Section only, recognizing that the Southern Section will also have to be surveyed at



some other point in the future. Time constraints were discussed. The PFBC noted that there is no specific timeframe when habitat assessments must be completed, however they did note that the seasonal period between June and October is typically optimal for presence/absence surveys. Neither habitat assessments, nor presence/absence surveys should be completed when snow is on the ground. If the habitat is present and a species survey follows, PennDOT questioned how long the survey results are good for. The PFBC responded that the survey results would be good for 3-5 years depending on how close the actual recorded presence of the species is to the project area.

- C. Skelly and Loy inquired whether avoidance and minimization best management practices could be employed during the CSVT project construction as an alternate to conducting presence/absence surveys. Avoidance and minimization measures with oversight by a qualified species surveyor, Brandon Ruhe, are presently being applied during the construction of the District 3-0 SR 405 bridge replacement project near the CSVT project area. The PFBC responded that avoidance and minimization measures have been used on transportation projects, however, a decision on their applicability to the CSVT project could not be made until the results of the habitat assessment on the Northern Section are gathered and discussed.

III. Follow Up Items

- The PFBC will provide an updated response letter for 2013 in regards to the PNDI coordination for the entire project (i.e., both the Northern Section and the Southern Section).
- Skelly and Loy will coordinate with Brandon Ruhe and get a technical and price proposal from him to perform a habitat survey followed by a potential species presence/absence survey for the EST.
- Skelly and Loy will complete meeting minutes of the phone call and provide them to the PFBC as a record of future EST studies for the CSVT project.

2012



pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

SRB
KUTS

BUREAU OF FORESTRY

May 31, 2012

PNDI Number: 021857

Karen M. Johnston
Skolly & Loy, Inc.
Fax 717-232-1799

Re: SR 0015-008 Section 2 CSVT
Multiple Townships, Snyder, Union, and Northumberland Counties

Dear Ms. Johnston,

Thank you for the submission of your field survey for Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 021857 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 (no new plant species of concern)

PNDI records indicated 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 survey report received by this office 10/5/10, and no new plant species of concern found, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project. As a voluntary measure, please clean all 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 undercarriage of the vehicles that have been picked up from other sites and will help control invasive plant spread into nearby forest and streamside habitats.

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year 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 an additional year.

This finding applies to impacts to DCNR only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure the U.S. Fish and Wildlife Service, PA Game Commission, and the Pennsylvania 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,

Frederick Sechler, Jr., Environmental Review Specialist FOR Chris Firestone, Wild Plant Program Mgr.
Ph: 717-705-2819 - f-sechler@pa.gov

SKB

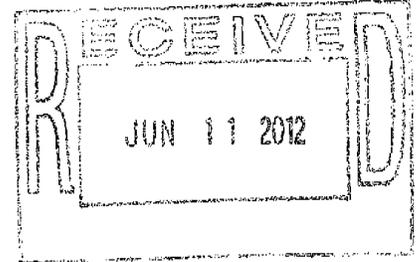


United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

June 8, 2012



Karen Johnston
Skelly and Loy
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

RE: USFWS Project #2007-1654

Dear Ms. Johnston:

This responds to your letter of May 23, 2012, requesting updated information about federally listed and proposed, endangered and threatened species within the area affected by the proposed Central Susquehanna Valley Transportation Project (S.R. 0015, Section 88), located in Snyder, Union and Northumberland Counties, Pennsylvania.

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 (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species, and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d) to ensure the protection of bald and golden eagles. We have previously written letters on this project dated July 28, 2010, and August 4, 2010 (enclosed).

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. You conducted mist net surveys in May, 2010, to determine whether Indiana bats are present within the project corridor, and according to the survey report, 238 bats of five species were captured, but no Indiana bats were found. In addition, a trapping survey was also completed, using a harp trap. A total of 46 bats representing two species were captured but no Indiana bats were collected. In our letter dated July 28, 2010, we concluded that construction of the CSVT – northern section may affect, but is not likely to adversely affect the Indiana bat.

Based on the information provided, it appears that there have been no changes in the project or on-site biological information. Therefore, the Service's comments, as detailed in our letter of July 28, 2010, remain unchanged.

This determination is valid for two years from the date of this letter. If the proposed project has not been fully implemented prior to this, an additional review by this office will be necessary. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

If the mist-net survey did not include all potential habitat in all areas that will be directly or indirectly affected by the proposed project and project-associated features (e.g., waste and borrow areas, cut and fill slopes, access ramps, stormwater features, sedimentation basins, or other features) expand the scope of the survey to include these areas. Submit the results of any expanded mist-net investigation to our office for review so that we can confirm whether the above determination is still valid.

ASSESSMENT OF RISKS TO MIGRATORY BIRDS

The potential exists for avian mortality from habitat destruction and alternation 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 recommend minimization of land and vegetation disturbance during project design and construction. Keep new activities constrained to previously disturbed areas wherever possible (e.g., road and utility line rights-of-way, agricultural fields, previously mined areas, etc.). Additionally, we recommend that the clearing of natural or semi-natural habitats (e.g., forests, woodlots, reverting fields, fencerows, shrubby areas) be carried out between September 1 and March 31, which is outside the nesting season for most native bird species.

Our letter of July 28, 2010 detailed recommendations to avoid and minimize impacts to migratory birds within and around the project area. Again, you should include these avoidances when planning your project, as they are still valid. Our comments from July 28, 2010, remain unchanged.

BALD EAGLE

The bald eagle has been removed from the federal *List of Endangered and Threatened Wildlife*, and is therefore no longer protected under the Endangered Species Act. However, it continues to be protected under the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA), as well as receiving protection from the Commonwealth of Pennsylvania as a State threatened species. State and Federal regulations protect bald eagles by prohibiting killing; selling; or otherwise harming or disturbing eagles, their nests, or eggs. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

On June 4, 2007, the Service released several important documents related to the protection of bald eagles under the Eagle Act, including 1) a final rule establishing a regulatory definition of "disturb"; 2) a final environmental assessment of the "disturb" regulation; and 3) *National Bald*

Eagle Management Guidelines. On September 11, 2009, the Service released a final rule establishing a permit for the take of bald and golden eagles. The proposed rule establishes regulations for issuing permits to take bald and golden eagles where the take is associated with, and not the purpose of, otherwise lawful activities. A second permit type provides for take of bald and golden eagle nests for safety emergencies (of humans or eagles) or for when a nest renders a human-engineered structure inoperable. All of these documents can be found at <http://www.fws.gov/migratorybirds/baldeagle.htm>.

Two bald eagle nests are located directly within your project boundaries. Additionally, one nest is located less than 0.5 miles to the southeast of the project area. Consequently, we recommend that you carefully evaluate the project type, size, location and layout in light of the *National Bald Eagle Management Guidelines* to determine whether or not bald eagles might be disturbed as a direct or indirect result of this project. If it appears that disturbance may occur, we recommend that you consider modifying your project consistent with the *Guidelines*. If you have questions about whether your proposed project will disturb bald eagles, or you are not able to implement measures to avoid disturbance, please contact the Pennsylvania Game Commission's Headquarters Office at 717-787-4250 or the Service's Pennsylvania Field Office at 814-234-4090.

No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act.

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,



Clinton Riley
Field Office Supervisor

Enclosures

3103



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."*

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WILDLIFE PROTECTION.....717-783-6526
WILDLIFE HABITAT
MANAGEMENT.....717-787-8818
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AUTOMATED TECHNOLOGY
SERVICES.....717-787-4076

www.pgc.state.pa.us

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

June 20, 2012

PNDI Large Project Review

Ms. Karen Johnston
Skelly and Loy, Inc.
449 Eisenhower Blvd. Suite 300
Harrisburg, PA 17111

PNDI Large Project Review
Re: SR 15 - Central Susquehanna Valley Transportation (CSVT) Project
Snyder, Union, and Northumberland Counties, PA

Dear Ms. Johnston,

Thank you for submitting the SR 15 - Central Susquehanna Valley Transportation (CSVT) Project to the Pennsylvania Natural Diversity Inventory (PNDI) 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 or species of special concern may be associated with your project. Therefore, further coordination with this office is necessary to avoid potential impacts to the species listed below.

Scientific Name	Common Name	PA Status
<i>Haliaeetus leucocephalus</i>	Bald Eagle	THREATENED
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	SPECIAL CONCERN

Next Steps

Bald Eagle – The following conservation measures should be implemented to avoid and minimize impacts to bald eagles:

- All activities related to the project that are to occur within 1000 feet of any bald eagle shall occur between August 2 and January 14, outside nesting season. Further coordination with

the PGC is necessary for any activities related to the project that are proposed within 1000 feet of any bald eagle nest during nesting season, January 15 through August 1.

- Permanent habitat alterations that could jeopardize the future existence of the nesting bald eagles (i.e. signification timber removal, etc.) shall be avoided within 1000 feet of any nest. Further coordination with the PGC is necessary if any permanent habitat alterations are proposed within 1000 feet of any bald eagle nest, regardless of the time of year alterations are to be implemented.
- In addition to being protected under State law, the bald eagle is also protected under Federal law. The Bald and Golden Eagle Protection Act protects eagles from various forms of take, including disturbance. Please refer to the U.S. Fish and Wildlife Service's National Bald Eagle Management Guidelines (<http://www.fws.gov/migratorybirds/baldeagle.htm>) for specific measures that should be taken to ensure bald eagles are not disturbed. If you have questions about when and how to obtain a federal permit because you believe your proposed project will disturb bald eagles, and you are not able to implement measures to avoid disturbance, please contact the Fish and Wildlife Service's Pennsylvania Field Office at 814-234-4090.

Northern Long-eared Bat – the following conservation measures should be implemented, to best extent practicable, to avoid and minimize potential impacts to these and other tree roosting bats within the project area: *All trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project shall be cut between November 1 and March 31.*

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year 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 an additional year.

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



Pennsylvania Natural Heritage Program

TLM/tlm

cc: Robert Anderson, U.S. Fish & Wildlife Service
DuBrock
Brauning
Gross
Barber
File

SKB

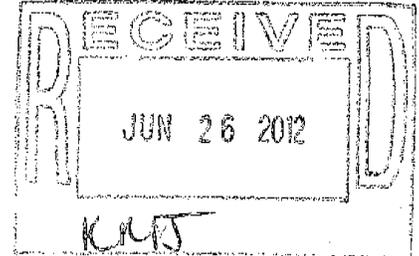


established 1866

Pennsylvania Fish & Boat Commission

Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823-9620
(814) 359-5236 Fax: (814) 359-5175

June 25, 2012



IN REPLY REFER TO:
SIR# 38846

SKELLY AND LOY
KAREN JOHNSTON
449 EISENHOWER BOULEVARD, SUITE 300
HARRISBURG, PA 17111-2302

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Potential Conflict Number:
SR 0015, SECTION 088 - CENTRAL SUSQUEHANNA VALLEY TRANSPORTATION
PROJECT
UPDATE PFBC SIR'S #32024, 25609, 8093
Township, SNYDER UNION NORTHUMBERLAND County, Pennsylvania**

Dear MS. JOHNSTON:

I have examined the map accompanying your recent correspondence, which shows the location for the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, the state endangered eastern spadefoot toad (*Scaphiopus h. holbrookii*) and two mussel species of concern, the yellow lampmussel (*Lampsilis cariosa*) and the green floater (*Lasmigona subviridis*), are known from the vicinity of the project area.

The eastern spadefoot toad is an elusive toad species with a rather unusual life history. This toad species prefers sandy or other soft loamy, pliable soils that it uses for burrowing. Unlike the American toad (*Bufo americanus*) and Fowler's toad (*Bufo woodhousii fowleri*), the spadefoot toad is a sporadic breeder, breeding in temporary pools only when the proper environmental conditions develop (steep barometric drops accompanied by heavy rainfall). Breeding may span several years (up to six) before the proper conditions take place. Eggs hatch in as little as two days and tadpole larvae may fully metamorphose within two weeks.

Given the proximity to a nearby extant population of the eastern spadefoot toad, we are requesting more information to help us complete our review of the proposed project. Items such as color photographs of the project area highlighting any wetlands, vernal pools, or other waterbodies (keyed to a site map), detailed project plans, a wetland report, aerial photographs, and a description of the onsite soils would help us to complete the review process. Based on review of these additional materials, a site visit and/or survey for the species of concern may be warranted.

We are also concerned about the direct and indirect impacts of any in-stream construction activities to the mussel species of concern listed above. Placement of temporary or permanent in-stream structures such as causeways, cofferdams, bridge piers, or rock for scour protection have the potential to adversely impact mussels through direct crushing, burial, sedimentation, induced scour, modified flow,

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hydraulics, and other means of degrading the existing habitat. Mussels are also vulnerable to various types of water pollution. The downstream effects of siltation and other water quality degradation such as accidental fuel or chemical spills resulting from the proposed project could adversely impact these species.

It is my understanding that the proposed bridge over the Susquehanna River is a multi-span structure and that project plans include the use of cofferdams and a causeway for bridge construction. We request that construction of this temporary causeway be done using a half-width construction method to retain open flow within a portion of the river channel throughout construction of the new bridge.

Based on mussel surveys conducted by the Pennsylvania Fish and Boat Commission and the Department of Environmental Protection, the construction of a new bridge over Chillisquaque Creek is not likely to adversely impact the mussel species listed above. However, additional surveys have confirmed the presence of these mussels in the Susquehanna River within the proposed area of effect. In an effort to avoid adverse impacts to mussel species of concern, staff biologists of the Pennsylvania Fish and Boat Commission may conduct a mussel salvage within the proposed direct impact area. If such a survey is performed, live individuals of rare species found within the study area will be relocated to appropriate habitat upstream of the project site. An inflatable dam is used to control water levels in this segment of the river; therefore it will be necessary to conduct the salvage after the draw down has occurred to improve salvage efficiency. Please ask PennDOT to notify me in writing at least nine (9) months prior to the start of construction so that the salvage can be coordinated and conducted during the appropriate season. Strict adherence to an approved Erosion and Sedimentation Pollution Control Plan and implementation of best management practices will further minimize potential adverse impacts to the species of concern. We also request that any fuel storage tanks for equipment refueling be located a minimum of 150 feet away from any streams, wetlands, or drainage ways.

If you should have any questions regarding this response, please contact this office at the above number and refer to the SIR number at the top of this letter. Thank you for your cooperation in this matter of endangered species conservation.

Sincerely,

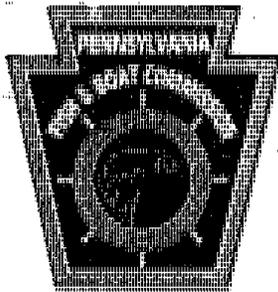


Jordan R. Allison
Watershed Analysis Section

JRA/kn

cc: Steven Boughter, Region Law Enforcement, PFBC
Erin Gocek, DEP NCRO

2010



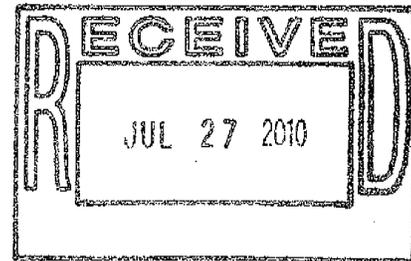
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Pennsylvania Fish & Boat Commission

5/LB

Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823

July 23, 2010



IN REPLY REFER TO
SIR # 34469

SKELLY AND LOY, INC.
Attn: Karen Johnston
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

RE: **Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species**
Update of PFBC-SIR# 32024 and 25609 and 8093
S.R. 0015, Section 088 – Central Susquehanna Valley Transportation (CSV) Project
Construction of New Roadway and Bridges over the West Branch Susquehanna River and
Chillisquaque Creek
Snyder, Union, and Northumberland Counties, Pennsylvania

Dear Ms. Johnston:

I have examined the map accompanying your correspondence which shows the location for the above referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, the following state protected mussel species are known to occur within the proposed project site:

Common Name	Scientific Name	PA Status
Green floater	<i>Lasmigona subviridis</i>	rare
Yellow lampmussel	<i>Lampsilis cariosa</i>	rare

We are concerned about the direct and indirect impacts of any in-stream construction activities to the species of concern listed above. In addition to the rare mussel species, a number of common mussel species have also been identified within the proposed project area of effect. Many of the mussel species once known to occur in Pennsylvania are now extirpated. The status of freshwater mussel species in Pennsylvania is currently under review. Adverse impacts to these species may result as a consequence of habitat destruction, killing of these animals in their various life stages, and degraded water quality associated with construction activities. Placement of temporary or permanent in-stream structures such as causeways, cofferdams, bridge piers, or rock for scour protection have the potential to cause severe adverse impacts to mussel species through direct crushing, burial, sedimentation, induced scour, modified flow hydraulics, and other means of degrading the existing habitat. Mussels are also vulnerable to various types of water pollution. The downstream effects of siltation and other water quality degradation such as accidental fuel or chemical spills resulting from the proposed project could adversely impact these species.

Based on mussel surveys performed by biologists with the Fish and Boat Commission and the Department of Environmental Protection, construction of new bridges over the Chillisquaque Creek are not likely to adversely impact the mussel species identified above. However, additional surveys have confirmed the presence of these mussels in the Susquehanna River within the proposed area of effect. Therefore, we will need additional project information to further evaluate the potential adverse impacts to

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SIR# 34469
July 23, 2010
Page 2

these mussel species within the project area proposed for construction of a new bridge across the Susquehanna River. In an effort to avoid adverse impacts from the proposed project to the aforementioned mussel species, staff biologists of the Pennsylvania Fish and Boat Commission may conduct a mussel survey of the potential project impact area. If such a survey is performed, rare species of live mussels found within the study area will be relocated upstream into appropriate habitat. Due to the effect of a dam downstream of the project area, suitable water depth for the performance of a mussel survey and translocation will not be available until after the seasonal drawdown at the dam. Please ask PennDOT to notify me in writing at least nine (9) months preceding the year planned for the start of project construction so that this biological survey can be completed prior to the start of the proposed bridge construction project.

It is my understanding that the proposed bridge over the Susquehanna River is a multi-span structure and that project plans include the use of cofferdams and a causeway for bridge construction. We request that construction of this temporary causeway be done using a half-width construction method to retain open flow within a portion of the river channel throughout construction of the new bridge.

Strict adherence to an approved Erosion and Sedimentation Pollution Control Plan and implementation of best management practices will further minimize potential adverse impacts to the species of concern. We also request that any fuel storage tanks for equipment refueling be located a minimum of 150 feet away from any streams, wetlands, or drainage ways.

In any future correspondence with us regarding this specific project, please refer to the SIR tracking number indicated in the upper left-hand corner of this letter. Please contact me at (814) 359-5236 if you have questions regarding this response. Thank you for your interest in conservation of threatened and endangered species.

Sincerely,



Jeff Schmid,
Fisheries Biologist

c: Robert Anderson, USFWS
Erin Gocek, PA DEP, NCRO - Williamsport

PNDI Number: 020864

Next Steps

Survey Request

DCNR requests updated surveys for the species listed above in Section 2 of the project:

- A survey for the above species should be conducted by a qualified botanist *at the appropriate time of year and then submitted to our office for review*. Your botanist should *fill out the field survey form while performing their survey*: <http://www.naturalheritage.state.pa.us/InternetFieldSurveyForm.pdf>. Contact our office prior to the survey for detailed information about the species, or for a list of qualified surveyors.
- Any target and non-target state-listed species found during the site visit should be reported to our office. Mitigation measures and monitoring may be requested if species or communities of special concern are found on or adjacent to site.
- If the land type(s) does not exist onsite a survey may not be necessary; please submit a habitat assessment report which describes the current land cover, habitat types and species found onsite.

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year 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).

This finding applies to impacts to DCNR only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure the U.S. Fish and Wildlife Service, PA Game Commission, and the Pennsylvania 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,



Andrew Rohrbaugh, Environmental Review Specialist FOR Chris Firestone, Wild Plant Program Mgr.
Ph: 717-705-2823 ~ c-arohrbau@state.pa.us



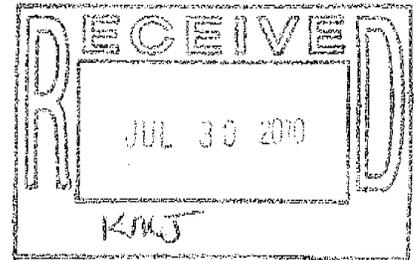
United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

July 28, 2010

Sandra Tosca
Pennsylvania Department of Transportation
P.O. Box 218
715 Jordon Avenue
Montoursville, PA 17754



RE: USFWS Project #2007-1654

Dear Mr. Kiser:

This responds to your letter of June 16, 2010, requesting our review of mist-net and mine trapping survey results for the proposed Central Susquehanna Valley Transportation Project (CSV T) – northern section project, located in Northumberland, Snyder and Union Counties, Pennsylvania. 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 (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species.

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. Due to proposed forest clearing associated with construction of 5.26 miles of roadway, mist-netting was recommended to determine whether Indiana bats are present. According to the May 2010 survey report, surveys were conducted at nine sites within the project area during July and August 2009, in accordance with the Fish and Wildlife Service's Indiana bat mist-net survey guidelines. During these surveys, 238 bats of five species were captured, but this did not include any Indiana bats. In addition, a harp trap was set at the opening of Epler mine on October 20 and 22. Epler Mine is located approximately five miles from the northern section of the CSV T corridor. During trapping, 46 bats representing two species were captured but no Indiana bats were collected. Based on these survey results, we have concluded that Indiana bats are either not present in the project area, or are present in such low densities that they were not detected.

Based on our review of the above information, we conclude that construction of the CSV T – northern section may affect, but is not likely to adversely affect the Indiana bat.

restriction will avoid direct take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings).

2. 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).
3. 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 dispersal. Where practical, 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 practical, select fragmented or degraded habitats over relatively intact areas.
4. 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). Where this is not possible, minimize roads, fences, and other infrastructure. To minimize habitat loss and fragmentation, cluster development features (*e.g.*, houses, commercial buildings, roads) rather than distributing them throughout land parcels.
5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts on vulnerable wildlife. Use only plant species that are native to the local area for revegetation of the project area.

No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act.

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 Robert Anderson of my staff at 814-234-4090.

Sincerely,



Clinton Riley
Field Office Supervisor



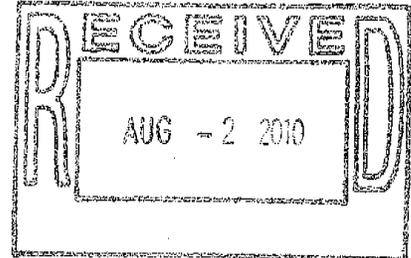
COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION

2001 ELMERTON AVENUE, HARRISBURG, PA 17110

"TO MANAGE ALL WILD BIRDS, MAMMALS AND THEIR HABITATS
FOR CURRENT AND FUTURE GENERATIONS."

July 30, 2010

PNDI Large Project Review



Karen Johnston
Skelly and Loy, Inc.
449 Eisenhower Blvd. Suite 300
Harrisburg, PA 17111

PNDI Large Project Review

Re: SR 15 - Central Susquehanna Valley Transportation (CSVT) Project
Snyder, Union, and Northumberland Counties, PA

Dear Ms. Johnston,

Thank you for submitting the SR 15 - Central Susquehanna Valley Transportation (CSVT) Project to the Pennsylvania Natural Diversity Inventory (PNDI) 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 there are no known occurrences of state listed threatened or endangered bird or mammal species associated with your project. However, potential impacts to species of special concern may be associated with your project, and as a result, additional measures are recommended to avoid potential impacts to the species listed below.

Conservation Measure

The following species is a species of special concern that exists within the proposed project area:

Scientific Name	Common Name
<i>Myotis septentrionalis</i>	Northern Long-eared Bat

Because of their ecological significance, the following seasonal restriction on the cutting of timber is suggested to avoid potential impacts to these and other tree roosting bats within the project area:

ADMINISTRATIVE BUREAUS:

PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT DIVISION: 717-787-6594
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286 WILDLIFE PROTECTION: 717-787-5740
WILDLIFE HABITAT MANAGEMENT: 717-787-8818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076
FAX: 717-772-2411
WWW.PGC.STATE.PA.US

AN EQUAL OPPORTUNITY EMPLOYER

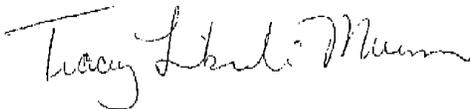
- *All trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project shall be cut between November 1 and March 31.*

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year 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 an additional year.

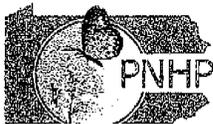
This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the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

Sincerely,



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@state.pa.us

A PNHP Partner



Pennsylvania Natural Heritage Program

TLM/tlm



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office

315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

August 4, 2010

Karen Johnston
Skelly and Loy
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

RE: USFWS Project #2007-1654

Dear Ms. Johnston:

This responds to your letter of June 24, 2010, requesting updated information about federally listed and proposed, endangered and threatened species within the area affected by the proposed Central Susquehanna Valley Transportation Project (S.R. 0015, Section 88), located in Snyder, Union and Northumberland County, Pennsylvania.

Please see our letter of July 28, 2010, to Sandra Tosca of the Pennsylvania Department of Transportation (attached), in which we provided updated information about endangered species in the northern section of the project area and recommendations regarding migratory birds that apply to the entire project. Mist net surveys in the northern section of the CSVT and bat trapping Epler Mine partially respond to the recommendations we provided in our letter of July 10, 2009. We reiterate those recommendations for the southern section of the project.

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

Please contact Robert Anderson of my staff at 814-234-4090 if you have any questions or require further assistance regarding this matter.

Sincerely,


Clinton Riley
Field Office Supervisor

Enclosure

2009



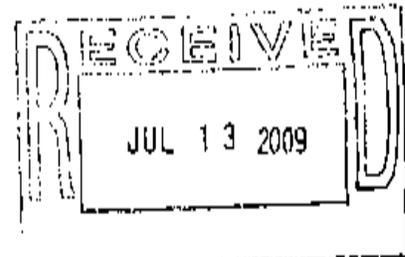
COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
2001 ELMERTON AVENUE, HARRISBURG, PA
17110

*"TO MANAGE ALL WILD BIRDS, MAMMALS AND THEIR HABITATS
FOR CURRENT AND FUTURE GENERATIONS."*

KMS *SKB/*
File

July 7, 2009

PNDI Large Project



Ms. Karen M. Johnston
Skelly and Loy
449 Eisenhower Boulevard
Harrisburg, PA 17111

PNDI Large Project
S.R. 0015, Section 088
Central Susquehanna Valley Transportation (CSV) Project
Snyder, Union and Northumberland Counties, PA

Dear Ms. Johnston:

Thank you for submitting the Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review Form 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.

No Impact Anticipated

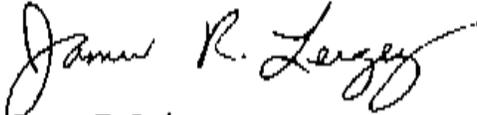
PNDI records indicate that no known occurrences of species or resources of concern under PGC jurisdiction occur in the vicinity of the project. Therefore, the above-referenced project is not expected to impact any birds or mammals of concern, and no further coordination with the PGC is necessary for this project at this time.

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year 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 an additional year.

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,



James R. Leigey
Wildlife Impact Review Coordinator
Division of Environmental Planning
And Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3128
Fax: 717-787-6957
E-Mail: jleigey@state.pa.us

A PNHP Partner



Pennsylvania Natural Heritage Program

Cc: File

SKB/Flg

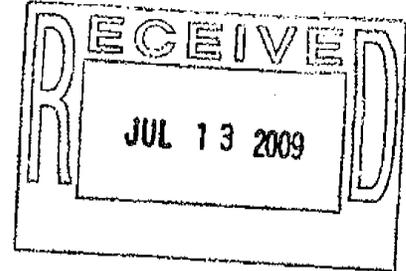


United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

July 10, 2009



Karen M. Johnston
Skelly and Loy
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

RE: USFWS Project #2007-1654

Dear Ms. Johnston:

This is in response to your letter of June 24, 2009, which requests updated information about federally listed and proposed, endangered and threatened species within the area affected by the proposed S.R. 0015, Section 088, Central Susquehanna Valley Transportation (CSVT) Project, located in Snyder, Union, and Northumberland Counties, Pennsylvania. The project area is within the range of the federally listed, endangered Indiana bat (*Myotis sodalis*). 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.

As summarized in your letter, a mist-net survey was completed along the proposed CSVT corridor in July 2001. In addition, a survey of an abandoned iron mine (referred to as the Epler Iron Mine) was completed in January 2001. Although neither survey found Indiana bats, this is a highly mobile species, and suitable habitat is present in the project area; therefore, the species may also be present. In recognition of the fact that Indiana bats may colonize suitable habitat at any time, Bat Conservation and Management's 2001 *Indiana Bat Summer Survey Scope of Work* for the CSVT project notes that on June 6, 2001, we advised them that the survey results would expire after five years. In addition, the Fish and Wildlife Service's *Indiana Bat Mist-Netting Guidelines* state that survey results are valid for two years.

Due to the amount of permanent forest habitat removal the CSVT project is expected to require, we recommend that the area again be surveyed for Indiana bat presence in both the active season and during hibernation. The mist-net survey should be conducted between May 15 and August 15 by a qualified, Service-approved biologist (see enclosed list) using the enclosed *Indiana Bat Mist Netting Guidelines*. Mist-net sites should be placed at one kilometer intervals along the proposed corridor. If any Indiana bats are captured, the surveyor should be prepared to fit all adult Indiana bats (males and females) with radio transmitters. If both juvenile and adult female Indiana bats are captured at a particular net site, the adult females (as well as any adult males) should be fitted with transmitters, but not the juveniles. If only juvenile Indiana bats are captured at a particular net site, they should also be fitted with transmitters. We further recommend that the transmitter and adhesive not exceed five percent of the bat's body weight, and the lightest transmitter to accomplish the required task should be used, especially for

pregnant females and newly volant young. Under no circumstances should the total weight of the package exceed 0.8 grams or 10 percent of the bat's body weight, whichever is less.

Each transmitted bat should be tracked for at least six days to identify day roosts, and exit counts should be conducted at all identified roost trees for at least three days. Standard roost tree data should also be collected, including tree species, dbh, condition (dead, live, dying), percent bark cover, GPS coordinates, and descriptions of surrounding habitats. For each transmitted bat, foraging data should be collected for at least six nights. We encourage qualified biologists to continue radio-tracking bats for the life of each transmitter, since this will generate better data related to Indiana bat foraging and roosting behavior with respect to the project site, and will further assist applicants and the Service in completing Endangered Species Act consultation.

Finally, Epler Iron Mine, and any other previously uninvestigated caves or stable hard rock mines that occur in the project area, should be surveyed again for hibernating bats during the winter. Interior winter hibernacula surveys should be coordinated with the Pennsylvania Game Commission. If any other mine and cave entrances have since been found, these should also be surveyed for Indiana bats. All openings should be accurately mapped using a GPS unit. If potentially unstable mines (e.g., abandoned coal mines) occur in the project area, the openings of these mines should be evaluated using the enclosed *Protocol for Assessing Abandoned Mines/Caves for Bat Surveys*. The Pennsylvania Game Commission has developed this protocol to determine whether abandoned mines may serve as potentially suitable bat habitat. Following this initial mine opening assessment, a qualified bat surveyor should survey each potentially suitable opening, as well as the area in the immediate vicinity of these openings.

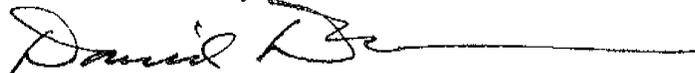
All study results should be submitted to the Service and Pennsylvania Game Commission for review and concurrence. Should Indiana bats be found during any survey, further consultation with the Service will be necessary, including the submission of detailed project plans, and an analysis of alternatives to avoid and minimize adverse effects.

This response relates only to endangered or threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

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 Robert Anderson of my staff at 814-234-4090.

Sincerely,



David Densmore
Supervisor

Enclosures



pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

Handwritten initials: HMT, SKB
Project FIG

BUREAU OF FORESTRY

July 31, 2009

PNDI Number: 020249

Karen M. Johnston
717-232-1799

Re: SR 0015 Section 088 CVST
Allegheny Township, Venango County,

Dear Ms. Johnston,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 020249 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.

Potential Impact Anticipated

PNDI records indicate new species and resources of concern are located in the project vicinity since the 2003 project survey. Based on a detailed PNDI review, DCNR determined potential impacts to the following threatened or endangered species or species of special concern.

Scientific name	Common Name	PA Current Status	PA Proposed Status
<i>Dodecatheon meadia</i>	Common Shooting Star	Endangered	Endangered
<i>Rotala ramosior</i>	Tooth-cup	Rare	Rare
<i>Ludwigia polycarpa</i>	False Loosestrife	Endangered	Endangered
<i>Schoenoplectus fluviatilis</i>	River bulrush	Rare	Rare
<i>Carex bullata</i>	Bull Sedge	Endangered	Endangered
<i>Juncus scirpoides</i>	Scirpus-like Rush	Endangered	Endangered

Next Steps

Survey Request

DCNR requests a survey for the following species:

- See attached list
- A survey for the above species should be conducted by a qualified botanist *at the appropriate time of year and then submitted to our office for review*. Your botanist should *fill out the field survey form while performing their survey*: <http://www.naturalheritage.state.pa.us/InternetFieldSurveyForm.pdf>. Contact our office prior to the survey for detailed information about the species, or for a list of qualified surveyors.
- Any target and non-target state-listed species found during the site visit should be reported to our office. Mitigation measures and monitoring may be requested if species or communities of special concern are found on or adjacent to site.
- If the land type(s) does not exist onsite a survey may not be necessary; please submit a habitat assessment report which describes the current land cover, habitat types and species found onsite.

conserve

sustain

enjoy

Conservation Measure—Voluntary Action

The following species are communities of special concern and therefore, are not a target for a survey. However, because of their ecological significance, a conservation measure is suggested to identify and avoid potential impacts to these resources. Please survey for these habitats within the project area- if found, avoid disturbance within these areas. Please note, these areas are known to exist at the northern edge of the current project; any survey for these resources should focus in this area.

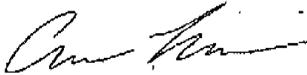
Name	Global Rank	State Rank
Sand Dune	GNR	SNR
Graminoid Marsh	GNR	S3

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year 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 an additional year.

This finding applies to impacts to DCNR only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure the U.S. Fish and Wildlife Service, PA Game Commission, and the Pennsylvania 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,



Andrew Rohrbaugh, Environmental Review Manager FOR Chris Firestone, Wild Plant Program Mgr.
Ph: 717-705-2823 ~ c-arohrbau@state.pa.us

PNDI #020249

Please conduct a survey for the following species during an appropriate time of year:

Scientific name	Common Name	PA Current Status	PA Proposed Status	Wetland Indicator	Habitat	Survey Date
<i>Dodecatheon meadia</i>	Common Shooting Star	Endangered	Endangered		open wooded slopes, bluffs and meadows on limestone	late April-May
<i>Rotala ramosior</i>	Tooth-cup	Rare	Rare	FACU	wet sandy shores and other swampy open grounds	flowers July-September
<i>Ludwigia polycarpa</i>	False Loosestrife	Endangered	Endangered	OBL	wet meadows and swales	flowers July-September
<i>Schoenoplectus fluviatilis</i>	River bulrush	Rare	Rare	OBL	moist sandy shores and marshes, tidal and non-tidal swamps	fruits June-August
<i>Carex bullata</i>	Bull Sedge	Endangered	Endangered	OBL	moist, sandy or peaty soil	flowers/fruits summer
<i>Juncus scirpoides</i>	Scirpus-like Rush	Endangered	Endangered	FACW		

*Please note, these species are known to exist at the northern edge of the current project; any survey for these species should focus in this area.

PNDI #020249**Terrestrial & Palustrine Plant Communities of Pennsylvania; Jean Fike, 1999.****Tussock sedge marsh**

These are *Carex stricta* (tussock sedge)-dominated marshes. The majority of these systems are influenced by past impoundment. The substrate may be peat, muck or mineral soil. There is generally standing water between the tussocks for much of the year. Associated species include other sedges (e.g. *Carex lurida*, *C. canescens*, *C. stipata*, *C. tribuloides*), rushes (*Juncus* spp.), *Calamagrostis canadensis* (bluejoint), *Thalictrum pubescens* (tall meadow-rue), *Agrostis scabra* (hairgrass), *Eupatorium* spp. (joe-pye weed), *Scirpus cyperinus* (wool grass), *Sium suave* (water parsnip), *Triadenum virginicum* (marsh St.-John's-wort), scattered *Typha latifolia* (common cat-tail) and small *Acer rubrum* (red maple). The invasive species *Phragmites australis*(I) (common reed) and *Lythrum salicaria*I (purple loosestrife) are frequently a major problem in these systems.

Related types: The "Bluejoint - reed canary grass marsh" may contain *Carex stricta* (tussock sedge), but it is not dominant. This type may contain *Phalaris arundinacea*(I) (reed canary grass) and/or *Calamagrostis canadensis* (bluejoint), but is strongly dominated by *Carex stricta*.

Range: Entire state.

Selected references: Sneddon, Anderson, and Metzler 1996, Reschke 1990, Golet and Larson 1974.

[Crosswalk: Smith's "Graminoid Marsh" (in part), TNC's *Carex stricta* Herbaceous Alliance.]



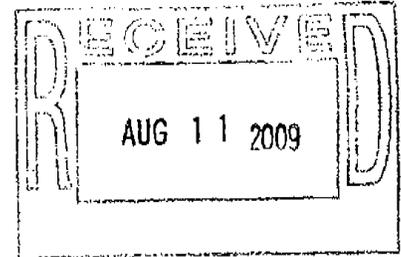
established 1866

Pennsylvania Fish & Boat Commission

Sk B/Job File

Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823

August 10, 2009



IN REPLY REFER TO
SIR # 32024

SKELLY AND LOY, INC.
Attn: Karen Johnston
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111-2302

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species Update of PFBC-SIR# 25609 and 8093
S.R. 0015, Section 088 – Central Susquehanna Valley Transportation (CSVT) Project Construction of New Roadway and Bridges over the West Branch Susquehanna River And Chillisquaque Creek
Snyder, Union, and Northumberland Counties, Pennsylvania**

Dear Ms. Johnston:

I have examined the map accompanying your correspondence which shows the location for the above referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, the following state protected mussel species are known to occur within the proposed project site:

Common Name	Scientific Name	PA Status
Green floater	<i>Lasmigona subviridis</i>	rare
Yellow lampmussel	<i>Lampsilis cariosa</i>	rare

We are concerned about the direct and indirect impacts of any in-stream construction activities to the species of concern listed above. In addition to the rare mussel species, a number of common mussel species have also been identified within the proposed project area of effect. Many of the mussel species once known to occur in Pennsylvania are now extirpated. The status of freshwater mussel species in Pennsylvania is currently under review. Adverse impacts to these species may result as a consequence of habitat destruction, killing of these animals in their various life stages, and degraded water quality associated with construction activities. Placement of temporary or permanent in-stream structures such as causeways, cofferdams, bridge piers, or rock for scour protection have the potential to cause severe adverse impacts to mussel species through direct crushing, burial, sedimentation, induced scour, modified flow hydraulics, and other means of degrading the existing habitat. Mussels are also vulnerable to various types of water pollution. The downstream effects of siltation and other water quality degradation such as accidental fuel or chemical spills resulting from the proposed project could adversely impact these species.

Based on mussel surveys performed by biologists with the Fish and Boat Commission and the Department of Environmental Protection, construction of new bridges over the Chillisquaque Creek are not likely to adversely impact the mussel species identified above. However, additional surveys have

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To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

SIR# 32024
August 7, 2009
Page 2

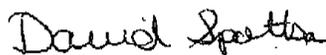
confirmed the presence of these mussels in the Susquehanna River within the proposed area of effect. Therefore, we will need additional project information to further evaluate the potential adverse impacts to these mussel species within the project area proposed for construction of a new bridge across the Susquehanna River. In an effort to avoid adverse impacts from the proposed project to the aforementioned mussel species, staff biologists of the Pennsylvania Fish and Boat Commission may conduct a mussel survey of the potential project impact area. If such a survey is performed, rare species of live mussels found within the study area will be relocated upstream into appropriate habitat. Due to the effect of a dam downstream of the project area, suitable water depth for the performance of a mussel survey and translocation will not be available until after the seasonal drawdown at the dam. Please ask PennDOT to notify me in writing at least nine (9) months preceding the year planned for the start of project construction so that this biological survey can be completed prior to the start of the proposed bridge construction project.

It is my understanding that the proposed bridge over the Susquehanna River is a multi-span structure and that project plans include the use of cofferdams and a causeway for bridge construction. We request that construction of this temporary causeway be done using a half-width construction method to retain open flow within a portion of the river channel throughout construction of the new bridge.

Strict adherence to an approved Erosion and Sedimentation Pollution Control Plan and implementation of best management practices will further minimize potential adverse impacts to the species of concern. We also request that any fuel storage tanks for equipment refueling be located a minimum of 150 feet away from any streams, wetlands, or drainage ways.

In any future correspondence with us regarding this specific project, please refer to the SIR tracking number indicated in the upper left-hand corner of this letter. Please contact me at (814) 359-5115 if you have questions regarding this response. Thank you for your interest in conservation of threatened and endangered species.

Sincerely,



David Spotts, Chief
Watershed Analysis Section

c: Robert Anderson, USFWS
Jared Dressler, PA DEP, NCRO - Williamsport



pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

SKB/FILE

BUREAU OF FORESTRY

December 29, 2009

PNDI Number:020249

Karen M. Johnston
Skelly & Loy
717-232-1799

Re: SR 0015 Section 088 CVST
Snyder, Union, & Northumberland Counties

Dear Ms. Johnston,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 020249 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.

Administrative Resolution Between PennDOT and DCNR

PNDI records indicate the following species of concern may be located in the vicinity of the project:

Scientific name	Common Name	PA Current Status	PA Proposed Status
<i>Dodecatheon meadia</i>	Common Shooting Star	Endangered	Endangered
<i>Ludwigia polycarpa</i>	False Loosestrife	Endangered	Endangered
<i>Carex bullata</i>	Bull Sedge	Endangered	Endangered
<i>Juncus scirpoides</i>	Scirpus-like Rush	Endangered	Endangered

However, PennDOT has agreed to conduct a survey for these species in potential suitable habitat during the 2010 field season, prior to construction. If any target or non-target state-listed species is found during the site visit, PennDOT will arrange for avoidance or mitigation and monitoring with DCNR.

Conservation Measure—Voluntary Action

The following are species listed as PA Rare, or communities of special concern, and therefore, are not targets for a survey. However, because of their ecological significance, a conservation measure is suggested to identify and avoid potential impacts to these species/resources. Please survey for these species and habitats within the project area- if found, avoid disturbance within these areas. Please note, the communities are known to exist at the northern edge of the current project; any survey for these resources should focus in this area.

Scientific name	Common Name	PA Current Status	PA Proposed Status
<i>Schoenoplectus fluviatilis</i>	River bulrush	Rare	Rare
<i>Rotala ramosior</i>	Tooth-cup	Rare	Rare

Name	Global Rank	State Rank
Sand Dune	GNR	SNR
Graminoid Marsh	GNR	S3

conserve sustain enjoy

PNDI Number: 020249

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year 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 an additional year.

This finding applies to impacts to DCNR only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure the U.S. Fish and Wildlife Service, PA Game Commission, and the Pennsylvania 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,



Andrew Rohrbaugh, Environmental Review Specialist FOR Chris Firestone, Wild Plant Program Mgr.
Ph: 717-705-2823 ~ c-arohrbau@state.pa.us

2007

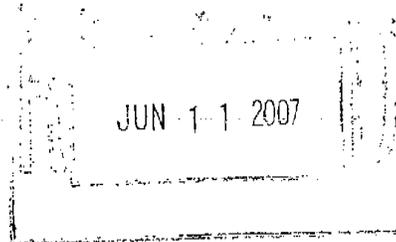
KRMJ, project file WCK



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION

2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

June 4, 2007



Ms. Karen M. Johnston
Skelly & Loy, Inc.
2601 North Front Street
Harrisburg, PA 17110

In re: Central Susquehanna Valley Transportation Project
S.R. 0015, Section 088
Snyder, Union, and Northumberland Counties, PA

Dear Ms. Johnston:

This is in response to your letter dated May 8, 2007 requesting information concerning state listed endangered and threatened species of birds and mammals as related to this project.

The project(s) listed above should not have any known impact on state listed bird and mammal species based on our office review. Should project plans extend beyond the present study area, or if additional information on endangered or threatened species of birds or mammals becomes available, this review may be reconsidered. This reply relates only to species of special concern and does not address other potential concerns of the Pennsylvania Game Commission.

Please contact me at (717) 783-5957 if you have any questions.

Very truly yours,

Kevin L. Mixon
Division of Environmental
Planning and Habitat Protection
Bureau of Wildlife Habitat Management

ADMINISTRATIVE BUREAUS:

PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT DIVISION: 717-787-6594
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286 LAW ENFORCEMENT: 717-787-5740
LAND MANAGEMENT: 717-787-6818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076 FAX: 717-772-2411

WWW.PGC.STATE.PA.US

AN EQUAL OPPORTUNITY EMPLOYER

KMJ, project file WCK/SKB



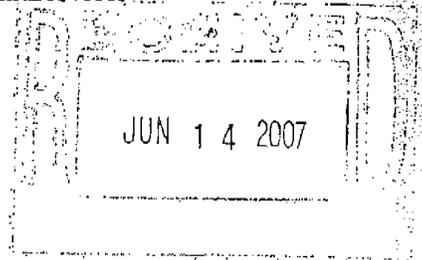
established 1866

Pennsylvania Fish & Boat Commission

Division of Environmental Services

450 Robinson Lane
Bellefonte, PA 16823

June 13, 2007



IN REPLY REFER TO
SIR # 25609

SKELLY AND LOY, INC.
Attn: Karen Johnston
2601 North Front Street
Harrisburg, PA 17110-1185

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
Update of PFBC-SIR# 8093
S.R. 0015, Section 088 – Central Susquehanna Valley Transportation (CSVT) Project
Construction of New Roadway and Bridges over the West Branch Susquehanna River and
Chillisquaque Creek
Snyder, Union, and Northumberland Counties, Pennsylvania

Dear Ms. Johnston:

I have examined the map accompanying your correspondence, which shows the location for the above referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, the following state protected mussel species are known to occur within the proposed project site:

Common Name	Scientific Name	PA Status
Green floater	<i>Iasmigona subviridis</i>	rare
Yellow lampmussel	<i>Lampsilis cariosa</i>	rare

Based on past mussel surveys performed by biologists with the Pennsylvania Fish and Boat Commission (PFBC) and the Department of Environmental Protection, construction of new bridges over the Chillisquaque Creek are not likely to impact the above listed mussels species. However, our surveys did confirm the presence of these rare and other common mussels in the Susquehanna River within the proposed area of the new bridge structure. We are concerned about the direct and indirect impacts of any in-stream construction activities to these mussel species within the proposed project area of the Susquehanna River. Placement of temporary or permanent in-stream structures such as causeways, cofferdams, bridge piers, or rock for scour protection may have the potential to cause adverse impacts to existing mussel populations. The downstream effects of siltation and other pollutants such as accidental fuel or chemical spills resulting from the proposed project could also adversely impact these existing mussel populations.

It is our understanding that the proposed bridge over the Susquehanna River will incorporate the half-width construction method to retain open flow within a portion of the river channel. The PFBC fully supports this type of bridge construction methodology. In an effort to avoid adverse impacts to mussels from the Susquehanna River bridge project, PFBC and other resource agency personnel may collect all

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live mussels from the waterway impact area and relocate them to an appropriate upstream habitat area. Suitable water depth for the performance of a mussel survey and translocation within the Susquehanna River will not be available until after the seasonal draw down of the downstream Fiber Dam. It is strongly recommended that the applicant notify the PFBC during the summer preceding the year planned for the instream construction of this project so that the mussel survey can be completed during the fall of the year. Since there will be half-width construction, we may have to schedule our mussel surveys during the fall of two different years.

Strict adherence to an approved Erosion and Sedimentation Pollution Control Plan and implementation of best management practices will further minimize potential adverse impacts to the species of concern. We also request that any fuel storage tanks for equipment refueling be located a minimum of 150 feet away from any streams, wetlands, or drainage ways.

In any future correspondence with us regarding this specific project, please refer to the SIR tracking number indicated in the upper left-hand corner of this letter. Please contact me at (814) 359-5115 if you have questions regarding this response. Thank you for your interest in conservation of threatened and endangered species.

Sincerely,



David Spotts, Chief
Watershed Analysis Section

cc: Robert Anderson, USFWS
Gerald Miller, PA DEP, NCRO - Williamsport
Ray Kennedy-PennDOT

K/KS WCK



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office

315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

June 25, 2007



Karen Johnston
Skelly and Loy
2601 North Front Street
Harrisburg, PA 17110-1185

RE: USFWS Project #2007-1654

Dear Ms. Johnston:

This responds to your letter of May 8, 2007, requesting updated information about federally listed and proposed endangered and threatened species within the area affected by the proposed Central Susquehanna Valley Transportation Project (S.R. 0015, Section 088), located in Snyder, Union, Northumberland, and Dauphin Counties, Pennsylvania. The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. 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.

In our April 2, 2002, letter to James Chatham of the Federal Highway Administration, we concurred with the results of a mist net survey that failed to find Indiana bats in the project area. We have no new information indicating that Indiana bats occur in the project area. Therefore, we again conclude that implementation of the proposed project is not likely to adversely affect the Indiana bat, or any other federally listed endangered, threatened or proposed species.

This determination is valid for two years from the date of this letter. If the proposed project has not been fully implemented prior to this, an additional review by this office is recommended. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to endangered and threatened species under our jurisdiction, based on an office and/or field review of the proposed project. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

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

Please contact Robert Anderson of my staff at 814-234-4090 if you have any questions regarding this matter.

Sincerely,

Cindy L. Tibbott

for David Densmore
Supervisor



Pennsylvania Department of Conservation and Natural Resources

WCK/SKB

August 10, 2007

Bureau of Forestry

Karen Johnston
Skelly and Loy
FAX: 717.232.1799 (hard copy will NOT follow)

Pennsylvania Natural Diversity Inventory Review, PNDI Number 13978
S.R. 0015, Sect. 088, Central Susquehanna Valley Transportation Project
Snyder, Union, and Northumberland Counties

Dear Ms. Johnston,

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.

NO PROJECT IMPACT ANTICIPATED *

PNDI records indicate that no known occurrences of species or resources of special concern under DCNR's jurisdiction occur in the vicinity of the project. Therefore, we do not anticipate the project referenced above will impact plants, natural communities, terrestrial invertebrates and geologic features of special concern. No further coordination with DCNR is needed for this project.

PNDI records indicate special concern species or resources are located in the vicinity of the project. However, based on the information submitted to us concerning the nature of the project, the immediate location, and our detailed resource information, we determined that no impact is likely. No further coordination with DCNR is needed for this project.

POTENTIAL PROJECT IMPACT - UNDER FURTHER REVIEW

Based on our PNDI map review we determined potential impacts to species and/or resources of special concern. This project has been passed on to our review committee. The committee will contact the applicant/consultant directly if more information is needed to assess the project's potential impacts. Response time is typically less than a month after the date on this notification.

COMMENTS: * There are no new occurrences of Species of Special Concern within the project vicinity and therefore our office anticipates No Project Impacts As Per Survey performed in 2003.

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.



Emilee C. Boyer, Environmental Review Specialist FOR Chris Firestone, Plant Program Mgr
DCNR/BOF/PNDI, PO Box 8552, Harrisburg, PA 17105 ~ Ph: 717-787-7067 ~ F: 717-772-0258 ~ c-boyer@state.pa.us

**APPENDIX C -
AGENCY CORRESPONDENCE -
HISTORICAL AND ARCHAEOLOGICAL RESOURCES**

ARCHAEOLOGICAL RESOURCES



Cultural Resources Submission

DATE: January 5, 2015

SUBJECT:

District: 3-0
County: Northumberland, Snyder and Union
Municipality:
SR: 15 Section: 088
Project Name: Central Susquehanna Valley Transportation Project (CSV)
MPMS Number: 07588
ER Number: 1997-0475-042 - FFF

TO: Serena Bellow, Director
Bureau for Historic Preservation
PA Historical and Museum Commission

FROM: Scott Shaffer
District 3-0 Cultural Resources Professional
Bureau of Project Delivery

As per 36CFR800, and on behalf of the Federal Highway Administration (FHWA), we are providing a finding for the above referenced project. This is based on recent completion of addendum Phase I archaeological survey investigations for the CSV project.

Additional Phase I archaeological investigations, consisting of limited background research, field investigations, and report writing, were undertaken. Ongoing final design work, as the project is advanced to construction, led to a revised 2014 archaeological Area of Potential Effect (APE) for the project. Thirty-four areas were subjected to Phase I survey with 130 shovel test pits and four disturbance test pits excavated. The results of archaeological survey in two areas outside of the 2014 archaeological APE are also included. No archaeological sites were identified during the addendum Phase I work and no further archaeological work is recommended.

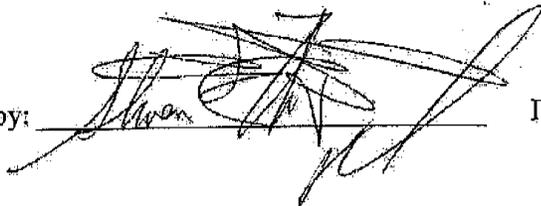
Above ground resources consultation for the CSV project is ongoing.

Northumberland, Snyder and Union Counties
SR. 15, 088 Phase I Archaeological Survey Report Addendum
ER# 1997-0475-042-~~FFF~~
Serena Bellew letter

Page 2

We request your review and comment on the attached Phase I Archaeological Survey Report Addendum and the Department's finding of no effect on archaeological resources. If you have any questions, please call Scott Shaffer at 814.765.0456.

Concurrence by:



Date: 1/27/15

Enclosure

4432/SCS/ss

HISTORIC RESOURCES



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

September 29, 2014

Brian Thompson, Director
Bureau of Project Delivery
Attn: Matt Hamel
PA Department of Transportation
P O Box 2966
Harrisburg, PA 17105

RE: BHP ER 1997-0475-042-BBB: SR 0015 Section 088 MPMS 7588
Central Susquehanna Valley Transportation Project
Abbreviated Survey Forms

Dear Mr. Thompson:

~~Thank you for submitting information concerning the above referenced project. The Bureau for Historic~~
Preservation (the State Historic Preservation Office) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Thank you for the eight abbreviated survey forms which document the demolition of the resources since their initial determination of eligibility, and the one abbreviated survey form which documents the demolition of the barn.

We concur with the findings of the agency that the following property is not eligible for listing in the National Register of Historic Places:

Gulick Farm, BHP Key # 110833

If you have any questions, please contact Cheryl L. Nagle at 717-772-4519 or chnagle@pa.gov.

Sincerely,

Andrea L. MacDonald
Chief, Division of Preservation Services

ALM/cln

From: chnagle@paprojectpath.org
To: [Hamel, Matthew](#)
Subject: PHMC E-Notification: ER1997-0475-042 - MPMS7588
Date: Monday, November 24, 2014 12:59:29 PM

PHMC E-Notification - Section 106 Consultation

COUNTY: Snyder
MUNICIPALITY:
SR: 15
SECTION: 088
PROJECT NAME: Central Susquehanna Valley Transportation
MPMS: 7588
ER NUMBER: 1997-0475-042
PROJECT DESCRIPTION: EIS new road

SECTION 106 Effect: Historic Properties Affected - Adverse Effect
SECTION 106 Stage: Determination of Effects
Posting Name: Effect Addendum

PHMC COMMENT: PA SIPO concurs that the temporary impacts to the railroad grade needed to construct the CSVT bridge in this location will not adversely affect the NRHP eligible P&ERR Key # 111039

The associated documents for this consultation are available at: <http://search.paprojectpath.org/PostingDetails.aspx?ProjectID=3821&PostingID=22322>

PHMC CONTACT
NAME: Cheryl Nagle
E-MAIL LINK: chnagle@state.pa.us

PROJECTPATH CONTACT
NAME: Preservation Pennsylvania
E-MAIL LINK: info@paprojectpath.org



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

December 10, 2014

Keith Lynch
Director of Program Development
Federal Highway Administration, Pennsylvania Division
228 Walnut Street, Room 508
Harrisburg, PA 17101-1720

RE: ER# 1997-0475-042/HPD-PA; Snyder, Union & Northumberland Counties, Pennsylvania
Central Susquehanna Valley Transportation Project (CSV) S.R. 15, Section 088
Consultation: The Captain John Smith Chesapeake National Historic Trail (CAJO NHT)

Dear Mr. Lynch:

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (SHPO) reviews projects in accordance with Section 106 of the National Historic Preservation Act of 1966, and its implementing regulations (36 CFR Part 800).

Since receiving your letter on November 13, 2014, we have also received numerous phone calls, emails and assorted documentation from the National Park Service (headquarters and regional offices and the CAJO NHT Superintendent), the National Trust for Historic Preservation, the National Parks Conservation Association and the Chesapeake Conservancy focused on the applicability of the National Register Criteria to the CAJO NHT. It has become abundantly clear that while this is a topic that many feel definitively and passionately about, a grey area exists around how this type of historic resource can be evaluated under the National Register Criteria.

Therefore based on the information provided, it is our opinion that the Captain John Smith Chesapeake National Historic Trail does not meet the definition of a historic property as defined in "National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation." Furthermore, as the trail also extends into neighboring states, I spoke with the Maryland and Virginia SHPOs and we are in agreement with your recommendation that a determination by the Keeper of the National Register of Historic Places on how to apply the National Register Criteria to CAJO NHT and other historic resources of this type is necessary to ensure consistent and appropriate consideration of this resource type in the Section 106 process.



Pennsylvania Historical & Museum Commission

Tom Corbett, Governor · Andrew E. Masich, Chairman · James M. Vaughan, Executive Director

I look forward to continuing to work with you and your staff on this project as it develops. Please do not hesitate to contact me directly if I can be of further assistance, sbellew@pa.gov or (717) 705-4035.

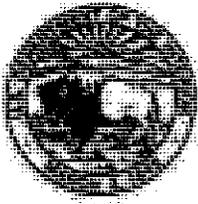
Sincerely,



Serena G. Bellew
Deputy State Historic Preservation Officer
Director, Bureau for Historic Preservation
Pennsylvania Historical & Museum Commission

cc: Charles Hunt, Captain John Smith Chesapeake National Historic Trail
Elizabeth Hughes, Maryland State Historic Preservation Office
Julie Langan, Virginia State Historic Preservation Office
MaryAnn Naber, Federal Highway Administration
Paul Loether, National Park Service
Jeff Durbin, National Park Service
Sandy Tosca, P.E., PennDOT District 6-0
Melissa Betula, P.E., PennDOT CO Highway Design and Delivery Division
Sharee Williamson, National Trust for Historic Preservation
Paul Edmondson, National Trust for Historic Preservation
Joel E. Dunn, Chesapeake Conservancy
Joy M. Oakes, National Parks Conservation Association





United States Department of the Interior

NATIONAL PARK SERVICE

1849 C Street, N.W.

Washington, D.C. 20240

IN REPLY REFER TO:

H32(2280)

February 13, 2015

Ms. Renee Sigel
Pennsylvania Division Administrator
Federal Highway Administration
U.S. Department of Transportation
228 Walnut Street, Room 508
Harrisburg, PA 17101-1720

Dear Ms. Sigel:

Thank you for your letter of December 22, 2014, concerning the Central Susquehanna Valley Transportation Project (CSV T), which involves a proposal to build a new bridge across the West Branch of the Susquehanna River in central Pennsylvania. This portion of the West Branch of the Susquehanna River includes a portion of the Congressionally designated Captain John Smith Chesapeake National Historic Trail (CAJO) as expanded by order of the Secretary of the Interior in 2012.

In your letter, you have requested the Keeper of the National Register of Historic Places (Keeper) to provide your agency with a determination as to whether CAJO "can be, in and of itself, a historic property type." By this, we assume that you are asking if CAJO is a property type that can be found to meet the National Register Criteria for Evaluation. You have also indicated that, if CAJO is found to be a property type that can be listed in, or determined eligible for listing in, the National Register, you are further requesting that: a) a formal determination of eligibility as to whether CAJO as a whole is eligible for the National Register be provided in accordance with the provisions of 36 CFR, Part 63, or b) if CAJO in its entirety is determined not to be eligible, if the portion of CAJO encompassed by the CSV T Area of Project Effect (APE) is eligible for listing in the National Register in accordance with these same provisions.

The core of CAJO was established by Congress in 2006, following the completion of a feasibility study by the National Park Service (NPS) and a determination by the National Park System Advisory Board that the trail was nationally significant. The initial trail route extended approximately 3,000 miles along Chesapeake Bay and the tributaries of Chesapeake Bay in the states of Virginia, Maryland, and Delaware, and the District of Columbia; it traced the 1607-1609 voyages of Captain John Smith to chart the land and waterways of Chesapeake Bay. The trail was extended by order of the Secretary of the Interior in 2012 through designation of four rivers as historic components of CAJO. This action extended the trail by 841 miles to include: the Susquehanna River Component Connecting Trail (a 552-mile system of water trails along the

main-stem and West Branch of the Susquehanna River in Maryland, Pennsylvania and New York); the Chester River Component Connecting Trail (a 46-mile system of the Chester River and its major tributaries); the Upper Nanticoke River Component Connecting Trail (23-miles of the Nanticoke River, Broad Creek and Deep Creek); and the Upper James River Component Trail (a 220-mile water trail of the James River in Virginia). CAJO, the first designated national historic trail that is composed primarily of a water trail route, now extends along waterways from Cooperstown, New York, to Norfolk, Virginia.

CAJO was not automatically listed in or determined eligible for listing in the National Register of Historic Places upon its statutory designation, nor were the connecting trails added later by the Secretary of the Interior automatically listed or determined eligible for listing. CAJO is not a historic unit or area of the National Park System. To date, it has not been nominated, in whole or in part, for listing in the National Register by an appropriate nominating authority. Likewise, there has been no determination made on the National Register eligibility of CAJO by the Keeper, either in whole or part, under the authority of Federal Regulations 36 CFR, Part 63. However, based on our experience with other national historic trails, we note there are likely to be districts, sites, buildings, structures or objects associated with CAJO or portions of CAJO that are eligible for listing in the National Register.

The National Register of Historic Places has a longstanding policy that generally (emphasis mine) excludes natural waterways or bodies of water that were avenues of exploration or important as determinants in the location of communities or that were significant in the locality's subsequent economic development from the definition of "sites" (which along with districts, buildings, structures and objects comprise the five statutory property types that can be listed in the National Register). To include natural waterways or bodies of water in the definition of sites *per se* would mean that the National Register would have to include large numbers of rivers, bays, lakes, and bayous, etc., that were important in the exploration and development of major portion of this country. This would not be a practical use of the National Register and would have the potential to overwhelm the evaluation and nomination activities of states, Federal agencies, and tribes.

Natural landscape features (including waterways such as bays, creeks, rivers, lakes, wetlands, etc.) are, however, often included within the boundary of districts and sites listed in, or eligible for listing in the National Register. Everything located within a National Register property boundary is listed or eligible for listing in the National Register. Landscapes included within the boundary may be considered contributing to the significance and integrity of a district or other National Register property type if they are described and justified as such in the documentation.

While recognizing the important role that many natural waterways have played in our country's history, the properties considered most appropriate to document the significance of these waterways are usually: a) districts, buildings, structures, or objects built or used in association with the waterways, or b) sites that are significant for important historic events related to the waterways or that provide important information about a property's defined areas of significance. In its 2011 *Comprehensive Management Plan and Environmental Assessment* for CAJO the National Park Service identified seven types of CAJO-related historic resources: 1) Smith Voyage Stops; 2)

Evocative Landscapes within View of the Trail; 3) Indigenous Cultural Landscapes; 4) 17th Century American Indian Archeological Sites; 5) Historic American Indian Town Sites; 6) Landscape Features and Cultural Sites of Significance to Modern American Indian Tribes; and, 7) Smith Cross Sites. At least some of these resources, as well as specific portions of the trail itself, may prove eligible for listing in the National Register, either individually or as integral, character-defining features of a larger district or site.

Your letter identifies two properties--a railroad segment and a pre-contact archeological site within the CSVT APE--that your agency considers individually eligible for listing in the National Register. We note that no documentation has been provided to the Keeper in support of these agency opinions. Your letter also includes links to some information on historic resources related to the specific bridge project and that project's APE and its immediate environs. However, no substantive documentation was provided to the Keeper by your agency with respect to historic properties associated with CAJO as a whole or for any other portions thereof.

The National Park Service's (NPS) Chesapeake Bay Office provided additional documentation to the Keeper related to archeological resources in the areas including and adjacent to the APE. In combination with the documentation made available by your agency for the APE and these adjacent areas, as well as an onsite review of these areas by the Keeper's staff, it appears that there may be an as-yet-not-fully defined National Register-eligible archeological district along this portion of the West Bank of the Susquehanna River. If further documentation confirms National Register eligibility, it seems likely that the district would include inundated archeological sites as well as a portion of the river and its banks, one or more river islands, and possibly portions of adjacent river terraces. At this time, however, we concur with the NPS's Chesapeake Bay Office that currently available survey information for the area is still not adequate for the Keeper to determine National Register eligibility.

Taking all of the above into account, we conclude that the documentation made available to date is insufficient for the Keeper to evaluate the historic significance and integrity of CAJO, either in whole or part. As a result, it is not possible for the Keeper to issue a determination of eligibility for listing CAJO in the National Register, in whole or in part, at this time.

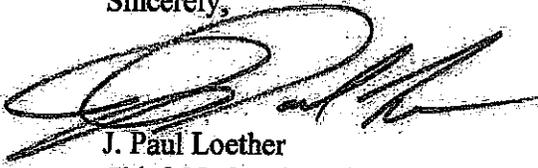
In order for the Keeper to make a determination of National Register eligibility for properties located in the CVST APE as requested in your letter of December 22, 2014, the Federal Highway Administration will need to provide additional documentation. Documentation for a proposed National Register eligibility determination in the APE should be prepared based on comprehensive historical and archeological survey data, and provided to the Keeper in a manner consistent with the guidelines provided in *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*, as well as the "National Register of Historic Places Publication Guidelines for Level of Documentation to Accompany Requests for Determinations of Eligibility for Inclusion in the National Register."

Similarly, documentation for a Keeper's determination of National Register eligibility request for CAJO in its entirety should be prepared based on comprehensive historical and archeological

survey data associated with the trail as a whole, and provided to the Keeper in a manner consistent with the guidelines provided in *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*, as well as the "National Register of Historic Places Publication Guidelines for Level of Documentation to Accompany Requests for Determinations of Eligibility for Inclusion in the National Register."

Additional documentation as described above should be forwarded to our office's senior historian, Patrick Andrus for processing and review. If you need further assistance or have any additional questions in this regard, please contact Mr. Andrus at 202-354-2218 or patrick_andrus@nps.gov.

Sincerely,



J. Paul Loether

Chief, National Register of Historic Places and National Historic Landmarks and
Deputy Keeper of the National Register

cc: Mary Ann Naber, Federal Preservation Officer, Federal Highway Administration
Charles Hunt, Superintendent, Chesapeake Bay Office, National Park Service
Charlene Dwin Vaughan, Advisory Council on Historic Preservation
Serena Bellew, Deputy State Historic Preservation Officer, PA
Stephanie Williams, Deputy State Historic Preservation Officer, VA
Elizabeth Hughes, Deputy State Historic Preservation Officer, MD
Timothy Slavin, State Historic Preservation Officer, DE
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Melissa Ridenour, Division Engineer (EFL), Federal Highway Administration
Christopher Lawson, Division Administrator (DC), Federal Highway Administration
Stephanie Toothman, Associate Director, National Park Service
Jon Smith, Deputy Associate Director, National Park Service
Sande McDermott, Deputy Associate Director, National Park Service
Mike Caldwell, Regional Director, Northeast Region, National Park Service



U. S. DEPARTMENT
OF TRANSPORTATION

**Federal Highway
Administration**

Pennsylvania Division

JUN 23 2015

228 Walnut Street, Room 508
Harrisburg, PA 17101-1720

In reply refer to:
HPD-PA

Snyder, Union & Northumberland Counties,
Pennsylvania
Central Susquehanna Valley Transportation Project
(CSVT) S.R. 15, Section 088
Captain John Smith Chesapeake - National Historic
Trail

Mike Caldwell, Regional Director
Northeast Region - National Park Service
U.S. Custom House
200 Chestnut Street, Fifth Floor
Philadelphia, PA 19106

Dear Mr. Caldwell:

On June 3, 2015 a meeting was held with FHWA, NPS, and DOI at the request of the Office of the Under Secretary for Policy of the U.S. Department of Transportation to discuss the Central Susquehanna Valley Transportation (CSVT) project. The CSVT project includes a new bridge across the West Branch of the Susquehanna River. The River was designated in 2012 by the Secretary of the Interior as a Connector Trail to the Captain John Smith Chesapeake National Historic Trail (the Trail). The FHWA, with the concurrence of the Pennsylvania State Historic Preservation Officer (SHPO), determined there are no National Register-eligible resources associated with the Trail within the project's Area of Potential Effects (APE), nor are there any elements within the APE that would contribute to the National Register eligibility of a larger property (such as an archaeological district) encompassing a portion of the Trail, should one exist. As a result of our meeting discussions, we are providing this letter to further explain how the FHWA assessed the Trail as a potential historic property and the details supporting our conclusions concerning the Trail within the CSVT project area.

Section 106 Consultation Process/APE

Section 106 consultation was initiated in 1995 and initial studies were undertaken in consultation with the SHPO and the federally recognized Tribes consistent with the regulations and professional qualifications standards. The Section 106 process began with the initial identification of a very broad APE that included sufficient area to evaluate a range of possible

project alternatives to be developed consistent with the National Environmental Policy Act (NEPA). Consistent with the Section 106 consultation process, the size of the APE evolved over time and was refined with new information and development of project alternatives designed to avoid or minimize project impacts. The new information included the results of the studies undertaken for Section 106 such as the Archaeological Predictive Model, the Geomorphological Investigation, Historic Contexts and Summary of Historic Resources Windshield Survey Report (page 3), and the Historic Resources Survey and Determination of Eligibility report and Addendum. The methodology for each study was developed in consultation with and concurrence by the SHPO.

Archaeological Predictive Model-

Given the initial extent of the project APE (7 USGS quadrangles) and the likely presence of historic properties, the FHWA in consultation with the SHPO determined that a predictive model would be the best way to identify areas of high, medium and low probability for the presence of archaeological sites. The predictive model developed for this project was based upon many types of data including existing archaeological site data, informant interviews, and literature reviews relevant to the region. The model was tested and refined multiple times by applying it to areas of randomly selected known sites. (See Archaeological Predictive Model Vol. 1; Pgs. 3, 23-25 & mapped in Archaeological Predictive Model Vol. 2: Fig 2 – thumb drive). The results of the model were mapped to visually characterize the project study area into areas of high, medium and low probability. The project team developed alternatives, by integrating the results of the archaeological model and mapping in order to avoid or minimize project impacts to areas of high probability of archaeological sites.

FHWA directed that a geomorphological study, in part to supplement the predictive model and assess archaeological potential, be undertaken along the river floodplain areas as well as on the islands within the NEPA study corridors (a much larger area than the refined archaeological APE). The geomorphological investigation included backhoe trenches, sediment cores, test units and Shovel Test Pits. It is of note that, with the exception of the core of the largest island (located upstream of the proposed new bridge – outside the final archaeological APE); the other river islands contain sediments that date only to the past 100 years. The Geomorphological and Phase I Archaeology Report documents the results of the study. With the integration of the archaeological model data, the alternatives studied in detail in the Environmental Impact Statement (EIS) had the least potential to impact landforms with high potential for intact below-ground resources (Final EIS Pgs. IV 258-268).

Tribal Consultation-

In 2002, the FHWA identified and invited the 14 federally recognized Tribes (Tribes) that may attach religious or cultural significance to historic properties within the project APE to participate in consultation on any potential resources within the CSVT project study area and to share any concerns related to the likelihood of project impacts on resources. The invited Tribes were: Absentee-Shawnee Tribe of Oklahoma, Cayuga Nation, Delaware Nation of Oklahoma, Delaware Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, Oneida Indian Nation, Oneida Nation of Wisconsin, Onondaga Indian Nation, Seneca Nation of Indians, Seneca-Cayuga Tribe of Oklahoma, St. Regis Mohawk Tribe, Stockbridge-Munsee Band of the Mohican Nation of Wisconsin, Tonawanda Seneca Nation and the Tuscarora Nation. A Summary of Tribal

Consultation and copies of the information shared with the federally recognized Tribes is included in the thumb drive (CSVT SCS Tribal Consultation Summary). No Tribe identified any above-ground cultural resources or archaeological properties within the APE of interest to their tribe.

FHWA directed professional studies (Attachment 3) be undertaken to identify potential historic properties for evaluation. The results of the studies were instrumental in developing the project to avoid or minimize impacts to historic sites. No above ground historic properties would be adversely affected by the project; however, field excavations (beyond those referenced above) to identify archaeological sites would not be conducted until a preferred alternative was selected. FHWA prepared and executed a project specific Section 106 PA in consultation with the SHPO and the participating Tribes in 2003. The fully executed PA satisfies FHWA's obligations under Section 106, establishes a protocol for the remaining archaeological work, and identifies a path forward to resolve any potential effects to archaeological properties for the selected alternative. Consistent with the earlier studies and as described in the project PA, Phase I archaeological identification investigations were subsequently conducted within the archaeological APE for the CSVT preferred alternative. A Phase I Identification/Phase II Evaluation Archaeological Report was submitted to the invited Tribes and the SHPO in May 2010. At this time, no outstanding actions remain to be completed under the PA. Electronic copies of all study reports are provided on the attached thumb drive.

Connector Trail Designation

In 2014, FHWA directed that reevaluation studies be completed to assure the prior NEPA analyses and decision for the CSVT project were still appropriate. The reevaluation identified that the West Branch of the Susquehanna River had been recently designated as a water trail by Pennsylvania Fish and Boat Commission and two branches of the National Park Service (NPS). Consultation was initiated with each office to identify the important components of the Trail. The Chesapeake Bay office of the NPS was identified as the lead office for the federal Trail. An abbreviated list of outreach efforts with the NPS from early 2014 to early 2015 is attached (Attachment 1). During that time the NPS provided copies of the CAJO Comprehensive Management Plan and A Conservation Strategy for the Captain John Smith Chesapeake National Historic Trail and identified the following eight types of Trail related resources that form the basis for the visitor experience along the Trail, and the basis for conservation:

1. John Smith Voyage Stops
2. Evocative Landscapes
3. Indigenous Cultural Landscapes
4. Historic American Indian Town Sites
5. Significant 17th Century American Indian Archaeological Sites
6. Landscape Features and Cultural Sites of Significance to Modern American Indian Tribes
7. Cross Sites
8. Public Access Sites

The NPS stated in its October 6, 2014 letter to FHWA that the NPS treats the Trail as eligible for listing on the National Register of Historic Places. In the October 24, 2014 letter, NPS stated that FHWA should consider the Trail as an eligible resource and in subsequent discussions, the NPS referred to the eight Trail resources (above) as the types of components that would

contribute to the eligibility of the purported historic property. In response, the FHWA and PennDOT, in consultation with the SHPO, following the PA provisions for unanticipated discovery, re-evaluated the project area in the vicinity of the river to address the potential presence of any of the identified types of components as documented in Attachment 2. This re-evaluation of the area built on work already undertaken over the prior two decades.

For purposes of identifying any examples of the eight types of associated trail resources listed by National Park Service, an approximate 3.0-mile section of the West Branch of the Susquehanna River was considered (map 1). This 3.0-mile section of the river is roughly centered on the location of the proposed CSVT River Bridge and extends approximately 1.5 miles upstream and 1.5 miles downstream. The upstream limit of the evaluation is approximately 8,000 feet north of the proposed CSVT River Bridge near the southern limit of Catbird Island. The downstream limit of the evaluation is approximately 7,500 feet south of the proposed CSVT River Bridge in the area of the southernmost high-tension power lines that traverse the river at high elevation. This 3.0 mile section of the river captures those portions of the river and adjacent banks from which the new bridge would be visible and therefore could be subject to visual impacts as a result of its construction. In regard to archaeological resources, however, consistent with the PA the reevaluation focused specifically on the areas of ground disturbance associated with the proposed river bridge where detailed Phase I/II archaeological investigations have been conducted.

None of the eight types of resources identified by NPS that could contribute to the Trail's eligibility for the National Register were found in the APE of the proposed crossing (See Attachment 2). In consultation with the SHPO, the FHWA determined that the extent of the Trail within the APE is not eligible for listing in the National Register.

Period of Significance-

In order to consider whether any identified sites and historic properties could be associated with the influence of Captain John Smith, professionals qualified under the 36 CFR Part 61 Professional Qualification Standards considered the material provided by the NPS regarding Captain John Smith in the CAJO Comprehensive Management Plan and A Conservation Strategy for the Captain John Smith Chesapeake National Historic Trail to establish a period of significance within which to assess the potential for National Register eligible resources. Based on research, documented history and life cycle aspects of the local environment from excavated Susquehannock village sites, it was extrapolated that a village site that might have existed at the time of Smith and his contemporaries would be occupied for approximately 30 years. A conservative estimate would be that Smith's contemporaries might have seen villages established as early as 1580 and newly established villages at the time of Smith's voyages might have lasted until 1640. Therefore, FHWA, PennDOT and the SHPO agreed that the period of significance for the purpose of identifying any resources in the project area associated with Captain John Smith extends from 1580 to 1640.

Archaeological Sites in the Project Area-

Of the eight types of Trail resources identified by the NPS, the most likely to be found in the CSVT project crossing area would be archaeological sites. The FHWA and PennDOT reviewed the previously undertaken studies and consulted with the SHPO to determine whether there

might be sites within the project area of the Susquehanna River that could be associated or contemporary with Captain John Smith's voyages on the Chesapeake Bay in 1608.

The archaeological investigations undertaken on the areas affected by the selected alternative identified eight archaeological sites. These are located on the Plan Views of the Phase I Identification/Phase II Evaluation Archaeological Report (on thumb drive) and the results documented on Table 1 of the same report (Table 1 attached). Site 36UN16 is located on the west bank and has both a pre-contact and an historic component. Consultation with the SHPO and Tribes resulted in the determination that the historic component, dating to the late eighteenth century, was potentially eligible for listing on the National Register but that the pre-contact component was not eligible or contributing to the historic component (pg. 118-123 Phase I/Phase II Archaeological Report – thumb drive). Neither component of site 36UN16 dates to the period of significance associated with Captain John Smith.

Although informant interviews referenced a burial and the collection of 10,000 artifacts from Site 36NB22, the project excavations did not yield material that would support the claims. Further, Site 36NB22 predates the period of significance associated with Captain John Smith.

Regardless of National Register eligibility, both 36UN16 and 36NB22 will be preserved in place through the use of geotextiles and clean fill. As for the remaining sites they were either determined to be not eligible or known to be outside the area of ground disturbance or were to be preserved in place. The additional sites previously recorded were not located during rigorous testing. Table 1 documents the sites and the details.

Final Design of the selected alternative resulted in minor changes that expanded the project's proposed limits of disturbance (2010 Phase I/II Archaeological Report). These newly identified areas were subjected to Phase I archaeological testing consistent with the stipulations in the project PA and are included in a 2014 Addendum to the Phase I/II Archaeological Report (thumb drive). As described above, no archaeological sites from the period of significance associated with Captain John Smith were identified.

FHWA shared this report with the Tribes and the SHPO in January 2015 and with the NPS in March 2015. The SHPO concurred with the FHWA project finding of no historic properties affected. At this time, all stipulations of the project specific PA have been successfully fulfilled.

When the NEPA reevaluation was initiated in 2014, the full APE for the alternative selected in the NEPA Record of Decision and refined in the 2006 NEPA reevaluation was re-surveyed to identify any additional above ground historic resources and to re-evaluate those previously identified. Of 258 originally evaluated 24 above ground resources were determined eligible for listing in the National Register. No new potential resources were identified; however, nine above ground resources National Register eligible were re-assessed for significance and integrity. Eight of the nine had been demolished and one had lost a significant component. The SHPO concurred in September 2014 that these nine were no longer eligible for inclusion in the National Register. As project design continued, FHWA determined that one previously identified National Register eligible resource, the Sunbury-to-Erie Division of the Pennsylvania Railroad, had a change in impact from the project. The SHPO concurred in November 2014 that the

railroad will not be adversely affected by the new impacts. None of the above ground or archaeological National Register eligible historic resources were associated with the period of significance associated with Captain John Smith (1580-1640).

Visual Assessment

In the Central Susquehanna Valley area, the West Branch of the Susquehanna River flows through a mix of rural agricultural lands dotted with river towns and moderately sized urban centers. Between the communities, the water trail has a landscape characterized by a broad river valley with surrounding farm fields, rolling hills and forested ridges. The Adam T. Bower memorial dam, an inflatable fabric dam located in Sunbury, artificially alters the water surface elevation of this stretch of the river during the summer months. The dam is inflated annually around Memorial Day and stays inflated beyond Labor Day. The fabric dam was constructed in order to elevate the water surface of the river in this area to promote active recreation (i.e. boating, fishing, water skiing, etc). The artificial impoundment of the fabric dam is known as Lake Augusta. The landscape within view of the proposed new crossing does not retain integrity from the period associated with the Captain John Smith exploration.

FHWA and PennDOT recognize that the construction of a high-speed, multi-lane highway will alter the landscape with cut, fills, bridges, paved areas, guide rails and stormwater management basins. As such, a visual quality analysis was performed for the CSVT project as part of the 2000 Draft EIS and the 2003 Final EIS. Visual resources and viewer groups were identified and viewsheds were evaluated for each alternative. Nineteen (19) potentially sensitive visual locations were identified, photographed, and analyzed and those locations adjacent to the river are reflected in Attachment 4. At the time of the EIS preparation (early 2000's), state of the art graphics software was used to produce computer renderings which show simulated views from sensitive areas of the new crossing.

Four river crossing options were evaluated in the EIS. It is important to note that various alternatives for both the location and the design of the proposed bridge structure were considered. All involved the construction of a new bridge structure over the West Branch Susquehanna River in the same general area. Six (6) of the nineteen visually sensitive areas were located in Section 2(Northern Section). Figure 1 shows the Section 2 alternatives studied in the EIS and the visually sensitive locations studied (Areas 14 through 19). Three of those visually sensitive areas (Areas 16, 17 and 18) were views of the selected river crossing option (RC5). The proposed crossing location does not have a view of nor is it visible from the overlook at Shikellamy State Park.

The EIS clearly identifies that there will be an impact to the viewshed with the advent of the new river crossing. However, because the FHWA in consultation with the SHPO did not identify a cultural or evocative landscape that could have been associated with the period of Captain John Smith and that was eligible for the National Register, there is no Section 106 effect associated with the viewshed impact.

Conclusion

The FHWA has recognized the significance and importance of the Susquehanna River as a Connecting Trail to the Captain John Smith National Historic Trail as a significant recreational

trail resource. The values of the river to nearby communities were evident during the project development process and were clearly recognized by the NPS as they evaluated the Trail for its determination. Throughout the original project development process and the current NEPA reevaluation studies FHWA has sought to understand and characterize the values associated with the Trail as a recreational resource and consider the impacts associated with the project.

After careful review of the CAJO Comprehensive Management Plan and A Conservation Strategy for the Captain John Smith Chesapeake National Historic Trail, as well as thorough review of the supplemental information provided by the NPS, FHWA did not identify any resources within the APE of the CSVT project that would contribute to the National Register eligibility of a larger historic trail property, if one were found to exist. Nor in applying the provisions of the Section 106 process to this project, has FHWA found any National Register eligible elements that might be associated with the period of significance of Captain John Smith in any area affected by the project. The current landscape features and setting of the Trail do not substantiate the presence of any National Register eligible resource associated with the period of significance associated with Captain John Smith. FHWA has committed to consider the impacts of this project to historic properties according to agreed upon provisions of the project PA. Copies of all referenced documents are provided on the attached thumb drive. Copies were previously provided to the Keeper of the National Register and the Captain John Smith Chesapeake Bay Office.

Although not eligible for listing in the National Register, the Trail is an important and valued feature of the region for recreation and was addressed as such under the requirements of Section 4(f). Extensive public involvement for the project included a Gateway Bridge Committee which convened over several years to review and comment on the context of the new bridge. Noteworthy design recommendations from that group have been considered and integrated in the design of the project and include: minimizing the number of river piers, construction of a single bridge rather than two separate structures, consideration of the proportion of the bridge (ratio of length to height), incorporation of a barrier type to enhance the view of the river from the bridge and the view from the river to the bridge.

Mitigation commitments for impacts to the recreational components are documented in the Draft and Final Section 4(f) Evaluations and include the following:

- construction of a new public access boat launch,
- the development and installation of signs visible to motorists in each travel direction on the new roadway identifying the Trail, and the
- development of a sign or kiosk (wayside exhibit) at the proposed boat launch highlighting the significance of the river and the Trail.

With due consideration of the NPS correspondence, information from the NPS and the information discussed above and referenced through the attached documentation, the FHWA considers its efforts in compliance with Section 106 and the PA that governs this project. We continue to believe that the FHWA has made a reasonable and good faith effort to identify historic resources and take into account the impacts of the proposed CSVT project on any properties determined to be eligible for the National Register.

Sincerely,

A handwritten signature in cursive script that reads "Renee Sigel". The signature is written in black ink and is positioned above the printed name.

Renee Sigel
Pennsylvania Division Administrator

ec: *Stephanie Toothman, Associate Director, National Park Service
Paul Loether, Program Manager, NPS, National Register of Historic Places
*Charles Hunt, Superintendent NPS, Chesapeake Bay Office
MaryAnn Naber, FHWA Federal Preservation Officer
Sandy Tosca, P.E., District Executive, PennDOT District 3-0
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Timothy Slavin, Delaware SHPO
Stephanie Williams, Virginia Deputy SHPO
Elizabeth Hughes, Maryland Deputy SHPO
Ruth Pierpont, New York Deputy SHPO

*Jon Smith, Deputy Director, National Park Service
Sande McDermott, Deputy Associate Director, National Park Service
*Lori Caramanian, Deputy Assistant Secretary, Department of the Interior
Pamela Goddard, Sr. Program Manager, National Parks Conservation Association

*Thumb Drive (each document is titled as referenced above)
Enclosure

Attachment 1

Abbreviated List of Outreach with National Park Service

- * 4/18/14 PennDOT Letter to NPS
- * 6/2/14 NPS Letter to PennDOT
- * 7/9/14 NPS Email to PennDOT
- * 9/17/14 PennDOT Letter to NPS (including all attachments)
- * 10/6/14 NPS Letter to PennDOT
- * 10/6/14 FHWA Email to NPS
- * 10/16/14 FHWA Email to NPS (including attachment of project area photos)
- * 10/22/14 FHWA Email to NPS
- * 10/24/14 NPS Letter to PennDOT
- * 11/6/14 FHWA Letter to PHMC
- * 11/25/14 NPS Letter to FHWA
- * 12/10/14 PHMC Letter to FHWA
- * 12/11/14 ACHP Email to FHWA
- * 12/16/14 NPS Email to FHWA
- * 12/22/14 FHWA Letter to NR Keeper
- * 2/13/15 NR Keeper Letter to FHWA
- * 2/19/15 NPS Letter to FHWA
- * 3/11/15 NPCA Letter to USDOT
- * 3/20/15 FHWA Letter to NR Keeper (w/attachment of archaeological site map/table)
- * 4/2/15 FHWA email to ACHP
- * 4/17/15 NR Keeper Letter to FHWA

Attachment 2

Assessment of CAJO Trail Resources with respect to the CSVT Project

1. John Smith Voyage Stops: There are no John Smith voyage stops in or near the CSVT Project (*Captain John Smith Chesapeake National Historic Trail Final Comprehensive Management Plan and Environmental Assessment – February 2011, Figure 2.2, p. 2-7*).
2. Evocative Landscapes: “Evocative landscapes are places possessing a feeling that expresses the aesthetic or historic sense of a particular period of time. This feeling results from the presence of physical features that, taken together, convey a landscape’s historic character. Within the context of planning for managing the Captain John Smith Chesapeake NHT, evocative landscapes are areas along the trail where the natural setting of the Chesapeake Bay and its tributaries remains generally free from intrusion by modern development – where the landscape is composed of wetland and forest vegetation, providing habitat for terrestrial and aquatic wildlife, and affording an opportunity for trail visitors to vicariously share the experience of John Smith and his crew in the 17th century” (*Captain John Smith Chesapeake National Historic Trail Final Comprehensive Management Plan and Environmental Assessment – February 2011, p. 2-8*).

In order to identify and assess evocative landscapes, the NPS has characterized four classifications of evocative landscapes based on their level of fragmentation by modern intrusion. These classifications include relatively intact landscapes, somewhat fragmented landscapes, extensively fragmented landscapes, and very limited or absent landscapes (*A Conservation Strategy for the Captain John Smith Chesapeake National Historic Trail – January 2013, Figure 1-2, p. 12*).

Map/aerial image analysis and field reconnaissance indicates that both the eastern and western banks of the West Branch of the Susquehanna River in the area of the proposed CSVT river crossing have been developed with modern intrusions. Specifically, the western bank of the river is lined by a modern campground (i.e., the River’s Edge Campground) north of the proposed river crossing and private residences/cottages south of the proposed river crossing, including a linear concrete bulkhead. These modern intrusions extend for several hundred feet upstream and downstream of the proposed river crossing. Additionally, the eastern bank of the river has been developed to include three active railroad lines associated with the Norfolk Southern Railway Company (NS). These active railroad lines (i.e., one mainline and two separate sidings) are northerly extensions of the major NS rail yard facility located approximately one mile downstream from the bridge crossing. While the eastern bank is lined by a strip of mature trees and thick undergrowth, which somewhat obscures these active rail lines, it is not uncommon for the river user to see and hear passing trains. There are also four high-tension electrical transmission lines crossing the Susquehanna River just downstream (and within view) of the proposed CSVT river crossing. Further, and perhaps most compelling of all, is the fact that the water elevation of this entire section of the river has been artificially altered by the construction of the Sunbury Fabridam several miles downstream of the CSVT river crossing. The fabridam was constructed in order to elevate the water surface of the Susquehanna River to promote active recreation (i.e., boating,

fishing, water skiing, etc.). The artificial impoundment created by the fabric dam is known as Lake Augusta and extends several thousand feet upstream of the CSVT River crossing (*CSVT Project Final Environmental Impact Statement and Section 404 Permit Evaluation, Volume 1 – July 2003, p. IV-28*).

The project area lies within the Appalachian Oak Forest of the Ridge and Valley physiographic province. This forest type is characterized by a great diversity of species, especially oaks, and is extensive in Pennsylvania. Red oak, white oak, scarlet oak, black oak, and chestnut oak predominate, while pines, hemlock, hickories, maples, and other hardwoods appear as secondary species. The primary forest of the project region has been drastically altered by lumbering and clearance of the land for agriculture. What would have been dense first growth forest during the time of Captain John Smith have been replaced by primarily agricultural fields with some stands of second and third growth trees (Archaeological Predictive Model).

As such, this section of the West Branch of the Susquehanna River would most accurately be described as consisting of an “extensively fragmented landscape”. The exceptions to this finding are the islands in the middle of the river, which remain largely undisturbed and unaltered by modern development. One of these islands will be spanned by the proposed bridge structure, and no piers will be placed on the island. The only permanent feature that may be placed on the island is rock lining (rip rap), which will be installed if final hydraulic analyses indicate the proposed construction will cause the potential for significant erosion of the island banks.

3. **Indigenous Cultural Landscapes:** Indigenous cultural landscapes are landscapes that generally encompass cultural and natural resources that would have likely been associated with, and supported, the historic lifestyle and settlement patterns of American Indians and that exhibited their cultural or esthetic values at the time of early European contact (*A Conservation Strategy for the Captain John Smith Chesapeake National Historic Trail – January 2013, p. 3*).

As described above, both the eastern and western banks of the West Branch of the Susquehanna River in the area of the proposed CSVT river crossing have been developed with modern intrusions. These modern intrusions include three active railroad lines along the eastern bank and a modern campground/private residences along the western bank, including a linear concrete bulkhead. Paved roads and modern agricultural operations are present beyond these immediate intrusions. There are also four high-tension electrical transmission lines crossing the Susquehanna River just downstream (and within view) of the proposed CSVT river crossing. Further, and perhaps most compelling of all, is the fact that the water elevation of this entire section of the river has been artificially altered by the construction of the Sunbury Fabric Dam several miles downstream of the CSVT river crossing. Consequently, any cultural or natural resources associated with the historic lifestyle and settlement patterns of American Indians were previously impacted by these modern intrusions. The exceptions to this finding are the islands in the middle of the river, which remain largely undisturbed and unaltered by modern development. One of these islands will be spanned by the proposed bridge structure, and no piers will be placed on the island. The only permanent feature that

may be placed on the islands is rock lining (rip rap), which will be installed if final hydraulic analyses indicate that the proposed construction will cause the potential for significant erosion of the island banks.

4. **Historic American Indian Town Sites:** No major Native American villages are documented from within the limits of the CSVT Project Area of Potential Effects (APE). However, Native American villages were present in the surrounding region. A sketch map made by surveyor Isaac Taylor in 1725 shows an “Indian Town” on the west bank and islands of the Susquehanna River several miles south of the project APE, between Penn’s Creek and Middle Creek in Snyder County. Prior to being appointed representative of the Six Nations of the Iroquois in 1728, Oneida Chief Shikellamy resided at Shikellamy’s Town on the west bank of the West Branch of the Susquehanna River approximately one mile south of the present-day town of Milton in Northumberland County. From 1741 to 1748, Shikellamy established his seat at the prominent Native American village of Shamokin (modern-day Sunbury), located on the east bank of the Main Stem of the Susquehanna River at the confluence of the North and West Branches (*CSVT Project Phase I Archaeology and Phase II Archaeological Investigation of Site 36UN16 Report – March 2010, p. 19*).
5. **Significant 17th Century American Indian Archaeological Sites:** Nearly the entire area of proposed disturbance associated with the CSVT project (based on the preliminary design of the project) has been reviewed for potential impacts to archaeological resources, and associated Phase I and II archaeological investigations have been completed. (Archaeological investigations are ongoing for relatively small additional areas of proposed disturbance that have been identified during final design of the project.) The completed Phase I archaeological survey included background research, informant interviews, a geomorphological investigation, and archaeological field investigations. Phase II archaeological field investigations were conducted at Site 36UN16 (located along the west bank of the West Branch of the Susquehanna River in the area of the CSVT river crossing) and were designed to provide a recommendation for the National Register of Historic Places eligibility of the site.

Background research determined that two previously recorded archaeological sites, sites 36UN16 and 36NB22, are located adjacent to or within the limits of the CSVT river crossing. Site 36UN16 is recorded as a large, multi-component (Archaic and Transitional periods) site located on the floodplain of the river. The northern portion of the site is within the impact area of the CSVT river crossing. Site 36NB22 is recorded as a multi-component site which yielded thousands of artifacts and may have had a burial associated with it. The site is located several hundred feet north of the CSVT river crossing in an agricultural field on the east side of the river.

Phase I archaeological survey and Phase II testing at the location of Site 36UN16 verified the existence of Late Archaic and Terminal Archaic period components, and identified previously unrecorded Early Woodland and Historic period components. Based on the results of the archaeological testing, Site 36UN16 was recommended as eligible for listing in the National Register of Historic Places. However, only the identified Historic period component of the site contributes to that eligibility. Due to the paucity of culturally and

chronologically diagnostic artifacts, and the lack of cultural features and materials suitable for radiometric assay, the pre-contact period component of Site 36UN16 does not contribute to the site's eligibility.

The Historic period component of Site 36UN16 was identified in plowzone contexts and a garbage disposal pit associated with a late 18th Century Euro-American house. The plowzone remains were characterized by temporally mixed pre-contact and Historic period artifacts of predominantly 20th Century association, which represent inadvertent rural trash disposal activities such as field manuring. The Historic period artifacts recovered from the garbage disposal pit included a large quantity of bone, ceramics, glass, metal, and concrete (mortar). Union County tax records indicate that the subject house may have been constructed circa 1775 (*CSVT Project Phase I Archaeology and Phase II Archaeological Investigation of Site 36UN16 Report – March 2010, pp. 82-95*). None of the artifacts recovered from Site 36UN16 are associated with 17th Century American Indians.

Phase I archaeological testing also determined that a portion of another previously recorded pre-contact period site, Site 36NB22, lies within a proposed temporary construction access road location associated with the CSVT river crossing. Local collectors reported that a burial with a flint blade cache had been excavated from the site, but the informants could not offer any more specific information. Field verification of the site's location was attempted at the time the site was recorded in 1973. This attempt recovered a netsinker, some implement fragments, and a rhyolite Susquehanna broadspear. According to the recorded information, it was impossible to determine the cultural affiliation of the site with certainty. However, the recovery of the Susquehanna broadspear suggests occupation of the site during the Transitional Archaic period.

During the CSVT project Phase I survey, the site location yielded a core, a biface, and sparse lithic debitage. There was not sufficient information recovered during the current Phase I survey at Site 36NB22 to determine the potential eligibility of the site. In order to protect the site from the project's temporary impacts, and preserve it in place, PennDOT will cover the site with geotextile and fill. Prior to any construction activities, the area defined as Site 36NB22 will be covered with geotextile and fill material to protect the site during use as a portion of a temporary construction access road. The geotextile and fill will be removed after the project is complete (*CSVT Project Phase I Archaeology and Phase II Archaeological Investigation of Site 36UN16 Report – March 2010, pp. 96-98*). None of the artifacts recovered from Site 36NB22 are associated with 17th Century American Indians.

6. Landscape Features and Cultural Sites of Significance to Modern American Indian Tribes:

During the Contact and Historic periods (A.D. 1600 to Present), Native American groups in the area encompassing present-day Northumberland, Union and Snyder counties included the Susquehannock, Iroquois, Delaware, Conoy, Nanticoke, and Shawnee. The Iroquois League was a confederacy of Iroquoian-speaking tribes that occupied the area between the Mohawk and Genesee Rivers in what is now southern New York State. The Iroquois expanded their hunting territory through negotiation or warfare with neighboring tribes. In 1675, the Iroquois defeated the Susquehannock and claimed ownership of the entire Susquehanna

Valley. The Delaware, forced to migrate westward by population pressure from Euro-American settlement in the Delaware Valley, arrived in the Susquehanna drainage during the early eighteenth century. The Shawnee, Conoy, and Nanticoke also migrated to the Susquehanna River Valley during the early eighteenth century. These tribes were subservient to the Iroquois, who permitted them to occupy the region. (*CSVT Project Phase I Archaeology and Phase II Archaeological Investigation of Site 36UN16 Report – March 2010, p. 19*).

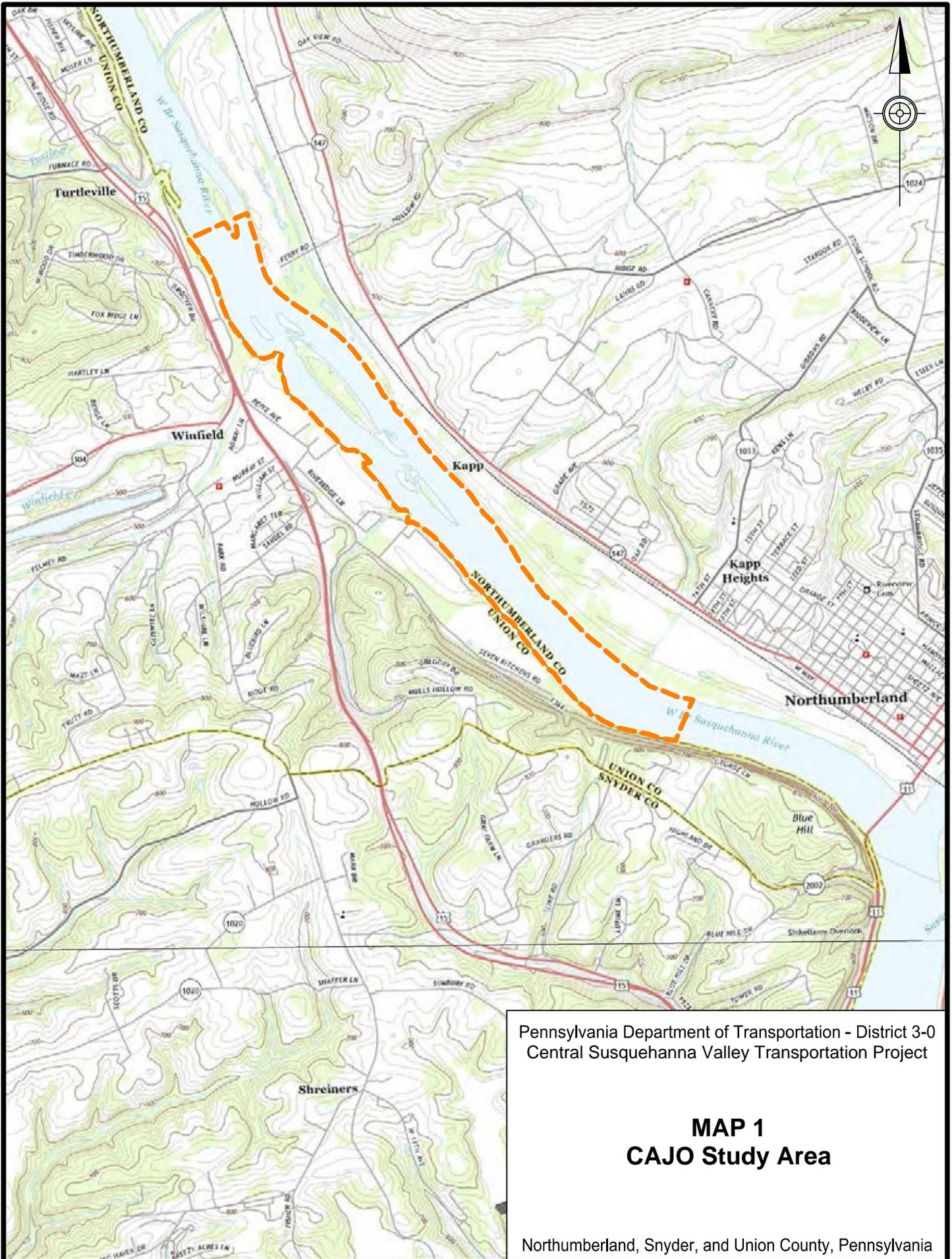
Conflicts with area Indian tribes kept European habitation sparse until well after the American Revolution. Bloody massacres figure heavily in local legend, with attacks at Penn's Creek in 1755 and Winfield in 1782 serving to scare away all but the hardiest settlers (*CSVT Project Historic Contexts and Summary of Historic Resources Windshield Survey – January 1997, p. 13*).

As described above, both the eastern and western banks of the West Branch of the Susquehanna River in the area of the proposed CSVT river crossing have been developed with modern intrusions. These modern intrusions include three active railroad lines along the eastern bank and a modern campground/private residences along the western bank, including a linear concrete bulkhead. Paved roads and modern agricultural operations are present beyond these immediate intrusions.

Further, nearly the entire area of proposed disturbance associated with the CSVT project (based on the preliminary design of the project) has been reviewed for potential impacts to archaeological resources, and associated Phase I and II archaeological investigations have been completed. (Archaeological investigations are ongoing for relatively small additional areas of proposed disturbance that have been identified during final design of the project.) Background research determined that two previously recorded archaeological sites, sites 36UN16 and 36BN22, are located adjacent to or within the limits of the CSVT river crossing. However, neither of these archaeological sites contained artifacts associated with 17th Century American Indians.

It's also important to note that tribal coordination has been performed related to the completed archaeological investigations (and is ongoing related to the relatively small additional areas still under investigation, as referenced above). In 2002, the FHWA identified and invited 14 federally recognized tribes (Tribes) with potential religious or cultural associations to participate in consultation on any potential resources with the CSVT project study area and to share any concerns related to the likelihood of project impacts on resources. The invited Tribes include: Absentee-Shawnee Tribe of Oklahoma, Cayuga Nation, Delaware Nation of Oklahoma, Delaware Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, Oneida Indian Nation, Oneida Nation of Wisconsin, Onondaga Indian Nation, Seneca Nation of Indians, Seneca-Cayuga Tribe of Oklahoma, St. Regis Mohawk Tribe, Stockbridge-Munsee Band of the Mohican Nation of Wisconsin, Tonawanda Seneca Nation, and the Tuscarora Nation. To date, the Tribes have expressed no significant concerns with this project, which is indicative of the absence of landscape features and cultural sites of significance within the CSVT project area.

7. Cross Sites: There are no John Smith cross sites in or near the CSVT Project. (*Captain John Smith Chesapeake National Historic Trail Final Comprehensive Management Plan and Environmental Assessment – February 2011, p. 2-12*).
8. Public Access Sites: There are no public access sites to the West Branch of the Susquehanna River currently located within the area of the proposed CSVT river crossing. However, as mitigation for the proposed project's impact to the recreational aspects of the West Branch of the Susquehanna River, PennDOT will construct a public boat launch as part of the project. The public boat launch will be constructed along the west bank of the river immediately adjacent to the proposed river crossing. Upon completion of the public boat launch, the facility will be turned over to the Pennsylvania Fish and Boat Commission to be managed and maintained as part of its larger system of public access points. As such, implementation of the CSVT project will ultimately result in an overall improvement to the public use and accessibility of this section of the West Branch of the Susquehanna River, thereby fulfilling part of the NPS's documented Conservation Strategy for the Captain John Smith Chesapeake National Historic Trail (*A Conservation Strategy for the Captain John Smith Chesapeake National Historic Trail – January 2013, p. 13*).



Pennsylvania Department of Transportation - District 3-0
 Central Susquehanna Valley Transportation Project

MAP 1
CAJO Study Area

Northumberland, Snyder, and Union County, Pennsylvania

Attachment 3
Summary of Section 106 Studies

- January 1997 – PennDOT/FHWA prepared Historic Contexts and Summary of Historic Resources Windshield Survey. A study area of 35 square miles was evaluated for historic resources. Additionally, several historic contexts were developed.
- September 1998 – PennDOT/FHWA published Historic Resources Survey and Determination of Eligibility Report and Addendum. 258 properties were evaluated for their historic and architectural significance. 24 properties determined eligible for the National Register.
- August 1999 – PennDOT/FHWA developed predictive model for archaeological resources (in consultation with PA State Historic Preservation Officer (SHPO)).
 1. Model area encompassed range of reasonable project alternatives, and where possible, areas identified as highly sensitive for archaeological resources were then avoided during alternatives development
- April 2000 – PennDOT/FHWA prepared a Geomorphological Report that was performed to obtain sufficient information to aid in the selection of a preferred alternative and to facilitate the assessment of work effort for the expected Phase I archaeological studies.
 - 42 backhoe trenches, 2 test units, 7 STP's and 210 sediment cores were investigated
- April and August 2000 – PennDOT/FHWA prepared Determination of Effect Report and Addendum for potentially affected architectural resources.
 1. No architectural resources eligible for National Register of Historic Places (NRHP) were found to be adversely affected by preferred alternative.
- July 2003 – PennDOT/FHWA published Final Environmental Impact Statement (FEIS).
- October 2003 – PennDOT/FHWA/SHPO executed Programmatic Agreement (PA) (with original 5-year duration) to stipulate how potential effects to NRHP-eligible archaeological sites would be addressed.
- October 2003 – FHWA issued Record of Decision (ROD).
- May 2006 – FHWA approved first FEIS Reevaluation.
- April 2009 – PennDOT/FHWA/SHPO executed Amendment to extend duration of PA (for 7 years).
- May 2010 – PennDOT/FHWA provided report of Phase I/Phase II archaeological investigations within Area of Potential Effects (APE) to SHPO and Tribes.
 1. Phase I studies completed on entire APE
 2. Two potentially eligible sites identified through Phase 1.
 3. One potentially eligible site only temporarily impacted during construction. As a result, Phase II study not completed. Site will be protected by geotextile and fill during construction to avoid impacts.
 4. Phase II study completed at one large, multi-component (Late Archaic, Transitional, Early Woodland and Historic Period) site. Due to the paucity of culturally or chronologically diagnostic artifacts, the pre-contact period component of the site that lies within the CSVT APE was unlikely to yield important information and does not contribute to the eligibility of the site

5. Phase II studies determined that the historic period component of the site did contribute to the site's eligibility. In agreement with the SHPO, the historic period component of the site will be preserved in place through the placement of geotextile and fill. This will be left in place.
 6. PennDOT/FHWA received no concerns from SHPO or Tribes. The temporary and permanent fill placement plan was recently sent to the SHPO and Tribes.
- January 2014 – PennDOT and FHWA reviewed project and identified items to be addressed in second FEIS Reevaluation.
 - February 2014 – PennDOT surveyed APE for newly NRHP-eligible architectural resources.
 1. No newly NRHP-eligible architectural resources were found within APE. One property previously determined eligible had lost integrity and was determined no longer eligible for the NRHP
 - September 2014 – PennDOT/FHWA provided results of February 2014 architectural resource survey to SHPO; SHPO concurred with results.
 - October 2014 – PennDOT notified Tribes that additional archaeological investigations had been initiated.
 - November 2014 – PennDOT/FHWA provided addendum to April and August 2000 Determination of Effect Report to SHPO for newly anticipated temporary impact to NRHP-eligible Sunbury-to-Erie Division of the Pennsylvania Railroad;
 - SHPO agreed with the No Adverse Effect Determination in November 2014
 - December 2014 to Present – PennDOT completed additional Phase I archaeological investigations within updated APE (based on final design work completed since May 2010) and submitted a Phase I Archaeological Survey Addendum to the SHPO
 1. To date, no NRHP-eligible archaeological sites have been found to be impacted within updated APE.
 2. January 2015 the SHPO concurrence with the Phase I Arch Survey Addendum that no new arch sites impacted in updated APE
 - June 2015 – PennDOT and FHWA provided temporary and permanent preservation in place plans to the SHPO and Tribes. The 30-day review period will end on July 1, 2015.

**Table 1.
Archaeological Resource Summary and Recommended Actions.**

Archaeological Resource	Discovery Status	Component	Recommended Eligibility	Recommended Further Action
6 Isolates	Newly identified	Pre-contact period	Not eligible	None
36SN3	Previously recorded, not relocated	N/A	N/A	N/A
36NB143	Previously recorded, not relocated	N/A	N/A	N/A
36UN16	Previously recorded, relocated	Pre-contact period	Does not contribute to site eligibility.	None
		Historic period	Contributes to site eligibility	Will be covered by geotextile and fill to avoid temporary construction impacts
36NB22	Previously recorded, relocated	Pre-contact period	Insufficient data	Will be covered by geotextile and fill to avoid construction impacts
Mall site (36SN291)	Newly identified	Pre-contact period	Insufficient data	None, location is outside of current construction zone
Heimbach 1 site (36SN293)	Newly identified	Pre-contact period	Insufficient data	None, location is outside of current construction zone
Fine Line site (36SN290)	Newly identified	Pre-contact period	Not eligible	None
PPG site (36SN292)	Newly identified	Pre-contact period	Not eligible	None

No additional archaeological investigations are recommended for the CSV T project as it is currently designed.

Attachment 4 VISUAL QUALITY ANALYSIS

In general, in the Central Susquehanna Valley area, the West Branch of the Susquehanna River flows through a mix of rural agricultural lands dotted with river towns and moderately sized urban centers. Between the communities, the water trail has a landscape characterized by a broad river valley with surrounding farm fields, rolling hills and forested ridges. The Adam T. Bower memorial dam, an inflatable fabric dam located in Sunbury, artificially alters the water surface elevation of this stretch of the river during the summer months. The dam is inflated around Memorial Day and stays inflated beyond Labor Day. The fabric dam was constructed in order to elevate the water surface of the river in this area to promote active recreation (i.e. boating, fishing, water skiing, etc). The artificial impoundment of the fabric dam is known as Lake Augusta.

FHWA and PennDOT recognize that the construction of a high-speed, multi-lane highway will alter the landscape with cut, fills, bridges, paved areas, guide rails and stormwater retention basins. As such, a visual quality analysis was performed for the CSVT project as part of the 2000 Draft EIS and the 2003 Final EIS. Visual resources and viewer groups were identified and viewsheds were evaluated for each alternative. Nineteen (19) potentially sensitive visual locations were identified and analyzed. These areas were photographed. At the time of the EIS preparation (early 2000's), 3D Studio Viz graphics software was used to produce computer renderings which show simulated views of the potentially impacted areas.

Four river crossing options were evaluated in the EIS. It is important to note that various alternatives for both the location and the design of the proposed bridge structure were considered. All involved the construction of a new bridge structure over the West Branch Susquehanna River in the same general area. Six (6) of the nineteen visually sensitive areas were located in Section 2. Figure 1 shows the Section 2 (Northern Section) alternatives studied in the EIS and the visually sensitive locations studied (Areas 14 through 19).

Three of those visually sensitive areas (Areas 16, 17 and 18) were views of the selected river crossing option (RC5). The EIS clearly identifies that there will be a substantial impact to the viewshed with the advent of the new river crossing. The following is a discussion of the impact at each location and the proposed mitigation options.

AREA 16

This visually sensitive area is located south of RC5 on the west bank of the West Branch and contains a strip of homes along a local road known as Lee's Lane. The existing views in this area (looking northwest) consist of the floodplain containing several outbuildings and agricultural fields with forested ridges in the background. The proposed view shows a very large, high bridge crossing the floodplain. The rendering in Figure 2 shows the proposed view of a bridge approximately 650 feet away. In this location, the bridge is approximately 120 feet high.

It was recognized that due to the height of the bridge, the only real mitigation possible was the use of a bridge design (color/texture/materials) that would blend into the landscape as much as possible. Clusters of trees were suggested to be planted to filter the views of the piers.

AREA 17

This visually sensitive area is also located south of RC5 on the west bank of the West Branch in the same location as Area 16. However, this view is facing north looking at the river. The existing view is of the river and the small island, locally known as Goat Island. The proposed view, shown on Figure 3, demonstrates a very large, high bridge crossing the river, approximately 1500 feet away. In this location, the bridge is approximately 130 feet high. As with Area 16, it was recognized that, due to the height of the bridge, the only real mitigation possible was to use a bridge design that was sensitive to the surroundings and would blend into the landscape as much as possible.

AREA 18

This visually sensitive area is located on the east bank of the West Branch Susquehanna looking southeast. This area is along Route 147 in strip commercial area. The existing view is of several commercial establishments and a forested hillside. Trees line both sides of Route 147. In the proposed view, shown on Figure 4, the structure has crossed the river and is coming down in elevation and is crossing into the hillside. The bridge crosses Route 147 approximately 50 feet above the existing grade, approximately 1600 feet from the photo location. The mitigation for this location would be to minimize the depth of the cuts along the hillside, revegetate the cuts, landscape the fills and use vegetative screening wherever possible.

As noted above, all of the Section 2 river crossing alternatives involve the construction of a new bridge structure over the West Branch of the Susquehanna River (in the same general area) and the associated placement of multiple piers within the river. To put it quite simply, there is no feasible and prudent alignment shift or design modification available that would satisfy the project need and would eliminate the construction of this new bridge structure and result in complete avoidance of the Susquehanna River National Recreation Trail. Therefore, no further analysis of alignment shifts/design modifications to avoid the river has been completed for this project.

Measures to minimize harm to the West Branch of the Susquehanna River have been identified, developed, and incorporated into the CSVT Project in several ways. For the design of the river crossing, various options were considered for the type and configuration of the proposed bridge structure. While non-conventional structure types (e.g., suspension bridges, cable-stayed bridges, etc.) were determined to be cost prohibitive, several different configurations of conventional structures (i.e., beam-type bridges) and the use of both steel and concrete beams were investigated. Based on the various analyses performed, a structure that uses maximum conventional span lengths achievable by the current construction industry is proposed, thus minimizing the number of piers that need to be placed in the river. The resulting clear span lengths will be more than adequate to accommodate the recreational uses of motorized and non-motorized boating, fishing, swimming, camping, and wildlife observation that presently occur on the river. The navigable portions of the river are also sufficiently wide enough that individual piers will not be obstructions or otherwise restrict those uses of the river. (The piers will generally be located outside of the areas of deepest flow, as required to minimize backwater increases caused by the new structure in accordance with regulations of the Federal Emergency Management Agency.)

In addition, an extensive public outreach program was conducted for the CSVT Project. Approximately 150 meetings were held between December 1995 and June 2003. These meetings ranged from full public meetings where a variety of issues were discussed with a broad spectrum of meeting attendees to special purpose meetings held to discuss issues specific to individual property owners, neighborhoods, or communities. Four standing committees were also established for the project, including a Citizens Advisory Committee (CAC), Public Officials Work Group (POWG), Monroe Township/Shamokin Dam Borough Focus Group, and Point/Union Township Focus Group. A breakdown of the key public and committee meetings held for the CSVT Project during the above time period is as follows:

5 Public Meetings

1 Public Hearing

4 CAC Meetings

5 POWG Meetings

14 Joint CAC/POWG Meetings

10 Monroe Township/Shamokin Dam Borough Focus Groups

4 Point/Union Township Meetings (which focused on the proposed river crossing)

Numerous meetings were also held with environmental resource agencies to keep them abreast of project developments. In all, 50 meetings, including 20 field views, were held with the environmental resource agencies.

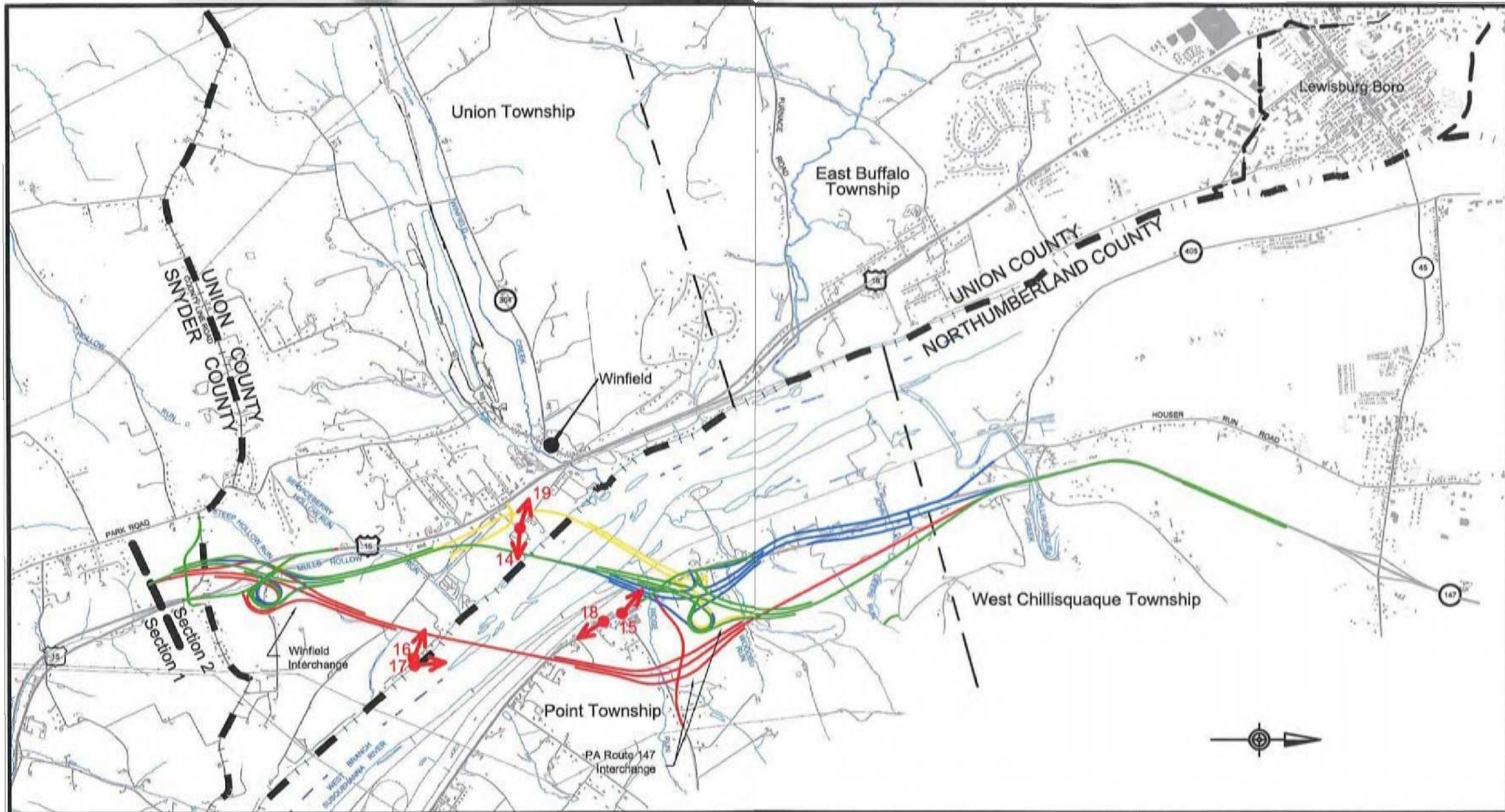
Following the issuance of the ROD in 2003, public involvement activities for the CSVT Project included coordination with appropriate stakeholders as needed to address specific issues associated with the final design of the project, primarily related to Section 2. In particular, a public advisory committee (consisting of community members and public officials¹) was convened in 2005 to review and comment on context features related to the proposed new bridge over the West Branch of the Susquehanna River. Multiple meetings of this “Gateway Bridge Committee” were held over several years, and some of the more noteworthy design conclusions that were coordinated with this group include the following:

- A single structure is proposed to carry both directions of traffic (rather than two separate structures, one to carry each direction of traffic), thereby minimizing the number of piers required to be placed in the river.
- For the portion of the bridge over the river, the ratio of the proposed beam spans (which range approximately from 250 feet to 350 feet) to proposed pier heights (which range approximately from 130 feet to 160 feet) varies between 1.6:1 and 2.6:1. Those ratios

¹ Volunteers to serve on this committee were solicited through local media outlets, and the committee was ultimately composed of a diverse group of regional stakeholders and design professionals. In particular, two members of this committee were affiliated with the Community Resource Center of SEDA-Council of Governments (the local rural planning organization). At that time, the Community Resource Center was serving as the primary planning agency for the Susquehanna Greenway Partnership (i.e., NPS’s local trail program manager for the Susquehanna River National Recreation Trail).

bracket the value of 2:1 that was identified as desirable or “visually pleasing” by the committee.

- PA HT Barrier (consisting of metal railing on top of a short concrete barrier) is proposed to be installed on both sides of the bridge. This type of barrier offers an enhanced view of the river (from the bridge) and results in a more “slender” profile view of the bridge (from the river or ground below).



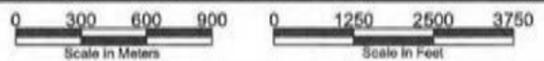
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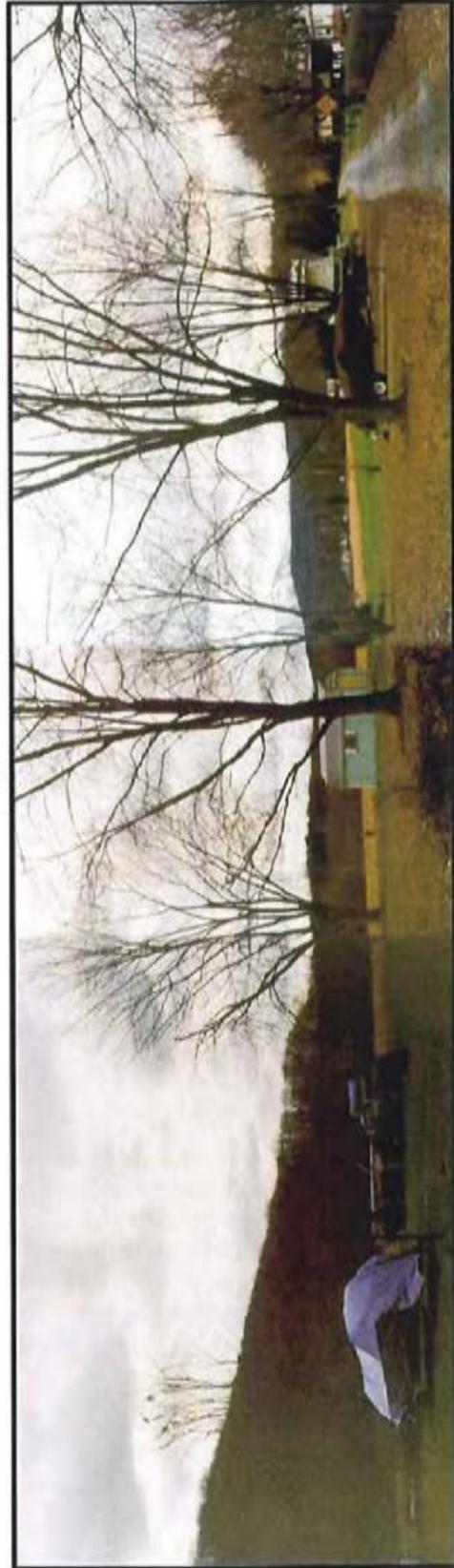
- River Crossing 1 - East Alternative
- River Crossing 1 - West Alternative
- River Crossing 5 Alternative
- River Crossing 6 Alternative
- ➔ Photo Site Location and Direction
- 11** Photo Site Number

**Central Susquehanna Valley
Transportation Project**

Figure 1

**Section 2-Visual Quality
Site Locations**

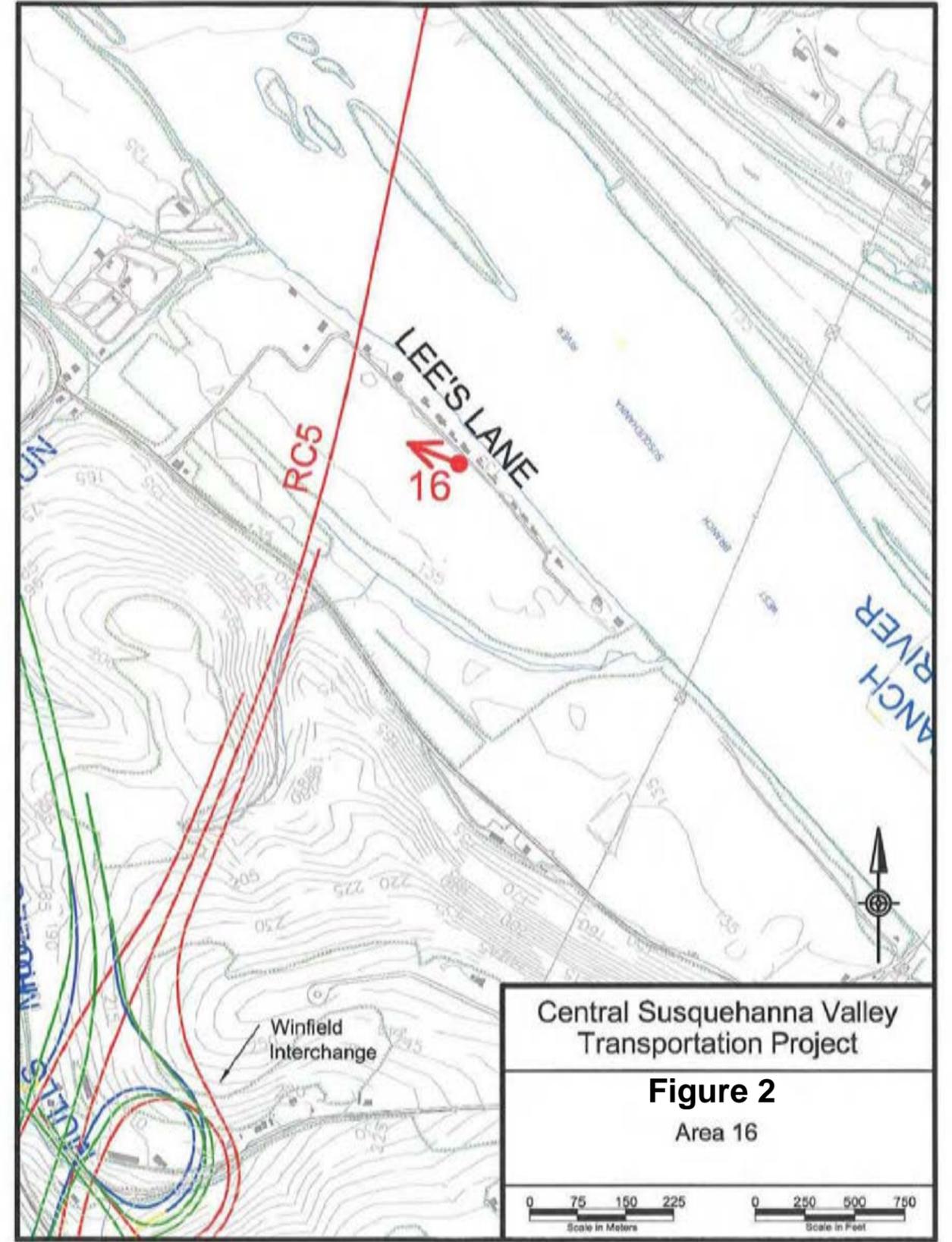




Before



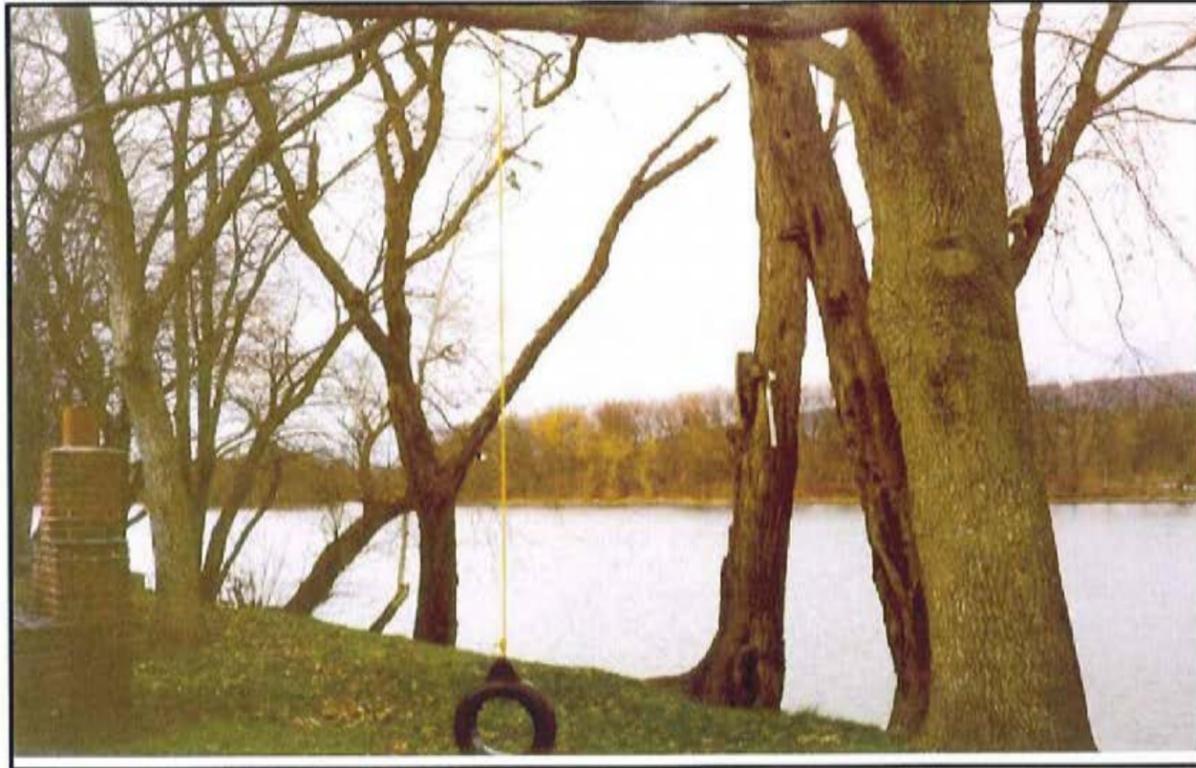
After



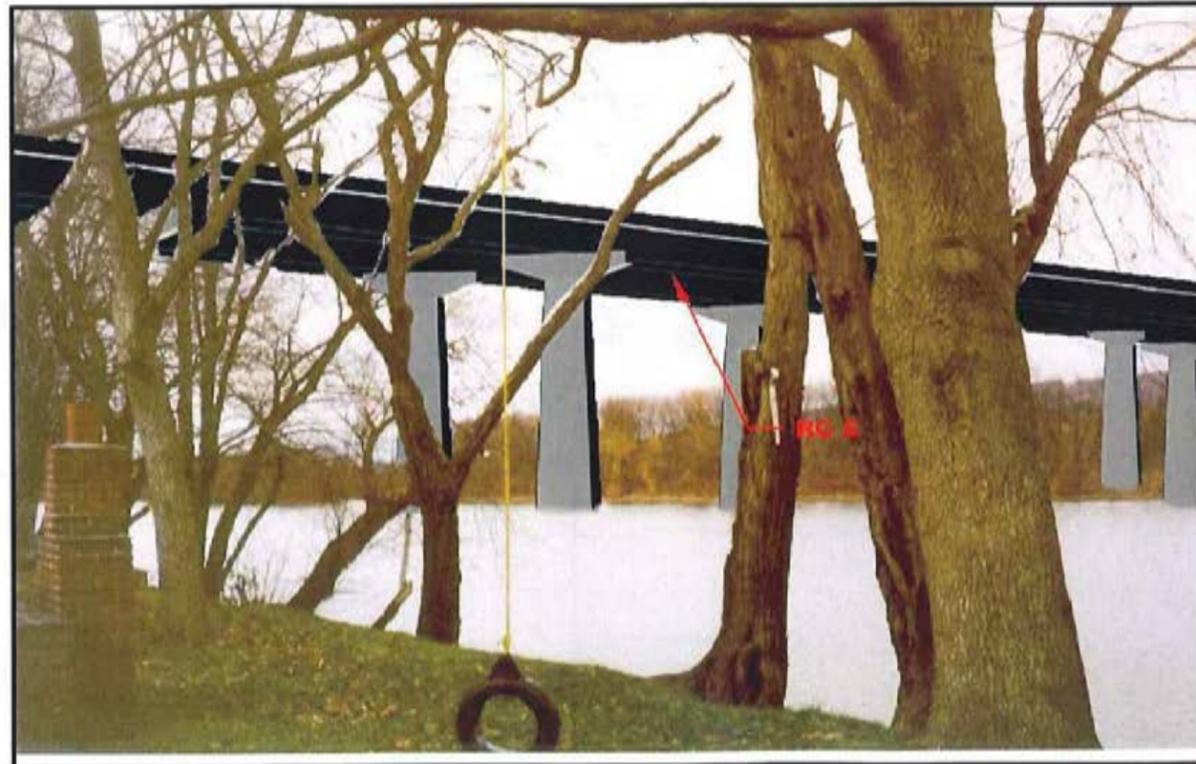
Central Susquehanna Valley
Transportation Project

Figure 2
Area 16

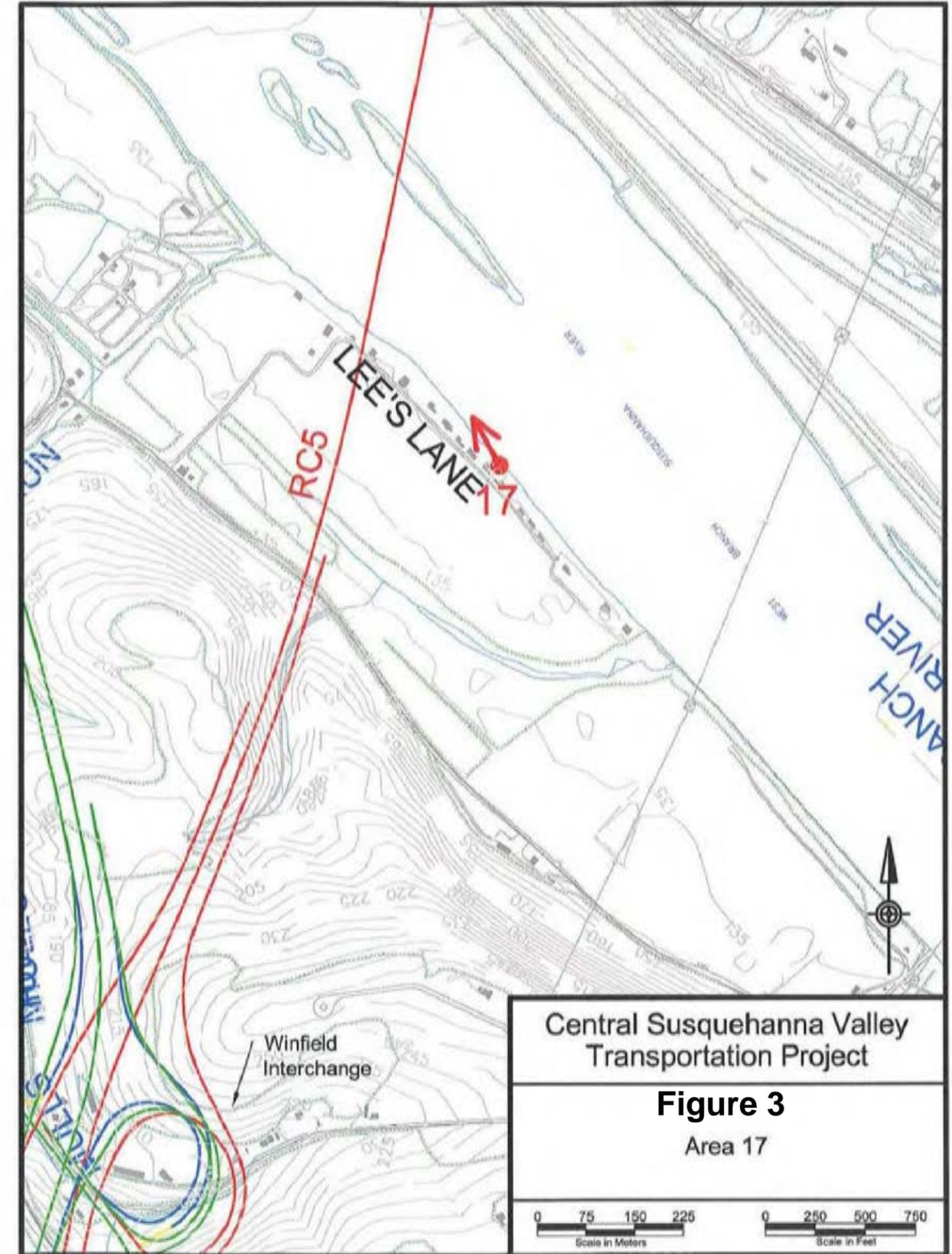




Before



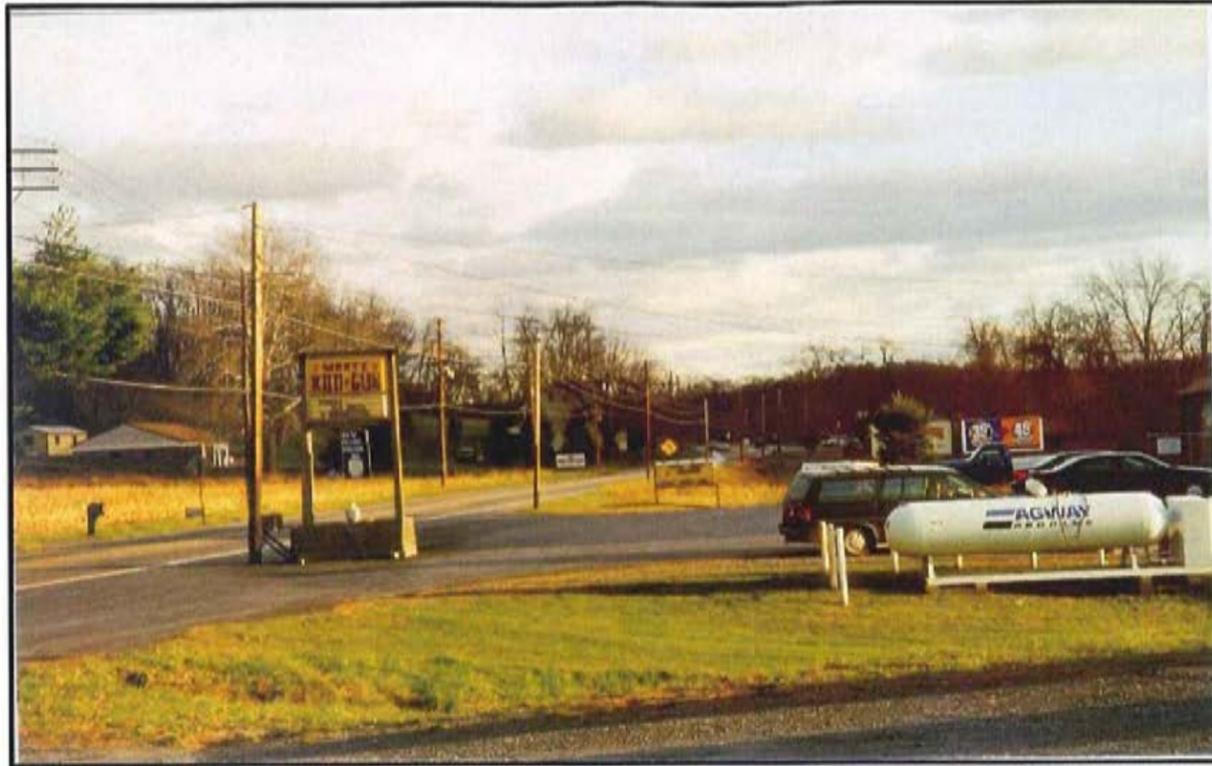
After



Central Susquehanna Valley
Transportation Project

Figure 3
Area 17

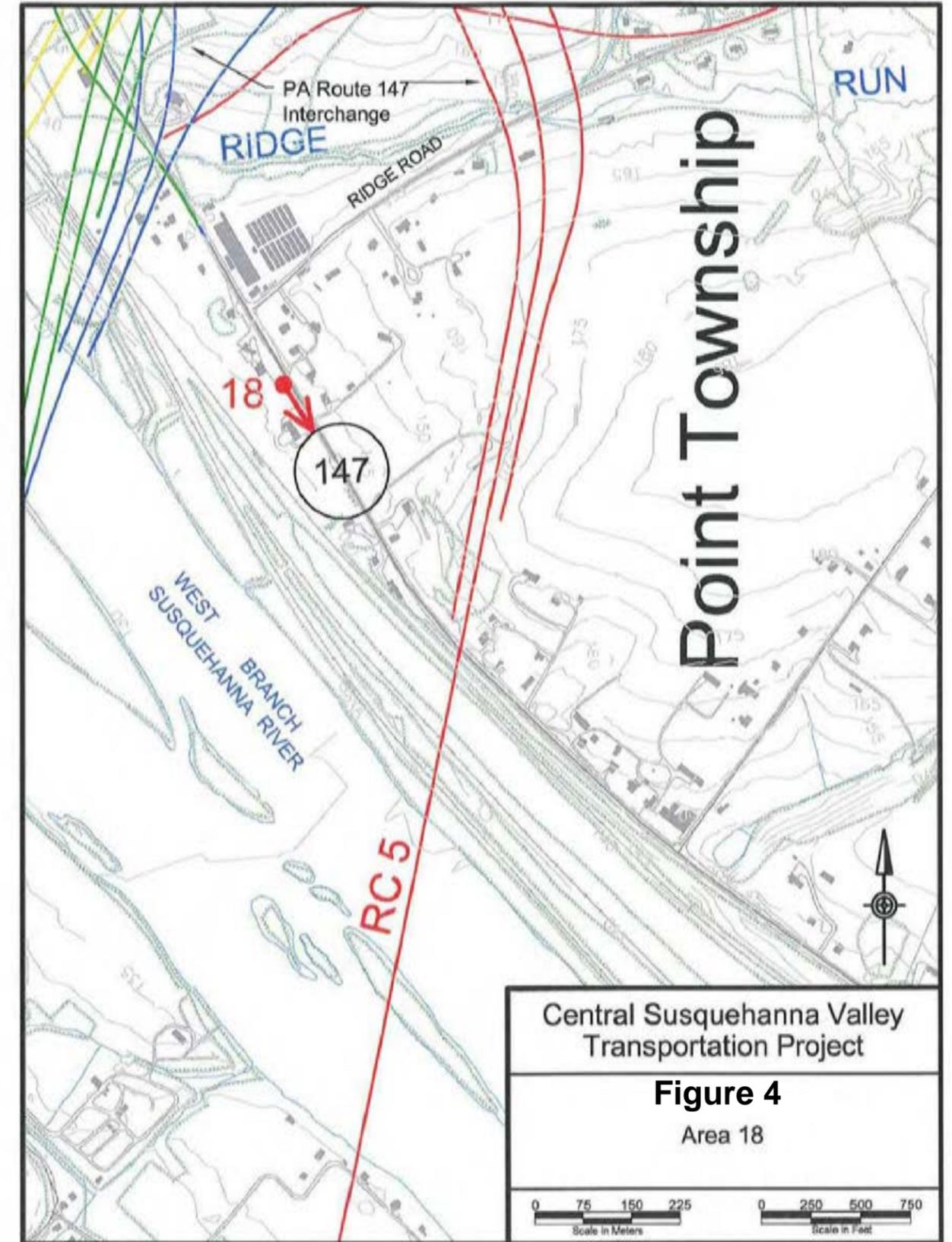
0 75 150 225 0 250 500 750
Scale in Meters Scale in Feet



Before



After



**APPENDIX D -
ENVIRONMENTAL COMMITMENT MITIGATION
TRACKING SPREADSHEETS**

NORTHERN SECTION 2 - RC5 MITIGATION COMMITMENT TRACKING SPREADSHEET

RESOURCES	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION			Commitment Origin	Final Design/Bid Package Prep		
			SECTION	SECTION 2	SECTION 3		Responsible Party	Date/Initials	Action Taken
Population and Housing	Provide relocation assistance for all displaced persons	Final Design	N1	N2	N3	FEIS/ROD	District 3-0		These mitigation commitments are being met through District 3-0 ROW /acquisition specialists led by Mr. Jeffrey Wenner.
	Employ provisions of the Last Resort Housing as necessary	Final Design	N1	N2	N3		District 3-0		These mitigation commitments are being met through District 3-0 ROW /acquisition specialists led by Mr. Jeffrey Wenner.
	When feasible, complete the demolition of remaining structures between October 1 and March 31. If not possible, pre-demolition surveys to assess for bats may be required.	Final Design/Construction	N1	N2		BA/BO	District 3-0		Construction restriction added to N1 to require structure demolition to occur between October 1 and March 31
Community Facilities and Services - Public Schools and Educational Facilities	Provide fair market value compensation for partial property takes	Final Design	N1	N2	N3	FEIS/ROD	District 3-0		fair market value has been provided to all property takes
	Coordinate with School District transportation directors regarding construction activities that may impact daily school bus runs	Construction	N1	N2	N3	FEIS/ROD	Contractor		The District and designer provided direction to the Contractor in the construction restrictions.
Community Facilities and Services - Churches	Provide fair market value for acquisition of property from the Ridgeview Evangelical Free Church (Ridge Road relocation)	Final Design		N2		FEIS/ROD	District 3-0		Ridge Road Relocation has been revised to avoid taking the Ridgeview Church and/or its septic system. District 3-0 ROW specialists will provide fair market value for partial acquisition.
Community Facilities and Services - Public Parks and Recreational Facilities	PENNDOT will attempt to limit the number of bridge piers in the river	Final Design	N1			FEIS/ROD	STV		A single structure is proposed to carry both directions of traffic rather than two separate structures thereby minimizing the number of piers required to be placed in the river. Additionally, a structure that uses maximum conventional span lengths achievable by the current construction industry is proposed, also minimizing the number of piers in the river.
	Continue to coordinate with the PFBC regarding the construction of a public boat ramp in Union County along the west side of the West Branch of the Susquehanna River, in the vicinity of the RC-5 crossing	Final Design	N1			FEIS/ROD	STV/S&L		Coordination has continued with the PFBC on the location and design of the boat ramp. The PFBC support for this site was outlined in a letter received by PennDOT on 4-10-14. A field view was conducted with PFBC, DEP and the design team on 8-11-14 to discuss design and permitting issues. Final design of the boat ramp was approved by the PFBC on _____. ADD DATE
	The docking facility shall be equipped with proper lighting which meets the visibility requirements of the Pennsylvania Fish & Boat Commission.	Final Design	N1			105 Permit Condition #26 (Boat Ramp)	STV		PFBC did not require lighting at the boat launch
	Coordinate with Union Township regarding improvements to the access road to the boat ramp site.	Final Design	N1	N2		FEIS/ROD	District 3-0/STV		Dialogue is ongoing with Union Township on the required improvements to the local road providing access to the boat launch. This local road will also provide construction access to the bridge. A commitment has been made to reconstruct the local roadway from U.S. Route 15 to the boat launch.
	Develop Aid to Navigation (ATON) Plan to ensure boater safety	Final Design	N1			Section 4(f) Evaluation	STV		ATON developed and coordinated with PFBC in 2014. Accepted by PFBC 9-19-14.
	Implement ATON Plan to ensure boater safety and maintain throughout duration of the bridge construction	Construction	N1			105 Permit Condition (Union # 28, Northumberland #30, Boat Ramp # 28)	Contractor		ATON developed and coordinated with PFBC in 2014. Accepted by PFBC 9-19-14.
	Place signs in each travel direction on the river bridge as well as at the proposed launch highlighting the recreational significance of the West Branch Susquehanna River.	Construction			N3	Section 4(f) Evaluation	Contractor		
	Coordinate with PFBC to get construction information posted on PFBC website prior to construction and sent out in joint press release with PFBC.	Final Design/Construction	N1			Section 4(f) Evaluation	District 3-0		Public notice was posted on PFBC water trails guide website during design http://www.fishandboat.com/watertrails/trailindex.htm
	Coordinate the content of proposed recreational bridge and launch signs with appropriate parties.	Final Design			N3	Section 4(f) Evaluation	S&L		
	Install temporary protective fencing on the island at the limits of the aerial easement to protect the recreating public during project construction.	Construction	N1			Section 4(f) Evaluation	Contractor		Protective Fence shown on sheet 52 of 125 on E&S plan.
	Notify water trail managers of West Branch Susquehanna River of construction prior to the start of construction	Final Design	N1			Section 4(f) Evaluation	District 3-0		Susquehanna Greenway Partnership was notified of construction at our October 2014 with them at SEDA-COG
Community Facilities and Services - Emergency Response	Develop a Maintenance and Protection of Traffic (MPT) Plan during Final Design to minimize the disruption of traffic during construction	Final Design	N1	N2	N3	FEIS/ROD	STV		MPT Plan has been prepared and submitted with the bid package
	Coordinate with emergency service providers and agencies in implementing MPT Plan	Construction	N1	N2	N3		STV/District 3-0		The District and designer provided direction to the Contractor in the Construction Restrictions.

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RESOURCES	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION SECTION	CONSTRUCTION SECTION 2	CONSTRUCTION SECTION 3	Commitment Origin	Responsible Party	Date/Initials	Action Taken
Noise	Perform additional noise impact, mitigation feasibility, and mitigation reasonableness analysis to determine specific noise mitigation measures, using PENNDOT's most recent noise policies	Final Design		N2		FEIS/ROD	STV		A Final Design Noise Study is being completed using updated traffic volumes for design year.
	Investigate the use of excess excavated material for construction of earthen berm noise barriers	Final Design		N2			STV		Design changes between FEIS and Final Design may result in additional noise impacted areas. This will be determined by the noise study. If it appears noise mitigation is required, earthen berms will be investigated.
	Limit construction activities to daylight hours to minimize construction noise impacts (if possible to maintain construction schedule)	Construction	N1	N2	N3		Contractor		The limitation of construction activities was considered but is not feasible to maintain and achieve the construction schedule.
Air Quality	Obtain necessary permits from the PA DEP if any paving materials plant (or other air contamination source) will be constructed	Construction	N1	N2	N3	FEIS/ROD	Contractor		
	An Asbestos Containing Material (ACM) Survey will be completed for any buildings slated to be demolished. If present, asbestos will be removed, handled, and disposed of properly	Final Design	N1	N2			District 3-0		ACM Surveys are completed by qualified individuals within the District 3-0 prior to all building demolitions. If present, the contractor completing the demolition is required to remove, handle and dispose of the asbestos properly.
	Employ typical air quality control measures. These include dust controls at the source (wet suppression) and during transport (covering of hauling trucks). No open burning of construction or demolition waste is permitted.	Construction	N1	N2	N3		Contractor		Covered under special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMETS) REVIEW AND SIGN-OFF"
Agricultural Resources	Continue to investigate minimization measures to reduce impacts to agricultural land (minimize required right-of-way width, control runoff/erosion damages)	Final Design	N1	N2		FEIS/ROD	STV		Median width was reduced from 90' to the minimum requirements to reduce the footprint of the highway and minimize ag impacts.
	Evaluate replacement of disrupted water supplies necessary for continued agricultural operations	Final Design	N1	N2			STV		To date, no water supplies for ag uses are known to be impacted.
	Study replacement access to land-locked parcels. Implement if feasible and reasonable; if not, compensate the landowner or acquire the property as an uneconomic remnant	Final Design	N1	N2			STV	DFV	DFV/Final Design outlines access to properties.
	Prepare a Farmlands Assessment Report (FAR)	Final Design	N1	N2			S&L		1st FAR was Feb 2005. After the App redesignation, a 2nd FAR was prepared for the southern portion of the project for the DAM alternative in March 2006
	Obtain approval from the Agricultural Lands Condemnation Approval Board (ALCAB) prior to condemnation of productive agricultural land for highway purposes	Final Design	N1	N2			S&L		1st ALCAB - 3/31/05 (Adjudication & Order 4/22/05) 2nd ALCAB hearing held 5/4/06 with Adjudication & Order 5/8/06
Visual Quality	Form a public advisory committee of community members and public officials to review and comment on context sensitive design features and options related to the proposed bridge over the Susquehanna River	Final Design	N1			FEIS/ROD	District 3-0		<p>A public advisory committee (consisting of community members and public officials) was convened in 2005 to review and comment on context features related to the proposed river bridge. Multiple meetings were held leading to the following:</p> <ul style="list-style-type: none"> • Single structure is proposed to carry both directions of traffic rather than be two separate structures thereby minimizing piers in the river. • For the portion of bridge over the river, the ratio of the proposed beam spans (which range from approximately 250 feet to 350 feet) to proposed pier heights (which range from approximately 130 feet to 180 feet) varies between 1:6:1 and to 2:6:1. Those ratios bracket the value of 2:1 that was identified as desirable by advisory committee. • PA HT Barrier (consisting of metal railing on top of a short concrete barrier) is proposed to be installed. This type of barrier offers an enhanced view of the river (from the bridge) and results in a more slender profile view of the bridge (from the river or ground below). <p>These items were incorporated into the structure design. See structure plans, sheet 129.</p>

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			SECTION	SECTION 2	SECTION 3		Responsible Party	Date/Initials	Action Taken
	Consider using a bridge design that blends with the landscape. Minimize depth of cuts along hillsides. Revegetate cuts, landscape fills, and use vegetative screening wherever possible. Consider planting cluster of trees to screen bridge piers.	Final Design	N1				STV		Revegetation of cuts and fills and plantings have been incorporated into the design. See E&S plan.
	Consider visual renderings of bridge alternatives	Final Design	N1				STV		Evergreen trees are being used for revegetation along the cut areas. Native grasses will be planted in the 50-foot buffer areas along the roadway.
	Visual renderings of the bridge were developed during final design and were shared with the members of the Gateway Bridge Committee								
Advanced Compensation Natural Resource Mitigation Proposal	Attempt to provide a total ecosystem approach to natural resource mitigation by completing all compensatory mitigation activities at one location	Final Design	N1	N2		FEIS/ROD	S&L	Done	These mitigation commitments have been met with the construction of the Center Site and Vargo Site mitigation areas. These mitigation areas fulfill the requirements stipulated in the FEIS/ROD
	Maintain consistency with terrestrial mitigation policies of the FHWA and PENNDOT	Final Design	N1	N2					These mitigation commitments have been met with the construction of the Center Site and Vargo Site mitigation areas. These mitigation areas fulfill the requirements stipulated in the FEIS/ROD
	Obtain potentially suitable mitigation areas primarily through amicable (voluntary) easement agreements or acquisition	Final Design	N1	N2					These mitigation commitments have been met with the construction of the Center Site and Vargo Site mitigation areas. These mitigation areas fulfill the requirements stipulated in the FEIS/ROD
	Use a hierarchical approach to evaluate relevant mitigation opportunities within and adjacent to the project study area	Final Design	N1	N2					These mitigation commitments have been met with the construction of the Center Site and Vargo Site mitigation areas. These mitigation areas fulfill the requirements stipulated in the FEIS/ROD
	Create approximately 7 acres of wetlands	Final Design	N1	N2					These mitigation commitments have been met with the construction of the Center Site and Vargo Site mitigation areas. These mitigation areas fulfill the requirements stipulated in the FEIS/ROD
	Restore, enhance, or reconstruct approximately 1,000 to 4,000 linear feet of stream	Final Design	N1	N2					These mitigation commitments have been met with the construction of the Center Site and Vargo Site mitigation areas. These mitigation areas fulfill the requirements stipulated in the FEIS/ROD
	Provide approximately 55 acres of old field mitigation	Final Design	N1	N2					These mitigation commitments have been met with the construction of the Center Site and Vargo Site mitigation areas. These mitigation areas fulfill the requirements stipulated in the FEIS/ROD
	Provide approximately 150 acres of forestland mitigation	Final Design	N1	N2					These mitigation commitments have been met with the construction of the Center Site and Vargo Site mitigation areas. These mitigation areas fulfill the requirements stipulated in the FEIS/ROD (In partial fulfillment of the NEPA ROD, PennDOT constructed 82 acres of forested area at the Center Site in conjunction with the stream and wetland mitigation areas. It is anticipated that the balance of the terrestrial mitigation will be completed in conjunction with future bat mitigation resulting from the Endangered Species Act Section 7 consultation process.)
	PennDOT will utilize construction procedures that minimize the likely introduction of invasive species into the mitigation areas in accordance with FHWA guidance related to Executive Order #13112	Construction	N1	N2		404 Permit Condition 22			
	FHWA and PennDOT will provide an Environmental Monitor that has appropriate authority and professional experience to ensure complete compliance with relevant conservation commitments (particularly regarding areas of tree removal) and other applicable environmental rules and regulations. The Environmental Monitor will monitor and report acreage of forest impacts. An anticipated or actual exceedance of forest impacts is a trigger for re-initiation of consultation.	Final Design/Construction	N1	N2	N3	BO Condition 3.a			

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	PennDOT will designate an independent environmental monitor that may include the District Environmental Manager, their staff, or qualified designee. The monitor will oversee the construction phases of the project to ensure that permit conditions are met. The role of the independent environmental monitor will include: (a) monitoring the construction to ensure that the work is in compliance with this permit, (b) informing PennDOT and this office of any problems that arise concerning construction in waters of the U.S., including jurisdictional wetlands, (c) recommending measures to bring the project into compliance, (d) Identify ongoing unresolved compliance issues for reference to the USACE. e) Notify the USACE State College Field Office of ongoing unresolved compliance issues within 48 hours.	Construction	N1	N2	N3	404 Permit Condition 27	District 3-0/Skelly and Loy		A special provision is being developed addressing the Environmental Monitor. It will be added to the PS&E package.
Terrestrial Community and Wildlife Habitats	The permittee shall remove trees for this project that have a diameter equal to and greater than three (3) inches at breast height (DBH) between October 1 and March 31 of any given calendar year to prevent killing or injuring bats. Where possible, shagbark hickory trees, dead and dying trees, and large diameter trees (greater than 12 inches DBH) shall be retained to serve as roost trees for bats. A written waiver must be acquired from the Pennsylvania Game Commission prior to cutting trees between April 1 and September 31.	Construction	N1	N2		105 Permit Condition (Snyder #24, Boat Ramp #25, Union # 29, Northumberland # 21) BO Condition 1a	Contractor		Reference special provision "r030433 CONSTRUCTION RESTRICTIONS ", which states the tree cutting window.
	To avoid killing or injuring northern long-eared bats that may be roosting in buildings or	Construction	N1	N2		BO Conditon 1.b.			
	Implement all mitigation commitments for NLE Bats as presented in the Bat Conservation Plan	Final Design/Construction	N1	N2		BO Conditon 2	TBD		The mitigation measures outlined in the Biological Opinion and discussed in detail in the Bat Conservation Plan will be incorporated into the Environmental Commitment Mitigation Tracking Spreadsheet once they are negotiated with the USFWS and the PGC.
	Pile driving activities shall only occur during daylight hours.	Construction	N1	N2		BO Condition 1.c			
	No project-related or project-generated materials, waste, or fill will be deposited in areas that would result in additional forest clearing or sedimentation to any streams in the action area or areas providing habitat to northern long-eared bats.	Construction	N1	N2	N3	BO Condition 1.d			
	During the bidding process, prospective project contractors will be notified regarding the presence of endangered species in the project area and the special provisions necessary to protect them. The successful contractor(s) will be instructed on the importance of the natural resources in the project area and the need to ensure proper implementation of the tree-cutting restrictions, erosion and sedimentation controls, and spill avoidance/remediation practices.	Final Design	N1	N2	N3	BO Conditon 1.e			
	The following conditions (language) will be included in all construction and demolition contracts awarded for project implementation: 1. Endangered species are present in the project area and there is a risk of take (Endangered Species Act section 9 violation) if the Terms and Conditions of the Service's biological opinion are not closely followed. 2. Any trees greater than or equal to 3 inches diameter at breast height (d.b.h.) will only be cut from October 1 and March 31. 3. Best Management Practices for erosion and sedimentation control will be in place before, during, and after any work is conducted. 4. The Service will be notified immediately of any failures of erosion and sedimentation control measures or spills of hazardous materials.	Final Design	N1	N2		BO Conditon 1.i			
	PennDOT, or their contractor, will develop a Pollution Prevention and Contingency Plan which details strict implementation of siltation and erosion measures, off-site storage of toxic materials, hazardous material handling and disposal (i.e. oils, fuels, lubricants, cement and concrete materials, asphalt materials, herbicides, pesticides, and the like), contingency plans for unintended catastrophic events, equipment refueling (i.e., 300 feet away from aquatic resources and not on causeways), and construction crew education.	Final Design/Construction	N1	N2		BO Condition 1.f			

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	PennDOT or their contractors will develop and implement a plan for treatment of the wastewater from the interior of the bridge pier cofferdams that contain "green concrete" materials, residue or low pH water (i.e. Susquehanna River, Chillisquaque Creek, and Hollow Run). The plan will be provided to the Service for concurrence and comment.	Final Design/Construction	N1	N2		BO Condition 1.g			
	PennDOT or their contractors will develop a dust control strategy, reviewable by the Service. The plan will detail how they intend to eliminate or ameliorate the effects of changes in air quality conditions during construction, and control dust.					BO Condition 1.h			
	Consider minor alignment shifts to minimize terrestrial habitat impacts		N1	N2		FEIS/ROD	STV	DFV	ROW impact area has been minimized as much as possible in these areas.
	Consider final design modifications to stormwater management facilities	Final Design	N1	N2			STV		The footprints of the Stormwater Management facilities have been minimized as much as possible in these areas. In addition, some facilities have been relocated to avoid impacts in these areas. Additionally, the design of a proposed stormwater management basin near the Chillisquaque Creek was modified to avoid direct and indirect impacts to Eastern Spadefoot Toad
	Verify locally important wildlife habitats have been avoided or impacts minimized	Final Design	N1	N2			S&L		Important habitat has been analyzed during Final Design. Impacts to locally important wildlife habitats have been avoided and/or minimized during final design as much as possible. However, some land cover impacts have increased including impacts to forested compartments. The increases in impacts are generally related to
	Design vegetative clear zones along the edge of roadway and add safety measures (such as deer crossing signs) to avoid motorist/animal collisions	Final Design	N1	N2			STV		A 50' vegetative clear zone has been added along the edge of the roadway. Add deer crossing signs in PS&E 2?

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			SECTION	SECTION 2	SECTION 3				
	Limit the use of concrete median barriers where safety is not adversely affected	Final Design	N1	N2			STV	Use of concrete median barrier and median guide rail limited where safety is not adversely affected.	
	Notify PAFBC the summer before Susquehanna Bridge construction starts to perform mussel survey/relocation.	Final Design	N1				District 3-0	On September 11, 2014 PennDOT mailed a letter to PAFBC notifying them construction was over nine months away.	
	Prior to construction, survey the project area each spring for the presence of the Bald Eagle (federal threatened and state endangered species)	Final Design	N1				S&L	Ongoing - Nest surveys conducted annually on the project area.	
	Continue annual coordination to update threatened and endangered species information in the project area until the start of construction	Final Design	N1	N2			S&L	Effective July 2, 2012, PNDI receipts and clearance letters issued by the jurisdictional agencies will be valid for two years. Our current letters from the jurisdictional agencies will be valid for two years. Our current letters from the jurisdictional agencies will be valid for two years.	
	Ensure that clearing and disturbance remains within the right-of-way and within areas cleared by the contractor. Consider habitat features that should be avoided and mark areas to remain unaltered.	Construction	N1	N2			Contractor S&L		
	Review all contractor proposed off-site areas required during construction	Construction	N1	N2			S&L	Included in special provision "a01150 REQUIRED REPORTING FOR ALL WASTE AND BORROW SITES REQUIRING AN NPDES PERMIT"	
	Avoid the salvage of topsoil from areas containing invasive plant species	Construction	N1	N2			Contractor	In accordance with Publication 756 (11/13), before earth moving begins, the LOD will be inspected by the Environmental Monitor for major areas of invasive species. If discovered, the contractor should develop a containment and disposal plan, paid incidental of the earthwork. This will be covered in the Environmental Monitor special provision.	
	Re-seed all exposed soil areas (including staging areas) with permanent cover as early as possible	Post-Construction	N1	N2			Contractor	Included in special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF" and in the E&S plan pg 34	
	Include an 18" silt barrier fence or 24" compost filter sock in the design along the western side of PA Route 147 near the Chillisquaque Creek to prevent Eastern Spadefoot Toads (EST) from entering construction areas. The barrier should extend in a continuous line from the southern bank of the Route 147 Bridge over the Chillisquaque south to Hidden Paradise Road habitat and the intersection of Routes 147 and 405.	Final Design		N2		EST T&E Commitments	STV	EST Coordination submitted to PFBC November 2014	
	Install silt barrier fence or filter sock to protect EST during construction	Construction		N2			Contractor		
	The proposed project is located within the known range of the Eastern Spadefoot (Scaphiopus holbrookii). In order to avoid potential impacts to the Eastern Spadefoot, the following measures must be implemented to provide protection to this Pennsylvania threatened species: 1. A standard 18-inch high silt fence or a 24-inch silt sock must be installed as an exclusionary device starting on the southern shoulder of Hidden Paradise Road near the intersection of SR 147 and continue south paralleling SR 147 for approximately 750 feet. 2. The exclusion barrier must be monitored daily and any deficiencies repaired immediately. 3. All construction entrances or interruptions in the exclusion fence must be blocked with hay bales or a suitable gate at the conclusion of each work day. 4. All reptiles and amphibians encountered within the worksite must be photographed and safely moved outside the worksite. If an Eastern Spadefoot is identified within the work area, the applicant or their representative must contact the Pennsylvania Fish and Boat Commission's Natural Diversity Section at 814-359-5237 or 814-359-5147.	Construction		N2		Northumberland Co 105 Permit Condition 31	Contractor		
	Rigorously maintain silt fence/sock during construction; no holes, rips or gaps that could potentially allow ingress of EST into the work area will be permitted. The barrier should extend in a continuous line from the southern bank of the Route 147 Bridge over the Chillisquaque south to Hidden Paradise Road habitat and the intersection of Routes 147 and 405.	Construction		N2		EST T&E Commitments	Contractor		
	If noxious or invasive plant species become established in the right-of-way (post-construction), PENNDOT will attempt to control these until more beneficial species become established one growing season after construction.	Post-Construction	N1	N2		FEIS/ROD	District 3-0		

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Wetlands	Coordinate with natural resource agencies to design a bridge crossing over Wooded Run that avoids direct impacts to the stream and its wetlands.	Final Design		N2		FEIS/ROD	STV/S&L		The design of the box culvert over Wooded Run was coordinated with USACE during a July 2014 Meeting.	
	Consider minor alignment shifts to avoid impacts, where practical	Final Design					STV		Alignment shifts were considered to avoid impacts.	
	Minimize the width of the project footprint to reduce encroachments	Final Design					STV		Median width was reduced from 90' to the minimum requirements to reduce the footprint of the highway	
	Implement a Stormwater Management Plan	Final Design					STV		A Stormwater Management Plan has been developed and will be approved and implemented for the project.	
	If a contractor chooses to use an area outside of the project limits for waste / borrow, staging or service, access or haul roads, the contractor is responsible for obtaining any necessary permits and coordinating with the Environmental Monitor.	Construction		N1			FEIS / ROD 404 Permit Condition 20	Contractor		As noted in the E&SPC Plan General Notes #10, all off-site waste and borrow areas must have an E&SPC Plan approved by the local County Conservation District and be
	PennDOT will add a special condition to require the contractor to have a qualified professional investigate any proposed borrow/waste sites to determine whether wetlands exist on the site and to be responsible for obtaining permits from the Corps and PADEP.	Final Design		N1	N2		FEIS / ROD 404 Permit Condition 20	STV		A special condition was developed in the contract to verify that the contractor has a qualified professional investigate the sites prior to submitting the E&SPC plans to the CCDs since borrow areas have not been identified on the contract ESPC plans. (Included standard Special Provision "a01150 REQUIRED REPORTING FOR ALL WASTE AND BORROW SITES REQUIRING AN NPDES PERMIT" in bid package)
	Install high visibility fencing around all waters of the US adjacent to construction	Construction		N1	N2		404 Permit Condition 4	Contractor		Fencing shown on E&S plan
	No concrete trucks will be washed off in a manner that would allow the cement laden wash water to enter a wetland	Construction		N1	N2	N3	404 Permit Condition 14	Contractor		Concrete wash off areas have been designated in the plans. Contractor must adhere to specific wash off areas. Concrete Washout detail shown on sheet 37 of E&S plan, sheet 14 of E&S Boat Launch Plan and sheet 15 of E&S Mulls Hollow Plan.
	PennDOT will make available construction schedule information prior to construction, and revised occasionally, to facilitate the Corps' monitoring of environmental impacts associated with the highway construction. The construction schedule should identify, to the extent possible, additional impacts to Waters of the United States not included in this authorization resulting from contractor work areas.	Construction		N1	N2		404 Permit Condition 12	District 3-0/S&L/Contractor		Reference Special Provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF"
	Implement an approved Erosion and Sedimentation Pollution Control Plan	Final Design					FEIS/ROD	STV		An E&SPC plan has been developed and was approved on May 7, 2015.
Mitigation for the 0.157 acre permanent wetland impact shall be deducted from the John Vargo Wetland Mitigation and Bank Site. All future balance sheets and monitoring reports must reflect this deduction for permit number E55-230.	Final Design					Snyder Co 105 Permit Condition 23	District 3-0/S&L			
Mitigation for the temporary and permanent wetland impacts (0.439 PEM, 0.567 PSS, 0.196 PFO, 0.011 POW) shall be accounted for at the John Vargo Wetland Mitigation and Bank Site. All future balance sheets and monitoring reports must reflect this	Final Design					Union Co 105 Permit Condition 22	District 3-0/S&L			
Mitigation for the temporary and permanent wetland impacts (0.905 PEM, 0.012 PSS, 0.332 PFO, 0.063 POW) shall be accounted for at the John Vargo Wetland Mitigation and	Final Design					Northumberland Co 105 Permit Condition 28	District 3-0/S&L			
Develop special drainage methods to minimize indirect impacts (case-by-case basis)	Final Design					FEIS/ROD	STV		PCSM plan was developed and will be approved and implemented. Indirect impacts to wetlands and waterways were minimized wherever possible.	
Surface Water/Aquatic Resources	Consider the use of bridges in place of culverts where practical and feasible	Final Design				FEIS/ROD	STV		Bridges were considered	

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	Bridges will be constructed in lieu of culverts at the following locations: Susquehanna River, Chillisquaque Creek, Wooded Run (Channel 41 and relocated 42), Rolling Green Run (Channel 22 and 23), Channel 25, Channel 34. PADOT will provide additional information related to the need to relocate Channel 42 (tributary to Wooded Run) in the JPA.					404 Permit Condition 20			
	All off-site discharges shall be monitored by the Permittee to evaluate impacts to adjacent properties. Monitoring shall be performed on a quarterly basis to document seasonal changes. The monitoring reports shall contain information describing the site at the time of inspection, stability of the channels and banks, photographs and the location and orientation of each of the photographs, and a written plan to correct any issues identified. Reports shall be submitted to the Department annually. The permittee may request a reduction in the monitoring and reporting frequency to the Department, in writing, for review and approval.	Construction	N1	N2	N3	NPDES Condition 10	District 3-0/S&L		Covered in the Environmental Monitoring Spec?
	Minimize the number of bridge piers in the waterway	Final Design	N1			FEIS/ROD	DBB Contractor/STV		Maximum span lengths were used based on industry standards.
	Employ fish passage strategies for culvert crossing structures, including standardized construction details	Final Design				FEIS/ROD	STV		Fish passage strategies including depressing the culverts by 6" and burying riprap were used in the design. (Seven Kitchens road over Mulls Hollow Run arch pipe is
	Implement an approved Erosion and Sedimentation Pollution Control Plan	Final Design				FEIS/ROD	STV		An E&SPC plan has been developed and was approved on May 7, 2015.
	Minimize length of stream restoration as possible. Where not possible, employ current methodologies such as fluvial geomorphology to design the relocated stream	Final Design				FEIS/ROD	STV		Fluvial geomorphology design criteria was used for the stream relocation design.
	Address measures to separate highway surface water runoff from clean upslope runoff as detailed in referenced FHWA documentation	Final Design				FEIS/ROD	STV		Bypass channels were added in all cut slope areas (see E&SPC plans).
	Conduct structure installation during low-flow conditions	Construction	N1	N2		FEIS/ROD	Contractor		Structures to be installed during low flow conditions, if possible, to maintain construction schedule. Reference special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF"
	Avoid or minimize the siting of construction within stream reaches. If unable to avoid stream siting, use clean rock for causeways to avoid sedimentation impacts to stream	Construction	N1	N2		FEIS/ROD	Contractor		Covered in special provision "t031200 ITEM 9000-0400/0401 TEMPORARY CAUSEWAY 1A/1B"
	Use clean rock material and filter fabric for all erosion and sedimentation control measures, diversion channels, and causeways	Construction	N1	N2		FEIS/ROD	Contractor		Covered in special provision "t031200 ITEM 9000-0400/0401 TEMPORARY CAUSEWAY 1A/1B"
	Evaluate, design, and construct crossing structures and in-stream improvements that will reduce the effects of bedload disposition and subsequent maintenance	Construction	N1	N2		FEIS/ROD	Contractor		Addressed in the drainage design, plans and details. Inlet and outlet ends of in-stream culverts are depressed 6" to control deposition. Inlet and outlet ends of crossing
	Locate all construction fueling stations outside of the reaches of the aquatic habitat to avoid accidental discharge of toxic pollutants	Construction	N1	N2		FEIS/ROD	Contractor		Covered in note on sheet 12 of E&S Plan
	The use of silt, soil, and other erodible fine materials in the cofferdam and causeway construction is prohibited. The Susquehanna River Causeway will be constructed using R-3 stone for the top six inches or less of the causeway and no smaller than R-7 stone for the armoring and the interior of the causeway. A plan showing the stages and dimensions of the causeway shall be submitted to the Corps prior to installation. The causeway opening can be no less than 25% of the river width at any one time. If the causeway is extended beyond this point a dam breach analysis and causeway stability analysis maybe required to be submitted to the Corps for review and approval prior to the installation of the causeway.	Final Design	N1	N2		404 Permit Condition 16	STV		The causeway detail on the E&SPC Plan shows the causeway constructed of R-8 rock, topped with 12" of R-3 rock. The plan will be submitted to USACE prior to installation and is included in the Chapter 105 Permit Submission. A causeway overtopping analysis was included in the H&H report.

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RESOURCES	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION SECTION	CONSTRUCTION SECTION 2	CONSTRUCTION SECTION 3	Commitment Origin	Responsible Party	Date/Initials	Action Taken
	PennDOT will evaluate the integrity of the causeway after each overtopping event and will provide the Corps with a report on the findings of each post-flood evaluation. The report shall include: (1) information on any storm damage to the causeway, and any remediation measures deemed necessary by PennDOT to restore the authorized dimensions of the causeway; or to modify its authorized causeway dimensions, if deemed appropriate. Repairs to the causeway: which are necessary to restore the authorized causeway dimensions will not require additional authorization by the Corps, however, the Corps will be notified in the subject report. All proposed modifications to the authorized dimensions of the causeway or the channel openings will require a permit modification, and the modification request must include a dam breach analysis if the opening in the causeway is less than 25% of the width of the river at any one time. (2) Information on any remediation or protection measures required at the or new bridges, if such work requires Corps authorization. Corps authorization would be required for any previously unauthorized work that results in a discharge of fill in the river or that result in a permanent or temporary structure, obstacle, or obstruction in the river. (3) Quantify the maximum flow encountered during the storm event based on the nearest stream gauge upriver of the causeway.	Construction	N1			404 Permit Condition 17	Contractor/District 3-0		Covered in special provision "t031200 ITEM 9000-0400/0401 TEMPORARY CAUSEWAY 1A/1B"
	The Pennsylvania Fish and Boat Commission, will be contacted prior to installation of the causeway in the Susquehanna River, to ensure that proper advanced warning devices are utilized to warn canoe and boat users in the area of the causeway.	Construction	N1			404 Permit Condition 18	Contractor		Reference general note 12 on the structure plans
	With the exception of lubricants for pile drivers, no easily mobile equipment will be fueled or lubricated on the causeway within the river banks, or near any wetlands or streams.	Construction	N1			404 Permit Condition 19	Contractor		Reference sheet 12 of E&S plan
	The causeway and/or cofferdam must be constructed of rock, free of fines and silts, or other non-erodible material. Equipment fueling and storage of polluting substances such as petroleum products on the causeway should be limited to the greatest extent possible. Spills and/or leaks of any polluting substance on the causeway must be immediately contained, cleaned up, and reported to the Department at 570-327-3636.	Construction	N1			105 Permit Condition (Union #27, Northumberland # 24, Boat Launch #24)	Contractor		Covered in special provision "t031200 ITEM 9000-0400/0401 TEMPORARY CAUSEWAY 1A/1B" and note 12 of the E&S Plan
	If a contractor chooses to use an area outside of the project limits for waste / borrow, staging or service, access or haul roads, the contractor is responsible for obtaining any necessary permits and coordinating with the Environmental Monitor.	Construction	N1			FEIS / ROD 404 Permit Condition 20	Contractor		As noted in the E&SPC Plan General Notes #10, all off-site waste and borrow areas must have an E&SPC Plan approved by the local County Conservation District and be fully implemented prior to being activated. Coordination with the Environmental Monitor will be covered in the special provision for the Environmental Monitor.
	PennDOT will add a special condition to require the contractor to have a qualified professional investigate any proposed borrow/waste sites to determine whether wetlands exist on the site and to be responsible for obtaining permits from the Corps and PADEP.	Final Design	N1	N2		FEIS / ROD 404 Permit Condition 20	STV		A special condition was developed in the contract to verify that the contractor has a qualified professional investigate the sites prior to submitting the E&SPC plans to the CCDs since borrow areas have not been identified on the contract ESPC plans (included Standard Special Provision a01150 REQUIRED REPORTING FOR ALL WASTE AND BORROW SITES REQUIRING AN NPDES PERMIT in bid package).
	Any causeways shall be constructed of clean durable R-7 or larger rock, with a riding surface of R-3, and will contain minimum fine materials. Earthen material will not be permitted in streams for the construction of causeways, cofferdams, or stream diversions. Upon completion of any temporary stream or wetland crossing, all excess materials, including stream diversion materials and sediment and erosion control measures, will be removed in their entirety to an upland site, and disturbed areas will be permanently stabilized.	Construction	N1	N2		404 Permit Condition 2	Contractor		Reference causeway typical section on sheet 25 of construction plans
	PennDOT will make available construction schedule information prior to construction, and revised occasionally, to facilitate the Corps' monitoring of environmental impacts associated with the highway construction. The construction schedule should identify, to the extent possible, additional impacts to Waters of the United States not included in this authorization resulting from contractor work areas.	Construction	N1	N2		404 Permit Condition 12	District 3-0/S&L/Contractor		Covered under special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF"
	No instream disturbance shall be conducted in the West Branch Susquehanna River between May 1 and June 15 without the prior written approval of the Pennsylvania Fish and Boat Commission to limit impact to the small mouth bass reproduction..	Construction	N1			June 3 2014 Agency Field View \ 105 Permit Condition (Union #26, Northumberland # 23, Boat Launch #24)	Contractor		Reference special provision "r030433 CONSTRUCTION RESTRICTIONS"

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RESOURCES	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION SECTION	CONSTRUCTION SECTION 2	CONSTRUCTION SECTION 3	Commitment Origin	Responsible Party	Date/Initials	Action Taken
	A suitable concrete washout facility must be provided for the cleaning chutes, mixers, and hoppers of the delivery vehicles. Under no circumstances may any concrete wash water be allowed to enter any surface waters. The washout facilities should not be placed within 50 feet of storm drains, open ditches or surface waters.	Construction	N1	N2	N3	404 Permit Condition 14 105 Permit Condition 21 (Union Co Condition 20)	Contractor		Concrete wash off areas have been designated in the plans. Contractor must adhere to specific wash off areas.
	All synthetic erosion control features (e.g., silt fencing, netting, mats), which are intended for temporary use during construction, will be completely removed and properly disposed of after their initial purpose has been served. Only natural fiber materials, which will degrade over time, will be used as permanent measures, or if used temporarily, will be abandoned in place.	Construction	N1	N2		105 Permit Condition 20 (Snyder, Northumberland, Boat Ramp) 105 Permit Condition 25 (Union County)	Contractor		Covered under special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF"
	Streambank disturbance shall be kept to a minimum and stabilized as specified in the E&S Plan within 4 days of final earthmoving to prevent erosion and provide cover, shading, and food source for aquatic life.	Construction	N1	N2		105 Permit Union Condition 21 - 105 Permit Snyder/Northumberland Condition 22 / Boat Ramp Condition 23	Contractor		Commitment repeated on sheet 13 of the E&S plans
	Mitigation for the 1,850 linear foot stream impact to Mulls Hollow shall be deducted from the Selinsgrove Center Wetland and Stream Mitigation and Bank Site. All future balance sheets and monitoring reports must reflect this deduction for permit number E60-223.	Final Design				105 Permit Union Condition 23	District 3-0/S&L		
	Mitigation for the 864 linear foot stream impact to John Deere Run shall be accounted for at the Selinsgrove Center Wetland and Stream Mitigation and Bank Site. All future monitoring reports must reflect this amount for permit number E49-333.	Final Design				105 Northumberland Co Condition 29	District 3-0/S&L		
	The permittee shall maintain the structures herein authorized free of flood debris and silt deposits. When removal of silt and debris is necessary, it shall be accomplished in accordance with the Department's "Standards for Channel Cleaning at Bridges and Culverts," a copy of which is attached to the permit. Future bridge and culvert rehabilitation and maintenance work is subject to the following conditions: 1. No reduction of span, underclearance or waterway opening of the structure will occur. 2. No roadway grade will be altered, other than that required for normal resurfacing. 3. No substantial modification of the structure from its original specifications. 4. When work involves repairs to piers, footers or wingwalls, the construction area should be enclosed wherever possible within a cofferdam of sandbags or other non-polluting material. 5. The placement of riprap, where necessary, shall not constrict the normal channel width nor shall it interfere with any navigation on the stream or migration of fish.	Construction	N1	N2		105 Permit Condition (Snyder #25, Union # 30, Northumberland # 33)	Contractor		
	Since Wooded Run (CHN-41) and its tributary (CHN-42) are wild trout streams, no work shall be done in the stream channels between October 1 and December 31 without the prior written approval of the Pennsylvania Fish and Boat Commission.	Construction		N2		105 Permit Condition # 25 (Northumberland Co)	Contractor		
	Viable three-foot long live stakes or containerized stakes in accordance with the approved planting plan shall be used along Wooded Run (CHN-41) and its relocated tributary (CHN-42). The stakes shall be cut from native species and spaced at most two feet apart starting at the water's edge and continuing uphill for at least two rows. Approximately 80% of the stake must be underground with two to five buds aboveground. Harvest straight live wood that is at least one year old and plant during the dormant season. Soak the stakes in water for a minimum of 24 hours prior to installation. Do not damage the stakes or split ends during installation, and tamp the soil around the stake so that it is secure. A pilot bar may be required to create a hole allowing stakes to be planted at the proper depth.	Construction		N2		105 Permit Condition # 26 (Northumberland Co)	Contractor		

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	For all concrete work in the stream channel, allow concrete to harden enough to support foot traffic. Flush concrete with stream water and pump to an upland area to discharge in a manner that prevents erosion and re-entry of the water into the stream. Use a properly calibrated pH meter to monitor the discharge until the pH falls below 9.0 before allowing the stream to directly contact the new concrete.	Construction	N1	N2		105 Permit Condition # 22 (Boat Launch)	Contractor		Covered in special provision "r030433 CONSTRUCTION RESTRICTIONS"
	Minimize the area to be devegetated to reduce sediment in the stream	Construction	N1	N2		FEIS/ROD	Contractor		Limit of disturbance on E&S plan and covered under special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF"
	Migratory Fish Mitigation (placeholder)								
	Following structure installation, restore all disturbed aquatic substrate and revegetate any disturbed riparian areas to pre-construction condition	Post-construction	N1				Contractor		Included special provision in plans to document existing conditions at stream crossings in project area. Videotape and photograph existing conditions at all stream crossings, river banks and islands in project area Reference special provision "t031200 ITEM 9000-0400/0401 TEMPORARY CAUSEWAY 1A/1B"
2.7.5 Geology and Soils	Prepare a detailed Erosion & Sedimentation Plan for inclusion in the National Pollutant Discharge Elimination System (NPDES) Permit(s) required by DEP	Final Design				FEIS/ROD	STV		Detailed E&SPC plans were prepared and included in the NPDES permit application. NPDES permit application submitted December 12, 2014. Approved on May 7, 2015.
	Conduct a detailed Geotechnical Survey to ascertain site-specific information on geology and soils as well as groundwater conditions	Final Design				FEIS/ROD	STV		A geotechnical survey was completed in 2010.
	Investigate alternatives that are underlain by limestone bedrock for the presence of solution features (Karst Topography).	Final Design				FEIS/ROD	STV		Alternatives were investigated in the Karst Topography areas and areas with high groundwater to determine the extent of the Karst geology. A detailed plan of the Karst condition is included in App F, Volume 1 of the PCSM Report.
	Boring coverage should be consistent with findings of the Geotechnical Engineering Report. Seal all drill holes upon completion	Final Design				FEIS/ROD	STV		As per the PCSM Report, 8 verification boring were taken based on original findings of the ARM Group, and it was determined that, although Karst exists, it is not severe. Periodic inspection and repairs to the roadways and embankments are recommended. Minimizing the flow of surface runoff to areas not previously receiving runoff and groundwater percolation will assist in reducing future sinkhole development.
	Design roadcuts according to characteristics of the local lithology.	Final Design				FEIS/ROD	STV		Roadcuts were developed according to characteristics of local lithology.
	Design and locate stormwater detention structures to prevent aquifer degradation due to sinkholes	Final Design				FEIS/ROD	STV		A PCSM plan was developed and approved and will be implemented.
	Address all identified solution features with approved engineering methods	Construction					STV		Plan sheet 63 of the E&S plans contains a detail of the treatment to roadside and median swales and the
	In the event that a sinkhole develops during construction, the Contractor shall immediately divert water to by-pass the sinkhole.	Construction	N1	N2	N3	NPDES Condition 2	Contractor		covered as a note on sheet 31 of the construction plan as part of the sinkhole/void treatment
	The Contractor shall have all materials and equipment required to repair a sinkhole readily available as a precautionary measure for sinkhole development.	Construction	N1	N2	N3	NPDES Condition 3	Contractor		Covered under special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-
	Basins excavated in Karst or Pyritic geology shall be excavated mechanically.	Construction	N1	N2		NPDES Condition 4	Contractor		Do we have any in N1?

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			SECTION	SECTION 2	SECTION 3				
	All excavation in Pyritic geology must be done and monitored in accordance with the Pyritic Handling Plan. The only exception is for the river bridge pier foundations, of which any pyritic material will be disposed of at a landfill. All excavation for the piers in pyritic material will be performed in wet conditions.	Construction	N1 Delete?	N2		NPDES Condition 5	Contractor		
	A qualified professional shall be on-site during excavation of potentially pyritic materials, except for the river bridge contract of which all pyritic material from the pier foundations will be disposed of at a landfill.	Construction		N2		NPDES Condition 6	District 3-0 /S&L	Covered on page 3 note 23 of the structure plans	
	Contractor to adhere to all requirements of the PHMP from Station 1014+60 to Station 1074+50	Construction		N2		PHMP	Contractor		
Public/Private Water Supplies	Perform detailed assessments of potentially affected individual domestic and public supply wells	Construction	N1	N2	0	FEIS/ROD	Contractor	Prepare special provision to ensure well testing adjacent to blasting areas. Special provision "t031099 ITEM 9000-0121 - TESTING OF PRIVATE WATER SUPPLIES" included in bid package to cover private water supply testing.	
	Implement contingency plan to address citizen complaints regarding water supply degradation	Construction	N1	N2			Contractor	Reference special provision "t031099 ITEM 9000-0121 - TESTING OF PRIVATE WATER SUPPLIES"	
	Properly abandon wells within the take area	Construction	N1	N2			Contractor	No wells will need to be abandoned in the N1 contract.	
	Monitor and treat impacts to groundwater quality in the areas attributable to project construction	Construction	N1	N2			Contractor	Reference special provision "t031099 ITEM 9000-0121 - TESTING OF PRIVATE WATER SUPPLIES"	
	Provide continuation of water service to residents served by impacted water supplies (provide connections to public water systems, provide water treatment, re-drill existing wells to a greater depth, relocating a well, acquire the property)	Post-Construction	N1	N2			District 3-0 Contractor	Will need work order if becomes an issue during construction.	
Cultural Resources	Complete a Phase I archaeological survey to identify historic and prehistoric resources	Final Design	N1	N2		FEIS/ROD Programmatic Agreement (PA)	S&L	Consistent with the ROD and Programmatic Agreement (PA), Phase I and limited Phase II archeological testing has been conducted on the northern section. Phase I / II	
	Complete a Phase II archaeological survey of test sites identified in Phase I	Final Design	N1	N2			S&L	As final design has progressed, minor changes to the roadway footprint have occurred outside the original APE covered in the 2010 report. These areas have undergone additional testing and were included in a 2014 addendum	
	Apply Criteria of Effect and Adverse Effect and undertake a Phase III program if avoidance of National Register eligible sites is not feasible	Final Design	N1	N2			S&L	No Phase III needed	
	Consult with FHWA and PA SHPO to insure satisfactory design and completion of archaeological studies	Final Design	N1	N2			S&L	PHMC concurred with determination of no effect on archaeological resources on 1/27/15	
	National Register eligible sites should be avoided if feasible	Final Design	N1	N2			S&L	A Phase I archaeological survey was conducted. One prehistoric site on the western bank of the West Branch Susquehanna River was identified for a Phase II investigation. The Phase II investigation indicated that	
	Maintain coordination with all Federally Recognized Tribes with ancestral ties to Pennsylvania	Final Design	N1	N2	N3		District 3-0	Tribal coordination is ongoing	
	A potentially eligible historic archaeological site was identified as potentially impacted by the boat launch construction. On October 30, 2006 an onsite meeting was held and the following recommendations were made: <ul style="list-style-type: none"> Cover area of concern with geotextile and approximately 1' of small stone Complete a compaction analysis Place deed restriction on property limiting future earth disturbance at property w/o coordination with PHMC PennDOT CRP monitor placement of geotextile fabric and fill No portion of the site is to be used as a staging area. 	Final Design/Construction	N1			PHMC Meeting Minutes from 10-30-06	Team	Compaction Analysis conducted by STV Wording was added to the Declaration of Covenants to restrict excavation on the property Reference special provision "r030433 CONSTRUCTION RESTRICTIONS"	
Floodplains	Conduct a detailed hydrologic and hydraulic analyses for flood plain encroachments and for drainage areas greater than .5 acres.	Final Design	N1	N2		FEIS/ROD	STV	Detailed H&H reports have been prepared for floodplain encroachments and drainage areas over 0.5 acres.	

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	Minimize encroachments on the 100-year floodplain and minimize backwater increases.	Final Design	N1	N2			HNTB/STV		A structure that uses maximum conventional span lengths achievable by the current construction industry is proposed, thus minimizing piers in the river. The piers will be generally located outside of the area of deepest flow as
	Coordinate with FEMA to provide information needed for map revisions	Final Design	N1				STV/NTM		A CLOMR application was submitted on October 15, 2014 (resubmitted to address comments on April 2, 2015). Approval is anticipated in May 2015.
	Obtain approval of PA DEP and USACE through completion of Joint Permit application for river crossing	Final Design	N1	N2	N3		STV		105 Permit Application submitted November 26, 2014 (anticipated resubmission to address comments on April 20, 2015). DEP Approval was received May 7th 2015
	Mulch and reseed all roadway embankments	Construction	N1	N2	N3		Contractor		Covered as General note 24 in E&S plans
Waste Sites	An Asbestos Containing Material (ACM) survey will be completed. If asbestos is present, undertake removal, handling, and proper disposal	Final Design	N1	N2		FEIS/ROD	District 3-0		ACM surveys are completed by qualified individuals within District 3-0 prior to all building demolitions. If present, the
	Inspect buildings slated for acquisition but not demolition for lead based paint	Final Design	N1	N2			District 3-0		All aquired buildings are planned to be demolished
	Include Special Provision to specs to assure contractor has qualified professionals to investigate proposed disposal areas	Final Design	N1	N2			STV		As noted in the E&SPC Plan General Notes #10, all off-site waste and borrow areas must have an E&SPC Plan
	If additional waste sites are encountered, a waste management plan will be developed	Construction	N1	N2			S&L		Environmental testing was completed for bridge foundations located within the existing rail lines on the east and west back of the West Branch of the
	Perform well and surface water monitoring as outlined in the PHMP	Construction		N2			S&L		
	Use PENNDOT's Specifications, Publication 408, which provides contract requirements assuring necessary approvals are secured prior to waste disposal	Final Design					STV		Special Provision "a01150 REQUIRED REPORTING FOR ALL WASTE AND BORROW SITES REQUIRING AN NPDES PERMIT" included in bid package.
Traffic and Transportation Network	Coordinate with the local and state police departments, medical and fire emergency services, and school districts to develop a Maintenance and Protection of Traffic	Final Design	N1	N2		FEIS/ROD	District 3-0/STV		Met with Union Township officials in December 2014 and January 2015. Met with Point Township April 2015. A
	Continue working with SEDA-COG to address traffic congestion issues that will persist after construction on CSVT is completed	Final Design					District 3-0/STV		Reviewing designs of Winfield Interchange and Ridge Road Interchange designs based on updated traffic modeling. Met with Point Township in April 2015 to
	Evaluate Ridge Road/PA 147 intersection to ensure sight distance is appropriate	Final Design					STV		The intersection of ridge Road and PA Route 147 has been modified to assure appropriate sight distance is achieved.
	Coordinate with school district transportation directors regarding construction activities along bus routes.	Construction		N2	N3		Contractor		
Scenic Rivers	Consider using materials on the bridge to reflect the natural character of the surrounding area (context-sensitive bridge design)	Final Design	N1			FEIS/ROD	STV		After working with the Gateway Bridge Comiittee, PennDOT noted that the final structure was based on
	Maintain access to the river for potential development of the Susquehanna River Greenway	Final Design	N1				STV/S&L		Access to the river is maintained and enhanced by the construction of the new boat launch.
	Attempt to minimize the number of bridge piers placed in the river, and consider the effect of the piers on ice flow.	Final Design	N1				STV		A single structure is proposed to carry both directions of traffic rather than two separate structures thereby minimizing the number of piers required to be placed in the river. Additionally, a structure that uses maximum
	Incorporate an approved identification sign on the bridge parapet (upstream) identifying it as the State Route 15 bridge.	Final Design			N3		STV		
	Construction staging areas should be screened from the river by a vegetative buffer and set back as far as possible from the river's edge	Final Design/Construction	N1				STV/Contractor		Existing vegetative buffer along the river's edge to remain. Work must be within limit of disturbance on E&S Plan. Special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF" included.
	For causeway, contractor must adhere to requirements of DEP permit BDWW-GP-8 - Temporary Road Crossings	Construction	N1				STV/ Contractor		Causeway permitted under JPA

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RESOURCES	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION SECTION	CONSTRUCTION SECTION 2	CONSTRUCTION SECTION 3	Commitment Origin	Responsible Party	Date/Initials	Action Taken
	Notify river users of construction activity on the river, both upstream and downstream, by using appropriate signage	Construction	N1				STV/ Contractor		ATON plan has been approved by PFBC. Contractor to implement ATON. In addition, the PFBC include construction information on their website.
	All debris entering the river should be removed, during both construction and cleanup	Construction	N1				Contractor		Special provision "a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF" included.
Construction Impacts Related to Earthwork Balance	Use geotechnical survey to adjust the design of cut/fill sections to reduce project-wide surplus earthwork waste where possible (raising profile, steeper rock cut slopes)	Final Design				FEIS/ROD	STV		The DAM/RC5 alignment/profile was modified for the DFV to minimize waste fill. The entire project was balanced in respect to cut/fill
	Continue coordination with local municipalities to identify other potential surplus waste disposal sites	Final Design					STV/District 3-0		See note above, project brought into balance.
	Include Special Provision to specs to assure contractor has qualified professionals to investigate proposed disposal areas	Final Design					STV		As noted in the E&SPC Plan General Notes #10, all off-site waste and borrow areas must have an E&SPC Plan approved by the local County Conservation District and be
	If excess material is to be disposed of outside the project corridor, contractor must obtain all necessary approvals, including environmental clearances	Construction					Contractor		
Miscellaneous	Investigate alignment modifications at Bingman Property, Kohl Property and D Mertz Property	Final Design				FEIS/ROD	STV		Horizontal alignment modifications were investigated at these properties and incorporated into the design (Bingaman - shift to avoid house; D Mertz - shift, but also avoid historic property Kohl - shift to minimize impact to
	Should conditions in the study area change prior to construction of the CSVT project, PennDOT is committed to re-evaluating the areas of impact. If conditions warrant, alignment modifications may be made to minimize project impacts.	Final Design				FEIS/ROD	S&L/District 3-0		The historic eligibility status of the App Farmstead has changed and the DAM alignment is now a viable alternative over the DAMA. The 2006 FEIS/ROD Reevaluation No 1 addressed this change and DAM is
	The permittee shall hold a pre-construction meeting that includes the Department, County Conservation Districts, and the Contractor prior to the commencement of earth disturbance.	Construction	N1	N2	N3	NPDES Condition 1	Contractor		Covered as general note 2 on sheet 9 of the E&S Plan
	No mow areas must be marked in the field to prevent future mowing and tree cutting.	Construction			N3	NPDES Condition 9	Contractor		
	PennDOT will coordinate with the National Geodetic Survey (NGS) to identify locations of geodetic control monuments. PENNDOT will notify NGS 90 days prior to required relocation of any monuments.	Final Design				FEIS/ROD	STV/District 3-0		Coordination with NGS has occurred. No monuments will be affected by the CSVT construction
Right-of-Way	Parcel 138, Steven W. and Jennifer M. Davis A home inspection and water test for quality and quantity are to be completed prior to construction or any blasting near the Davis property.	Construction				ROW Negotiation Commitments			Covered in special provision "t031099 ITEM 9000-0121 - TESTING OF PRIVATE WATER SUPPLIES" and "t030850 ITEM 9000-0095 - LOCAL HOUSING INSPECTIONS"
	Parcel # 67 Claimant: Hummel Bros. Comment or Settlement Commitment: Claimant would like topsoil disturbed by construction, stockpiled, replaced and re-graded in their field following construction. Once construction is completed, the claimant would like to have as much of the paved temporary construction access, on their parcel, left in place, as possible.	Construction							
	Parcel # 411 Claimant David A. Streenstra & Donna L. Streenstra Comment or Settlement Commitment: In conjunction with the above highway project, the department is constructing a temporary construction access connecting S.R. 15 and Seven Kitchens Road. In the event of an emergency in which Reitz Avenue is impassable and the temporary construction access is not constructed, the claimant shall be able to use the existing road bed in order to park campers as they have prior to the project. In the event of an emergency in which Reitz Avenue is impassable and the temporary construction access is constructed, the claimant shall be able to use said access to evacuate campers. The claimant will be permitted to make only right turns onto S.R. 15 North. Once the temporary construction access is constructed, the claimant shall not use said access to park campers, but only for evacuation purposes. Once construction is completed, the claimant would like to have as much of the paved temporary construction access, on their parcel, left in place, as possible.	Construction							

NORTHERN SECTION 2 - RC5 MITIGATION COMMITMENT TRACKING SPREADSHEET

Final Design/Bid Package Prep

RESOURCES	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION SECTION	CONSTRUCTION SECTION 2	CONSTRUCTION SECTION 3	Commitment Origin	Responsible Party	Date/Initials	Action Taken
	Claimant Jerry L. Rhoads & Mardelle E. Rhoads Comment or Settlement Commitment: Contractor to install orange construction fencing dividing claimants residual and the areas aquired as TCE and Aerial Easement prior to construction.	Construction							
	Parcel 401, Lawrence J. and Christina M. Ross Complete a pre- and post-well inspection for water quality and quantity.	Construction							Covered in special provision "t031099 ITEM 9000-0121 - TESTING OF PRIVATE WATER SUPPLIES"
	Parcel 401, Lawrence J. and Christina M. Ross Install a construction fence along the fill toe line on the northeast side of the proposed temporary roadway to protect their drainfield from damage.	Construction							Protective Fence Shown on sheet 15 of Mulls Hollow E&S plan

SOUTHERN SECTION 1 - DAM MITIGATION TRACKING SPREADSHEET

RESOURCE	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION SECTION				Commitment Origin	Final Design/Bid Package Prep		
			S1	S2	S3	S4		Responsible Party	Date/Initials	Comment
2.1 Social Considerations										
2.1.1 Population and Housing	Provide relocation assistance for all displaced persons	Final Design					Section IV, A 1, a, i (page IV-12)	District 3-0		These mitigation commitments are being met through District 3-0 ROW/acquisition specialists led by Mr. Jeffrey Wenner.
	Employ the provisions of Last Resort Housing as necessary	Final Design						District 3-0		
	Conduct final relocation survey	Final Design						District 3-0		
2.1.2 Neighborhoods and Community Cohesion	Provide fair market value compensation for partial property takes	Final Design						District 3-0		
	Design and construct new access road for the northern section of the Colonial Woods neighborhood (Colonial Drive relocated)	Final Design					Section IV, A 1, b, i (page IV-20)	STV		The access to Colonial Acres has been modified since the FEIS and this design has been incorporated into the DFV plans. Additional correspondence is required with the neighborhood.
	The Courtland Avenue Extension will be maintained by Shamokin Dam Borough	Post-Construction						STV		The Courtland Ave Extension has been incorporated into the DFV plans and includes provisions for pedestrians.
2.1.3.1 Community Facilities and Services - Public Schools and Educational Facilities	Coordinate with School District transportation directors regarding construction activities that may impact daily school bus runs	Construction					Section IV, A 1, c, i, b (page IV-23)	Contractor/GF		
2.1.3.2 Community Facilities and Services - Public Parks and Recreational Facilities	Investigate options for additional access to Shamokin Dam Borough riverfront property located west of Tedd's Landing and east of the Veteran's Memorial Bridge	Final Design					Page V-269			
2.1.3.3 Community Facilities and Services - Pedestrian and Bicycle Facilities	Design and construct the Courtland Avenue Extension to connect the Orchard Hills and Gunter neighborhoods, incorporating a sidewalk or wide road shoulders to accommodate pedestrians and/or bicyclists	Final Design					Section IV, A 1, c, vii, b (page IV-31)	STV/GF		The Courtland Ave Extension has been incorporated into the DFV plans and includes provisions for pedestrians.
	Consider a pedestrian activated signal at Route 1115 and Eighth Avenue to increase safety of pedestrian crossings	Final Design						GF		
2.1.3.7 Community Facilities and Services - Emergency Response Service Providers	Develop a Maintenance and Protection of Traffic (MPT) Plan during Final Design to minimize the disruption of traffic during construction	Final Design					Section IV, A 1, c, vii, b (page IV-33)	GF		
	Coordinate with emergency service providers and agencies in implementing MPT Plan	Final Design						GF		
2.2 Economic Issues										
2.2.1 Economic Trends and Local Business Impact										
2.2.1 Economic Trends and Local Business Impact	Implement displacement/relocation/compensation for commercial establishments located in areas requiring property acquisition	Final Design					Section IV, A 2, a, i (page IV-40)	District 3-0		These mitigation commitments are being met through District 3-0 ROW/acquisition specialists led by Mr. Jeffrey Wenner.
	Work with the business community, local municipalities, and local tourism agencies to develop appropriate off-site signage for the business district and individual businesses	Final Design						GF		
2.2.3 Land Use	Fair market value compensation will be provided to landowners for property acquisition	Final Design					Section IV, A 2, b, ii (page IV-43)	District 3-0		These mitigation commitments are being met through District 3-0 ROW/acquisition specialists led by Mr. Jeffrey Wenner.
2.3 Noise	Perform additional noise impact, mitigation feasibility, and mitigation reasonableness analysis to determine specific noise mitigation measures, using PENNDOT's most recent noise policies	Final Design					Section IV, B, 2 (page IV-60)	GF		A Final Design Noise Study has not been completed as of the holding status of the project (Summer 2008). This study should be completed on project reactivation. Design changes between the FEIS study and the DFV approval may result in additional noise impacted areas and required mitigation. Noise
	Investigate the use of excess excavated material for construction of earthen berm noise barriers	Final Design						GF		
	Limit construction activities to daylight hours to minimize construction noise impacts (if feasible/reasonable)	Construction						GF/Contractor		
2.4 Air Quality	Obtain necessary permits from the PA DEP if any paving materials plant (or other air contamination source) will be constructed	Construction					Section IV, C, 3 (page IV-67)	Contractor		
	An Asbestos Containing Material (ACM) Survey will be completed. If present, asbestos will be removed, handled, and disposed of properly	Construction						GF/Contractor		
	Employ typical air quality control measures. These include dust controls at the source (wet suppression) and during transport (covering of hauling trucks). No open burning of construction or demolition waste is permitted.	Construction						Contractor		
2.5 Agricultural Resources	Continue to investigate minimization measures to reduce impacts to agricultural land (minimize required right-of-way width, control runoff/erosion damages)	Final Design					Section IV, D, 5 (page IV-102)	GF		Median width was reduced from 90' to the minimum requirements to reduce the footprint of the highway and minimize ag impacts.
	Evaluate replacement of disrupted water supplies necessary for continued agricultural operations	Final Design						GF		
	Study replacement access to land located parcels. Implement if feasible and reasonable. If not, compensate the landowner or acquire the property as an economic benefit	Final Design						STV		This information was submitted with the DFV plans for the Northern and Southern CSVT sections
	Prepare a Farmland Assessment Report (FAR)	Final Design						S&L		1st FAR was Feb 2005. After the App reclassification, a 2nd FAR was prepared for the southern portion of the project for the DAM alternative in March 2006
2.6 Visual Quality	Obtain approval from the Agricultural Lands Conservation Approval Board (ALCAB) prior to condemnation of productive agricultural land for highway purposes	Final Design						S&L		1st ALCAB - 3/31/05 (Adjudication & Order 4/22/05) 2nd ALCAB hearing held 5/4/06 with Adjudication & Order 5/8/06
	Colonial Acres viewshed (including Fisher Road): Consider using context-sensitive bridge design (color/texture/materials), landscaping fill slopes, and the use of vegetative screening. Consider planting clusters of trees to screen bridge piers	Final Design					Section IV, E, 2, a, i (page IV-104)	GF		
	Monroe Manor - provide evergreen screening on the northeast side of the highway	Final Design						GF		
2.7 Natural Resources	Gunter and Orchard Hills developments viewshed: Consider landscaping fill slopes and the use of vegetative screening wherever possible for the Courtland Avenue Extension	Final Design						GF		
	Use an Environmental Monitor to ensure mitigation commitments are fulfilled during both design and construction	Final Design Construction								#REF!
2.7.1 Single Site Option - Natural Resource Mitigation Proposal NOTE: The mitigation for this option covers commitments for both SECTION 1 and SECTION 2 of the project	Attempt to provide a total ecosystem approach to natural resource mitigation by completing all compensatory mitigation activities at one location.	Final Design					Section IV, F, 1, h, i (page IV-190)	Tom Johnson Skelly and Loy		These mitigation commitments will be met with the construction of the Center Site mitigation area. This mitigation area fulfills the requirements stipulated in the ROD and Mitigation Report. Construction began in Summer 2006 (letter = 8/24/06) and is anticipated to conclude Fall 2007. The District will provide the
	Maintain connectivity with terrestrial mitigation policies of the FHWA and PENNDOT	Final Design								
	Obtain potentially suitable mitigation areas primarily through amicable (voluntary) easement agreements with landowners	Final Design								
	Use a hierarchical approach to evaluate relevant mitigation opportunities within and adjacent to the project study area	Final Design								
	Create approximately 7 acres of wetlands	Final Design-Construction								
	Restore, enhance, or reconstruct approximately 1,000 to 4,000 linear feet of stream	Final Design-Construction								
	Provide approximately 65 acres of old field mitigation	Final Design-Construction								
Provide approximately 150 acres of forestland mitigation	Final Design-Construction									
Provide post-construction monitoring through the use of an Environmental Monitor	Post-Construction							RCK District 3-0		
2.7.2 Terrestrial Community and Wildlife Habitats	Consider minor alignment shifts to minimize terrestrial habitat impacts	Final Design					Section IV, F, 1, h, i (page IV-188)	GF		ROW impact area has been minimized as much as possible in these areas.
	Consider final design modifications to stormwater management facilities	Final Design						GF		
	Verify locally important wildlife habitats have been avoided or impacts minimized	Final Design						S&L		
	Design vegetative clear zones along the edge of roadway and add safety measures (such as deer crossing signs) to avoid motorist/animal collisions	Final Design						GF		
	Limit the use of concrete median barriers where safety is not adversely affected	Final Design						GF		
	Prior to construction, survey Ash Basin No. 3 and the adjacent property (AG2-5) each spring for the presence of the Upland Sandpiper (state threatened species)	Final Design						S&L Ryan Leibreher		Ongoing - The habitat originally identified for Sandpiper is slowly getting smaller due to natural succession. Survey of the Ash Pond 3 and AC2-5 was conducted on 8-16-03 and 7-8-06
	Prior to construction, survey the project area each spring for the presence of the Bald Eagle (federal threatened and state endangered species)	Final Design						S&L Ryan Leibreher		Ongoing - Nest surveys conducted annually on the project area.
	Continue annual coordination to update threatened and endangered species information in the project area until the start of construction	Final Design						S&L		
	If required, develop a Noxious Plant Control Plan	Final Design						GF		
	Ensure that clearing and disturbance remains within the right-of-way and within areas cleared by the contractor. Consider habitat features that should be avoided and mark areas to remain unaltered.	Construction						S&L/Contractor		
	Review all contractor proposed off-site areas required during construction	Construction						S&L/District 3-0		
	Avoid the salvage of topsoil from areas containing invasive plant species	Post-Construction						Contractor		
Re-seed all exposed soil areas (including staging areas) with permanent cover as early as possible	Post-Construction						Contractor			

SOUTHERN SECTION 1 - DAM MITIGATION TRACKING SPREADSHEET

RESOURCE	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION SECTION				Commitment Origin	Final Design/Bid Package Prep			
			S1	S2	S3	S4		Responsible Party	Date/Initials	Comment	
	If noxious or invasive plant species become established in the right-of-way (post-construction), PENNDOT will attempt to control these until more beneficial species become established one growing season after construction.	Post-Construction					District 3-0				
2.7.3 Wetlands	Consider minor alignment shifts to avoid impacts, where practical	Final Design					Section IV, F, 2, c, ii and iii (page IV-211)	GF		ROW impact area has been minimized as much as possible in these areas.	
	Minimize the width of the project footprint to reduce encroachments	Final Design						STV		Median width was reduced from 90' to the minimum requirements to reduce the footprint of the highway	
	Implement a Stormwater Management Plan	Final Design						GF			
	Implement an approved Erosion and Sedimentation Pollution Control Plan	Final Design						GF			
	Develop special drainage methods to minimize indirect impacts (case-by-case basis)	Final Design						GF			
2.7.4 Surface Water/Aquatic Resources	Consider the use of bridges in place of culverts where practical and feasible	Final Design					Section IV, F, 3, c, ii and iii (page IV-224)	GF			
	Employ fish passage strategies for culvert crossing structures, including standardized construction details	Final Design						GF			
	Implement an approved Erosion and Sedimentation Pollution Control Plan	Final Design						GF			
	Minimize length of stream restoration as possible. Where not possible, employ current methodologies such as fluvial geomorphology to design the relocated stream	Final Design						GF			
	Address measures to separate highway surface water runoff from clean upslope runoff as detailed in referenced FHWA documentation	Final Design						GF			
	Conduct structure installation during low-flow conditions	Construction						GF/Contractor			
	Avoid or minimize the siting of construction within stream reaches. If unable to avoid stream siting, use clean rock for causeways to avoid sedimentation impacts to stream	Construction						GF/Contractor			
	Use clean rock material and filter fabric for all erosion and sedimentation control measures, diversion channels, and causeways	Construction						GF/Contractor			
	Evaluate, design, and construct crossing structures and in-stream improvements that will reduce the effects of bedload disposition and subsequent maintenance	Construction						GF/Contractor			
	Locate all construction fueling stations outside of the reaches of the aquatic habitat to avoid accidental discharge of toxic pollutants	Construction						Contractor			
	Minimize the area to be revegetated to reduce sediment in the stream	Construction						Contractor			
	Following structure installation, restore all disturbed aquatic substrate and revegetate any disturbed riparian areas to pre-construction condition	Post-construction						Contractor			
	PPL Ash Basins: Implement the Surface Water Monitoring Program in coordination with the PFBC, PA DEP, and US EPA. Conduct monthly sampling during pre-construction (1 year prior to start of construction), active construction, and post-construction. Sampling frequency will be altered as results warrant and with PA DEP approval.	Final Design, Construction, Post-Construction							GF/Contractor		
	PPL Ash Basins: If necessary develop and implement Remediation Strategies with the PA DEP requirements as a means to capture and treat possible leachate prior to discharge into receiving stream.	Final Design, Construction, Post-Construction						District 3-0			
	2.7.5 Geology and Soils	Prepare a detailed Erosion & Sedimentation Plan for inclusion in the National Pollutant Discharge Elimination System (NPDES) Permit(s) required by DEP	Final Design					Section IV, F, 4, a, i, a (page IV-232)	GF		
Conduct a detailed Geotechnical Survey to ascertain site-specific information on geology and soils as well as groundwater conditions		Final Design						GF			
Investigate alternatives that are underlain by limestone bedrock for the presence of solution features (Karst Tomography)		Final Design						STV			
Boring coverage should be consistent with findings of the Geotechnical Engineering Report. Seal all drill holes upon completion		Final Design						STV			
Design roadcuts according to characteristics of the local lithology.		Final Design						GF			
Design and locate stormwater detention structures to prevent aquifer degradation due to sinkholes		Final Design						GF			
Address all identified solution features with approved engineering methods		Construction						GF			
2.8 Public/Private Water Supplies	Perform detailed assessments of potentially affected individual domestic and public supply wells	Final Design					Section IV, G, 2 (page IV-246)	GF			
	Follow recommendations found in the Groundwater Quality and Impact Monitoring Plan	Final Design						GF			
	Implement contingency plan to address citizen complaints regarding water supply degradation	Final Design						GF			
	Properly abandon wells within the take area	Construction						Contractor			
	Monitor and treat impacts to groundwater quality in the areas attributable to project construction	Construction						Contractor			
2.9.2 Cultural Resources	Provide continuation of water service to residents served by impacted water supplies (provide connections to public water systems, provide water treatment, re-drill existing wells to a greater depth, relocating a well, acquire the property)	Post-Construction					District 3-0				
	Complete a Phase I archaeological survey to identify historic and prehistoric resources	Final Design					Section IV, H, 2, c (page IV-267)	S&L			
	Complete a Phase II archaeological survey of test sites identified in Phase I	Final Design						S&L			
	Apply Criteria of Effect and Adverse Effect and undertake a Phase III program if avoidance of National Register eligible sites is not feasible	Final Design						S&L			
	Consult with FHWA and PA SHPO to insure satisfactory design and completion of archaeological studies	Final Design						S&L			
2.10 Floodplains	National Register eligible sites should be avoided if feasible	Final Design						S&L			
	Maintain coordination with all Federally Recognized Tribes with ancestral ties to Pennsylvania	Final Design						S&L			
	Conduct a detailed hydrologic and hydraulic analyses for flood plain encroachments and for drainage areas greater than 5 acres.	Final Design					Section IV, I, 2 (page IV-290)	GF			
	Minimize encroachments on the 100-year floodplain	Final Design						GF			
	Coordinate with FEMA to provide information needed for map revisions	Final Design						GF			
2.11 Waste Sites	Mulch and reseed all roadway embankments	Construction						Contractor			
	All intrusive testing and remediation efforts will be undertaken in accordance with PA DEP requirements	Final Design					Section IV, J, 2 (page IV-296)	GF			
	AN Asbestos Containment Material (ACM) survey will be completed. If asbestos is present, undertake removal, handling, and proper disposal	Final Design						GF/Contractor			
	Inspect buildings slated for acquisition but not demolition for lead based paint	Final Design						GF/Contractor			
	Sampling and analyze monthly surface water, leachate seeps, monitoring wells, and residential wells. Effluent and seepage discharges should be collected and routed into basin/structure prior to discharge to the receiving stream	Final Design						GF/Contractor			
	Include Special Provision to specs to assure contractor has qualified professionals to investigate proposed disposal areas	Final Design						GF			
	If additional waste sites are found, a Waste Management Plan will be developed.	Construction						GF/Contractor			
	Miscellaneous dump sites will be appropriately recycled or disposed at an acceptable facility.	Construction						Contractor			
2.12 Traffic and Transportation Network	Use PENNDOT'S Specifications, Publication 408, which provides contract requirements assuring necessary approvals are secured prior to waste disposal	Construction						Contractor			
	Coordinate with the local and state police departments, medical and fire emergency services, and school districts to develop a Maintenance and Protection of Traffic (MPT) Plan	Final Design					Section IV, M, 5 (page IV-366)	GF			
	Continue working with SEDA-COD to address contraflow congestion issues that will persist after construction on CSVT is completed	Final Design						GF			
	Coordinate with school district transportation directors and Rohrer Bus Company regarding construction activities along bus routes.	Construction						GF/Contractor			
2.14 Construction Impacts Related to Earthwork Balance	Use geotechnical survey to adjust the design of cut/fill sections to reduce project-wide surplus earthwork waste where possible (raising profile, steeper rock cut slopes)	Final Design					Section IV, O, 6 (page IV-365)	STV/GF		The DAMRCS alignment/profile was modified for the DFV to minimize waste fill. The entire project was balanced in respect to cut/fill. See note above, project brought into balance.	
	Investigate use of the PPL Ash Basins for disposal of surplus waste material	Final Design						GF		See note above, project brought into balance.	
	Continue coordination with local municipalities to identify other potential surplus waste disposal sites	Final Design						GF		See note above, project brought into balance.	
	Include Special Provision to specs to assure contractor has qualified professionals to investigate proposed disposal areas	Final Design						GF			
	If excess material is to be disposed of outside the project corridor, contractor must obtain all necessary approvals, including environmental clearances	Construction						Contractor		Project brought into balance and the potential of going outside the project corridor is slim.	
2.15 Miscellaneous	Requests for alignment modifications will be considered during Final Design	Final Design						GF			
	Evaluate the reduction of median widths from 90 to 60 feet	Final Design						STV		Median width was reduced from 90' to the minimum requirements to reduce the footprint of the highway	
	Should conditions in the study area change prior to construction of the CSVT project, PENNDOT is committed to re-evaluating the areas of impact. If conditions warrant, alignment modifications may be made to minimize project impacts. This commitment is inclusive of the entire CSVT project area, including the avoidance of the Simon P. App farm property.	Final Design						S&L/GF/District 3-0		The historic eligibility status of the App Farmstead has changed and the DAM alignment is now a viable alternative over the DAMA. The 2006 FEIS/ROD Reevaluation No 1 addressed this change and DAM is currently in final design.	

SOUTHERN SECTION 1 - DAM MITIGATION TRACKING SPREADSHEET

RESOURCE	MITIGATION AND/OR MINIMIZATION	PROJECT PHASE	CONSTRUCTION SECTION				Commitment Origin	Final Design/Bid Package Prep		
			S1	S2	S3	S4		Responsible Party	Date/Initials	Comment
	Contact Mrs Hoke at 11 Colonial Drive when any PennDOT activities related to the CSVT occur near the Colonial Acres Development. She has concerns for pesticide use, CO/PM/Diesel from construction, Toxic Spills, operational AQ (implications) related to asthmatic family members living in the dwellings.	Final Design, Construction, Post-Construction					GF/S&L/District 3-0		District to make all contacts with Mrs Hoke.	
	PennDOT will coordinate with the National Geodetic Survey (NGS) to identify locations of geodetic control monuments. PennDOT will notify NGS 90 days prior to required relocation of any monuments.	Final Design					GF			

**APPENDIX E -
RIDGE ROAD TRAVEL TIME ANALYSES
("CSV T IMPACT & RIDGE ROAD")
AND POINT TOWNSHIP LETTER**

May 12, 2015

CSVT Impact & Ridge Road

Background Information:

- A. Ridge Road traffic counts and travel time analysis conducted in 2015.
 - a) PM Peak (4:30 PM to 5:30 PM) found to be critical time period. 2-Way PM Peak Volumes Ranging from 83-154 Vehicles Per Hour
- B. Assumed CSVT Completion Year = 2024; CSVT Design Year = 2044
 - a) Assumed Annual Growth Rate of 1.5%

Travel Time Analysis for Proposed Future Conditions:

- A. Traffic between Danville and Milton/Lewisburg using Ridge Road is not anticipated to contribute to an increase in traffic on Ridge Road based on travel times/distances (and fact that Ridge Road already connects Route 11 and Route 147). *See Figure 1 for alternate routes analyzed.*
- B. Traffic between Danville and Selingsgrove using Ridge Road (as a connection between new highway and Route 11) may increase traffic on Ridge Road, but only significantly during PM Peak. *See Figure 2 for alternate routes analyzed.*
 - a) AM Peak Analysis (assuming Selingsgrove to Danville trip):
Based on travel times/distances, Ridge Road is not anticipated to be used.
 - b) PM Peak Analysis (assuming Danville to Selingsgrove trip):
Based on travel times, Ridge Road may be used.

Projected PM Peak Traffic Volumes on Ridge Road:

- A. 2015 Traffic (*see Figure 3*) projected to 2024 (*see Figure 4*) and 2044 (*see Figure 5*) with CSVT diversion traffic added.
- B. Additional traffic resulting from planned and projected development growth within Point Township has not yet been estimated and is not included in figures.
- C. Based on 1996 origin and destination study, 28% of motorists on Route 11 southbound are destined to Selingsgrove.
- D. For 2024 and 2044 it is assumed that all of the motorists (100% diversion) traveling between Danville to Selingsgrove would divert off Route 11 and use Ridge Road to access CSVT. This is a very conservative assumption (worst case scenario).
- E. Conservative Diversion Traffic during PM Peak with CSVT Open:
 - a. 2024 Build Year scenario : +/- 300 Vehicles Divert onto Ridge Road
 - b. 2044 Build Year scenario: +/- 400 Vehicles Divert onto Ridge Road

FIGURE 1

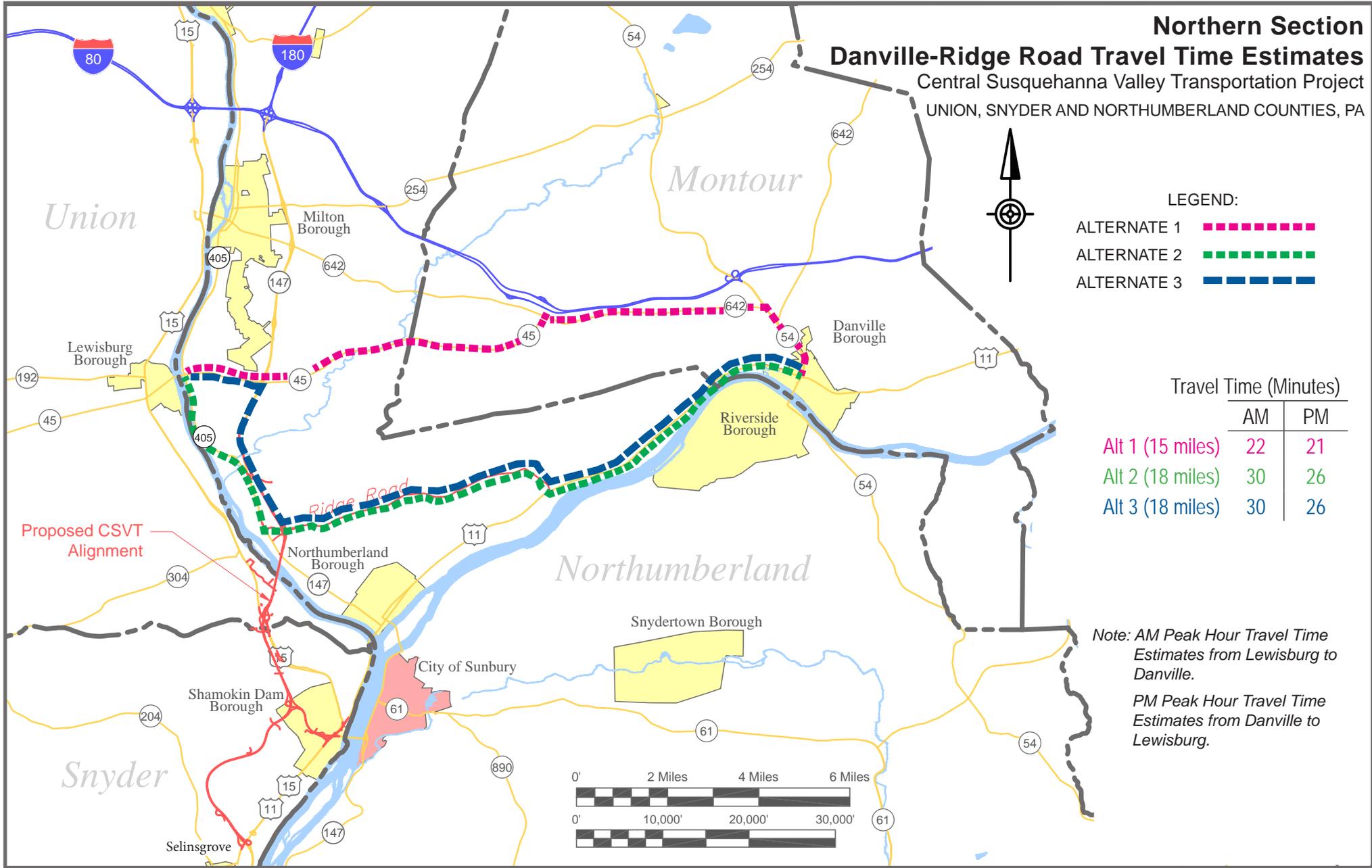
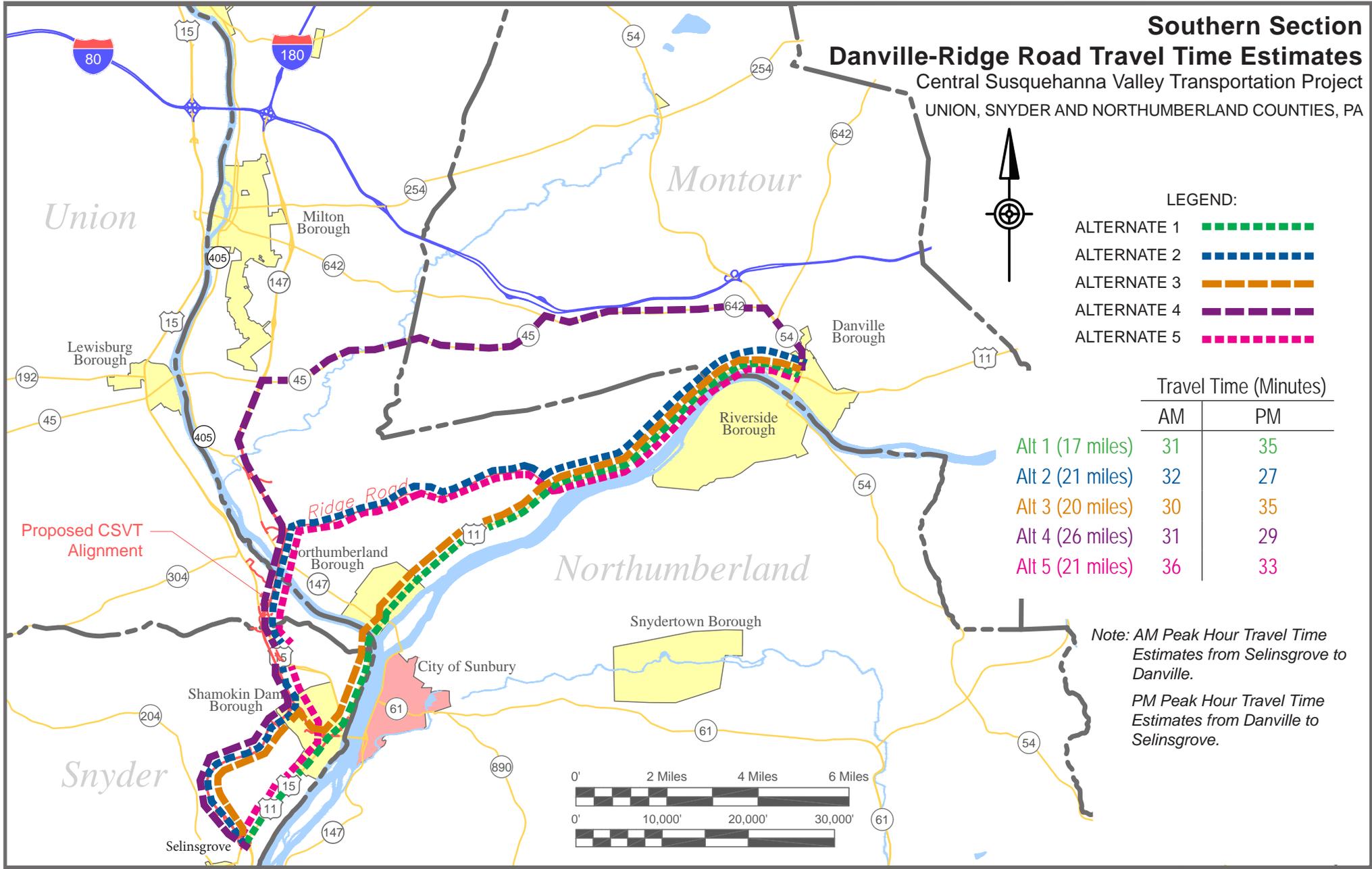


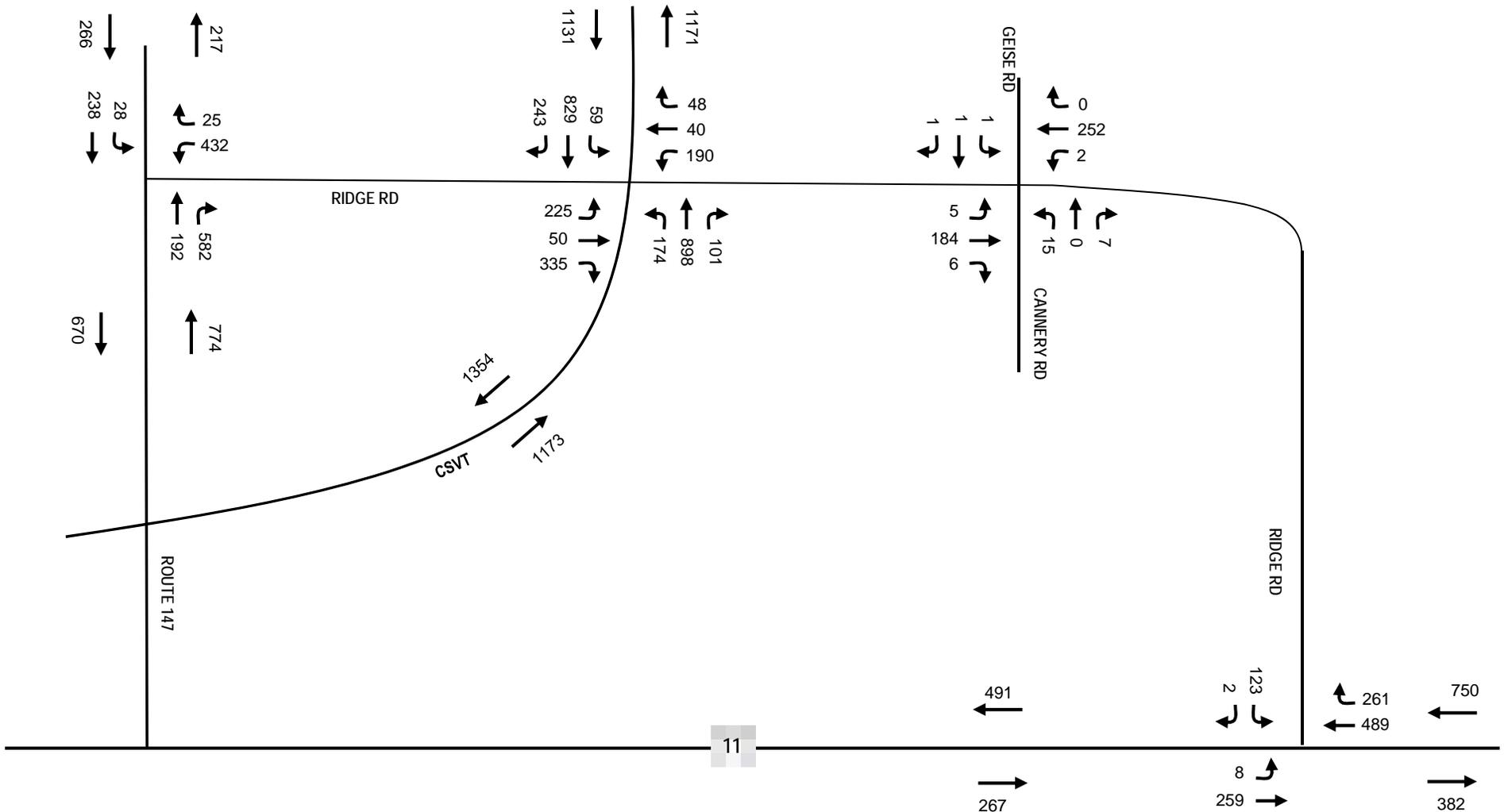
FIGURE 2



2024 PM Peak Hour Build Traffic Volumes with Diversions

Central Susquehanna Valley Transportation Study

SUSQUEHANNA VALLEY, PENNSYLVANIA



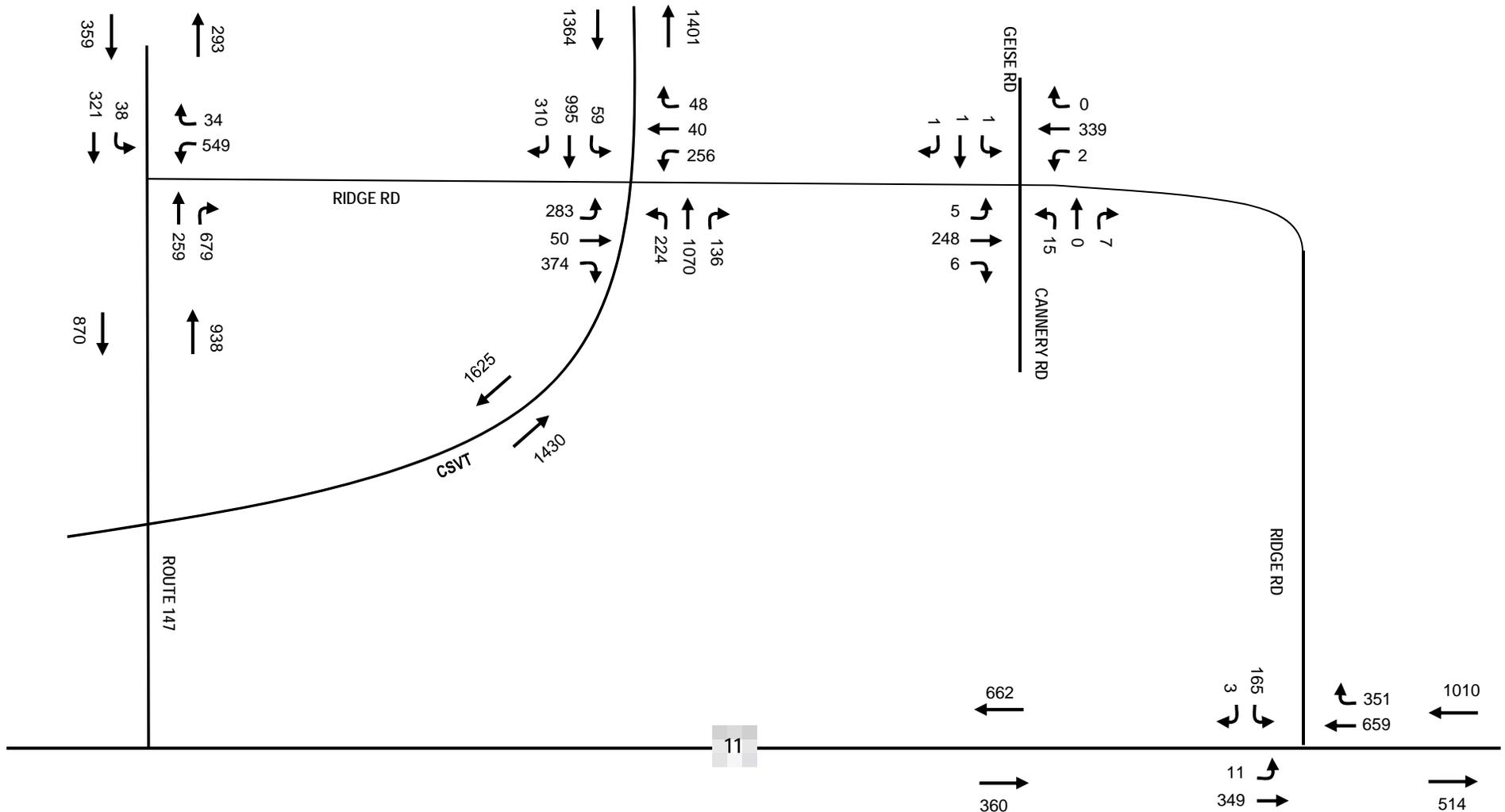
Legend:

- Existing Traffic Signal
- Existing Roadway

2044 PM Peak Hour Build Traffic Volumes with Diversions

Central Susquehanna Valley Transportation Study

SUSQUEHANNA VALLEY, PENNSYLVANIA



Legend:
 - Existing Traffic Signal
 - Existing Roadway



POINT TOWNSHIP

Northumberland County

759 Ridge Road · Northumberland, PA 17857-9623

Telephone 570-473-3198 · Fax 570-473-7812

May 12, 2015

**Subject: Central Susquehanna Valley Transportation (CSVT) Project
Proposed PA Route 147 Interchange at Ridge Road**

Ms. Sandra Tosca, P.E., District Executive
PennDOT Engineering District 3-0
715 Jordan Avenue
Montoursville, PA 17754
Attention: Matthew Beck, P.E.

Dear Ms. Tosca:

The purpose of this letter is to follow up on recent coordination between Point Township and PennDOT Engineering District 3-0 related to the CSVT Project and the interchange proposed on the new highway at Ridge Road. We understand that the proposed interchange is intended to connect the new highway to PA Route 147 and that PennDOT does not plan to install any signs directing traffic to use Ridge Road as a connection between the new highway and US Route 11. However, as we have previously expressed, we believe that some motorists will still use Ridge Road to travel between the new highway and US Route 11 and that, as a result, the proposed interchange will cause an increase in the volume of traffic on Ridge Road. We also acknowledge that some township residents are concerned that the interchange will therefore have a negative impact on Ridge Road and the township.

In response to the above concerns, your staff and design consultants recently provided an update on their work to date to estimate the future traffic volume on Ridge Road. We understand that an increase in traffic may ultimately be caused not only by the potential diversion of existing traffic that may use Ridge Road as a connection between the new highway and US Route 11 but also by new traffic generated by future development within the township. Based on the information provided by the project design team (and noting that further coordination and analysis is needed to separately analyze the effects of potential future local development), we agree that the increase in traffic on Ridge Road caused directly by the CSVT Project and the proposed interchange should be manageable, without the need for improvements (e.g., additional lanes or significant realignment) that would significantly change the road's existing characteristics or that would potentially have negative impacts on the township.

Page 2 of 2.

We support the inclusion of the proposed interchange at Ridge Road in the CSVT Project. We also request that PennDOT continue to coordinate closely with the township to fully estimate the future traffic volume on Ridge Road and to identify what improvements to the road are feasible and appropriate to safely accommodate that projected volume of traffic.

Sincerely,

A handwritten signature in blue ink that reads "Randall W. Yoxheimer". The signature is written in a cursive style with a large initial 'R'.

Randall W. Yoxheimer, Chairman
Point Township Board of Supervisors