

INITIAL
ENVIRONMENTAL
SCREENING REPORT

Washington Pike Improvements
TN PIN #043090.00

Submitted by
Will Carroll

on behalf of
City of Knoxville



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INITIAL ENVIRONMENTAL SCREENING

Washington Pike Improvements

1.0 INTRODUCTION

CDM Smith has been tasked by the Tennessee Department of Transportation to prepare a Categorical Exclusion (CE) document as part of the NEPA documentation to address any environmental concerns prior to the Washington Pike Improvements. As part of this environmental process, CDM Smith will provide the initial environmental screening effort identifying potential hazardous waste/hazardous material and ecological issues that pose possible impacts to the proposed project site.

The following is a Scope of Work (SOW) for the initial environmental screening. Briefly, the components are:

- Record Review: CDM Smith will review the results of a federal environmental database search provided by EDR® Environmental Data Resources, Inc., to determine the location of known hazardous waste sites, including permitted generators of hazardous waste, within a 1-mile radius of the project site. Available historic aerial photographs included in the EDR database search will be reviewed. Also, a records search will be performed at the Tennessee Department of Environment, the city and county building, and several databases pertaining to environmental records pertinent.
- Site Reconnaissance: CDM Smith will conduct an onsite reconnaissance to visually examine the project site. An experienced professional environmental scientist will conduct the onsite environmental screening. Visual observations to be conducted onsite include the determination of the presence of distressed vegetation, physical irregularities, dumping, aboveground storage tanks (AST), underground storage tanks (UST), potential habitat for protected species known to occur in the general area, and potential wetlands and other sensitive ecological resources. Any other items that in the opinion of the investigator are deemed appropriate in the conduct of this screening will also be noted.
- Preparation of a Report: CDM Smith will prepare an initial environmental screening report detailing the findings resulting from the above onsite screening. The report will identify issues the CDM Smith investigator determines may potentially impact the proposed project site. A map detailing the location(s) of any items of environmental concern found during the initial screening will be included in the report.

1.1 Databases Reviewed

CDM Smith personnel obtained an environmental database search from EDR covering the proposed project site and adjacent areas. This database included a review of federal and state environmental databases and is presented in its entirety in **Appendix A**.

Information pertaining to federal- and state-listed protected species known to occur in this area of Knox County, TN, where the project site lies, was obtained from the Tennessee Department of Environment and Conservation (TDEC) Division of Natural Heritage (DNH). Furthermore, databases were searched at the TDEC office in Knoxville, TN and at the city/county building.

1.2 Onsite Visit

CDM Smith personnel visited the project site on May 25, June 1, and July 12, 2012 to verify information gathered and to visually examine the site. Photographs taken during the site visit are presented in **Appendix B**. During the site visit the Preliminary Environmental Evaluation Checklist provided by the Tennessee Department of Transportation (TDOT) (see **Appendix C**) was completed. Also, a thorough investigation of surface waters, wetlands, underground storage tanks, hazardous material, and use of adjacent properties occurred.

2.0 GENERAL DESCRIPTION OF PROPOSED PROJECT SITE

The subject area under review for this project is located in the City of Knoxville, Knox County, Tennessee. The location of the proposed project is shown in **Figures 1 and 2**. **Figure 3** depicts the site topography and is derived from the 7.5 minute United States Geological Survey (USGS) quadrangle for Fountain City and John Sevier, Tennessee (2010). The subject area of Washington Pike runs north from Interstate 640 to Murphy Road. It is proposed as a four-lane facility with a raised median. This section consists of four traffic lanes (two in each direction), curb and gutter, sidewalks, and bike lanes. The typical section design for this section is guided by the City's request for first flush capability as guided by the City's storm water quality ordinance. As an option, this design may eliminate or reduce some curb and gutter sections with construction of grass swales. The project length of Section Two is approximately 1.73 miles (9130 feet). A 200 feet corridor width is suggested for the proposed roadway design for this section. A consistent multi-lane section is recommended in order to provide adequate future capacity.

Washington Pike Improvements

The goals and objectives of an improved Washington Pike corridor include:

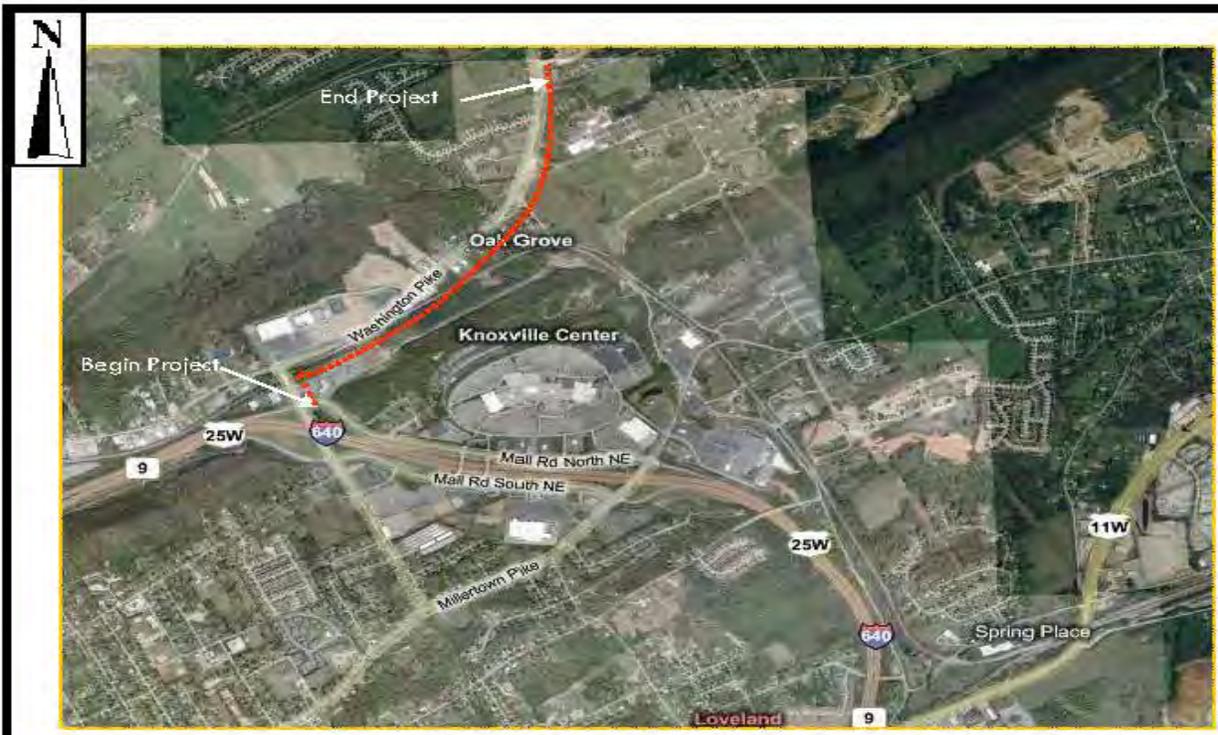
- Create a traffic circulation system that minimizes conflicts between pedestrians, bicyclists and vehicles;
- Enhance Washington Pike to adequately serve the commercial/retail/residential development in the area relative to capacity, safety, circulation and access to I-640;
- Improve east-west mobility in the Knoxville Center Mall area;
- Enhance regional and local economic development opportunities;
- Modify key intersections to increase operational safety and capacity;
- Create a greenway system in conjunction with stormwater control programs;
- Improve transportation linkages throughout the northeastern quadrant of the City;
- Be compatible with and serve the needs of the surrounding neighborhoods.

PROJECT VICINITY MAP

Washington Pike/Millertown Pike Transportation Planning Report Knoxville, Knox County, Tennessee



Figure 1



AREA LOCATION MAP
WASHINGTON PIKE AND MILLERTOWN PIKE
Knoxville, Knox County, Tennessee

----- Existing Route

Figure 2

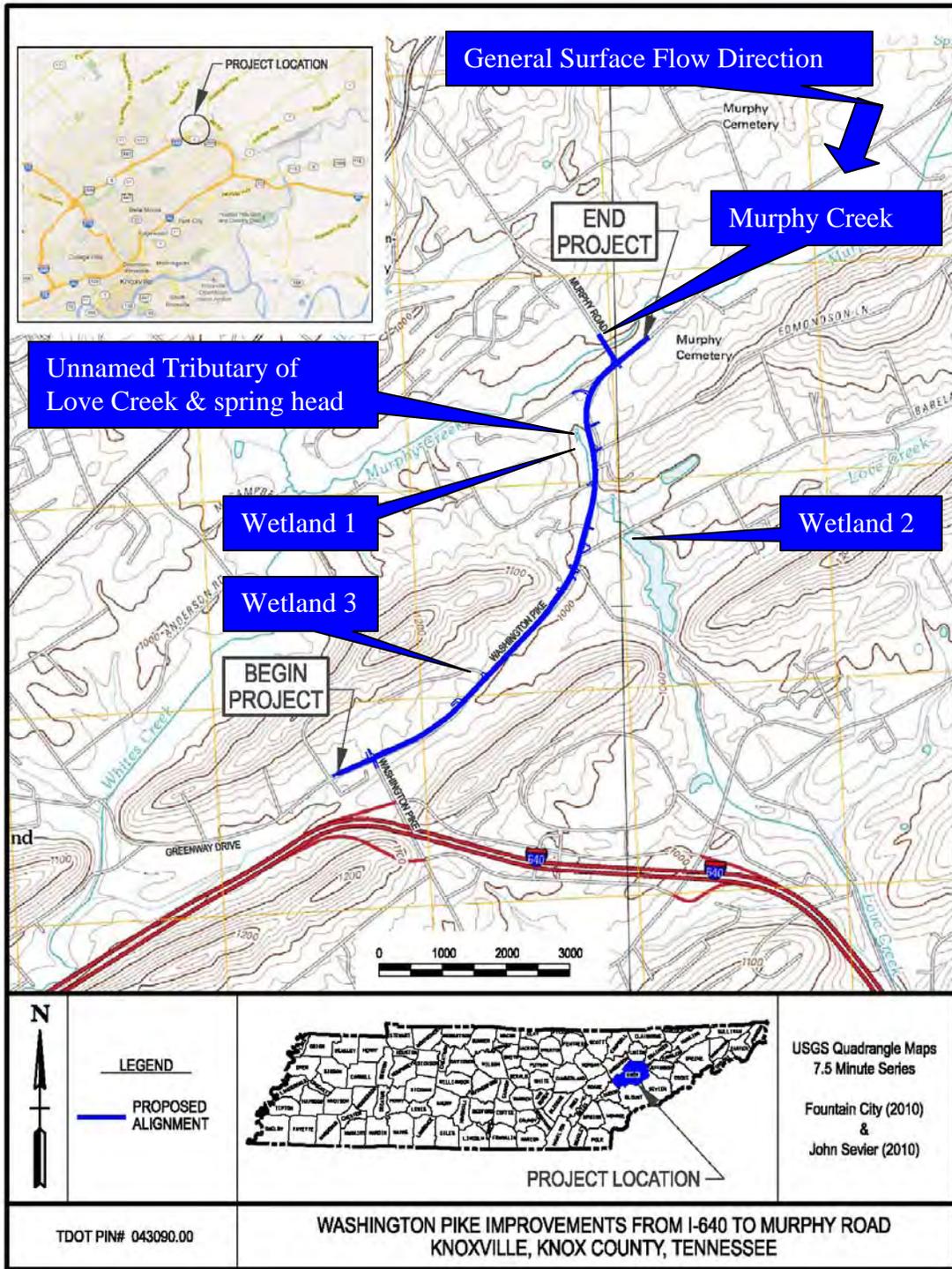


Figure 3

3.0 ADJACENT PROPERTIES

3.1 Properties Adjacent to Washington Pike Improvements

Washington Pike from I-640 north to Greenway Drive Intersection

There are several commercial and retail buildings in this area. To the north of Washington Pike/Greenway Drive are New Beverly Baptist Church, Shoe Carnival, Target, Old Navy, Marshall's, and several other retail facilities. To the south of Washington Pike is the Knoxville TVA Employee Credit Union, a food outlet store, Kitts Café, and the Norfolk Southern Railroad main line. Also, there are several other retail facilities south of the railroad such as a mattress outlet, Kohl's Shopping Center, Honeybaked Hams, and several other retailers.

Washington Pike from New Harvest Lane to Mill Road

New Harvest Park is located north of Washington Pike. This area also contains an office of the USDA, the Farmer's Market, a greenway and park, and a USDA protected management pond and natural area. The overflow of the pond has another detention area that ultimately drains into the city stormwater system. Also to the north of Washington Pike are two landscaping facilities, an automotive repair facility, residences, an entrance to an apartment complex, and Oak Grove Zion Church. To the south of Washington Pike are seven different buildings used commercially that are located between the roadway and Norfolk Southern Railroad main line. These include such businesses as Backstage Dance Studios, Staley Inc., S&DY Coffee, Industrial Distribution Group, G. S. Graphics Inc., and a couple of warehouse/distribution facilities. There are also several residences along the south side of the road.

Washington Pike from Mill Road to Murphy Road

There are several subdivisions and residences on both sides of Washington Pike between Mill Road and Murphy Road. There is a gas station called Town and Country Market Shell Station. This station has underground storage tanks and a "case-closed" historical leaking underground storage tank in the state registered storage tank database. There are several residences, commercial tracts, and agricultural tracts along both sides of this segment of Washington Pike. There is a Weigels gas station and market with state registered underground storage tanks at the intersection of Murphy Road and Washington Pike. Also, a historic register eligible farm called the Murphy Farm is located at the northwest corner of Murphy Road and Washington Pike intersection.

4.0 HISTORICAL AERIAL PHOTOGRAPHS

Available historical aerial photographs of portions of the project area were included in the EDR database search report. These aerial photos are in **Appendix D**. The aerial photographs reviewed are dated 1953, 1960, 1973, 1984, 1987, and 1992.

5.0 SURFACE WATER

The study area falls within the Holston and Fort Loudon watershed which drains to the Holston and Tennessee River. There are two surface waters, several storm water inlets on both sides of

Washington Pike, and several wet weather conveyances within the area of interest. Minimal impact to this surface water is expected during and after construction with the implementation of best management practices to prevent erosion and sedimentation. The first surface water located is a spring-fed, unnamed tributary of Love Creek that ultimately discharges into the Holston River shown in **Figure 3**. This small stream is charged by a spring-fed pond that is located on the northwest side of Washington Pike approximately 180 feet from the existing road across from Trestle Way. The spring and pond were used for agricultural purposes and has a deteriorated spring house adjacent to the seep area next to the spring head that was used for a saw mill. The spring discharges southward into a large wetland pond (Wetland 1 on **Figure 3**) that is located approximately 30 feet west from a proposed fill area. The wetland pond discharges into a small stream that flows south through several culverts including a 24" metal culvert that crosses Aylesbury Drive. This section of the stream's channel bottom width is 2-3 feet wide, the top of the bank width is 3-4 feet wide, the bank height is 1-3 feet, the water depth is 3-8 inches, and the water width is 2-3 feet. The substratum of the unnamed tributary of Love Creek is gravel with 90% silt. The banks are somewhat stable with bushes and trees. The overhead canopy is approximately 80%. The buffer zone ranges from 10-25 feet. There were gastropods and semi-aquatic bugs observed in the stream during this observation. The stream then flows through approximately 50 feet of a mowed ditch line (which contains several crayfish chimneys and semi-aquatic) and into a storm water catch basin. This section's channel bottom width is 6" to 1 foot wide, the top of the bank width is 1-2 feet wide, the bank height is 1-2 feet, the water depth is 2-6 inches, and the water width is 6" to 1 foot wide. The substratum of this section of the unnamed tributary of the creek is vegetated with 25% silt. The banks are stable with mowed grass. There is little to no buffer zone since the area is mowed. There is no overhead canopy. There were semi-aquatic bugs, gastropods, and crayfish observed in the creek. This section discharges into a storm water catch basin and then crosses Washington Pike in a 36" reinforced concrete pipe culvert the flows approximately 250 feet into a large wetland (Wetland 2 on **Figure 3**) and ultimately into Love Creek. This outlet point has a channel bottom width of 2-3 feet, the top of bank width is 3-4 feet, the bank height is 1-2 feet, the water depth is 4-6 inches, and the water width ranges from 2-4 feet. The substratum is cobbles and rock with 50% silt. The banks are somewhat stable with some riprap, bushes, and trees. The overhead canopy is approximately 90% covered. The buffer zone ranges from 25-50+ feet. There were semi-aquatic bugs observed in the stream on this side of the road. There are several storm water inlets and wet weather conveyances that contribute to this stream. There may be impacts to this stream during the construction phase, therefore best management practices will need to be implemented during construction to prevent erosion and sedimentation to the stream.

The second surface water is a perennial, blue-line stream called Murphy Creek shown in **Figure 3**. It flows westward underneath Murphy Road approximately 150 feet northwest from the Washington Pike intersection through a box culvert. Murphy Creek connects with Whites Creek then outfalls into First Creek discharging ultimately into the Tennessee River/ Fort Loudon Lake. On the east (inlet) side of Murphy Road, Murphy Creek has a channel bottom width of 10-15 feet, the top of bank width is approximately 25 feet, the bank height ranges from 3-6 feet, the water depth is 6 inches to 1 foot, and the water width ranges from 10-15 feet. The substratum is bedrock with 20% silt. The banks are stable with bushes and trees. The overhead canopy is approximately 75% covered. The buffer zone ranges from 10-25 feet. There were semi-aquatic bugs, gastropods, and minnows observed in the stream on this side of the road. The west (outlet) side of Murphy Road, the creek has a channel bottom width of 15-20 feet, the top of bank width is approximately 20-25 feet, the bank height ranges from 2-4 feet, the water depth is 1-2 feet, and the water width ranges from 10-15 feet. The substratum is cobble/gravel with 75% silt. The banks are stable with bushes and trees. The overhead canopy is approximately 95% covered. The buffer zone ranges

>25 feet. There were semi-aquatic bugs, gastropods, crayfish, and minnows observed in the stream on this side of the road.

Minimal impact is expected during and after construction with the implementation of best management practices to prevent erosion and sedimentation into the storm drain system, wet weather conveyances, and surface waters.

6.0 GROUNDWATER

The EDR report (**Appendix A**) states the general direction of groundwater flow in the area is general east. The EDR radius report (**Appendix B**) shows one state registered private residential water supply well within subject property.

7.0 WETLANDS

National Wetlands Inventory (NWI) and USGS quadrangle maps were reviewed to determine if any wetlands or potential wetland habitats exist within the project site. The NWI map is located in **Appendix E**. In addition, field observations were made to ensure that the informational resources were accurate. Based on these techniques and procedures, no possible wetlands were found within the study area. Three wetlands were observed adjacent to the study area. The first (Wetland 1 on **Figure 3**) is located on the west side of Washington Pike across from Edmondson Road and Trestle Way approximately 85 feet from the existing roadway. This open water/ponded wetland would be classified as a palustrine, aquatic bed, persistent, flooded, and is spring fed. This spring and pond were used for agricultural purposes in the past. There is standing water and an abundance of vegetation and soils with hydric characteristics throughout the area. The proposed roadway will have a fill area adjacent to this wetland with approximately 25-30 feet of buffer.

The second wetland (Wetland 2 on **Figure 3**) adjacent to the project area is downstream from the aforementioned, spring-fed unnamed tributary to Love Creek. This wetland is located over 250 feet away from the proposed project area to the southeast and will not be impacted if best management practices are applied.

The third wetland (Wetland 3 on **Figure 3**) is open water, protected wetland located on New Harvest Lane adjacent to the farmers market and the USDA office building. It is approximately 30 feet upgradient from the proposed project area and will not be impacted if best management practices are applied.

8.0 FLOODPLAINS

According to the EDR report and Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) maps, one small portion of the study area lies within the 100-year floodplain. This occurs at the crossing of Murphy Creek by Murphy Road. This is a very small area and minimal impact is proposed. A map of the flood zones is located in the in **Appendix F**.

9.0 THREATENED AND ENDANGERED SPECIES

Table 1 is the TDEC DNH list of federal/state protected and rare species known to exist within the 1-mile radius. **Table 2** is the TDEC DNH list of federal/state protected and rare species known to exist within the 4-mile radius. A county and watershed search for rare species was also conducted. The TDEC response of the rare species search and the key to the symbols regarding species protection and status ranks are included in **Appendix G. A**

coordination letter has been sent to the USFWS, TDEC, and ACOE. TWRA should be contacted prior to construction for guidance on protective measures needed to ensure that legal requirements for protection of state listed animals are addressed.

There were no plants or animals of these types observed within the proposed project area, but conducive habitats for most of these species listed in Tables 1 and 2 do exist within or adjacent to the study area. Best management practices will need to be implemented in order to minimize impacts to these species if present.

**TABLE 1
Rare Species Observations Within 1 Mile Radius Listed by TDEC DNH**

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Vascular Plant	Lilium Canadense	Canada Lily	G5	S3	--	T	Rich Woods And Seeps
Vertebrate Animal	Pituophis Melanoleucus	Northern Pinesnake	G4T4	S2	--	T	Well drained sandy soils in pine & pine/oak woods; dry mountain ridges; E to lower elevations of appalachians

Keys to all abbreviations in Tables 1 & 2 are located in Appendix G

**TABLE 2
Database of Observed Rare Species Within a 4-Mile Radius**

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Invertebrate Animal	Fusconaia cor	Shiny Pigtoe	G1	S1	LE	E	Shoals and riffles of small-medium rivers with mod-fast current over sand/cobble substrate, Upper TN River watershed
Invertebrate Animal	Lo fluvialis	Spiny Riversnail	G2	S2	--	Rare, not state listed	Shallow water of shoals that are rapid to moderate and well oxygenated; TN Rive and main tributaries, East TN
Invertebrate Animal	Lasmigonia holstonia	Tennessee Heelsplitter	G3	S2	--	Rare, not state listed	Spring runs, creeks and rivers, in subst of sand and mud; upper TN River
Vascular Plant	Lilium Canadense	Canada Lily	G5	S3	--	T	Rich Woods And Seeps

Vascular Plant	Panax quinquefolius	American Ginseng	G3G4	S3S4	--	S-CE	Rich Woods
Vascular Plant	Silene regia	Royal Catchfly	G3	SH	--	E-P	Rocky openings and thickets
Vascular Plant	Tetragonotheca helianthoides	Pineland Squarehead	G5	SH	--	E-P	Dry open woods
Vertebrate Animal	Percina tanasi	Snail Darter	G2G3	S2S3	LT	T	Sand and gravel shoals of moderate flowing, vegetated, large creeks, upper TN River watershed.
Vertebrate Animal	Pituophis Melanoleucus	Northern Pinesnake	G4T4	S2	--	T	Well drained sandy soils in pine & pine/oak woods; dry mountain ridges; E to lower elevations of appalachians

Keys to all abbreviations in Tables 1 & 2 are located in Appendix G

10.0 STORAGE TANKS

There were two facilities with underground storage tanks (USTs) observed that are adjacent to the subject property. There was no aboveground storage tanks (ASTs) observed within the subject area. The first facility is the Town and Country Market located southwest of the Washington Pike and Babelay Road intersection adjacent to the subject property. It has registered USTs, no ASTs, and one registered closed historical leaking USTs (LUST) on file with TDEC. The other facility is the Weigels Gas Station #60 located southeast from the Washington Pike and Murphy Road intersection. It has registered underground storage tanks registered with TDEC. TDEC UST and AST records reviewed in the EDR report indicate that there are three more registered UST facilities located within a ¼ mile radius of the study area and two LUST TRUST sites within a 0.5 mile radius of the subject area.

Table 3
UST and LUST Facilities Located Within or Adjacent to the Subject Area

Facility	USEPA UST Identification #	Address	Proximity to Subject Site	Downgradient or Upgradient from Subject Site	Status	NOVs on File
Town and Country Market	U0013914656	5704 Washington Pike, Knoxville, TN 37918	< ¼ mile SE	Downgradient	Currently In Use, Tank Closure	UST, LUST, LUST TRUST Tank Closure, HIST UST
Weigels Gas Station #60	U004066449	5904 Wahington Pike, Knoxville, TN 37918	< ¼ mile NNE	Upgradient	UST In Use	LUST Tank Closure

11.0 HAZARDOUS WASTE SITES

There are no Hazardous Waste Sites within the proposed roadway improvements. The EDR report (**Appendix A**) lists one Resource Conservation and Recovery Act (RCRA) hazardous waste generator registered under the Resource Conservation and Recovery Information System (RCRIS) adjacent to the study area at the Target located on the west end of the study area. The EDR report lists no hazardous waste or hazardous materials releases or spills reported to the United States Environmental Protection Agency (USEPA) or TDEC for any areas within the project site.

The EDR database search of the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) indicated that there is no Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priority List (NPL) or State Listed Superfund sites located within a 1-mile radius of the project site.

Table 4
RCRA Hazardous Waste Facility Locations Within or Adjacent to the Subject Area

Facility	USEPA RCRA-CESQ Identification #	Address	Proximity to Subject Site	Downgradient or Upgradient from Subject Site	Status	NOVs on File
Target Corp. #2507	1010332501 TNR000023010	4700 New Harvest Ln, Knoxville, TN 37918	1/8 - 1/2 mile S	Upgradient	In Use	None

12.0 DISCHARGES INTO WATER SOURCES

The EDR database search (**Appendix A**) listed no National Pollutant Discharge Elimination System (NPDES) permits for the subject site. There are storm water inlet drains throughout the proposed roadway improvements. A NPDES General Permit for Construction Storm Water is required by the State of Tennessee for any construction site or project that disturbs more than one acre of ground. There are Notice of Intent (NOI) requirements associated with this permit and a fee schedule which is determined by the extent of the project. Best management practices will need to be implemented prior to and during construction to prevent erosion and sediment from entering the storm water system.

13.0 AIR EMISSIONS

The EDR report (**Appendix A**) listed no sources of air emissions on the subject site or within a 1-mile radius of the subject site. No air emissions were observed onsite or on adjacent properties during the site visit. Fugitive dust emissions must be controlled during the construction of the road improvement project following best management practices.

14.0 CONCLUSIONS

The subject property is currently located within an urban, commercial and residential area. Also, there are three churches, a mainline of Norfolk Southern Railroad, two gas stations, several stores, a registered historic farm, a farmers market and park adjacent to the proposed roadway improvements. There are two surface waters located within the study area. One is an unnamed

tributary to Love Creek and the other is Murphy Creek. These ultimately discharge into the Holston and Fort Loudon Watershed. There are storm water drains and wet weather conveyances located within the project that would need protected during construction with the implementation of best management practices to prevent sedimentation and erosion. A NPDES General Permit for Construction Storm Water permit will be required for the proposed project. In the process of applying for these permits, NOI requirements may be required and fees may be assessed. Fugitive dust emissions must also be controlled during the construction of the road improvement project. There were three wetlands observed adjacent to the subject property during the site visit. Best management practice will need to be implemented in order to protect these wetlands from sedimentation, erosion, and general pollutants. One small area at the Murphy Road crossing of Murphy Creek is within the 100 year floodplain on the proposed roadway improvements.

There were two facilities with underground storage tanks (USTs) observed adjacent to the subject property during the site visit. There was no aboveground storage tanks (ASTs) observed within the subject property. There was one report of a historical leaking underground storage tank that is "case closed" found in the state or federal databases at the Town and Country Market. The EDR report (**Appendix A**) indicates that there are three more registered UST facilities located within a ¼ mile radius of the study area and two LUST TRUST sites within a 0.5 mile radius of the subject area.

No hazardous waste/materials storage was observed onsite during the site visit. Federal and state records reviewed indicated that 1RCRA hazardous waste generator is located adjacent to the study area. There are no CERCLA NPL or State Superfund sites within or adjacent to the study area.

No discharges to water sources or air emissions discharges were observed on the subject property or adjacent properties during the site visit.

The categories present on the subject site as listed on the TDOT Preliminary Environmental Evaluation Checklist (see Appendix D) include:

- Hazardous Material Site or Underground Storage Tanks: No RCRA hazardous waste generators are located within the study area. No active USTs are located within the study area, but 2 are on adjacent properties.
- Floodplains: One small area of the subject property is located within the 100-year floodplain according the EDR report (**Appendix A**) and FEMA Flood Maps (**Appendix F**). The 100-year floodplain is adjacent to Murphy Road crossing of Murphy Creek.
- Urban area, city, town, or community: The project site is located within a residential, agricultural and commercial area of Knoxville, Tennessee.
- Residential establishment: There are residential subdivisions adjacent to Washington Pike from Mill Road to Murphy Road.
- Commercial area: There is a shopping center, several other commercial buildings from Greenway Drive to Mill Road. Also, there are two gas stations adjacent to Washington Pike.
- Institutional Uses: The New Beverly Baptist Church is located northwest the Washington Pike and Greenway Drive intersection. The Oak Grove AME Mount Zion church is located northwest of the Mill Road and Washington Pike intersection. The Nehemiah Church is located 1000 feet east on Washington Pike from the aforementioned Zion Church on the same side of the road.
- Forested land: There are some forested areas located on the west side of the proposed roadway improvements throughout the length of the subject area.
- Recreational Uses: There are no recreational areas located within the subject property.

- Waterway: There are two blue line streams located throughout the study area. Murphy Creek is located east of the subject property and an unnamed tributary to Love Creek is in the center of the project area.
- Project coordinated with metropolitan/regional planning organizations (MPO/RPO) and or local officials: The area of interest lies within the City of Knoxville and Knox County metropolitan areas.

15.0 REPORT LIMITATIONS

This project is not designed to provide comprehensive data accumulation, chemical or radiological analyses, inferences as to surface/subsurface soil contamination, or the conditions of surface and groundwater. Conclusions drawn from the results of this assessment should recognize the limitations of the methods utilized. This effort is a screening activity and is NOT a comprehensive study.

APPENDIX E

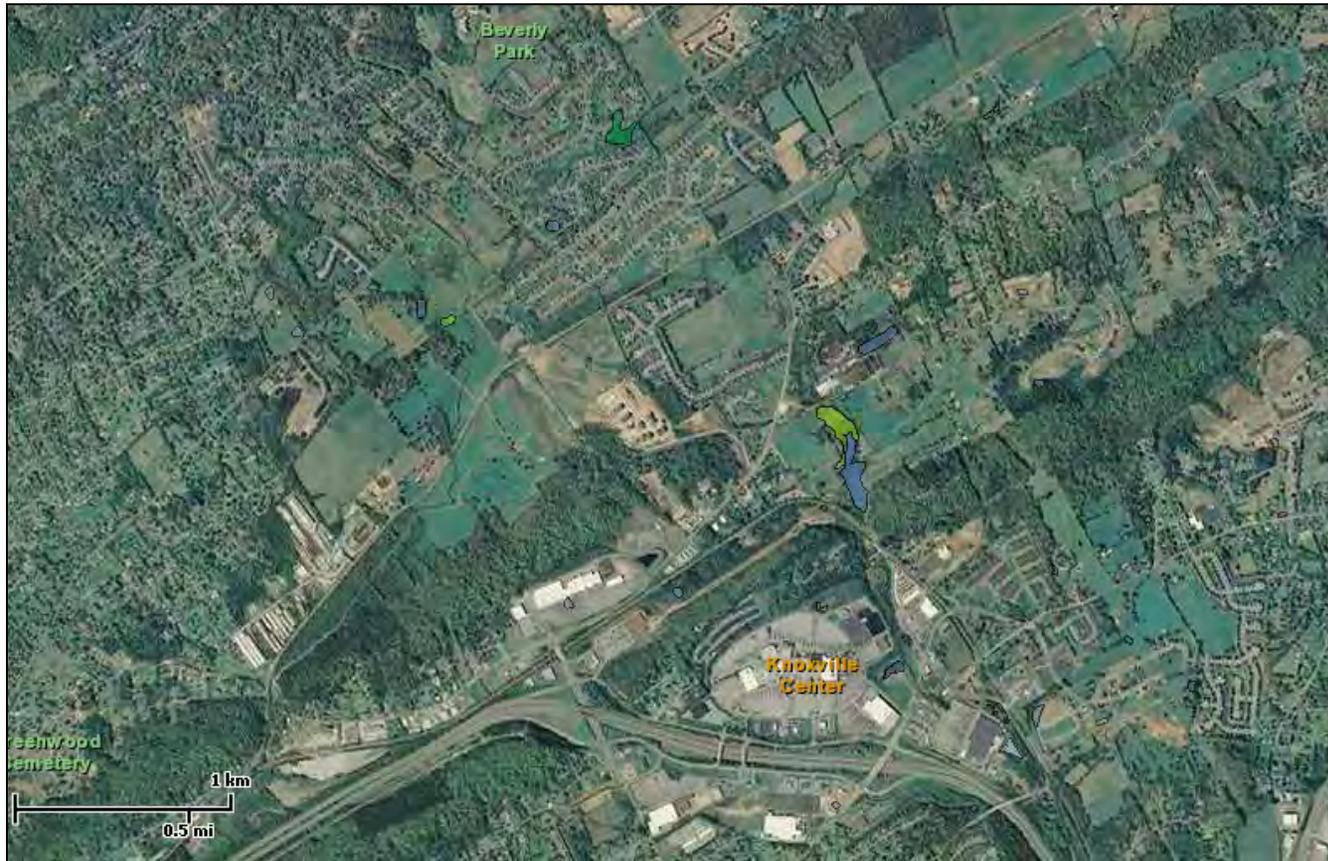
**NWI Wetland Map
Washington Pike Improvements
Knoxville, Knox County, TN**



U.S. Fish and Wildlife Service National Wetlands Inventory

Washington Pike

May 16, 2012



Wetlands

-  Freshwater Emergent
-  Freshwater Forested/Shrub
-  Estuarine and Marine Deepwater
-  Estuarine and Marine
-  Freshwater Pond
-  Lake
-  Riverine
-  Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:



U.S. Fish and Wildlife Service National Wetlands Inventory

West Washington
Pike

May 16, 2012



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:



U.S. Fish and Wildlife Service National Wetlands Inventory

East Washington
Pike

May 16, 2012



Wetlands

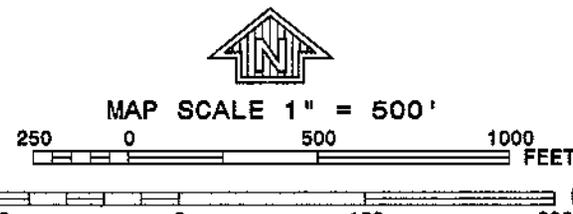
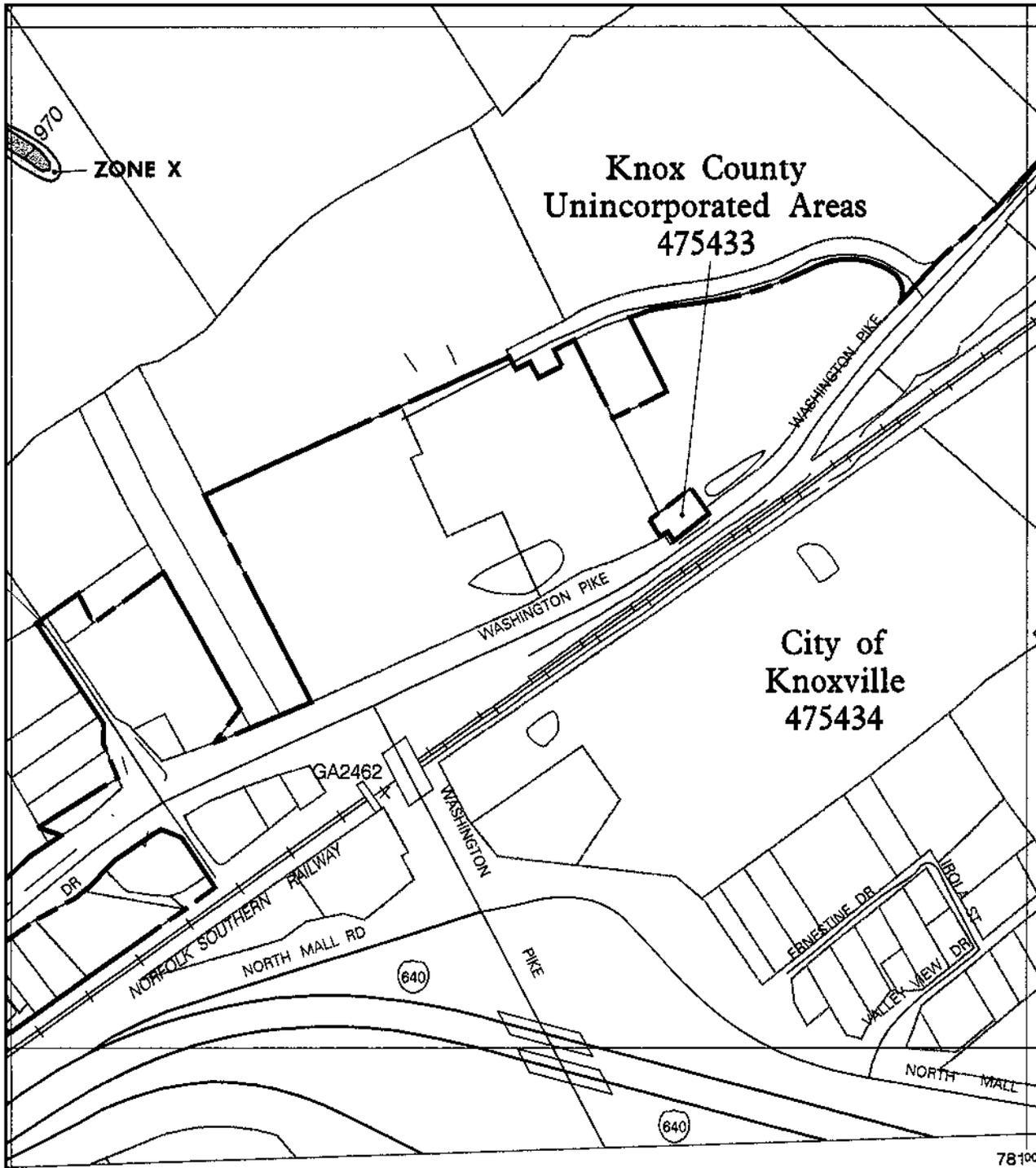
- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

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User Remarks:

APPENDIX F

EDR Floodplain Map Washington Pike Improvements Knoxville, Knox County, TN



PANEL 0142F

**FIRM
FLOOD INSURANCE RATE MAP
KNOX COUNTY,
TENNESSEE
AND INCORPORATED AREAS**

PANEL 142 OF 430
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KNOX COUNTY	475433	0142	F
KNOXVILLE, CITY OF	475434	0142	F

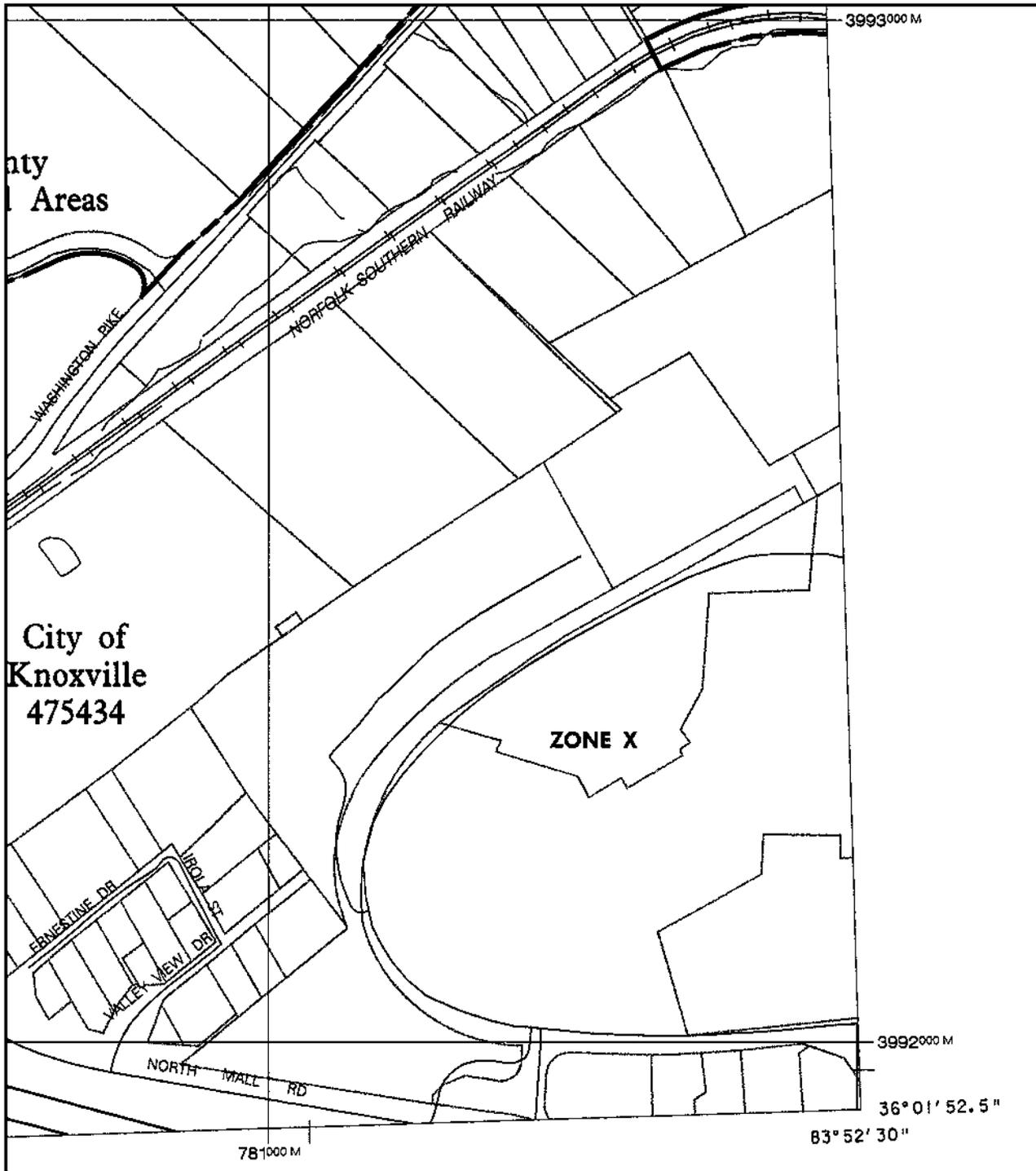
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER
47093C0142F**

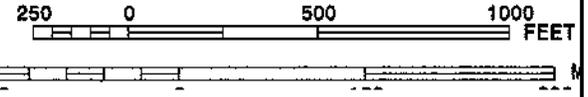
**EFFECTIVE DATE
MAY 2, 2007**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0142F

FIRM
FLOOD INSURANCE RATE MAP
KNOX COUNTY,
TENNESSEE
AND INCORPORATED AREAS

PANEL 142 OF 430

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KNOX COUNTY	476433	0142	F
KNOXVILLE, CITY OF	476434	0142	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

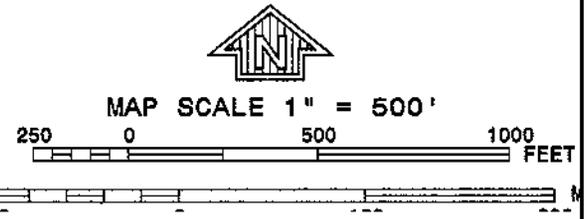
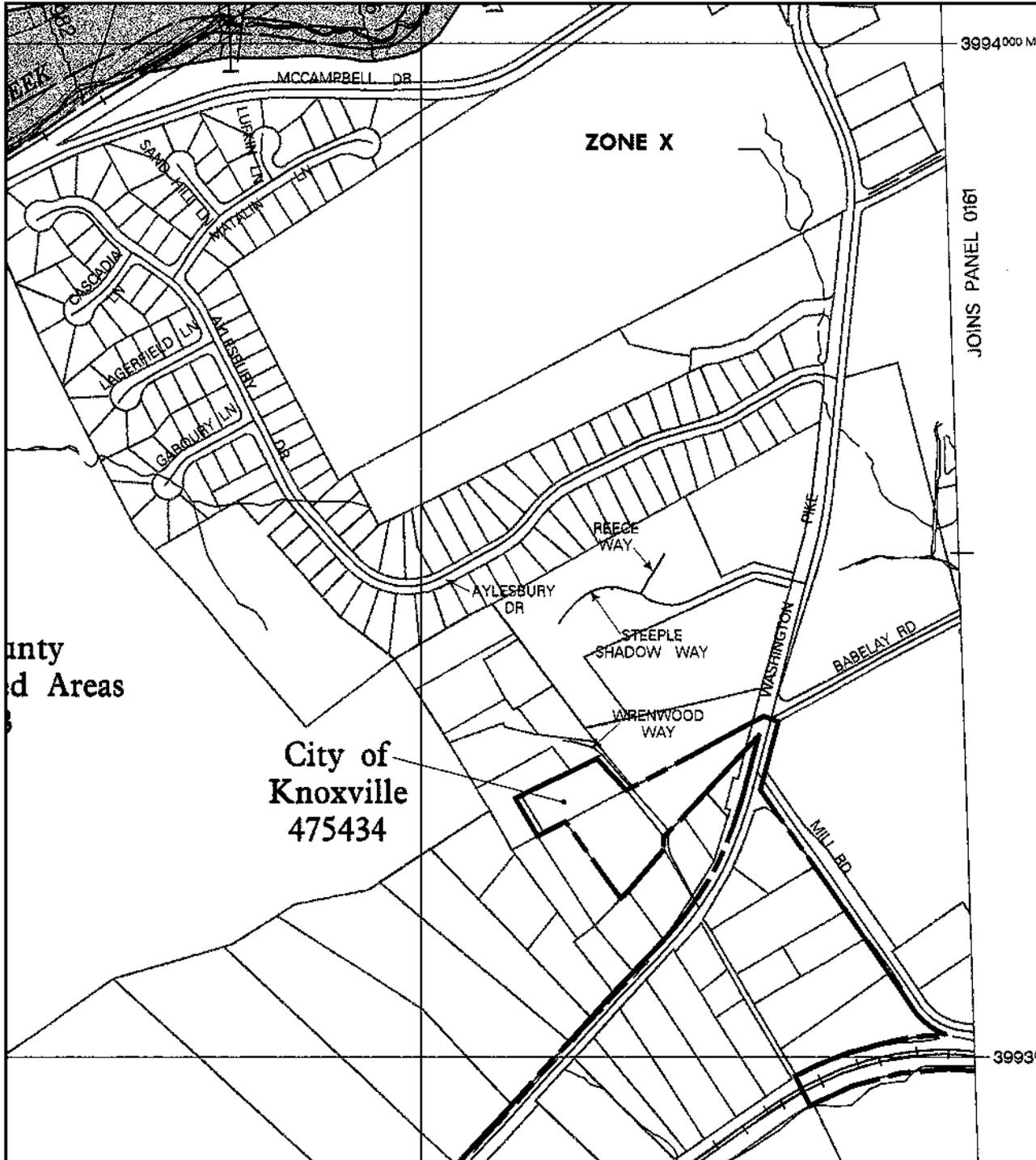


MAP NUMBER
47093C0142F

EFFECTIVE DATE
MAY 2, 2007

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



JOINS PANEL 0161

PANEL 0142F

**FIRM
FLOOD INSURANCE RATE MAP
KNOX COUNTY,
TENNESSEE
AND INCORPORATED AREAS**

PANEL 142 OF 430
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KNOX COUNTY	475433	0142	F
KNOXVILLE, CITY OF	475434	0142	F

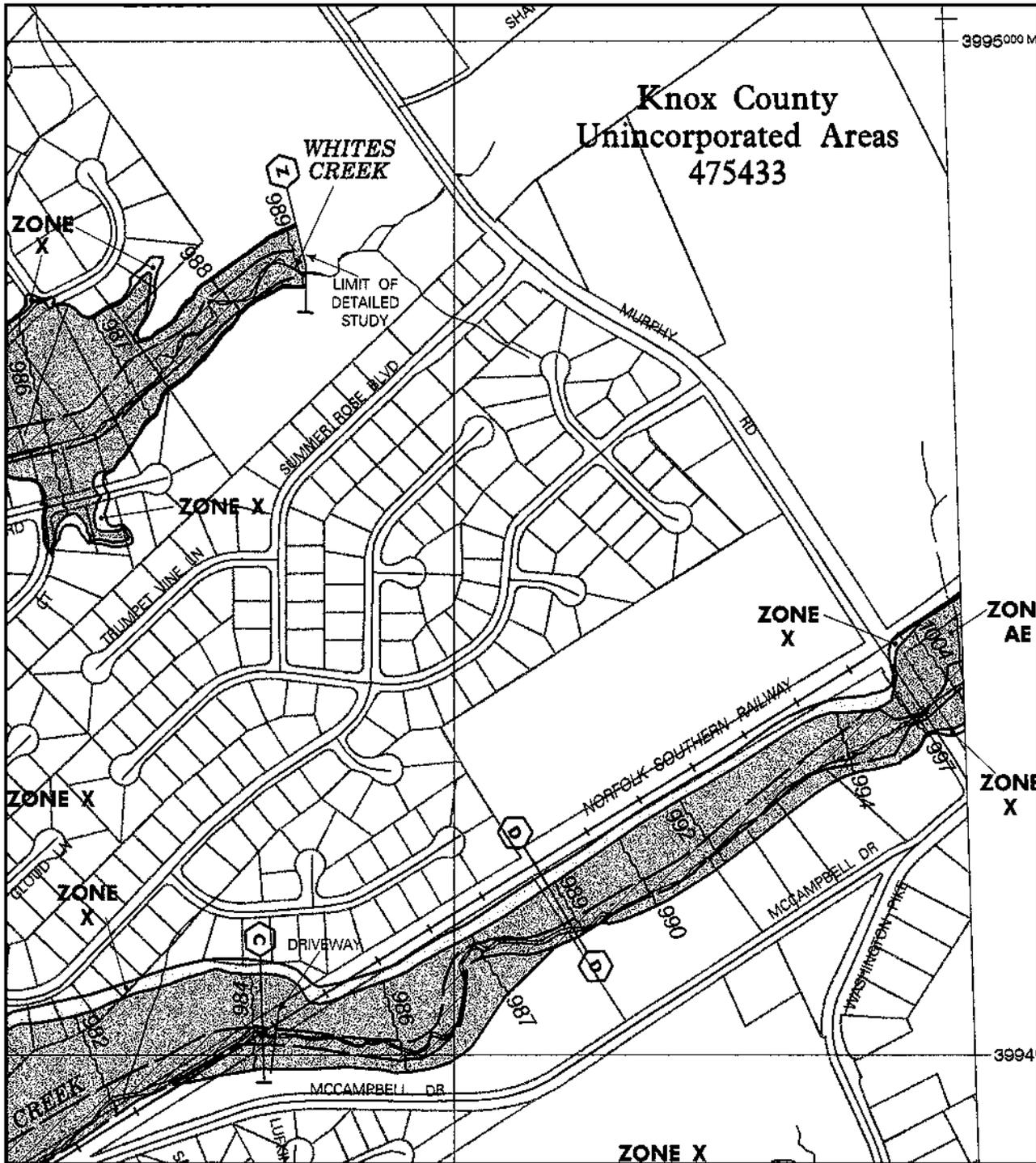
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER
47093C0142F**

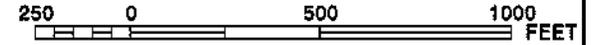
**EFFECTIVE DATE
MAY 2, 2007**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 500'



NFIP

PANEL 0142F

FIRM
FLOOD INSURANCE RATE MAP
KNOX COUNTY,
TENNESSEE
AND INCORPORATED AREAS

PANEL 142 OF 430

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KNOX COUNTY	475433	0142	F
KNOXVILLE, CITY OF	475434	0142	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
47093C0142F

EFFECTIVE DATE
MAY 2, 2007



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX G

**Tennessee Department of Environment and Conservation Division of
Natural Areas Correspondence and Response
July 2012**



STATE OF TENNESSEE

DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Natural Areas
Natural Heritage Program
7th Floor L&C Tower
401 Church Street
Nashville, Tennessee 37243
Phone 615/532-0431 Fax 615/532-0046

April 27, 2012

Will Carroll, CPESC
CDM Smith
1100 Marion Street, Suite 200
Knoxville, Tennessee 37921

Subject: Washington Pike Improvements
Knoxville, Tennessee
Rare Species Database Review

Dear Mr. Carroll:

Thank you for your correspondence requesting a rare species database review for the proposed Washington Pike improvements in Knoxville, Tennessee.

We have reviewed the state's natural heritage database with regard to the project locations, and we find that the following rare species have been observed previously within one mile of the project:

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Vascular Plant	Lilium canadense	Canada Lily	G5	S3	--	T	Rich Woods And Seeps
Vertebrate Animal	Pituophis melanoleucus melanoleucus	Northern Pinesnake	G4T4	S3	--	T	Well-drained sandy soils in pine/pine-oak woods; dry mountain ridges; E portions of west TN, E to lower elev of the Appalachians.

Within four miles of the project we find that the following rare species have been observed (see attached map):

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Invertebrate Animal	<i>Fusconaia cor</i>	Shiny Pigtoe	G1	S1	LE	E	Shoals and riffles of small-medium sized rivers with mod-fast current over sand-cobble substrates; upper Tennessee River watershed.
Invertebrate Animal	<i>Lo fluvialis</i>	Spiny Riversnail	G2	S2	--	Rare, Not State Listed	Shallow waters of shoals that are rapid to moderate and well-oxygenated; Tennessee River & main tributaries; E Tennessee.
Invertebrate Animal	<i>Lasmigona holstonia</i>	Tennessee Heelsplitter	G3	S2	--	Rare, Not State Listed	Spring runs, creeks, & small rivers, in subst of sand & mud; upper Tenn & Conasauga river watersheds; Blue Ridge & Ridge & Valley.
Vascular Plant	<i>Lilium canadense</i>	Canada Lily	G5	S3	--	T	Rich Woods And Seeps
Vascular Plant	<i>Panax quinquefolius</i>	American Ginseng	G3G4	S3S4	--	S-CE	Rich Woods
Vascular Plant	<i>Silene regia</i>	Royal Catchfly	G3	SH	--	E-P	Rocky Openings And Thickets
Vascular Plant	<i>Tetragonotheca helianthoides</i>	Pineland Squarehead	G5	SH	--	E-P	Dry Open Woods
Vertebrate Animal	<i>Percina tanasi</i>	Snail Darter	G2G3	S2S3	LT	T	Sand and gravel shoals of moderately flowing, vegetated, large creeks; upper Tennessee River watershed.
Vertebrate Animal	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pinesnake	G4T4	S3	--	T	Well-drained sandy soils in pine/pine-oak woods; dry mountain ridges; E portions of west TN, E to lower elev of the Appalachians.

Because of the disturbed nature of the project corridor, few of the above species are likely to occur onsite. However, given suitable conditions, the Tennessee heelsplitter may occur in the Murphy Creek or Love Creek watersheds. The above record refers to 1921 collection from First Creek (of which Murphy Creek is a tributary). The pinesnake record also is historic.

Although not falling near the project site, the northern Ridge & Valley is home to a presumably endemic crayfish (Valley flame crayfish, *Cambarus deweesae*). The nearest known location of this species is approximately 20 miles west of the project in Anderson County. The species is confirmed only from four

locations in Anderson and Roane counties. However, because inventories for burrowing crayfish are scant, the actual range of the species remains unknown. Populations reasonably may be anticipated from portions of Knox County.

As part of your site evaluation, we would appreciate any documentation and photo documentation of hydric soils and sign of occupancy by burrowing crayfish, if present (e.g. visible burrows or chimneys in ditches, riparian zones, and wetlands). Presence of such may warrant further evaluation or specimen collection by TDEC or TWRA biologists, as prudent.

For the balance of the taxa listed above, should suitable habitat exist on or immediately downstream of the site, we ask that project plans provide for the protection of the species noted in this review. We ask that you coordinate this project with the Tennessee Wildlife Resources Agency (Rob Todd, rob.todd@tn.gov, 615-781-6577) to ensure that legal requirements for protection of state listed rare animals are addressed.

For stabilization of disturbed areas, the Tennessee Natural Heritage Program advocates the use of native trees, shrubs, and warm season grasses, where practicable. Care should be taken to prevent re-vegetation of disturbed areas with plants listed by the Tennessee Exotic Pest Plant Council as harmful exotic plants.

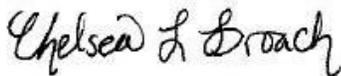
Please keep in mind that not all areas of Tennessee have been surveyed and that a lack of records for any particular area should not be construed to mean that rare species necessarily are absent. For information regarding species protection status and ranks, please visit our website at <http://state.tn.us/environment/na>.

In order to better assist with determining whether rare species are located on a given development site, the Tennessee Natural Heritage Program has implemented a publicly accessible website where rare species data lists by county, quadrangle, watershed, and MS4 boundaries can be obtained: http://environment-online.state.tn.us:8080/pls/enf_reports/f?p=9014:3:3875605994273657.

Thank you for considering Tennessee's rare species throughout the planning of this project. Should you have any questions, please do not hesitate to contact David at (615) 532-0441 or david.withers@tn.gov.

We would greatly appreciate receiving any additional survey data resulting from your site evaluations.

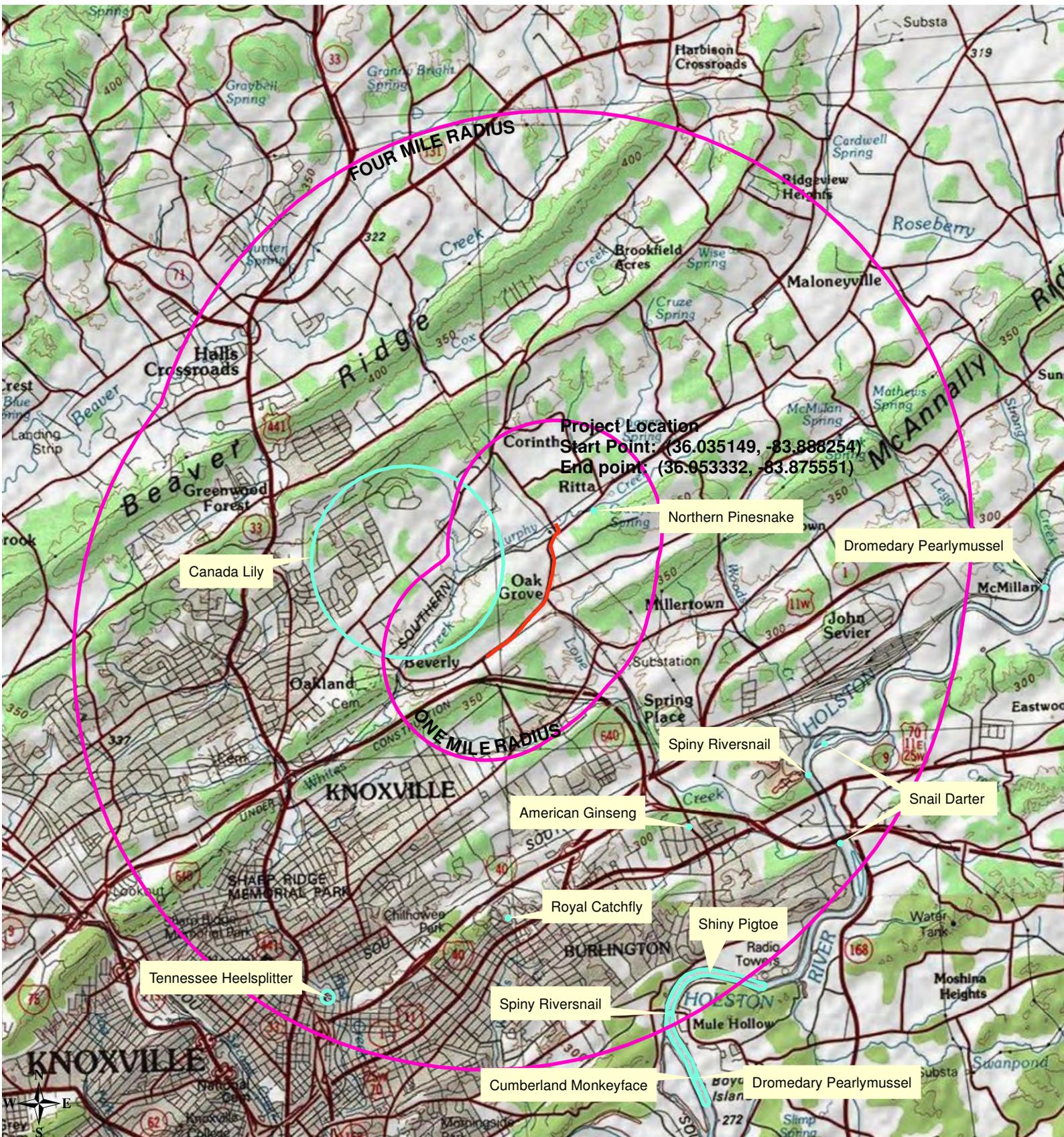
Sincerely,



Chelsea L. Broach
Interim Data Manager



David Ian Withers
Natural Heritage Zoologist



0 0.25 0.5 Miles

This map should not be used to determine where rare species are absent. Many areas of Tennessee have not been surveyed for rare species. Turquoise polygons represent the most probable location of a rare plant or animal population. In general, the larger polygons represent observations with high locational uncertainty.

TENNESSEE NATURAL HERITAGE PROGRAM

7th Floor L&C Annex
 401 Church Street
 Nashville, TN 37243
 Phone: 615.532.0441
www.state.tn.us/environment/na



INITIAL ENVORIONMENTAL SCREENING REPORT

Washington Pike Improvements

TN PIN #043090.00

Additional Agency Correspondence

- U.S. Fish and Wildlife
- U.S. Department of the Army Corps of Engineers



United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

April 3, 2013

Ms. Scarlett Sharpe
Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

Subject: FWS# 13-CPA-0383. Proposed Washington Pike Improvements in the City of Knoxville; PIN# 043090.01, Knox County, Tennessee.

Dear Ms. Sharpe:

Thank you for your letter dated March 28, 2013, regarding the proposed Washington Pike Improvements in the City of Knoxville, Knox County, Tennessee. The project would consist of widening approximately 1.73 miles of Washington Pike from two lanes to a four lane design with five-foot shoulders and four-foot bike lanes. The Tennessee Department of Transportation (TDOT) has requested our comments on federally listed species, wetlands, or other areas of concern for this project. Personnel of the U.S. Fish and Wildlife Service (Service) have reviewed the subject proposal and offer the following comments.

Upon review of the information provided and available imagery, removal of suitable summer roosting habitat for the federally endangered Indiana bat (*Myotis sodalis*) may be required for the project. A qualified individual should assess potential impacts and determine if the proposed project may affect this species. As a designated representative for the Federal Highway Administration (FHWA), TDOT should submit a copy of the assessment and findings to this office for review and concurrence. A finding of "may affect" could require initiation of formal consultation by the FHWA.

Information available to the Service does not indicate that wetlands exist in the vicinity of the proposed project. However, our wetland determination has been made in the absence of a field inspection and does not constitute a wetland delineation for the purposes of Section 404 of the Clean Water Act. The Corps of Engineers should be contacted if other evidence, particularly that obtained during an on-site inspection, indicates the potential presence of wetlands.

If you have any questions regarding our comments, please contact John Griffith of my staff at 931/528-6481 (ext. 228) or by email at john_griffith@fws.gov.

Sincerely,

A handwritten signature in cursive script that reads "Mary E. Jennings". The signature is written in black ink and is positioned above the typed name.

Mary E. Jennings
Field Supervisor



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
3701 BELL ROAD
NASHVILLE, TENNESSEE 37214

April 23, 2013

Regulatory Branch

SUBJECT: File No. 2013-00496; Washington Pike Improvements, Knoxville, Knox County, Tennessee.

Ms. Scarlett Sharpe
Tennessee Department of Transportation
Senior Transportation Planner
James K. Polk Building, Suite 900
Environmental Documentation Office
505 Deaderick Street
Nashville, Tennessee 37243

Dear Ms. Sharpe:

This is in regard to your recent request for information on the proposed Washington Pike Improvements, Knoxville, Knox County, Tennessee

The U.S. Army Corps of Engineers (USACE) has regulatory responsibilities pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). Under Section 404, the USACE regulates the discharge of dredged and/or fill material into waters of the U.S., including wetlands. Under Section 10, the USACE regulates any work in, or affecting, navigable waters of the U.S.

A review of the information provided indicates an activity that would involve work in waters of the US. Therefore, a Department of the Army (DA) permit would be required.

We understand that the project proposal may not have specific design plans at this time, and this inquiry is an initial review to obtain funding. Therefore, we have no objections to the applicant receiving funds provided the applicant applies for and obtains any required permits prior to any disturbance to streams and/or wetlands that may occur due to project construction. The applicant may apply at any time.

We appreciate your awareness of our regulatory program. If you have any questions regarding this matter, please contact me at the above address, telephone (615) 369-7500.

Sincerely,

A handwritten signature in cursive script that reads "Lisa R. Morris".

Lisa R. Morris
Project Manager
Regulatory Branch

From: Jeffrey Ballard

Sent: Thursday, March 28, 2013 2:21 PM

To: Scarlett Sharpe

Subject: RE: PIN 043090.00 Washington Pike and Millertown Pike Improvements, Knox County

No RCRA hazardous waste generators are located within the study area. No active USTs are located within the study area. There are two USTs on adjacent properties.

In the event hazardous substances/wastes are encountered within the proposed right-of-way, their disposition shall be subject to all applicable regulations, including the applicable sections of the Federal Resource Conservation and Recovery Act, as amended; and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended; and the Tennessee Hazardous Waste Management Act of 1983, as amended.

