MAYOR	COUNCIL
Brian K. Grim	Seth D. Bernard
	David Caporale
CITY ADMINISTRATOR	Richard J. "Rock" Cioni
Jeff Rhodes	Eugene T. Frazier
CITY SOLICITOR	**CITY CLERK**
Michael Scott Cohen	Marjorie A. Woodring

MINUTES

Mayor and City Council of Cumberland
City Hall Council Chambers
Room 212
6:15 P.M.

DATE 9/19/2017

***Pledge of Allegiance**

I. ROLL CALL

The meeting convened at 6:25 p.m.

PRESENT: Brian K. Grim, President; Council Members Seth Bernard, David Caporale, Richard Cioni, Eugene Frazier

ALSO PRESENT: Jeffrey D. Rhodes, City Administrator; Michael S. Cohen, City Solicitor; Donald Dunn, Fire Chief; Lt. Brian Lepley, CPD; Marjorie Woodring, City Clerk

II. CERTIFICATES, AWARDS AND PRESENTATIONS

(A) Update on the Forest Management Plan for Evitts Creek Water Company lands provided by Paul Eriksson, City of Cumberland Natural Resources Specialist, Donnelle Keech, The Nature Conservancy, and Mike Wolf, Appalachian Forestry Consultants

Mr. Eriksson advised that the Forest Management Plan has now been completed and introduced Ms. Keech and Mr. Wolf as contributing partners in the development of the Plan. Also in attendance in support of the Plan were two members of the Evitts Creek Steering Committee, Bedford County Commissioner Paul Crooks and Steve Resh of Allegany College.

Mr. Eriksson advised that the completed Plan wold be sent to cooperating agencies and stakeholder groups for comments and suggestions. Two public meetings would also be held with one in Cumberland and the other in Centerville, PA. Following public comment, the Plan would be given brought before the Mayor and Council for final approval.

Highlights of the Plan were reviewed, including the Key Ecological Attributes Report, the use of maps and tables to categorize and manage the data, identification of sensitive areas and those most critical for attention, and the effort to lay a foundation for certification of the property by the Forest Stewardship Council and Tree Farm Program.

III. DIRECTOR'S REPORT

(A) Police

1. Police Department monthly report for August, 2017

Item Action: Approved

Motion to accept the report was made by Caporale, seconded by Bernard, and was passed on a vote of 5-0.

(B) Fire

1. Fire Department monthly report for August, 2017

Item Action: Approved

Motion to accept the report was made by Caporale, seconded by Bernard, and was passed on a vote of 5-0.

(C) Public Works

1. Maintenance Division monthly report for August, 2017

Item Action: Approved

Motion to accept the report was made by Caporale, seconded by Bernard, and was passed on a vote of 5-0.

2. Utilities Division monthly report for August, 2017

Item Action: Approved

Motion to accept the report was made by Caporale, seconded by Bernard, and was passed on a vote of 5-0.

IV. APPROVAL OF MINUTES

(A) Administrative / Executive

1. Statement to be read announcing the closed meeting scheduled for September 19, 2017

Mayor Grim announced that a Closed Session had been held on September 19, 2017 at 6:15 p.m. and read into the record a summary of that session, which is attached hereto and made a part of these minutes as required under Section 3-306(c)(2) of the General Provisions Article of the Annotated Code of Maryland.

V. NEW BUSINESS

(A) Orders (Consent Agenda)

Item Action: Approved

Mr. Rhodes reviewed each item on the Consent Agenda and Mayor Grim entertained question or comments. Motion to approve Consent Agenda Items 1-8 was made by Caporale, seconded by Cioni, and was passed on a vote of 5-0.

1. Order authorizing the execution of a Salt and Aggregate Utilization Agreement with the State Highway Administration for distribution of salt and/or aggregate for winter storm events for a period of 3 years.

ORDER NO. 26,186

2. Order authorizing a Special Taxing District Residential Exemption for the 2017-2018 tax year for 55 N. Centre St. in the amount of $920.19.

ORDER NO. 26,187

3. Order reappointing Betsey Hurwitz Schwab to the Administrative Appeals Board for a three (3) year term effective September 19, 2017 through September 30, 2020

ORDER NO. 26,188

4. Order adopting a revised set of Rules and Regulations for the Government of the Mayor and City Council in place of the prior version adopted by Order 24,617 and amended by Ordinance No. 3735

ORDER NO. 26,189

5. Order accepting the proposal from The EADS Group, Inc. for the engineering design of the New Baltimore Street Town Center Project (12-16-M) in the estimated contract price of $301,678.53

ORDER NO. 26,190

6. Order accepting the proposal of PMA Insurance Companies to provide Workers Compensation Insurance for the period July 1, 2017 through July 1, 2018 for the estimated amount of $1,102,102 to include costs for Premium, Cash Collateral Fund, and Claims Service Fund, and authorizing the City Administrator to executed a Prefunded Deductible Reimbursement and Security Agreement relative to that coverage

ORDER NO. 26,191

7. Order accepting the bid of Muni-Link for the Utility Billing System Software Package Proposal in the amount not to exceed $49,680 and rejecting all other bids

ORDER NO. 26,192

8. Order authorizing the execution of a Police Candidate Agreement and a Police Academy Assistance Agreement pertaining to the Academy commencing on or about October 2, 2017 and continuing until approximately June 8, 2018

ORDER NO. 26,193

VI. PUBLIC COMMENTS

All public comments are limited to 5 minutes per person

Marc Nelson, 113 Decatur Street, stated that a recent meeting announcement of the Cumberland Economic Development Corporation stated that audio and video recordings would not be permitted and questioned whether the Mayor and Council were going to let that stand. He discussed with Council that it would be in the best interests of public transparency to allow the meeting to be recorded.

Paul Notarianni, 819 Fayette Street, stated it was his understanding that it was a felony if someone recorded someone without their consent and questioned whether the Mayor and Council would follow up on that if recording of the CEDC took place. He further questioned whether the Mayor and Council would use eminent domain to take the home of the remaining holdouts in the

"Rolling Mills" area. Mayor Grim stated that past history shows that the City has not yet used or threatened eminent domain. Councilman Frazier stated that he would never for for eminent domain.

VII. ADJOURNMENT

With no further business at hand, the meeting adjourned at 6:41 p.m.

Minutes approved on October 17, 2017

Brian K. Grim, Mayor

ATTEST: Marjorie A. Woodring, City Clerk

Regular Council Agenda
September 19, 2017

Description

Update on the Forest Management Plan for Evitts Creek Water Company lands provided by Paul Eriksson, City of Cumberland Natural Resources Specialist, Donnelle Keech, The Nature Conservancy, and Mike Wolf, Appalachian Forestry Consultants

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

Update on Forest Management

Evitts Creek Water Company Lands

Cumberland Valley Township

Bedford County, PA

Forest Management Plan

- Draft has been completed and sent to cooperating agencies and stakeholder groups for comments and suggestions
- 2 Public meetings will be held on plan – one in Cumberland, MD and the other in Centerville, PA
- Following public comment, plan will be given to Mayor and City Council for final approval

Key Ecological Attribute Report

Report is used as a guide for forest management on the property.

Red is not a bad condition, but helps identify an attribute of concern such as low stocking or significant deer presence.

Forest Health & Condition Report

Evitts Creek Tract

3,800 acres; Beford County, PA

Allegheny Front - Key Ecological Attribute set and indicator ratings

Steve Resh, Allegany College

Inventory Data Collected by Megan McKewen and Seth Clapper

**Condition values were derived from 519 sample points established within the forested portions of the property

Mgmt. Unit*	COMPOSITION				STRUCTURE		REGENERATION		
	Stocking (%)		Tree Species		Conifer Cover (% BA)	snags>/= 10" dbh	all stems (regen)	% desirable (regen)	Deer Browse Impact Rating
	TOTAL	AGS	Diversity	Evenness					
101	90	61	7	0.57	2	7	7857	60	2
103	100	96	8	0.74	21	0	3000	100	2
104	88	85	8	0.72	3	0	2667	100	2
107	130	115	4	0.88	0	0	4000	100	2
109	91	67	7	0.71	28	3	14000	77	2
110	81	61	4	0.30	0	0	19750	33	3
111	50	43	3	0.52	91	0	24000	96	2
112	101	79	19	0.83	3	5	27158	86	3
Compart. 1 Avg.					19				
201	102	83	10	0.79	1	2	5714	95	2
202	97	85	12	0.78	2	4	12250	87	2
203	83	69	13	0.85	0	4	3400	82	2
204	103	87	16	0.86	6	2	12409	85	2
205	39	30	5	0.75	0	0	6333	100	2
206	99	92	10	0.85	0	30	3000	83	2
207	88	72	15	0.83	0	2	6000	97	2
208	106	98	6	0.79	0	10	34000	97	3
209	45	20	2	0.93	0	0	1000	100	2
210	41	30	5	0.86	0	0	4000	100	2
211	87	41	5	0.91	0	17	1000	100	2
213	95	82	17	0.79	0	7	10211	96	2
214	78	72	4	0.73	0	0	5000	100	3
216	106	88	17	0.66	0	4	6722	98	3
217	99	66	12	0.88	9	15	5333	86	2
218	120	95	18	0.87	10	3	23667	89	3
219	72	66	1	0.00	100	0	3000	100	3
220	89	65	5	0.49	83	2	3857	85	2
Compart. 2 Avg.					12				
301	120	30	3	0.67	0	34	8000	100	2
302	120	82	13	0.88	17	1	9333	92	3
304	100	68	9	0.75	0	5	3250	100	2
306	120	65	8	0.91	0	5	7250	86	2
307	93	30	9	0.75	13	3	19000	78	2
310	0	0	0	0.00	0	0	26000	100	3
312	55	30	5	0.84	0	5	2667	100	2
314	89	78	20	0.80	0	0	5500	96	3
315	113	72	19	0.62	4	6	5625	89	2
317	112	72	16	0.84	3	5	14636	89	3
318	68	49	7	0.82	9	4	4667	100	2
320	85	72	5	0.69	0	5	9123	100	3
Compart. 3 Avg.					4				
401	120	98	14	0.87	18	1	24250	98	3
402	118	97	17	0.83	2	7	19313	97	3
403	117	89	17	0.79	3	3	22912	88	3
404	86	79	13	0.83	1	3	22143	83	3
405	130	104	9	0.62	63	13	37600	87	3
406	55	45	3	0.55	33	22	10500	0	4
407	125	102	19	0.87	3	6	32036	98	3
410	114	94	15	0.82	0	5	25130	93	3
411	109	93	16	0.85	0	3	19684	98	3
412	118	87	21	0.79	2	5	23767	97	3
413	92	82	16	0.85	0	2	21667	80	2
414	88	76	19	0.86	15	2	34044	82	2
415	108	90	22	0.86	11	0	16952	88	3
416	111	83	5	0.79	42	0	4000	100	2
Compart. 4 Avg.					14				

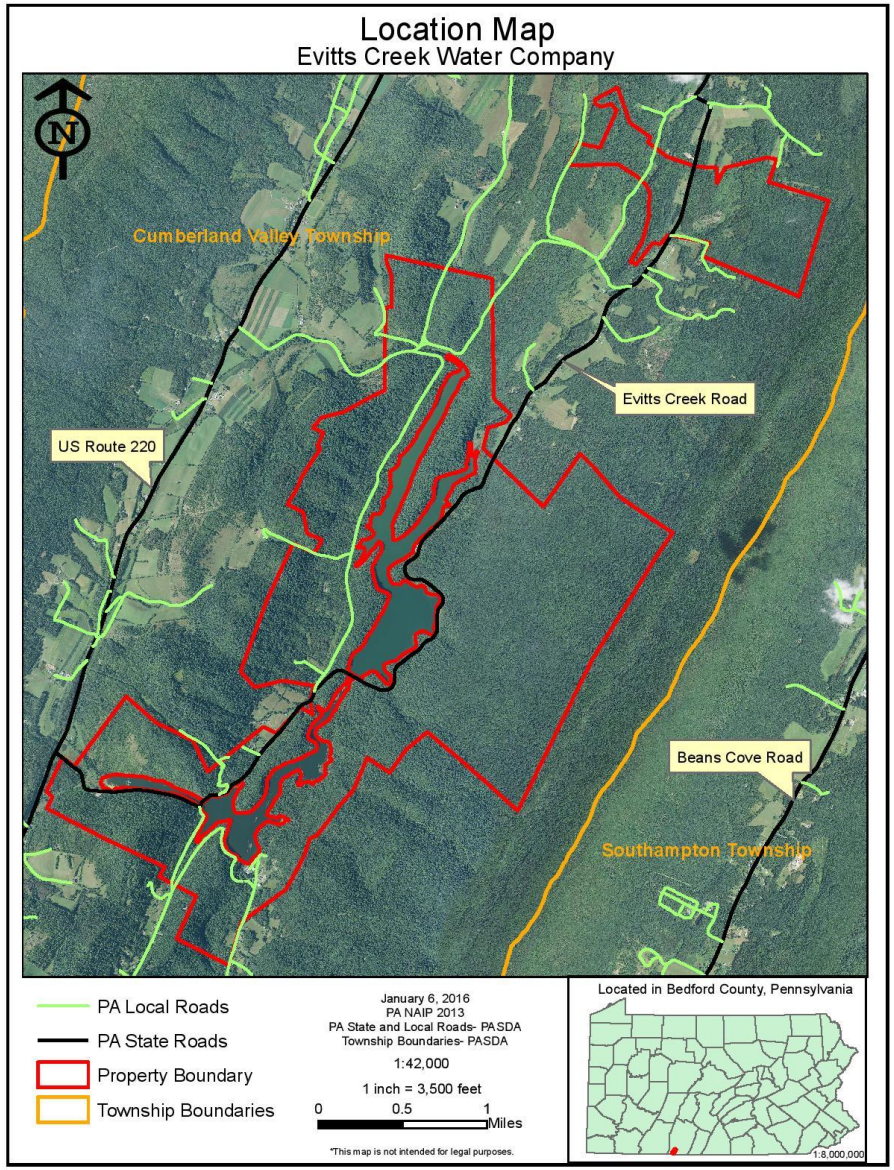
RATING	Stocking (%)		Tree Species		Conifer Cover (% BA)	snags>/= 10" dbh	all stems (regen)	% desirable (regen)
	TOTAL	AGS	Diversity	Evenness				
POOR	< 44	<40	</=3	0 to 0.6	0 to 3	0 to 2	0-10k	<25
FAIR	45 to 58	41 to 53	4-8	0.61to 0.7	4 to 8	3 to 5	10,001-15k	26 to 54
GOOD	59 to 79	54 to 69	9-12	0.71 to 0.8	9 to 16	6 to 8	15,001-50k	55 to 74
V. GOOD	80+	70+	>12	0.81+	17+	9+	>50k	>75

RATING	Deer Browse Impact Rating
5	V. High Impact
4	High Impact
3	Moderate Impact
2	Low Impact
1	No Impact

Maps and Tables

Plan development used GPS to collect data that is now in the City's GIS system.

Analyzed data was put into tables so that the stands making up the forest could be categorized and managed.



Other Highlights

Work plan created to address areas most critical for attention.

Sensitive areas, both ecological and cultural, identified

Foundation laid for certification of property by Forest Stewardship Council and Tree Farm Program.

Questions?

- Copies of plan can be made by contacting: Paul Eriksson, Natural Resources Specialist, City of Cumberland, Maryland, 57 North Liberty St, Cumberland, MD 21502
- E-mail: paul.eriksson@cumberlandmd.gov

FOREST STEWARDSHIP PLAN

For

City of Cumberland & Evitts Creek Water Company
57 N Liberty Street
Cumberland, MD 21502
301-759-6424

Location

Bedford County, PA
Surrounding Lakes Gordon and Koon, off of Route 220
Approximately 10 miles Northeast of Cumberland

GPS Coordinates

N 39.748249 **W** 78.674371

Watershed

Evitts Creek

On Approximately

3,623 +/- acres total
Including
3,552 +/- acres forest
70 +/- acres open areas
200 acres lakes

Prepared by

Paul Eriksson, Natural Resources Specialist (Forester's License # 664),
City of Cumberland

Donnelle Keech, Project Director – The Nature Conservancy (TNC)
Adam Miller, Forester – Maryland Forest Service (MD FS)
Andrew Ireland, Chesapeake Conservation Corp Volunteer – TNC
Megan Mckewen, Forest Technician – MD FS
Seth Clapper, Forest Technician – MD FS

July 19, 2017

This forest management plan was undertaken by a collection of interested partners, including The City of Cumberland (the owner of Evitts Creek Water Company), The Nature Conservancy, Maryland Department of Natural Resources Forest Service, Pennsylvania Department of Conservation and Natural Resources Bureau of Forestry, Pennsylvania Natural Heritage Program, Allegany College of Maryland, and the Western Pennsylvania Conservancy. Funding for this plan was provided by a US Forest Service Grant.

The City of Cumberland and the Evitts Creek Water Company would like to thank the following individuals for their assistance with the preparation of the plan:

Donnelle Keech-TNC
Michael C. Eckley-TNC
Fran Price - TNC
Josh Parrish - TNC
Melissa Stevens Nash - MD FS
Anne Hairston-Strang - MD FS
Melissa McKewan - MD FS
Seth Clapper - MD FS
Adam Miller - MD FS
George Eberling - MD FS
Dave Scamardella- PA DCNR Bureau of Forestry
Christopher Tracey - Western PA Conservancy (WPC)
Michael Knoop - WPC
Steve Resh - Allegany College of Maryland (ACM)
Marie Perrin Miller - ACM
Andrew Ireland – TNC
Jesse Wise-MD FS
Dylan Mitch Stumbaugh

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Statement of Purpose

The purpose of this forest management plan is to guide the sustainable management of forestland owned by the Evitts Creek Water Company (ECWCo), with the primary focus of maintaining or improving water quality and quantity in Lake Gordon and Lake Koon, the source of potable water for over 50,000 customers in Maryland, Pennsylvania, and West Virginia.

This forest management plan updates and replaces all previous management plans for the properties.

The development of this plan was undertaken by a collection of interested partners including the City of Cumberland, The Nature Conservancy, Maryland Department of Natural Resources, Pennsylvania Department of Conservation and Natural Resources, Allegany College of Maryland, and the Western Pennsylvania Conservancy. Funding for this plan was provided by a US Forest Service Grant.

Forest Management Goals

The following overarching management goals will drive the management decisions and investments on the ECWCo properties:

1. Preserve the water quality and quantity of the sources by maintaining or improving the capacity of the watershed to produce these values, and by maintaining or improving watershed ecological security to ensure the safety of the supply.
2. Maintain or improve the capacity of the properties to produce financial returns, which will enhance and protect the long-term value of the asset.
3. Promote ecosystem health and diversity as well as sustainable management of all resources through compliance with all federal, state, and municipal legal requirements; FSC standards of operation; and other best management practices (BMPs).
4. Maintain or improve opportunities for dispersed low-density outdoor recreation that are compatible with maintaining the integrity of the forest ecosystem and do not negatively impact water resources.
5. Meet all legal and regulatory requirements.

Forest Management Guiding Principles

1. In the absence of any specific directive, forest management will always be undertaken based on the best current science available regarding the maintenance of forest health within the watershed properties.
2. Prior to initiating any forest management activity on the properties, the State of Pennsylvania and Federal databases will be consulted to determine if any species of special concern or rare, threatened, or endangered species are located within the stand being considered for management. If one or more of the species is found to occur within the area of the forest being considered for management, the recommended management practices for that species will govern management. These restrictions may include: no management, no entry, seasonal limitations, or other active or passive practices or prohibitions.

3. Forest stands that have been partially or completely designated as High Value Conservation areas will have restrictions placed on management options within them. These specific restrictions will appear within this document.
4. Best management practices (BMPs) will always be followed as a component of any forest management activity. This restriction will apply to any road construction/maintenance issue as well as any harvest, recreation or cultural activity. The need for road improvement/maintenance will be determined prior to any management activity within a compartment. Contract provisions that include road improvement/maintenance are encouraged.
5. The "Forest Health Report Card" will help to determine the priority of management activities within stands on the properties.
    A. Severely overstocked stands that contain an abundance of acceptable growing stock will be given priority for management activities. Thinning these stands to a biologically acceptable level should be scheduled.
    B. Stands that are understocked and contain high percentages of unacceptable growing stock will be considered for overstory removal and regeneration. The size of the cuts should be restricted to a maximum size of 20-50 acres. Exceptions to this policy must be justified by the forest manager. The justification would need to cite specific forest health concerns.
    C. Stands with a high percentage of Virginia pine should be considered for regeneration harvests. Reestablishment of Virginia Pine may or may not be considered a priority. The abundance of conifer cover within the compartment should help determine if pine regeneration is necessary or desirable. Because of the use of prescribed fire on the properties, pitch pine, table mountain pine, and shortleaf pine regeneration will be preferred.
    D. White pine and Canadian hemlock should be considered for retention during any cultural operation because of the species' contribution to diversity and thermal protection of wildlife species.
    E. Stands exhibiting a high degree of species diversity and age classes should be considered for a conversion to uneven-aged management.
    F. Red oak (Quercus rubra) and sugar maple (Acer saccharum) should be the species considered as the most economically desirable species. Stand prescriptions should be chosen which will promote the regeneration and growth of these species.
    G. Mature stands with large percentages of desirable regeneration should be scheduled for stand regeneration.
    H. Deer population densities should be a consideration when planning forest management activities. The forest manager should consider the use of deer fencing or encouraging the increase of hunting pressure by improving access prior to scheduling management.
6. Water quality, forest health, and economic return will be given top priority when planning management activities within the properties. Secondary consideration will be given to practices which have the potential to improve consumptive recreational activities such as hunting and fishing. Other forms of recreation are viable activities within the

watershed properties and can be improved through management as long as the recreational activities do not impact long-term sustainability of the forest.

7. Very limited entry of machinery within the 100-foot buffer zone of the lake and within the50 foot buffer of the water courses (the inner streamside management zones) within the properties will be permitted. Exceptions to this policy must be justified by the forest manager. The justification would need to cite specific forest health concerns within the buffers.
8. The outer zones of the streamside management zones (200 feet outside of the inner zone around water supply lakes and 100 feet outside of the inner zone around other water courses) could be considered for partial tree removal, but a basal area of at least 60 square feet per acre must always be maintained within this zone, and machine entry should be limited and justified.
9. Standing dead trees (snags) should be maintained during any cultural activity within the forest except in areas where recreational activity is prominent (lakeside zone, along trails). The benefit of these trees for wildlife species dictates that from 5 to 10 trees per acre be retained.
10. The ecological significance of vernal pools mandates that every effort be taken to identify their presence and avoid disturbance during cultural/management activities on the entire property.
11. Forest management on slopes greater than 40% (22° angle) should be avoided. Recreation activity on these steep slopes is allowed but not encouraged.
12. The presence of invasive species should be ascertained prior to any stand management activities and treatment of these species should be initiated when economically possible.
13. Abundance of desirable regeneration should be monitored prior to undertaking management activities and re-evaluated five years following any cultural activity.
14. The age class distribution within the ECWCo properties should be balanced so that the impact of catastrophic events such as fire, wind storms, or insect outbreaks might be minimized.
15. Properties boundaries should be maintained. All markings should be renewed on a 10-year cycle.
16. The Evitts Creek Steering Committee, which meets quarterly, will be consulted for guidance concerning any management activities that will take place within the watershed. Annual reports will be made to the committee by the forest manager or a designee.

Certification and Working Woodlands

The ECWCo will seek certification for their forest management plan under the Forest Stewardship Council (FSC) US 2010 National Standard as part of The Nature Conservancy's (TNC) group certificate. Once certified, the properties will be enrolled in Working Woodlands, TNC's private forest landowner program. The vision for Working Woodlands is to restore and sustain high quality ecological values within economically productive forests. This forest management plan will be periodically reviewed and updated to ensure compliance with FSC US National Standard and TNC's Group Certification program..

General Properties Description

Legal Description

The ECWCo properties is comprised of 2 tracts, totaling approximately 3,623 of mostly forested acreage. The tracts lie within Cumberland Valley Township in southwestern Bedford County, Pennsylvania. The majority of the properties (3,390 acres) surrounds Lake Gordon and Lake Koon, which are man-made reservoirs. The remaining acreage (approximately 400 acres) makes up an outparcel of land that is divided by Evitts Creek (See appendix, maps).

Topography

Elevations on the properties range from 900 feet to approximately 1,700 feet above sea level. There are a mixture of gentle slopes (0 - 20%) and steep slopes (20-40%) throughout the properties. The steepest slopes on the properties occur on Shriver Ridge, which is situated parallel to the reservoirs (Lake Gordon and Lake Koon) and Route 220. Along the shore of Lake Koon near the boat access, there are slopes that are excessively steep (60% to over 100% slope) and appear very "cliff - like". There are places that are fairly flat along the runs and creeks on the property, but have large cobles just under the surface of the soil. Some streams and runs are in stable channels while other runs and creeks are extremely excised and eroded from the original bank level.

Roads

There are approximately 10 miles of public roads (township and state) that traverse the ECWCo properties. Most of the roads are either asphalt or tar and chip - only 3% of the public roads are graveled (Chimney Ridge). There are 6 private/restricted roads, including Tea Cup Lane, that are used for access to adjoining properties. One of these roads, located near the bridge spanning Koon Dam, is seasonally opened to access the PA Bureau of Forestry's properties on the east side of Evitts Creek Road.

Cumberland Valley Township is involved with Pennsylvania's Dirt and Gravel Road program. This program assists the local jurisdiction in the management of dirt and gravel roads. Chimney Ridge Road is being considered for involvement in the dirt and gravel program. There is a ford crossing on the road section above the properties that could be a source of future water quality issues if it is not addressed.

Refer to the Soils Management section for more information on roads management on the ECWCo properties.

Regional Context

Adjacent Landownership and Surrounding Area

Most of the adjoining properties are privately-owned small acreages. Many are used as hunting or summer vacation cabins. Some of the cabins have been upgraded to year-round homes, while others have been torn down and replaced with modern homes. A few farms exist on the north side of the properties. The DCNR Bureau of Forestry owns the public properties that adjoins the ECWCo on the east side.

To the north of the properties are Bedford, PA and the PA Turnpike, a major east/west connector. To the east is Evitts Mountain, which stretches from near Everett and Bedford, PA to just below the state boundary in Maryland at Rocky Gap State Park. To the west is US 220, The Appalachian Thruway, which is an important north/south highway in this region. To the south is Interstate 68, an east/west route that runs parallel to the Turnpike through the three western counties in Maryland. Also to the south is Rocky Gap State Park, which is in the Evitts Creek watershed as well, but joins below the ECWCo properties. Rocky Gap State Park is home to Lake Habeeb, a recreational reservoir that was constructed on Rocky Gap Run.

Socio-economic Setting

Bedford County consists of 1,017 square miles (650,880 acres) of land area. There are 25 townships and 13 boroughs, with a total county population of 49,055 (US Census, 2013). Overall population trends for the surrounding region are mixed: cities and towns along the Interstate 81 corridor, including Hagerstown (MD), Winchester (VA), and Martinsburg (WV), are seeing growth because of I-81's use as a north/south transportation corridor that parallels Interstate 95. Conversely, cities such as Cumberland (MD), Altoona (PA), and Covington (VA) have experienced population declines.

The economic sectors employing the most people in Bedford County are retail trades, transportation, and warehousing. Manufacturing is still important in the county, with metal fabrication plants, as well as sawmills and other forest product industries, contributing significantly to the local economy. A list of regional wood products markets is included in the appendix.

Recreational opportunities are abundant in the county, including three state parks, several PA Game Commission land holdings, and the Buchanan State Forest. These recreation areas are open to hiking, hunting, and/or camping. In 2007, historic Bedford Springs Resort was refurbished and reopened to guests. Raystown Lake, a U.S. Army Corps of Engineers water control reservoir in the northeast corner of the county, attracts many people interested in fishing and other water sports. There are also opportunities for recreation in Allegany County, Maryland including Rocky Gap State Park, which is not far from Lake Gordon and Lake Koon.

Physiographic Province

The ECWCo properties are part of the Appalachian Mountain section of the Ridge and Valley Physiographic Province. The dominant topographic form in this section consists of long, narrow ridges and broad to narrow valleys, some of which are karst. The local relief in this section is moderate to very high, with elevations ranging from 440-2,775 feet.

Eco-regional Description

The ECWCo properties lies in the Northern Ridge and Valley/Central Appalachians ecoregion. The Northern Ridge and Valley/Central Appalachians ecoregion stretches from northeastern Pennsylvania to southwestern Virginia. The eastern boundary is defined by the Blue Ridge ecoregion and to the west are the Allegheny and Cumberland plateaus. The region is

characterized by a series of parallel valleys and ridge lines that lie in a southwest to northeast orientation. Elevations range between 400 and 4,300 feet.

The underlining geology of the ecoregion includes sandstone, shale, limestone, and dolomite rock types. Ridges tend to be sandstone, while the valleys tend to be derived from limestone/dolomite or shale. Limestone based soils are very fertile, while shale soils tend to be not as productive (unless they are calcareous).

Lake Gordon/Koon is in an area of transition from the Appalachian Oak Forest type (dominants include white oak and northern red oak) to Oak-Hickory-Pine type (dominants include hickory, shortleaf pine, and white oak).

Watershed Description

The ECWCo properties (and reservoirs) are located within the Evitts Creek Watershed, the area of which covers approximately 30.6 square miles (19,600 acres) in Allegany County, MD and 62.2 square miles (39,800 acres) in Bedford County, PA. The portion of Evitts Creek watershed that drains into the reservoir lakes is approximately 50.8 square miles (32,512 acres) in size. The land cover in the watershed is mixed, with forests making up the majority. Agriculture (crops and pasture) is the second most common land cover, accounting for approximately 14% of the watershed area.

Potential sources of pollution that could affect the reservoir lakes on the ECWCo properties include agricultural practices (from crops and pasture), discharges from 2 municipal point source facilities; spills and runoff from roads, especially Route 220; timber harvest operations; and existing and future development in the watershed. These pollution sources can contribute nutrient enrichment, sedimentation, and contamination by pathogenic organisms to the reservoirs.

The Evitts Creek Watershed is located in the North Branch of the Potomac River Watershed, which is 499 square miles (319,360 acres) in size and drains parts of MD, PA, and WV. The confluence of Evitts Creek and the North Branch of the Potomac River is located 2 miles southeast of Cumberland, MD. From there, the North Branch joins the South Branch of the Potomac River and flows to the Chesapeake Bay. (See appendix, maps)

Ownership

The properties for which this plan is written are owned by ECWCo, a non-profit corporation in the Commonwealth of Pennsylvania. ECWCo is controlled by three shareholders, whom are appointed by the Mayor and City Council. The Mayor of Cumberland is the president of the board and holds 98 shares in the corporation, while the treasurer and the secretary each hold 1 share. The treasurer is a City of Cumberland councilperson and the secretary is the City Engineer. In this way, the City of Cumberland controls the ECWCo. Thus, the staff and financial resources for management of this properties are provided by the City.

See the appendix for the list of applicable laws and regulations.

ECWCo owns the properties (fee simple) and all related rights (mineral, timber, etc.). However, there are several easements on the properties:

- 1 easement for fiber optic cable that runs from Pine Ridge Road to Evitts Creek at the water filter plant,
- 2 easements for electric/telephone lines that relay utilities to neighboring properties,
- 6 road-access easements from public roads to the adjoining properties,
- 1 easement, 10-feet-wide, for a private waterline, which originates at the water line servicing residents off of Lake Dam Road, and
- 2 easements for waterlines that run south from the water plant, cross the ECWCo properties, follow Evitts Creek, and ultimately deliver water to Cumberland.

Community Relations

The City of Cumberland's water system, with Lake Gordon and Koon as its source of supply, provides the lifeblood of quality drinking water to over 50,000 residential, commercial, and industrial customers within the City and communities in the surrounding tri-state area. This significantly enhances the social and economic vitality of the entire region. Additionally, the City of Cumberland and the ECWCo employ local people and procure from local businesses the materials, supplies, and services that are required to maintain the properties.

The public is made aware of activity on the properties through Public Works Department monthly reports to the Mayor and City Council and quarterly reports to the Evitts Creek Steering Committee. The bi-monthly meetings of the Mayor and City Council and the quarterly meetings of the Evitts Creek Steering Committee offer the public chances to comment and voice concerns about activities on the properties. Moreover, the City of Cumberland communicates with the many water companies and water authorities that supply their customers with water received from the Evitts Creek Water Company.

A multitude of stakeholders exist throughout the Evitts Creek watershed. They use, value, and impact forest and water resources at varying levels. These groups include:

- Cumberland Valley Township, which plays a role in land and infrastructure planning within Bedford County
- Bedford County, which implements and enforces erosion and sediment control regulations and conducts comprehensive land and open space planning
- The Pennsylvania Department of Conservation and Natural Resources (DCNR), which provides forest management guidance and manages the state properties that borders ECWCo properties
- The Pennsylvania Fish and Boat Commission (PFBC), which provides enforcement and manages watercraft regulations and fisheries resources
- The Pennsylvania Game Commission (PGC), which provides enforcement and manages wildlife resources
- The Pennsylvania Department of Environmental Protection (DEP), which regulates various activities in wetlands and waters and provides funding for non-point source pollution reduction

- The Pennsylvania Department of Transportation (PennDOT), which maintains a federal highway within the watershed (US 220)
- Woodland Owners of the Southern Alleghenies, which represents local forest landowners
- Allegany College of Maryland, which is supplied with water by the ECWCo and is represented on the Evitts Creek Steering Committee
- Allegany County, which relies on water supplied by ECWCo for the communities of Lower LaVale, Bowman's Addition, Mexico Farms, and Bowling Green
- Mineral County, West Virginia which relies on water supplied by ECWCo for the communities of Ridgeley and Carbondale
- Maryland Department of the Environment (MDE), which regulates source water for consumption in Maryland

Public Access for Hunting & Fishing, and Other Recreation

The ECWCo allows public access to its lands for fishing and hunting. Non-motorized boats are allowed on the lakes, but all boats must be registered with the Pennsylvania Fish and Game Commission. Gas-powered motors are not permitted on the lakes. Parking areas and boat ramps are maintained cooperatively between the PA Fish and Boat Commission and the ECWCo. Other types of non-motorized recreation are permitted on the properties, but infrastructure (such as a maintained trail system) is not present. The properties are patrolled by conservation officers from Pennsylvania Fish and Boat Commission as well as the Pennsylvania Game Commission. Additional law enforcement is available from the PA State Police office in Everett, PA and the Bureau of Forestry/Buchannan State Forest.

History: Cumberland and its Water Supply System[1]

In 1910, the City of Cumberland was getting their water supply via a pump station and water plant located on the North Branch Potomac River near the confluence with Wills Creek. Due to concerns about increasing water pollution and disease (Typhoid fever, most notably), the Mayor and City Council tasked a committee (The Water Supply Advisory Committee; Robert H. Gordon, Chair) to investigate alternative sources for a clean water supply. The Water Supply Advisory Committee reported back to the Mayor and City Council with their findings and recommended that a location 10 miles north of Cumberland, in Cumberland Valley Township, Bedford County, Pennsylvania, was a desirable site on which to create new water supply reservoirs.

[1] Much of the information in the History section is from the Mountain Discoveries article, "Cumberland's Century Celebration of Lake Gordon." http://www.mountaindiscoveries.com/images/ss2014/03dam.pdf

Figure 1: Lake Gordon Dam Construction 1912

Once the decision of where to locate the reservoirs was finalized, although not easily, as the decision was considered oppositional by many, the Committee sent individuals, representing both the City and the Committee, to Harrisburg. There, they secured a charter from the State Water Commissioners for the Evitts Creek Water Company (ECWCo) of Bedford, PA. The charter was granted, and The Evitts Creek Water Company (ECWCo) was set up as a Pennsylvanian corporation controlled by the City of Cumberland in 1911.

Initial purchases of properties on which to create the first lake (Lake Gordon) and the water plant were made between 1909 and 1910 pre-emptively by a local lawyer, Finley Hendrickson. Mr. Hendrickson acted alone and wished to secure land for the city before talk of the proposed project inflated land prices. Although Mr. Hendrickson did not request any profit from the city for his work in purchasing the properties, the city did provide him compensation for his services. Additionally, the ECWCo signed a Resolution of Respect in Mr. Hendrickson's memory upon his death in 1940.

Forests were cleared in the immediate area of the planned lake and water plant, and buildings that were on the properties when it was purchased were mostly razed, with only the foundations left standing. (Figure 1). The work took nearly 2 years and cost hundreds of thousands of dollars. The water plant and first lake were completed on September 15, 1913. The lake was named after Robert H. Gordon, a Cumberland attorney who was an avid proponent and campaigner for the use of Evitts Creek for the city's water supply.

The water provided by Lake Gordon and the water plant was seen as a blessing, especially because the number of waterborne illnesses in the city began to sharply decline. Cumberland's population continued to grow and, beginning in the 1920's, ECWCo found that the demand for water was increasing beyond Lake Gordon's supply potential, generating a need for a means to maintain a constant lake level. Creating additional lakes seemed like a viable solution. So, in the 1920's and 30's, properties were purchased and land was cleared to create Lake Koon (named after Thomas Koon, who was mayor at the time of the construction of the second dam and member of the Water Supply Advisory Committee). Unfortunately, a covered bridge over Evitts Creek had to be removed and a church and its graveyard had to be relocated in order for

the Lake Koon development plans to come to fruition. Nonetheless, the Lake Koon impoundment was dedicated in 1932 with representatives from the offices of the governors of Maryland and Pennsylvania present, along with local elected officials from both the City of Cumberland and Bedford County. A third impoundment was considered and the parcels for it were purchased in the 1960's and 1970's; however, the third lake was never developed.

It is thought that when the first humans arrived to Pennsylvania, nearly 12,000 years ago, the area was covered with forests of spruce, fir, birch, pine, and alder. At the time, the climate was cool and wet, but the climate slowly got warmer over the next few thousand years. This led to oak, chestnut, hickory, and beech trees moving into the forests from the south. From 8,000 to 1,000 years ago, people started using fire to remove forests for villages and to clear underbrush in the forest, which improved forest conditions for hunting. [2]

Beginning as far back as the 1750's, when the area was formally settled by Europeans, the properties have been subject to many timber harvests. Settlers cleared the forests so that the land could be used for growing crops (corn and wheat) and grazing livestock (cattle and sheep). Furthermore, iron forges, tanneries, and sawmills in the region created a demand for American chestnut, hemlock, and oak, which were common species in the Evitts Creek watershed at the time of settlement.

Many trees were cut down during construction of Lake Gordon. Men used axes, two-man saws, and horse-drawn skidders to clear the area around Lake Gordon and then sent the logs to a sawmill that was erected on-site.

Evidence indicates that between 1913 and 1987, forestry and timber harvesting activity on the properties consisted of periodic individual tree removal or removal of a group of trees. Unfortunately, a few areas were harvested through use of diameter limit cutting, a method that is not considered to be an acceptable or sustainable forestry practice.

Beginning in 1987, ECWCo approved a budget for forest inventory work and subsequent management recommendations to be completed on the properties. In the 1980's, the City used the services of a consultant forester, Dr. Rex Harper, who was at the time a professor of forestry at Allegany College of Maryland, to mark areas of trees to be thinned and to oversee timber sales on the properties. As stands were identified and marked for harvest throughout the late 1980's and 90's, forest management plans were created piecemeal for those stands. Until 2015, when an inventory was completed for this plan, Dr. Harper's work was the last time that a detailed forest inventory was completed for the properties. An overall plan was created by Dr. Harper and approved by the Pennsylvania Bureau of Forestry and the Cumberland Mayor and Council in 2000.

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[2] Pennsylvania forest history information was sourced from PA DCNR's "Penn's Woods: A History of Pennsylvania Forests," which can be found here: http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_009325.pdf

A land-use history study of the properties was conducted by Harrisburg Area Community College student Joshua Skinner in the fall of 2015. The study compared historical aerial photographs to quantify the land-use changes on the properties over a period of 74 years. The results showed a steady reversion of fields to forests, resulting in forest currently covering about 82% of the properties. See the appendix for this report.

Current Forest Condition and Management

ECWCo is aware that forest management and harvesting can increase forest health and, subsequently, water quality. As such, the company is committed to sustainably managing its forests. Although forest management and timber harvesting have occurred regularly on ECWCo's forestland in the past, those activities have been relatively absent on the properties in the last 8 to 10 years. In order to gain a current snapshot of forest health and value before planning future management activities, a forest inventory of the properties was completed, with the help of the Maryland Forest Service, in 2015.

Inventory Methods

Inventory plots were taken over a 5-month period. Distances between plots were approximately 500 feet. Data was collected utilizing Fountains TwoDog Forestry Software on a Trimble Nomad. Data from these plots was imported into the Fountains TwoDog office computer program to assist with the processes of statistics and analysis. The outcome from these processes was used to create a Forest Health and Condition Report, also known as Key Ecological Attribute (KEA) Report Cards (see Figure 2), which creates a visual picture on the current forest condition for the properties as a whole. As the past is always prologue, present conditions are results of past uses and abuses of the forest communities as well as soils, aspect, and other ecological factors.

Note, some of the stands did not have data available either because they were 1) less than 5 acres in size but contributed to the overall structure of the compartment, or 2) of a shape or size that did not accommodate a plot being placed in the stand.

Inventory Results

The inventory data analysis showed that the properties is primarily a red oak-mixed hardwood forest cover type with a west to north west aspect. The forest is composed of mostly even-aged, pole-size trees that developed from past harvests (clearcuts) or plantings. The species mix on the properties includes tulip tree (*Liriodendron tulipiferia*), chestnut oak (*Quercus montana*), and red maple (*Acer rubrum*), as well as several other species. While there is some forest cover in conifers (Norway spruce (*Picea abies*), red spruce (*Picea rubens*), Virginia Pine (*Pinus virginiana*), eastern white pine (*Pinus strobus*), and hemlock (*Tsuga canadensis*)), conifers make up only a fraction of the overall forest cover. While the stands of conifers are of limited internal diversity, their presence helps with the overall diversity of the compartment. Conifer cover is also an important component of the landscape since it provides winter cover for many animal species that deciduous trees and shrubs do not provide.

As noted on the KEA report card, most of the stands are from fully stocked to overstocked. Those stands that are understocked may require management in order to improve the percent stocking level. Acceptable growing stock (AGS) is generally adequate on the forest. Where it is poor to fair, stands may be growing on soils that have considerable amounts of shale and very little topsoil or on soils that is very palustrine to hydric in composition.

Species diversity is on average good, with the lower scoring stands being those that are predominantly spruce or pine. The lower scoring stands also scored poorly on evenness, indicating that the diversity of species is low in those stands. Although some forest types are naturally low in species diversity, in general, stands that are less diverse are much more likely to be decimated in times of insect infestation or disease outbreak, such as in the cases of gypsy moths or chestnut blight.

Snags and standing dead woody material increase forest structure and provide shelter for many animals, thus adding to the health of the forest ecosystem. The majority of the ECWCo forest stands rate low for snags greater than 10 inches.

Figure 2. Key Ecological Attribute Report.

Forest Health & Condition Report

Evitts Creek Tract

3,800 acres; Beford County, PA

Allegheny Front - Key Ecological Attribute set and indicator ratings

Steve Resh, Allegany College

Inventory Data Collected by Megan McKewen ; and Seth Clapper

**Condition values were derived from 519 sample points established within the forested portions of the property

Mgmt. Unit*	COMPOSITION				STRUCTURE		REGENERATION		
	Stocking (%)		Tree Species		Conifer Cover (% BA)	snags>/= 10" dbh	all stems (regen)	% desirable (regen)	Deer Browse Impact Rating
	TOTAL	AGS	Diversity	Evenness					
101	90	61	7	0.57	2	7	7857	60	2
103	100	96	8	0.74	21	0	3000	100	2
104	88	85	8	0.72	3	0	2667	100	2
107	130	115	4	0.88	0	0	4000	100	2
109	91	67	7	0.71	28	3	14000	77	2
110	81	61	4	0.30	0	0	19750	33	3
111	50	43	3	0.52	91	0	24000	96	2
112	101	79	19	0.83	3	5	27158	86	3
Compart. 1 Avg.					19				
201	102	83	10	0.79	1	2	5714	95	2
202	97	85	12	0.78	2	4	12250	87	2
203	83	69	13	0.85	0	4	3400	82	2
204	103	87	16	0.86	6	2	12409	85	2
205	39	30	5	0.75	0	0	6333	100	2
206	99	92	10	0.85	0	30	3000	83	2
207	88	72	17	0.83	0	2	6000	97	2
208	105	98	6	0.79	0	10	34000	97	3
209	45	20	2	0.93	0	0	1000	100	2
210	41	30	5	0.86	0	0	4000	100	2
211	87	41	5	0.91	0	17	1000	100	2
213	98	82	17	0.79	0	7	10211	96	2
214	78	72	4	0.73	0	0	5000	100	3
216	106	88	17	0.66	0	4	6722	98	3
217	99	66	12	0.88	9	15	5333	86	2
218	120	95	18	0.87	10	3	23667	89	3
219	72	68	1	0.00	100	0	3000	100	3
220	89	65	5	0.49	83	2	3857	85	2
Compart. 2 Avg.					12				
301	120	30	3	0.67	0	34	8000	100	2
302	120	82	13	0.88	17	1	9333	92	3
304	100	68	9	0.75	0	5	3250	100	2
306	120	65	8	0.91	0	5	7250	86	2
307	93	30	9	0.75	13	3	19000	78	2
310	0	0	0	0.00	0	0	26000	100	3
312	55	30	5	0.84	0	5	2667	100	2
314	89	78	20	0.80	0	0	5500	96	3
315	113	72	19	0.62	4	6	5625	89	2
317	112	72	16	0.84	3	5	14636	89	3
318	68	49	7	0.82	9	4	4667	100	2
320	85	77	5	0.69	0	5	9123	100	3
Compart. 3 Avg.					4				
401	120	98	14	0.87	18	1	24250	98	3
402	118	97	17	0.83	2	7	19313	97	3
403	117	89	17	0.79	3	3	22912	88	3
404	86	79	13	0.83	1	3	22143	83	3
405	130	104	9	0.62	63	13	37600	87	3
406	55	45	3	0.55	33	22	10000	0	4
407	125	102	19	0.87	3	6	32036	98	3
410	114	94	15	0.82	0	5	25130	93	3
411	109	93	16	0.85	0	3	19684	98	3
412	118	87	21	0.79	2	5	23767	97	3
413	92	82	16	0.85	0	2	21667	80	2
414	88	76	19	0.86	15	2	34044	82	2
415	108	90	22	0.86	11	0	16952	88	3
416	111	83	5	0.79	42	0	4000	100	2
Compart. 4 Avg.					14				

RATING	Stocking (%) TOTAL	Stocking (%) AGS	Tree Species Diversity	Tree Species Evenness	Conifer Cover (% BA)	snags>/= 10" dbh	all stems (regen)	% desirable (regen)
POOR	< 44	<40	</=3	0 to 0.6	0 to 3	0 to 2	0-10k	<25
FAIR	45 to 58	41 to 53	4-8	0.61to 0.7	4 to 8	3 to 5	10,001-15k	26 to 54
GOOD	59 to 79	54 to 69	9-12	0.71 to 0.8	9 to 16	6 to 8	15,001-50k	55 to 74
V. GOOD	80+	70+	>12	0.81+	17+	9+	>50k	>75

RATING	Deer Browse Impact Rating
5	V. High Impact
4	High Impact
3	Moderate Impact
2	Low Impact
1	No Impact

Compartment Delineation

Compartment delineation creates smaller and more manageable land areas from a larger properties. This allows management of the properties to be simplified and specific to given geographic areas of the properties. Having different compartments also provides a good reference point for various user groups that may be unfamiliar with the ECWCo properties. Compartments were further separated into stands, which are manageable units exhibiting similar forest composition factors (see Forest Management section for stand description information).

The ECWCo properties consists of four compartments. Compartments were separated based on geographic positioning and natural separations by the properties boundary (see appendix, maps). Compartment 1 is a separate tract from the main properties and is the smallest in size at just over 418 acres. Compartment 2 is the second largest in size at 1,014 acres and is located on the northwest side of Lake Koon, the northernmost of the two lakes. Compartment 3 is located in the southern portion of the properties and is approximately 661 acres in size. Compartment 4, the largest compartment at just over 1,530 acres, is located on the eastern side of the properties and borders Lakes Koon and Gordon.

Stand Delineation

Inventory data was used to delineate the properties into stands, which are manageable units exhibiting similar forest composition based on factors such as species composition, age class, and overall health and condition. All of these characteristics are affected by a host of natural influences, including but not limited to slope, aspect, and the presence of non-native species. Such influential factors were considered during the process of stand delineation for this management plan.

In addition to inventory data analysis, other techniques were utilized in stand delineation. Aerial photography was used to distinguish hardwood stands from evergreen stands. Also, the aspect, topography, and physical features were consulted. Lastly, information was used from a previous properties-wide management plan to compare and contrast current stand types across the properties.

Stands have been characterized by the dominant forest community type and age class. This information is included in the stand summary table (see the appendix) and is displayed on maps found in the appendix.

ECWCo properties were separated into 72 forested stands. Stands were numbered according to compartment number. For example, Compartment 1 has stands numbered 101 through 112 and Compartment 2 has stands numbered 201 through 223. This is summarized in the stand summary table included with this plan (see appendix and maps for more stand information).

Desired Future Forest Condition and Management

The 2000 Forest Stewardship plan for the properties recommended broad-scale uneven-aged forest management, with the goal of maintaining water quality. While that recommendation may make sense from the conceptual standpoint of maintaining forest cover to protect water quality, the reality of the forest types present on the properties could mean that these recommendations actually put the health of the forest and forest cover at risk, thereby putting the water quality at risk. These risks are broadly related to the lack of advanced regeneration (tree seedlings and saplings) on the properties which was evident in the KEA report card.

Across the properties, the primary goal of forest management will be to protect the health and function of the forest communities, thus insuring protection of water quality, while following the forest management goals and guiding principles listed in the beginning of this plan. Encouraging a diverse species mix that is well-adapted to the site, along with a healthy understory, will create an opportunity for the growth of a forest that is resilient to disturbance. The forest will ideally also provide sustainable income while maintaining a mix of forest life stages: seedling/sapling, immature, and mature. Regeneration of the forest will ideally occur without the need for barriers against herbivores such as white-tailed deer. Regeneration should include natural re-growth as well as opportunities to re-introduce species that had been extirpated or removed from the properties, including American chestnut and pitch pine. Rotation ages will be 40 to 120 years for conifers and 100 to 120 years for hardwoods.

The species that will be primarily favored for management will include the red oak group, the white oak group, yellow poplar, sugar maple, red maple, eastern white pine, and pitch pine. The high conservation value habitat areas (HCV Areas), outlined below, will be managed so as to protect and enhance conditions for the species of concern. Lessons learned through research, management, and monitoring, will be applied to continually improve the effectiveness of forest management activities. Sites with concentrations of invasive plant species will be considered for additional treatment to contain and/or control the problem. Some areas that are open will be maintained as openings for habitat needs, while other openings will be allowed to revert back to forests. Furthermore, openings will also be created during forest management activities, such as harvests. These created openings may be used as a replacement for the openings allowed to revert to forests.

Natural Resources

Soils

Soils*:* Description

The United States Department of Agriculture (USDA) soil survey indicates that numerous soil types exist throughout the properties; they have been grouped by soil series for easier characterization. The 2 tracts are comprised of approximately 61 different soil types, grouped into 35 soil series (see Soils Map and Appendix C). The USDA soil survey for Bedford County

also indicates that the soils throughout the ECWCo properties are appropriate for timber management.

On the main tract, four soil associations occupy about 50% of the land base. These predominant four soils are Buchanan, Elliber, Hazelton-Clymer, and Laidig. The most dominant of these soils is Buchanan (Bu, 21%) and is described as a cobbly loam which can be found on 0 to 45 percent slopes. This soil type is very deep, poorly to moderately well drained, and slowly permeable, and the major use is woodland (mixed hardwoods of oak, maple, and ash). The productivity of the soil type is very good with tulip tree/yellow poplar having a site index of 90. The second most prevalent soil that encompasses an additional 13% of the tract is the Elliber (El) complex, which is described as very channery loam and can be found on mountain slopes of 3 to 25 percent. These soils are very deep and well-drained, and are found on side slopes and the tops of secondary ridges in the Appalachian Ridge and Valley. About one-third of Elliber soils are cleared, mostly for orchards, and the remainder is mostly in woodland (mixed hardwoods). The productivity of the soil is very good, having a site index of 90 for yellow poplar. The third most prevalent soil is Hazelton-Clymer Association (HTC) at 11% of the tract. This association is described as very stony sandy loam, and is deep and well drained. Most of this association is in woodland, and the main limitations to woodland production are surface stoniness and areas of steep and very steep soils. The productivity for this soil is average for yellow poplar, having a site index of 80. Finally, the fourth major soil type on this tract is Laidig (Ld, 5%). This soil series is described as a cobbly loam on slopes ranging from 0 to 55 percent. These soils are very deep and well-drained, and most areas are forested with red, white, and chestnut oaks being the most common trees and the occasional sugar maple, beech, and hemlock. The productivity for this soil association is very good, having a site index of 90 for yellow poplar.

The northern tract has three dominant soil types occupying nearly 70% of the land base. These soil types (Buchanan, Elliber, and Morrison) are very similar to those of the main tract. Buchanan soils comprise 37.2% of the tract, while Elliber soils account for 26.3%. The descriptions of these soils can be found above. The Morrison series (Mr), which makes up 6.1% of the tract, is described as a channery sandy loam found on slopes between 0 and 50 percent. These soils are very deep and well drained, are found in upland valleys, and are about 75% forested. Wooded areas contain mixed oak and some pine. The productivity of this association is average, with a site index of 85 for yellow poplar.

Soils: Management

Soil and its ecosystem is an integral part of the larger forest ecosystem. The productivity of the forest depends on soil health. Thus, ECWCo and its partners will pro-actively manage the soil resource and its important role in the forest ecosystem.

Before any timber harvesting occurs, soils within the treatment area will be visually assessed to check the compatibility of the soils for operations. Attributes that will be checked include the suitability for development and erosion potential of proposed landing and skid/haul roads sites. Harvest equipment operability will also be checked for tire- and track-based machinery. The ratings given in each survey will be based on an interpretation of slope, rock fragments on or below the surface, plasticity index, content of sand, depth to a water table and ponding in the soils present. Some soils may be considered “seasonal soils,” which means only during certain

times of the year when conditions are appropriate, perhaps during winter months when soils are frozen or during summer months when soils are very dry, will they allow for harvesting with minimal disturbance and damage. Best Management Practices (BMPs) will also be used to minimize environmental impact.

Property Access Roads

The interior access roads of the properties are maintained by ECWCo. Some of the roads have seen improvements such as crowning, installation of water bars, and other best management practices. There has been a push to do such work as brush cutting, day lighting, gravel amendments, and tree removal on those roads that are more frequently used for access. There has also been a demand for maintaining the gates (painting, numbering, and mowing) so that they can be readily seen and to discourage vandalism or other adverse behaviors. Maintenance on the private roads is not consistent, with some of the adjoining owners doing work to keep the roads crowned and free from brush, while other owners do nothing and rely on the ECWCo to carry out the road maintenance.

Unauthorized ATVs, off road cars/trucks, UTEs, "dirt" bikes and mountain bikes are prohibited on roads within the properties; only foot traffic is allowed. Nevertheless, unauthorized all-terrain vehicles (ATVs) have impacted some of the roads on the properties-they generally enter the properties from adjacent lands. The ECWCo works with cooperating law enforcement agencies to police the problem and find solutions to access issues.

Access is critical for most management activities including, fire protection and suppression, wildlife habitat improvement, and recreation. However, poorly designed roads can drastically increase soil erosion, and, subsequently, water pollution. Therefore, the following management guidelines will be used for roads:

- State publications on erosion and control procedures will be followed as appropriate for layout, design, construction, stabilization, and maintenance of a road system.
- Prior to and following management activities, roads will be evaluated for inadequacies or additional needs and addressed at that time.
- Roads will be categorized as those worthy of investment for all-weather access, seasonal use roads, and possible future recreational trails.
- Any road segments that need attention will be identified and prioritized for future annual work plans.
- Access roads that have little or no annual traffic or duplicate the route of another road will be considered for closure.
- State, county, and township rules and regulations on private roads will be followed during management activities.

Water Resources/Riparian Zones

Water Resources/Riparian Zones: Description

Forestlands provide a steady source of clean water to streams and tributaries, and act as nutrient sinks across the landscape, absorbing more nutrients than they release. Water, like timber, is a renewable resource when properly managed. With careful planning and management, forests will provide clean water while at the same time providing many other resources.

The ECWCo properties lies within the Potomac River Basin. This river system drains into the Chesapeake Bay, a vitally important ecological and economical resource in the mid-Atlantic region. The ECWCo properties includes 2 reservoirs, Lake Gordon and Lake Koon. These 2 man-made lakes are fed by 2 named perennial streams, Growden Run and Evitts Creek. Evitts Creek flows into the northeast portion of Lake Koon and is the larger of the streams.

Figure 3 Large Vernal Pool found

The watershed for Evitts Creek is located to the north through Cumberland Valley, with several headwater streams forming on the Buchanan State Forest and Pennsylvania State Gamelands. Growden Run flows into the northwest portion of Lake Koon. This stream is much smaller and drains only a small area to the north and west, with most of its headwaters forming on the east side of Wills Mountain.

The properties also consists of several intermittent and ephemeral streams. The majority of these occur in Compartments 1 and 4, on the west side of Evitts Mountain. They also occur in Compartments 2 and 3, on the east side of Shriver Ridge. It is likely that some of these streams are fed by spring seeps along the base of Evitts Mountain. The vast majority of the streams located on this properties are considered to be adequately buffered with forest. These streams have been identified and labeled on a map.

One vernal pool was discovered and its location recorded during data collection on the ECWCo properties in 2015 (see Figure 3). There are likely more vernal pools on the properties; Pennsylvania Natural Heritage Program plans to do additional survey work. Vernal pools are unique and vulnerable kinds of wetlands. They are usually ephemeral (temporary) pools that fill with snowmelt and spring run-off, and then dry out sometime during the summer. However, vernal pools also include pools that fill at other times of the year. Many of these pools are vital breeding habitat for amphibians and invertebrates. For additional information on vernal pools and their significance to a variety of wildlife species please refer to the appendix.

Water Resources/Riparian Areas: Management

ECWCo will proactively manage the water resource and aquatic ecosystems to maintain the quality of both for the public good. Buffers along perennial and ephemeral streams, lakes, and all wetland features will be established and managed in accordance with best management practices to minimize erosion and avoid damage to wetland features. All buffers on the ECWCo properties are designated in the Streamside Management Zone (SMZ) as delineated below. Approximately 371 acres fall into the designated SMZ areas. Management guidelines for the SMZ are clearly outlined in Principle 6.5 in the FSC US National Standard. Pennsylvania Best Management Practices (BMPs) will be followed, and all FSC US National SMZ management guidelines will be met or exceeded to minimize operational impacts and protect water quality during all activities.

SMZ Delineation: SMZ will be delineated on the ECWCo properties when management activities take place using the Inner and Outer Zone structure. A 50 foot Inner Zone and additional 100 foot Outer Zone (total 150 foot buffer) will be recognized along all surface water, including perennial and intermittent streams as mapped. **These distances will be doubled (300' total buffer with a 100-foot Inner Zone and 200 foot Outer Zone) around both water supply reservoirs and along the main stem of Evitts Creek to protect water intakes and the riparian ecosystem.**

Management in Inner and Outer Zones: No harvesting will be pursued within the Inner Zone, and harvesting in the Outer Zone will be limited to thinning to retain 60% or greater canopy cover. There will be no regeneration harvests within the Outer Zone. No roads or main skid trails will be located within the total buffer zone except where they approach stream crossings. Stream crossings will be designed and maintained according to Pennsylvania BMP's to protect water quality and preserve stream function.

Exceptional Value and High Quality Designations: The entire Evitts Greek basin within PA is designated High Quality for Cold Water Fishery and Migratory Fishes. ECWCo commits to maintaining Pennsylvania Department of Environmental Protection recommended 150-foot buffer (a 50 foot Inner Zone and 100 foot Outer Zone) on all Exceptional Value (EV) and High Quality (HQ) perennial and intermittent streams. While limited timber harvest activities will occur in the Outer Zone, a 50-foot No-Harvest Inner Zone (except for the removal of wind-thrown trees) will be maintained. ECWCo also commits to maintaining 60% canopy cover and No-Harvest on slopes > 40% in the Outer Zone. Both criteria exceed FSC recommendations for the Appalachian Region.

Herbicide Use: No broadcast herbicide treatments will be applied within Outer or Inner SMZ except in significant occurrences of riparian-related invasive species. Only herbicides labeled for riparian and wetland use may be used within the SMZ.

Other Significant Wetland Features: Additionally, other significant wetland features such as springs, seeps, and vernal pools will be mapped and evaluated for their protection needs as it relates to site specific variables, including water quality protection and wildlife features. They will be buffered as follows:

- Springs and seeps: 100’ no entry buffer (except where existing roads cross into this buffer).
- Vernal pools: 100’ no entry buffer for heavy equipment around significant vernal pools, maintaining minimum of 75% canopy cover and promoting establishment/protection of large down and dead woody material, This management zone will be extended outward another 100’ where features exist which are conducive to amphibian breeding to protect and enhance this habitat; there will be no broadcast herbicide application within the total buffer.
- Existing skid trails within wetland buffers will be decommissioned as appropriate.
- No disturbance or timber harvest activities will occur within wetlands. Wetland buffers will be developed on a case-by-case basis to ensure exemplary water quality and Exceptional Value wetlands are maintained. Characteristics to evaluate when determining appropriate buffer widths include the steepness and erodibility of surrounding hill slopes, soil permeability and infiltration rates and capacities, as well as the density and type of buffer vegetative cover. Mechanical or silvicultural operations within buffers are permitted solely for the restoration, maintenance, and creation of wetland or riparian values or water quality protection. This could include invasive species control, permitted stream crossing construction, or sanitation harvesting to protect stream banks from destabilizing windthrow or culvert pipes from blockage.

Wildlife

Wildlife: Description

Given the mobile nature of wildlife, it is difficult to provide a snapshot of which wildlife species are present on a specific properties at any given time. However, it is assumed that the ECWCo properties are utilized at one time or another by the majority of wildlife species that exist in Pennsylvania. Wildlife species in Pennsylvania include 414 species of wild birds, 285 of which are regular inhabitants of the state, and 66 species of wild mammals, including black bears. More information about wildlife species can be found on the PA Game Commission website.

Wildlife: Management

The rich diversity of wildlife species located within the ECWCo requires the use of a wide array of adaptive management techniques. The objective is to utilize adaptive management to address the ecological needs of this diversity of wildlife species and habitat types, including different successional stages of forest, (e.g., distribution, size, composition, and juxtaposition of forest patches), riparian buffers, corridors, and interior forest habitat. This approach requires management prescriptions that are anchored in the ecological principle that all of the habitats function in relationship to each other. This is not a definitive prescription, rather an adaptive attempt to best serve the species located on these lands.

ECWCo’s goal is to manage the properties in a predominantly forested state, while fostering a diversity of forest communities and age classes to benefit native wildlife species. Structural complexity in the forest with a healthy understory of shrubs, saplings and seedlings will be the

desired state for both forest health and wildlife habitat. Early successional forests and patches of conifer dominated forests will add to the matrix of habitats and favor certain species that utilize these features. The naturally occurring wetlands provide cover and additional diversity of wildlife habitat. It should be noted that any set of habitat features favors some species and discourages others. The ECWCo properties will be managed for diverse habitats and not particular species, with the exception of certain species of concern per the PA Natural Heritage Program. Partnerships will be encouraged between ECWCo and the Pennsylvania Game Commission, Natural Resources Conservation Service, the US Fish and Wildlife Service, and others as appropriate to provide the resources needed to pursue wildlife management goals on the ECWCo lands.

Several specific wildlife management goals integrate well with the overall management plan on the properties. Various oak species are the dominant trees on much of the properties and the acorn crop is a critical food source for small mammals, deer, bear, turkey, and grouse, along with a number of other species. Since year-to-year variation in acorn crops can be significant and different oak species can have good crops in different years, it is important to allow the oaks to mature and to maintain a mix of oak species to maximize the production of acorns for wildlife. In the future, American chestnut should be reintroduced in the form of resistant seedlings to add another significant hard mast species for wildlife, thereby increasing species diversity.

Oak will be the focus of wildlife management in the forest, and even-age management will be pursued to successfully regenerate oak. Selection of leave trees in timber harvests will retain cavity trees, snags, and certain soft mast producing species such as serviceberry, wild grape, and black gum. This approach is also compatible with golden-winged warbler BMPs and will provide favored habitat for woodcock, cottontails, hares, and various ground nesting and early successional song birds.

Deer are one of the few wildlife species that not only respond to habitat changes but also create them. Quality Deer Management (QDM) is an approach which recognizes the dynamic of the deer and their habitat and seeks to maintain a herd with a more natural sex and age structure that are in better balance with food supplies in the habitat. The QDM approach strives to hold the herd at a level where the vegetation will be under less stress from over-browsing. Recent statewide and local efforts to maintain healthy deer populations below carrying capacity and restore the habitat quality have shown encouraging results. Deer hunting programs should be targeted where necessary to allow full recovery of the understory habitat that has been diminished from overpopulation and over-browsing.

Other wildlife management guidelines will be incorporated into management treatments to address 1) down and dead woody material, 2) cavity trees, 3) vernal pool protection and 4) riparian zone management.

More information on wildlife management priorities and approaches statewide is available in the State Wildlife Action Plan[3].

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[3] http://www.portal.state.pa.us/portal/server.pt?open=514&objID=622722&mode=2

Rare Species and Communities

Rare Species and Communities: Description

The Pennsylvania Natural Heritage Program maintains the Pennsylvania Natural Diversity Inventory (PNDI), which is a database of the Commonwealth's rarest and most significant ecological features. These include plant and animal species of special concern, rare and exemplary natural communities, and outstanding geologic features. Table 1 lists the plant and animal species known from the PNDI to occur on or near the ECWCo properties.

Common Name	Scientific Name	On/Off Properties	State Rank / Listing
Schweinitz's sedge	Carex schweinitzii	on	S1 / Threatened
sterile sedge	Carex sterilis	on	S1 / Threatened
common shooting-star	Dodecatheon meadia	on	S1 / Endangered
box huckleberry	Gaylussacia brachycera	off	S1 / Threatened*
Canadian milkvetch	Astragalus canadensis	on	S2 / Imperiled
tooth-cup	Rotala ramosior	on	S3 / Vulnerable

* Proposed for state endangered listing

Table 1 State Listed Species on the ECWCo properties.

In addition, a bald eagle nest is located within close proximity of the properties. Disturbing the nest is considered a "take" under the Bald and Golden Eagle Protection Act, and a permit may be required. This nest will be considered when planning any forest management activities nearby. More information about bald eagle management actions can be found in the National Bald Eagle Management Guidelines (a copy is in the appendix) or by visiting the US Fish and Wildlife Service website (www.fws.gov).

A globally rare plant community is found on the ECWCo properties: Side-oats gramma calcareous grassland. These grasslands occur as small, prairie-like openings in areas of thin soils over calcareous bedrock. The dominant vegetation is grass, although scattered forbs and woody species are usually also present. Side-oats gramma (*Bouteloua curtipendula*) is present throughout the grassland, making this potentially the largest occurrence of this species in Pennsylvania.

Rare Species and Communities: Management

Prior to any timber sale, prescribed fire, invasive species control, habitat restoration or road building activity, any rare species or communities (G1-G3, S1-S3) within the management unit or project area will be located and mapped. Talus, scree slopes, rocky outcrops, or any boulder fields will also be located and mapped.

- In advance of a proposed management activity, such as a timber sale or a prescribed fire operation, staff will query PNDI to see if

rare species or communities are likely to occur in those stands.

- If necessary upon unique circumstances, such as the finding undocumented RTE's in the field, the Pennsylvania Natural Heritage will be notified.
- Best Management Practices (BMPs) designed to protect eagle nesting areas will be followed during planning and implantation of any management activity.
- Per Pennsylvania Fish and Boat commission requirements, a 300-foot buffer will be maintained between the proposed activity and talus, scree slopes, rocky outcrops, or any boulder fields.

Non-Timber Forest Products (NTFPs)

NTFP: Description

Non-timber forest products can represent a diverse array of living or dead plant materials, lichens, fungi, or other forest organisms that are used in a variety of ways to benefit people. The common categories of NTFPs include medicinal and herbal products, decorative and specialty wood products, along with edible products. While NTFPs have perceived economic and/or consumptive value for humans, they can also represent forms of biodiversity that are critical to maintain on the landscape from an ecosystem management perspective.

Collection of NTFPs is regulated by the Wild Resource Conservation Act of 1982. Collection of rare, threatened, and endangered plant species is specifically controlled by DCNR through the provisions of the Wild Resource Conservation Act, P.L. 597, No. 170.

An example of an NTFP found on the properties is American ginsing (*Panax quinquefolius*). The native plant American ginseng was historically abundant in Pennsylvania forest lands. Because of its value and importance as a national commodity, the export of ginseng is regulated by the U.S. Fish & Wildlife Service. Ginseng has been listed as a vulnerable species in Pennsylvania due to the demand and suspected overharvesting. Since 1985, the PA Bureau of Forestry has been the regulatory agency for the trade and export of ginseng harvested in Pennsylvania and issues vulnerable-plant licenses to authorized ginseng dealers.

Within limits and with proper management, future generations of users will be able to continue the long-established and cherished tradition of gathering NTFPs from forest land. However, many natural resource professionals are becoming increasingly concerned with the sustainability of these resources. Unfortunately, little is known about the removal rates of NTFPs from forest lands for personal use, and even less is known about the population status of plant species used as NTFPs. Further, much remains to be learned about the maintenance needs, life history characteristics, and natural distribution and abundance of many NTFP species before sustainable management guidelines can even be developed.

NTFP: Management

There is no commercial harvest of NTFPs on ECWCo lands. There is some recreational harvest of blueberries, blackberries, and mushrooms. At this time, there is no indication to suggest concern regarding the current number of people searching for and harvesting NTFPs on the ECWCo's properties. Currently, ECWCo does not restrict the harvest of NTFPs, however it does not actively promote or endorse such activities. Monitoring of the harvest of NTFPs is done

primarily through information provided to forest managers by the public, and observations of forest managers cooperating agency law enforcement personnel and associated staff who spend time working in the field. If a significant increase in the harvest of NTFPs were to be identified, the ECWCo staff with the approval of the ECWCo board would develop an action plan with public stakeholder involvement at an Evitts Creek Steering Committee meeting.

Historical and Cultural Resources of the Region

Historical and Cultural Resources of the Region: Description

The ECWCo will protect cultural resources as well as natural resources through management of its forest land. Much of Pennsylvania's cultural history is tied to its historically forested landscape and geographic and geologic features. Hunting, fishing, berry and mushroom picking, and rattlesnake collecting are traditional pastimes for many citizens. Timber, mining, metallurgy, and agriculture having been lead industries at various times in the state's past, at least since European settlement. Prior to this time of settlement, the region was the setting for Native American culture and activity for millennia.

Within Pennsylvania, there are 15 federally recognized Tribes who ascribe cultural significance to part of or all of the land within the Commonwealth. The Pennsylvania Department of Transportation (Penn DOT) Bureau of Design's Cultural Resources Management Program works closely with other Federal and state agencies, local interest groups, preservation advocates, Native Americans, and the general public to ensure that its projects are designed to meet the transportation needs of the state and promote stewardship of our cultural heritage. Therefore, PennDOT has established a systematic approach that will be replicated in a similar manner by ECWCo to facilitate consultation with select Tribes when a project/management activity occurs on historic properties of religious or cultural significance. The contact information for the associated tribes relevant to the ECWCo properties is in the appendix.

Known cultural resources include remnant foundations of old farmsteads and five cemeteries located on the properties. When Lake Koon was constructed, a covered bridge over Evitts Creek was removed, a church (near where the present Lake Koon boat access is located) was torn down, and the church cemetery was relocated to an area along Growden Road.

Historical and Cultural Resources of the Region: Management

Historic and cultural resources are a vital link to past land-use practices in Pennsylvania. The Pennsylvania Historical and Museum Commission (PHMC) has been collecting information concerning archaeological sites and historic resources for the greater part of a century. They offer programs which survey, catalog, and encourage the preservation of such resources. Currently there are 23,460 archaeological sites and 132,171 historic properties in their files. Access to these paper records is free and open to the public by appointment at the BHP office in Harrisburg.

On January 15th, 2016 The Nature Conservancy (as a project partner in the ECWCo management planning project) performed an extensive search on The PA Historical and Museum Commission

Bureau for Historic Preservation (PHMC)'s Cultural Resource Geographic System (CRGIS) (www.dot7.state.pa.us/CRGIS/main.htm).

The CRGIS is a three-tiered GIS program consisting of state-wide historic and geologic site data combined with PA Natural Diversity Inventory (PNDI) information. The result of that assessment showed that there are no known sites of significance within the properties regarding indigenous peoples or any other historic or cultural resource. It is noted that there are multiple buildings within and adjoining the Evitts Creek properties that are identified on the database as having been built circa 1830-1932, but there is no documented information to suggest historic significance or importance for preservation.

Recreational Opportunities

Recreational Opportunities: Description

The ECWCo lands have long been used for outdoor activities by people throughout the tri-state area. Through the efforts of the Evitts Creek Steering Committee, opportunities have been improved for property, especially for those with disabilities. The addition of a handicap access pier at the Lake Koon boat ramp, has provided many fisherman the opportunity to get better access, especially getting into boats for fishing.

While activities such as swimming, camping, and ATV riding are prohibited on the property, other forms of recreation such as hiking, mushroom hunting, and birding, are accepted and encouraged, especially for children and the disabled. Road biking has seen an increase in usage around the lakes, and staff has been asked about increasing opportunities for mountain biking and horseback riding. At this time, it is discouraged because of the potential impact upon water quality, but staff is working on what can be done to minimize the impacts those activities would have.

Staff has also been involved with Buchannan State Forest and Rocky Gap State Park in looking at what opportunities there are in the greater community to encourage a trail system to link the three properties that will not adversely impact the ecological resources that exist.

Recreational Opportunities: Management

Recreation plays a vital role in a healthy lifestyle. Recreational activities can cause problems such as compaction, loss of habitat, and unfortunately, litter and pollution. Policies regarding activities, besides hunting and fishing, should be developed by staff with over site provided by the Evitts Creek Steering Committee and the Mayor and City Council of Cumberland.

High Conservation Value Areas

High Conservation Value Areas: Description and Approach

High Conservation Value (HCV) Area Identification

The method used to define and meet the HCV requirement follows the four-phased approach of *assessment*, *consultation*, *inventory*, and *monitoring* as outlined in the Standard and

applied as follows. Contiguous forest blocks in the High Allegheny Plateau and Central Appalachians have been identified as a priority for the managers of the Evitts Creek Water Company and The Nature Conservancy.

In conjunction with Evitts Creek Water Company staff, Maryland State Forest Service ecologists, Conservancy ecologists and outside experts, project participants have embarked on a process to identify and map HCV areas. A few types of HCV have been identified on Evitts Creek properties through a combination of biological database reviews, internal team expertise, and review of ecological priorities of state agencies and other conservation groups operating in the region. Specifically, occurrences of rare species were identified through data provided by the Pennsylvania Natural Heritage Program. Consultations with Heritage staff and others are noted below. Additionally, a map demarcating HCVs is also embedded.

The HCV framework includes the following six categories:

HCV 1: Forest areas containing globally, regionally or nationally significant concentrations of biodiversity (e.g., endemism, endangered species, refugia)

1.1 There are no legally protected or managed areas on the property

1.2 There are four mapped areas on the Evitts Creek properties that contain significant concentrations of rare species, identified and ranked as globally or state rare by Heritage. These include a variety of herbaceous plants, insects, trees, and plant communities.

Total Number of HCV 2 Areas: 4

Total Area of HCV 1: 470 acres

HCV 2: Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance

2.1 No large, roadless areas are known to occur on the property. Much of the property is bisected by roads and much of it has been harvested.

Key resources: publicly available Natural Area Inventories

Total Number of HCV 2 Areas: 0

Total Acres of HCV 2: 0

HCV 3: Forest areas that are in or contain rare, threatened or endangered ecosystems

3.1 No old growth was detected within the property.

3.2 No roadless areas are known to occur on the property due to prior management activities.

3.3 There are no rare ecosystems located on the property.

Total Acres of HCV 3: 0

HCV 4: Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control)

4.1 While the entire property provides a source of drinking water, the most critical areas to protect include public drinking water withdrawal points and the reservoirs, which have 150-foot (50-foot inner no harvest zone and an outer 100-foot zone with limited activity/disturbance) special management buffer zone. This is doubled around reservoirs and the main stem of Evitt's Creek (See Riparian Areas Description and Approach).

4.2 Approximately 90% of the property lies within a source-water or public drinking water watershed, but the truly High Conservation Value areas are those that buffer public water withdrawal points and reservoirs, as outlined above.

4.3 There are no floodplains or significant wetlands within the water-supply watershed. Vernal pools will be buffered appropriately, but are not considered HCV areas.

4.4 While erosion is always a concern, the HCV buffers mentioned above and riparian buffers address those concerns. There are no areas on LA lands that would be considered critical to prevent erosion, landslides, avalanches, etc.

Total Acres of HCV 4: 371 acres

HCV 5: Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health)

5.1 Evitts Creek Water Company lands would not be considered fundamental to meeting basic needs of local communities, other than for water provision, which is covered above.

HCV 6: Forest areas critical to local communities´ traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities)

6.1, 6.2 Evitts Creek Water Company lands probably would not be considered as fundamental to traditional cultural identity in the area.

II. Consultation with appropriate experts for the purposes of this assessment:

For the purposes of this assessment and more generally, Evitts Creek staff and TNC staff regularly consult with biologists from the Pennsylvania Natural Heritage Program (Tony Davis),

Pennsylvania Game Commission (Clay Lutz), DCNR Bureau of Forestry (Ellen Shultzabarger), and other conservation organizations, such as Western Pennsylvania Conservancy. In particular, PA Natural Heritage helped provide information on HCV 1, 2, and 3 designations.

III. Approach to Managing HCV Areas

HCV 1.2 – HCV areas with concentrations of biodiversity, including species of conservation concern will typically not be managed, unless there is a threat to the health of these areas or, with further research, it is shown that the species present require special treatment (e.g., prescribed fire, invasives treatment, retention of openings).

HCV 4.1 – 4.2 – Source Water Buffers

Drinking water supply areas, including reservoirs and the main stem of Evitts Creek, are buffered with 300 foot buffers (100-foot inner zone and 200-foot outer zone). These areas are typically not managed, unless there is a threat to forest health. Water quality is routinely monitored for any change.

IV. Monitoring HCV Areas

HCV 1.2 – The state requires the county to have an updated plan on species of concern that occur in that county. This includes Natural Heritage periodically monitoring those species and communities, particularly in areas where there is some form of activity is planned. In those cases, proposals must be submitted to Harrisburg, mapped, and approved by the corresponding agency.

HCV 4.1-4.2 – Water samples are regularly taken at the water intakes by the Evitts Creek Water Company and sent off to the lab that does testing and provides the City with the results. Those results are given at Evitts Creek Steering Committee meetings and annually reported to the public along with their water bill. During the course of the year, Evitts Creek is required by the state to do ocular surveys of the property to make sure everything is in good shape. During those visits, regular ocular monitoring of buffer zones occurs and any larger-scale forest health issues that affect the integrity of buffer zones will be identified.

Forest Stressors

Forest Stressors: Description and Management

A multitude of forest stressors have resulted in moderately to severely degraded forest conditions in many areas of Pennsylvania. These forests are increasingly susceptible to invasive species

outbreaks and their deleterious influence on forest restoration and conservation goals. The proliferation and overabundance of native and non-native competing vegetation is challenging the ability of forest managers to cost-effectively produce desired economic and ecological forest conditions.

Competing vegetation, both non-native invasive species and unnaturally high densities of some native plant and tree species (e.g., Japanese barberry, black birch, and red maple) are inhibiting the establishment and advancement of desirable growing stock (regeneration). Land management efforts must focus on maintaining the health of the existing overstory and the seed producing capability of our forests and managing undesirable understories that inhibit the accumulation of desired stand attributes and will continue to do so in the future.

Without successful regeneration of forest trees, no silvicultural system is possible. Managers of the forest must consider a range of challenges to the regeneration of healthy forest stands during silvicultural treatments. The following lists both historic and currently emerging challenges to successful regeneration:

White-tailed Deer

Deer populations vary considerably across the area. At the present time deer densities in the area seem to be low enough to allow oak regeneration to become established. Populations are also affected by chronic wasting disease (CWS).

Competing Vegetation (Woody & Herbaceous)

Greenbriar: Not a wide spread problem but some local thickets are a problem. Woven wire deer exclosures protect greenbriar from deer and can make the problem worse.

Tree-of-Heaven: This exotic tree species is invading where the forest has been disturbed. Where Tree-of-Heaven is scattered it is easily controlled by basal spraying, hack and squirting or felling and treating the stumps. This is impractical where it is present in large numbers. There has been some dieback and death of the trees possibly due to verticillium wilt.

Japanese Barberry: This exotic species has a seed that is spread by small mammals and songbirds. It can create impenetrable thickets that continue to spread further into the forest and inhibit natural regeneration of other species. This shrub is mostly found near old home sites and along public roads.

Other competing invasive species present in limited areas include mile-a-minute, honeysuckle, oriental bittersweet, and autumn olive.

Native and Non-Native Pests

Of the pests that affect forest resources, hemlock woolly adelgid, forest tent caterpillar, and gypsy moth have caused the most damage in terms of tree defoliation and mortality in recent years. Additionally, the emerald ash borer is present in Bedford County. Unfortunately, some of the ash on the properties is already infested and will need to be salvaged or left to decomposition. Ash that is in areas that pose a risk (such as along road sides) will be removed to minimize the hazard.

Perhaps the longest-standing effort to manage forest pests in Pennsylvania has been gypsy moth control programs. The gypsy moth has been causing significant forest damage in Pennsylvania since the 1970s. The most recent outbreak occurred between 2005 and 2010, and this pest has been the principal agent of oak tree mortality. Gypsy moth outbreaks have been cyclic over time, with populations growing and declining over a given period. Landowners should deploy an integrated pest management approach to monitor gypsy moth or other insect pest populations, and if warranted, follow up with a course of action to lessen tree mortality and slow the spread of them.

Additional Forest Stressors

Additional potential forest stressors include frost, drought, flooding, and the impact of acidic deposition.

Wildfire

Wildfire is a common occurrence in Pennsylvania. In fact, the Pennsylvania Department of Conservation and Natural Resources (DCNR) responds to over 600 wildfires in an average year, which burn more than 4,000 acres of land. Local fire departments also respond to wildfire incidents.

Wildfires can occur during any month of the year, if the conditions are right. However, most wildfires in Pennsylvania burn in late fall and early spring, typically from mid-October to mid-December, and from mid-February to mid-May. While summertime is hot and can have droughts, the relative humidity of the air is high and the forests are covered in lush green leaves. This helps keep the forest floor cool and the moisture of the wildland fuels high. In fall and spring the relative humidity of the air is lower, and with it, the moisture content of the dead leaves and sticks. There are also no leaves on the trees, allowing sunlight and wind to reach the forest floor, making the fuels even more dry and flammable. These fast-drying fine dead leaves and twigs are the primary fuel that ignite and carry wildfires.

Most wildfires in Pennsylvania are surface fires, which burn fallen leaves, twigs, and debris on the ground. In typical hardwood forest litter, flame lengths can range from six inches to four feet or more. With the influence of a strong wind or steep slope, these surface fires can spread very quickly. Under the fallen debris on the forest floor is often a layer of partially decomposed leaves and humus, called “duff.” During dry periods, fires can burn underground in this duff layer, and be very difficult to extinguish. These duff fires can burn for weeks, or even months, and cause smoke issues.

The intensity of wildfires increases greatly in areas of dense fine fuels, such as grasses, or dense resinous fuels, such as mountain laurel shrubs or evergreen trees. In these areas, wildfires can spread rapidly and burn with amazing intensity. Pennsylvania rarely experiences active crown fires – wildfires that burn in the tree canopy – especially in the mountainous regions. However, in dense stands of evergreen trees during times of very dry and windy weather, individual evergreen trees can “torch” and crown fires can possibly occur.

Fuels, weather, and topography are the three factors that control wildfire behavior. As the amount of available fuel increases in a given area, the intensity of a wildfire in that area will increase. In all fuel types the intensity and rate-of-spread of a fire will increase as slope increases, wind increases, and relative humidity decreases.

The only natural cause of wildfires is lightning, and typically accounts for less than 2% of the wildfire ignitions in Pennsylvania each year. The remaining 98% of wildfires are caused by human activities. This means that where there are people, there is fire. Pennsylvania's leading causes of wildfires is improper debris or outdoor burning. Debris burning typically ignites around 40% of the wildfires each year. Arson, the second leading cause, accounts for around 30% of ignitions. Other causes include: equipment use, children playing with fire, campfires, railroads, and other miscellaneous ignitions from sources such as downed power lines, discarded woodstove or fireplace ashes, and fireworks. More information on wildfire statistics for Pennsylvania can be found at http://www.dcnr.state.pa.us/forestry/wildlandfire/index.htm.

There have been wildfires in the past on the properties, most associated with illegal camping activities or other unsanctioned gatherings.

Forest Management Practices

Management Zones

The ECWCo properties has been zoned with the following Land-Use Classifications (see map in appendix):

1. **General Management**: This land-use covers most of the properties. While the primary management objective is to maintain high water quality, the forest also needs to maintain a healthy state by having a diversity of forest types and vertical age structure using various silvicultural techniques. These techniques may include, but are not limited to non-commercial and commercial partial harvesting (thinning) and variable retention harvests.
2. **Streamside Management/Buffer**: This land-use is for those areas adjacent to streams, creeks, and the lakes. The outer part of this zoning will allow entry for silvicultural activities on a controlled basis; the inner portion will limit entry for silvicultural activities unless it is needed to maintain the overall health of the forest (such as an invasive insect or plant infestation).
3. **HCV/Special**: This land-use is for those places that have situations that require special attention to active operations so as to not cause additional complications or conflicts. An example would be the boating access at Lake Koon. For HCV areas, it means that activities need to maintain or enhance the values present, for example, if there are aggregations of rare species or community types that will benefit from active forest management practices.
4. **Reserve**: This land-use is for the places that would benefit from avoiding active management operations such as cliffs, graveyards, and some HCV. Activity will be

allowed if a situation arises that required entry to mitigate a problem that would affect public safety or forest health.

Silviculture

Overview

The successful maintenance of existing forest communities and timely regeneration of diverse forest communities will be promoted on ECWC's forest lands. The management of ECWCo's forest lands will promote silvicultural practices that sustain ecological and economic forest values.

Silvicultural Treatments

In addition to the forest management guiding principles mentioned in the beginning of this document, silvicultural treatments for forested stands on the ECWCo properties will be based on one or more of the following objectives:

- Maintaining forest health
- Extending the rotation age of native forests to 100 -120 years
- Diversifying forest age structure/encouraging stand regeneration

In order to successfully manage the forests of the ECWCo to meet the goals and guidelines mentioned above, a variety of silvicultural treatments may be used. These treatments may include, but not be limited to: various types of thinning (both commercial and non-commercial), variable retention harvests (both even-aged and uneven-aged management), as well non-harvesting management techniques, such as prescribed fire. For a more thorough description of these treatments, please refer to Appendix E.

Salvage Operations

Salvage harvests will be used to respond to incidents of high mortality in mature stands and decline in pioneer stands such as Virginia pine and black locust. High mortality or decline within mature stands are indicators for the forest managers to focus regeneration and final harvest efforts in these areas within the general forest zone to salvage economic value of the timber while reestablishing a healthy productive growing stock.

The primary purpose of salvage cutting is to remove dead, dying or damaged trees and, in some cases, stressed trees imminently threatened by forest pests, pathogens or abiotic factors. Intended to minimize financial loss of timber revenue, salvage harvests are generally a last resort effort, often unfeasible unless they are combined with silvicultural harvests of higher value timber (e.g., thinnings or regeneration cuts). Cost/benefit analysis of salvage feasibility must consider additional logging operational costs, timing, site access, safety and liability issues, and the stumpage value of salvage wood based on market conditions. Revenue from salvage harvests is

generally marginal. In some cases, salvage harvest can provide funding and justification for upgrading or creating access road networks. Aesthetics and wildlife habitat considerations should also be evaluated before the commencement of any salvage operation. Snags, cavity trees and fallen dead trees are all utilized by wildlife species including small mammals and song birds. Wildlife habitat requirements should be accounted for during the layout phase of any salvage operation. Utilizing similar procedures defined for traditional timber harvests, stands being considered for salvage will be visited and additional field data collected to assess economic and operational feasibility and to determine the potential ecological impacts and outcomes.

Pesticides and Herbicides

Given the stressors on desirable forest conditions, the safe use of pesticides and herbicides is a necessary and vital tool to maintain tree health and restore desirable tree regeneration, which is the foundational structural attribute influencing all other key ecological attributes (KEA) as specified in our KEA Report Card. Chemical use will be integrated with other strategies to protect forests from these health problems. Strategies include (but are not limited to) thinning to reduce stress and encourage canopy health, maintaining diversity of species, seedbed preparation through prescribed fire or physical means, fencing to reduce deer browse pressure. Current research and management experience provides sufficient justification for the judicious use of chemicals to achieve desired regeneration conditions. Chemical use in the streamside management zone (which includes buffer along perennial and intermittent streams and lakes) and in buffers around wetlands will be restricted to cases of significant infestations of riparian related species, and will use only herbicides labeled for use in riparian and wetlands. (Refer to Water Resources/Riparian Areas: Description and Approach, above.)

Forest managers have access to guidelines on how to minimize cost, chemical rates, and negative impacts on non-targeted species, while still obtaining desirable results on the target(s). These guidelines include: TNC's Global Invasive Species Team and Weed Control Methods Handbook; Herbicides and Forest Vegetation Management: Controlling Unwanted Trees, Brush, and Other Competing Forest Vegetation (Penn State CAT UH174, 2005). Evitts Creek Water Company will take an adaptive approach to utilizing pesticides and herbicides alone and in conjunction with other methods (e.g., prescribed fire, manual and mechanical removal) for controlling invasive species and low-shade producing vegetation.

Prescribed Fire

The Eastern Hardwood Forests are a fire-adapted ecosystem. This means that the plants and animals of this region have evolved to tolerate periodic wildfires. Historically, these wildfires would be low-intensity surface fires that occur every 25-50 years in a given area. As such, most of our native flora and fauna are fire-adapted species. There are some native species, however, that have evolved to be fire-dependent. These species actually require fire to propagate, compete, and flourish.

Occasional low-intensity wildland fires are a natural part of the Eastern Hardwood Forests, and have many benefits that are necessary to maintain a healthy ecosystem balance. Having frequent, small fires helps prevent the accumulation of large quantities of fuel, which can lead to detrimental high-intensity fires. Regular fires also encourage the regeneration of fire-adapted

species; such as oaks, pitch pine, and native grasses. Likewise, the rapid cycling of nutrients, as a result of these fires, helps fertilize the soil and aid plant growth.

(Comment from Nat. Heritage: The side-oats gramma grassland should also be discussed here. We suspect that a prescribed fire would significantly restore this site)

Wildlife can also benefit from periodic low-intensity fires. When these fires spread through the forest, they often leave behind a patchwork of burned and unburned areas. The result is a mosaic of different niches and species, in varying stages of ecological succession. This leads to a greater diversity of habitats and species. Some animals, such as ground-nesting birds, depend on the early-succession habitats that fire can create in order to reproduce.

Wildland fire can be ecologically beneficial when it occurs in the right place and under the right conditions. If implemented properly, prescribed fire is a valuable tool that can be used to create wildlife habitat, increase species diversity, protect threatened species, encourage regeneration of desirable plants, manage certain invasive plants, control forest succession, prepare sites for tree planting, and/or reduce hazardous fuels. However, prescribed fire can also be detrimental and dangerous, if it is used improperly.

Prescribed fire can only be effectively and safely utilized if it is overseen by trained professionals. These professionals must be properly equipped and knowledgeable of fire ecology and prescribed fire techniques. There also must be a written plan in place, which describes the desired outcomes, equipment and personnel needs, weather parameters, methods to be utilized, and safety precautions. A prescribed burn will only be successful if the objectives are SMART – Specific, Measurable, Achievable, Relevant, and Time-specific.

Annual Allowable Cut

A well-regulated forest allows for the removal of a percentage of total growth per annum. Having several harvests over a course of time is helpful in establishing actual harvested volumes compared to the estimated volumes obtained during inventory data collection. Since the forest at this time is not well regulated nor does it have an established average annual growth rate, it is recommended that over the next 3 to 5 years an annual allowable cut be set using actual volumes harvested and data collected from the established permanent plots measuring annual growth of the forest. By doing this over time, a sense of the growth rate of the forest can be better estimated.

Harvest Administration Procedures

The following outlines the general wood harvest operating procedures that will be used:

1. Based on the activity schedule in the annual forest work plan, the proposed harvest area is visited. Additional field data are collected to determine the development of advance regeneration and the amount of interfering stems present (referencing Silvah procedures and TUSAF guidelines). Ecological and archeological sensitive areas, visual impact areas, and special access requirements are also identified and delineated on maps and on the ground as appropriate.
2. If the quantity and quality of acceptable growing stock, volume, and/or advanced regeneration is sufficient to conduct a timber harvest, a harvest plan is drafted. The harvest plan will address skid trail layout, landings, and truck access, as well as special features on the sale area and any special harvesting equipment required. In general, the common harvesting system in the Ridge and Valley region involves professional loggers who are becoming mechanized and using harvesters (e.g., hydro-axes, Timbcos, and Bells) along with forwarders, grapple skidders, knuckle boom loaders and tractor trailers to make up their operations.
3. Controlling Erosion and Sediment from Timber Harvesting Operation (DEP) and Best Management Practices for Pennsylvania Forests (Penn State University) will provide operational guidelines for all activities in the harvest area. These guidelines are minimum requirements and the timber sale contract will impose specific requirements for each sale. Prior to marking trees for harvest, the location of all main haul roads and skid roads will be mapped. Sale boundaries will be flagged as necessary. Where possible, boundary lines will consist of properties lines, existing roads and skid trails, and/or natural boundaries such as ridge-tops and stream courses.
4. In general, a combination of direct logged, per unit, and lump sum sales will be used to market timber.
5. As appropriate, prior to advertising the sale, adjoining landowners, hunt clubs, and affected farm owners will be notified, in person, by phone, and/or in writing to inform them of upcoming operations and to provide an opportunity to address their questions and concerns.
6. In most cases, all trees to be harvested will be marked with tree marking paint prior to advertising the sale. All stream channels will be evaluated in the field, since some may not appear on the USGS maps, and the riparian buffer zone adjusted for width as appropriate.
7. In general the sale will be awarded to the highest bidder. We reserve the right to reject bids based on bona fide prior knowledge of poor past performance of individual bidders. The contract will be signed, and the performance bond will be collected before commencing the timber harvest.
8. The timber buyer will be required to give notice as outlined in the contract as to when the harvest will begin and be present with their logging contractor at the pre-work conference. Location of skid trails, landings, and woods roads will be determined at the pre-work conference and no road construction or harvesting activities can begin until pre-work conference is completed and payments are current. In general, roads should be constructed as close to the time they will be used as possible.
9. Mid-term harvest inspections in addition to close-out inspections will be carried out as determined by the forestry consultant and/or ECWCo staff. A Contract Administration Checklist will be kept for each sale and made part of the sale folder upon close out.

Furthermore, a Harvest Inspection Form will be used to serve as a BMP checklist to which the contractor must adhere and any additional requirements stated in the contract.

10. The contractor will be encouraged to work the harvest from the back to the front to minimize damage to residual trees, and to close out all roads and landings as soon as they are no longer needed. If the contractor is removing equipment from the sale area, they must give ECWCo notice.
11. At the conclusion of all harvesting activities the buyer shall request a final inspection. At that time the forestry consultant will inspect the tract and accept the sale either as "completed" or "completed with conditions". If weather conditions are not favorable for final close-out the sale may be temporarily closed with completion as soon as conditions improve.

12. After completion, a letter will be sent to the buyer with comments on the quality of the work. If the work has been acceptable the bid deposit will be returned.

Monitoring

Monitoring is crucial to the ability of the ECWCo to supply its intended sustained yield of a variety of forest resource benefits. At a minimum, the monitoring activities must meet current requirements for certification and reporting. Monitoring is necessary to document sustainable practices, provide information to adapt management, and carry out elements required for certification as a sustainable forest by the Forest Stewardship Council (FSC).

A high quality inventory and monitoring program that is linked to a GIS-based data management system is the key to a successful adaptive management program. It is, however, one of the often neglected or under-funded parts of a land management program.

Baseline and ongoing assessment of management and operations on ECWCo lands consists of water quality monitoring, ecological inventory and monitoring and operational and financial monitoring elements. The basic elements of monitoring on ECWCo properties are as follows:

Water Monitoring

Water Quality

Water Quality and other sampling parameters are monitored on a regular basis with the frequency of sampling dependent on the importance of the parameter. Locations where water may be sampled include intake structures, perennial streams into reservoirs, and in reservoirs themselves (from boats). Parameters that may be measured include pH, conductivity, dissolved oxygen, turbidity, phytoplankton, temperature, macro-invertebrates, and algae.

Operational/BMPs

Operational monitoring is designed to assess the program as an effective strategy for protecting soil and water quality on ECWCo land, to determine compliance with Pennsylvania Department of Environmental Protection Best Management Practices (BMPs), and adherence to other standards of operations as defined by the FSC US National Standard.

Emphasis will be placed on improving road conditions on infrastructure associated with active forest management. Individual harvest inspections are conducted periodically and the Forestry Harvest Inspection form is completed at least once a week during harvest operations. Additionally, at closeout, harvests are once again visited and the Inspection Form is completed to ensure all aspects of the harvest are completed to satisfaction.

Roads and Stream Crossings

ECWCo staff who frequent the properties on a regular basis will utilize the map layer of stream crossings to periodically assess primary and secondary road conditions while going about their normal duties. Ocular assessments will be performed to detect problems such as plugged culverts and help to identify potential issues, all of which will be recorded and reported for further evaluation and potential mitigation. In preparation for and following completion of forest management activities, including prescribed burning operations, impacted sections of the road network will be monitored at a higher frequency to assure functionality of water diverting devices and to confirm adequate vegetation establishment if necessary.

Ecological Monitoring

Inventory and monitoring protocols are designed to assess the influence of conservation actions on a set of nine Key Ecological Attributes (KEAs) measuring three major categories of forest health and condition – composition, structure, and regeneration. These KEA's were strategically selected to enable monitoring of forest condition at the management unit and tract level and enable tie-in of these attributes to monitoring at various scales. In addition, the presence of rare species and communities, non-native invasive plant species, and forest pests and pathogens are addressed through ECWCo's ecological monitoring, which is outlined in more detail below.

Inventory (Regeneration, Invasives, Species Composition, Healthy Snags – KEA)

A standardized forest inventory (i.e., timber cruise augmented with KEAs) will be used to monitor forest condition attributes at the management unit and tract level on ECWCo properties. Current state-of-the-art sampling methods will be used. A fraction of the permanent plots will be re-measured every 5-10 years.

Pre- and Post-Harvest Assessments

Prior to any harvesting activity, a field assessment will be conducted to quantify and document forest condition attributes necessary to ensure a successful treatment outcome. Factors that should be considered in preparation for a treatment include identifying the presence/absence of key non-native invasive plants and/or pest and pathogens within the planned harvest area and any existing roads/skid trails which will influence pre-harvest strategies and post-harvest monitoring. Reference can be made to TNC's Ecological Monitoring Field Form, or a similar form may be developed and used.

Heritage Triggers

Prior to any timber sale, prescribed fire, or road building activity, all efforts will be made to locate and map any rare species or communities (G1-G3, S1-S3) within ECWCo ownership. In

advance of any management activity, ECWCo staff will check the databases of the Pennsylvania Department of Conservation and Natural Resources (DCNR), Pennsylvania Game Commission (PGC), the Pennsylvania Fish and Boat Commission, Western Pennsylvania Conservancy (WPC), and the U.S. Fish and Wildlife Service to see if rare species or communities are likely to occur in stands proposed for the proposed activity. If necessary upon unique circumstances, such as findings of undocumented Rare, Threatened or Endangered species in the field survey, the appropriate agency will be notified. If surveys reveal rare species or communities, specific management and monitoring guidelines will be developed at the stand/harvest level to protect the species or community –OR- the proposed management activity will not occur.

HCV Monitoring

ECWCo will monitor for activities within or adjoining the HCV areas. Areas where concerns arise will be visited and checked, and any issues followed up on. HCV areas are also visited during periodic inventory procedures and changes tracked through the Key Ecological Attributes (KEAs) which are updated at 10 year intervals.

Continuous Forest Inventory

Continuous Forest Inventory (CFI) involves the establishment of well distributed permanently marked plots for periodic re-measurement, allowing foresters to track forest growth, mortality, stand structure and species composition changes in the forest over extended periods of time. This inventory system can provide valuable properties specific estimates of net growth, stand development and carbon capture that can be used to increase the accuracy of growth modeling and improve data for management decisions.

Social Monitoring

To engage with the community and to monitor stakeholder issues and concerns, ECWCo is actively involved with Evitts Creek Steering Committee meetings, which are open to the public. These meetings are used as a platform to proactively communicate with constituents and obtain feedback, enabling ECWCo to stay aware of community concerns and issues. Meetings are a method to inform the public of new or ongoing activities, including forest management operations. The integrated use of public meetings, the City's website, local newspapers, and relationships maintained by City and ECWCo employees promote a consistent, interactive dialogue with a broad set of stakeholders. ECWCo develops partnerships with local residents and users of the properties. Information is shared with each other to develop a better understanding of what is occurring on the properties.

- Quarterly meetings
- City Website
- Interaction w/ community
- Stakeholder meetings upon request

Additional Monitoring

Legal (boundaries, timber theft, dumping)

ECWCo is mandated by Commonwealth law to monitor and maintain the reservoirs and surrounding properties. ECWCo protects its properties through relationships that have been established with several Pennsylvania law enforcement agencies including the Game Commission, the Fish and Boat Commission, Bureau of Forestry, and the State Police. Where investigations identify those persons involved in timber theft, arson, illegal dumping, trespass by both foot and motor vehicle, and other violations, criminal complaints are filed through the use of the judicial system. Charges are filed under the PA Criminal Code Title 18 and PA Vehicle Code Title 75. Additional legal actions are brought when violations of the PA Game Code Title 34 are discovered. Evidence of these violations is given to the PA Wildlife Conservation Officers for prosecution.

Financial

Annual budget accounts for the expenses and revenues related to the management of its watershed properties. Expenses include those for professional consultants, deer fencing and herbicide treatment where prescribed, surveying and other miscellaneous expenses. Revenues are mostly from the sale of timber products.

Harvest Activities

Annual Allowable Cut (AAC) is the determination of timber volume that may be sustainably harvested from a forest management unit in a given year. ECWCo staff track the Annual Allowable Cut relative to harvest levels on an annual basis. Product sales are recorded and tracked in a paper file with receipts on an ongoing basis. The list of mills that have been sold to is also updated as needed.

FSC conformance

The TNC group manager completes an annual check of compliance with FSC standards. This is carried out over the phone with additional field visits scheduled every 2-3 years.

Appendices

Appendix A: Evitts Creek Water Company Legal Requirements

ECWCo, as owner/manager of the properties, have legal requirements that include but are not limited to the following:

International

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora)

Federal

U.S. Safe Drinking Water Act

U.S. Clean Water Act

U.S. Endangered Species Act

Pennsylvania

PA Safe Drinking Water Act

PA Clean Streams Law (Chapters 93, 102, & 105)

PA Conservation District Act

PA Prescribed Burn Laws (HB 262 and 2745)

PA Fire and Panic Act

PA State Game Laws (Title 34)

PA Fish and Boat Laws (Title 30)

PA Criminal Code (Title 18)

PA Motor Vehicle Code (Title 75)

Maryland

MD Safe Drinking Water Act

Local

Cumberland Valley Township Zoning Ordinance

Appendix B: Evitts Creek Historical Mapping Analysis Report

Joshua Skinner, 11/5/2015

Note: Joshua Skinner, a GIS student at Harrisburg Area Community College, completed this analysis and report during the fall 2015 semester.

The Evitts Creek study area has seen significant changes in the past 75 years. Early on there was a significant amount of farming as seen by the amount of fields present within the boundary. As time progresses fields start to become unkempt and become retaken by the forest. The largest decrease in field acreage came between the years of 1958 and 1967 with a total loss of 1,290 acres. 1939 to 1958 only saw a decrease of 882 acres (Table 1). Today there are only two or so fields located entirely within the boundary. Several other fields come in contact with the area but because only a small portion of the field is located within the boundary I did not take them into consideration. This trend holds true through all of the time periods under study as no new fields appeared. The same can be said for roads but they saw a much less intense of a decrease with only a few roads actually disappearing and others becoming dirt paths. Roads were buffered on the assumption that each lane is 9ft wide, so each road is 18ft across in total. The roads as a whole remain pretty constant in terms of acreage except in 1967 where it drops off but that could be due to bad photographs and not being able to see where they are. The number of buildings was fairly constant with only a few disappearing. However due to the quality of some of the earlier photographs it was difficult to determine if buildings actually disappeared when they did or if the quality of the photo was too low to get an accurate reading. The body of water in the middle of the boundary, Lake Koon, also saw a decrease in water levels between 1958 and 1967. The water levels seem to have stabilized in recent years but due to the nature of some of the photographs there is not enough data to perform a full analysis from this study.

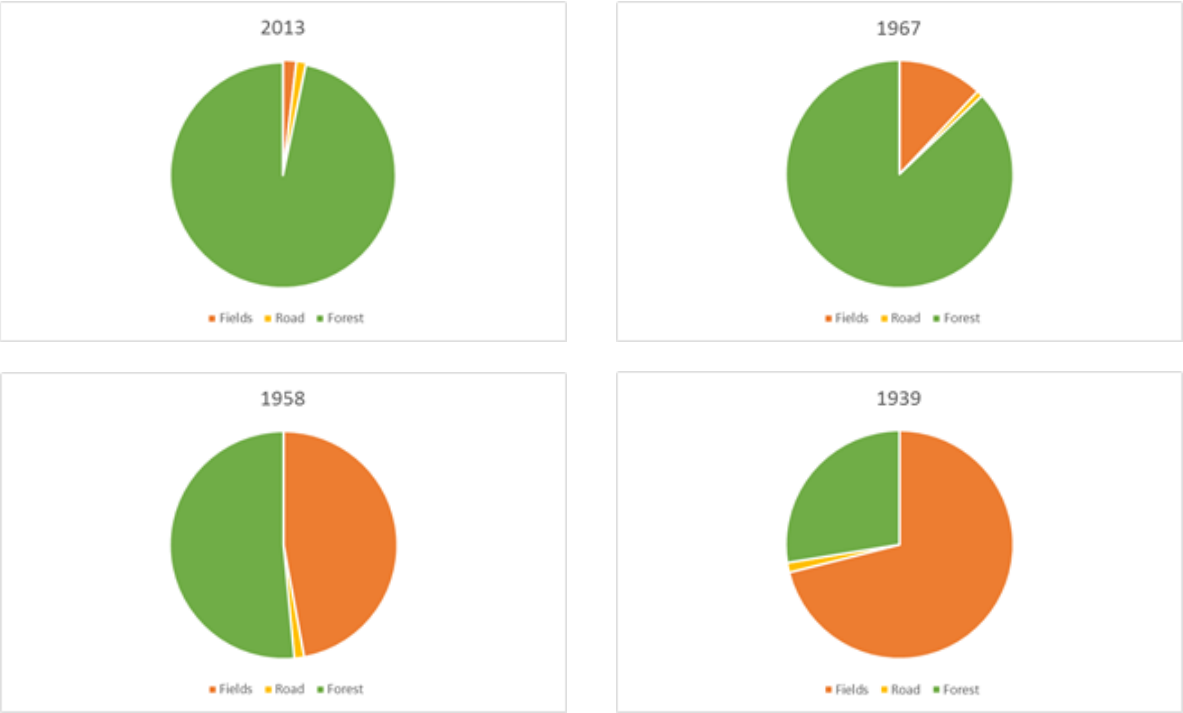


Table 1

I was able to run an interactive supervised classification on the more recent aerial imagery that I had access to. These photos were taken in 2013 by the NAIP and are downloadable for free on their website. The only stipulation was that I was not able to narrow it down to just what was within the boundary. See Figure 1 and Table 2 for reference. As you can see, water is listed at only being 2% of the entire photo but within the boundary I would estimate it is at 14% and the Fields category is 2%, with the remaining 82% forest. This is purely a visual estimation and another attempt at clipping the boundary out will need to be made in order to get the exact numbers.

I attempted to do a supervised classification for the other aerial photographs but because they were in black and white there was too much error present in the final results for me to include them.

In order to achieve these results I downloaded aerial imagery off of pennpilot.com. The Penn pilot photos were taken in the years 1939, 1958, and 1967 (See Figures 2a-c).The USDA's NAIP website was used for the present day imagery as of 2013 and they were all georeferenced using an ArcMap base map as a starting point. Then I procedurally digitized all of the features that I could locate within the photographs.

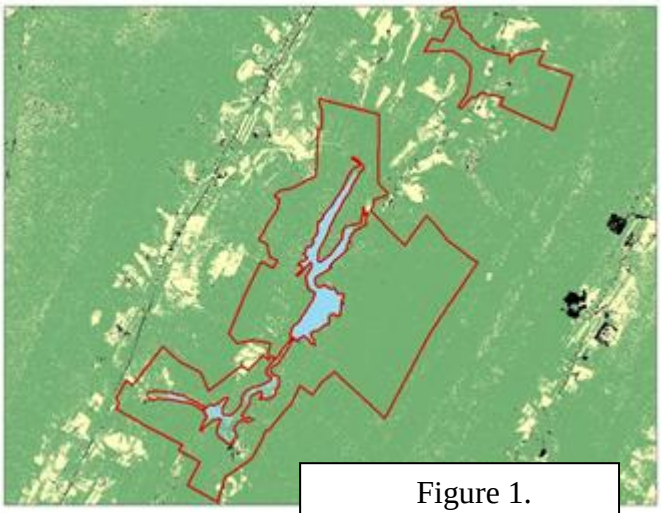


Figure 1.

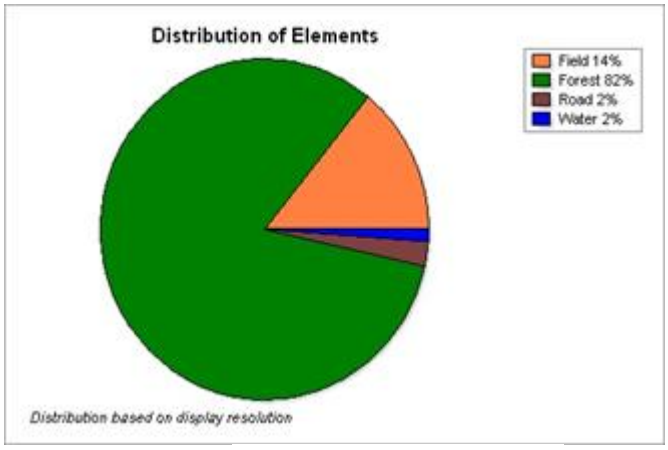


Table 2

Figure 2a: 1939

Figure 2b: 1958

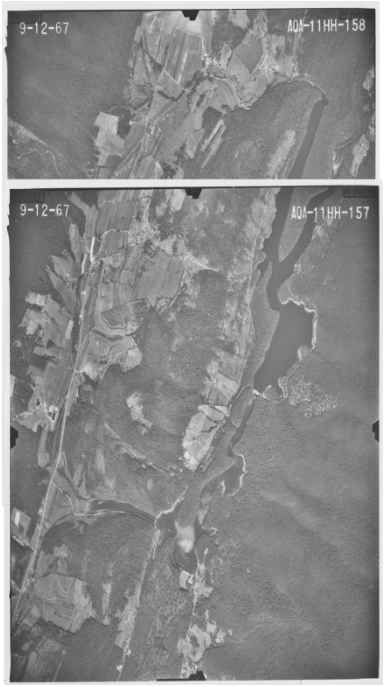


Figure 2c:

Appendix C: Site Soil Descriptions

Information accessed on the internet, January 2016. https://soilseries.sc.egov.usda.gov/

The two tracts of the Evitts Creek Water Company properties are comprised of approximately 61 different soil types, grouped into 35 soil series:

Albrights Silt Loam (Ab)

The Albrights Series consists of very deep, moderately well to somewhat poorly drained soil formed dominantly in regolith of colluvium or glacial till from reddish shale, siltstone and fine grained sandstone. They are on upland toeslopes, footslopes and drainageways. Slope ranges from 0 to 25 percent. Permeability is moderately slow. Mean annual precipitation is about 36 to 46 inches. Mean annual air temperature is about 48 degrees to 55 degrees F. Approximately 30 percent is cleared and in cropland and pasture. Wooded areas are mixed hardwoods, dominantly oaks.

Andover Cobbly Loam (Ar)

The Andover series consists of very deep, poorly drained soils formed in colluvium. They are on benches, toeslopes, footslopes, and swales along the base of prominent ridges. Slopes range from 0 to 15 percent. Permeability is slow. Mean annual precipitation is 42 inches. Mean annual temperature is 50 degrees F. Approximately 30 percent cleared for pasture and cropland, some of which is now idle. Woodland is mainly hardwoods of oak and hickory and small stands of hemlock and white pine.

Bedington-Berks Complex, Very Stony (Bd)

The Bedington series consists of very deep, well drained soils. Bedington soils formed in residuum from dark brown, gray and olive acid, sedimentary, siltstone and shale, with some sandstone interbeds. They are on nearly level to steep convex uplands and on the sideslopes of hills and ridges. Permeability is moderate. Mean annual precipitation is 42 inches. Mean annual temperature is 52 degrees F. Runoff is slow to rapid. Approximately 70 percent of the Bedington soils are in cropland and pasture. The remainder is in woodland or other uses. Principal crops are corn, small grain and hay. Wooded areas consist of oak, hickory, yellow-poplar and red maple.

For information on the Berks series, see below.

Berks Channery Silt Loam (Bk)

The Berks series consists of moderately deep, well drained soils formed in residuum weathered from shale, siltstone and fine grained sandstone on rounded and dissected uplands. Slope ranges from 0 to 80 percent. Permeability is moderate or moderately rapid. Mean annual precipitation is 42 inches. Mean annual temperature is 52 degrees F. Well drained. The potential for surface runoff is negligible to high. Depth to a seasonal high water table is more than 6 feet. Approximately 60 percent of Berks soils are in cropland and pasture, the remainder are in woodland or other uses. Principal crops are corn, wheat, oats, barley, Christmas trees and hay. Native vegetation is mixed, deciduous hardwood forest.

Blairton Channery Silt Loam (Br)

The Blairton series consists of moderately deep, somewhat poorly and moderately well drained soils on uplands. They formed in materials weathered from gray shale. They are on upland flats, depressions, and in drainage heads. Slopes range from 0 to 35 percent. Permeability is moderately slow. Average annual precipitation is 41 inches and the mean annual temperature is 52 degrees F. Somewhat poorly to moderately well drained. Runoff is medium to very rapid. Most areas of Blairton soils are cleared and in cropland or pasture. Woodlands are mixed hardwoods.

Brinkerton silt loam (Bt)

The Brinkerton series consists of very deep, poorly drained soils formed in medium textured colluvium derived from acid gray shale and siltstone. They are on footslopes of uplands. Slope ranges from 0 to 15 percent. Permeability is moderate in the surface layer, moderately slow in the upper subsoil, and slow in the fragipan and substratum. Mean annual precipitation is about 42 inches. Mean annual air temperature is about 52 degrees F. Poorly drained, with slow to rapid runoff. Wooded areas of mixed hardwoods consist of northern red oak, sugar maple, and black cherry with some hemlock and white pine. Cleared areas are chiefly used for pasture.

Buchanan Cobbly Loam (Bu)

Soils of the Buchanan series are very deep, somewhat poorly and moderately well drained, and slowly permeable. They formed in colluvium on mountain footslopes, sideslopes and in valleys that is derived from acid sandstone, quartzite, siltstone, and shale. Slope ranges from 0 to 45 percent. Mean annual precipitation is about 105 cm (42 inches), and mean annual air temperature is about 12 degrees C (53 degrees F). Runoff is medium to high. Permeability is moderate above the fragipan and slow in the fragipan. Woodland is the major use. Some areas are cleared and used for pasture, small grain, and row crops. Wooded areas are mixed hardwoods of oak, maple and ash.

Buchanan Cobbly Loam, Extremely Stony (Bw)

See above.

Clarksburg Silt Loam (Ck)

Soils of the Clarksburg series are deep, moderately well drained and slowly or moderately slowly permeable. They formed of colluvium on hill footslopes, toeslopes, sideslopes and backslopes that is derived from weathered, interbedded siltstone, sandstone and limestone. Slopes range from 0 to 25 percent. Mean annual precipitation is about 42 inchess and mean annual air temperature is about 11 degrees C (52 degrees F). Runoff is negligible through very high. The major uses are for pasture, hayland, and row crops - mainly corn, soybeans, and small grains. Where wooded, it is chiefly mixed hardwoods, dominated by oak and maple.

Elliber Very Channery Loam (El)

The Elliber series consists of very deep, well drained soils formed in residuum weathered from calcareous shale, siliceous siltstone,silty chert, and cherty limestone. Slopes range from 3 to

50 percent. Permeability is moderate or moderately rapid. Mean annual precipitation is 42 inches.Mean annual temperature is 52 degrees F. Runoff is slow or medium. About one-third of these soils are cleared and cultivated and a large part is in orchards. Most of the remainder is in woodland or mixed hardwoods.

Ernest silt loam (Er)

The Ernest series consists of very deep, moderately well or somewhat poorly drained soils formed in colluvium derived from acid shale, siltstone, and sandstone. Slopes range from 0 to 50 percent. Permeability is moderate above the fragipan and moderately slow to slow in the fragipan and below. Mean annual precipiation is 43 inches. Mean annual temperature is 48 degrees F. Runoff is low to high. Much of the acreage of Ernest soils is cleared and used for pasture and crops. Some acreage is wooded. Where wooded, mixed hardwoods are present with some white pine and hemlock.

Hagerstown Silt Loam (He)

The Hagerstown series consists of deep and very deep, well drained soils formed in residuum of hard gray limestone. Slope ranges from 0 to 45 percent. Permeability is moderate. agerstown soils occupy valley floors and the adjacent hills. In some areas rock outcrops are common surface features. Most slopes are less than 15 percent but range up to 45 percent. The climate is temperate and moderately humid, with a mean annual temperature of 45 to 58 degrees F. and mean annual precipitation of 30 to 45 inches.H Mean annual precipitation is 30 to 45 inches. Mean annual air temperature is 45 to 58 degrees. The potential for surface runoff is moderate to high. General crops, pastures, orchards, and truck crops. Large areas are in non-farm uses. Native vegetation is mixed hardwoods, including black walnut.

Hagerstown Silty Clay Loam (Hg)

See above.

Hazleton-Clymer Association, Extremely Stony (HT)

Hazelton soils are deep, well drained, nearly level to very steep, and generally extremely stony. Clymer Soils are deep, well drained, nearly level to moderately steep, and generally very stony. Most of this association is in woodland. The soils are well suited or very well suited to trees. Most private acreage is used for woodland production and for wildlife habitat and recreation. The main limitations to most uses are surface stoniness and the areas of steep and very steep soils.

Holly Silt Loam (Hy)

The Holly series consists of very deep, very poorly and poorly drained soils formed in loamy alluvium on flood plains. Saturated hydraulic conductivity is moderately high through high in the mineral soil. Slope ranges from 0 through 3 percent. Mean annual precipitation is about 36 inches, and mean annual temperature is about 51 degrees F. The potential for surface runoff is negligible through low. Subject to rare through frequent flooding. Some areas of Holly soils have been cleared and used for pasture or cultivation. Many areas are used as natural areas

for wetland wildlife habitat. Native vegetation is soft maple, elder, willow, and other trees tolerant of wet sites.

Laidig cobbly loam (Ld)

The Laidig series consists of very deep, well drained soils formed in colluvium from sandstone, siltstone, and some shale. They are gently sloping to very steep soils on benches and foot slopes. Permeability is moderate or moderately rapid above the fragipan and moderately slow or slow in the fragipan. Slope ranges from 0 to 55 percent. Near the type location, the mean annual precipitation is about 34 inches, and the mean annual temperature is about 51 degrees F. The potential for surface runoff is negligible to very high. Most areas are forested. Red, white, and chestnut oaks are the most common trees with some sugar maple, beech, and hemlock. A relatively small acreage of these soils is cleared and used for cropland or pasture.

Laidig cobbly loam, extremely stony (Lg)

See above.

Lobdell loam (Lx)

The Lobdell series consists of very deep, moderately well drained soils that formed in recent loamy alluvium. Permeability is moderate in the solum and moderate or moderately rapid in the underlying material. Slope ranges from 0 to 3 percent. Mean annual precipitation is about 38 inches, and mean annual temperature is about 50 degrees F. The potential for surface runoff is very low or low. Some areas of the soil are used for cultivation, chiefly corn, small grain, hay, and improved pasture. Other areas are in woodland or permanent pasture. The native vegetation consists of deciduous forest, chiefly beech, ash, elm, sugar maple, and sycamore.

Meckesville Gravelly Loam (Mc)

The Meckesville series consists of very deep well drained soils formed in colluvium, glacial till, or congeliturbate from red acid sandstone, siltstone and shale. They are on the concave sideslopes of upland ridges. Slope ranges from 0 to 60 percent. Permeability is moderately slow. Mean annual precipitation is 41 inches. Mean annual air temperature is about 50 degrees F. The potential for surface runoff is negligible to very hight. Approximately 70% in woodland and 30% in cropland, pastureland, and idle land. Forested areas are dominantly oak, maple, and ash species.

Meckesville Gravelly Loam, Very Stony (Md)

See above.

Mertz Channery Silt Loam (Mh)

The Mertz series consists of deep and very deep, well drained soils formed in colluvial or glacial material derived from limestone containing various amounts of chert fragments. Slopes range from 3 to 35 percent. Permeability is moderately slow. Mean annual precipitation is 42 inches. Mean annual temperature is 52 degrees F. Runoff is medium or rapid. Most of these soils are cleared and cultivated to general farm crops. Wooded areas are in mixed hardwoods.

Monongahela silt loam (Mo)

The Monongahela series consists of very deep, moderately well drained soils in river valleys, treads, and risers, formed in old alluvium from acid sandstone and shale. Slopes range from 0 to 25 percent. Permeability above the fragipan is moderately high, and moderately low to moderately high in and below the fragipan. Mean annual precipitation is 45 inches. Mean annual temperature is 51 degrees F. Runoff is negligible to very high. Mof of these soils are cleared and used for pasture, cultivated crops, and industrial and residential sites. Wooded acreage is generally limited, but where wooded common trees include red oak, white oak, yellow-poplar, sycamore, white pine, and Virginia pine.

Morrison Channery Sandy Loam (Mr)

The Morrison series consists of very deep, well drained soils formed in residuum of weathered noncalcareous sandstone. Slopes range from 0 to 50 percent. Permeability is moderate to moderately rapid. Mean annual precipitation is 43 inches. Mean annual temperature is 51 degrees F. Runoff is slow to medium. About 25% cleared and in general farm crops. Wooded areas contain mixed oak and some pine.

Morrison Channery Sand Loam, Very Stony (Ms)

See above.

Morrison-Murrill Complex, Very Stony (Mt)

For Morrison, see above. For Murrill, see below.

Murrill Channery Loam (Mu)

The Murrill series consists of very deep, well drained soils formed in colluvial materials derived from acid sandstones and shales and the underlying limestone residuum, on lower backslopes, footslopes, fans and benches. Saturated hydraulic conductivity is moderately high to high in the colluvial material and in the residual material. Slopes range from 0 to 55 percent. The mean annual precipitation is about 40 inches and the mean annual temperature is about 52 degrees F. Surface runoff potential is negligible to high. Much has been cleared and used for crops, orchards and pastures. Woodlands contain mainly hickory, yellow-poplar, ash, dogwood, elm, and beech.

Opequon-Hagerstown Complex, Very Rocky (Op)

The Opequon series consists of shallow, well drained soils formed in residuum weathered from limestone or dolomite, on the summits, shoulders, or backslopes of limestone uplands. Slopes range from 0 to 100 percent. The mean annual precipitation is about 40 inches and the mean annual air temperature is about 52 degrees F. Permeability is moderate to low. Runoff is negligible to very high. This soil series is largely in permanent pasture. In some areas, non-rock areas are used for crops. Where wooded, the vegetation is mainly mixed oaks. Cedars are common on unmanaged pasture and abandoned fields.

For Hagerstown, see above.

Penlaw Silt Loam (Pe)

The Penlaw series consists of deep and very deep, somewhat poorly drained soils formed in colluvium derived primarily from limestone but with some shale and sandstone. Slopes range from 0 to 15 percent. Saturated hydraulic conductivity is moderately low to moderately high. Mean annual precipitation is 43 inches. Mean annual temperature is 54 degrees F. Surface runoff is low to medium. About 90% is cleared and used for general crops or pasture. Wooded areas are in mixed hardwoods of oak and hickory.

Philo Silt Loam (Ph)

The Philo series consists of very deep, moderately well drained soils on flood plains. They formed in recent alluvium derived mainly from sandstone and shale. Permeability is moderate to moderately rapid. Slope ranges from 0 to 6 percent. The mean annual precipitation is about 43 inches and the mean annual temperature is about 52 degrees F. Subject to stream overflow. The potential for surface runoff is low or very low. Most areas are cleared and cultivated or pastured. Original vegetation was mixed water tolerant hardwoods.

Vanderlip-Rock Outcrop Complex (Vd)

The Vanderlip series consists of very deep, somewhat excessively drained soils formed in residuum of nonacid sandstone on ridgetops and sideslopes. Slopes range from 0 to 70 percent. Permeability is rapid. Mean annual precipitation is 39 inches. Mean annual temperature is 51 degrees F. Runoff is negligible to medium. Mostly in woodland of mixed hardwoods, dominantly oaks.

Water (W)

Indicates the presence of a water feature such as lake or stream.

Weikert Channery Silt Loam (Wk)

The Weikert series consist of shallow, well drained soils formed in material that weathered from interbedded gray and brown acid shale, siltstone, and fine-grained sandstone on gently sloping to very steep areas on uplands. Slope ranges from 0 to 100 percent. Permeability is moderately rapid. Mean annual precipitation is about 42 inches, and the mean annual air temperature is about 52 degrees F. The potential for surface runoff is negligible to high. Most is cleared and used for cropland and pasture or is idle. Forested areas are mixed, deciduous hardwoods.

Westmoreland Channery Silt Loam (Ws)

The Westmoreland series consists of deep and very deep, well drained soils formed from the residuum of weathered, interbedded siltstone, sandstone, and limestone on summits, shoulders, and backslopes. Slope ranges from 0 to 70 percent. Permeability is moderate. Mean annual precipitation is about 43 inches, and the mean annual air temperature is about 52 degrees F. The potential for surface runoff is negligible to high. Major uses include crops, woodland and pasture. Where wooded, is chiefly mixed hardwoods, dominated by oak and maple.

Wharton channery silt loam, very stony (Wx)

The Wharton series consists of deep and very deep, moderately well drained soils from residuum of interbedded clay shale, siltstone, and fine-grained sandstone on side slopes, nose slopes, head slopes, and crests. Slope ranges from 0 to 35 percent. Permeability is. Mean annual precipitation is about 53 inches, and the mean annual air temperature is about 49 degrees F. The potential for surface runoff is low through high. The major uses are hayland, pasture, cropland, and woodland. The dominant vegetation where wooded is mixed hardwood trees.

Appendix D: Contact information for Native American Tribes

(Feb 9, 2016)

The following Tribes have an interest in FHWA/PennDOT projects located within Bedford County:

Absentee-Shawnee Tribe of Oklahoma
Carol Butler
Tribal Historic Preservation Office
Absentee Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper Drive
Shawnee, Oklahoma 74801
Phone (405) 275-4030 ext. 302
Fax (405) 878-4533
E-mail carol.butler@astribe.com

Contact Joseph Blanchard with any questions.

Cc: Joseph H. Blanchard (cc on everything! even emails!)
Cultural Preservation Director/
Tribal Historic Preservation Officer
Absentee Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper Drive
Shawnee, Oklahoma 74804
Phone (405) 275-4030 ext. 303
E-mail joseph.blanchard@astribe.com

Cc: Governor Edwina Butler-Wolfe (cc on everything via emails!)
E-mail edwinab@astribe.com

Delaware Nation, Oklahoma
Jason Ross
Delaware Nation
PO Box 825
Anadarko, OK 73005
Phone (405)-247-8903
Fax (405) 247-8905
E-mail jross@delawarenation.com

Delaware Tribe of Indians, Oklahoma
Susan Bachor
Delaware Tribe Historic Preservation Representatives
P.O. Box 64
Pocono Lake, PA 18347
Phone: 610.761.7452
Email: temple@delawaretribe.org

Eastern Shawnee Tribe of Oklahoma
Robin Dushane
Cultural Preservation Officer
Eastern Shawnee Tribe of Oklahoma
P.O. Box 350
Seneca, MO 64865
Phone (918) 666-2435
Fax (918) 666-2186
E-mail rdushane@estoo.net

Oneida Nation of Wisconsin
Corina Williams/ THPO
Oneida Nation of Wisconsin
P. O. Box 365
Oneida, WI 54155-0365
Phone (920) 496-5386
Fax (920) 490-2099
E-mail cwilliam@oneidanation.org

Seneca-Cayuga Tribe of Oklahoma
Paul Barton, Historic Preservation Officer
Seneca-Cayuga Tribe of Oklahoma
23701 S. 655 Rd
Grove, OK 74344
Phone (918) 787-7979
Fax (918) 787-9440
E-mail pbarton@sctribe.com

Shawnee Tribe (of Oklahoma)
Section 106 and projects, Environment/NEPA:
Kim Jumper, Tribal Historic Preservation Officer
Shawnee Tribe
29 South 69a Highway
Miami OK 74354
Phone (918) 542-2441
Fax (918) 542-9915
E-mail Kim.jumper@shawnee-tribe.com

(cc. for Section 106 projects):
Ron Sparkman, Chairman
Shawnee Tribe
29 South 69a Highway
Miami OK 74354
Phone (918) 542-7774
Fax (918) 542-2922
E-mail ronded@gmail.com

Appendix E: Description of Silvicultural Techniques that may be used on ECWCO Properties

Intermediate Treatments/Tending Improvement Thinning – A mid rotation harvest designed to control the structure, spacing and species composition of the forest stand by removing or killing designated trees. In a commercial thinning the value of trees removed more than covers the costs of treatment, whereas in pre-commercial TSI (Timber Stand Improvement) an investment is necessary to accomplish the treatment. Stocking Guides (such as Roach and Gingrich, 1962) are used to guide spacing and stocking control, reducing treated stands to a condition where the leave trees (trees left on the site) adequately occupy the site in a free to grow state. Leave trees are selected based on good health and form, species, good crown condition, spacing, timber value potential, wildlife or biodiversity value, and seed tree potential. Marking decisions must necessarily be adapted to the composition and condition of the stand such that a threshold for suitable leave trees in a degraded stand is necessarily lower than that of a fully stocked, healthy forest with abundant acceptable stems.

Crop Tree Release - An intermediate treatment focused on the individual trees favored to grow to maturity based on timber, wildlife or ecological value. Normally a target of crop trees per acre is established and designated trees have a crown release thinning on 3-4 sides of the crown to increase vigor and growth rates of the crop tree. There is no prescribed treatment to intermediate areas between crop trees although a modified approach could combine improvement thinning guidelines in these areas with full crop tree release for the subject trees.

Salvage/Sanitation Thinning – A thinning in response to major episodes of mortality or forest stress where harvest decisions are based on evaluations of tree health or risk potential. Salvage harvesting is by definition reactive and not typically a predictable component of forest management planning, but it is a common strategy as more and more introduced insect and disease threats stress our forests along with natural storm damage or drought stress. Dead trees are typically removed along with stressed trees which are unlikely to survive or fulfill management objectives. For instance, an oak tree with over 50% of the crown exhibiting dieback from gypsy moth defoliation will not be able to rebuild its crown and provide adequate growth or acorn production and so should be salvaged. Along recreation areas or trails, dead trees and hazard trees might be removed to increase safety and reduce ongoing maintenance needs.

Free Thinning - Free thinning is not a specific stand treatment but rather a hybrid which recognizes the variable characteristics within the stand and the multiple objectives of landowners. In free thinning the forester reduces stocking within traditional stocking guidelines but may drift between different selection criteria based on the opportunities presented by changing stand characteristics. For instance, given wildlife habitat and timber value growth objectives in a mixed oak stand, a forester may thin out red maple in one area to free up oak crop trees, remove overtopping isolated pine in another area to favor oak, resort to clustered group selection where oak seedlings are well established and daylight an isolated grape vine crop tree. Variability within stands is increasing within our landscape due to increasing pockets of insect/disease mortality, patchiness of seedlings, old diameter limit cutting, and inherently variable soil conditions within our glaciated landscape. Modifying conditions to improve stand performance against goals is therefore a necessarily “uneven” approach although the outcome should always strive to improve conditions and reduce variability where possible.

Forest Regeneration Treatments

Shelterwood harvest – One of the most common regeneration treatments in eastern hardwoods, the shelterwood is designed to control stocking, seed and sunlight so as to favor establishment of natural seedling regeneration under a "shelter" of partial canopy. This is a staged approach which could actually start with a thinning to favor certain seed producers and stir up the seedbed, followed 5-15 years later by a shelterwood harvest which opens the canopy and reduces stocking to 40-70 sq ft of basal area (30-50% of full stocking), and ending with a removal harvest to release the seedlings and reduce the overstory to 30 sq ft or less which effectively turns site resources over to the new forest represented by the seedling/sapling age class. If forest stands exhibit adequate seedlings the pace of the shelterwood progression can be shortened or stages skipped whereas it can be halted if seedlings are slow to establish or plagued by deer browse. The actual shelterwood harvest should retain healthy dominant and codominant trees of favored species such that suitable seed continues to be deposited into the seedbed. Almost all of the suppressed or midstory stocking should be removed to maximize sunlight on the forest floor while retaining maximum seed production, especially when oak, cherry and other species intolerant of shade are desired.

Seed Tree, Clear cut w/ Residuals, Two Aged – These are all terms for the final harvest to release seedlings to conditions of relatively full sunlight for rapid height growth. Most local hardwood species do not rely on the seed production and dispersal conditions created by the true seed tree silviculture, but it can be used to maintain species representation, protect nesting or perching sites, supplement already established advance regeneration, or address aesthetic concerns. The clear cut w/residual terminology is used commonly with the state forest management and the two aged management is a forestry term which has been recently adopted by wildlife managers to encourage residual seed production over thick cover conditions for species such as ruffed grouse or golden winged warblers. Residual stocking should be reduced to no higher than 25-30 sq ft of basal area to maximize light and insure a new forest can take hold, the primary objective of this treatment.

Group Selection – A patchy treatment designed to create sunlit openings which mimic the partial openings created naturally by blowdowns, insect mortality, etc. For oak management, it is recommended that the harvest remove groups of trees in an area with a diameter roughly equal to 1-1.5X the height of the timber at a minimum. This treatment can be adapted to react to the natural establishment of seedlings by focusing treatments around pockets of seedlings. Areas between openings can be treated by thinning, salvage or left untouched. In practical terms, this is rarely a primary strategy in regional silviculture, but can be appropriate in special circumstances to deal with inherent patchiness, encourage regeneration without drastic harvesting in sensitive areas, or create specialized wildlife habitat conditions.

Coppice Regeneration - This treatment is restricted to species which exhibit root sprouting but can be a valuable habitat management tool in our region, especially where aspen management is possible. Both quaking and bigtooth aspen have a propensity to put up root sprouts which can emerge 20-30 feet distant from a cut stump. Aspen is also a preferred food supply for grouse (buds and flowers), deer (twigs), rabbits, hares and beavers (bark). The regenerating thickets provide excellent habitat for grouse, woodcock, black bear and other species. Harvesting should be accomplished in dormant growth periods when the trees' energy reserves are stored in the roots. Harvesting should be complete and over as large an area as

possible to provide maximum sunlight and significant habitat features for target wildlife species. The forester should evaluate need for protective deer fencing as aspen is a preferred browse species of deer and excessive browse will kill shoots and starve the root system of needed energy, eliminating the aspen component from the future forest.

Prescribed Fire – An old tool which fell out of favor as the forestry community sought to control wildfires, prescribed fire is emerging as a critical missing component of management within several of our regional forest communities. It can play at least three distinct roles in regeneration of vegetation:

Ecological Restoration to reestablish vegetative communities adapted to the presence of fire. Used in this manner, a prescribed burn is designed to consume much of the vegetation in a fairly mature community and stimulate sprouting, seed germination and recycling of nutrients to reestablish a new community adapted to the presence of fire. This can have benefits in maintaining critical habitats necessary for plants and animals adapted to these ecosystems and can also benefit game management for hunters as the quality of food and cover and the matrix of game habitat is improved through prescribed burns.

Create receptive seedbeds conducive to germination of forest seed. Acorns germinate best when the duff layer of dead leaves and debris is not excessive. Other seed is stimulated to germinate by warming soils or chemical changes brought on by a fire which consumes the leaf litter, vegetation and debris which builds up on the forest floor. By running a modest fire though the understory, conditions for better regeneration can be created. However, each situation can be different and occasionally, unwanted species such as hayscented fern may flourish in the aftermath of a fire, especially where an elevated deer herd is drawn to the site to feed on the succulent regrowth and eliminate desired vegetation.

Prescribed burning also has utility in manipulating the composition of forest regeneration. Once forest seedlings and saplings are well established following a disturbance or harvest, a well-timed prescribed fire could have a major impact on the species represented in the future forest. This situation probably existed over much of the Poconos last century where periodic burning of forest regrowth maintained a thicket type composition which shifted drastically to the species such as oak, chestnut and hickory adapted to fire and capable of resprouting after each burn. Other species such as white pine, birch, cherry and red maple may have germinated after a harvest or fire but will be effectively removed in a subsequent fire. To execute this treatment, the oak seedlings should be several years old, well established and able to withstand a moderate fire.

Additional benefits could include encouraging pockets of herbaceous regrowth and prolonged periods in the seedling establishment stage recommended for the golden winged warbler and certain game species. Another benefit of prescribed fire not related to silviculture or ecological management is the removal of fuel build-up and the risk of more catastrophic fires during severe droughts or excessive winds when control is very difficult. By maintaining firebreaks and burning excessive fuel buildup in blocks within the landscape, wildland firefighting has better options to attack wildfires when they do occur.

Herbicide Applications – Typically used where understory competing vegetation has become so established it interferes with establishment of preferred species. Typical species that

are addressed with herbicide include rhizomous ferns such as hay scented and New York fern, beech sprouts, striped maple or sweetfern. Herbicides are applied by a certified applicator using equipment that can include skidder mounted mist blowers, backpack sprayers, or bark injection or application. Chemicals approved for forestry applications at prescribed concentrations and under proper weather conditions pose little environmental risk. Typical herbicides used in these forestry applications include glyphosate (ROUNDUP), sulfometuron methyl (OUST), and triclopyr (PATHFINDER). Several scientific papers on environmental risks are included in the Appendices. When evaluating impacts, the surfactant or "sticker" used to improve the effectiveness of the herbicide also needs to be considered as it can be a larger issue than the active ingredient. This is especially true around wetlands and open water. It should be pointed out that forestry applications for herbicide use only occur on a small subset of total forest management acres and typically only once within the 100 year rotation age of the forest and are therefore a much smaller volume than agricultural or residential applications.

Deer Fencing – An exclosure fence at least 7 feet tall which attempts to protect developing seedlings from excessive browse pressure exerted by local deer herd. Deer fencing is typically woven wire fencing attached to residual trees or fence posts and installed immediately before or during the regeneration harvest sequence. Costs include $2.30-2.80/lineal foot to construct, ongoing maintenance costs and another $0.50-0.75/lineal foot to dismantle. Fences normally need to remain in place for anywhere between 4-12 years depending on the success of the seedlings establishment. Longer periods can increase quality and diversity of growth within the fence but are offset by increasingly problematic maintenance challenges. Since the costs could total $375-$600/acre or more, forest managers should thoroughly evaluate the need, shorten the critical period of fencing to minimize maintenance costs, focus on controlling the deer herd to avoid the need, and increasing alternate food supplies/habitat quality to bring better balance to the deer population and its habitat. This becomes increasingly challenging in mixed landscapes with residential developments where deer find refuge and food, including food provided by people who enjoy seeing and protecting the local herd.

Miscellaneous Treatments

Food and Cover Plots - Food plots are a wildlife management tool that can improve forage opportunities, sightings, and hunting opportunities of game species and add diverse habitat characteristics for non-game species. Cover plots establish taller grass species which provide escape and nesting cover for birds and small mammals. Old log landings, access road corridors, old fields and disturbed areas such as retired sand and gravel pits all present opportunities for establishing planted plots. Any planting should be adapted to the soil and sunlight conditions and based on soil tests to address any needs for lime and fertilizer applications at planting and for ongoing maintenance. Mowing or burning may be needed periodically to maintain plantings and "no-till" agricultural techniques can be used to re-establish plots with minimal soil disturbance.

Appendix F: Additional Background on Riparian Forests and Vernal Pools

Wildlife Values in Riparian Forests

Wooded buffer zones along streams and rivers can be classified as riparian forest. Riparian forests differ from upland forests in their hydrology, plant community, soils, and topography. These features determine the potential abundance of animal populations.

The riparian forest supports a greater diversity of wildlife than nearly all non-aquatic areas or upland forests. The reason for this is because of the numerous habitat features found in these areas. Forested riparian corridors function as connectors between isolated blocks of forested habitat. Riparian forests are often surrounded by low quality wildlife habitats and therefore support higher densities and diversities of migratory birds. This is because these bird populations cannot feed in the surrounding habitat. In agricultural areas where extensive forests are not present, riparian forests provide critical habitat and may be the only edge cover available. Snags are used as den sites by cavity nesters. Root systems of wood vegetation not only help stabilize banks, but supply cover for fish and aquatic insects.

What are Vernal Pools?

Vernal pools are unique and vulnerable kinds of wetlands. They are usually ephemeral (temporary) pools that fill with snowmelt and spring run-off, and then dry out sometime during the summer. However, vernal pools also include pools that fill at other times of the year. Many of these pools are vital breeding habitat for certain amphibians and invertebrates such as wood frogs and spotted and blue spotted salamanders. What makes vernal pools such excellent breeding habitat is the seasonal nature of the pools that excludes fish populations that would prey on the offspring. Vernal pools are not only used for reproduction, but other species such as spring peepers, gray tree frogs, and a number of bird species use pools for feeding and resting as well. These important wetlands are some of the most vulnerable because they are small, isolated, and often dry, therefore unrecognizable. Frequently, they are easily destroyed or damaged because they are small or dry.

Vernal pools not only provide vital habitat for local plants and animals, they are also important features in the landscape. Think of pools as islands in a sea of upland forest. Groups of pools form stepping stones of hospitable habitat for wildlife that are dependent on wetlands to travel. Animals may skip over one pool to find a more suitable one nearby. If the wetland mosaic of pools within an upland community is altered, wildlife populations may be isolated and more vulnerable to changes in their surroundings. Suitable pools must have enough leaf litter and other debris to provide food sources and cover for the species that breed in them.

Wildlife in Vernal Pools

Wood Frogs

Wood frogs are terrestrial except during the breeding season. They live in woodlands, where they forage for food among leaves and debris on the forest floor. In winter, they hibernate under rocks, moss, leaf litter, or in rotting logs and stumps. Wood frogs are often the first amphibians to emerge in spring, at which time large numbers of males and females migrate to breeding sites during the first warm rains (from late March to late April). One easy way to locate

vernal pools is to listen for wood frog choruses, which are groups of males singing to attract females. Wood frogs make a sharp clucking sound, and large groups can sound like ducks quacking or outboard motors idling.

Breeding is completed within a couple of weeks, after which adults return to the woods, leaving clear, jelly-like egg masses behind. Eggs will hatch into tiny tadpoles in about three weeks, depending on water temperature. Tiny wood frog tadpoles grow and eventually metamorphose into juveniles after an average of 67 days. The juveniles, which look like miniature adults, gather in large groups along the shore of the pool before dispersing into surrounding woodlands.

Spring Peepers

Spring peepers may use vernal pools for breeding, in addition to just about any pond, ditch, or other small water body. These frogs also breed in early spring, but choruses of males produce high-pitched peeps, very unlike the mechanical clucking of wood frogs.

Green Frogs & Bullfrogs

Later in the summer, green frogs and bullfrogs may seek out vernal pools to feed on eggs and tadpoles. These species do not breed in temporary water bodies, as their tadpoles need to stay in the water for over a year before they reach metamorphosis. Bullfrog tadpoles do not metamorphose into terrestrial forms until they are three years old.

Salamanders

Several salamanders also breed in vernal pools. Spotted, Jefferson's, and blue-spotted salamanders all arrive at pools around the same time as wood frogs, between mid-March and late April. These species are known as "mole" salamanders because of their subterranean lifestyles. Mole salamanders spend most of their lives in underground rodent burrows and tunnels and crevices under rocks and other debris. Adults emerge from their underground homes and migrate to vernal pools during the first warm, rainy evenings of spring. Although their breeding season may last a few weeks, males and females in any given pool complete courtship, mating, and egg-laying in just a few days.

Female salamanders attach their eggs to branches, logs, and other underwater structures, after which they leave the pools and go back to their underground homes for the rest of the year. Mole salamander egg masses look like clear or opaque globs that are made up of many eggs, each with a tiny dark embryo within. These embryos hatch in three to five weeks, depending on water temperature. Salamander larvae have feathery external gills and four legs, which distinguish them from frog larvae, which have internal gills and no legs. Larvae metamorphose by late summer, when they are about 2 to 2.5 inches long, and leave the pools to find underground homes in surrounding uplands.

Other salamanders that may be found in vernal pools include the eastern spotted newt and four-toed salamander. Newts typically live in permanent water, such as ponds and lakes. Their larvae metamorphose into terrestrial juveniles known as "red efts," which travel on land for two to seven years before returning to water to breed. Some individuals may select a vernal pool in which to transform into their aquatic adult phase. Four-toed salamanders do not lay their eggs in

pools, but attach them to rocks, logs, or moss clumps directly over the water. Hatching larvae fall from the egg mass directly into the pool.

Spotted and Wood Turtles

Spotted and wood turtles may use vernal pools during the breeding season of wood frogs and mole salamanders. These turtle species wander extensively on land searching for food during the spring, summer, and fall. In early spring, they seek out vernal pools to take advantage of the amphibian and invertebrate eggs and larvae in them. Relatively deep vernal pools may serve as overwintering sites for some spotted turtles.

Wood turtle observed on Evitts Creek Water Company property during forest inventory, summer 2015.

Threats to Vernal Pools

Land-use adjacent to pools affects their value as productive amphibian breeding sites. The loss of surrounding trees results in decreased shading, rising water temperatures, decreased oxygen content, increased evaporation, and shorter flooding cycles. There may also be less debris to provide cover, nutrients, and attachment sites for egg masses. Many of the amphibians and reptiles that use vernal pools spend most of their year in the surrounding habitat, both uplands and wetlands. For example, spotted salamanders spend much of the year under leaves on the forest floor. Wood frogs and salamanders may come to breed in vernal pools from as far away as 1000 feet, and turtles from even farther. They are usually reluctant to cross large areas of lawns or fields. Changes to the forest surrounding a vernal pool, such as clearing trees, putting down sod, or building and paving, will have a detrimental effect on the species that use the nearby pool. Roads provide a lethal barrier to many species that must cross it to reach a vernal pool. Heavy traffic on the rainy nights when salamanders and frogs migrate can cause a great deal of mortality and effect local populations. Road salt and other chemicals from the road may also have an effect on the water quality in nearby vernal pools. In short, the upland area around the pool is just as important to these species' survival as the vernal pool itself.

Appendix G: Forest Inventory Methods and Techniques

Baseline Inventory Specifications for Working Woodlands 2012

Established March 3, 2009; Revised July 5th, 2011

Revisions for Cumberland Watershed Data Collection in RED

Cruise Design and Statistical Standards

1.) Sampling Method: 10 Basal Area Factor Variable Radius Plot inventory, with point centers occurring on a systematic "line plot" grid system established at a random starting point within each strata.

2.) Statistical Standard: Mean volume estimates (e.g., board feet and above ground carbon per acre) for the ownership will be reported with a minimum statistical accuracy of 90% confidence +/– 10% error from the mean. These objectives may be adjusted for more or less accuracy based on a properties-specific analysis of data collection cost relative to return.

3.) Stratification/Sampling Intensity: Forest Compartments are approximated prior to the inventory through digitization within a GIS by referencing aerial photography, historical management plans, documented past management activities, and ground based surveys. Inventory sample spacing will be determined based on the variability of the properties attributes (e.g., species composition, soils, topography, etc.) and what is needed to achieve a desired level of statistical accuracy and confidence (see #2 above). Plot spacing will be determined by Working Woodlands program managers prior to data collection and adjusted accordingly throughout the inventory process to achieve desired statistical accuracy. Sampling intensity has typically averaged approximately one plot per 5 acres (7 chains by 7 chain grid) within the project region. **The second plot in each stand will be designated as a permanent plot. A wooden stake is to be installed at plot center. A bark scribe mark is to be made at DBH on all "in" trees for the plot.**

4.) Sampling Frequency: Full tract-level inventories will be conducted at ten-year intervals. Monitoring will typically occur on five-year intervals, however monitoring frequency will relate to the rate and magnitude of forest management activities. Traditional pre and post harvest monitoring techniques will be employed to inform land managers of potential needs to implement a more comprehensive (statistically accurate) monitoring of carbon pools (refer to Pearson, Brown, Birdsey 2007).

5.) Data Collection: It is preferred that all data will be collected on hand held Pocket PC data recorders incorporated with Pocket Dog data collection software, then downloaded and compiled on Office Dog. In select cases field

data can be collected on paper tally sheets and manually entered into either Pocket Dog or Office Dog for data analysis.

Field personnel will use the following equipment for obtaining forest, carbon, and wildlife inventory data:

- Spencer 75' Logger Tape designed to measure in 10ths of feet
- Suunto Clinometer with percent and topographic scales
- Jim-Gem 10 Factor Prism
- Silva Ranger Compass
- Garmin GPS handheld unit

Field Procedures

1.) Cruisers will adjust compasses for magnetic declination relevant to the tract.

2.) All sample points will be located as close as possible to the corresponding map point. At each point the cruiser will hang flagging at eye level above each sample plot and as close to plot center as possible. The flagging should be labeled with the plot number and initials of the cruiser. A select number of overall sample points will be designated as permanent plots for monitoring purposes. At points designated as permanent plots, the cruiser will place a rebar stake and a fluorescent colored whisker pin in the ground at point center, GPS the coordinates, and hang flagging at eye level above each sample plot with plot number and cruiser's initials labeled on it.

3.) Sample point locations will be located as accurately as possible in correspondence to the cruise map. In the event a sample point falls within less than 1 chain of a mapable non-forest type or unproductive area the point will be relocated back, forward, or perpendicular to the line of travel until it is at least 1 chain away from the non-forest type. If the relocation of the sample point in either direction is still infringed upon by the non-forest type, the sample will be taken at a location least infringed upon by the non-forest type. A sample point may be excluded from the inventory only if a reliable sample can not be obtained after all measures of relocating the sample point have been made. Pertinent notes shall be made within the Comments section for the sample point on the PDA with respect to the relocation or exclusion of the sample point.

Non-forest or unproductive types, either mapped or unmapped, include roads, powerlines, pipelines, bogs, water bodies, fields, open wetlands, beaver flows, barrens, rock outcroppings, etc.

In the event a point falls within 1 chain of a boundary line, the point will be moved back along the line of travel to a point 1 chain from the boundary. The cruiser will note any such adjustments to sample point location in the Comments section for that tally point.

4.) At each sample point, milacre regeneration plots are to be completed FIRST, so as to avoid trampling of seedlings. After milacre regeneration plot is complted, beginning with the first tree directly in line with the line of travel then proceeding in a clockwise direction, each tree greater than 1.5" dbh and falling within the 10 BAF variable radius plot will be measured and tallied. All borderline trees will be determined to be "in" or "out" by calculating the limiting distance of each borderline tree with slope corrections applied as necessary.

Limiting Distance for all borderline trees will be determined using the following method:

a) Measure, from the uphill side, the diameter (dbh) of the borderline tree to the nearest 0.1" (inch) and mark the point at which the measurement was made with a paint stick.

b) Measure to the nearest 0.01' (1/100th foot) the horizontal distance from the face of the tree (at dbh) to point center. Cruisers will record the point number, observed forest cover type, size class, and density classification at each sample point location. Any other pertinent notes relevant to stand conditions including health/vigor will be recorded in the Comments section for each sample point.

c) Calculate the limiting distance of the tree by either a) multiplying the diameter of the tree by the 10 BAF Conversion Factor of 2.708, or b) using a lookup table of plot radii for trees of different diameters for a 10 Basal Area Factor prism. If the resulting distance is greater than the measured horizontal distance then the tree is "in" and will be recorded in the tally. Conversely, if the measured distance is greater than the calculated limiting distance then the tree is "out" and is not to be recorded.

NOTE: Adjustments to correct for slope when determining limiting distance of borderline trees will be made by sighting a clinometer on a point at eye level upon the tree in question and recording the percent slope. Determine the Slope Correction Factor from the conversion table and multiply this figure by the limiting distance of the tree to calculate the slope corrected limiting distance. Then, measure the distance, parallel to the slope, from the face of the tree to point center. If this measurement is less than the slope corrected limiting distance the tree is "in" and recorded in the tally.

Conversely, if the measured distance is greater than the slope corrected limiting distance the tree is “out”.

5.) The following information will be recorded on the PDA for all trees tallied at each sample point location.

A. Species **(SP)**, from the specified Species Code List incorporated within each PDA unit for Pocket Dog.

B. Product Code **(PROD)** for each tree tallied is to be recorded as per the code list provided within the Data Collection Summary listed below.

C Diameter **(DBH)** measured at a point 4.5’ above the ground (dbh) on the uphill side of the tree. Diameters will be

measured with a diameter tape. All trees **2.0 inches dbh and larger** will be recorded by ~~**two (2) inch**~~ **one (1) inch** diameter classes as

follows:

Diameter Range	Diameter Class
1.6” – 2.4”	2”
2.5” – 3.4”	3”
3.5” – 4.4”	4”
4.5” – 5.4”	5”
5.5” – 6.4”	6”
6.5” – 7.4”	7”
7.5” – 8.4”	8”
etc.	etc.

D. Height **(MHT)**.

Sawtimber: record the number of 16’ logs (minimum ½ log) to the nearest ½ log to a minimum top diameter of 10 inches or to a point where the tree no longer meets USFS grade 3 specifications due to forks, crook, excessive sweep, defect, etc. Record all ½ logs as a 5 (i.e. 1½ log tree = 15).

Pulpwood: record the number of 16' logs by estimating the number of 8 foot bolts contained in each merchantable stem to a minimum top diameter of 4" or to a point where the tree becomes un-merchantable due to forks, defect, etc. Individual trees must contain at least one 8' bolt.

***Minimum Standards for Diameter and Height:** Sawtimber trees must be 11.5" dbh or greater and contain at least 8 feet of grade 3 log (10" minimum top diameter) anywhere in the stem. Pulpwood trees must be at least 5.0" dbh or greater and contain at least one 8 foot bolt to a 4 inch top diameter. Snag trees must be at least 5.0" dbh and at least 5 feet tall. Coarse Woody Debris must be at least 10 centimeters in diameter measured at point of line intercept and does not have a minimum length requirement.

A. Defect (DFC) will be recorded as a percentage within the given tree by increments of 5%. For a tree with no defect (100% sound), no entry will be made. A tree with 5% defect is recorded as a 5, a tree with 10 % defect is recorded as a 10, and a tree with 15% defect is recorded as a 15, and so on.

Determinations for defect will be made using Table A provided below.

B. Text Data Fields. Upon completing data collection for trees, course woody debris, and regeneration for each sample point, secondary data shall be recorded within the Text Data Fields, of which include Wildlife Habitat, Competing Vegetation/Interference, and Deer Impact. Observations about the surrounding stand area including forest cover type, wildlife habitat, density and size classification will be made and recorded as per the criteria set forth within the Data Collection Summary listed below.

Data Processing

All inventory data will be downloaded, processed and compiled by The Nature Conservancy using TwoDog's OfficeDog software. This will allow for the data to be easily converted to other formats for additional analysis pertaining to Carbon Offset credits if desired. For the purposes of processing and evaluation the sample will be considered a random sample. All sawtimber shall be reported in MBF (thousands of board feet) in the International 1/4" log rule. All pulpwood shall be reported in tons. Listed below are the form classes to be used for sawtimber volume computations in the TWO DOG 2.0 program:

TNC - Species	Form Class

American Chestnut	78
Aspen	78
Basswood	78
Beech	82
Birch	79
Black Cherry	80
Black Locust	78
Black Oak	79
Black Walnut	80
Blackgum	78
Black Spruce	80
Chestnut Oak	78
Cucumber Tree	80
Dogwood	78
Elm	78
Green Ash	78
Hemlock	74
Hickory	80
Hophornbeam	78

Larch	78
Northern Red Oak	79
Norway Spruce	78
Other Hardwood	78
Other Softwood	78
Pin Cherry	78
Pitch Pine	78
Red Maple	80
Red Pine	80
Red Spruce	80
Sassafras	78
Scotch Pine	78
Serviceberry	78
Striped Maple	78
Sugar Maple	82
White Ash	80
White Oak	78
White Pine	80

White Spruce	78
Witch Hazel	78
Yellow Poplar	80

ADD the following species and respective form classes:

Table Mountain Pine	70
Virginia Pine	70
Eastern Red Cedar	70
Apple	70
Scarlet Oak	78
Sycamore	78
Silver Maple	78
Ailanthus	78

DATA COLLECTION SUMMARY FOR POCKET DOG ON PDA'S

Job File Name: Tract_Name_Compartment_Cruisers_Initials_Date

Product Code (PROD): AGS Sawtimber A1

UGS Sawtimber U1

SSUGS Sawtimber S1 ???? *Paul – are Seed Source UGS really necessary? Or do we want to classify those as just UGS?

Veneer Sawtimber V1

AGS Pulpwood A2

UGS Pulpwood U2

SSUGS Pulpwood S2

Regeneration RG

Cull U3

~~UGS Cull U9~~ → Combine these into "Den Tree" (Den tree must be 10+ inches)

SSUGS Cull S9

Non-Commercial NC

Snag1 (refer below) X1

~~Snag2 (refer below) X2~~ Combine these into one class for "Snag"

Snag3 (refer below) X3

Snag4 (refer below) X4

Growing Stock: For all live Sawtimber and Pulpwood trees tallied, assign them a Growing Stock value of Acceptable Growing Stock **(AGS)**,

Unacceptable Growing Stock **(UGS),** or Seed Source Unacceptable Growing Stock **(SSUGS)** based on the following criteria:

AGS = desirable species that contain at least one grade 3 log or will in the future, likely to persist another 15 years.

UGS = trees that do not contain at least one grade 3 or better log and never will, or are not likely to persist another 15 years.

SSUGS = trees that could be retained as a desirable seed source, yet otherwise meet the definition of UGS.

Other Stock: **Cull =** live sawtimber or pole-sized trees that do not contain a merchantable product due to poor form, quality, or undesirable

species. Note – if 50% or more of a stem's volume is non-merchantable, define it as "Cull".

UGS Cull = a sawtimber sized standard Cull tree as defined above, but with a wildlife cavity within the stem

SSUGS Cull = a sawtimber sized standard Cull tree as defined above, but with seed source value and a wildlife cavity within the stem.

Non-Commercial = live pole-sized stems less than 5.0" dbh

Snag1 = Tree with branches and twigs that resembles a live tree (except for leaves)

Snag2 = Tree with no twigs but with persistent small and large branches
ONE SNAG CATEGORY

Snag3 = Tree with large branches only

Snag4 = Bole only, no branches

CWD1 = sound lying dead wood, with diameters =/+ 5.0”

CWD2 = intermediate lying dead wood, with diameters =/+ 5.0”

CWD3 = rotten dead wood, with diameters =/+ 5.0”

DBH: Diameter Breast Height by two-inch diameter classes.

Height (MHT): For all Sawtimber and Pulpwood trees record the number of 16-foot logs to the nearest ½ log. Record ½ logs as a 5 (i.e. 2½ log tree = 25).

Defect (DFC): Recorded as a percentage of the defect within the tree by increments of 5% (i.e. a tree with 30% defect is recorded as 30, a tree with 5% defect is recorded as a 5).

No % defect will be used. Reduce height accordingly when tallying.

Seedling Regeneration: Within a 3.72 foot radius plot (mil-acre) count all seedlings between 2” and 12” tall as one stem each. All seedlings over 12” tall should be counted as two stems each. All individual oak seedlings ≥3’ tall shall receive a weighted count of 20. All individual oak seedlings ≥ 5’ tall should receive a weighted count of 50. If you have more than 50 seedlings per species, record 50+. In the case of stump sprouts, only count 3 stems from each stump (relates to self-thinning) If within the mil-acre plot there are no seedlings present pertaining to the listed species, record

Not Stocked within each of the seedling regeneration boxes.

Invasive Species: Within the Text Data section of the inventory, document the presence of any and all non-native invasive species within and between plots. Reference Invasive Species listed on "Working Woodlands Inventory Cheat Sheet"

Comments: List any general notes or information pertinent to the plot or stand conditions including forest health, regeneration, competing vegetation, harvesting, unproductive/non-forest areas, site limitations, etc.

Wildlife Habitat Inventory

The purpose of this inventory is to develop a mapping and reporting system for several significant wildlife habitat components found to be on the ownership and to allow these components to be managed appropriately in conjunction with other forest management practices. The habitat components are represented in two ways for each of the tracts within the ownership. The first is a tract level summary report of the habitat components that are inventoried. The second is a series of stand level maps, each representing a combination of the various habitat features.

1. Low Woody Cover (2-10' Zone): Visually group foliage of shrubs (e.g., mountain laurel) and undesirable trees (e.g., striped maple) within the two (2) to ten (10) foot zone above the ground and in direct competition or inhibiting desirable regeneration. Estimate cover by 5% increments within the 1/5th acre sample plot.

2. Low Woody Interference (primary species): Record the primary species of interference from the drop down list. If no competing woody vegetation is present leave this field blank.

3. Fern Cover (0-2' Zone): Estimate percent cover by 5% increment. For other fern species, report their coverage as one half.

4. Fern Cover Identification (primary species): Record the dominating fern species from the drop down list. If no fern is present, leave this field blank.

5. Grass and Sedge: Estimate percent cover by 5% increments. Record <5% even if only a trace of grass or sedge is present.

6. Grapevine: Record the number of grapevines rooted in the 1/5th acre plot (52.7' radius).

7. Deer Impact Level: Assessed within plots and between plots. One value assigned per plot. Refer to Table

    1.) No Impact – found only inside well-maintained woven-wire deer-exclosure fences
    2.) Low Impact – desirable regeneration abundant and of varying heights. Herbaceous plants common. Stump sprouts present.
    3.) Moderate Impact – desirable regeneration present but with little height variability. Herbaceous plants rare. No stump sprouts. Non-preferred browse and browse-resilient plant species are noticeably common and widespread.
    4.) High Impact – desirable regeneration rare to absent. Non-preferred and browse-resilient vegetation limited in height growth by deer browsing.
    5.) Very High Impact – desirable regeneration absent. Abundance of non-preferred vegetation is also reduced by browsing, browse-resilient plants show signs of heavy repeated browsing and a browse line is readily evident.

8. Special Note: Document other observations relevant to forest management

9. Course Woody Debris data will be collected independently on a separate paper tally using the line intersect methodology (Harmon & Sexton, 1996). Two 50 meter transects are established bisecting each plot center oriented in cardinal directions (N-S, E-W). The diameters of lying dead wood (≥10 cm) intersecting the lines are measured and tallied. Each stem tallied will be assigned to one of three density classes (sound, intermediate, and rotten) determined by using the "machete test", as recommended by IPCC Good Practice Guidance for LULUCF (2003), Section 4.3.3.5.3.

Eliminate this evaluation of CWD. Change to CWD "present" or "absent". Must be 10' long and 10" diameter at small end to be classified as CWD. Have drop-down menu with 0-20 to put number of CWD tallied. CWD within 1/20 acre plot.

TABLE A

Volume Deductions
(Percent)

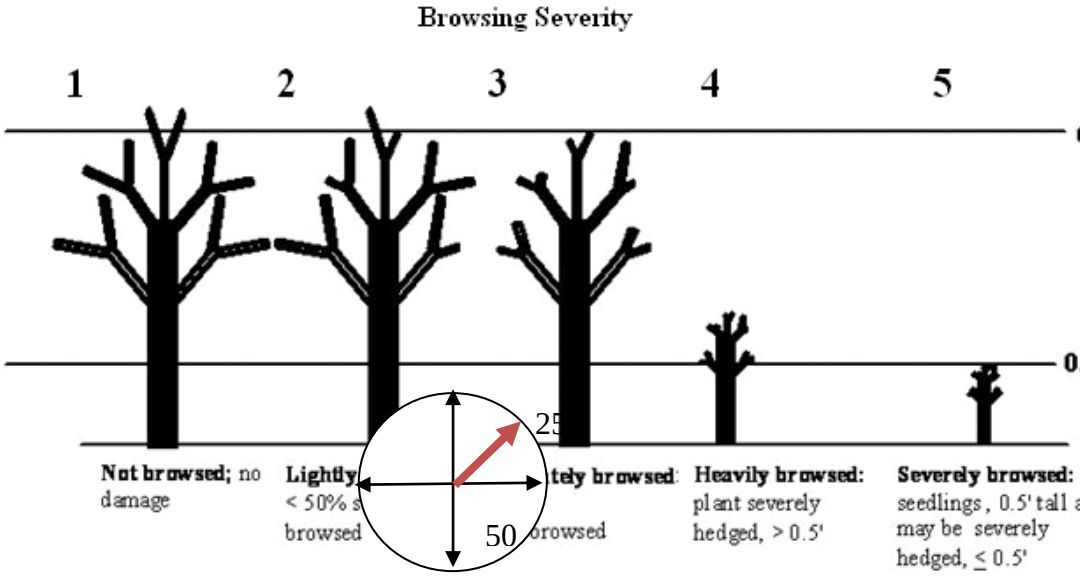
									Bolt No.
60-64								2-100	8
56-60								3-100	
52-56							3-100	4- 90	7
48-52							3-100	4- 90	
44-48						5-100	4- 90	4- 90	6
40-44						5- 90	5- 90	5- 80	
36-40					7-100	6- 90	6- 80	6- 80	5
32-36					7- 90	7- 80	7- 80	6- 70	
28-32				9-100	8- 90	7- 80	7- 70	6- 70	4
24-28				10- 90	9- 80	8- 70	7- 60	7- 60	
20-24			13-100	11- 80	9- 70	9- 60	8- 60	8- 50	3
16-20			14- 90	11- 70	10- 60	9- 50	9- 50	8- 40	
12-16		21-100	15- 70	12- 60	11- 50	9- 40	9- 40	8- 40	2
8-12		23- 80	17- 60	14- 50	12- 40	11- 30	10- 30	9- 30	
4- 8	39-100	26- 60	19- 40	16- 30	13- 30	12- 20	11- 20	10- 20	1
0- 4	61- 60	30- 50	22- 20	17- 20	14- 10	12- 10	11- 10	10- 10	
	8'6"	12'6"	21'0"	29'0"	37'6"	45'6"	54'0"	62'0"	Min. Merch. Ht. 1/
	1	2	3	4	5	6	7	8	

Merchantable Height - 8' Bolts

1/ Merchantable height must exceed this figure to qualify (exception 1 bolt height)

FIGURE A

.



Appendix H : Rare, Threatened and Endangered Species Information

From PA Natural Heritage Program

Plant Status Codes and Definitions

E **Pennsylvania Endangered** - Plant species which are in danger of extinction throughout most of their natural range within this Commonwealth, if critical habitat is not maintained or if the species is greatly exploited by man. This classification shall also include any populations of plant species that have been classified as Pennsylvania Extirpated, but which subsequently are found to exist in this Commonwealth.

T **Pennsylvania Threatened** - Plant species which may become endangered throughout most or all of their natural range within this Commonwealth, if critical habitat is not maintained to prevent their future decline, or if the species is greatly exploited by man.

R **Pennsylvania Rare** - Plant species which are uncommon within this Commonwealth. All species of the native wild plants classified as Disjunct, Endemic, Limit of Range and Restricted are included within the Pennsylvania Rare classification.

Disjunct	Significantly separated from their main area of distribution
Endemic	Confined to a specialized habitat.
Limit of Range	At or near the periphery of their natural distribution
Restricted	Found in specialized habitats or habitats infrequent in Pennsylvania.

X **Pennsylvania Extirpated** - Plant species believed by the Department to be extinct within this Commonwealth. These plants may or may not be in existence outside the Commonwealth.

V **Pennsylvania Vulnerable** - Plant species which are in danger of population decline within Commonwealth because of their beauty, economic value, use as a cultivar, or other factors which indicate that persons may seek to remove these species from their native habitats.

U **Tentatively Undetermined** - A classification of plant species which are believed to be in danger of population decline, but which cannot presently be included within another classification due to taxanomic uncertainties, limited evidence within historical records, or insufficient data.

No current legal status exists, but is under review for future listing.

Native Plant Species Legislative Authority: Title 17 Chapter 45, Conservation of Native Wild Plants, January 1, 1988; Pennsylvania Department of Conservation and Natural Resources.

Wild Birds and Mammals Status Codes and Definitions

E **Pennsylvania Endangered** - Species in imminent danger of extinction or extirpation throughout their range in Pennsylvania if the deleterious factors affecting them continue to operate. These are: 1) species whose numbers have already been reduced to a critically low level or whose habitat has been so drastically reduced or degraded that immediate action is required to prevent their extirpation from the Commonwealth; or 2) species whose extreme rarity or peripherality places them in potential danger of precipitous declines or sudden extirpation throughout their range in Pennsylvania; or 3) species that have been classified as "Pennsylvania Extirpated", but which are subsequently found to exist in Pennsylvania as long as the above conditions 1 or 2 are met; or 4) species determined to be "Endangered" pursuant to the Endangered Species Act of 1973, Public Law 93 205 (87 Stat. 884), as amended.

T **Pennsylvania Threatened** - Species that may become endangered within the foreseeable future throughout their range in Pennsylvania unless the casual factors affecting the organism are abated. These are: 1) species whose populations within the Commonwealth are decreasing or have been heavily depleted by adverse factors and while not actually endangered, are still in critical condition; 2) species whose populations may be relatively abundant in the Commonwealth but are under severe threat from serious adverse factors that have been identified and documented; or 3) species whose populations are rare or peripheral and in possible danger of severe decline throughout their range in Pennsylvania; or 4) species determined to be "Threatened" pursuant to the Endangered Species Act of 1973, Public Law 93205 (87 Stat. 884), as amended, that are not listed as "Pennsylvania Endangered".

Wild Birds and Mammals Legislative Authority: Title 34 Chapter 133, Game and Wildlife Code, revised Dec. 1, 1990, Pennsylvania Game Commission.

State Rank Codes and Definitions

1 **Critically Imperiled** - Critically imperiled in the nation or state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

2 **Imperiled** - Imperiled in the nation or state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

3 **Vulnerable** - Vulnerable in the nation or state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

4 **Apparently Secure** - Uncommon but not rare; some cause for long-term concern due to declines or other factors.

5 **Secure** - Common, widespread, and abundant in the nation or state.

#S# **Range Rank** - A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.

NR **Not Ranked** - State conservation status not yet assessed.

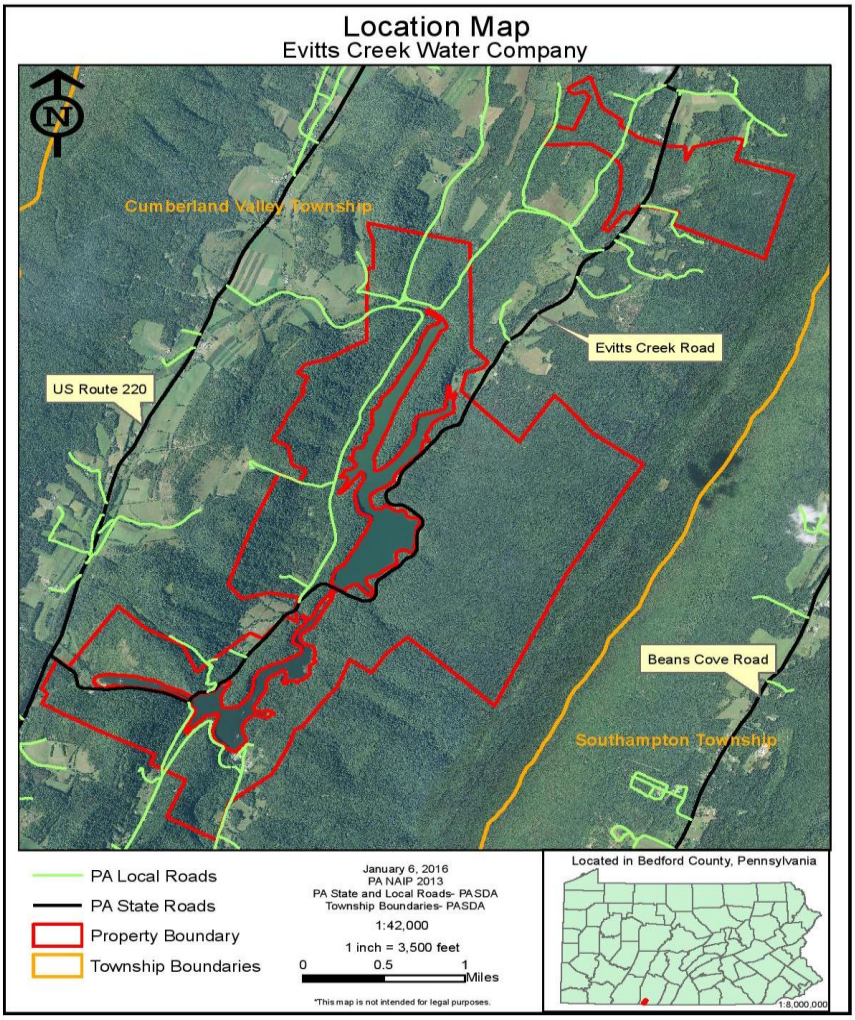
Unknown - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

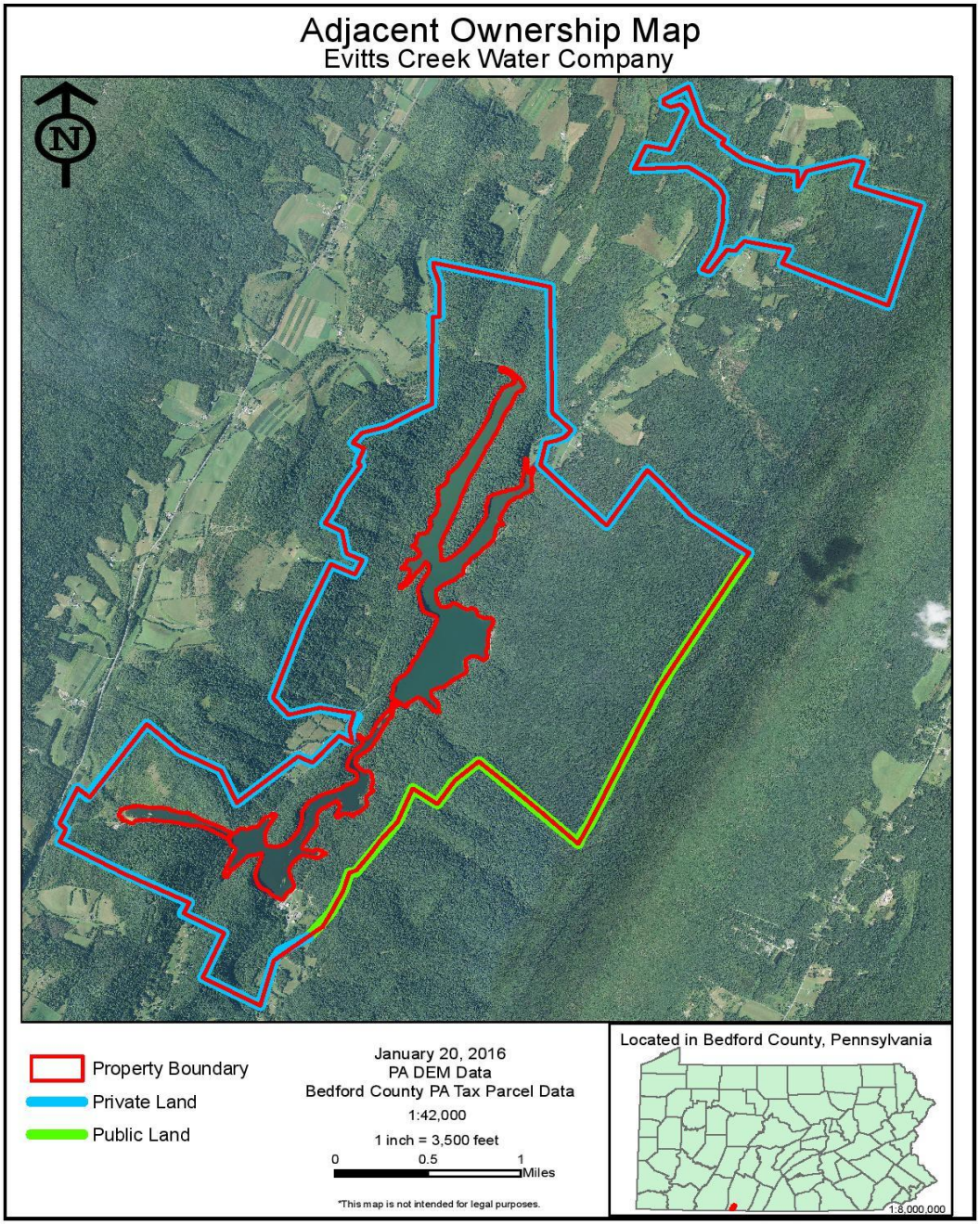
U	
X	**Presumed Extinct** - Species or community is believed to be extirpated from the nation or state. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
H	**Possibly Extinct** (Historical) - Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
NA	**Not Applicable** - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

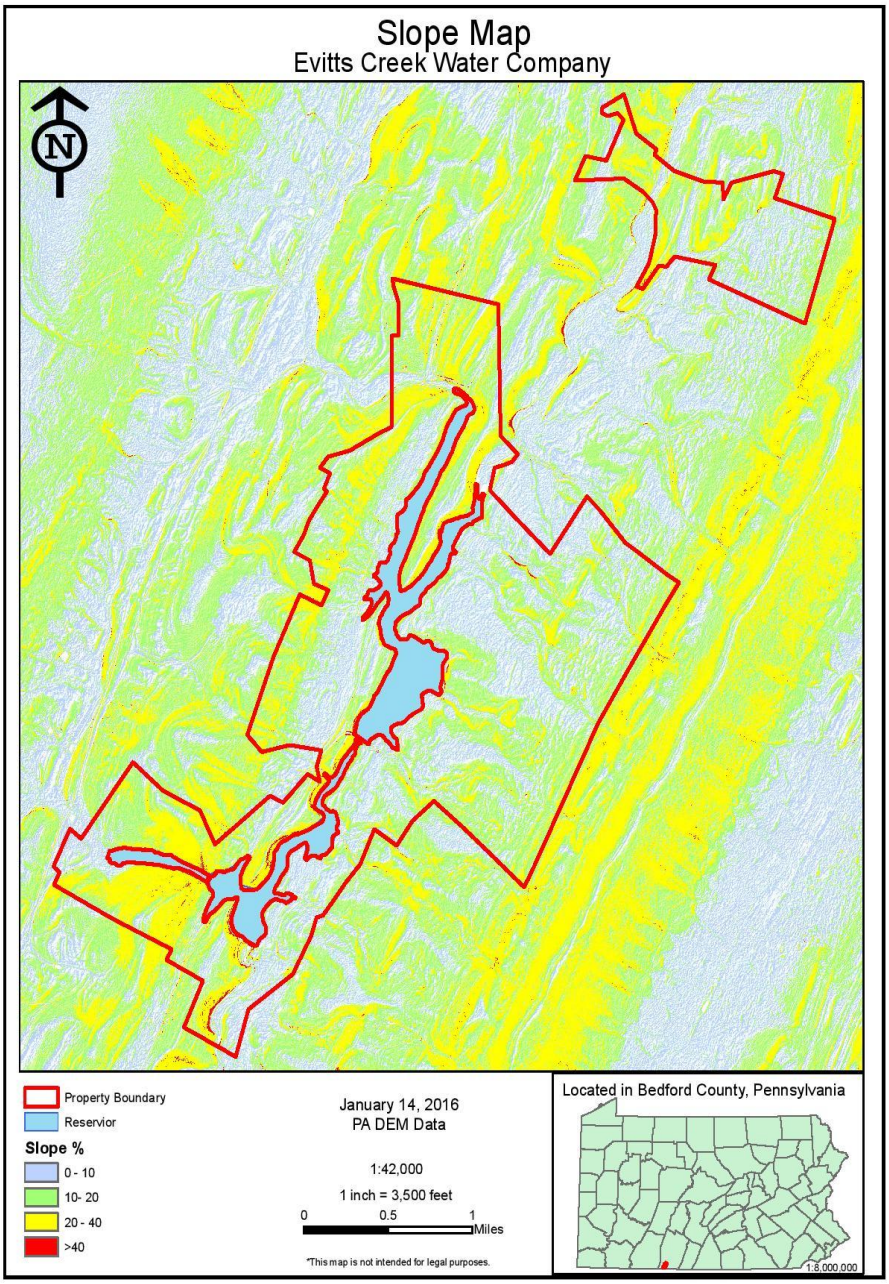
NatureServe Ranks

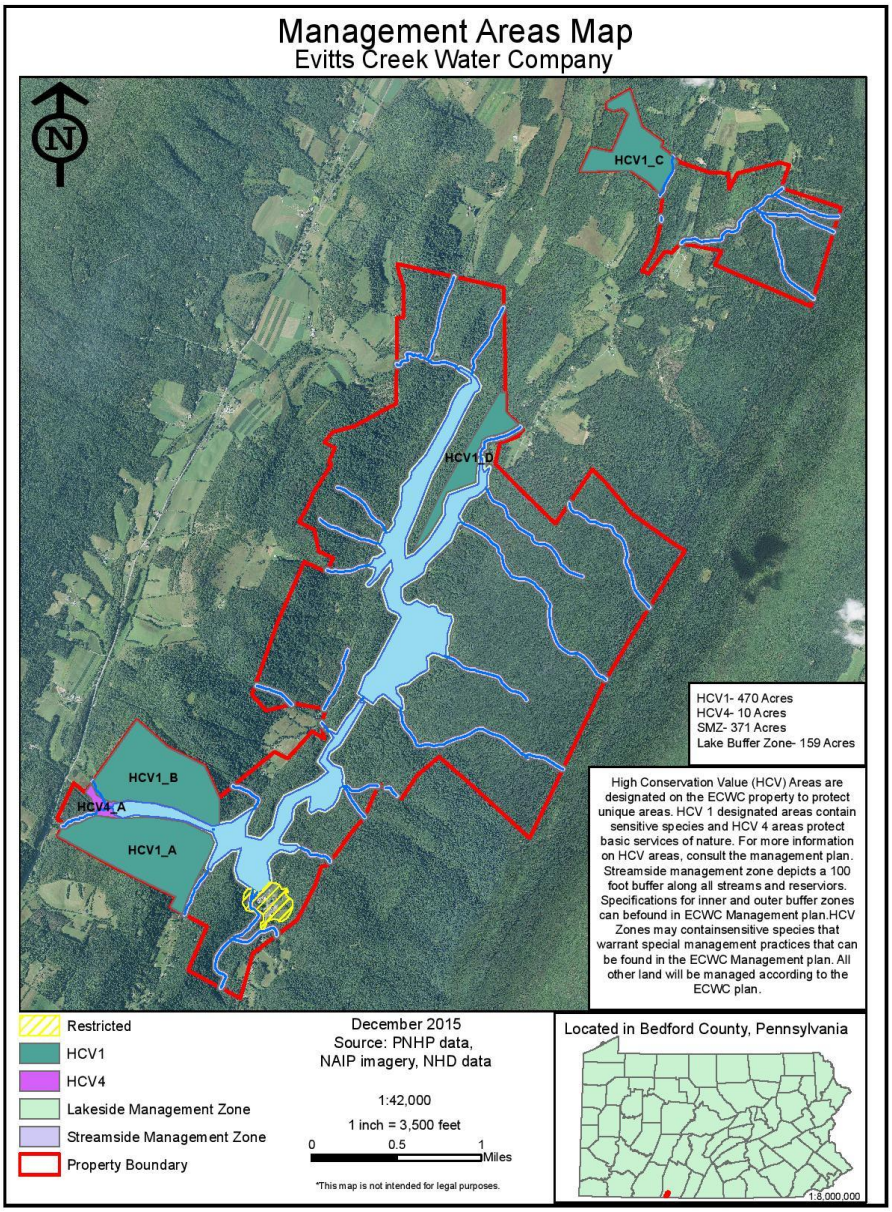
Appendix I: Maps

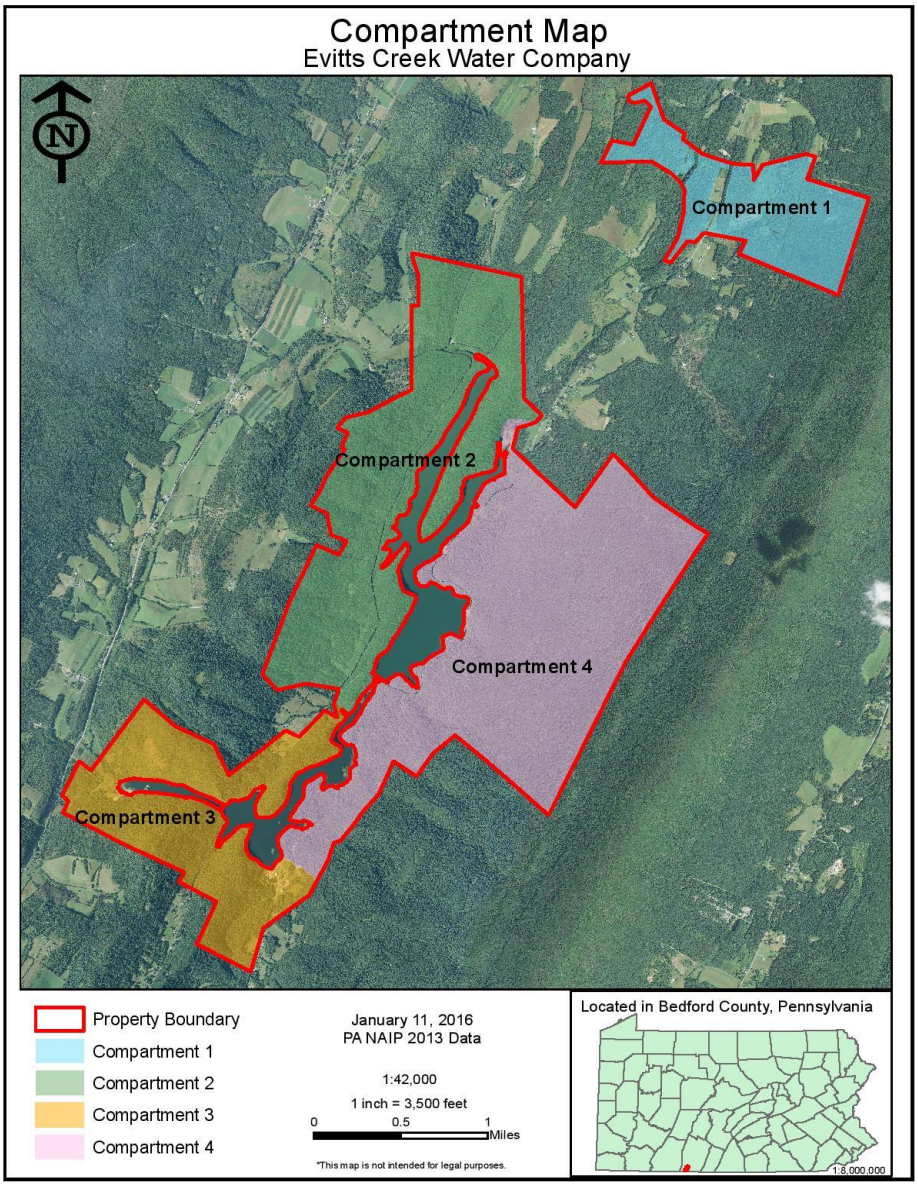
Map 1: Location Map. Evitts Creek Water Company Lands, Cumberland Valley Township, PA

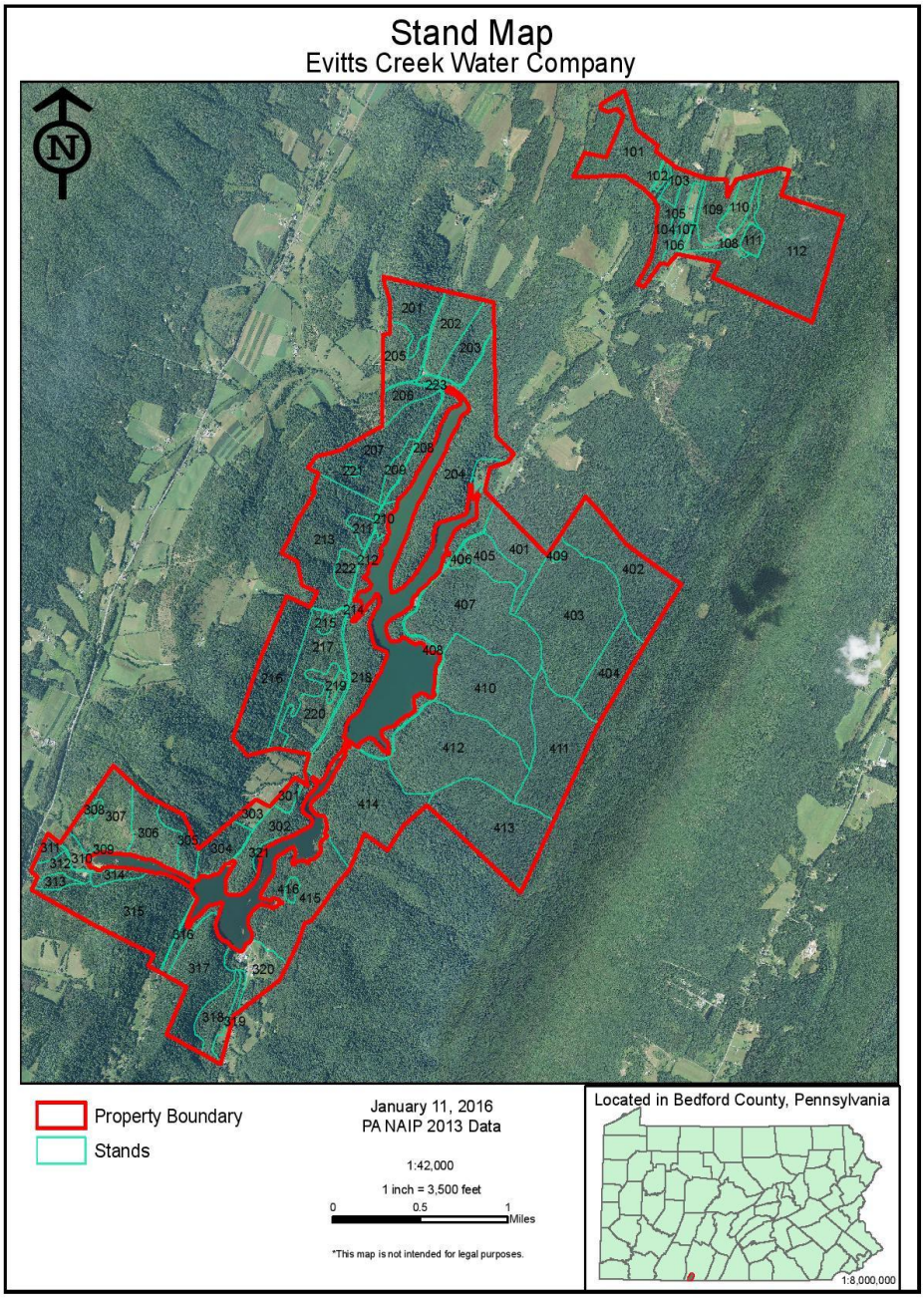


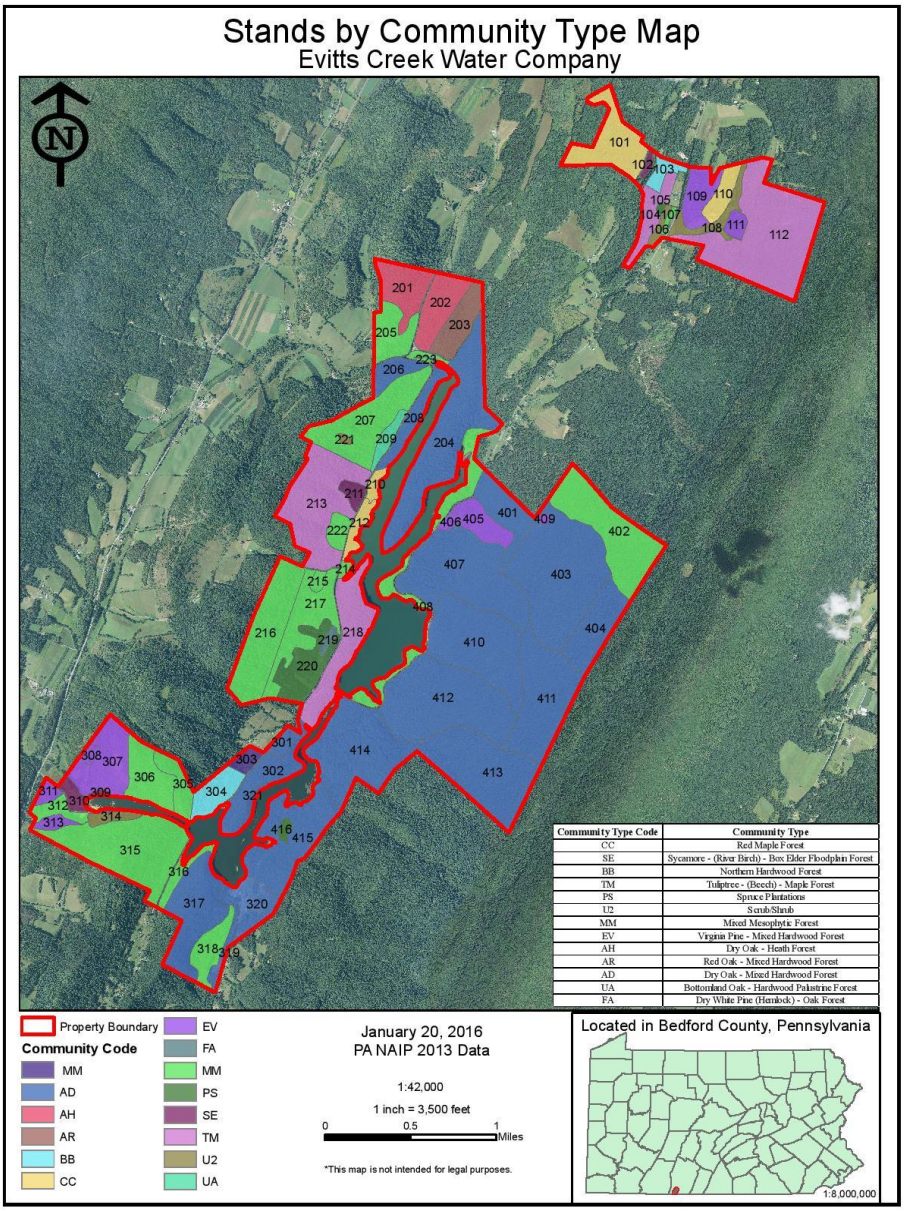

Adjacent Ownership Map
Evitts Creek Water Company
N
Property Boundary
Private Land
Public Land
January 20, 2016
PA DEM Data
Bedford County PA Tax Parcel Data
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000

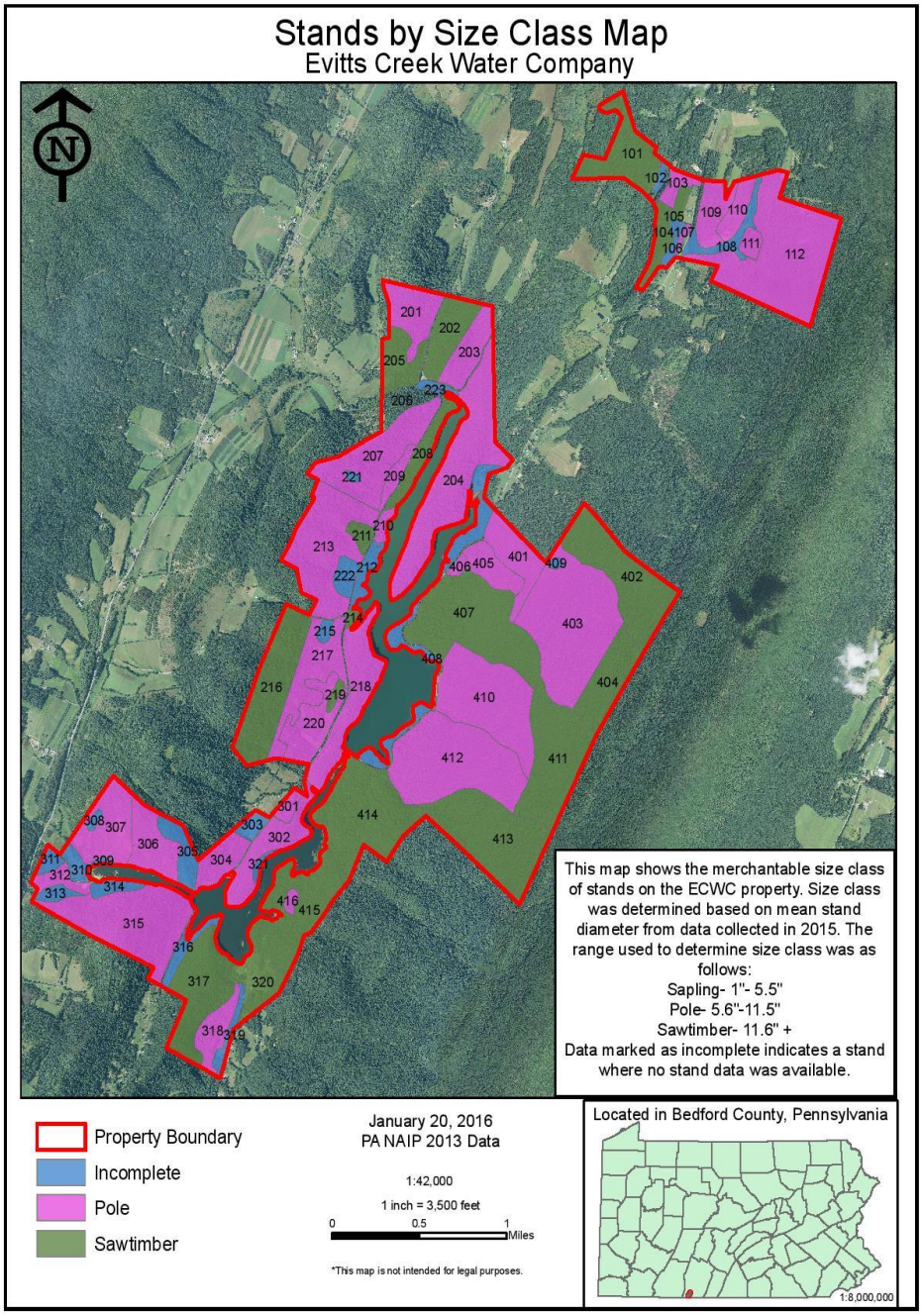

Slope Map
Evitts Creek Water Company
N
Property Boundary
Reservior
Slope %
0 - 10
10- 20
20 - 40
>40
January 14, 2016
PA DEM Data
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000

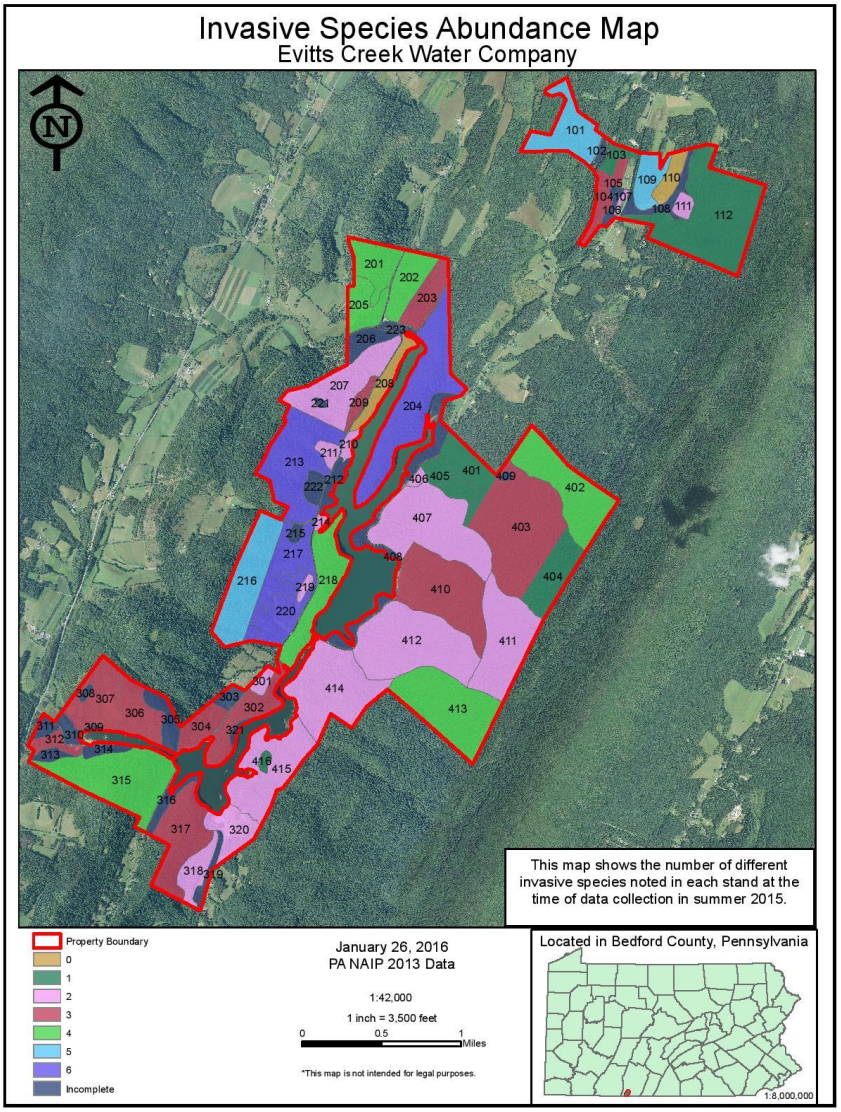

Management Areas Map
Evitts Creek Water Company
N
HCV1_C
HCV1_D
HCV1_B
HCV4_A
HCV1_A
HCV1- 470 Acres
HCV4- 10 Acres
SMZ- 371 Acres
Lake Buffer Zone- 159 Acres
High Conservation Value (HCV) Areas are designated on the ECWC property to protect unique areas. HCV 1 designated areas contain sensitive species and HCV 4 areas protect basic services of nature. For more information on HCV areas, consult the management plan. Streamside management zone depicts a 100 foot buffer along all streams and reserviors. Specifications for inner and outer buffer zones can befound in ECWC Management plan.HCV Zones may containsensitive species that warrant special management practices that can be found in the ECWC Management plan. All other land will be managed according to the ECWC plan.
Restricted
HCV1
HCV4
Lakeside Management Zone
Streamside Management Zone
Property Boundary
December 2015
Source: PNHP data,
NAIP imagery, NHD data
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000


Compartment Map
Evitts Creek Water Company
N
Compartment 1
Compartment 2
Compartment 3
Compartment 4
Property Boundary
Compartment 1
Compartment 2
Compartment 3
Compartment 4
January 11, 2016
PA NAIP 2013 Data
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000


Stand Map
Evitts Creek Water Company
N
Property Boundary
Stands
January 11, 2016
PA NAIP 2013 Data
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000

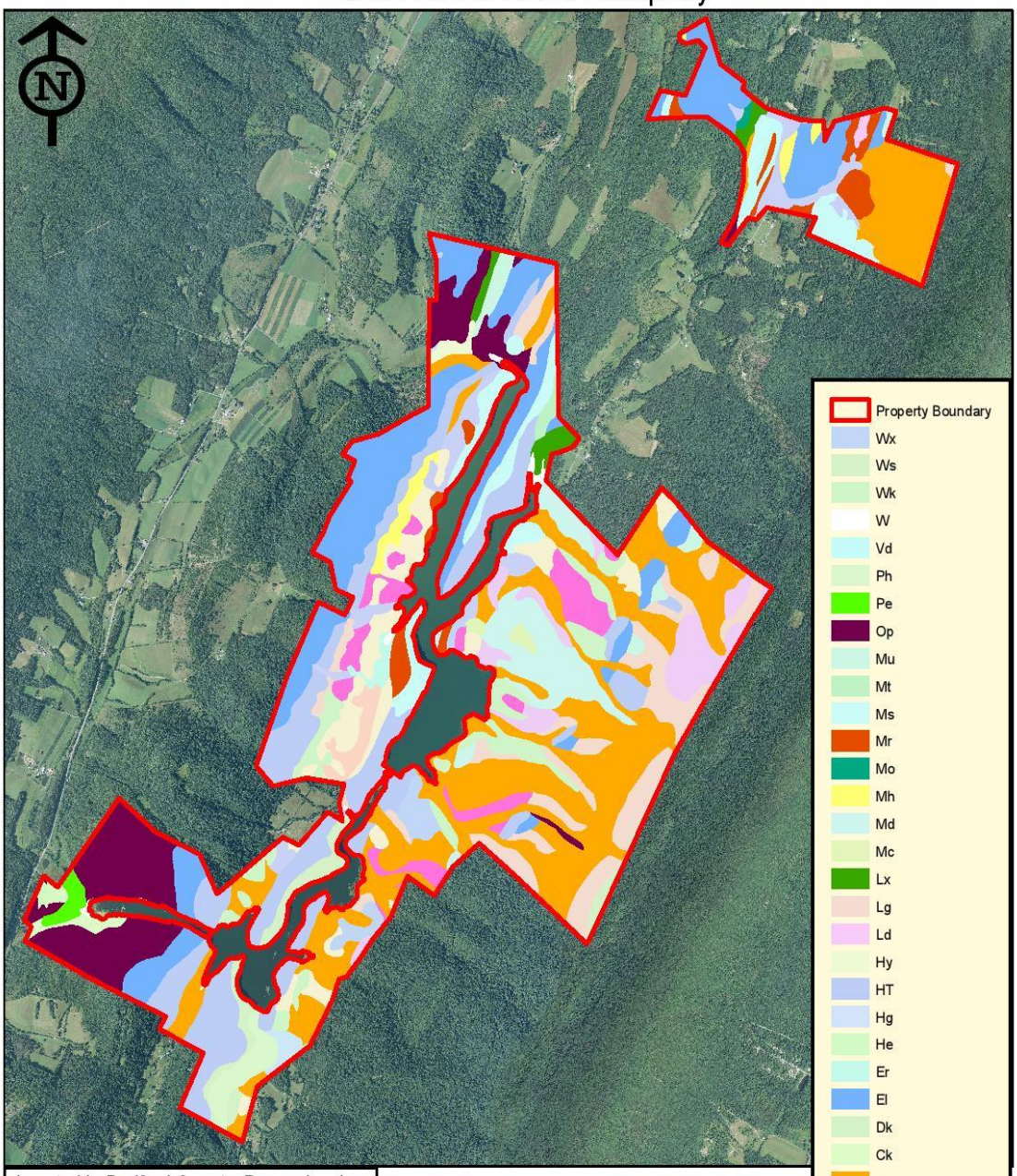

Stands by Community Type Map
Evitts Creek Water Company
N
Community Type Code | Community Type
CC | Red Maple Forest
SE | Sycamore - (River Birch) - Box Elder Floodplain Forest
BB | Northern Hardwood Forest
TM | Tulptree - (Beech) - Maple Forest
PS | Spruce Plantations
U2 | Scrub/Shrub
MM | Mixed Mesophytic Forest
EV | Virginia Pine - Mixed Hardwood Forest
AH | Dry Oak - Heath Forest
AR | Red Oak - Mixed Hardwood Forest
AD | Dry Oak - Mixed Hardwood Forest
UA | Bottomland Oak - Hardwood Palustrine Forest
FA | Dry White Pine (Hemlock) - Oak Forest
Property Boundary
Community Code
MM
AD
AH
AR
BB
CC
EV
FA
MM
PS
SE
TM
U2
UA
January 20, 2016
PA NAIP 2013 Data
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000


Stands by Size Class Map
Evitts Creek Water Company
N
This map shows the merchantable size class of stands on the ECWC property. Size class was determined based on mean stand diameter from data collected in 2015. The range used to determine size class was as follows:
Sapling- 1"- 5.5"
Pole- 5.6"-11.5"
Sawtimber- 11.6" +
Data marked as incomplete indicates a stand where no stand data was available.
Property Boundary
Incomplete
Pole
Sawtimber
January 20, 2016
PA NAIP 2013 Data
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000

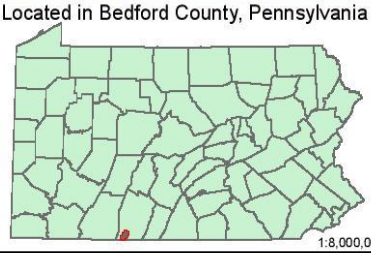

Invasive Species Abundance Map
Evitts Creek Water Company
N
This map shows the number of different invasive species noted in each stand at the time of data collection in summer 2015.
Property Boundary
0
1
2
3
4
5
6
Incomplete
January 26, 2016
PA NAIP 2013 Data
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000

Soils Map

Evitts Creek Water Company



Located in Bedford County, Pennsylvania



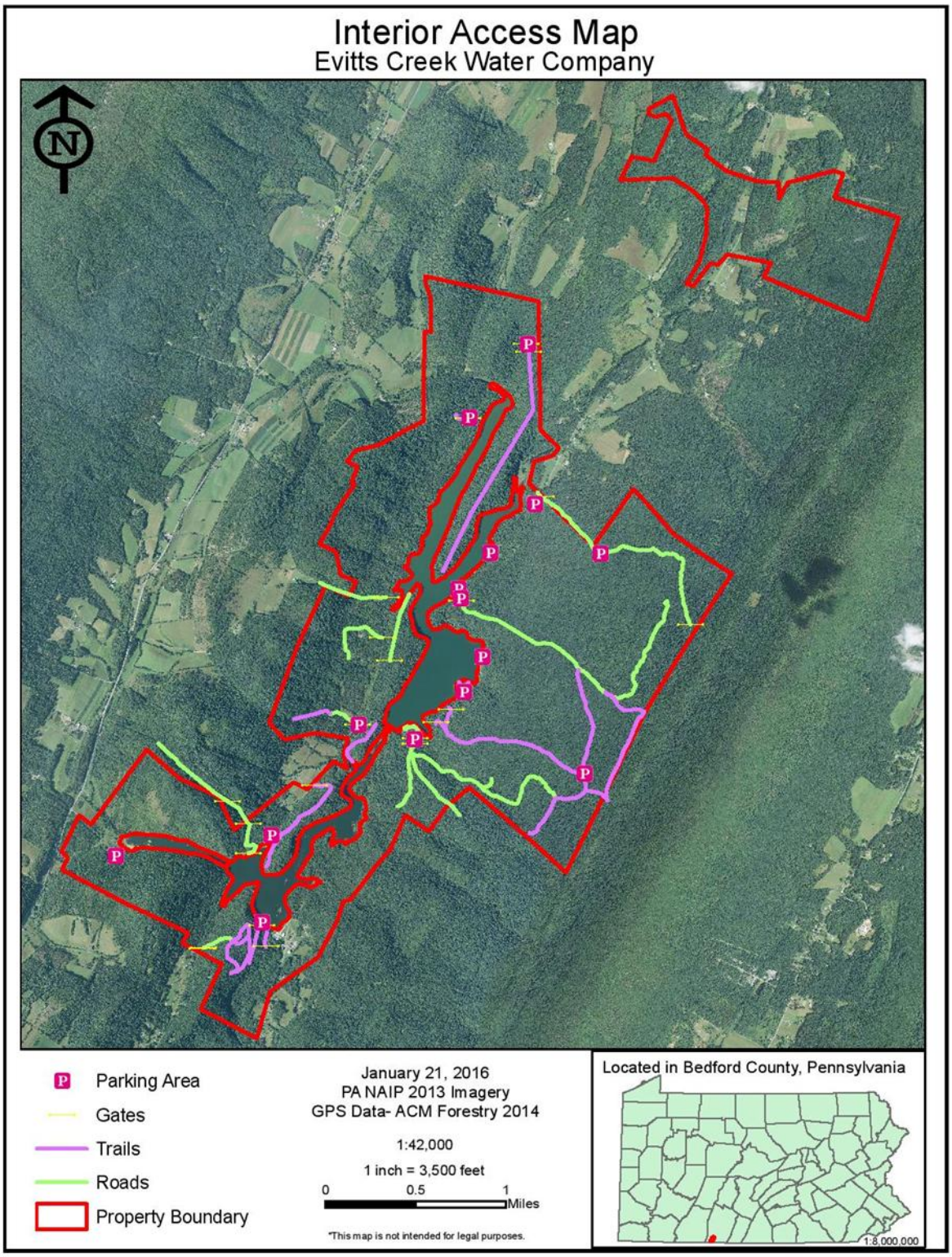
January 11, 2016
PA NAIP 2013
NRCS Web Soil Survey

1:42,000

1 inch = 3,500 feet

0 0.5 1 Miles

*This map is not intended for legal purposes.


Interior Access Map
Evitts Creek Water Company
N
Parking Area
Gates
Trails
Roads
Property Boundary
January 21, 2016
PA NAIP 2013 Imagery
GPS Data- ACM Forestry 2014
1:42,000
1 inch = 3,500 feet
0
0.5
1
Miles
*This map is not intended for legal purposes.
Located in Bedford County, Pennsylvania
1:8,000,000

Appendix J: Stand Tables

Stand Summary Table (All Compartments)

Page 1

Stand #	Stand Size (Acres)	Forest Community Type	Development Stage	Stocking	% Des. Trees	% Undes. Trees	Site Index	Sawtimber Volume (Bd.Ft/Ac.)	Pulpwood Volume (Tons)	# Invasive Species
101	70.8	Red Maple Forest	Sawtimber	Very Good	68%	32%	73	9,930	12	5
102	4	Sycamore - (River Birch) -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
103	13.7	Northern Hardwood	Pole	Very Good	96%	4%	N/A	12,017	23	1
104	30.5	Tuliptree - (Beech) -	Sawtimber	Very Good	97%	3%	N/A	18,201	8	3
105	1.8	Spruce Plantations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
106	6.8	Scrub/Shrub	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
107	3.3	Mixed Mesophytic	Pole	Very Good	88%	12%	N/A	15,453	24	2
108	22.8	Scrub/Shrub	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
109	33.8	Virginia Pine - Mixed	Pole	Very Good	74%	26%	N/A	4,361	30	5
110	22	Red Maple Forest	Pole	Very Good	75%	25%	N/A	3,928	25	0
111	10.3	Virginia Pine - Mixed	Pole	Fair	86%	14%	73	None	35	2
112	199.4	Tuliptree - (Beech) -	Pole	Good	78%	22%	N/A	9,820	24	1

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Stand Summary Table (All Compartments)

Page 2

Stand #	Stand Size (Acres)	Forest Community Type	Development Stage	Stocking	% Des. Trees	% Undes. Trees	Site Index	Sawtimber Volume (Bd.Ft/Ac.)	Pulpwood Volume (Tons)	# Invasive Species
201	48.3	Dry Oak - Heath Forest	Pole	Very Good	81%	19%	65	9,724	17	4
202	47.2	Dry Oak - Heath Forest	Sawtimber	Very Good	88%	12%	N/A	14,094	9	4
203	39.5	Red Oak - Mixed	Pole	Very Good	83%	17%	74	10,430	8	3
204	164.9	Dry Oak - Mixed	Pole	Very Good	84%	16%	111	12,737	13	6
205	39.3	Mixed Mesophytic	Sawtimber	Poor	77%	23%	56	3,521	4	4
206	21.7	Dry Oak - Mixed	N/A	Very Good	93%	7%	N/A	N/A	N/A	N/A
207	97.6	Mixed Mesophytic	Pole	Very Good	82%	18%	N/A	11,462	13	2
208	33.1	Dry Oak - Mixed	Sawtimber	Very Good	93%	7%	N/A	14,919	12	0
209	13.5	Bottomland Oak -	Pole	Fair	44%	56%	N/A	None	9	3
210	8.7	Red Maple Forest	Pole	Poor	73%	27%	N/A	2,402	14	2
211	10.8	Sycamore - (River Birch) -	Sawtimber	Very Good	47%	53%	N/A	6,476	9	2
212	17.3	Red Maple Forest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Stand Summary Table (All Compartments)

Page 3

Stand #	Stand Size (Acres)	Forest Community Type	Development Stage	Stocking	% Des. Trees	% Undes. Trees	Site Index	Sawtimber Volume (Bd.Ft/Ac.)	Pulpwood Volume (Tons)	# Invasive Species
213	125.7	Tuliptree - (Beech) - Maple	Pole	Very Good	84%	16%	87	10,457	20	6
214	4.1	Mixed Mesophytic	Sawtimber	Good	92%	8%	N/A	11,192	9	2
215	5.5	Mixed Mesophytic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
216	104.2	Mixed Mesophytic	Sawtimber	Very Good	83%	17%	N/A	18,444	12	5
217	68.2	Mixed Mesophytic	Pole	Very Good	67%	33%	112	5,937	33	6
218	84	Tuliptree - (Beech) - Maple	Pole	Very Good	79%	21%	N/A	16,650	14	4
219	5.3	Dry White Pine (Hemlock) - Oak	Sawtimber	Good	92%	8%	N/A	10,262	11	2
220	53.5	Spruce Plantations	Pole	Very Good	73%	27%	50	1,622	30	6
221	2.3	Scrub/Shrub	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
222	14.3	Mixed Mesophytic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
223	5.9	Mixed Mesophytic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
301	9.2	Dry Oak - Mixed Hardwood	Pole	Very Good	25%	75%	N/A	5,480	49	2

Stand Summary Table (All Compartments)

Page 4

Stand #	Stand Size (Acres)	Forest Community Type	Development Stage	Stocking	% Des. Trees	% Undes. Trees	Site Index	Sawtimber Volume (Bd.Ft/Ac.)	Pulpwood Volume (Tons)	# Invasive Species
302	57.4	Dry Oak - Mixed	Pole	Very Good	68%	32%	60	17,032	15	3
303	11.7	Mixed Mesophytic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
304	39.7	Northern Hardwood	Pole	Very Good	68%	32%	N/A	6,452	33	3
305	26.3	Mixed Mesophytic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
306	50.6	Mixed Mesophytic	Pole	Very Good	54%	46%	N/A	4,884	26	3
307	66.7	Virginia Pine - Mixed	Pole	Very Good	32%	68%	50	1,332	11	3
308	3.3	Virginia Pine - Mixed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
309	2.5	Sycamore - (River Birch) -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
310	13.9	Sycamore - (River Birch) -	N/A	N/A	N/A	N/A	110	N/A	N/A	N/A
311	7.5	Virginia Pine - Mixed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
312	16.5	Mixed Mesophytic	Pole	Fair	55%	45%	N/A	2,095	19	3
313	9.3	Virginia Pine - Mixed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Stand Summary Table (All Compartments)

Page 5

Stand #	Stand Size (Acres)	Forest Community Type	Development Stage	Stocking	% Des. Trees	% Undes. Trees	Site Index	Sawtimber Volume (Bd.Ft/Ac.)	Pulpwood Volume (Tons)	# Invasive Species
314	10.7	Scrub/Shrub	N/A	Very Good	88%	12%	85	N/A	N/A	N/A
315	142.8	Mixed Mesophytic	Pole	Very Good	64%	36%	70	8,834	22	4
316	16.2	Mixed Mesophytic	N/A	N/A	N/A	N/A	90	N/A	N/A	N/A
317	91.2	Dry Oak - Mixed	Sawtimber	Very Good	64%	36%	75	10,578	15	3
318	31.8	Mixed Mesophytic	Pole	Good	72%	28%	N/A	4,261	18	2
319	13	Dry Oak - Mixed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
320	43.7	Dry Oak - Mixed	Sawtimber	Very Good	91%	9%	N/A	12,764	31	2
321	5.3	Dry Oak - Mixed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
401	49.2	Dry Oak - Mixed	Pole	Very Good	82%	18%	N/A	14,353	14	1
402	118.8	Mixed Mesophytic	Sawtimber	Very Good	82%	18%	85	14,107	11	4
403	196.6	Dry Oak - Mixed	Pole	Very Good	76%	24%	85	9,121	20	3
404	61.3	Dry Oak - Mixed	Sawtimber	Very Good	92%	8%	73	9,891	12	1

Stand Summary Table (All Compartments)

Page 6

Stand #	Stand Size (Acres)	Forest Community Type	Development Stage	Stocking	% Des. Trees	% Undes. Trees	Site Index	Sawtimber Volume (Bd.Ft/Ac.)	Pulpwood Volume (Tons)	# Invasive Species
405	31.3	Virginia Pine - Mixed	Pole	Very Good	80%	20%	N/A	8,552	29	1
406	5	Virginia Pine - Mixed	Pole	Fair	82%	18%	88	1,533	14	2
407	160.6	Dry Oak - Mixed	Sawtimber	Very Good	82%	18%	88	12,736	14	2
408	64.3	Mixed Mesophytic	N/A	N/A	N/A	N/A	73	N/A	N/A	N/A
409	2.1	Virginia Pine - Mixed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
410	138.7	Dry Oak - Mixed	Pole	Very Good	82%	18%	75	10,417	16	3
411	121.8	Dry Oak - Mixed	Sawtimber	Very Good	85%	15%	N/A	13,236	9	2
412	174	Dry Oak - Mixed	Pole	Very Good	74%	26%	78	10,643	13	2
413	139	Dry Oak - Mixed	Sawtimber	Very Good	89%	11%	78	11,635	12	4
414	141.3	Dry Oak - Mixed	Sawtimber	Very Good	86%	14%	77	9,316	9	2
415	113.4	Dry Oak - Mixed	Sawtimber	Very Good	83%	17%	80	12,618	17	2
416	5	Spruce Plantations	Pole	Very Good	75%	25%	N/A	9,290	23	1

Additions to Forest Management Plan
Evitts Creek Water Company

May 10, 2017

Prescriptions by Michael T. Wolf, Appalachian Forest Consultants, 3951 Lincoln Highway, Stoystown, PA 15563

Priority Management Units:

216, 402, 415, 403, 410, 411, 414

Time Frame of Upcoming Projects Related to Priority Management Units:

2018-2024

Silvicultural Prescriptions for Each Priority Management Unit:

216:

Description 216:

(From Silvah Report) Stand 216 is a 107.4 acre mixed upland forest. This Allegheny hardwood stand is dominated by Yellow-poplar, Sugar Maple, Red Maple, Non Comm. Species, Red Oak, Hickory, Black Birch, Misc Comm. Species and Black Oak which together comprise 89 percent of the basal area. This is a large sawtimber stand, with average medial diameter of 18.1 inches. Total growing stock amounts to 108 sq. ft. of basal area per acre. Net total volume in all trees, to a 4-inch top, is 26.6 cords per acre; if divided into pulpwood and sawtimber, the net merchantable volume is 14.5 cords of pulp wood and 7384.0 board feet of sawtimber (Scribner log rule). Trees of acceptable quality for future growing stock provide a fully stocked stand by themselves. Non-commercial saplings and poles represent 6 sq. ft. of basal area and may need to be treated prior to final harvest cutting. Competitive regeneration of all types is insufficient; harvest cuttings at this time will not likely result in a satisfactory new stand. Undesirable understory plants will interfere with development of regeneration. Undesirable plants in this stand include dense low woody cover, dense fern cover and dense grass cover.

Silvicultural Prescription 216:

(From Silvah Report) SILVAH has recommended a Herbicide, fence. A Shelterwood sequence, which would normally be recommended here, may not work because relative density is already low and competitive regeneration is lacking; further reductions in density probably won't help. A combination of high deer density and low seed production will probably make it difficult to get adequate competitive regeneration established.

Protect the stand from deer browsing with a fence. Overstory density is low enough and seed supply sufficient for competitive regeneration to become established within 3 - 10 years. Fencing is recommended to protect seedlings from deer.

Warnings

- The merchantable medial diameter (19.0) is just above the 18 inch decision point in Chart A; the stand may not be mature.

Additional treatments

- Treat the undesirable understory plants with an application of herbicide during the appropriate part of the growing season. Herbicide is an effective, safe and economical technique for removing vegetation that interferes with establishment and growth of oak regeneration. There are five different application techniques for using herbicides to control interfering vegetation. Each is matched with a specific set of conditions where it will provide effective control. With all, be sure to follow all instructions on the herbicide label, wear appropriate safety clothing and equipment, and follow applicable laws with regard to herbicide applicator licensing. Please refer to the silvicultural guide for details about implementing this prescription.
- Current deer levels will likely prevent regeneration developing into a new stand. Fencing is recommended to protect seedlings from deer. A fence can be constructed either before or after treatment. If fencing is constructed after treatment, fencing should be done as soon as possible.
- This stand has 73.7 percent of the understory plots stocked with grapevines. Grapevines that grow into the crowns of trees can cause extensive damage by interfering with growth and seed production, and by breaking out the tops of the trees. Damage can be especially severe in young, even-aged stands. In stands with more than 30 percent of the understory plots stocked with grapevines, it is usually advisable to treat the vines. This can be done by cutting the vines close to the ground. Canopy shade will usually prevent the sprouts from surviving. Where canopy density is low, or where harvest cutting will occur within a few years, cut the vines and treat the cut stumps with an herbicide.

These prescriptions generally produce the desired results, requires an investment, and usually will yield an economic return at the same time. If such investment meets your organization's economic criteria, we recommend it. If not, we recommend no treatment. In the case of regeneration prescriptions, stands generally will not reproduce without the recommended treatment.

Forester’s Recommendation 216:

- Summer 2018 (or earlier depending on funding): Herbicide all invasive and competing plants under 12’ height
- 2018: Construct deer exclosure fence
- 2019: First Stage Regeneration Harvest (shelterwood system) creating slightly more than 50% light to the forest floor, approximately 50% volume and value removal
- 2023 or 2024: Once desirable regeneration is sufficient, Second State Regeneration Harvest (overstory removal) with a residual basal area target of 10-20 square feet per acre – leaving wildlife-friendly species with optimum size and condition

402:

Description 402:

(From Silvah Report) Stand 402 is a 119 acre Oak-hardwoods forest. This transition stand is dominated by Yellow-poplar, Sugar Maple, Red Maple, Chestnut Oak, Hickory, Red Oak, Misc Comm. Species, White Ash, Non Comm. Species and White Oak which together comprise 89 percent of the basal area. This is a medium sawtimber stand, with average medial diameter of 16.3 inches. Thinning to provide more growing space for the better stems is desirable if it will at least pay the cost of harvesting. Total growing stock amounts to 128 sq. ft. of basal area per acre. Net total volume in all trees, to a 4-inch top, is 31.8 cords per acre; if divided into pulpwood and sawtimber, the net merchantable volume is 20.1 cords of pulp wood and 6846.2 board feet of sawtimber (Scribner log rule). Trees of acceptable quality for future growing stock provide a fully stocked stand by themselves. Competitive regeneration of all types is insufficient; harvest cuttings at this time will not likely result in a satisfactory new stand. Undesirable understory plants may interfere with development of regeneration. Undesirable plants in this stand include dense low woody cover, dense fern cover and dense grass cover.

Silvicultural Prescription 402:

(From Silvah Report) SILVAH has recommended a Commercial Thinning. The stand is not yet mature (6 years to maturity) and the user does not wish to begin regeneration now. The stand will not be fully mature for another 6 years, but there is enough volume for a Commercial Thinning. The stand is getting close to maturity and a Regeneration Establishment treatment can be considered by changing the Start regeneration now option to "Yes- regardless of conditions". Stands at or above 80 percent relative density should generally receive a commercial thinning at this time. In calculating the cut and residual stands, attempt to reduce relative stand density to 60 percent, but do not remove more than 35 percent of the stocking in any one cut. The cutting should be concentrated in the smaller, merchantable-size trees. Some larger trees should also be cut to open the canopy, improve spacing, and remove unacceptable growing stock. No non-merchantable saplings need to be cut. This type of thinning should tend to narrow the range of diameters and mold the stand structure (of the merchantable-size trees) into a more pronounced bell-shaped distribution. A commercial thinning should increase stand diameter and reduce the time required for the larger and better quality trees to reach maturity. They should also increase the proportion of the most valuable species, and improve the average stand quality by removing the poorer stems. Include some high-wildlife value species (yellow poplar, sugar maple, chestnut oak, northern red oak, blackgum, white oak, American basswood, black oak, ironwood, black locust, white pine, cucumber-tree, Virginia pine and eastern hemlock) for retention in the thinning and TSI. Begin to identify islands of vertical structure for final overstory removal. A pulpwood only sale will yield 8 cords.

Warnings

- The merchantable medial diameter (17.0) is just below the 18 inch decision point in Chart A; the stand may be mature.
- The stand is close to maturity (6 years), consider changing the Start regeneration now option to "Yes- regardless of conditions" to see Regeneration Establishment treatments.

Additional treatment

- This stand has 43.8 percent of the understory plots stocked with grapevines. Grapevines that grow into the crowns of trees can cause extensive damage by interfering with growth and seed production, and by breaking out the tops of the trees. Damage can be especially severe in young, even-aged stands. In stands with more than 30 percent of the understory plots stocked with grapevines, it is usually advisable to treat the vines. This can be done by cutting the vines close to the ground. Canopy shade will usually prevent the sprouts from surviving. Where canopy density is low, or where harvest cutting will occur within a few years, cut the vines and treat the cut stumps with an herbicide.
-

These prescriptions generally produce the desired results, requires an investment, and usually will yield an economic return at the same time. If such investment meets your organization's economic criteria, we recommend it. If not, we recommend no treatment. In the case of regeneration prescriptions, stands generally will not reproduce without the recommended treatment.

Yields

- The yield only passes the breakpoint for a pulpwood-only sale.
- An combined sawlog/pulpwood sale will yield 1342 bd.ft. (Scribner) and 7 cords.
- A sawlog-only sale will yield 1342 bd.ft. (Scribner)
- A pulpwood-only sale will yield 8 cords.

About 2% of the basal area harvested (36 sq.ft.) will be UGS. This will result in removal of about 50% of the UGS in this stand, and 100% of the merchantable-size UGS.

Cut Guides

Reduce relative stand density to 60%. Within the size and quality constraints below, favor the best trees wherever possible. Try to preserve seed sources of scarce species if they are desired in the regeneration, and strive for uniform spacing among residuals whenever possible. Cut most (>90%) of the trees in the pole size class. Cut 1 out of 3 trees in the small sawtimber size class.

Cut a few (<10%) of the trees in the medium sawtimber size class.

Leave Guides

Leave 92 sq.ft. of basal area per acre using the basal area distribution below.

Basal area distribution

Size class	Basal Area (sq.ft./ac.)
Saplings	7
Pole	0
Small sawtimber	31
Medium sawtimber	41
Large sawtimber	13

Forester's Recommendation 402:

- 2018 (or earlier depending on funding): herbicide (spot treatment) on 25 acres of high priority invasive and competing plants under 12' height. This will greatly improve future conditions.
- 2018: ash salvage harvest combined with Timber Stand Improvement (TSI) thinning across whole management unit – focusing on removal of less competitive trees and trees that have already or soon will reach their economic maturity. The purpose of a TSI harvest is to allow the best trees to reside after harvest and continue to grow. Remove approximately 20% of volume and value with TSI harvest

415:

Description 415

(From Silvah Report) Stand 415 is a 118 acre Mixed Oak forest. This mixed oak stand is dominated by White Oak, Red Oak, Red Maple, Yellow-poplar, Sugar Maple, Black Birch, Hemlock, Pine, White Ash, White Pine and Black Cherry which together comprise 90 percent of the basal area. This is a medium sawtimber stand, with average medial diameter of 16.5 inches. Thinning to provide more growing space for the better stems is desirable if it will at least pay the cost of harvesting. Total growing stock amounts to 120 sq. ft. of basal area per acre. Net total volume in all trees, to a 4-inch top, is 29.0 cords per acre; if divided into pulpwood and sawtimber, the net merchantable volume is 17.6 cords of pulp wood and 6674.1 board feet of sawtimber (Scribner log rule). Trees of acceptable quality for future growing stock provide a fully stocked stand by themselves. Non-commercial saplings and poles represent 6 sq. ft. of basal area and may need to be treated prior to final harvest cutting. Competitive regeneration of all types is insufficient; harvest cuttings at this time will not likely result in a satisfactory new stand. Undesirable understory plants may interfere with development of regeneration. Undesirable plants in this stand include dense low woody cover, dense tall woody cover, dense fern cover and dense grass cover.

Silvicultural Prescription 415:

(From Silvah Report) SILVAH has recommended a Defer Cutting (low volume).
The stand is not yet mature (6 years to maturity) and the user does not wish to begin regeneration now. Saplings are not a major stand component (5.0 sq.ft.). There is not enough volume for a commercial sale. Defer any cutting and re-examine the stand in about 10 or 15 years.

Warnings

- The merchantable medial diameter (17.0) is just below the 18 inch decision point in Chart A; the stand may be mature.

Forester Recommendations 415:

- 2018 (or earlier depending on funding): herbicide (spot treatment) on 25 acres of high priority invasive and competing plants under 12' height. This will greatly improve future conditions.

- 2018: Crop Tree Release (CTR) thinning designed to give the best trees more room to expand their crowns and grow. Remove approximately 25% of the volume and value of the current stand with CTR - focusing on removal of trees in direct competition with better trees. Advised is a low-intensity CTR thinning – with a 1 or 2 side release format.

403:

Description 403:

(From Silvah Report) Stand 403 is a 199 acre Oak-hardwoods forest. This mixed oak stand is dominated by Chestnut Oak, Red Maple, Misc Comm. Species, Red Oak, Hickory, White Oak, Black Oak, Cucumber and White Pine which together comprise 89 percent of the basal area.

This is a medium sawtimber stand, with average medial diameter of 14.5 inches. Thinning to provide more growing space for the better stems is desirable if it will at least pay the cost of harvesting. Total growing stock amounts to 120 sq. ft. of basal area per acre. Net total volume in all trees, to a 4-inch top, is 27.4 cords per acre; if divided into pulpwood and sawtimber, the net merchantable volume is 19.5 cords of pulp wood and 4637.9 board feet of sawtimber (Scribner log rule). Trees of acceptable quality for future growing stock provide a fully stocked stand by themselves. Non-commercial saplings and poles represent 6 sq. ft. of basal area and may need to be treated prior to final harvest cutting. Competitive regeneration of all types is insufficient; harvest cuttings at this time will not likely result in a satisfactory new stand. Undesirable understory plants may interfere with development of regeneration. Undesirable plants in this stand include dense low woody cover, dense tall woody cover, dense fern cover and dense grass cover.

Silvicultural Prescription 403:

(From Silvah Report) SILVAH has recommended a Commercial Thinning.

The stand is not yet mature (16 years to maturity) and the user does not wish to begin regeneration now. The stand will not be fully mature for another 16 years, but there is enough volume for a Commercial Thinning. Stands at or above 80 percent relative density should generally receive a commercial thinning at this time. In calculating the cut and residual stands, attempt to reduce relative stand density to 60 percent, but do not remove more than 35 percent of the stocking in any one cut. The cutting should be concentrated in the smaller, merchantable-size trees. Some larger trees should also be cut to open the canopy, improve spacing, and remove unacceptable growing stock. No non-merchantable saplings need to be cut. This type of thinning should tend to narrow the range of diameters and mold the stand structure (of the merchantable-size trees) into a more pronounced bell-shaped distribution. A commercial thinning should increase stand diameter and reduce the time required for the larger and better quality trees to reach maturity. They should also increase the proportion of the most valuable species, and improve the average stand quality by removing the poorer stems. Include some high-wildlife value species (chestnut oak, blackgum, northern red oak, white oak, black oak, cucumber-tree, white pine, yellow poplar, sugar maple, sassafras, American beech, black locust, Virginia pine, aspen, serviceberry and witchhazel) for retention in the thinning and TSI. Begin to identify islands of vertical structure for final overstory removal. A pulpwood only sale will yield 7 cords.

Yields

- The yield only passes the breakpoint for a pulpwood-only sale.
- An combined sawlog/pulpwood sale will yield 1034 bd.ft. (Scribner) and 7 cords.

- A sawlog-only sale will yield 1034 bd.ft. (Scribner)
- A pulpwood-only sale will yield 7 cords.

About 6% of the basal area harvested (39 sq.ft.) will be UGS. This will result in removal of about 89% of the UGS in this stand, and 100% of the merchantable-size UGS.

Cut Guides

Reduce relative stand density to 60%. Within the size and quality constraints below, favor the best trees wherever possible. Try to preserve seed sources of scarce species if they are desired in the regeneration, and strive for uniform spacing among residuals whenever possible.

Cut most (>90%) of the trees in the pole size class.

Cut a few (<10%) of the trees in the small sawtimber size class.

Cut a few (<10%) of the trees in the large sawtimber size class.

Leave Guides

Leave 81 sq.ft. of basal area per acre using the basal area distribution below.

Basal area distribution

Size class	Basal Area (sq.ft./ac.)
Saplings	9
Pole	1
Small sawtimber	32
Medium sawtimber	25
Large sawtimber	14

Forester's Recommendation 403:

- Summer 2018 (or earlier, depending on funding): herbicide all competing and invasive plants under 12' height.
- 2018: Construct deer exclosure fence around entire management unit
- 2020-2022: Timber Stand Improvement (TSI) thinning across whole management unit – focusing on removal of less competitive trees and trees that have already or soon will reach their economic maturity. The purpose of a TSI harvest is to allow the best trees to reside after harvest and continue to grow. Remove approximately 20% of volume and value with TSI harvest

410:

Description 410:

(From Silvah Report) Stand 410 is a 139 acre Oak-hardwoods forest. This mixed oak stand is dominated by Red Maple, Chestnut Oak, White Oak, Misc Comm. Species, Yellow-poplar, Black Birch, Black Oak, Sugar Maple and Hickory which together comprise 89 percent of the basal area. This is a medium sawtimber stand, with average medial diameter of 15.8 inches. Thinning to provide more growing space for the better stems is desirable if it will at least pay the cost of harvesting. Total growing stock amounts to 124 sq. ft. of basal area per acre. Net total volume in all trees, to a 4-inch top, is 29.7 cords per acre; if divided into pulpwood and sawtimber, the net merchantable volume is 20.9 cords of pulp wood and 5192.0 board feet of sawtimber (Scribner log rule). Trees of acceptable quality for future growing stock provide a fully stocked stand by themselves. Non-commercial saplings and poles represent 10 sq. ft. of basal area and may need to be treated prior to final harvest cutting. Competitive regeneration of all types is insufficient; harvest cuttings at this time will not likely result in a satisfactory new stand. Undesirable understory plants may interfere with development of regeneration. Undesirable plants in this stand include dense low woody cover, dense tall woody cover, dense fern cover and dense grass cover.

Silvicultural Prescription 410:

(From Silvah Report) SILVAH has recommended a Commercial Thinning. The stand is not yet mature (9 years to maturity) and the user does not wish to begin regeneration now. The stand will not be fully mature for another 9 years, but there is enough volume for a Commercial Thinning. The stand is getting close to maturity and a Regeneration Establishment treatment can be considered by changing the Start regeneration now option to "Yes- regardless of conditions". Stands at or above 80 percent relative density should generally receive a commercial thinning at this time. In calculating the cut and residual stands, attempt to reduce relative stand density to 60 percent, but do not remove more than 35 percent of the stocking in any one cut. The cutting should be concentrated in the smaller, merchantable-size trees. Some larger trees should also be cut to open the canopy, improve spacing, and remove unacceptable growing stock. No non-merchantable saplings need to be cut. This type of thinning should tend to narrow the range of diameters and mold the stand structure (of the merchantable-size trees) into a more pronounced bell-shaped distribution. A commercial thinning should increase stand diameter and reduce the time required for the larger and better quality trees to reach maturity. They should also increase the proportion of the most valuable species, and improve the average stand quality by removing the poorer stems. Include some high-wildlife value species (chestnut oak, white oak, blackgum, yellow poplar, black oak, sugar maple, American beech, northern red oak, cucumber-tree, black cherry, black locust, sassafras, ironwood and eastern hemlock) for retention in the thinning and TSI. Begin to identify islands of vertical structure for final overstory removal. A pulpwood only sale will yield 9 cords.

Warnings

- The stand is close to maturity (9 years), consider changing the Start regeneration now option to "Yes- regardless of conditions" to see Regeneration Establishment treatments.

Additional treatment

- This stand has 33.3 percent of the understory plots stocked with grapevines. Grapevines that grow into the crowns of trees can cause extensive damage by interfering with growth and seed production, and by breaking out the tops of the trees. Damage can be especially severe in young, even-aged stands. In stands with more than 30 percent of the understory plots stocked with grapevines, it is usually advisable to treat the vines. This can be done by cutting the vines close to the ground. Canopy shade will usually prevent the sprouts from

surviving. Where canopy density is low, or where harvest cutting will occur within a few years, cut the vines and treat the cut stumps with an herbicide.

These prescriptions generally produce the desired results, requires an investment, and usually will yield an economic return at the same time. If such investment meets your organization's economic criteria, we recommend it. If not, we recommend no treatment. In the case of regeneration prescriptions, stands generally will not reproduce without the recommended treatment.

Yields

- The yield only passes the breakpoint for a pulpwood-only sale.
- An combined sawlog/pulpwood sale will yield 1292 bd.ft. (Scribner) and 8 cords.
- A sawlog-only sale will yield 1292 bd.ft. (Scribner)
- A pulpwood-only sale will yield 9 cords.

About 8% of the basal area harvested (44 sq.ft.) will be UGS. This will result in removal of about 100% of the UGS in this stand, and 100% of the merchantable-size UGS.

Cut Guides

Reduce relative stand density to 61%. Within the size and quality constraints below, favor the best trees wherever possible. Try to preserve seed sources of scarce species if they are desired in the regeneration, and strive for uniform spacing among residuals whenever possible.

Cut most (>90%) of the trees in the pole size class.
Cut 1 out of 3 trees in the small sawtimber size class.
Cut a few (<10%) of the trees in the medium sawtimber size class.
Cut 1 out of 10 trees in the large sawtimber size class.

Leave Guides

Leave 80 sq.ft. of basal area per acre using the basal area distribution below.

Basal area distribution

Size class (sq.ft./ac.)	Basal Area
Saplings	7
Pole	2
Small sawtimber	20
Medium sawtimber	38
Large sawtimber	13

Forester’s Recommendation 410:

- 2018: Timber Stand Improvement (TSI) thinning across whole management unit – focusing on removal of less competitive trees and trees that have already or soon will reach their economic maturity. The purpose of a TSI harvest is to allow the best trees to reside after harvest and continue to grow. Remove approximately 20% of volume and value with TSI harvest

411:

Description 411:

(From Silvah Report) Stand 411 is a 122 acre Oak-hardwoods forest. This mixed oak stand is dominated by Chestnut Oak, Yellow-poplar, Sugar Maple, Hickory, Red Oak, Red Maple, Black Oak and Cucumber which together comprise 90 percent of the basal area. This is a large sawtimber stand, with average medial diameter of 18.3 inches. Total growing stock amounts to 126 sq. ft. of basal area per acre. Net total volume in all trees, to a 4-inch top, is 32.9 cords per acre; if divided into pulpwood and sawtimber, the net merchantable volume is 21.4 cords of pulp wood and 6814.4 board feet of sawtimber (Scribner log rule). Trees of acceptable quality for future growing stock provide a fully stocked stand by themselves. Competitive regeneration of all types is insufficient; harvest cuttings at this time will not likely result in a satisfactory new stand. Undesirable understory plants may interfere with development of regeneration. Undesirable plants in this stand include dense low woody cover, dense fern cover and dense grass cover.

Silvicultural Prescription 411:

(From Silvah Report) SILVAH has recommended a Shelterwood Seed Cut- herbicide.
Use a Two-cut Shelterwood sequence to increase competitive regeneration. The first (seed) cut should reduce relative stand density to 60 percent to provide for the establishment of a large number of additional advance seedlings, without allowing them to grow rapidly enough to become attractive to deer. The seed cut made now can be followed in 5 to 10 years by final overstory removal (assuming adequate competitive seedlings develop).
Warnings

- The merchantable medial diameter (18.6) is just above the 18 inch decision point in Chart A; the stand may not be mature.

Additional treatments

- Treat the undesirable understory plants with an application of herbicide during the appropriate part of the growing season. Herbicide is an effective, safe and economical technique for removing vegetation that interferes with establishment and growth of oak regeneration. There are five different application techniques for using herbicides to control interfering vegetation. Each is matched with a specific set of conditions where it will provide effective control. With all, be sure to follow all instructions on the herbicide label, wear appropriate safety clothing and equipment, and follow applicable laws with regard to herbicide applicator licensing. Please refer to the silvicultural guide for details about implementing this prescription.
- This stand has 73.7 percent of the understory plots stocked with grapevines. Grapevines that grow into the crowns of trees can cause extensive damage by interfering with growth and seed production, and by breaking out the tops of the trees. Damage can be especially

severe in young, even-aged stands. In stands with more than 30 percent of the understory plots stocked with grapevines, it is usually advisable to treat the vines. This can be done by cutting the vines close to the ground. Canopy shade will usually prevent the sprouts from surviving. Where canopy density is low, or where harvest cutting will occur within a few years, cut the vines and treat the cut stumps with an herbicide.

These prescriptions generally produce the desired results, requires an investment, and usually will yield an economic return at the same time. If such investment meets your organization's economic criteria, we recommend it. If not, we recommend no treatment. In the case of regeneration prescriptions, stands generally will not reproduce without the recommended treatment.

Yields

- A combined sawlog/pulpwood sale will yield 1413 bd.ft./ac. (Scribner) and 7 cords/ac.
- A sawlog-only sale will yield 1413 bd.ft./ac. (Scribner)
- A pulpwood-only sale will yield 9 cords/ac.

About 13% of the basal area harvested (37 sq.ft.) will be UGS. This will result in removal of about 100% of the UGS in this stand, and 100% of the merchantable-size UGS.

Cut Guides

Reduce relative stand density to 60%. Within the size and quality constraints below, favor the best trees wherever possible. Try to preserve seed sources of scarce species if they are desired in the regeneration, and strive for uniform spacing among residuals whenever possible.

Cut 4 out of 5 trees in the pole size class.
Cut 1 out of 3 trees in the small sawtimber size class.
Cut 1 out of 10 trees in the medium sawtimber size class.
Cut 1 out of 4 trees in the large sawtimber size class.

Leave Guides

Leave 89 sq.ft. of basal area per acre using the basal area distribution below.

Basal area distribution

Size class (sq.ft./ac.)	Basal Area
Saplings	3
Pole	4
Small sawtimber	22
Medium sawtimber	42
Large sawtimber	19

Forester’s Recommendation 411:

- 2018: Timber Stand Improvement (TSI) thinning across whole management unit – focusing on removal of less competitive trees and trees that have already or soon will reach their economic maturity. The purpose of a TSI harvest is to allow the best trees to reside after harvest and continue to grow. Remove approximately 20% of volume and value with TSI harvest

414:

Description 414:

(From Silvah Report) Stand 414 is a 141 acre mixed oak forest. This mixed oak stand is dominated by White Oak, Chestnut Oak, Red Maple, Hemlock, Black Oak, Red Oak, Hickory, White Pine, Black Birch and Sugar Maple which together comprise 89 percent of the basal area.

This is a medium sawtimber stand, with average medial diameter of 16.3 inches. Thinning to provide more growing space for the better stems is not necessary at this time. Total growing stock amounts to 100 sq. ft. of basal area per acre. Net total volume in all trees, to a 4-inch top, is 24.8 cords per acre; if divided into pulpwood and sawtimber, the net merchantable volume is 16.7 cords of pulp wood and 4684.1 board feet of sawtimber (Scribner log rule). Trees of acceptable quality for future growing stock provide a fully stocked stand by themselves. Competitive regeneration of all types is insufficient; harvest cuttings at this time will not likely result in a satisfactory new stand. Undesirable understory plants may interfere with development of regeneration. Undesirable plants in this stand include dense low woody cover, dense tall woody cover, dense fern cover and dense grass cover.

Silvicultural Prescription 414:

(From Silvah Report) SILVAH has recommended a Site Prep. Burn or Herbicide, Monitor Acorns, Re-inventory. Seedlings are too scarce at this time. Wait for an acorn crop and re-inventory 2-5 years later. This prescription is appropriate for stands that are between large acorn crops and not affected by deer, or shade, but interfering vegetation is a problem. Such stands have an adequate seed source but are lacking oak regeneration. The Deer Impact Index is 3 or less, stocking of interfering vegetation is greater than 30 percent, and stocking of thick duff is 30 percent or less. These stands need time for an acorn crop to occur and for subsequent seedling establishment so it is best not to intervene at this time. Either a site preparation burn or application of herbicide is required to control interfering vegetation. If using fire, conduct one or more burns according to instructions in the Site Prep Burn description. If applying herbicide, use one or more of the methods described in the Herbicide description. Monitor acorn crops and inventory the stand 2 to 5 years after a good acorn crop has established a cohort of new oak seedlings to determine the next treatment.

Additional treatment

- Apply a site-prep burn when conditions are appropriate, or treat the undesirable understory plants with an application of herbicide during the appropriate part of the growing season. This type of prescribed fire prepares an oak stand for eventual oak seedling establishment after a future acorn crop. The objective is to reduce dense understory shade and litter loadings so that a larger proportion of an acorn crop successfully germinates and becomes seedlings. Burning can be done in the dormant season (fall or early spring) or growing season (late spring) and at any intensity. However, high-intensity fires (flame lengths greater than 2 feet) in the late spring decrease dense understory shade more quickly than low intensity fires in the fall or early spring. Generally, multiple fires spread over several years are necessary to

reduce dense understory shade to a level that improves the survival and growth of new oak seedlings. Do not burn if an acorn crop has just fallen or if new oak seedlings from a recent acorn crop are needed to help regenerate the stand as fire kills acorns and small oak seedlings (Auchmoody and Smith 1993). Please refer to the silvicultural guide for details about implementing this prescription.

These prescriptions generally produce the desired results, requires an investment, and usually will yield an economic return at the same time. If such investment meets your organization's economic criteria, we recommend it. If not, we recommend no treatment. In the case of regeneration prescriptions, stands generally will not reproduce without the recommended treatment.

Forester's Recommendation:

- 2018 (or earlier depending on PGC cooperation and schedule): Conduct a 25-50 acre Controlled Burn Pilot Project. The purpose of prescribing fire in this unit is two-fold. First, fire is a tool to control competing/invasive plants as well as invigorate native plants. Second, if proven successful, and if desirable by ECWC, this controlled burn pilot project can be used to promote the idea of utilizing fire on the ECWC property in other locations in the future. This project will necessitate full cooperation with Pennsylvania Game Commission.

Forest Management Action Plan:

Priority Mgt Units	Acreage	Year	Recommended Activity
216	104.2	2018	herbicide invasive and competing plants
		2018	install deer exclosure fence
		2019	shelterwood regeneration harvest
		2023/24	overstory removal harvest
402	1	2	ash salvage & timber stand

	18.8	018	improvement thinning
	2 5	2 018	herbicide spot treatment on inv and comp plants
415	1 13.4	2 018	crop tree release thinning
		2 018	herbicide spot treatment on inv and comp plants
403	1 96.6	2 018	herbicide invasive and competing plants
		2 018	install deer exclosure fence
		2 020-22	timber stand improvement thinning
410	1 38.7	2 018	timber stand improvement thinning
411	1 21.8	2 018	timber stand improvement thinning
414	2 5-50	2 018	Controlled Burn Pilot Project on a portion of 141.3 ac

Cost/Benefit Analysis (with Alternatives) for Each Priority Management Unit:

Priority Mgt Units	Acreage	Year	Recommended Activity	Approx Cost	Approx Benefit
216	104.2	2018	herbicide invasive and competing plants	23400	
		2018	install deer exclosure fence	30000	
		2019	shelterwood regeneration harvest		65000
		2023/24	overstory removal harvest		65000
402	118.8	2018	ash salvage & timber stand improvement thinning		25960
	25	2018	herbicide spot treatment on inv and comp plants	5625	
415	113.4	2018	crop tree release thinning		39550
		2018	herbicide spot treatment on inv and comp plants	5625	
403	196.6	2018	herbicide invasive and competing plants	44100	
		2018	install deer exclosure fence	35000	
		2020-22	timber stand improvement thinning		35280
410	138.7	2018	timber stand improvement thinning		27600
411	121.8	2018	timber stand improvement thinning		31668
414	25-50	2018	Controlled Burn Pilot Project on a portion of 141.3 ac	0	
				143750	290058

Blue = hopeful for cooperation and funding by PGC
Yellow = approx. deer fencing costs – bids required
Red = See alternatives for shifting year of project
All figures presented are approximate and based largely on provided forest data and current market conditions

	Net Financial Outcomes by Year								total
	2017	2018	2019	2020	2021	2022	2023	2024	
	0	-18972	65000	35280	0	0	65000	0	146308
	Net Financial Outcome by Stand #								
	216	402	415	403	410	411	414		
	76600	20335	33925	-43820	27600	31668	0		146308
	Alternate A (backing up 403 projects one year)								
	Net Financial Outcomes by Year								total
	2017	2018	2019	2020	2021	2022	2023	2024	
	0	60128	-14100	0	35280	0	65000	0	146308
running	0	60128	46028	46028	81308	81308	146308	146308	146308
	Alternate B (with full PGC involvement - covering herbicide and prescribed fire expenses)								
	Net Financial Outcomes by Year								total
	2017	2018	2019	2020	2021	2022	2023	2024	
	0	59778	65000	35280	0	0	65000	0	225058

Tan = Be sure to discuss this total benefit – a portion should be seen as a "starter" for future forest planning and management practices designed to improve the forest.
All figures are approximate and based largely on provided forest data and current market conditions

NOTES:

1. Marketing forest products is a complicated process and should not be entered into lightly. We look forward to discussing timber marketing options with you.
2. Deer exclosure fencing area discussed in this plan may have to be altered due to terrain, riparian zones, access, etc.
3. Large, beautiful properties like ECWC should budget for annual herbicide "mop up" following large-scale herbicide projects.
4. Become vigilant with harvesting deer and attacking invasive plants – these will be key to future forestry success.

5. Follow this Forest Management Action Plan (FMAP) up to approximately 2024. Other stands/management units can be added to this FMAP at any time. Prior to 2024, a new FMAP should be developed that will both continue good work and advise new projects that will make the ECWC forest better and meet all the goals of the ECWC.

Regular Council Agenda
September 19, 2017

Description
Police Department monthly report for August, 2017

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

City of Cumberland Department of Police

Monthly Report

August 2017

City of Cumberland Department of Police

Monthly Report

August 2017

Part 1 Crimes for the Month

	2016	2017		2016	2017		2016	2017		2016	2017
Aggravated Assaults	10	16	B & E (All)	26	28	Murder	0	0	Rape	4	0
Robbery	3	7	Theft - Felony	5	6	Theft - Vehicle	4	3			

Selected Criminal Complaints for the Month

	2016	2017		2016	2017		2016	2017		2016	2017
Theft - Misdemeanor	40	40	Theft - Petty	53	53	Domestic Assaults	29	34	CDS	104	76
Disturbances	203	191	DOP/Vandalism	48	50	Indecent Exposure	1	6	Sex Off - Other	5	3
Suicide	0	0	Suicide - Attmpt.	0	0	Tampering M/V	0	0	Abuse - Child	1	2
Trespassing	20	22	Assault on Police	2	3	Assault Other	53	54			

Selected Miscellaneous Incidents for the Month

	2016	2017		2016	2017		2016	2017		2016	2017
Alcohol Violations	6	12	Juvenile Compl.	23	27	Missing Persons	9	12	School Resource	39	21
School Threat	0	0	Sex Off. Regist.	22	16	Truancy	5	1	Death Investigation	5	2

Selected Traffic Incidents for the Month

	2016	2017		2016	2017		2016	2017		2016	2017
DWI	3	5	Hit & Run	27	20	M/V Crash	59	52	Traffic Stop	461	411

Selected Service Calls for the Month

	2016	2017		2016	2017		2016	2017		2016	2017
Alarms	50	61	Assist Motorist	44	32	Check Well-Being	135	123	Foot Patrol	32	48
Assist Other Agency	63	70	Bike Patrol	0	2	Special Events	7	10	Suspicious Activity	96	130

Arrests Totals for the Month

	2016	2017		2016	2017		2016	2017		2016	2017
M/V Citations	84	68	M/V Warnings	346	337	Adult Arrests	162	196	Juvenile Arrests	17	11

	2016	2017
Total Incidents Reported :	**2,374**	**2,456**

Charles Hinnant - Chief of Police

CUMBERLAND POLICE DEPARTMENT

MONTHLY REPORT

AUGUST 2017

SWORN PERSONNEL: 49 SWORN OFFICERS

Administration	6 officers
Squad 1A	8 officers
Squad 1B	8 officers
Squad 2A	8 officers
Squad 2B	9 officers
C3I/C3IN	5 officers
School Resource	2 officers
Light Duty Administration	1 officer
Academy	2 officers

CIVILIAN EMPLOYEES: 7 full time, 7 part time

CPD Office Associate	1 full time
CPD Records Clerk	1 full time
Safe Streets Coordinator	1 full time*
CPD Crime Analyst	1 full time*
CPD Drug Coordinator	1 full time*
CPD Maintenance	1 part time
C3I Office Associate	1 full time
C3IN Office Associate	1 part time**
C3I Office Associate	1 part time **
MPA Supervisor	1 part time
Parking Meter Supervisor	1 full time
Parking Enforcement	2 part time
MPA Garage Attendants	2 part time
Code Enforcement	2 part time

* = Grant funded ** = Shared costs with other agencies

LEAVE REPORT

VACATION TAKEN: 1168 HOURS YEAR TO DATE (beginning 7/1/17): 2920 HOURS

COMP TIME USED: 230 HOURS YEAR TO DATE (beginning 7/1/17): 459 HOURS

SICK TIME USED: 72 HOURS YEAR TO DATE (beginning 7/1/17): 272 HOURS

OVERTIME REPORT

OVERTIME WORKED: 343 HOURS YEAR TO DATE (beginning 7/1/17): 777 HOURS

HOSPITAL SECURITY: 128 HOURS YEAR TO DATE (beginning 7/1/17): 262 HOURS

COURT TIME WORKED: 162 HOURS YEAR TO DATE (beginning 7/1/17): 312 HOURS

TRAINING REPORT

96 Officers attended training sessions YEAR TO DATE (beginning 7/1/17) 303 HOURS

Regular Council Agenda
September 19, 2017

Description
Fire Department monthly report for August, 2017

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

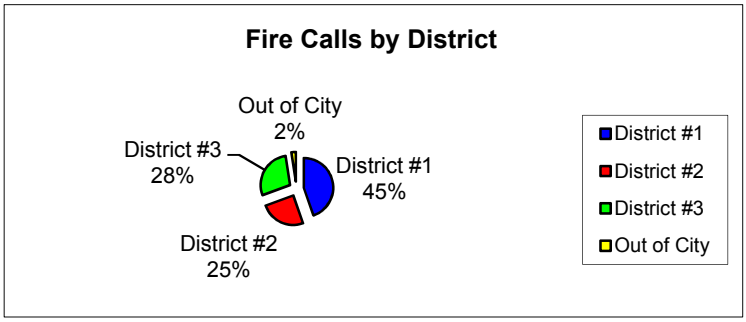
Source of Funding (if applicable)

REPORT OF THE FIRE CHIEF FOR THE MONTH OF AUGUST, 2017
Prepared for the Honorable Mayor and City Council and City Administrator

Cumberland Fire Department Responded to 121 Fire Alarms:

Responses by District:

District #1	54
District #2	30
District #3	34
Out of City	3
	121



Number of Alarms:

First Alarms Answered	117	
Working Alarms Answered	2	519 Dilley Street and 321 Emily Street
Second Alarms Answered	1	137 Arch Street
Third Alarms Answered	1	9 Browning Street
	121	

Calls Listed Below:

Property Use:

Public Assembly	2
Educational	3
Institutional	8
Residential	59
Stores and Offices	4
Storage	1
Special Properties	44
	121

Type of Situation:

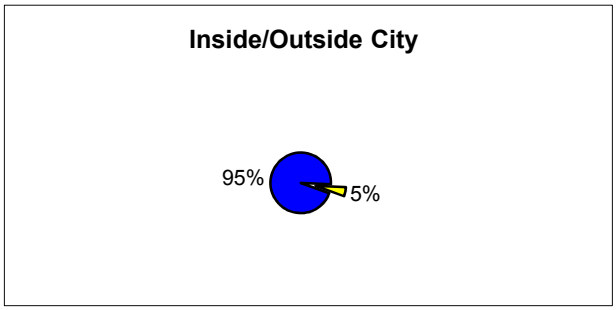
Fire or Explosion	8
Overpressure, Rupture	1
Rescue Calls	61
Hazardous Conditions	13
Service Calls	8
Good Intent Calls	15
Severe Weather Call	1
False Calls	14
	121

Total Fire Service Fees for Fire Calls Billed by Medical Claim-Aid in August:	$1,510.00
Total Fire Service Fees for Fire Calls Billed by Medical Claim-Aid Fiscal Year to Date:	$2,910.00
Total Fire Service Fees for Fire Calls Paid in August:	$924.31
Total Fire Service Fees for Fire Calls Paid in FY2018:	$1,320.00

Fire Service Fees for Inspections and Permits Billed in August:	$50.00
Fire Service Fees for Inspections and Permits Paid in August:	$0.00
Total Fire Service Fees for Inspections and Permits Paid Fiscal Year to Date:	$150.00

Cumberland Fire Department Responded to 474 Emergency Medical Calls:

In City Calls	451
Out of City Calls	23
Total	474



Total Ambulance Fees Billed by Medical Claim-Aid in August:	$172,886.04
Ambulance Fees Billed Fiscal Year to Date:	$200,834.00
Ambulance Fees Paid: Revenue Received in August:	$107,612.48
Revenue: FY2018 Fees Paid in FY2018:	$59,820.41
All Ambulance Fees Paid in FY2018:	$107,612.48

(Includes all ambulance fees, previous and current fiscal years, paid in FY2018.)

Cumberland Fire Department Provided 10 Paramedic Assist Calls:

8	Paramedic Assist Calls within Allegany County
2	Paramedic Assist Calls outside of Allegany County
10	

Cresaptown VFD	8
Ridgeley, WV VFD	1
Short Gap, WV VFD	1
	10

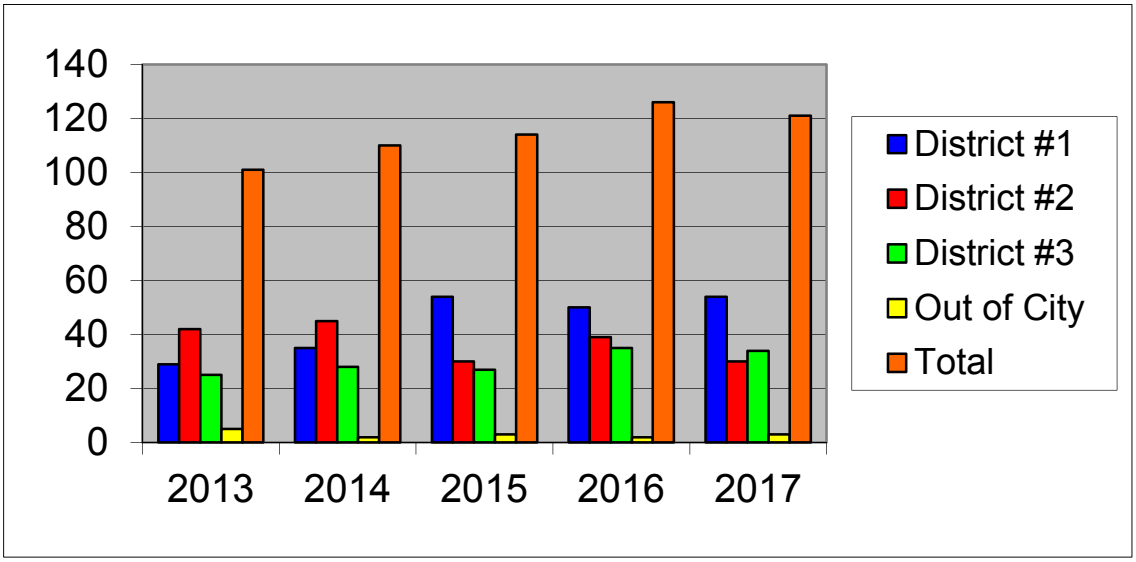
Cumberland Fire Department Provided 13 Mutual Aid Calls:

12	Mutual Aid Calls within Allegany County
1	Mutual Aid Calls outside of Allegany County
13	

Bowman's Addition VFD	1
Cresaptown VFD	10
Flinstone VFD	1
	12
Wiley Ford, WV VFD	1
	13

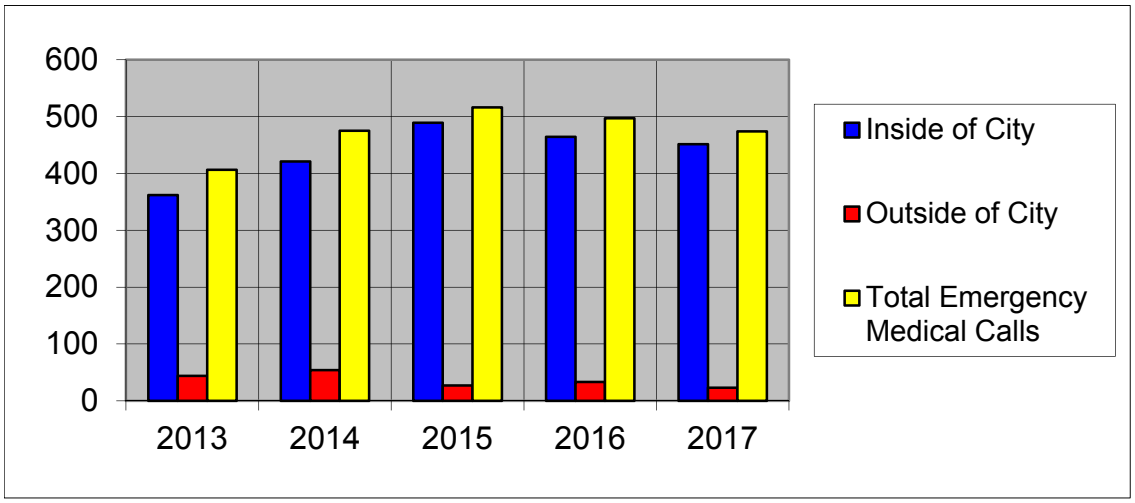
Fire Calls in the Month of August for a Five-Year Period

	2013	2014	2015	2016	2017
District #1	29	35	54	50	54
District #2	42	45	30	39	30
District #3	25	28	27	35	34
Out of City	5	2	3	2	3
Total	101	110	114	126	121



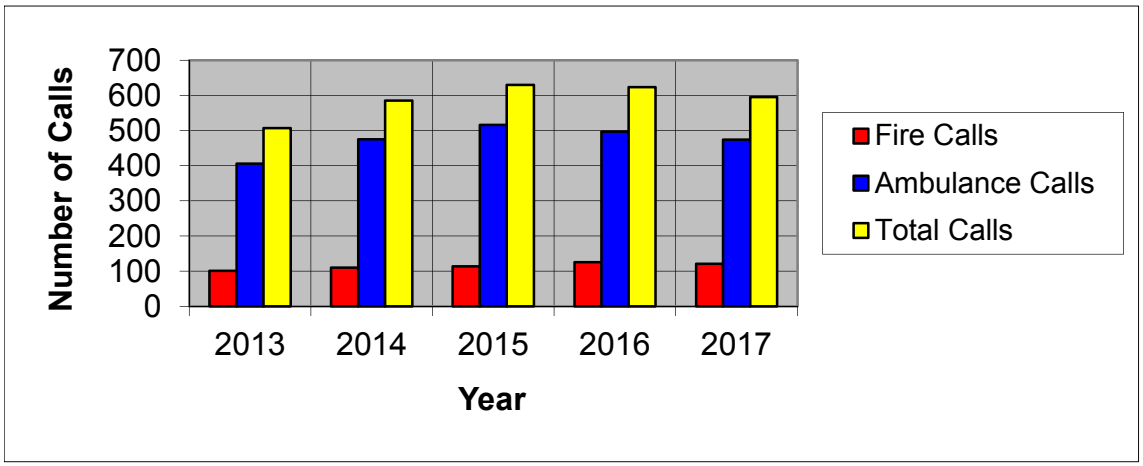
Ambulance Calls in the Month of August for a Five-Year Period

	2013	2014	2015	2016	2017
Inside of City	362	421	489	464	451
Outside of City	44	54	27	33	23
Total Emergency Medical Calls	406	475	516	497	474



Fire and Ambulance Calls in the Month of August for a Five-Year Period

	2013	2014	2015	2016	2017
Fire Calls	101	110	114	126	121
Ambulance Calls	406	475	516	497	474
Total Calls	507	585	630	623	595



Training

Training Man Hours:	126.75	
Training Listed Below:		
Safety Issues		5.00
Apparatus Check Procedures		22.00
SCBA Inspection and Care		10.00
Inservice Inspections		12.50
Emergency Medical Services		15.50
Ladder Training		22.00
Foam and Appliances		15.00
Hazardous Materials		13.75
Physical Fitness		3.00
High Angle Rescue		8.00
		126.75

Fire Prevention Bureau

Complaints Received	0
Conferences Held	66
Correspondence	14
Inspections Performed	3
Investigations Conducted	6
Plan Reviews	3

Personnel

Firefighter/Paramedic Geena S. Kile was promoted to Lieutenant/Paramedic on August 13, 2017.

Statistics Compiled by Julie A Davis, Fire Administrative Officer

Regular Council Agenda
September 19, 2017

Description
Maintenance Division monthly report for August, 2017

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

MAINTENANCE DIVISION REPORT
August 2017

Street Maintenance Report

Parks & Recreation Maintenance Report

Fleet Maintenance Report

PUBLIC WORKS/MAINTENANCE
STREET BRANCH
MONTHLY REPORT
AUGUST 2017

- POTHOLES AND COMPLAINTS
  - Potholed 31 Streets and Alleys using 51.5 tons of HMA.

- UTILITY HOLE REPAIR
  - Completed 18 Water Utility Hole Repairs using .5 CY of Concrete and 101.5 tons of HMA.

- TRAFFIC CONTROL SIGNS/STREET NAME SIGNS
  - Installed/Repaired 18 Traffic Control Signs.
  - Installed/Repaired 2 Street Name Signs.
  - Removed 6 HC Signs.
  - Painted 10 curbs

- STREET SWEEPING
  - Swept 718 curb miles (approx. 180 cubic yards of debris)
  - Hauled 25.4 tons of sweeper dumps to landfill.

- MISCELLANOUS
  - Removed fallen wall and debris from Virginia Ave Property
  - Cleaned the Baltimore Street underpass 4 times and McMullen Bridge once.
  - Brush and tree 10 areas
  - Completed crack sealing for WFP at the request of Rodney Marvin
  - Completed 3 dead animal removals
  - Completed culvert and ditch work on Richwood.

STREET MAINTENANCE - AUGUST 2017		8/1-8/4	8/7-8/11	8/14-8/18	8/21/-8/25	8/28-8/31	TOTAL
SERVICE REQUEST COMPLETED		15	9	18	12	11	65
PAVING PERFORMED	TONS						0
CONCRETE WORK	CY						0
UTILITY HOLES REPAIRED	WATER	1	3	6	4	6	20
	SEWER					1	1
	CY		1.00	1.25	1.00	1.25	5
	TONS	25.4	3.5	13.0	32.5	7.5	82
POTHOLES FILLED	STREETS	12	3	11	1	2	29
	ALLEYS			2	1		3
	DAYS						0
	Cold Mix						0
	TONS	17.0	3.5	18.0	8.5	3.0	50
PERMANENT PATCH	CY						0
	TONS						0
COMPLAINTS COMPLETED							0
	CY						0
	TONS						0
TRAFFIC CONTROL SIGNS REPAIRED/INSTALLED		2	14			2	18
STREET NAME SIGNS REPAIRED/INSTALLED			1			1	2
HANDICAPPED SIGNS REPAIRED/INSTALLED/REMOVED							0
							0
		3				*3*	6
PAINTING PERFORMED	BLUE	2					2
	YELLOW						0
	RED						0
PAVEMENT MARKINGS INSTALLED	No.						0
STREET CLEANING	LOADS	11	13	12	9		45
	MILES	173	154	221	170		718
SWEEPER DUMPS HAULED TO LANDFILL	TONS	25.4					25
SALT BARRELLS - PICK UP	DAYS						0
CLEANED BALTIMORE ST. UNDERPASS		1	1				2
CLEAN SNOW EQUIPMENT	Days						0
BRUSH REMOVAL/TREE WORK	Days	1	1	3	3	2	10
Check Drains/Clean Debris	DAYS		1				1
LEAF PICK UP	Loads						0

Removed fallen wall from Oldtown Rd Side of Virginia Ave property

Crack Sealed at WFP at the request of Rodney Marvin

Completed ditch and culvert work on Richwood Ave

PUBLIC WORKS/MAINTENANCE
PARKS & RECREATION
MONTHLY REPORT
AUGUST 2017

- Constitution Park
  - Cleaned up garbage, bathrooms and pavilions 3 time/week.
  - Cut grass in Park and Long Field.
  - Repaired door at pool snack bar after break in
  - Cleaned and moved bleachers to marble rings for Mason Cup Tournament

- Mason Complex
  - Cleaned up garbage 3 time/week.
  - Lined Fields as per schedule.
  - Installed football and soccer fields.
  - Cut grass.
  - Sprayed fence lines and playground with weed killer.

- Abrams, Cavanaugh and JC
  - Cleaned up garbage and bathrooms 3 time/week.
  - Cut grass.
  - Maintained and lined Abrams, JC and Cavanaugh Fields as per schedule.

- Miscellaneous Work
  - Continue to maintain, cut grass and pick up garbage at Playgrounds, Parklets and other areas.

Parks and Recreation Department		
Grass Cutting		
August 2017		
LOCATION		DATES CUT
Fairmont		August 16
Ridgedale		August 14
Springdale		August 2, 15, 28
Mason		August 1, 9, 14, 22, 28
Park		August 3, 10, 14, 22, 28
Long		August 3, 10, 14, 22, 28
Cavanaugh		August 10, 21, 29
Smith Park		August 2, 16, 29
Vets Park		August 2, 15, 30
Pine Ave		August 10, 29
JC		August 1, 9, 14, 22, 31
Valley St Parklet		August 1, 14, 22, 31
Abrams		August 10, 22, 28, 31
Washington HQ		August 2, 15, 28
Sundial		August 2, 15, 28
Lucys Park		August 1, 14, 29
MCS		August 8, 31
Evitts Creek		August 22
Boat Ramp		August 1, 15, 30
Mullen		August 10, 16
14 Somerville in Rear		August 10, 16
Old HRDC		August10, 16
Rolling Mills Parklet		August 9, 21
Goethe		
Pistol Range		August 1, 9, 14, 22, 30
Pear St.		August 10, 16, 30
Louisiana Ave. (Hartley's)		August 9
224-226 Cecelia St.		August 9, 21
404/406, 414 Park St.		August 9, 21
513, 529 Maryland Ave.		August 9, 21
Emily St, Dead End		August 9, 21
Centre St Playground		August 10, 21, 30

Fleet Maintenance
August 2017

Total Fleet Maintenance Projects	**124**
Street Maintenance	20
Snow Removal	0
DDC	1
CPD	35
Water Distribution	6
P & R Maintenance	10
CFD	10
Sewer	15
Code Enforcement	1
Flood	4
PIP	0
WWTP	0
Engineering	0
Facility Maintenance	0
Fleet Maintenance	0
Central Services	0
Municipal Parking	0
Public Works	1
Water Filtration	0
Small Engine Repairs	0
Scheduled Preventive Maintenance	18
Field Service Calls	3
Total Work Orders Submitted	**67**
Risk Management Claims	**0**
Fork Lift Inspections	**0**

Regular Council Agenda
September 19, 2017

Description
Utilities Division monthly report for August, 2017

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

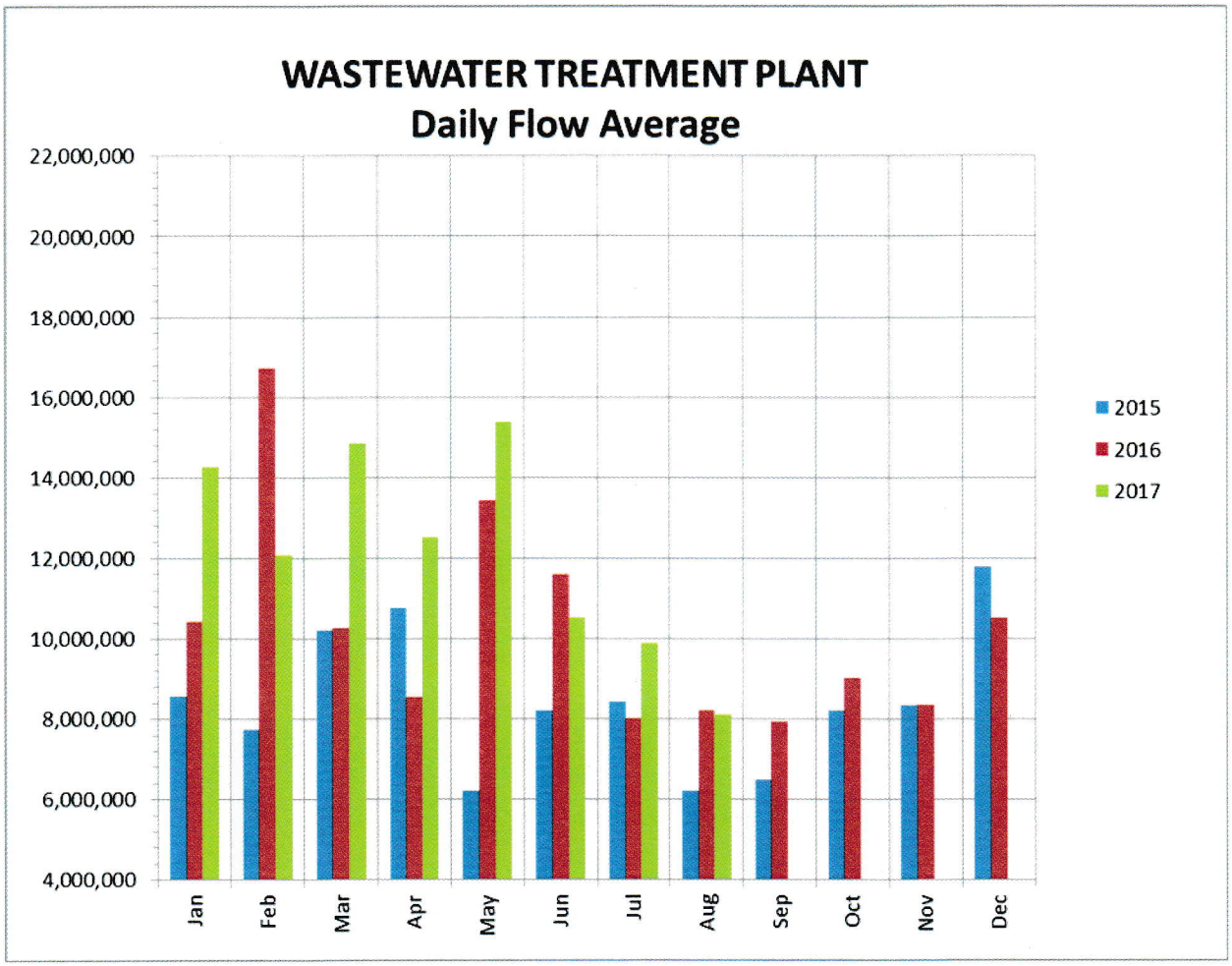
CITY OF CUMBERLAND

UTILITY DIVISION
MONTHLY REPORTS
August 2017

Wastewater Treatment Plant – AUGUST 2017

OPERATIONS:

Treated 281,214,000 gallons @ an average of 8.104 million gallons per day. Removed 210,254 pounds of total suspended solids, 178,843 pounds of BOD, 30,010 pounds of total nitrogen, and 4,398 pounds of total phosphorous. Processed 845,992 gallons of sludge producing 83.33 Dry tons of Class "A" bio-solids. All Federal and State reporting requirements were in compliance. Monthly Flow Comparison Chart is attached.



Sewer & Flood Monthly Report - August 2017

Sewer

8,340	Ft. Sewer Mains Flushed
200	Ft. Sewer Lines flushed
8	Catch Basins cleaned
3	Catch Basins Repaired:
	Schley St. 1515 Rosewood St., 200 Wilmont Ave.
781	Ft. Sewer Mains televised
200	Ft. Sewer Lines televised
5	Overflows checked

- Assisted Water Department at two (2) work site for Hydro Exavating
- General Maintenance

Flood

Test run station pumps

Checked holes

Mowed thirty (30) acres

Held interviews for Flood position

Ran Greene St. Pump

Cleaned Ridgeley and Viaduct Pump stations

General Maintenance

WATER DISTRIBUTION

Utilities Activity Report for August 17					
REQUEST	W/E 8/4/17	W/E 8/11/17	W/E 8/18/17	W/E 8/31/17	MONTHLY TOTALS
Service Technicians					
NON READS/MDM go backs	11	10	8	15	44
VACANT Accounts report					0
FINAL READS/TURN ONS/SHUT OFFS		4		4	8
CURB/METER BOX MAINTENANCE					0
LEAK INVESTIGATIONS/turn off-on	2	4	2	4	12
STOP LOCATES/MAINTENANCE					0
METER/STOP INVESTIGATIONS	11	12	12	7	42
REPAIR WIRING/GET READING			1	2	3
ORANGE TAG FOR REPAIRS	1	3	1	1	6
YELLOW TAG FOR H/L USAGE/APPT		1	1	2	4
RED TAG FOR SHUT OFF	1		3	1	5
TURN WATER ON	64	56	60	48	228
TURN WATER OFF	2		1	2	5
NONPMT/BAD CK/AGREE SHUT OFFS	68	73	58	33	232
SHUT OFF RECHECKS	50	82	60	24	216
PULL METERS - READS/SPAC/WR OFF					0
PUT METERS BACK ON LINE/READS					0
REPLACE/REPAIR METER/LID/VALVE					0
DIRTY WATER/ODOR					0
SVC SEPARATIONS/INVESTIGATIONS				2	2
INSTALL COUPLERS/PLUGS/LOCK	2	7		1	10
NEW METER/DIAL	3	2	2	5	12
METER TESTS-Residential	3	4	1		8
METER TESTS - Industrial					0
Ind - Register/Chamber Chg Out					0
Industrial - Chamber Cleaning					0
Industrial - Strainer Cleaning					0
HYDRANTS FLUSHED					0
PRESSURE CHECK/NO WATER				1	1
MOVE METERS OUTSIDE/READINGS	1	3	2	8	14
Smartpoint change outs/New installs	1	3	3	10	17
Replace smartpoint antenna					0
REPAIR/REACTIVATE/MOVE SPs	2		2	1	5
INSULATE METER BOXES					0
FREEZE UPS/METERS & LINES					0
CCP - BACKFLOW/RETRO	1	3	2	9	15
HYDRANT/IRRIGATION METER					0
Pipe Technicians					
LINE LOCATOR	55	62	58	110	285
TAPS SERVICED	1	6	2	7	16
LEAKS REPAIRED				1	1
1626 BEDFORD ST - LEAK INVESTIGATION	5				5
WEEDEAT AROUND HYDRANTS			2		2
REPLACED LEAKING VALVE - FOOTER DYE			4		4
REPLACED HYD #499				8	8
PINPOINT LEAK - 12517 LISA DR				2	2
CLEAN TRUCK/BACKHOE/WAREHOUSE				2	2
646 N MECH - FIXED TOP/GOT ON STOP				3	3
1307/1309 BEDFORD ST - RAISED BOXES				3	3
WEEDEAT AROUND HYDRANTS				2	2
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
Watershed					
Crane truck training					
Mowed 36" water line (several days)					
Marked water boxes with blue paint (several days)					
Marked water boxes with blue marking posts (several days)					
Moved equipment from Bill Miller's Equipment Sales					
Line locating off Bedford St - Millpoint Drive					
Weedeated around water boxes (several days)					
Cut tree off water line					
Picked up trash around lakes					
Dug on 36" water main on Millpoint Dr, exposed 2" service line to replace and make tie in for new house					
Removed goal posts at Bishop Walsh High School					
Dug ditch around water tank and reopened ditch away from truck - put new ditch into woods					
Put materials together for Millpoint tie in					
Replumbed off 36" water main with brass to 2" new water line - Millpoint					
Connected new line to old galvanized line - Millpoint					
Removed trees from water main					
Projects					
Projects -					0
WEEKLY TOTALS & GRAND TOTAL					1222

Regular Council Agenda
September 19, 2017

Description
Statement to be read announcing the closed meeting scheduled for September 19, 2017

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

Mayor and City Council of Cumberland

Closed Session Summary

Tuesday, September 19, 2017 at 6:15 p.m.

Second Floor Conference Room, City Hall

On Tuesday, September 19, 2017, the Mayor and City Council met in closed session at 6:15 p.m. in the second floor conference room of City Hall to discuss board and commission appointments.

Persons in attendance included Mayor Brian Grim; Council Members Seth Bernard, David Caporale, Richard J. Cioni, Jr., and Eugene Frazier; City Administrator Jeff Rhodes, City Solicitor Mike Cohen, and City Clerk Marjorie Woodring.

On a motion made by Councilman Caporale and seconded by Councilman Bernard, Council voted 5-0 to close the session. No actions were voted upon and the meeting was adjourned at 6:20 p.m.

Authority to close the session was provided by the General Provisions Article of the Annotated Code of Maryland, Section 3-305 (b) (1).

_____

Brian K. Grim, Mayor

Entered into the public record on _____

Regular Council Agenda
September 19, 2017

Description

Order authorizing the execution of a Salt and Aggregate Utilization Agreement with the State Highway Administration for distribution of salt and/or aggregate for winter storm events for a period of 3 years.

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

- Order -

of the

Mayor and City Council of Cumberland

MARYLAND

ORDER NO. _____ **DATE:** __September 19, 2017_

ORDERED, By the Mayor and City Council of Cumberland, Maryland

THAT the Mayor and City Administrator be and are hereby authorized to execute a Salt and Aggregate Utilization Agreement by and between the Mayor and City Council of Cumberland and the State Highway Administration for the distribution of salt and/or aggregate for winter storm events for a period of three (3) years, effective September 1, 2017 through August 31, 2020.

_____

Brian K. Grim, Mayor

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Larry Hogan
Governor
Boyd K. Rutherford
Lt. Governor
Pete K. Rahn
Secretary
Gregory Slater
Administrator

September 6, 2017

Jeff Rhodes
City Administrator
City of Cumberland, 57 North Liberty Street
Cumberland MD 21502

Dear Mr. Rhodes:

Enclosed for signatures of the City of Cumberland are duplicate original Agreements **("Agreement")** between the City of Cumberland **("CITY")** and Maryland Department of Transportation State Highway Administration **("MDOT SHA")** for the distribution of salt and/or aggregate for winter storm events.

Generally, the enclosed Agreement provides for the CITY to be able to continue obtaining salt, aggregate, or both from MDOT SHA for a period of three (3) years. MDOT SHA would invoice the CITY once the winter is over, usually in May of every year, for all material costs, including MDOT SHA overhead.

The previously drafted Agreements have been reviewed by both parties and all comments have been incorporated or resolved to each party's satisfaction. Please **sign and date** the two (2) original Agreements where indicated and return both originals to Oluwaseun Yerokun, Assistant Agreements Coordinator, Office of Procurement & Contract Management, Maryland Department of Transportation State Highway Administration, 707 North Calvert Street, Mailstop C-405, Baltimore MD 21202. Once received, the duplicate originals will be circulated for MDOT SHA signatures and one (1) original will be returned to you for the CITY's use and record.

Thank you in advance for your assistance in bringing the Agreement to a successful execution. If you have any questions or if I can be of assistance, please contact me by phone at 410 545-5660 or by email at oyerokun@sha.state.md.us .

Sincerely,

Oluwaseun Yerokun
Assistant Agreements Coordinator
Attachment: Two (2) Agreements

SHA Control No. P01646 M-1

SALT AND AGGREGATE UTILIZATION AGREEMENT

by and between

Maryland Department of Transportation
State Highway Administration

and
City of Cumberland, Maryland

This AGREEMENT (**"Agreement"**) made as of the 1st day of September 2017, executed in duplicate, by and between the Maryland Department of Transportation State Highway Administration (**"MDOT SHA"**) and the City of Cumberland, Allegany County, Maryland, a political subdivision of the State of Maryland and a body politic and corporate ("**CITY**").

WHEREAS, during certain winter snow emergency operations **("Snow Event")** the CITY may have a need to obtain additional salt ("**Salt")** and/or stone dust abrasives or aggregate ("**Aggregate**"), to effectively complete their winter snow operations; and

WHEREAS, the CITY has requested, and MDOT SHA has agreed, to allow the CITY to obtain Salt and/or Aggregate from MDOT SHA stockpiles during a Snow Event in accordance with the terms and conditions contained herein; and

WHEREAS, the CITY shall reimburse MDOT SHA for the cost of Salt and/or Aggregate plus other related expenses; and

WHEREAS, MDOT SHA and the CITY agree that this Agreement will benefit both parties of this Agreement and will promote the safety, health and general welfare of the citizens of the State.

NOW, THEREFORE, in consideration of the premises and of the mutual promises between the MDOT SHA and the CITY, as set forth herein, the adequacy of which is hereby acknowledged, the parties hereby agree to the following:

I. TERM & BUDGET

The Term of this Agreement is for a period of three (3) years beginning the first (1st) day of September 2017 and ending on the thirty first (31st) day of August 2020, both dates inclusive, unless sooner terminated as set forth herein. For budgeting and planning purposes only, during the Term of this Agreement the total cost for: i) Salt shall not exceed Sixty Thousand Dollars ($60,000), and ii) Aggregate shall not exceed One Thousand Dollars ($1,000). This is an estimate only and the CITY shall be responsible for actual costs incurred at the time of acquisition.

II. SALT & AGGREGATE COSTS

A. The cost of Salt, at the time of execution of this Agreement is One Hundred Thirty Three Dollars and Seventy One Cents ($ 133.71) per ton, which includes the price of the Salt, a Delivery Charge and an Overhead Charge.

B. The cost of Aggregate, at the time of execution of this Agreement is Nineteen Dollars and Eighty Cents ($19.80) per ton, which includes the price of the Aggregate, a Delivery Charge and an Overhead Charge.

C. The Salt and/or Aggregate prices listed herein are subject to awarded contracts by MDOT SHA and shall be adjusted accordingly.

D. The Delivery Charge includes the cost of fuel and mileage to transport the Salt and/or Aggregate to an MDOT SHA Salt dome. The Overhead Charge is determined by the federally approved Overhead Rate that may be adjusted on October 1st of each year. The current Overhead Rate is eight and two tenths percent (8.2%).

E. The cost of the Salt and/or Aggregate may be adjusted weekly to account for Delivery Charge variances.

III. ESTABLISHMENT of the SALT and/or AGGREGATE COSTS

MDOT SHA has established a charge number for the CITY which will be used to document Salt and/or Aggregate withdrawals from MDOT SHA's inventory system. The current charge number for the CITY is **BY254M84.**

IV. PROCEDURES

A. Salt and Aggregate Scheduling

1. MDOT SHA Shop Locations: For purposes of this Agreement, the MDOT SHA shops to be used for Salt and/or Aggregate for the CITY, as determined by MDOT SHA, are:

   -Rock Gap,

   -Oldcity,

   -Frostburg,

   -Franklin,

   -La Vale

   -CITY Hill

2. Prior to a Snow Event: The CITY will contact Eric Minnich, MDOT SHA's Resident Maintenance Engineer (RME), or designee, of the La Vale Shop at 301-729-8433 to arrange for the CITY's trucks to be loaded with the Salt and/or Aggregate at the designated location the day before a local forecasted snow if time permits; otherwise MDOT SHA and the CITY will determine which MDOT SHA salt storage site is appropriate to use to load the Salt and/or Aggregate onto the trucks and MDOT SHA will provide an operator to facilitate the loading of the Salt and/or Aggregate.

3. During the Snow Event: The CITY will contact the appropriate MDOT SHA Shop nearest to that truck and request to be loaded at an approximate preferred time of arrival. MDOT SHA will then arrange for an operator to meet the CITY truck at that location as close to the preferred time as possible without negatively affecting MDOT SHA operations. In addition, if a CITY truck is in the vicinity of a specific dome during a Snow Event and an MDOT SHA operator is present, the CITY truck may then be topped off, if desired. In situations where the MDOT SHA Snow Event operations are already active when the CITY operations begin, the CITY can notify MDOT SHA as far in advance as possible and MDOT SHA will make every effort to provide an operator at all the locations requested in order to begin loading CITY trucks with Salt and/or Aggregate.

4. Post Snow Event: The CITY can contact the appropriate MDOT SHA shop to request re-loading after a Snow Event, and MDOT SHA will schedule the re-loading at both parties' convenience.

5. The CITY shall not return any unused Salt and/or Aggregate to any MDOT SHA shop.

B. Load Records

1. The CITY shall ensure all vehicles picking up Salt and/or Aggregate on their behalf are identified by a sticker or placard indicating the CITY's name.

2. Only an MDOT SHA authorized loader operator shall load the CITY trucks.

3. MDOT SHA shall create a written loading record that must be signed by the CITY driver. A copy shall be given to the CITY driver to account for every load of Salt and/or Aggregate that the CITY receives from MDOT SHA. Each load record shall contain the following information:

   a. truck number or license tag number,

b. the number of scoops/ buckets loaded,

c. the number of tons loaded based on the scoops / bucket size value multiplied by the number of scoops /buckets.

d. the ratio of Salt and Aggregate (e.g. 70/30, 50/50, etc.) for mixed loads.

V. PAYMENT

A. MDOT SHA shall provide a detailed invoice to the CITY by May 31st of each year for all actual costs incurred by MDOT SHA to provide Salt and/or Aggregate to the CITY. The invoice shall be accompanied by normal documentation from MDOT SHA to evidence actual costs incurred.

1. In the event the CITY receives a mixture of Salt and Aggregate, then such mixture will be noted on each load ticket along with the ratio of Salt to Aggregate; the quantity on such tickets will be multiplied by the mixture ratio and recorded independently as Salt and Aggregate.

B. Upon request by the CITY, MDOT SHA may provide information to include the number of buckets and estimated tonnage provided to the CITY for each date of withdrawal.

C. The estimated cost of the Salt and/or Aggregate is based on the average amount of Salt and/or Aggregate used during the previous five (5) years at the prevailing rate at the time of execution of this Agreement and will be subject to future adjustments during the Term according to costs for Salt and/or Aggregate for delivery and overhead in effect at that time.

D. REIMBURSEMENT

1. Reimbursement to MDOT SHA for the SALT during the Term, including MDOT SHA overhead, is estimated to be Sixty Thousand Dollars ($60,000) and is based on estimated quantities from the previous year, however, actual costs and tonnage may vary and the CITY shall reimburse MDOT SHA for all actual tonnage (which includes the delivery charge) and overhead costs.

2. Reimbursement to MDOT SHA for the Aggregate during the Term, including MDOT SHA overhead, is estimated to be One Thousand Dollars ($1,000) and is based on estimated quantities from the previous year, however, actual costs and tonnage may vary and the CITY shall reimburse MDOT SHA for all actual tonnage which includes delivery charge and overhead costs.

E. In the event of extremely heavy Salt and/or Aggregate usage, MDOT SHA reserves the right to submit progress billings to the CITY in lieu one annual invoice.

F. The CITY shall reimburse MDOT SHA for all costs incurred by MDOT SHA for all supplied Salt and/or Aggregate provided during the winter pursuant to this Agreement within thirty (30) days of receipt of each invoice.

G. In the event MDOT SHA does not receive payment of invoices within thirty (30) days of the CITY's receipt of each invoice, MDOT SHA will notify the CITY of the overdue payment and provide the CITY the opportunity to pay such overdue amounts. If payment of the overdue amount is not received within thirty (30) days following notification, MDOT SHA will then notify the CITY in writing, and the parties hereby agree that MDOT SHA may make a deduction from the CITY's share of Highway User Revenue equal to the overdue invoice amount(s) or MDOT SHA may refer the overdue amount to the Central Collection Unit, at 300 West Preston Street, Room 500, Baltimore MD 21201-2365 for collection of overdue amount.

VI. GENERAL

A. MDOT SHA does not supply Brine, a pretreatment salt-based mixture.

B. MDOT SHA and the CITY agree to cooperate with each other to accomplish the terms and conditions of this Agreement.

C. The provisions contained in this Agreement shall be binding upon the parties until the earlier to occur of; (i) three (3) years from the date first written above, (ii) thirty (30) days after written notice has been given by either party to the other that they elect to no longer be bound by the terms and conditions of this Agreement, or (iii) August 31, 2020. However, termination of this Agreement and any Amendments is contingent on all outstanding invoices being paid by the CITY to MDOT SHA.

D. The CITY shall indemnify, hold harmless and defend, at MDOT SHA's option, the State of Maryland, MDOT SHA and the Maryland Department of Transportation, from and against any and all liabilities, obligations, damages, penalties, claims, costs, charges and expenses, incurred in connection with the loss of life, personal injury and/or property damage arising from or in connection with the activities performed pursuant to this Agreement by the CITY or its contractors, agents or assigns.

E. <u>MDOT SHA shall reserve the right to limit or deny Salt and/or Aggregate to the CITY in order to avoid jeopardizing MDOT SHA's snow remediation operations.</u>

F. This Agreement shall inure to and be binding upon the parties hereto, their agents, successors and assigns.

G. This Agreement and the rights and liabilities of the parties hereto shall be determined in accordance with Maryland law and in Maryland courts.

H. The recitals (WHEREAS clauses) at the beginning of this Agreement are incorporated as substantive provisions of this Agreement.

I. All notices and/or invoices, if to the CITY, shall be addressed to:

Jeff Rhodes
CITY Administrator
City of Cumberland, 57 North Liberty Street
Cumberland, MD 21502
Phone: 301-759-6424
Fax:
E-mail: jeff.rhodes@cumberlandmd.gov

And if to MDOT SHA:

Eric Minnich
Resident Maintenance Engineer
Maryland Department of Transportation
State Highway Administration
1221 West Braddock Road
La Vale MD 21502-3347
Phone: 301-729-8434
Fax:
E-mail: EMinnich@sha.state.md.us

With copies to:

Mr. Anthony Crawford, District Engineer, D-6
Maryland Department of Transportation
State Highway Administration
1251 Vocke Road
La Vale MD 21502-3347
Phone: 301-729-8400
Fax: 301-729-6968
Email: acrawford@sha.state.md.us

And,

MDOT SHA Agreements Team
Office of Procurement and Contract Management
Maryland Department of Transportation
State Highway Administration
707 N. Calvert Street
Mailstop C-405
Baltimore, MD 21202
Phone: (410) 545-5547
E-mail: SHAAgreementsTeam@sha.state.md.us

(Signature Pages Follows)

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers on the day and year first above written.

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

_____
WITNESS

By: _____ (SEAL)
Gregory Slater Date
Administrator

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

_____
Assistant Attorney General

RECOMMENDED FOR APPROVAL:

_____
Tim Smith, PE
Deputy Administrator/Chief Engineer
for Operations

_____
Jason A. Ridgway, PE
Acting Deputy Administrator/Chief Engineer
Planning, Engineering, Real Estate, and
Environment

_____
William J. Bertrand
Director
Office of Finance

CITY OF CUMBERLAND, MARYLAND
a body corporate and politic

_____
WITNESS

BY:_____(Seal)
Jeff Rhodes
City Administrator

_____
Date

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

_____
CITY Attorney

Regular Council Agenda
September 19, 2017

Description

Order authorizing a Special Taxing District Residential Exemption for the 2017-2018 tax year for 55 N. Centre St. in the amount of $920.19.

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

- Order -

of the

Mayor and City Council of Cumberland

MARYLAND

ORDER NO. _____ **DATE:** September 19, 2017

ORDERED, By the Mayor and City Council of Cumberland, Maryland

THAT, the following Residential Exemption from the Special Taxing District Levy for 2017-2018 tax years be and is hereby granted:

Property / Owner	Tax Year / Account No.	Total Tax Due	Exemption Amt.
55 N. Centre St./Giarritta	2017-2018 Tax No. 14-002618	$ 752.88	$ 920.19

BE IT FURTHER ORDERED, that this exemption is hereby granted pursuant to the provisions of Section 235 of the City Charter.

_____

Brian K. Grim, Mayor

City of Cumberland
SPECIAL TAXING DISTRICT REQUEST FOR EXEMPTION

Tax Year 2017 - 2018

I, Shirley Giarritta request an exemption from the Special Taxing District Levy for property owned by me at: 55 N Centre St

My request is based upon the fact that:

✓ ***Residential*** - this property, or portion thereof, is occupied and used by the owner for his or her residence;

_____ ***Industrial*** - this property, or portion thereof, is used solely for light manufacturing purposes, and qualifies for a similar exemption according to the tax provisions of Allegany County, Maryland.

If only part of the property is used for an exempt purpose, designate the percentage so used:

Residential 55 %

Industrial 45 %

As to approved applications, the exemption shall be granted for all fiscal years falling within the calendar year preceding the date of the submission of the application for the exemption.

Signed: _____

Date: _____

For City use

Tax Account No: 14004955

	Assessed Amount	Tax Amount
Original	246900	1673.06
Exempt	201795	920.19
Billable	45105	752.88

August 29, 2017
Shirley Giarritta
55 N. Centre Street
Cumberland, Md. 21502
Account # 14004955

City of Cumberland
57 N. Liberty Street
Cumberland, Md. 21502
Attention: Mayor and City Council

Dear Sirs;

I am writing to obtain a reduced rate on my Real Estate Tax, Special Tax Bill account #14004955, bill #072060103 on my property at N Centre and Frederick Streets, #49-59 N. Centre Street.

My building is 55% residential and 45% commercial so I am requesting a reduced rate on my mall tax.

Thank you for your consideration.

Shirley Walker Giarritta

City of Cumberland **Live**
9/13/17

PROPERTY TAX SYSTEM

TA0080S1

Inquiry

Documents Exist

Prop#..: 14-004955
Owner..: GIARRITTA SHIRLEY WALKER
Address: 55 NW CENTRE-FREDERICK ST
Mail To: GIARRITTA SHIRLEY WALKER
55 N CENTRE ST
CUMBERLAND MD 21502-2305
Phone..:

School Dist.: CUMB SCHLS

Payoff Date : 9/13/2017
Total Billed: 115,480.27
Tot. Dsc App: .00
Total Paid..: 109,919.90
Total Due W/SC: 5,560.37

Enter Option: __

F3=Exit

X	Year	Perd	Type	Bill#	Tax	Pen	Int	Collected	Remaining Balance
_	2017	4	4P	172060039	1673.06	.00	.00	.00	1673.06
_	2017	1	SA	201703730	3887.31	.00	.00	.00	3887.31
_	*2016	4	4P	072060103	752.88	.00	.00	752.88	.00
_	2016	1	SA	201603808	3542.05	.00	.00	3542.05	.00
_	*2015	4	4P	152060039	752.88	.00	15.06	767.94	.00
_	2015	1	SA	201503804	3542.05	.00	.00	3542.05	.00
_	2014	4	4P	142060039	1694.04	.00	33.88	1727.92	.00
_	2014	1	SA	201404018	3586.46	.00	35.86	3622.32	.00

Regular Council Agenda
September 19, 2017

Description

Order reappointing Betsey Hurwitz Schwab to the Administrative Appeals Board for a three (3) year term effective September 19, 2017 through September 30, 2020

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

- Order -

of the

Mayor and City Council of Cumberland

MARYLAND

ORDER NO. _____ **DATE:** __September 19, 2017_

ORDERED, By the Mayor and City Council of Cumberland, Maryland

THAT, Betsey Hurwitz Schwab be and is hereby reappointed to the Administrative Appeals Board for a three (3) year term to be effective September 19, 2017 through September 30, 2020.

_____

Brian K. Grim, Mayor

Regular Council Agenda
September 19, 2017

Description

Order adopting a revised set of Rules and Regulations for the Government of the Mayor and City Council in place of the prior version adopted by Order 24,617 and amended by Ordinance No. 3735

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

- Order -

of the

Mayor and City Council of Cumberland

MARYLAND

ORDER NO. _____ **DATE:** September 19, 2017

ORDERED, By the Mayor and City Council of Cumberland, Maryland

THAT, the attached Rules and Regulations for the Government of the Mayor and City Council of Cumberland be and are hereby adopted in place of the prior version adopted by Order 24,617 on September 4, 2007 and amended by Ordinance No. 3735 on March 13, 2013.

_____

Brian K. Grim, Mayor

RULES AND REGULATIONS
for the Government of the
Mayor and City Council of Cumberland

The following rules and regulations are hereby prescribed for the government of the City Council:

RULE 1: Regular Meetings

The City Council shall meet at least twice monthly in regular meeting at such time as may be prescribed by order of the City Council, unless the same be a public holiday, in which event they shall meet the next day at such time as may be prescribed by order of the City Council; provided, however, that such semi-monthly meeting may, by a majority vote of the City Council, be postponed when said City Council considers such postponement necessary to another day, at such time as the City Council shall determine. The semi-monthly meetings shall be held on the first and third Tuesdays of each month unless the meeting dates are changed by the City Council.

RULE 2: Meeting Place

The place of meeting of the City Council shall be Room 212, Council Chambers, City Hall, and no meeting of said body shall be held elsewhere except by a majority vote of all the members elected.

RULE 3: Call to Order

Precisely at the time designated by order, the President of the City Council shall take the chair and call the Council to order.

RULE 4: Order of Business

I. Roll Call
II. Statement of Closed Meeting
III. Proclamations
IV. Certificates and Awards
V. Presentations
VI City Administrator's Report
VII Directors' Reports
VIII Approval of Minutes
IX Public Hearings
X Unfinished Business
XI New Business
XII Public Comments
XIII Adjournment

RULE 5: Special Meetings

Special Meetings of the City Council may be held at any time on the call of the President or two members, upon forty-eight (48) hours notice to every member of the Council; provided, however, that the requirement of a notice shall not be binding in any special meeting at which all members of the Council are present, nor where special circumstances so require.

RULE 6: President of City Council

The Mayor of the City of Cumberland shall act as President of the City Council; he shall preside at all meetings when present and preserve order and decorum; provided, however, in the absence of the President, the members present shall elect a president *pro tem*. He may designate what other member shall take the chair when he may desire temporarily to relinquish the same. He may speak on all questions before the City Council and shall have the right to vote upon all questions before the Council, except in the cases of appeal from his decisions; provided, however, that he shall not have the authority to move or second a matter for consideration or action by the Council. He shall appoint all committees unless otherwise directed by the City Council.

RULE 7: Motions – when reduced to writing

Every motion or proposition shall be reduced to writing on the call of any member, and a motion made and seconded shall be deemed in possession of the City Council and shall be stated by the President or read by the City Clerk previous to debate, and may be withdrawn at any time previous to a vote being taken.

RULE 8: Discussion of pending question

After the previous question has been seconded and the main questions ordered, the member who has introduced, or the City Administrator who has reported the matter under consideration, shall have one-half hour in which to discuss the proposition pending, at the close of which the vote shall be taken.

RULE 9: Appropriation or expenditure of monies

The passage of all ordinances, resolution or orders appropriating money shall be by "yeas" and "nays," and the vote shall be recorded in the journal; and any order, ordinance, resolution, or motion for the expenditure of any sum of money in excess of Twenty-five Thousand Dollars ($25,000.00) shall go to the next meeting before action can be taken thereon, except by

unanimous consent, and shall then be taken up under its proper head in the regular order of business.

RULE 10: Readings of Ordinances / Charter Amendment Resolutions

Every ordinance and charter amendment resolution shall be read three times by title before a vote is taken upon its passage; and no ordinances or charter amendment resolution shall be amended except upon its second reading, and the second reading can only be dispensed with by unanimous consent. Every ordinance and charter amendment resolution shall be read the first time at the meeting at which it shall be introduced, and shall then lie on the table until the next regular meeting, when it shall be read the second time, and it may then be read the third time and final action taken thereon; provided that by unanimous consent, any ordinance or charter amendment resolution may be passed at the meeting of its first reading. After an ordinance or charter amendment resolution has been read a third time, the only business in order is the call of the role upon its final passage.

RULE 11: Amending Ordinances

It shall be the duty of the City Council, in amending any part of an ordinance previously passed or of a code of ordinances, to ordain the same as the chapter, section, and subsection would read when amended.

RULE 12: Consent Agenda

Every Council order shall be placed on a consent agenda; provided, however, that any member of the Mayor and City Council may request to have an order removed from the consent agenda and voted on separately.

RULE 13: Protests

It shall be matter of right and privilege to have received and entered in the journal a protest of a member against any action taken by the City Council.

RULE 14: Reports

All reports to the City Council shall be in writing, signed by the individual making the report, and shall specify at the close of the report such action as the individual may recommend as proper for the City Council to take.

RULE 15: Charges

Charges against an officer of the City or member of the City Council shall always be preferred in writing, and such proceedings had thereon as are provided by the City Charter.

RULE 16: Destroying Quorum

No member shall retire from a meeting of the City Council or remain away for the purpose of destroying a quorum. Any member violating this rule may be arraigned before the City Council and if found guilty may be fined or expelled in the discretion of the City Council. Proceedings for the violation of this rule shall be in the manner and form provided by the City Charter.

RULE 17: Public Comment

Any person desiring to address the Mayor and City Council shall first secure permission from the presiding officer. Upon securing said permission, such person must approach a microphone and state his or her name and address. Remarks must be directed to the matter being considered except during the portion of the agenda for requests to be heard.

Each person desiring to address the Mayor and City Council shall be allotted five (5) minutes to do so as to each agenda item, as well as during requests to be heard.

RULE 18: Decorum

During public meetings of the Mayor and City Council, all persons shall preserve order and decorum. Any person making personal attacks, impertinent, slanderous, offensive or threatening remarks, or becoming boisterous, shall be barred from further attendance at the meeting by the presiding officer unless permission for continued attendance is granted by a majority vote of the City Council.

Meetings of the Mayor and City Council shall be conducted in a courteous manner. Members of the public shall be permitted to state their position subject to the time restrictions set forth in Rule 17 and the restrictions set forth in the preceding paragraph.

The Chief of the Cumberland City Police Department shall, upon request of the presiding officer, designate one of the officers of the said Police Department to serve as sergeant-at-arms at the meetings. Upon the direction of the presiding officer, the sergeant-at-arms shall eject such persons from the meetings who violate these rules and regulations, unless such person's continued attendance is permitted by majority vote of the City Council.

RULE 19: Presentation

Any presentation made to the City Council under Item V of the Order of Business (*Presentations*), shall be made in writing and presented to the City Clerk at least five (5) days before the date of the meeting at which the item presented will be considered.

RULE 20: Closed Meetings

Meetings of the Mayor and City Council shall be open to the public; provided, however, that the Mayor and City Council may meet in closed session or may adjourn an open meeting into a closed session for any of those purposes enumerated in Section 3-305 of the General Provisions Article of the *Annotated Code of Maryland*. Written minutes shall be kept of all closed meetings held by the Mayor and City Council. These minutes shall be prepared as soon as practicable under the circumstances and shall be open to public inspection during normal business hours; provided, however, that minutes of a meeting lawfully held in closed session may not be open to public inspection except for the reasons provided in Section 3-306 (c)(4) of the General Provisions Article of the *Annotated Code of Maryland*. A statement of the time, place, and purpose of any closed meeting, the record of the vote of each member by which any meeting was closed, a citation of the statutory authority for closing the meeting, and a listing of the topics of discussion, persons present, and each action taken during the closed meeting, shall be included in the minutes of the next regular meeting of the Council.

RULE 21: Suspension of Rules

The Rules of Order, other than those prescribed by law, may be suspended at any time by consent of a majority of the members present at any meeting.

RULE 22: Robert's Rules of Order

Except when in conflict with the foregoing provisions, "Robert's Rules of Order" shall govern the deliberations of the City Council.

Amended:

2007-01-09	Order 24,496
2007-09-04	Order 24,617
2013-03-13	Ordinance 3735 (Purchasing Policy)
_____	Order _____

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Amended:

2007-01-09	Order 24,496
2007-09-04	Order 24,617
2013-03-13	Ordinance 3735 (Purchasing Policy)
_____	Order _____

Regular Council Agenda
September 19, 2017

Description

Order accepting the proposal from The EADS Group, Inc. for the engineering design of the New Baltimore Street Town Center Project (12-16-M) in the estimated contract price of $301,678.53

Approval, Acceptance / Recommendation

It is the Engineering Department's recommendation to award The EADS Group, Inc. the Engineering Services Contract for design of the New Baltimore Street Town Center (12-16-M). The engineering services for design will be in the estimated contract price of $301,678.53. This proposal includes design and bid phase services.

EADS was originally selected to be the consultant for this project under a RFP Process that took place almost one year ago. At that time EADS submitted the best proposal. The only other proposal was from McCormick and Taylor. We found out later that the City could not use ARC funding because we did not follow all of the required Federal requirements for consultant selection. While in the process of working that out, we determined that the City would be better off to use a State approved consultant who had been selected under the federal guidelines. The costs for that consultant was around $630,000 so even with the $250,000 grant the City would have to spend additional funds if we used the grant. Our recommendation is to proceed with our originally selected consultant, EADS. We did agree to an increase in fees for EADS because the bid was so old, but their price is still well below that of both other consultants and we do believe that they will provide an quality engineering product to the City.

☑ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

$301,678.53

Source of Funding (if applicable)

- Order -

of the

Mayor and City Council of Cumberland

MARYLAND

ORDER NO. _____ **DATE:** __September 19, 2017_

ORDERED, By the Mayor and City Council of Cumberland, Maryland

THAT, the proposal from The EADS Group, Inc., 1126 8th Avenue, Altoona, PA 16602, for the engineering design of the New Baltimore Street Town Center Project (12-16-M) be and is hereby accepted in the estimated contract price of Three Hundred One Thousand, Six Hundred Seventy-Eight Dollars, and Fifty-Three Cents ($301,678.53).

_____

Brian K. Grim, Mayor

Bids:

Company	*Bid*
EADS, Inc.	$301,678.53
McCormick & Taylor	$535,563.64

EADS ENGINEERING COST DETAIL

The EADS Group, Inc. — **New Baltimore Street Town Center** — Date: Aug-17 — Sht 1 of 3

TASKS	Employee Classification	Project Manager	QA/QC Engineer	Highway Engineer	Civil/San Engineer	Landscape Architect	Lighting Engineer	Chief of Surveys	Surveyor	Survey Tech	CADD Tech	Clerical	Total Hours /Task	Cost Per Task
	Billing Rate/Hour	$131.18	$146.28	$131.18	$148.19	$189.85	$111.30	$148.98	$59.78	$97.63	$77.12	$54.86		
	DESCRIPTIONS													
1	Project Management & Coordination													
	Project Management	100											100	$13,118.00
	Kickoff Meeting	6	6				8						20	$2,555.16
	DDC Meetings	18	18				24						60	$7,665.48
	Design / Review Meetings	12					8						20	$2,464.56
	Status Meetings	24											24	$3,148.32
	Funding Assistance	16	16										32	$4,439.36
2	Public Involvement													
	Meeting with City Officials	8	8				10						26	$3,332.68
	Plan & Display Prep			16									16	$2,098.88
3	Field Surveys & Base Mapping													
	Field Survey							4	200	4			208	$12,942.44
	Base Mapping			4				4		36			44	$4,635.32
4	Utilities													
	Miss Utility & Plot Utilities			16								4	20	$2,318.32
	Utility Impact Assessment			16									16	$2,098.88
	Verification Package			8								2	10	$1,159.16
	Meeting w/ Utilities		6	6			8						20	$2,555.16
	CCTV San Sewer Coord			4									4	$524.72
	Sanitary Sewer Repairs			32									32	$4,197.76
	Water Line Evaluation			24	40								64	$9,075.92
	Water Line Design			24	40								64	$9,075.92
	Conduit Bank Design			40									40	$5,247.20
5	Construction Plans													
	Plans		4	500		40					20		564	$75,311.52
	Cross Sections			80							20		100	$12,036.80
	Quantities / Cost Estimate			16									16	$2,098.88
6	Maintenance & Protection of Traffic Plan													
	Plan Prep		2	60							8		70	$8,780.32
	Final Revisions			8									8	$1,049.44
7	Signing & Pavement Marking Plan													
	Plan Prep		2	60							8		70	$8,780.32
	Final Revisions			8									8	$1,049.44

The EADS Group, Inc. **New Baltimore Street Town Center** Date: Aug-17 Sht 2 of 3

TASKS	Employee Classification	Project Manager	QA/QC Engineer	Highway Engineer	Civil/San Engineer	Landscape Architect	Lighting Engineer	Chief of Surveys	Surveyor	Survey Tech	CADD Tech	Clerical	Total Hours /Task	Cost Per Task
	Billing Rate/Hour	$131.18	$146.28	$131.18	$148.19	$189.85	$111.30	$148.98	$59.78	$97.63	$77.12	$54.86		
	DESCRIPTIONS													
8	E&S Control Plans & Permits													
	Plan Prep		2	40							8		50	$6,156.72
	Permit Preparation			24									24	$3,148.32
	Final Revisions			8									8	$1,049.44
9	Highway Lighting & Electric Service													
	Meetings			12			16						28	$3,354.96
	Highway Lighting Design		4				53						57	$6,484.02
	Electric Service Design						53						53	$5,898.90
	Quantities / Cost Estimate			4			8						12	$1,415.12
10	Traffic Signal Design													
	Coordination w/ Subconsult			8									8	$1,049.44
11	Construction Specifications													
	Specification Package			120									120	$15,741.60
	Final Revisions			16									16	$2,098.88
12	Construction Consultation													
	Questions		4	48			8						60	$7,772.16
	Shop Drawings						16						16	$1,780.80
	Site Visits		12	24			16						52	$6,684.48
	Final Inspection		6	6			8						20	$2,555.16
TOTAL HOURS		184	90	1232	80	40	236	8	200	40	64	6	2180	
TOTAL COST		$24,137.12	$13,165.20	$161,613.76	$11,855.20	$7,594.00	$26,266.80	$1,191.84	$11,956.00	$3,905.20	$4,935.68	$329.16		$266,949.96

EADS Engineering Cost Subtotal **$266,949.96**

PRICE PROPOSAL SUMMARY

The EADS Group, Inc. | **New Baltimore Street Town Center** | Date: Aug-17 | Sht 3 of 3

TASKS	Employee Classification	Project Manager	QA/QC Engineer	Highway Engineer	Civil/San Engineer	Landscape Architect	Lighting Engineer	Chief of Surveys	Surveyor	Survey Tech	CADD Tech	Clerical	Total Hours /Task	Cost Per Task
	Billing Rate/Hour	$131.18	$146.28	$131.18	$148.19	$189.85	$111.30	$148.98	$59.78	$97.63	$77.12	$54.86		
	DESCRIPTIONS													
1	Project Management & Coordination	176	40				40						256	$33,390.88
2	Public Involvement	8	8	16			10						42	$5,431.56
3	Field Surveys & Base Mapping			4				8	200	40			252	$17,577.76
4	Utilities		6	170	80		8					6	270	$36,253.04
5	Construction Plans		4	596		40					40		680	$89,447.20
6	Maintenance & Protection of Traffic Plans		2	68							8		78	$9,829.76
7	Signing & Pavement Marking Plans		2	68							8		78	$9,829.76
8	E&S Control Plans & Permits		2	72							8		82	$10,354.48
9	Highway Lighting & Electric Service		4	16			130						150	$17,153.00
10	Traffic Signal Design			8									8	$1,049.44
11	Construction Specifications			136									136	$17,840.48
12	Construction Consultation		22	78			48						148	$18,792.60
TOTAL HOURS		184	90	1232	80	40	236	8	200	40	64	6	2180	
TOTAL COST		$24,137.12	$13,165.20	$161,613.76	$11,855.20	$7,594.00	$26,266.80	$1,191.84	$11,956.00	$3,905.20	$4,935.68	$329.16		$266,949.96

EADS Engineering Cost Subtotal **$266,949.96**

Professional Services by Sub-Consultants

	Qty	Unit Price	Cost Per Task
Traffic Signal Design by French Engineering, LLC			
Traffic Signal Design (See Section 8 for Technical and Price Proposal)	1 LS	$13,128.57	$13,128.57

Professional Services by Sub-Consultants Cost Subtotal **$13,128.57**

Non-Professional Services

	Qty	Unit Price	Cost Per Task
Subsurface Utility Investigation by CARDNO, INC.			
Subsurface Utility Investigation QL-A (See Section 9 for Technical and Price Proposal)	1 LS	$18,100.00	$18,100.00
CCTV of Sanitary Sewer			
CCTV of sanitary sewer line	1 LS	$3,500.00	$3,500.00

Non-Professional Services Cost Subtotal **$21,600.00**

Total Not To Exceed Engineering Fee **$301,678.53**

Proposal

New Baltimore Street Town Center

Detailed Design Services
City Project No. 12-16-M

Prepared for:
City of Cumberland

September 2016
Revised September 2017

THE EADS GROUP

ENGINEERING ARCHITECTURE AND DESIGN SERVICES

THE EADS GROUP

ENGINEERING ARCHITECTURE AND DESIGN SERVICES

● **Altoona** ● 1126 Eighth Avenue ● Altoona, PA ● 16602

○ **Clarion** ○ 15392 Route 322 ○ Clarion, PA ○ 16214

● **Somerset** ● 450 Aberdeen Drive ● Somerset, PA ● 15501

○ **Lewistown** ○ 147 East Market Street ○ Lewistown, PA ○ 17044

○ **Pittsburgh** ○ 11045 Parker Drive ○ North Huntingdon, PA ○ 15642

○ **Johnstown** ○ 227 Franklin Street ○ Suite 300 ○ Johnstown, PA ○ 15901

● **Maryland** ● 50 North Mechanic Street ● Cumberland, MD ● 21502

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FIRM OVERVIEW

Quality Service with Integrity

Board of Directors:

- Thomas M. Reilly, P.E.
  President and CEO
- Craig L. Weaver, P.E.
- David M. Yahner, P.E.
- Janet L. Helsel, CPSM
- Gregory L. Elliott, RLA
- Stephen M. Sewalk, P.E.

The EADS Group is a Corporation Registered in:

- Pennsylvania
- Maryland
- New Jersey
- Ohio
- Texas
- Virginia
- West Virginia

Office Locations:

- Altoona, PA
- Clarion, PA
- Cumberland, MD
- Johnstown, PA
- Lewistown, PA
- Pittsburgh, PA
- Somerset, PA

QUICK FACTS

- **Est. 1955**
- **Over $28.5 Million in sales in 2016**
- **ISO 9001 Certified**
- **Employee-owned and managed**
- **Over 225 employees**

MISSION

The Mission of The EADS Group is to provide our clients quality service with integrity, the success of which is measured by their level of satisfaction. By maintaining a climate of integrity, innovation, and constant improvement, we ensure our technical staff the opportunity for personal growth while creating a working partnership with our clients.

BACKGROUND

For over 60 years, The EADS Group has been satisfying the planning, engineering, environmental, architectural and related needs of federal, state and private clients in our community.

Extensive knowledge and expertise is represented in over 225 professionals in the following office locations - Altoona, Clarion, Johnstown, Lewistown, Pittsburgh and Somerset, PA and Cumberland, MD. Our professional team is made up of: Professional Engineers, Certified Planners; Registered Landscape Architects, Registered Land Surveyors, Professional Geologists, Registered Architects, Environmental Specialists, Construction Inspectors, Photogrammetrists, and highly skilled technical personnel. We offer the resources of many talented individuals with literally hundreds of successful projects to their credit.

PEOPLE

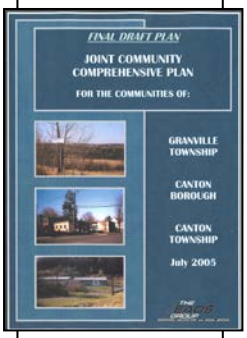
The key to our organization is people. The loyalty, dedication and longevity of our staff ensure that The EADS Group can provide continuity and professionalism to all assignments. Our personnel are educated, trained and experienced in their chosen disciplines, specifically to provide quality service to our clients. They are flexible. Each project, large or small, becomes the responsibility of a project manager and a specially selected team.

COMMITMENT

To you, our customer. To our community. To ourselves. To quality. We are committed. As an employee-owned company, each member of the EADS Team is invested and dedicated to providing only the highest quality of work. Exemplifying our commitment to quality is our ISO 9001 certification. Our process-based quality management system puts customer satisfaction in the foreground of all our daily operations and ensures the successful completion of your project.

THE EADS GROUP

FIRM CAPABILITIES



TRANSPORTATION

The EADS Group has been responsible for the design of over $1 billion worth of roadways, highways and bridge construction projects. Our designers have been trained extensively in the use of both Softdesk and Microstation survey, mapping and highway design computer software. This permits the generation of alignments, profiles and cross sections from the initial input of the raw survey data. Today, we provide highway, bridge, and airport planning design and construction services to State Transportation Departments, the U.S. Army Corps of Engineers, Counties, Municipalities, Authorities, and Private Developers. Our engineers and technicians also inspect 300+ bridges on a continual two-year cycle. Our company led a multi-discipline team of Engineers, Geologists and Environmental Specialists to successful completion of one of the largest transportation improvement projects in PA - The Lewistown Narrows. This project has received various awards including: FHWA-Award of Excellence, ACEC/PA-Grand Conceptor Diamond Award, ACEC-Engineering Excellence Honor Award, AASHTO-America's Transportation Award Large Project-on Time, and FHWA/PA-Transportation & Historic Preservation Excellence Award.

ENVIRONMENTAL

Our staff has extensive experience with waterways permitting, environmental risk assessments, site investigations, wetlands delineation and mitigation, and all related permitting. The scope of services covers terrestrial and aquatic ecology, water resources, vegetation and wetlands, soils and geology, air quality, noise, hazardous wastes, and socio-economics/land use. Projects have been successfully completed for private and public sectors: 17 Street Logan Partnership, L.P., Westvaco, Appleton Papers, Crown American Corp., National Park Service, U.S. Fish and Wildlife Service, Environmental Protection Agency, Pennsylvania Departments of Environmental Protection (DEP) and Transportation (PennDOT), and U.S. Navy and U.S. Army Corps of Engineers.

CONSTRUCTION MANAGEMENT

Construction management is completed in support of in-house design services and for projects designed by other professionals. A mix of experience and training provides clients with the knowledge of the latest construction technology and sensitivity to the environment during the construction process. Materials testing capabilities are also available in-house.

SITE DEVELOPMENT

The EADS Group provides total capabilities in the transformation of undeveloped property into functional commercial, industrial and institutional facilities. From the acquisition of the property through construction management, we offer total in-house capabilities. The disciplines available to you include surveyors, right-of-way specialists, environmental scientists, civil engineers, landscape architects, geologists, hydrogeologists, photogrammetrists, water/wastewater engineers, structural engineers and construction specialists.

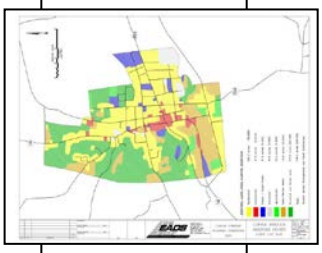
PLANNING

The EADS Group provides planning services to local governments, public agencies and the development community. Planning services draw upon the mapping, transportation, and environmental capacities of the company, uniquely blending them in a unified approach to assist local officials and the business community in understanding and improving their respective environments. Planning services are coordinated and provided by professionals having a multi-disciplinary background and approach, with extensive experience in comprehensive and strategic planning, land use planning and development planning, in the public and private sectors.

THE EADS GROUP

MAPPING

Staff has the ability to produce Geographic Information System (GIS), enhanced digital orthophotography and photogrammetric mapping at any scale chosen by our clients. Normal mapping scales provided range from a design scale of 1" = 30' to a scale of 1" = 500', for planning documents. Mapping is provided in GIS ArcInfo, AutoCAD and Microstation formats. Maps can be provided in a layered digitized format, including contours as layers. EADS has the ability to produce maps using GPS control surveys and analytical aerotriangulation. EADS is also able to provide both high quality photography and accurate mapping with ground control with the use of Drone UAV Services.



SURVEYING

The EADS Group has been providing professional surveying and mapping services to government, business and industry for more than forty years. Surveying services are incorporated as an integral part of each of the in-house disciplines offered. Whether strictly related to surveying, or as a support function, our survey crews are capable of providing timely and accurate data necessary for the successful completion of any project. Our crews are familiar with the most recent regulations and standards, and utilize state-of-the-art equipment and software programs to complete each assignment. EADS is also able to provide both high quality photography and accurate mapping with ground control with the use of Drone UAV Services.

WATER & WASTEWATER

The EADS Group has earned an excellent reputation for providing quality sanitary engineering services. Service to clients began in the late 1940's through the founder of one of our companies, providing the firm with decades of experience in this discipline. We received design approval for the construction of the first aerated facultative lagoon treatment facility in the Commonwealth of Pennsylvania, and were responsible for the initiation of slow sand filtration for safer drinking water within the Commonwealth. Staff is knowledgeable of local, state and federal regulations and investigates solutions tailored to the financial as well as technological needs of each client.

MINING & GEOTECHNICAL

Since the founding of one of our companies in 1940, we have completed numerous mining and geotechnical engineering projects. Our experience includes all aspects of mining and geotechnical engineering including mine layout and design, operations, permitting, mine transportation systems, reclamation, mine drainage treatment, geotechnical analysis (including foundation and slope stability analysis), soils engineering, water analysis, etc. Clients are in both the private and public sector reaching from Louisiana to Arkansas and north to Wisconsin and New Brunswick, Canada.

ARCHITECTURE

The EADS Group entered the architectural design market in 1980. Our architectural team specializes in the renovation, restoration and expansion of existing facilities, as well as the design of new structures. Projects completed range from small structures for private developers, to high-tech, top security facilities for the federal government. Historic restoration projects have also been completed in strict compliance with the National Register of Historic Places.

PROJECT OVERVIEW

This proposal and scope of work have been prepared based upon the published *Request for Proposals (RFP)*, guidance provided at the Pre-Proposal Meeting held August 24, 2016, additional data provided by the City subsequent to the meeting, a review of field conditions conducted by the design team, and our knowledge of the area and of City & Maryland State Highway Administration (MDSHA) requirements. The following scope of work is intended to supplement the published *RFP* and provide details as to how ***The EADS Group*** (***EADS)*** will approach the project to meet the needs of the City. ***EADS*** will complete all Professional Services work items, with the exception of the traffic signal design, in-house in our Altoona, Cumberland and Somerset offices. Cardno will serve as a sub-consultant and will provide the subsurface utility investigation service. French Engineering, LLC will serve as a design sub-consultant and will provide the traffic and pedestrian signal design at the Mechanic Street / Baltimore Street Intersection.

The intent of the *New Baltimore Street Town Center* project is to reopen Baltimore Street, which is currently a pedestrian mall, to vehicular and bicycle traffic while maintaining elements of the mall. The project will facilitate development of and improve access to the mall. The proposed limits for the project include Baltimore Street from Canal Street to Queen City Drive, Liberty Street from Pershing Street to Frederick Street and Centre Street from Pershing Street to Frederick Street.

Proposed work on Baltimore Street between Mechanic Street and Liberty Street as well as between Centre Street and George Street will include reopening the street to accommodate one-way vehicular traffic with parking on one side as well as provide bicycle access. This will be achieved by removing the existing brick sidewalk and installing full depth pavement as well as new concrete curb. Additional improvements will include new brick sidewalk, new ADA compliant curb ramps, new pedestrian lighting and related landscaping improvements.

Proposed work on Baltimore Street between Liberty Street and Centre Street, known as Iseminger Square, will include a brick promenade, tree planting strips, patterned and tinted concrete sidewalk, a flexible community space with moveable furniture and removable street bollards.

Proposed work on Liberty Street and Centre Street within the project limits will include removal of the existing concrete roadway surface and placement of full depth pavement. Additional improvements will include new brick sidewalk, new ADA compliant curb ramps, new pedestrian lighting and related landscaping improvements.

Other items of work to be incorporated into the plans will be replacement of the storm sewer system including inlet trap installation on combination sewers, bicycle friendly inlet grates, evaluation/replacement of the sanitary sewers and waterline, installation of a concrete encased conduit bank to accommodate future telecommunications and electric service, installation of a new outdoor electric power system, installation of gateway elements, tree plantings, new pavement markings and traffic signs.

As stated in the *RFP*, the existing utility information that is available in the project area is not optimum. Therefore, ***EADS*** will be teaming up with Cardno to provide a subsurface utility investigation. Once the existing utility information is assembled, placed on the base mapping and verified by the utility companies, ***EADS*** will identify potential areas of conflict with the installation of new storm sewer, a new duct bank as well as new underground electric to supply power to the new pedestrian lighting. Cardno will then take this information and perform a Quality Level A subsurface investigation in order to limit the potential for conflicts with utilities and the construction delays that would result from them.

The traffic signal as well as the pedestrian signals and push buttons at the Mechanic Street / Baltimore Street intersection will need to be redesigned to accommodate the new traffic patterns as a result of reopening the section of Baltimore Street between Mechanic Street and Liberty Street. ***EADS*** will be teaming up with French Engineering, LLC to provide the traffic signal and pedestrian signal design.

It is expected that the improvements will be made to Baltimore Street in several phases and will result in sidewalk closures/shifts. These sidewalk closures will be implemented using MDSHA standards. The traffic signal work at the Mechanic Street / Baltimore Street intersection as well as the work to take place on Liberty Street and Centre Street will require advanced warning signs, barriers and channelizing devices necessary to complete the work under current traffic conditions.

Construction plans and specifications will be prepared in accordance with the standards and requirements of the City of Cumberland and the Maryland State Highway Administration. Design will be in accordance with minimum AASHTO design standards. ***EADS*** has reviewed the City's software standards and will provide documents in those formats. ***EADS*** has the necessary computer hardware in-house to produce the complete set of construction documents as are defined within the *Request for Proposals* and this proposal. The funding sources for construction are currently unknown. ***EADS*** will provide assistance to the City in its efforts to acquire funding.

Work Quality is a continuous initiative at ***EADS***. Our Quality Management System has been ISO 9001 registered since 2004. Our ISO certification further enhances and strengthens our commitment to quality. The Quality Policy at ***EADS*** includes a commitment by management and all employees to provide our services on time, in an efficient, cost-effective manner and that those services meet your requirements as we strive to exceed your expectations. High quality construction documents remove ambiguity and drive a construction project that reduces or eliminates surprises and extensive change orders.

The ***EADS*** Cumberland office located at 50 N. Mechanic Street is within walking distance to the City Engineering Office and to the roads affected by this project. Our Somerset staff is taking the lead role in assisting this office with our goal to further develop the services provided in the Cumberland area. Although experienced staff members in Somerset and Altoona are instrumental to meeting the project schedule, incorporation of Cumberland office staff in the project will be one of our internal goals throughout the project duration – for both our efficiency and your convenience.

SCOPE OF SERVICES

1. PROJECT MANAGEMENT & COORDINATION

Nicholas A. Wagner, P.E. will serve as the Project Manager and will be the primary contact person throughout the project. He will maintain communications with the City and MDSHA. He will be responsible for the project schedule and budget. Monthly invoices will be prepared and submitted to the City along with status reports as needed to keep the City appraised of the progress and findings. Nick will attend project meetings and review all submissions prior to submittal.

Andrew M. Fedorko, P.E., the Structures & Highways Department Manager, will support ***EADS'*** personnel with supervisory management activities, ensure compliance with the engineering agreement, attend project meetings as needed and will oversee the quality assurance reviews.

Michael J. McLucas, will serve as the electrical designer. He will maintain communications with the City and Maryland SHA as it pertains to the lighting and electric service design. He will attend project meetings that pertain to the lighting or electrical service design.

2. PUBLIC INVOLVEMENT

This task includes the attendance and preparation of informational materials to be viewed and/or displayed to the general public at public meetings. Task also includes a meeting prior to the public plans display with City Officials.

3. FIELD SURVEYS & BASE MAPPING

A field survey of the project area will be performed by our survey corps in accordance with recognized survey standards. This activity will be done using an electronic data collector as well as conventional survey methods. Documentation will be provided in the form of a survey report generated by the survey software program. Control elevations and benchmarks will be established by direct levels and based on the City's datum. A construction centerline will be established along each street in the surveyed areas and tied to reference points set in the field.

Prior to performing the field surveys, ***EADS*** will place a call with Miss Utility and will contact utility companies that may have underground facilities in the project area and request that locations be marked in the field so the survey corps can include these in data collection. We will work with the City water and sewer personnel to locate existing facilities.

Traffic control will be provided while conducting the field survey in accordance with MDSHA standards or other acceptable procedures. It is assumed that all field surveys will be conducted in public right-of-way and there will be no need to enter private property. Therefore notice of intent to enter letters to property owners will not be necessary.

Base plan drawings will be developed utilizing AutoCAD Civil 3D computer modeling software that stores survey point elevations and coordinates. Plans will be compatible with the City's AutoCAD 2013 software. ***EADS*** will coordinate drawing scales with the City.

This task does not include construction stakeout. However, the construction specifications will address requirements for the contractor's construction stakeout.

4. UTILITIES

Investigation and verification of utilities within the project area will be completed. This task involves contacting utility companies to obtain the location of their facilities. Contact with utility companies through Miss Utility will be one of the first tasks to be initiated so that underground utilities can be located and marked in the field prior to or during the field survey process. Utility companies will be provided with a color copy of the project mapping with field located facilities shown for verification and to complete any missing information relating to their facilities.

As a follow-up to the utility notifications and verifications, ***EADS*** will meet with utility companies to determine and discuss impacts resulting from this project. Documentation will be obtained to define impacts and/or obtain clearance from the utility companies. Correspondence will be compiled and submitted to the City. If impacts are defined, final plans will be adjusted in accordance with the plan checks received from the individual utility companies. Verification of impacts will be field checked.

Also, ***EADS*** will inspect the sanitary sewer lines utilizing CCTV to assess the condition of the facilities and determine sections of the line that need to be replaced. ***EADS*** will evaluate the existing waterline and distribution system and make recommendations to the City for potential areas of improvement. It is understood the City has identified specific needs for the water system as described in the 8/24/16 pre-proposal meeting minutes, which ***EADS*** will incorporate into the project.

In addition to these non-invasive investigations, ***EADS*** will be teaming up with Cardno to provide a subsurface utility investigation. Once the existing utility information is assembled, placed on the base mapping and verified by the utility companies, ***EADS*** will identify potential areas of conflict with installation of new storm sewer, a new duct bank as well as new underground electric to supply power to the new pedestrian lighting. Cardno will then take this information and perform a Quality Level A subsurface investigation in order to limit the potential for conflicts with utilities and the construction delays that would result from them.

5. CONSTRUCTION PLANS

EADS will prepare roadway construction plans, profiles, details and cross sections in accordance with City of Cumberland and the MDSHA standards. All construction work is to be done within existing roadway right-of-way. There will be no additional takings from adjoining property owners. Work will include accommodations for ADA and bicycle traffic. Work will also include landscaping improvements to include the installation of tree planting strips and removable bollards at Iseminger Square as well as benches, trash receptacles, bike racks, tree planters and trees throughout the rest of the project.

It is anticipated that no stormwater management best management practices will be required for this project. However, as an environmentally friendly option ***EADS*** would still consider incorporating rain gardens or similar features into the design to allow runoff from the sidewalks to be absorbed into planted areas that are aesthetically pleasing.

6. MAINTENANCE AND PROTECTION OF TRAFFIC PLAN

The final construction plans will include a Maintenance of Traffic (MOT) plan conforming to MDSHA criteria. It is anticipated that most of the work on Baltimore Street will only need to account for the detour of pedestrian traffic during construction. The plan will show the location of required advanced warning signs, barriers and channelizing devices necessary to complete the work under traffic along Liberty Street and Centre Street as well as the Mechanic Street / Baltimore Street intersection.

7. SIGNING & PAVEMENT MARKING PLAN

EADS will prepare a Signing and Pavement Marking plan in accordance with City of Cumberland and MDSHA standards. These plans will include tabulations for the items required for proposed signs as well as proposed pavement markings as well as any needed details for construction.

8. E&S CONTROL PLANS & PERMITS

EADS will coordinate all work with the City and MDSHA and make required submittals. Development of the plans and construction documents will be in conformance with MDSHA policies. An erosion and sediment pollution control plan will be required for the construction. This plan will be developed and submitted to the Allegany Soil Conservation District for approval.

9. HIGHWAY LIGHTING & ELECTRIC SERVICE

EADS will prepare Highway Lighting and Electric Service plans in accordance with City of Cumberland and the MDSHA standards. Work will include design of the highway lighting and electric service. This work will be coordinated with the City to make sure that the light posts and luminaires as well as the electric system meet the needs of the project.

10. TRAFFIC SIGNAL DESIGN

EADS will be teaming up with French Engineering, LLC to provide the traffic signal and pedestrian signal design. This project includes opening up the east leg of the intersection of Mechanic Street / Baltimore Street to one-way eastbound traffic on Baltimore Street. Anticipated changes to the traffic signals and pedestrian signals included in the design would be as follows: change the lane use sign on the Baltimore Street mast from a left turn lane sign to a thru and left turn lane sign, add pedestrian signal heads and push buttons for the new Baltimore Street leg and adjust the timing of all signals.

11. CONSTRUCTION SPECIFICATIONS

Where possible, the Maryland State Highway Administration's *Standard Specifications for Construction and Materials* will be used as the construction specifications for this project. ***EADS*** will prepare special provisions to the standard specifications to cover items of work and materials exclusive to this project. The Specification, Proposal and Contract documents will include City of Cumberland as well as MD SHA documents, similar to the recent Baltimore Avenue Improvements as well as the Mechanic Street Access Road Improvements project that were recently designed by ***EADS*** for the City.

12. CONSTRUCTION CONSULTATION

Our design staff will be available to review, comment on and approve shop drawing submittals and proposed field modifications. ***EADS*** will attend preconstruction meetings and field meetings during construction and will be available to the City's construction inspection staff for consultation via telephone, electronic communications or personal visits to the project site. Upon completion of construction, we will attend the final inspection.

CITY'S REQUEST FOR PROPOSALS

The EADS Group has received the following documents and has based this proposal submission on the direction provided therein:

RFP for City Project No. 12-16-M
Addendum No. 1 dated 8/29/16 Pre-Proposal Meeting Report email
Addendum No. 2 dated 9/14/16 email

These documents are included in this submission on the following pages and are incorporated into this scope of work by reference.

CITY OF CUMBERLAND, MARYLAND
DEPARMENT OF PUBLIC WORKS
ENGINEERING DIVISION

REQUEST FOR PROPOSALS

for

CITY OF CUMBERLAND

NEW BALTIMORE STREET TOWN CENTER

DETAILED DESIGN SERVICES

CITY PROJECT NO. 12-16-M

AUGUST 8, 2016

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City of Cumberland

Department of Public Works
Engineering Division

57 North Liberty Street
Cumberland, MD 21502
301-759-6600
FAX 301-759-6608
Email:
john.difonzo@cumberlandmd.gov
City Engineer: John J. DiFonzo P.E.

NOTICE TO BIDDERS

Sealed Proposals addressed to Paul J. De Palatis - Project Manager will be received until but not after 2:00 p.m., Local Time, **Wednesday, September 21, 2016.** All proposals must be submitted in a sealed envelope, plainly marked on the outside thereof **"New Baltimore Street Town Center**" City Project Number **12-16-M.** Proposals will be opened in the Engineering Office on the proposal due date at 2:30 p.m. Each bidder shall submit five (5) copies. The address is:

City of Cumberland
Engineering Office
20 Bedford Street Suite 343
Cumberland, Maryland 21502

Interested bidders can request a copy of the bid documents by sending an email to paul.depalatis@cumberlandmd.gov .

A mandatory Pre-Proposal Meeting will be held on **Wednesday August 24, 2016** at 9:00 a. m. in the Engineering Division Conference Room, Room 343 on the third floor of the Public Safety Building.
Note: The request for proposal documents are intended to cover a complete task. It should be distinctly understood that failure to mention any incidental and/or necessary related work that would be required to complete the work identified in this RFP shall not relieve the Firm of its responsibility to perform such work.

Firms planning to submit proposals must notify the City contact, via email, by Monday August 21, 2016 of their intent to attend the Pre-Proposal meeting, and include the names and email addresses of their representatives who shall be present.

The City contact for this project is Paul J. De Palatis at paul.depalatis@cumberlandmd.gov or by phone at (301) 759-6606. Any requests for information (RFI) for the explanation or clarification of any point not sufficiently covered by existing documents must be submitted in writing. Fax and e-mail transmission are acceptable. The requested information, as well as any addenda that develop during the bidding process, will then be sent via e-mail to all bidders who requested and received the initial bid documents. The submittal cutoff for RFIs is 3:00 p.m. **Wednesday September 14, 2016**.

The Mayor and City Council reserve the right to waive any informalities and to reject any or all proposals, and to accept any or all proposals which in their judgment is in the best interest of the City, or to re-advertise for new bids.

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INTRODUCTION: The City of Cumberland, Maryland (owner) is soliciting proposals from qualified firms to prepare bid-ready documents for City Project **12-16-M "New Baltimore Street Town Center".** This includes necessary site surveys, an engineering and landscaping evaluation and design, and preparation of plans and specifications. The documentation, as applicable, shall be in accordance with the requirements set forth by the Maryland State Highway Administration (MDSHA) and any other standards the City may specify or that are otherwise necessary for this work, and shall be sufficiently detailed for the attainment of competitive construction bids.

BACKGROUND: The purpose of the New Baltimore Street Town Center project is to reopen and improve Baltimore Street, which is currently configured as a pedestrian mall, to vehicular traffic while maintaining elements of the mall. The report "City of Cumberland Strategic Opportunity Sites Study: Baltimore Street Preferred Alternative Investigation", dated April 2016 and prepared by McCormick Taylor ("Report"), addresses the desired features of the "preferred alternative" that is focal point of this RFP.

The limits of the project are generally as shown on Page 3 of the report, from George Street to Mechanic Street, a distance of approximately one thousand (1,000) feet.. The extent of street and sidewalk improvements onto North Centre and Liberty Streets shall be established as part of the design. Additionally, extension of the new sidewalks east of George Street, to Queen City Drive, and west of Mechanic Street, to Canal Street, as well as general improvements to the existing street, shall be designed and estimated.

Improvements shall include:

- landscaping improvements
- new roadway and bike lanes
- new sidewalks and new lighting

The Report provides a description of this aspect of the design effort.

Other improvements shall include upgrades to the utilities:

- water lines
- storm, sanitary and combined sewer lines
- electrical power distribution
- communications

The accuracy and completeness of the information on existing utilities is not optimum. The City will endeavor to provide as much information and guidance on utilities as is possible. At a minimum:

- all existing sewers within the project limits shall be inspected with CCTV, and required repairs designed
- the existing lighting conduit and wiring shall be replaced, due to a concern that existing lighting conduit is highly corroded
- outdoor power distribution infrastructure is insufficient (wiring sizes and distribution of electrical outlets) especially for tree lighting, musical entertainment loading, temporary vending equipment loading, and other such loading as is typical for facilities such as this, and shall be evaluated and designed
- the existing water distribution system condition shall be evaluated, and any needed repairs designed
- a concrete-encased conduit bank to accommodate future telecommunications or power distribution needs shall be designed

See both the report and the PROJECT SCOPE OF WORK (construction) below, for more details on the desired improvements.

The design phase of the project will be funded by the City of Cumberland. The construction phase funding sources are not yet known. The project documents shall comply with all requirements of the yet to be determined funding sources, and shall be revised to the requirements of additional funding sources should they become available. The successful consultant shall also be required to generate documentation the funding sources may request as part of the funding process, and to otherwise provide assistance to the City in its efforts to acquire funding.

PROJECT SCOPE OF WORK (construction): The following items generally comprise the scope of work for this project, which will be fully addressed by the successful consultant in the preparation of construction-grade bidding documents:

1. Remove all existing pavement between the buildings fronting on Baltimore Street, from George Street to Mechanic Street, as well as portions of the existing sidewalks on N. Liberty Street and N. Centre Street.
2. Construct new roadway, brick sidewalks, brick promenade, concrete pavement, and bike lanes, complete with lane markings.
3. Construct the tree planting strips in the Iseminger Square, and furnish and install the removable street bollards. Furnish and install the tree planters and trees.
4. Furnish and install any other landscape improvement items.
5. Furnish and install pedestrian scale lighting, including poles, banners, and identifiers.
6. Furnish and install benches, trash receptacles, bike racks and any other such amenities.
7. Install new ADA compliant elements throughout the site.
8. Furnish and install Gateway Elements.
9. Install, repair and/or replace the existing utilities infrastructure (scope to be defined as part of the design effort).
10. Construct the concrete-encased conduit bank for future use as telecommunications needs develop.
11. Furnish and install all signage.

BIDS AND AWARD: All submitted information will be used to select a Firm based on both ***quality*** and ***cost***. The submitted response to this RFP shall contain, where applicable, manufacturer's name, model number of unit(s) along with photographs, catalog cuts, renderings, similar installations, etc. to lend support to the Firm's commitment to providing a contributable asset to the City. Respondents may be asked to prepare and provide a presentation to City Staff prior to selection.

The proposals shall be reviewed and rated by City staff and other entities, as either required or as deemed necessary by the City. Proposal ratings shall be based on the following criteria:

1. Cost
2. Completeness of Project Approach
3. Project Understanding
4. Experience on Similar Projects
5. Ability to meet schedule

After all proposals have been opened and read, the City will compare the various proposals. Once the comparison is complete, recommendations shall be made and, within thirty (30) days after opening the proposals, the City will notify the successful Firm(s), in writing, that its proposal has been accepted.

SCHEDULE: The bid-ready documents, incorporating all changes, if any, resulting from review by City staff and such entities as the City chooses, shall be provided to the City no later than one hundred twenty (120) calendar days following the official acceptance of the Firm's proposal.

HOLD HARMLESS AGREEMENT: The Firm shall indemnify and save harmless the Mayor and City Council of Cumberland, Maryland and the employees thereof from and against all losses, claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recoverable against it or them by reason of any act or omission of the Firm, his agent, or employees in the execution of the work or in the consequence of any negligence or carelessness in guarding the same.
Insurance: The Firm agrees to maintain in full force and effect during the term of this contract Workers Compensation Insurance as required by Article 101 of the Annotated Code of Maryland. The Firm further agrees to provide a Certificate of Insurance from the Firm's Insurance carrier to the City of Cumberland, which shall specifically set forth the name and address of the insured, the insurance carrier, the policy number and its effective date. Said coverage shall not be cancelled or modified, nor shall there be any change in the insurance carrier without ten days prior written notice being given to the City of Cumberland. If there be such a change in the insurance carrier, the Firm shall provide a new Certificate of Insurance as required above.

Such insurance shall be kept in full force and effect until all work has been satisfactorily completed and accepted.

There will be no special payment for said insurance.

No Firm will be permitted to start any work on this contract until certificates for all insurance required are filed and approved by the Mayor and City Council of Cumberland, MD.

MEASUREMENT AND PAYMENT: All invoices shall be paid on a monthly basis within 30 days of receipt of invoice. All work described in the Request for Proposals is to be paid as a maximum not to exceed fee. Monthly payments will be made up to six months, after which time further payments will not be made until completed plans and specifications are submitted to the City for review. A maximum of 85% of the design fee will be paid up to the submission to the City. The final 15% of the design fee will be paid when the City has approved the plans and specifications. The Firm shall be responsible for submitting invoices for all work performed under this contract. All invoices must include the contract number, Federal Identification or Social Security number, date/dates the work was performed. All invoices must include a description of the work performed.

SCOPE OF PAYMENT: The Firm shall accept the compensation herein provided as payment for all services described herein and supervision necessary to complete all work contemplated under this contract and for all loss or damage arising from the nature of the work or from the action of the elements or other unforeseen causes during the prosecution of the work. No payment will be made for unauthorized work, defined as work for which the Firm expects additional compensation, but which the Firm executed prior to receiving written authorization to proceed from the City.

METHOD OF PAYMENT: Payment shall be on a "per hour basis". No additional payments will be made for overtime charges, copying fees, traveling fees, etc.; these additional costs shall be incidental to the project.

PROPOSAL SCOPE: Each Proposal shall address all information outlined herein to include, but not limited to:

1. Detailed maximum not to exceed fee including man-hours, hourly and overhead rates, direct costs, meetings, etc., broken down into estimated costs per phase.

2. Names and resumes for project manager, principal staff and sub-consultants.
3. List of experience on similar projects.
4. A detailed schedule for the completion of the work.
5. The proposal may include other information that may be pertinent to the proper evaluation of the proposal. All proposals are to be typed and submitted with this RFP incorporated into the Proposal.
6. A description and cost for any meetings recommended or required. The Downtown Design Committee has been formed and comprises 14 individuals from the Mayor & City Council, the Downtown Development Commission, building owners, the Downtown Cumberland Business Association, the Bike Trail, the Western Maryland Delegation, Allegany County Government, the Cumberland Economic Development Corporation, a 'citizen at large', the City Engineer, and an individual who will assist with communication and information sharing. The City's expectation is that the consultant's experience and expertise in these undertakings shall result in an optimum slate of meetings. At a minimum, the proposal shall provide for:
    - a kickoff meeting
    - at least three (3) meetings with the Downtown Design Committee (initial, intermediate and final design)
    - at least two (2) design/review meetings
    - a final meeting
    - a public presentation
    - a preliminary meeting with the funding agency
    - a follow-up meeting with the funding agency, with display plans and cost estimates

ITEMS AND INFORMATION TO BE SUPPLIED BY THE CITY OF CUMBERLAND:

1. Historical survey information for the project area that may be available and useful.
2. Scanned images of all utility drawings, subdivisions, etc..., that may be available for the project area.
3. A copy of the City's Title Sheet.
4. A copies of a limited selection of Standard Details (those that have been updated).

The Consultant must obtain the locations of utilities that are not owned by the City of Cumberland, from the owner of the utility. Test pits may be required.

DESIGN STANDARDS:

1. Document preparation software
    - Drawings – AutoCAD 2013. See Appendices A and B.
    - Text documents – Microsoft WORD 2007
    - Spreadsheets – Microsoft EXCEL 2007
2. Roadway elements must be designed in accordance with minimum AASHTO standards.
3. To the maximum extent practical, construction materials and specifications shall be those of the MDSHA unless otherwise specified by the City, or as may be required for work of this nature. See Appendix C.

PUBLIC HEARING: No Public Hearing is required for this project, but the Consultant will be asked to conduct a public presentation, per Proposal Scope, Item 6. The consultant will be required to provide documentation typical for such an event.

RIGHT-OF-WAY: All work shall be done in existing rights-of-way.

PERMITS: The consultant shall be responsible for preparing applications for all permits for construction, and shall submit these applications on behalf of the City of Cumberland.

CONSTRUCTION PHASE SERVICES:
The consultant shall review, comment on, and approve all shop drawings and field modifications to the design proposed by the construction contractor or the City Engineer during or prior to construction. The consultant shall attend preconstruction meetings and any field meetings during construction that may require design consultation to resolve any potential construction or engineering issues. The City will provide daily construction inspection services. The consultant shall attend the final inspection when construction is complete. The conclusion of this phase will be defined by final acceptance of the project by the City Engineer and all reviewing regulatory agencies.

DELIVERABLES: Provide the following items for each phase of the project.

1. Design Documentation.
2. Contract Documents.
    a. One (1) set of Plans on Mylar and one (1) set of specifications.
    b. Cost Estimates
    c. Electronic files of plans & specifications, for the Engineering Division files.
    d. Ten (10) sets of plans & specifications for use by the City of Cumberland
3. As-Built drawings, revised using AutoCAD, not hand mark-ups, both AutoCAD electronic files and hard copy, based on the inspectors field notes.

OWNERSHIP OF DOCUMENTS AND MATERIALS: The Consultant agrees that all documents and materials including but not limited to reports, drawings, studies, specifications, estimates, maps, photographs, designs, graphics, mechanicals, artwork, and computations prepared by or for the Consultant under the terms of this Contract shall at any time during the performance of the services be made available to the City of Cumberland and shall become and remain the exclusive property of the City upon termination or completion of the services. The City shall have the right to use the same without restriction or limitation and without compensation to the Consultant other than that provided in this Contract. The City shall be the owner for the purposes of copyright, patent, or trademark registration.

If the Consultant obtains or uses for purposes of this contract, or subcontracts for, any design, device, material, or process covered by letters of patent or copyright, it shall provide an assignment to the City of the ownership for the purposes to use such design, device, material or process by a legally sufficient agreement with the patentee or owner, and a copy of such agreement shall be filed with the City.
The Consultant shall indemnify and save harmless the City from any and all claims for infringement by reason of the use of any such patented design, device, materials, or process, or any trademark or copyright, and shall indemnify officers, agents, and employees with respect to any claim, action cost or judgment for patent, trademark or copyright infringement, or for royalties or user fees, arising out of purchase of use of materials, construction, supplies, equipment or services covered by this Contract.

ATTACHMENTS: The City will provide a CD containing the documents listed in **ITEMS AND INFORMATION TO BE SUPPLIED BY THE CITY OF CUMBERLAND** at the pre-proposal meeting.

APPENDIX A
AutoCAD Standards

1. A plot scale for plans and profiles of 1"=20' is anticipated. Minimum vector length on a contour line should be no smaller than 1/10 the plotted scale.
2. There will be no curve fitting of contours.
3. Each contour will be a continuous polyline with its Z coordinate equal to its elevation. Contour labels must be applied so as not to break a contour's continuity.
4. All other existing features will meet the minimum size vector rule where applicable.
5. The base mapping will be provided to us as one continuous plan view, in one drawing file if possible.
6. All extraneous blocks will be deleted.
7. Entity color shall be "by layer".
8. Digitize the outline and significant internal features of all existing structures that have finite length and width. Use standard point symbols for features that have insignificant area. For example, digitize the outline of a sidewalk or catch basin. Use a symbol for a mailbox or fire hydrant. Provide elevations where applicable. Construct and digitize additional contours, or revise existing contours to reflect additional ground shots obtained during field data collection.
9. Drawing files will be delivered on a CD, DVD, or by electronic transfer service, as approved by the City.
10. City of Cumberland standard title block and border will be used. The City will provide a drawing number.
11. The Coordinate System for the drawing shall be NAD83 Maryland State Plane Zone, US Foot.
12. Each drawing, including annotation, shall be easily readable when is plotted at full paper size, or half-scale. The plot style table should be set so that copies of the drawings can be made on a black and white copier; thus existing features will be plotted with screened or gray scale shading, and proposed features will be plotted with solid lines. Line weights will be varied for all features.
13. Paper size shall be ANSI D (22" x 34") with a landscape orientation.
14. Layer Naming Format shall follow the United State National CAD Standard -V6, unless otherwise approved by the Engineer.
15. A list of proposed layers, including the layer characteristics (layer name, color, linetype, etc.) shall be submitted to the engineer for approval.
16. Do not abbreviate words of five letters or fewer, except in schedules. A schedule column heading may need an abbreviation to reduce the size of the column and the overall size of the schedule. Avoid the use of abbreviations with more than one meaning.

Every attempt will be made to adhere to the AutoCAD standards prescribed herein and to the Construction Plan Guidelines in Appendix B. A document listing all modifications should be included with the files.

APPENDIX B

Construction Plan Guidelines

A. Miscellaneous Items
1. The following scales should be used on plan and profile sheets;
   a. Horizontal 1" = 20'
   b. Vertical 1" = 10'
2. Plans will be prepared with "City of Cumberland" title blocks.
3. Cross sections should be shown at twenty-five-foot intervals.
4. Profiles must be shown at all intersecting streets to facilitate proper grade ties.
5. A "City of Cumberland" cover sheet will be used.
6. A legend must be shown for all symbols used.
7. A typical pavement section and detail sheet must be included in the plans.
8. Plans must include an index of drawings.
9. A vicinity map shall be included on the cover sheet.

B. Items Shown in Plan View
1. Street right-of-way limits.
2. Street centerline (to include bearings and 100' stations).
3. Existing and proposed edges of pavement and/or curb.
4. Location of all public utilities such as: poles, meter vaults, water mains, gas mains, sanitary sewers, storm sewers, etc. (to include types and sizes).
5. Location of all existing and proposed landscape features, including fences, signs, trees, etc., within in and a reasonable limit beyond the project limits.
6. Location of all sidewalks and steps within the project limits.
7. Location of all houses and buildings on the street (to include addresses).
8. Contours at two-foot intervals.
9. Limits of construction.
10. All existing and proposed sewer manholes and inlets shall be designated by numbers.
11. North arrow.
12. Horizontal and vertical control points (to be referenced to City of Cumberland monuments).
13. All intersecting street names.
14. All utilities to be relocated by others must be designated.
15. All centerline and curb radius data.

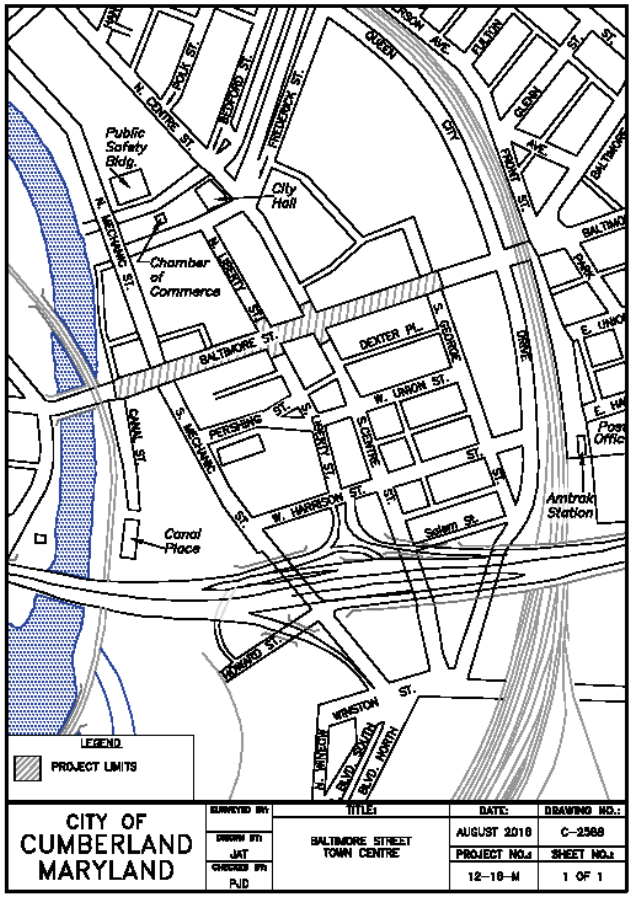
C. Items Shown in Profile
1. Existing centerline grade.
2. Proposed centerline grade to include slopes.
3. Fifty-foot stations with existing and proposed elevations.
4. Profile transition points with stations and proposed elevations.
5. Existing underground utilities (to include type and size).
6. Existing and proposed sanitary sewer manholes (to include invert and top elevations).
7. Existing and proposed storm sewer manholes or inlets (to include invert and top elevations).
8. All proposed storm sewer information will include size, type, and slope.
9. All sewer structures must be designated in plan and profile either by number or letter.

APPENDIX C

Construction Specification Guidelines

A. General Items
1. Construction materials and specifications shall be those of the MDSHA, unless otherwise specified by the City. The expectation is that many of the specifications for this project will NOT be covered by either of these sources.
2. Where MDSHA specifications for a material or construction item are not available, or do not apply, use specifications provided or referenced by the City of Cumberland. If none are provided, the Consultant shall propose and submit a specification for review and approval by the City Engineer prior to inclusion in this project.
3. If an existing MDSHA or a City of Cumberland specification needs to be modified for use on this project, prior approval by the City Engineer is required.
4. For every item in the Table of Biddable Items and in the Cost Estimate, there must be an item in the Special Provisions of the Specifications.

APPENDIX D
Project Location Map



City of Cumberland
Engineering Division
20 Bedford Street
Cumberland, Maryland 21502
301-759-6600
Fax 301-759-6608

MEETING REPORT

Project:	12-16-M New Baltimore Street Town Center
Meeting report no.:	1
Date of meeting:	8/24/16
Location:	Engineering Conference Room
Purpose:	Pre-proposal Meeting
Present:	See attached meeting sign-in sheet

This report and accompanying documents constitutes addendum 1 to the RFP. All bidders must acknowledge receipt of this addendum in their proposals.

Discussion

1. Cumberland's Engineering Division will be the primary reviewing entity during the design phase, and will be responsible for including any individuals from other departments. The Downtown Design Committee will also play a role. The City Engineer is a member of that committee. Other entities that may or will have review and/or approval standing are the Maryland State Highway Administration (SHW) and the Maryland Historical Trust (MHT). This is not to be taken as an all-inclusive list.

2. 'Bid-ready' documents, in the context of the Maryland State Highway Administration (SHA) participation, means the documents shall be ready for submittal to the SHA for their review and approval. The SHA has expressed the desire to have early involvement in the design phase, which may serve to expedite their approval of the documents. The bidders shall include, in their proposals, how to address any work that may be necessitated by SHA comments. The City expects that the successful consultant will maximize efforts to communicate with and ensure the SHA is apprised of the design progress and details throughout the design effort, so that final review of the bid-ready documents by SHA should only involve relatively minor revisions.

3. The contract terms for this proposal are "Maximum Not To Exceed". Costs, and more importantly, manhours included in the proposals shall be for use by the City in overall assessment of the quality of the proposals. If total costs, manhours, or both, are exceeded by the successful consultant, the contract value shall not be increased unless, in the City's view, it was due to a change in the scope of work.

4. Lighting for this project may be an interesting challenge. The new Town Center will be partially open to vehicular traffic with the re-establishment of the one-way traffic patterns. SHA may have specific lighting requirements for the street. Those requirements may be such as make it more difficult to market the upper floors of the structures as living spaces, unless SHA is flexible on this matter. In that case, the design must strike a balance between the commercial, vehicular, and upper story lighting needs.

5. Based on staff review of the Storm Water Management (SWM) ordinance, this work may fall under the category of 'redevelopment', in which case SWM requirements would have to be addressed. A copy of the ordinance accompanies the electronic transmission of this report.

6. Funding for the design phase of this project will be provided in part by the Appalachaian Regional Commission (ARC).

7. The City anticipates that funding for the construction work will be Federal, administered by the SHA. This will then require the bid-ready documents to comply with requirements for federally funded work.

8. The Mill Race system is a combined sewer system. Numerous storm sewers tie into Mill Race, and odors often emanate from the inlets to the storm sewers. A method for preventing the odorous gases from escaping, such as traps (or some other approach), shall be designed for all storm sewers tying into Mill Race on Baltimore Street.

9. If possible, where opportunities present themselves, separate sanitary sewers from storm sewers.

10. The scope of work includes redesign of Centre and Liberty Streets, to the extents covered by the 1977 Cumberland Mall project, to render them architecturally compliant with the work that will be designed for Baltimore Street. Drawing set 1329 provides information and guidance in this regard. This work will include replacing the sidewalk brickwork, and identification of any concrete work that is in need of repair or replacement.

11. The existing light fixtures, wiring and conduit shall be replaced. The existing power distribution shall be examined, analyzed, and redesigned as required to support power requirements consistent with the needs of the mall. This would include, for example, power outlets for events involving entertainment equipment, vending equipment and food trucks.

12. Following the meeting, a discussion with City staff resulted in the identification of the need for several items involving the water distribution system:
    a) -a new 6-inch dedicated fireline close to the building fronts on the south side of Baltimore Street. It shall be fed from the existing 16" cast iron water main (see drawing "Water Map Updates-Sheet 7") This will serve as the source of fire protection for the upper floors of any of the structures on this side of the street. Currently, development that requires installation of sprinkler systems cannot proceed due to the difficulty of providing a connection to the existing waterline. Note that some of the building basements extend out into the sidewalk area.
    b) -reconnection of a disconnected and valved-off section of waterline at the intersection with Queen City Drive (see drawing "Water Map Updates-Sheet 7").
    c) -replace a non-functioning valve in the vicinity of the intersection of Mechanic and Baltimore Streets (precise location not yet known).
    d) -removal and replacement of an existing 12-inch valve in a manhole at the intersection of Baltimore and Mechanic Streets.

13. Regarding the requirement of an overhead cap, the ARC may not have one. The City isn't sure. However, since other agencies may be involved in funding the work, the successful consultant may at the least be required to provide documentation demonstrating the establishment of their overhead rate.

14. Bidders shall, as a separate item, address an abbreviated schedule of deliverables and what they would require to achieve it. More specifically, the current schedule calls for bid-ready documents 120 calendar days from notification of acceptance. To reduce that timeline may, for example, require shorter windows for review and return of comments from the City and the various reviewing entities.

15. Although not discussed, an item the bidders will need to address deals with the proposed bike lane being immediately adjacent to the parking lane in the section between Mechanic and Liberty Streets. While it is displayed as part of the preferred alternative, the successful consultant shall consider other configurations, with an evaluation and recommendation, prior to detailed design.

16. Bidders shall incorporate the above matters into their proposals

The above are the writer's understanding of events that transpired, Please advise of any additions or corrections.

Attachments (2): Meeting Sign-in Sheet
Meeting Agenda

Distribution (via e-mail) w/attachments:
Meeting attendees
J. Rhodes
J. Scarlett
Project file: Meeting Reports

Nick Wagner

From: Paul DePalatis <paul.depalatis@cumberlandmd.gov>
Sent: Wednesday, September 14, 2016 10:45 AM
To: John DiFonzo; Kim Root; John DeVault; Dave Curry; Robert Rider; Shawn Hershberger; Greg Snyder; Ray Rase; obeachy; Nick Wagner; K Mundy; ramtower@rkk.com; matt.brewer@bbasurvey.com; corey@acadesigngroup.com; Christopher Goettge; rmoravec@wallacemontgomery.com; Brooke Cassell; jcooley@centuryeng.com; dcrites@freestateelectric.com; Mike McLucas; Julie Thornton; Tabitha Barbarito; Jeff Rhodes; John Scarlett
Subject: 12-16-M New Baltimore Street Town Center - Addendum 2

This is Addendum 2 for this RFP and shall be part of the contract documents, along with Addendum 1 . Bidders shall acknowledge receipt of this via email, as well as in the proposal.

Question 1: On page 7 – Scope of Work (construction) of the RFP; items 4, 5, 6, 7, 8, 9, 10 and 11 all state "furnish and install." It was our assumption that this proposal is only for the full design of the project; there is no actual "installation," or construction of any type to be performed by the consultant team. Please clarify whether this contract includes construction or "installation."

Response: NO. The "Scope of Work (construction)" was included to assist in demonstrating, in very broad terms, the work that the construction-grade bidding documents would need to define. The final design, culminating in the preparation of these bidding documents, is part of the design contract that will be awarded from this RFP.

Question 2: Has it been confirmed whether or not this project will be considered a "redevelopment" project for SWM requirements?

Response: We are of the opinion it would not be subject to SWM requirements. Even so, as a responsible public entity, whatever can be done that fits within with the overall concept for the new design, is cost effective, and will result in a more environmentally friendly mall, shall be a goal for the final design. The expectation is that the successful consultant shall utilize creativity in this aspect of the design.
Question 3: Is the redesign of Centre and Liberty Streets to be a full 100% design? If not, to what level, must the design be and what components does that include (i.e., SWM, utilities, etc.)? Does the redesign of Centre and Liberty Streets include any roadway improvements? How far north and south on Liberty and Center Street does the redesign extend; what hundred block or intersection should the design be stopped?

Response: Please see Item 10 of addendum 1. Among other things, it defines the extent of the c.1977 work. 'identification of any concrete work that is in need of repair or replacement' shall include design and specification details. We are not aware of any structural deficiencies that would warrant a full reconstruct.

Question 4: The RFP does not mention anything about the traffic signal design at Mechanic and Baltimore Streets. The existing signal would need to be modified to incorporate the new movements to/from Baltimore Street. There may also need to be modifications to the pedestrian push buttons in this area to make them ADA compliant. Should this be part of the response? Do other traffic elements such as stop signs need to be included in the response?

Response: Yes, this shall be part of the design scope of work, including any other changes or additions necessary.

Bidders are encouraged elaborate in the "Project Approach", "Project Understanding", and "Experience on Similar Projects" sections of their proposals.

If there are any questions or comments, please let me know ASAP.

Thanks.

Paul

Experience and Technical Competence in Varied Transportation Projects

The EADS Group is a multi-disciplined engineering firm of over 225 employees serving clients throughout western and central region of PA and MD, and the eastern parts of OH and WV. ***EADS*** retains a core staff of highly experienced professionals, which is important in maintaining a cohesive and productive operation that serves our many federal, state and local clients in the transportation industry. Our experience relating to bridges, highways and related facilities comes from the wide variety of transportation projects completed for PennDOT, county, municipal and private sector clients over a period spanning more than 60 years. Our largest major discipline is Transportation with staffing that includes 25 engineers, designers and technicians. They are supported by Landspace Architects, Architects, Surveyors, Environmental Specialists, Geologists, and Construction Inspection personnel. Our current transportation workload is relatively low compared to our capacity and we will be responsive to the City's needs with flexible staffing committed to completing assignments in an efficient manner.

The EADS Group has been providing transportation engineering services for 60+ years, completing hundreds of projects involving all aspects of project development from needs studies and alternatives analyses to engineering and environmental studies to construction consultation and inspection. ***EADS*** has completed preliminary and final design for thousands of miles of highways in rural and urban settings in commercial, residential and industrial districts. Award winning examples include Boot Jack Hill Bypass near Ridgway, PA and 17th Street Expressway in Altoona which received awards from PennDOT for *Rural Excellence* and *Urban Excellence in Highway Design*, respectfully. ***EADS*** received national recognition as recipient of a **2009 Engineering Excellence Award** from the American Council of Engineering Companies (ACEC) for our Lewistown Narrows project in PennDOT District 2-0. For this $142 million project, ***EADS*** previously received the **Award of Excellence** recognition in the FHWA *Excellence in Highway Design* competition and ACEC/PA awarded ***EADS*** their top award in 2009, the **Grand Conceptor Award** in their *Diamond Awards for Engineering Excellence* program.

Experience and Technical Competence in Planning and Design for Roadways

The EADS Group has specialized experience in providing local communities, county governments and state agencies with planning and design, plans, specifications, cost estimates, bid packages, and construction inspection and administration. A sampling of projects with elements of design similar to those required for the New Baltimore Street Town Center includes the following:

- ✓ Mechanic Street Access Road Improvements, Cumberland, MD
- ✓ South Centre Street and Baltimore Avenue Improvements, Cumberland, MD
- ✓ Annual Paving Programs, Western PA
- ✓ Rolling Mill Access Roads Improvements, Cumberland, MD
- ✓ New Hampshire Avenue Improvements, Cumberland, MD
- ✓ Monument Square Streetscape, Lewistown, PA
- ✓ Meyersdale Streetscape, Meyersdale, PA

- ✓ SR 130 Intersections Improvements, Penn Township, PA
- ✓ Finley Road Improvements, Rostraver Township, PA
- ✓ SR 837 Donora Retaining Wall Replacement, Donora, PA
- ✓ West Side Drainage Study, Cumberland, MD

Project Profiles are included on the following pages.

EADS has maintained a strong working relationship with our municipal clients. This relationship is founded on trust, integrity**,** a proven record of sound decision making, technical competence, ability to meet schedules, development of quality plans and the commitment to cooperation with our clients that resulted in the completion of numerous successful projects.

MECHANIC STREET ACCESS ROAD IMPROVEMENTS PROJECT

Cumberland, Maryland

The Mechanic Street Access Road Improvements project consisted of milling and resurfacing the pavement for the entire length of the project, including:

- Full depth patching where needed
- Installation of ADA compliant pedestrian facilities
- Bicycle access thru the project limits
- Improvements to Bedford Street and Baltimore Street

In addition, there was some patching or repair of curb and sidewalk in other areas, as needed. ADA compliant ramps, crosswalk signing and advanced signing were also included. A solution to the substandard sidewalk width along Mechanic Street just south of Bedford Street was designed to meet Maryland State Highway Administration Standards. The design also incorporated the City's planned improvement project at the intersection of Mechanic Street and Harrison Street.

Other items of work incorporated into the plans were limited improvements to the storm sewer system – inlet repair/replacement and inlet trap installation on combination sewers, bicycle friendly inlet grates, new pavement markings and traffic signs.

EADS Services:

- Surveying and Mapping
- Final Design
- Traffic Control Plan
- Signing and Pavement Marking Plan
- E&S Control Plan and Permitting
- Construction Engineering
- Project Management and Coordination

QUICK FACTS

Completion Date:
Est. 2017

Construction Cost:
Est. $1,000,000

References:

City of Cumberland
57 North Liberty Street
P. O. Box 1702
Cumberland, MD 21501

Mr. John J. Difonzo, P.E.
Director of Engineering
301-759-6600

THE EADS GROUP

SOUTH CENTRE STREET AND BALTIMORE AVENUE IMPROVEMENTS PROJECT

Cumberland, Maryland

The South Centre Street and Baltimore Avenue Improvements project was aimed at providing infrastructure improvements to several streets within the City of Cumberland. The project included milling and overlay of over 3,900 feet of roadway surface and included full depth pavement patching in structurally deficient areas.

In addition to the new bituminous wearing surface several other items of work were incorporated into the plans including the following:

- 850 feet of curb and sidewalk was replaced
- 2,300 feet of waterline was replaced
- A 470 foot retaining wall was replaced along Baltimore Avenue to replace a severely deteriorated wall as well as accommodate roadway widening
- Improvements to the storm sewer system including inlet repair/replacement and bicycle friendly inlet grates
- ADA improvements to curb and sidewalk
- New pavement markings and traffic signs

Funding included Appalachian Regional Commission Grant funds administered by the MD State Highway Administration, Community Development Block Grant funds as well as City of Cumberland funds. Plans and documents were reviewed and approved by MD SHA prior to bidding. SHA standards, design requirements, and plans presentation policies were applicable.

EADS was responsible for preparation of the construction plans and specifications and were prepared in accordance with the standards and requirements of the City of Cumberland and the Maryland State Highway Administration. The design was prepared in accordance with minimum AASHTO design standards. We prepared bid documents in conjunction with the City of Cumberland and assisted with the bidding phase. During construction, we provided construction observation services as needed.

QUICK FACTS

Completion Date:
2015

Construction Cost:
$2,700,000

References:

City of Cumberland
57 North Liberty Street
P. O. Box 1702
Cumberland, MD 21501

Mr. John J. Difonzo, P.E.
Director of Engineering
301-759-6600

THE EADS GROUP

ANNUAL PAVING PROGRAMS AND ROAD RECONSTRUCTION PROJECTS VARIOUS COMMUNITIES

Throughout Western Pennsylvania

Road reconstruction projects and the yearly paving programs of the clients EADS represents involve roadway analysis and the determination of appropriate pavement rehabilitation processes. The rehabilitation is accomplished through a combination of local funds, Community Development Block Grant (CDBG) funds, and a funding allotment provided through the Pennsylvania Department of Transportation's Liquid Fuels program.

CDBG funded road reconstruction projects begin with an analysis of the various roadways being considered by the Municipality. EADS measures the prospective project areas and prepares a cost estimate for each.

Once funding is established, EADS completes all of the necessary work to put the project out to bid and administer the project upon award. This includes comprehensive surveys of the project areas, deed research and preparation of metes and bounds descriptions for land acquisition, and meetings with residents to discuss the right-of-way acquisitions for the projects. For each project, EADS completes roadway design in accordance with community standards, stormwater management controls design, preparation of project plans and specifications for bidding, coordination with the County to assure that their requirements relative to the contract documents are being met, analyzing submitted bids, construction administration, and inspection services. During construction, when unforeseen circumstances arise, EADS has successfully petitioned the CDBG administrator in the past on behalf of communities for additional funding in order to proceed with the project and perform necessary work to remedy the situation.

The various communities EADS serves have implemented a few different methods of rehabilitation through the years - overlaying, milling, and reclamation. The reclamation process is a unique design utilizing a mixture of lime and pulverized existing asphalt and subgrade to form a new subbase material for the application of asphalt. Penn Township is one of the first communities in Pennsylvania to incorporate this process into its paving program.

Knowledge of PennDOT's requirements to satisfy Liquid Fuels program criteria, coordination with Municipal officials and PennDOT representatives, EADS' good working relationship with County Community Development Block Grant program personnel, use of innovative procedures, and EADS' years of experience in road construction/rehabilitation, storm sewer construction/upgrades, project bidding, and construction supervision all contribute to having successful yearly paving programs.

QUICK FACTS

Completion Date:
On-going

Cost:
Fee

References:
Penn Township Commissioners
2001 Municipal Court
P.O. Box 452
Harrison City, PA 15636

Mr. Alex Graziani, Manager
724-744-4858

THE EADS GROUP

ROLLING MILL ACCESS ROADS

Cumberland, Maryland

The Rolling Mill Access Roads project was aimed at facilitating development, improving access, and providing infrastructure improvements in the interest of community uplift. The project included reconstruction of over 3,100 feet of local streets and sidewalks including portions of Maryland Avenue, Cecelia Street, Emily Street, and Williams Street. Maryland Avenue is classified as an urban arterial with a design year ADT of 10,476 vehicles per day.

Funding included Appalachian Regional Commission Grant funds administered by the MD State Highway Administration and Community Development Block Grant funds. Plans and documents were reviewed and approved by MD SHA prior to bidding. SHA standards, design requirements, and plans presentation policies were applicable.

Construction was staged to facilitate traffic movement and minimize impacts on parking during construction. Traffic control during construction included signing and devices on I-68 to mitigate impacts at an exit ramp onto Maryland Avenue.

The reconstruction work also included improvements to the storm sewer system. ADA handicapped access was incorporated into the project. Adjustments were needed for home and business accesses at the rear edge of sidewalk.

The scope of EADS' work for this contract included:

- Field surveys and base mapping
- Evaluation & improvements to the storm sewer system
- Maintenance & protection of traffic during construction
- Utility adjustment coordination
- Erosion Control Plan - approved by Allegany County SCD
- Pavement evaluation and improvements
- Signing and pavement marking plans
- Final construction plans and specifications
- Public Neighborhood Meeting

QUICK FACTS

Completion Date:
2008

Construction Cost:
$2,800,000

References:

City of Cumberland
20 Bedford Street Room 343
P. O. Box 1702
Cumberland, MD 21501-1702

Mr. John J. Difonzo, P.E.
Director of Engineering
301-759-6600

THE EADS GROUP

NEW HAMPSHIRE AVENUE IMPROVEMENTS

Cumberland, Maryland

The New Hampshire Avenue Improvements Project consisted of the reconstruction of New Hampshire Avenue, Gleason Street, Church Street, and portions of the cross streets *(including First Street and Grant Street)*, located on the southern side of Cumberland. The streets were narrow with built up, patched, and failed pavement; poorly defined shoulders frequently used for parking which encroached on the travel lane; and an inadequate storm drainage system.

Design was completed in four phases with the final two phases being combined into a single construction contract. Funding included a Community Development Block Grant *(CDBG)*. City standards applicable to the project included the use of precast concrete curb units mounted to the bituminous pavement surface.

The reconstruction work also included the installation of a storm sewer system. A Stormwater Design Report was prepared and provided to the City for concurrence of the conveyance concept prior to preparation of construction documents. Design of the system was based on a concept of providing more, smaller facilities with multiple tie-in points to the existing system. Seven basins were delineated within the project limits. This kept sizes and costs down and minimized flooding potential from blockage at any single tie-in point.

The scope of EADS' work for this contract included:

- Preliminary grading design
- Detailed design and layout of the storm sewer system
- Final construction documents for all phases with an overall length of 7,000 feet of roadway
- Traffic Control Plan
- Utility adjustment coordination
- Erosion Control Plan - approved by Allegany County SCD
- Pavement design
- Signing and pavement marking plans
- Public Neighborhood Meetings

QUICK FACTS

Completion Date:
2002

Construction Cost:
$1,500,000

References:

City of Cumberland
20 Bedford Street, Room 343
P. O. Box 1702
Cumberland, MD 21501-1702

Mr. John J. DiFonzo, P.E.,
Director of Engineering
301-759-6600

THE EADS GROUP

MONUMENT SQUARE STREETSCAPE

Mifflin County, Pennsylvania

The EADS Group (EADS) provided technical assistance to Mifflin County for the purpose of securing multiple Grants from PennDOT.

EADS provided the following services for this multiple phase, ongoing Streetscape Project.

- Assistance with Grant Application
- Preparation of Master Site Plan
- Conducted Public Meetings
- Completion of Preliminary Design
- Assistance during Bid Phase
- Preparation of Bid Documents for Phases 1, 2, 3A, 3B and 4 *(Drawings & Specifications)*
- Completion of Final Engineering
- Construction Administration
- Construction Inspection

The scope of this project included new concrete sidewalks, curbing, concrete unit pavers, benches, liter receptacles, café areas with tables, handicap curb ramps, architectural light standards, custom precast concrete planters, stenciled concrete crosswalks, traffic calming measures, trees with tree gates and miscellaneous drainage and pavement improvements.

EADS also prepared bid documents for all phases of this project. Phase 4 was completed in 2015. EADS recently prepared a Master Site Plan and assisted with the preparation of a grant application for Phase 5 of the project.

QUICK FACTS

Completion Date:
2005 - 2016
(Phases 1, 2, 3A, 3B and 4)

Construction Cost:
$2,700,000
(*All Phases)*

References:
Mifflin County Commissioners
20 North Wayne Street
Lewistown, PA 17044

Mr. William Gomes, AICP
Planning Director
717-242-0887

THE EADS GROUP

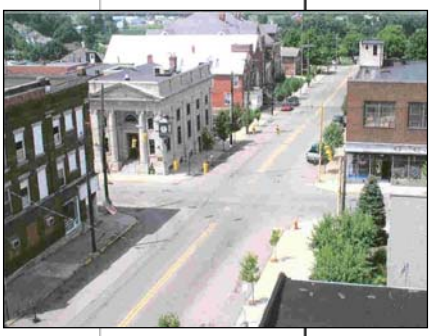
MEYERSDALE STREETSCAPE PROJECT

Somerset County, Pennsylvania

EADS Architects was hired by Meyersdale Renaissance, Inc. to prepare a preliminary master site plan and construction cost estimate for Phase I of a multi-Phase streetscape project. This project encompasses Main and Center streets in Meyersdale Borough. EADS also assisted with the preparation of a grant application to solicit construction funding. The project elements included, but are not limited to: new sidewalks and curbing, street trees, tree grates, revised parking scheme, community signs at key locations, concrete pavers including cross walks, bike lane and related amenities, street lights, precast concrete planters, benches, litter receptacles and new traffic signs.

EADS responsibilities include:

- Preliminary Design
- Attendance at Meetings
- Master Plan
- Color Rendering
- Assistance with Grant Application *(HOMESTREET)*
- Cost Estimates
- Completion of Final Design and Engineering
- Preparation of Bid Documents
- Construction Consultation



Existing Conditions

Proposed Design

QUICK FACTS

Completion Date:
2009

Construction Cost:
$1,400,000

References:

Meyersdale Renaissance, Inc.
224 Center Street,
P.O. Box 321
Meyersdale, PA 15563

Ms. Kathy Koscianski,
Program Manager
814-634-8840

THE EADS GROUP

S. R. 0130
INTERSECTION IMPROVEMENTS LOCATED IN PENN TOWNSHIP
Westmoreland County, Pennsylvania

Growth along S.R. 130 in Penn Township has caused an increase in traffic on the highway. This has resulted in increased delays and an increase in traffic accidents - both due largely to left turn movements at intersections. This project was to address the substandard intersections by implementing recommendations for improvements as were identified in a Township-side traffic study. Projected traffic volumes on S.R. 130 for a 2030 Design Year were 20,600 vehicles per day.

Separate turning lanes and signalization of intersections were included in the project. Constraints included minimizing impacts on adjacent properties. EADS completed preliminary engineering and environmental studies for improvements at the four intersections and prepared a Design Field View submission for consideration by the Township and PennDOT. Although funding was programmed for construction, the funding available for rights-of-way and utility adjustments fell well below the estimated costs. To date, none of the intersections have been advanced into final design due to these funding limitations.

The total length of roadway impacted by the improvements is 4,400 feet. There are 117 property owners within the project limits and right-of-way is required from at least 90 of these. Legal right-of-way width for S.R. 130 is only 33 feet through most of the project length.

The scope of EADS' work for this contract included:

- Field surveys, base mapping & right-of-way establishment
- Environmental investigations and clearance documents
- Public involvement meetings and plans displays
- Storm drainage facilities
- Maintenance & protection of traffic during construction
- Utility adjustment coordination
- Erosion Control Plan
- Signing and pavement marking plans
- Signal design (by subconsultant)

QUICK FACTS

Completion Date:
TBD

Estimated Construction Cost:
$2,400,000

References:

PennDOT
Engineering District 12-0
825 North Gallatin Avenue Extension
P.O. Box 459
Uniontown, PA 15401-0459

Mr. Sean Sepe,
Project Manager
724-439-7213

THE EADS GROUP

FINLEY ROAD IMPROVEMENTS
ROSTRAVER TOWNSHIP
Westmoreland County, Pennsylvania

The Finley Road Improvements project was needed to facilitate traffic and turning movements in an area of Rostraver Township that includes commercial business mixed with warehousing and residential development. The project is on Finley Road (a local roadway) and S.R. 3011 over a total length of 1.7 miles. The construction includes full pavement reconstruction to provide two through lanes and a center turning lane to accommodate truck movements into/out of a warehouse facility and for local deliveries throughout the strip commercial development.

Project funding included federal and state funds administered through PennDOT along with local township funds. The project was bid by PennDOT on behalf of the Township.

Improvements included construction of a new storm drainage system, replacement of a small bridge structure with a concrete box culvert, a new engineered slope to minimize impacts on an adjacent shopping center parking lot, a new signalized intersection between two shopping centers, reconstruction of a railroad grade crossing, and new stormwater management facilities including an underground storage/detention facility under a parking lot at a warehouse facility.

The scope of EADS' work for this contract included:

- Field surveys and base mapping
- Environmental investigations and clearance documents
- Public involvement meetings and plans displays
- PaDEP permitting for a stream crossing
- Storm drainage and stormwater management facilities
- Maintenance & protection of traffic during construction
- Utility adjustment coordination
- Railroad grade crossing and PUC involvement
- Erosion Control Plan
- Signing and pavement marking plans
- Final construction plans and specifications
- Construction inspection and consultation

QUICK FACTS

Completion Date:
2009

Construction Cost:
$6,700,000

References:

PennDOT District 12-0
825 North Gallatin Ave Extension
P.O. Box 459
Uniontown, PA 15401-0459

Mr. Jerome Bendo,
Project Manager
724-439-7377

THE EADS GROUP

S.R. 0837 RETAINING WALLS
DONORA BOROUGH
Washington County, Pennsylvania

Concrete and stone masonry walls on both sides of SR 837, in Donora Borough, had become severely deteriorated. With the aid of 80% Federal funding, the Borough undertook a project to replace the walls and reconstruct the roadway between the walls. The upper wall supports a hillside with a cemetery. The lower wall supports the roadway and sidewalk adjacent to several private residences and residential lots.

The project includes about 470 feet of two-lane, two-way roadway reconstruction with a parking lane and a sidewalk on one side of the roadway. Although located in a residential area, the roadway serves as an access into industrial facilities along the Monongahela River. Utilities affected by the project include underground natural gas, water, stormwater, and overhead electric, telephone and cable television. Utility pole relocation was required due to some roadway widening.

The replacement walls are soldier piles at 8-foot spacing with precast concrete panel lagging. This wall type minimizes impacts on the cemetery and the adjacent homes. Wall heights vary up to just over ten feet. Temporary traffic signals were employed to allow a single lane of traffic to pass through the construction zone.

The scope of EADS' work for this contract included:

- Field surveys, base mapping & right-of-way establishment
- Environmental investigations and clearance documents
- Public involvement meetings and plans displays
- Storm drainage facilities
- Maintenance & protection of traffic during construction
- Utility adjustment coordination
- Erosion Control Plan
- Signing and pavement marking plans
- Geotechnical investigations/engineering (subconsultant)
- Structure design and construction plans for the walls
- Final construction plans and specifications
- Construction inspection and consultation

QUICK FACTS

Completion Date:
Fall 2009

Construction Cost:
$2,000,000

References:

PennDOT District 12-0
825 North Gallatin Avenue Extension
P.O. Box 459
Uniontown, PA 15401-0459

Mr. Ryan J. Willby,
Project Manager
724-430-4486

THE EADS GROUP

WEST SIDE DRAINAGE STUDY

Cumberland, Maryland

The West Side of Cumberland has been plagued by flooding problems - particularly since the development of the Haystack Mountain area in the late 1960's. As a result of this flooding, a number of studies and improvement projects were performed by the City of Cumberland throughout the years. A study completed in 1997 resulted in the implementation of improvements to the Fayette Street and Greene Street stormwater systems. After the improvements to the stormwater system were made, the Haystack Mountain area was hit by an intense storm in September 2000 which caused major flooding of the West Side.

This project involved an evaluation of the previous Drainage Study, and review of the conclusions reached to determine if the recommendations were appropriate.

In addition, the City was seeking recommendations and preliminary cost estimates for future drainage improvements.

EADS services:

- Evaluated the information provided in the 1997 WSD Study, including support information as provided by the City
- Completed modeling for the study to current software versions
- Performed hydrologic and hydraulic modeling to verify data and evaluate the effectives of the project
- Compared results of the modeling and verified accuracy and applicability
- Documented study procedures, findings and recommendations
- Provided recommendations for improvements to address these problem areas along with a preliminary cost estimate for construction of the improvements
- Identified alternatives for future improvements and provided the City with a listing of strengths and weaknesses for each alternative along with suggestions on how implementation could be phased over multiple projects

QUICK FACTS

Completion Date:
2006

Construction Cost:
$40,000 (Fee)

References:

City of Cumberland
20 Bedford Street Room 343
P. O. Box 1702
Cumberland, MD 21501-1702

Mr. John J. Difonzo, P.E.,
Director of Engineering
301-759-6600

THE EADS GROUP

KEY PERSONNEL

Specialized Experience and Technical Competence of the Individuals in the Project Team

The EADS Group proposes to administer this contract through our Somerset Office utilizing Nicholas A. Wagner, P.E. as the Project Manager as well as Andrew M. Fedorko, P.E. as the Quality Assurance Manager. Both of these individuals have extensive experience in local roadway and transportation projects – including projects with the City of Cumberland. Portions of this project will be conducted in our Somerset, Altoona and Cumberland offices. Key personnel that will be assigned to the project are listed below. Individual resumes are on the following pages.

Nicholas A. Wagner, P.E.	**Highway Engineer**
Role:	**Project Manager - Primary Point of Contact**
Education:	B.S. Civil Engineering Technology
Experience / Registration:	16 Years / Professional Engineer
Phone: 814.445.6551	**Email: nwagner@eadsgroup.com**
Fax: 814.443.2748	
Andrew M. Fedorko, P.E.	**Transportation Dept. Manager**
Role:	**Quality Assurance**
Education:	B.S. Civil Engineering Technology
Experience / Registration:	24 Years / Professional Engineer
Gregory L. Elliott, R.L.A.	**Manager of Site Development**
Role:	**Streetscape Design Technical Support**
Education:	B.S. Landscape Architecture
Experience / Registration:	28 Years / Registered Landscape Architect
Bradley R. Steinbeiser, P.E.	**Municipal Dept. Manager**
Role:	**Civil and Sanitary Sewer Design Technical Support**
Education:	B.S. Civil Engineering Technology
Experience / Registration:	29 Years / Professional Engineer
Michael J. McLucas	**Lighting Engineering Designer**
Role:	**Lighting Design**
Education:	B.S. Electro-Mechanical Engineering / Assoc. Electrical Engineering
Experience / Registration:	16 Years
Kirby A. Gardner	**Chief of Surveys**
Role:	**Survey Administration and Coordination**
Education:	Certificate in Mechanical Drafting/Design
Experience / Registration:	41 Years / Professional Land Surveyor (PA)

The above list of personnel represents the key persons responsible for management, design and related technical services. EADS has additional technicians, draftspersons, field crews, and other support personnel who may contribute to this project under the direct supervision of the persons listed above.

NICHOLAS A. WAGNER, P.E.

Project Manager / Highway Engineer

Joined The EADS Group
May 2001

Years With Other Firms
0

Education
B.S.
Civil Engineering Technology
University of Pittsburgh at Johnstown
2001

Registrations
P.E. / PA / 2006
PE073698
Exp. - 09/30/2019

P.E. / MD
33741
Exp. - 12/18/2018

Certifications
2016 / PennDOT / ASTA PowerProject Certificate

2014 / PennDOT / Roadside Safety Design Certificate

2012 / PennDOT / Bid Package Preparation - Intermediate Course Certificate

2012 / PennDOT / DM1C Engineering Procedures Certificate

2010 / PennDOT / Stormwater Design and NPDES Permits Certificate

2009 / PennDOT / Highway Drainage Design Certificate

2008 / Environmental ACF / Geosynthetics BMPs / Stormwater Management Certificate

2007 / PennDOT / Right-of-Way Training for Project Managers

2006 / PennDOT / Open Plan / WelcomHome

Memberships
American Society of Highway Engineers

GENERAL QUALIFICATIONS

Mr. Wagner, as a registered professional engineer and established member of our team, has developed a well rounded portfolio of project experience. He is skilled in design of highway projects, intersection design, and street improvement projects. He is also skilled in the use of AutoCAD and MicroStation CADD programs, AutoTAB, ASTA PowerProject, ECMS, and Microsoft office programs. He enjoys communicating and working with clients and other industry personnel in order to ensure a quality final product.

EXPERIENCE

City of Cumberland - Mechanic Street Access Road Improvements, Cumberland, MD *(Highway Engineer / Project Manager).* Completed Roadway Construction Plans, Traffic Control Plan, Signing and Pavement Marking Plan, Erosion and Sediment Control Plan, and PS&E for rehabilitation of Mechanic Street. Tasks were completed using AutoCAD and Microsoft Word/Excel.

Somerset County Commissioners - Oldham Bridge Replacement, Somerset County, PA *(Highway Engineer / Project Manager).* Completed the Line & Grade Submission, Design Field View, Traffic Control Plan, Erosion and Sediment Plan, Right-of-Way Plan, Roadway Construction Plans andPS&E for replacement of an existing one-lane, two-span bridge over Clear Shade Creek. Tasks are being completed using CADD Software, PennDOT AutoTAB, Open Plan Desktop/WelcomHome and Microsoft Word/Excel.

City of Cumberland - South Centre Street and Baltimore Avenue Improvements, Cumberland, MD *(Highway Engineer / Project Manager).* Completed Roadway Construction Plans, Traffic Control Plan, Signing and Pavement Marking Plan, Erosion and Sediment Control Plan, and PS&E for the rehabilitation of South Centre Street and Baltimore Avenue. Tasks were completed using AutoCAD Land Development Software and Microsoft Word/Excel.

Somerset County Commissioners - Kiefl Bridge Replacement, Somerset County, PA *(Highway Engineer).* Completed the Line & Grade Submission, Design Field View, Traffic Control Plan, Erosion and Sediment Plan, Right-of-Way Plan, Roadway Construction Plans and PS&E for the replacement of an existing one-lane, two-span bridge over the Quemahoning Reservoir. Tasks were completed using CADD Software, PennDOT AutoTAB and Microsoft Word/Excel.

Gateway Engineers - West New Castle Street Bridge Replacement, Butler, PA *(Highway Engineer).* Completed Line & Grade Submission, Design Field View, Traffic Control Plan, Erosion and Sediment Control Plan, Roadway Construction Plans and PS&E for a replacement structure over Sullivan Run that includes minor roadway widening, design of a storm sewer system, concrete curb and sidewalks, and new handicap accessible curb ramps. Tasks were being completed using CADD Software, PennDOT AutoTAB and Microsoft Word/Excel.

PennDOT District 12-0 - Touring Group Bridges, SR 217 Bridge Replacement, Westmoreland County, PA *(Highway Engineer / Project Manager).* Completed Line & Grade Submission, Design Field View, Erosion and Sediment Control Plan, Roadway Construction Plans and PS&E for the superstructure replacement and substructure rehabilitation of a three-span, three-lane structure over Loyalhanna Creek. Tasks were completed using CADD Software, PennDOT AutoTAB, Open Plan Desktop/WelcomHome and Microsoft Word/Excel.

PennDOT District 12-0 - Touring Group Bridges, SR 981 Bridge Replacement, Westmoreland County, PA *(Highway Engineer / Project Manager).* Completed Line & Grade submission, Design Field View, Erosion and Sediment Control Plan, Roadway Construction Plans and PS&E for the replacement of the three-span, two-lane structure over Loyalhanna Creek. Tasks were completed using CADD Software, PennDOT Auto TAB, ASTA PowerProject.

AECOM - Pennsylvania Turnpike Commission Mainline Reconstruction MP 99-109, Jefferson and Somerset Townships, Somerset County, PA *(Highway Engineer).* Completed the Right-of Way Plan property plot plans for the reconstruction of the PA Turnpike between MP 99-109. Current work includes completion of the detail sheets for the Mainline work. Tasks being completed using CADD Software.

Crawford County Commissioners - Mead Avenue Bridge Replacement, Meadville, PA *(Highway Engineer).* Assisted in the completion of the Design Field View, Traffic Control Plan and Erosion and Sediment Control Plans for the replacement of the Mead Avenue Bridge. Pending tasks include completion of the Roadway Construction Plans and PS&E submission. Tasks are being completed using AutoCAD Land Development Software, PennDOT AutoTAB and Microsoft Word/Excel.

IA Construction Corporation - Shaffers Run Bridge Replacements, Somerset County, PA *(Highway Engineer)*. Completed the Design Field View, Traffic Control Plan, Erosion and Sediment Control Plan, and Roadway Construction Plan for the Design-Build project that included replacement of three existing one-lane, single-span bridges over Shaffers Run. Tasks were completed using CADD Software, PennDOT AutoTAB and Microsoft Word/Excel.

Crawford County Commissioners - Smith Road Bridge Replacement, Crawford County, PA *(Highway Engineer).* Competed the Design Field View, Traffic Control Plan, Erosion and Sediment Control Plan, Roadway Construction Plan, and PS&E for replacement on an existing one-lane, single-span bridge over and unnamed tributary to Conneaut Creek. Tasks were completed using CADD Software, PennDOT AutoTAB and Microsoft Word/Excel.

Summerhill Township Supervisors - Wing Road Bridge Replacement, Crawford County, PA *(Highway Engineer).* Completed the Design Field View, Traffic Control Plan, Erosion and Sediment Control Plan, Right-of-Way Plan, Roadway Construction Plan, and PS&E for replacement of an existing one-lane, single-span bridge over Conneaut Creek. Tasks were completed using CADD Software, PennDOT AutoTAB and Microsoft Word/Excel.

Venango Township Supervisors - Drakes Mills Road Bridge Replacement, Crawford County, PA *(Highway Engineer).* Completed the Design Field View, Traffic Control Plan, Erosion and Sediment Control Plan, Right-of-Way Plan, Roadway Construction Plan, and PS&E for replacement of an existing two-lane, single-span bridge over Torry Run. Tasks were completed using CADD Software, PennDOT AutoTAB and Microsoft Word/Excel.

AECOM, PTC MP 99-109 Mainline Reconstruction EA #2, Jefferson & Somerset Townships, Somerset County, PA *(Highway Engineer).* Completed the Right-of-Way Plan property plot and detail sheets for the reconstruction of the PA Turnpike between MP 99-109 (Early Action #2). Tasks were completed using CADD Software.

Somerset County Commissioners - Duck Pond Bridge Replacement, Somerset County *(Highway Engineer).* Completed the Design Field View, Traffic Control Plan, Erosion and Sediment Control Plan, Roadway Construction Plans, and PS&E for the required change in vertical alignment for a proposed “One Lane Bridge” structure replacement. Tasks were completed using AutoCAD Land Development Software.

PennDOT District 12-0 - Ice Pond Bridge Replacement, Westmoreland County, PA *(Highway Engineer).* Completed the Line & Grade, Design Field View, Traffic Control Plan, and Erosion and Sediment Control Plan for replacement of an existing one-lane, two-span steel I-beam bridge, which carries SR 2045 (Two Mile Run Road) over Loyalhanna Creek. Tasks were completed using AutoCAD Land Development Software.

ANDREW M. FEDORKO, P.E.

Structures and Highways Manager / Project Engineer

Joined The EADS Group
February 2011

Prior Years With The EADS Group
6

Years With Other Firms
12

Education
B.S.
Civil Engineering Technology
University of Pittsburgh at Johnstown
1991

Registrations
P.E. / PA / 2002
PE056038 / Exp. - 09/30/2019

Certifications
2015 / 3 Rivers Wet Weather Continuing Education Certification

Continuing Education
2014 / Advancements in Stormwater Management Design

2013 / PA Water Rural Water: Risky Business: What Causes Claims and How to Avoid Them
Best Practices for Design Liability Risk Mitigation

2013 / Cost Effective CSO/SSO Strategies / PA DEP #6260
Liquid Chemical Feed Pumps and Flow Measurement Instrumentation / PA DEP #6268
Optimizing Nutrient Removal for Operational Efficiency / PA DEP #6209
Fixed Film Technology & Producing Class A & B Sludge / PA DEP #6271
Nutrient Removal Processes in WW Treatment / PA DEP #6270

2012 / Confined Space Permit Required Refresher

GENERAL QUALIFICATIONS

After working for the EADS Transportation Department until 2000, Mr. Fedorko returned to our Municipal / Sanitary Department in 2011. In 2017, he became the Structures and Highways Department Manager at our Somerset office. As a Manager / Engineer, Mr. Fedorko is responsible for various aspects of assigned engineering projects, along with preparing engineering agreements, design computations, estimates, and project schedules for the projects and staff under his supervision. Additionally, he handles contract administration, prepares and monitors budgets for smaller projects, and serves as a designated client liaison. His responsibilities include preparation and modification of reports, plans, schedules, studies, permits, and designs for projects.

EXPERIENCE

Mr. Fedorko is experienced in all aspects of highway design including, but not limited to:

- Project Management
- Property Mosaics
- Horizontal and Vertical Alignments
- Cross Sections
- Drainage Design
- Right-of-Way Plans
- Erosion and Sedimentation Control Plans, NPDES permitting
- Construction Plans
- Traffic Control Plans
- Signing and Pavement Marking Plans
- Contour Grading Plans
- Roadside Development Plans
- Parking Lot Design
- Pavement Design
- Public Involvement
- Utility Coordination
- Public Utilities Commission Coordination
- Railroad Coordination
- Tabulation of Quantities Cost Estimates
- Resource Planning

Mr. Fedorko's prior project experience has included:

- PennDOT District 9-0 - Juniata Transportation Improvement Project, SR 4013, Section 03S, Blair County, PA. Preliminary and Final design of a revitalization project in the Juniata Business District within the City of Altoona that included replacement of concrete curb, sidewalks, implementation of handicap accessible curb ramps, aerial and underground utility relocations, and full-depth pavement replacement. Responsibilities included project management and overseeing all aspects of the roadway layout, design, plans preparation and utility coordination.
- PennDOT District 1-0 - Bridge Replacements, SR 0008, Section B10, Venango County and SR 0062, Section B06, Mercer County, PA. Preliminary Design for the replacement of a single span bridge and a metal arch culvert, respectively. Responsibilities included being the lead highway designer overseeing all aspects of the roadway layout, design and plans preparation.
- PennDOT District 9-0 - Pemberton Bridge Rehabilitation, SR 0453, Section 001, Blair and Huntingdon County, PA. Preliminary and Final Design for the rehabilitation of a 460', 2-span Composite Plate Girder Bridge and widening of the roadway approaches. Responsibilities included being the lead highway designer overseeing all aspects of the roadway layout, design and plans preparation.

- PennDOT District 9-0 - Northern Altoona Access, SR 4013, Section 003, Blair County, PA. Preliminary design of approximately 4.5 miles of SR 4013. The project involved alternatives analysis and environmental clearance for a four-lane roadway that would connect the northern portion of Altoona (Juniata) with Interstate 99. Responsibilities included project management and overseeing all aspects of highway layout, design, plans preparation and completion of the environmental clearance document.
- Mid-Mon Valley Transit Authority - California University Bus Park-N-Ride, California, PA. Preliminary Design, Final Design and Construction Consultation for a bus pull-off with shelter and a 72 space parking lot along SR 0088. The project also included construction of a storm sewer, sedimentation/stormwater detention pond, concrete curbs and sidewalks, a handicap accessible ramp, lighting, and installation of advanced warning flashers for a crosswalk within PennDOT right-of-way.
- PennDOT District 10-0 - SR 0022, Section 495, Indiana County, PA. Final Design of approximately 4.2 miles of SR 0022 to widen the existing two-lane facility to a four-lane limited access highway with minor improvements to the horizontal and vertical alignments. Responsibilities included preparation of the Erosion and Sediment Pollution Control Plan and Pavement Design Analysis Report.
- PennDOT District 9-0 - SR 0022, Section 005, Cambria County, PA. Final Design of SR 0022 to widen the existing two-lane facility to a four-lane limited access highway with minor improvements to the horizontal and vertical alignments. Responsibilities included preparation of the Pavement Design Analysis Report and assisted in preparing the Erosion and Sediment Pollution Control Plan.
- Reliant Energy - Seward Repowering Project, New Florence, PA. Preliminary Design of a grade separated entrance for the Seward Generating Station. The new entrance includes a new access road and a four-span structure to accommodate employee and heavy truck traffic associated with the expansion of the generating station. Responsibilities included project management and over-seeing all aspects of roadway layout and design.
- Houtzdale Borough, PA. Construction oversight of a sanitary sewer collection system installation. Responsibilities involved overseeing the installation of gravity sewer lines, manholes, service laterals, roadway borings within PennDOT right-of-way, pressure and vacuum testing, restoration, daily quantities and approval of applications for payment.
- Sandy Township Supervisors, Dubois, PA. Construction oversight of an industrial park access road that included the installation of a gravity sanitary sewer trunk line, public water supply, pressure and vacuum testing, daily quantities and approval of applications for payment.
- Logan Valley Mall, Altoona, PA. Design of new parking lot and utilities serving the mall which included new sidewalks and curbs, new water service lines for fire protection, sanitary facilities and restaurants, new sanitary sewer lines, parking layout, site grading, drainage design, Erosion and Sedimentation Control Plan, Highway Occupancy Permits for new entrances from state routes, tabulation of quantities and preparation of cost estimate.
- PennDOT District 9-0 - SR 1001, Plank Road, Altoona, PA. Design of a new signalized entrance to the new Logan Valley Mall and refurbishing of approximately 1000' of SR 1001 which included new curbs, medians, turning lanes, drainage design, bituminous overlay, Signing and Pavement Marking Plan, tabulation of quantities and preparation of cost estimate.

As an Engineer providing Water / Wastewater services, his experience has included:

- Overseeing the installation of various wastewater collection systems
- Overseeing the construction of an Industrial Park access road which included domestic water, sanitary sewer and storm sewer systems
- Design and field layout of water distribution and wastewater collection systems
- Client consultation
- Department of Environmental Resources and PennDOT permitting
- Preparation of funding applications for municipal water and wastewater projects

As a Construction Inspector, Mr. Fedorko was responsible for overseeing construction of an auxiliary turning lane and extension of a signalized turning lane that also included the relocation of traffic control and safety devices within PennDOT right-of-way. Mr. Fedorko has performed preliminary surveys, pre-construction layouts and post-construction surveys for both bridge and roadway projects as a member of various survey crews.

GREGORY L. ELLIOTT, RLA

Manager of Architecture and Site Development Department

Joined The EADS Group

September 1989

Years With Other Firms

0

Education

B.S.
Landscape Architecture
Pennsylvania State University
1989

Postgraduate Studies
Business Administration

Dale Carnegie Graduate
1999

Registrations

RLA / PA / 1998
LA-001273-E
Exp. - 05/31/2019

RLA / MD / 2007
3398 / Exp. - 03/28/2019

Seminars

Stormwater Management
Site Assessment/Erosion & Sedimentation Control
Pavement Design
Recreational Trail Design

Community Service

Associate Director
Somerset Conservation District

Fundraising Associate
for the YMCA

GENERAL QUALIFICATIONS

Mr. Elliott is a creative problem solver who has successfully designed and managed a wide variety of projects over the course of his career. Mr. Elliott's expertise includes:

- Arrangement of the land and the natural and man-made elements upon it through the application of creative and technical skills for efficient, safe, and enjoyable human use
- Managing the site development discipline for all projects, establishing relations between buildings, roadways, access, parking areas, walkways, and open spaces in a manner that is compatible with the character of the land and its intended use
- Handicap accessible site design in accordance with the latest ADA standards and IBC regulations
- Project Manager for Architecture and Site Development having completed over 200 major projects
- Completing several streetscape projects utilizing Hometown Streets and Safe Routes to School, PCTI, Growing Greener and DCED funding in accordance with PennDOT requirements
- Assisting municipalities with Plan reviews, land development issues, including drainage and paving, and preparation of ordinances

EXPERIENCE

Mr. Elliott began his professional career with The EADS Group upon graduating from The Pennsylvania State University. In addition to project management and design, he is responsible for project permitting; compliance with local, state, and federal codes; and coordination with authorities having jurisdiction. An example of the projects he has completed include, but are not limited to the following:

- Mifflin County - Lewistown Streetscape Project, Phases I, II, IIIa, IIIb, IV *(Project Manager).*
- PA DGS - Department of Military and Veteran's Affairs, Two New National Guard Readiness Centers, Mt. Pleasant and Latrobe, Westmoreland County, PA *(Project Manager).* Ensured the facilities met the needs of the using agency.
- National Park Service - Flight 93 National Memorial, Somerset County, PA *(Project Manager).* Design of new Maintenance Facility.
- National Park Service - Flight 93 National Memorial, Somerset County, PA *(Project Manager).* Provided client contact and stormwater management and Erosion & Sediment Pollution Control Design. Also prepared Individual NPDES Permit application.
- Wheeler Bros., Inc. - 32,000 SF new Warehouse and Office Building *(Project Manager).*
- Martella Pharmacy, Park Hill and Windber, PA - Design and Construction Administration for two new pharmacy buildings *(Project Manager).*
- Somerset County Commissioners - Airport Runway Extension, Somerset County, PA *(Project Manager).* Completed site design, engineering, permitting and construction administration.
- Stoystown Auto Wreckers - Multiple Projects, Somerset County, PA *(Project Manager).* Prepared NPDES Permit Application for stormwater from industrial facilities; designed sediment basin/stormwater pond; provided employee education for compliance with NPDES Permit; and prepared design for new 50,000 SF warehouse with offices and dismantling bays.
- HK Realty - New Holiday Inn Express, Somerset County, PA *(Project Manager).* Responsible for site engineering, permitting and construction administration.

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- Tableland Services, Inc. - Obahiah Estates Subdivision, Somerset County, PA *(Project Manager).* Completed the design, engineering, permitting and construction administration for new residential subdivision project.
- First Nation Wood Pellet Plant, North Star Industrial Park, Somerset County, PA *(Project Manager).* Provided design, oversight of drawing/specifications development, client contact, permitting, and assistance with bidding.
- Tom Croner, Shady Lane Subdivision, Somerset County, PA *(Project Manager).* Provided design oversight of drawing development, client/permit agency contact and submission of permit and approval applications.
- Goodwill Industries of Conemaugh Valley, New Retail Store and Donation Center, Cambria County, PA *(Discipline Manager).* Provided site design, oversight of drawing development, preparation of technical specifications, preparation of NPDES Permit application and other approval submissions.
- Mt. Union Area School District - New Elementary School, Huntingdon County, PA *(Discipline Manager).* A $5,000,000 new elementary school and additional projects.
- Somerset County Commissioners - New Senior Citizen Centers, Somerset County, PA *(Project Manager).*
- Somerset County Commissioners - New Parking Garage, Somerset County, PA *(Discipline Manager).*
- CVS Pharmacy Corporation, Inc - Parking Lot, Somerset County, PA *(Project Manager).* A 90-trailer parking lot.
- PennDOT - Lewistown Narrows - Canal Basin Master Plan, Mifflin and Juniata Counties, PA *(Project Manager).*
- PennDOT/Department of General Services - Three New Welcome Centers, Washington, Pike, and Adams Counties, PA *(Project Land Architect).* Mr. Elliott's responsibilities included: development of master site plans, vehicular and pedestrian circulation, entrance plaza/drop-off area design, stormwater management and roof drain design, erosion and sedimentation control, walkway design, layout and dimensioning, contour grading, construction details, picnic area design, handicapped access design, site planting and interiorscape design, site lighting and preparation of cost estimates and technical specifications.
- Somerset County Commissioners - New Office Building, Somerset County, PA *(Project Land Architect).* A $10,000,000 office building.
- Hidden Valley and Seven Springs Resort Communities - Land planning and site design skills, both located in Somerset County, PA *(Project Manager).* Lot layout, master site plans, subdivision design, resort development, recreational design, roadway design and stormwater management for numerous projects.

Specific examples of planting plans for several prestigious projects include:

- PA Turnpike Commission - Administration Building, Harrisburg, PA *(Project Land Architect).*
- U.S. Army COE, Baltimore District - New Charleston Reserve Center, Charleston, WV *(Project Land Architect).*
- U.S. Army COE, Baltimore District - St. Marys Army Reserve Center, Renovations and Addition Project, Elk County, PA *(Project Land Architect).*
- Allegany Community College - Somerset Campus, Somerset County, PA *(Landscape Architect).*
- Logan Valley Mall - Altoona, Blair County, PA *(Project Land Architect).*
- Kentucky Fried Chicken - Over fifty (50) stores in PA, MD, VA and NJ *(Project Land Architect).*

Mr. Elliott has prepared final bid documents and provided construction consultation for the following streetscape projects administered by PennDOT:

- Mifflin County Commissioners - Lewistown Streetscape Project, Phases I, II and III, Lewistown, Mifflin County, PA *(Project Manager).*
- Meyersdale Borough - Streetscape Project, Somerset County, PA *(Project Manager).*
- Jennerstown Borough - Streetscape Project, Somerset County, PA *(Project Manager).*

Mr. Elliott has extensive experience in recreational planning and design including DCNR procedures. He has designed 23 playgrounds in accordance with the Consumer Product Safety Commission guidelines for playground safety and the Americans with Disabilities Act. The following are several new park and trail projects he has designed and administered the construction of:

- Hollidaysburg Borough - Chimney Rocks Park, Hollidaysburg, Blair County, PA *(Project Manager).*
- Punxsutawney Borough - Tom Barletta Community Park (In-line Hockey and Skate Park). Punxsutawney, PA *(Project Manager).*
- Crawford County - Colonel Crawford Park, Meadville, Crawford County, PA *(Project Manager).*
- Everett Borough - Tenley Park, Everett, Bedford County, PA *(Project Manager).*

Additionally, he has designed and managed the construction of several athletic fields and running tracks including, most recently, a new baseball field and Phase I of a recreation park for Conemaugh Township, Cambria County.

BRADLEY R. STINEBISER, P.E.

Civil Engineer

Joined The EADS Group
May 1988

Years With Other Firms
0

Education
B.S.
Civil Engineering Technology
University of Pittsburgh at Johnstown
1988

Registrations
P.E. / PA / 1993
PE043872E
Exp. - 09/30/2017

P.E. / WV / 1995
012729 / Exp. - 12/31/2018

P.E. / MD / 2002
27940 / Exp. - 09/20/2018

Certifications
PA Sewage Treatment Plant Operator / T3958
Exp. - 6/30/20

PA Waterworks Operator
W10095 / Exp. - 6/30/20

GENERAL QUALIFICATIONS

Mr. Stinebiser is a dedicated and well-established member of our professional team who has numerous years of experience assisting clients and problem solving. Mr. Stinebiser:

- Reliably serves as our representative and primary contact to a number of major municipal clients
- Efficiently works to understand the needs of our clients and to assist with the development and implementation of feasible solutions
- Diligently works to achieve a high level of communication and service to our clients
- Dependably embodies EADS' mission of "Quality Service with Integrity"

EXPERIENCE

Mr. Stinebiser's service, as a primary client contact, to major municipal clients includes providing input and guidance regarding municipal water and sewer system operation, maintenance, design, permitting and implementation of capital improvements to public facilities. His specific capabilities and general experience are described as follows:

SANITARY SEWER

- Design, permitting and construction administration for municipal sanitary sewer systems
- Grantsmanship and assistance with securing and administering funding for municipal sanitary sewer systems from Federal, State and local funding agencies
- Construction feasibility and alternative studies, and operation studies for municipal sanitary sewer systems and treatment plants
- Permitting and permit renewal work for municipal sanitary sewer systems and treatment plants
- Preparation of various annual reports and assistance with annual budgets for municipal sanitary sewer systems and treatment plants

WATER

- Design, permitting and construction administration for municipal water systems
- Grantsmanship and assistance with securing and administering funding for municipal sanitary sewer systems from Federal, State and local funding agencies
- Construction feasibility and alternative studies, and operation studies for municipal water systems and treatment plants
- Permitting and permit renewal work for municipal water systems and treatment plants
- Preparation of various annual reports and assistance with annual budgets for municipal water systems and treatment plants

Mr. Stinebiser's ***sewer*** project experience includes:

- Windber Borough - 2016 Sewer Replacement Project *(Project Manager)*. Design of the replacement of 6,250 LF of sewerline, with permitting and PennVEST funding administration.
- Washington County, MD - Sewage Treatment Plant Improvements, Sharpsburg, MD *(Project Manager).* Design of various improvements at the Antietam Sewage Treatment Plant serving Sharpsburg, MD. Work included design of a new headworks building, rehabilitation of the headworks structure, upgrade of the pre-aeration facilities, and replacement of the UV disinfection facilities. Duties included primary client contact and project management.

- Flight 93 National Memorial - Preliminary Design of Sanitary Sewer Collection and Disposal System, Somerset County, PA *(Project Manager).* Worked as part of the Paul Murdoch Architects design team for this National Park Service project.
- Stonycreek Township Supervisors, Lake Stonycreek Sanitary Sewer Project, Somerset County, PA *(Project Manager).* Management of design, permitting and construction phase activities for this project to install sanitary sewers around Lake Stonycreek and to expand the Shanksville Borough Sewage Treatment Plant. This work included preparation of the Environmental Report that was necessary as part of the funding application.
- Windber Area Authority - Grit Removal and Automatic Bar Screen, Cambria County, PA *(Project Manager)*. Management of design, permitting and construction phase activities for this project of an SBR sewage treatment flows processing up to 10 MGD of sewage flow.
- Shanksville Borough - Sanitary Sewer System and Treatment Plant, Somerset County, PA *(Project Manager).* Design / project management for a new sewer system consisting of approximately 15,000 LF of gravity sewers and force mains, two sewage pumping stations, and a 50,000 GPD extended aeration treatment plant.
- Meyersdale Borough - Phase I Combined Sewer Overflow Elimination and Sewer Rehabilitation, Somerset County, PA *(Project Manager).* Design and project management of 22,000 LF of new sanitary sewerlines to eliminate combined sewers.
- Garrett Borough - Sanitary Sewer Rehabilitation, Somerset County, PA *(Project Manager).* Design of approximately 14,000 LF of gravity sewerlines, rehabilitation of the main sewage pumping station and rehabilitation of the sewage treatment plant, including a new flow equalization tank.
- Meyersdale Municipal Authority - Charles Street Sewage Pumping Station and Interceptor Sewer, Somerset County, PA *(Project Manager).* Design of a replacement 6.8 MGD sewage pumping station and 27" interceptor sewer. Work included design, permitting and funding administration.
- Hidden Valley Resort - Sewer System Development, Somerset County, PA *(Project Engineer).* Design and project management of several thousand feet of sanitary sewers throughout the resort community. This also included work to design modifications to the existing extended aeration sewage treatment plant and design of the new lagoon sewage treatment plant.

Mr. Stinebiser's ***water*** project experience includes:

- Windber Area Authority - 20" Water Transmission Line Replacement, Somerset County, PA *(Project Manager).* Responsible for study, design, permitting and funding activities for the replacement of approximately 42,500 feet of the Authority's existing 20" finished water transmission line.
- Windber Area Authority - Replacement of Hoffman Tanks and Booster Pumps, Somerset County, PA *(Project Manager).* Design of new 150,000 gallon water tanks and booster pumps.
- Windber Area Authority - Groundwater Rule Compliance Facilities, Somerset County, PA *(Project Manager).* Responsible for design and construction of facilities necessary for the Authority to achieve compliance with the DEP Groundwater Rule.
- Allegany County, MD - Rawlings Water Feasibility Study, Allegany County, MD *(Project Manager).* Project was a feasibility study for rehabilitation of the Village of Rawlings' water supply, treatment and distribution systems.
- Flight 93 National Memorial - Preliminary Design of Potable Water System, Somerset County, PA *(Project Manager).* Worked as part of the Paul Murdoch Architects design team for this National Park Service project.
- Windber Area Authority - 2008 - 2010 Water System Improvements, Somerset County, PA *(Project Manager).* Design of various water storage tank upgrades and waterline replacements.
- Washington County, MD - Sedimentation Tank Design, Sharpsburg WTP, Sharpsburg, MD (Project Manager). Design of a sedimentation tank to be constructed at the existing water treatment plant serving the town of Sharpsburg, MD. Duties included primary client contact and project management.
- Meyersdale Municipal Authority - Main Street Waterline Replacement, Somerset County, PA *(Project Manager).* Design of 2,600 LF waterline replacement through the Meyersdale Business District.
- Meyersdale Municipal Authority - Water Storage Tank and Waterline Construction, Somerset County, PA *(Project Manager).* Design and project management of 600,000 gallon water storage tank construction and installation of 15,000 LF of 12", 8", and 6" waterlines.
- Meyersdale Municipal Authority - Development of Well 96-1, Somerset County, PA *(Project Manager).* Design and development of a new groundwater source to supplement the water supply.
- Somerset Borough - Bakersville Water Treatment Plant Improvements, Somerset County, PA *(Project Manager).* Design and project management for numerous projects at the 2.0 MGD plant, including rehabilitation of the filters with media replacement and replacement of raw water pumps, chemical feed systems, flocculator units, and high services pumps.

MICHAEL J. MCLUCAS

Electrical Designer

Joined The EADS Group

November 2007
2000-2006

Years With Other Firms

1

Education

B.S.
Electro-Mechanical Engineering
Pennsylvania State University
2005

Assoc.
Electrical Engineering
Pennsylvania State University
1999

Additional Training

2012 / Lutron's Commercial Specification Seminar / Lutron Listing Controls

2011 / 2008 / 2005/ 2002 / National Electrical Code Changes

2011 / Energy Code Changes

2011 / Energy Efficiency and Reliability Seminar

2006 / Commercial Training in Design, Specifying and Installation of Lighting Controls Industrial Electrical Wiring

2006 / Occupancy Control Engineering

2004 / Lighting for Educational Facilities

GENERAL QUALIFICATIONS

Mr. McLucas graduated from Pennsylvania State University with a B.S. Degree in Electro-Mechanical Engineering and an Associate Degree in Electrical Engineering. He is well versed in the engineering of interior power systems, site electrical distribution systems, building life-safety emergency power systems, lighting systems, fire alarm systems, telecommunication systems, nurse call systems, electrical connection of HVAC, plumbing, and other miscellaneous equipment, specifications, project preparation and project development. He is further experienced in the construction and operation of such systems and performs inspections throughout the construction phase. Along with the development and engineering of electrical systems, Mr. McLucas is knowledgeable in the codes associated with these systems. He is also involved with Client interaction to ensure the proper system(s) are designed to meet their needs.

EXPERIENCE

As an Electrical Designer, Mr. McLucas has experience with multiple engineering duties related to various electrical systems for state government institutions, private institutions, and the private sector. Activities have included, but were not limited to:

- Supervising and monitoring design of projects by staff members and performing the review of the electrical design and specifications
- Performing the branch circuiting and panelboard design to serve final electrical and mechanical components
- Performing lighting designs to meet current stringent energy codes and coordinate with outside lighting design consultants
- Communication with Clients and other team members to produce accurate and complete bid documents
- Evaluation of building / site electrical and life safety systems to provide feasibility reports for Clients on future growth potential and required upgrades
- Reviewing shop drawings and communicating with Contractors and Construction Inspectors
- Performing the design of electrical distribution systems for buildings with service entrances of 208V 1 & 3 Phase to 480V 3 Phase, and medium voltage site distribution design includes aerial and underground systems up to 34.5KV 3 Phase
- Additional items - residential inspections, highway and streetscape lighting, security and telecom design, costing estimating, project management, dialer system programming, control panel wiring changes, control and PLC troubleshooting, VFD designs and motor shaft grounding, overall electrical / electronic system troubleshooting, and schematic and ladder logic evaluations

Project experience includes, but is not limited to:

- Cresson Borough Municipal Authority - Electrical troubleshooting and programming changes
- Pennsylvania State University - MRI Room 169 - Lab Equipment Circuiting Design
- Mt. Aloysius Emergency Power Upgrades - Life Safety Upgrades and Emergency Power System
- FBI Building Conditions Assessment - Building Condition Study
- Usrina Borough Sewer - Electrical design for new treatment plant and pump station
- Burnside Borough - Design for Standby Generator

- Pennsylvania State University - Critical Power Protection Feasibility Study to determine electrical power protection for critical equipment
- Pennsylvania State University - Hosler Building Standby Generator
- PA Department of General Services - Replacement of Main Direct Sanitary Line to Ebensburg Center and County PennDOT Office, Cambria County, PA - Provided electrical connections to wastewater system equipment
- Punxsutawney Area School District, Jefferson County, PA - HVAC Analysis / ATC System / Hot Water Balancing
- Mount Union Elementary School - Electrical design and CADD drafting for new elementary school
- Logan Elementary School - Electrical design and CADD drafting of renovation to elementary school for the Altoona Area School District
- Moshannon Valley Elementary - CADD drafting of original blueprints and data outlet placement
- Hollidaysburg Area School District - Allegheny Elementary - Design and drafting for new fire alarm system
- Pennsylvania State University - Earth and Mineral Sciences College - Analysis of proposed critical equipment
- Pennsylvania State University Wellness Center - Electrical design and CADD drafting for new office
- Keystone Central Vo-Tech - Electrical design and CADD drafting for new 3-story technical school
- Tyrone School District - Gray Field - Electrical design and CADD drafting for changes to football field restrooms and concession stands
- ADELPHOI Village, 4th Street Square, Westmoreland County, PA - HVAC Upgrade
- ADELPHOI Village, Human Services Center, Westmoreland County, PA - HVAC Upgrade
- Pine Haven Retirement Center Building, Clinton County, PA - Investigation and Report
- Shirley Home for the Aged, Huntingdon PA - CADD drafting for new senior citizen home
- Spring Manor Apartments - Design and drafting of new fire alarm system
- Blair Senior Center - Review of shop drawings for new senior center
- Renovo Senior Center - Electrical design and CADD drafting for addition and renovations
- AMTRAN Trolleyworks Business Park Renovation Project, Blair County, PA - Project consisted of transforming an industrial building into an energy-efficient business park; provided exterior and interior lighting designs for the building and the courtyard
- AMTRAN Security and Fire Protection Project, Blair County, PA - Electrical design for upgrading the existing fire protection and security system in the administration and maintenance buildings
- Altoona Hospital - Electrical design and CADD drafting for new Emergency Trauma Center
- Altoona Hospital, Endoscopy Suite - Electrical design and CADD drafting
- Clarion Borough Building - Electrical design and CADD drafting for new Borough building
- Clinton County Courthouse - Existing conditions report and preparation of floor plans
- Blair County Airport Authority, New Corporate Hangar - Electrical design and CADD drafting
- Blair County Airport Authority, T-Hangars - CADD drafting
- Lewistown Narrows Project - Voltage drop calculations and wire sizing for highway lighting project
- Adams Croyle Recreation Authority, Adams Township, Cambria County, PA - 1889 Park Improvement Project included analysis of the RV park and construction drawings for power distribution to various pavilions, restroom building, and office
- Meyersdale Streetscape Project, Somerset County, PA - Design and drafting
- Houtzdale Streetscape Lighting - Design and drafting for new streetlights and electrical service
- Station Medical Center Healthwalk, City of Altoona, PA - Electrical design/CADD drafting for walkway lighting
- Jenner Township Community Park Project, Somerset, PA - Project consisted of engineering / architectural services for a new secure concession stand with running water and bathroom facilities; provided electrical design and CADD drafting
- Titusville Opportunity Park - Project management and design of site medium voltage distribution system
- Hollidaysburg Borough Sewer Authority, Blair County, PA - Upgrade and Expansion of Hollidaysburg Sewage Treatment Plant - Electrical design
- RAS Pump Replacement at Dornick Point, Cambria County, PA - Design of electrical system
- Lock Haven Sewage Treatment Plant - Evaluation, electrical design, and drafting
- Carrolltown Water Treatment Plant - Evaluation, electrical design, and drafting for 3 existing remote well sites, one remote storage tank, one existing treatment plant, and one new treatment plant
- Upgrade and Expansion of the Duncansville Sewage Treatment Plant, Blair County, PA - Electrical design

KIRBY A. GARDNER, P.L.S.

Chief of Surveys

Joined The EADS Group
February 2011

Years With Other Firms
35

Education
Certificate
Mechanical Drafting / Design
Somerset Vocational Technical School
1975

Registrations
P.L.S. / PA / 1993
SU043944E
Exp. - 09/30/2017

Certifications
Veriforce Certified

GENERAL QUALIFICATIONS

Mr. Gardner has over 40 years experience in surveying and mapping. He owned and operated a private land survey practice specializing in boundary retracement surveying, during four of those years. He has been supervisor and manager of various surveying projects, and has directed surveys for property boundary, topographic, Global Positioning Systems (GPS), bituminous coal and non-coal underground mining, and construction stakeout. He has prepared subdivision plans, gas well permit plans, stormwater management design, erosion and sediment control plans, land development, subdivision designs, performed residential and commercial stormwater design and other surveying services.

EXPERIENCE

Project Specific Experience:

Precision Pipeline - EQT Sunrise Survey Project, Greene County, PA and Wetzel County, WV *(Project Manager).* Provided project management on the 52 mile pipeline project, including field personnel (12) and office personnel (6). Continually oversees production of as-built drawings of pipeline and 6 compressor stations.

AECOM - DMJM & Harris - PA Turnpike MP99 to MP109, Somerset County, PA *(Project Manager).* Provided various surveying services for miscellaneous tasks.

Somerset County Commissioners - Maust Bridge, Kiefl Bridge and Oldham Bridge, Somerset County, PA *(Chief of Surveys).* Directed as-built condition surveys of existing bridges for rehabilitation and new construction.

Zamias - Cozza Utility Easements, Allegheny County, PA *(Chief of Surveys).* Provided underground/overhead utility locations and easements plats with legal descriptions.

Pennsylvania Department of Transportation, District 9-0. Preliminary and Final Design, PA 601, Boswell Bridge #1. Survey and supplemental surveys.

Pennsylvania Department of Transportation, District 9-0. North Manns Choice Bridge. Survey activities.

Pennsylvania Department of Transportation, District 10-0. Armstrong County, SR 4010 - Buffalo Mills Bridge Replacement, SR 58 & SR 68. Survey activities.

Pennsylvania Department of Transportation, District 10-0. Indiana Superstructure Replacement Group - SR 954, SR 3013, SR 3025, SR 4002. Survey activities.

Pennsylvania Department of Transportation, District 12-0. SR 2018-A10 - Design Build, Charleroi/Monessen Bridge. Survey and supplemental survey. Location of existing bridge, approaches, piers, railroad, and boundary corners for proposed bridge crossing the Monongahela River.

Digital Orthophoto Mapping, Wilkes County, NC - Surveyor responsible for providing all targeting and GPS ground control surveys. Some services included topographic mapping, collecting polygons, and aerial photography which were used to support digital stereo compilation of the terrain and land use areas.

GAMESA Energy USA

- Allegheny Ridge Wind Farm - Portage, PA - Provided over 60 ALTA/ACSM Land Title Surveys for 13,500 acre wind farm. Provided technical assistance with title commitment/research companies and survey coordination for aerial photography and topographic and planimetric mapping (metric), construction stakeout and utility right-of-way plans.
- North Allegheny Ridge Wind Farm - Portage, PA - Provided over 30 ALTA/ACSM Land Title Surveys - Survey Coordination for aerial photography and topographic and planimetric mapping (metric), construction stakeout and utility right-of-way plans.

Shaffer Mountain Wind Farm - Windber, PA - Provided basic boundary surveys and aerial mapping of a proposed 10,000 acre wind farm site.

Clearfield Foundation - Clearfield Firemen Industrial Park - Clearfield, PA - Provided an ALTA/ACSM Land Title Survey of a 200 acre industrial/commercial subdivision plan. Provided numerous easement plats for utilities.

Johnstown Redevelopment Authority/Conemaugh Health Systems - CHS Tech Park - Provided individual ALTA/ACSM Land Title Surveys of 45 individual properties within Johnstown City limits.

Admiral Bay (USA), Inc. - Prepared 15 individual Well Location Plats and Erosion & Sedimentation Control Plans.

PA DGS - SCI Smithfield & Camp Hill Prisons - Provided ground control for aerial photography and mapping, field verification of mapping, and utility location within the prison compound for cafeteria building additions.

Veolia ES - Heistand Property - Lancaster, PA - Provided an ALTA/ACSM Land Title Survey of 100 acre tract for landfill expansion project.

Norfolk Southern Railroad - Johnstown, PA - Provided location of retaining wall, boundary survey, and easement plat preparation for eight properties to be affected by proposed retaining wall construction.

Pennsylvania State University - Jeffrey Field - Provided topographic, location, and utility location survey of 100 acre site for new baseball stadium, adjoining PSU Beaver Stadium complex.

Pennsylvania State University - Women's Soccer Field - Provided topographic, location, and utility location survey adjoining PSU Beaver Stadium complex.

Pennsylvania Power & Light - PPL Brunner Island - SES Cooling Tower - As-built survey including topographic, location, and utility location survey for facility expansion project.

Indiana University of Pennsylvania - Convocation Center/Kovalchick Property - Provided an ALTA/ACSM Land Title Survey for a 30 acre site, including abandoned railroad sidings, multiple easements and right-of-ways for utilities, rails-to-trails designated areas, and state and local highway takings.

Wal-Mart

- Phillipsburg, PA - Provided an ALTA/ACSM Land Title Survey for proposed store.
- Somerset, PA - Provided an ALTA/ACSM Land Title Survey for proposed store.
- Bedford, PA - Provided an ALTA/ACSM Land Title Survey of existing store for expansion project.

Windber Research Institute - Provided a boundary retracement and topographic survey of existing church site to determine grading for new research facility.

Greene County Airport - Waynesburg, PA - Runway Obstruction Survey, including aerial photography, mapping, planimetrics and calculation/location of glide slope obstructions.

Doylestown Airport - Provided Runway Obstruction Survey, including aerial photography, mapping, planimetrics and calculation/location of glide slope obstructions.

PROJECT SCHEDULE

The EADS Group is prepared to begin work immediately upon receipt of the Notice to Proceed and will meet the City's needs for the project schedule. The City has indicated that their required schedule is to have bid-ready documents delivered to the City within 120 days of the notice to proceed. To meet this schedule, proposed submittal milestones are as follows:

Description of Task/Submission	Submission Date	Remarks
D E S I G N P H A S E		
Notice to Proceed	11/1/17	by City
70% Plans to City	1/22/18	
Final Plans to City	2/19/18	
Bid Ready Documents to City	3/1/18	

It is anticipated that City reviews will be conducted within a week following the above submittals.

PRICE PROPOSAL

EADS ENGINEERING COST DETAIL

The EADS Group, Inc. — **New Baltimore Street Town Center** — Date: Aug-17 — Sht 1 of 3

TASKS	Employee Classification	Project Manager	QA/QC Engineer	Highway Engineer	Civil/San Engineer	Landscape Architect	Lighting Engineer	Chief of Surveys	Surveyor	Survey Tech	CADD Tech	Clerical	Total Hours /Task	Cost Per Task
	Billing Rate/Hour	$131.18	$146.28	$131.18	$148.19	$189.85	$111.30	$148.98	$59.78	$97.63	$77.12	$54.86		
	DESCRIPTIONS													
1	Project Management & Coordination													
	Project Management	100											100	$13,118.00
	Kickoff Meeting	6	6				8						20	$2,555.16
	DDC Meetings	18	18				24						60	$7,665.48
	Design / Review Meetings	12					8						20	$2,464.56
	Status Meetings	24											24	$3,148.32
	Funding Assistance	16	16										32	$4,439.36
2	Public Involvement													
	Meeting with City Officials	8	8				10						26	$3,332.68
	Plan & Display Prep			16									16	$2,098.88
3	Field Surveys & Base Mapping													
	Field Survey							4	200	4			208	$12,942.44
	Base Mapping			4				4		36			44	$4,635.32
4	Utilities													
	Miss Utility & Plot Utilities			16								4	20	$2,318.32
	Utility Impact Assessment			16									16	$2,098.88
	Verification Package			8								2	10	$1,159.16
	Meeting w/ Utilities		6	6			8						20	$2,555.16
	CCTV San Sewer Coord			4									4	$524.72
	Sanitary Sewer Repairs			32									32	$4,197.76
	Water Line Evaluation			24	40								64	$9,075.92
	Water Line Design			24	40								64	$9,075.92
	Conduit Bank Design			40									40	$5,247.20
5	Construction Plans													
	Plans		4	540		40					20		604	$80,558.72
	Cross Sections			100							20		120	$14,660.40
	Quantities / Cost Estimate			16									16	$2,098.88
6	Maintenance & Protection of Traffic Plan													
	Plan Prep		2	80							8		90	$11,403.92
	Final Revisions			8									8	$1,049.44
7	Signing & Pavement Marking Plan													
	Plan Prep		2	80							8		90	$11,403.92
	Final Revisions			8									8	$1,049.44

The EADS Group, Inc. **New Baltimore Street Town Center** Date: Aug-17 Sht 2 of 3

TASKS	Employee Classification	Project Manager	QA/QC Engineer	Highway Engineer	Civil/San Engineer	Landscape Architect	Lighting Engineer	Chief of Surveys	Surveyor	Survey Tech	CADD Tech	Clerical	Total Hours /Task	Cost Per Task
	Billing Rate/Hour	$131.18	$146.28	$131.18	$148.19	$189.85	$111.30	$148.98	$59.78	$97.63	$77.12	$54.86		
	DESCRIPTIONS													
8	E&S Control Plans & Permits													
	Plan Prep		2	40							8		50	$6,156.72
	Permit Preparation			24									24	$3,148.32
	Final Revisions			8									8	$1,049.44
9	Highway Lighting & Electric Service													
	Meetings			12			16						28	$3,354.96
	Highway Lighting Design		4				53						57	$6,484.02
	Electric Service Design						53						53	$5,898.90
	Quantities / Cost Estimate			4			8						12	$1,415.12
10	Traffic Signal Design													
	Coordination w/ Subconsult			8									8	$1,049.44
11	Construction Specifications													
	Specification Package			120									120	$15,741.60
	Final Revisions			16									16	$2,098.88
12	Construction Consultation													
	Questions		4	48			8						60	$7,772.16
	Shop Drawings						16						16	$1,780.80
	Site Visits		12	24			16						52	$6,684.48
	Final Inspection		6	6			8						20	$2,555.16
TOTAL HOURS		184	90	1332	80	40	236	8	200	40	64	6	2280	
TOTAL COST		$24,137.12	$13,165.20	$174,731.76	$11,855.20	$7,594.00	$26,266.80	$1,191.84	$11,956.00	$3,905.20	$4,935.68	$329.16		$280,067.96

EADS Engineering Cost Subtotal **$280,067.96**

PRICE PROPOSAL SUMMARY

The EADS Group, Inc. — **New Baltimore Street Town Center** — Date: Aug-17 — Sht 3 of 3

TASKS	Employee Classification	Project Manager	QA/QC Engineer	Highway Engineer	Civil/San Engineer	Landscape Architect	Lighting Engineer	Chief of Surveys	Surveyor	Survey Tech	CADD Tech	Clerical	Total Hours /Task	Cost Per Task
	Billing Rate/Hour	$131.18	$146.28	$131.18	$148.19	$189.85	$111.30	$148.98	$59.78	$97.63	$77.12	$54.86		
	DESCRIPTIONS													
1	Project Management & Coordination	176	40				40						256	$33,390.88
2	Public Involvement	8	8	16			10						42	$5,431.56
3	Field Surveys & Base Mapping			4				8	200	40			252	$17,577.76
4	Utilities		6	170	80		8					6	270	$36,253.04
5	Construction Plans		4	656		40					40		740	$97,318.00
6	Maintenance & Protection of Traffic Plans		2	88							8		98	$12,453.36
7	Signing & Pavement Marking Plans		2	88							8		98	$12,453.36
8	E&S Control Plans & Permits		2	72							8		82	$10,354.48
9	Highway Lighting & Electric Service		4	16			130						150	$17,153.00
10	Traffic Signal Design			8									8	$1,049.44
11	Construction Specifications			136									136	$17,840.48
12	Construction Consultation		22	78			48						148	$18,792.60
TOTAL HOURS		184	90	1332	80	40	236	8	200	40	64	6	2280	
TOTAL COST		$24,137.12	$13,165.20	$174,731.76	$11,855.20	$7,594.00	$26,266.80	$1,191.84	$11,956.00	$3,905.20	$4,935.68	$329.16		$280,067.96

EADS Engineering Cost Subtotal **$280,067.96**

Professional Services by Sub-Consultants

	Qty	Unit Price	Cost Per Task
Traffic Signal Design by French Engineering, LLC			
Traffic Signal Design (See Section 8 for Technical and Price Proposal)	1 LS	$13,128.57	$13,128.57

Professional Services by Sub-Consultants Cost Subtotal **$13,128.57**

Non-Professional Services

	Qty	Unit Price	Cost Per Task
Subsurface Utility Investigation by CARDNO, INC.			
Subsurface Utility Investigation QL-A (See Section 9 for Technical and Price Proposal)	1 LS	$18,100.00	$18,100.00
CCTV of Sanitary Sewer			
CCTV of sanitary sewer line	1 LS	$3,500.00	$3,500.00

Non-Professional Services Cost Subtotal **$21,600.00**

Total Not To Exceed Engineering Fee **$314,796.53**

FRENCH ENGINEERING, LLC
7 North Morgantown Street
Fairchance, PA 15436
Ph: 724-564-8013
Fx: 724-564-8037
www.frenchengr.com

Millie French, M.S.C.E., P.E.
Highway Engineer

Jim French, Ph.D., P.E.
Traffic Engineer & Analyst

Traffic and Transportation Engineers

August 17, 2017

Nicholas A Wagner, P.E.
Project Manager
The EADS Group, Inc.
450 Aberdeen Drive
Somerset, PA 15501

Re: New Baltimore Street Town Center Proposal
Traffic Signal Retiming and Pedestrian Signals

Mr. Wagner,

French Engineering, LLC (French) is pleased with the opportunity to team with The EADS Group to provide professional traffic engineering services for the traffic signal redesign at the New Baltimore Street Town Center. Please find the attached proposal in response to the Request for Proposals (RFP) dated August 8, 2016.

FIRM OVERVIEW

French specializes in traffic engineering, including traffic signal design, traffic control plans, signing and pavement marking plans, traffic data collection and a wide range of traffic studies. Since inception, our engineering firm has gained experience on nearly every type of traffic engineering intensive project. We have successfully completed numerous projects from small simple traffic studies to larger more complex signal designs. We strictly adhere to project schedules and communicate project timelines to our employees and subconsultants. Our work quality is extremely important to us. Our consultant evaluations have always been favourable.

EXPERIENCE ON SIMILAR PROJECTS

US 22 Adaptive Traffic Signal Control, PennDOT District 12-0
Bill Oshnack, Project Manager, 724-439-7321

French prepared a traffic signal design for an Adaptive Traffic Signal Control (ATSC) system project. The project was located on US 22 in Murrysville and Monroeville, PA and included 18 intersections. This project also included several

hardware upgrades, including the installation of radar detection, emergency vehicle preemption, and new controller assemblies. French served as the prime consultant and handled all aspects of the design including preparation of the required forms and the bid package. This project required close coordination with the District, the municipalities and the adaptive signal equipment provider.

S.R. 0019-A08, PennDOT District 1-0
Stephen Schettler, Project Manager, 814-678-7356

French designed final signal plans for nine (9) traffic signals as part of a curb ramp upgrade project along Peach Street in Millcreek Township and the City of Erie, Erie County, PA.

SPC SINC-UP Program, Southwestern Pennsylvania Commission
Domenic D'Andrea, Project Manager, 412-391-5590 x 341

French has prepared final traffic signal design (specifications, plans, and marked-up permit drawings) for Cycle 1 and Cycle 2 of SPC's SINC-UP Program. These projects include traffic signal retiming and signal hardware upgrades, and involved many corridors in Southwestern Pennsylvania.

PROJECT APPROACH

Traffic Signal Design

French will prepare a final traffic signal design, including a cost estimate and required specifications, for the intersection of Baltimore Street at Mechanic Street. It is assumed that the required changes to this existing signal stem from the proposed inclusion of the eastern leg of Baltimore Street as being open to vehicular traffic as a one-way street in the eastbound direction (away from the signalized intersection). Design efforts are anticipated as follows:

(1) Updating lane configurations / permitted movements on the three existing vehicular approaches, including revisions to the pavement markings and signing;

(2) Traffic signal retiming, including relevant clearance interval calculations;

(3) Right-turn on red considerations for northbound Mechanic Street;

(4) Left-turn protection considerations for northbound Mechanic Street; and

(5) Providing a crosswalk across the eastern leg.

Revised traffic signal timings will be developed using Synchro 9. It is assumed that any required traffic volumes or forecasts will be provided, and that this scope includes no traffic data collection. Furthermore, this scope does not include a temporary traffic signal design.

PRICE PROPOSAL

PRELIMINARY ENGR. COSTS	
Total Direct Payroll Costs	$6,262.00
Approved OH Rate	88.400%
Overhead Costs	$5,535.61
Total Labor Costs	$11,797.61
Profit @ 10%	$1,179.76
Total Labor + Profit	$12,977.37
Subtotal- Other Direct Costs	$151.20
FE Total Costs	$13,128.57

Project: NEW BALTIMORE STREET TOWN

Scope Task	PM/Sr. Traffic Engr	Highway/ Traffic Engr	Contract Spec Writer	Traffic Specialist	Technician	Engineering Technician	Total Hours by Task	Total Cost by Task
Final Traffic Signal Design								
Final Traffic Signal Design (1 intersection)	30.0			40.0		8.0	78.0	$3,127.50
Signal Timing (Synchro/Clearance Interval Calcs/Signal Timing, RTOR)	10.0					8.0	18.0	$732.50
Quantities and Cost Estimate	8.0			8.0			16.0	$708.00
Specifications			12.0				12.0	$528.00
Coordination	16.0						16.0	$916.00
Permit Plan				8.0			8.0	$250.00
Total Hours	64.0	0.0	12.0	56.0	0.0	16.0	148	
Rate	$57.25	$57.25	$44.00	$31.25	$25.00	$20.00		
Total Direct Payroll Cost per position	$3,664.00	$0.00	$528.00	$1,750.00	$0.00	$320.00		**$6,262.00**

Phase 1 PE-Other Direct Costs	**French**
Mileage	280.0
Current Federal Mileage rate	$0.540
Mileage costs	$151.20
Lodging	
Subsistence	$0.00
Postage	
Totals-Other Direct Costs -French	$151.20

We look forward to working with you on this project. Please contact me at (724) 564-8013 if you have any questions or require additional information. Thank you.

Sincerely Yours,

Millie French

Millie French, M.S.C.E., P.E.
President
French Engineering, LLC

MSF: mme

Attachments

Jim French, Ph.D., P.E. - Sr. Traffic Engineer

YEARS OF EXPERIENCE

With this Firm: 13 With Other Firms: 12

EDUCATION

Pennsylvania State University, University Park, PA, Bachelor of Science in Civil Engineering, 1992.
University of Pittsburgh, Pittsburgh, PA, Masters of Science in Civil Engineering, 1993.
West Virginia University, Morgantown, WV, Ph.D., Civil and Environmental Engineering, 1997.

PROFESSIONAL REGISTRATIONS

Professional Engineer (1998), Pennsylvania (#PE054602-E), West Virginia (#PE13737), Maryland (32307).

OVERVIEW

Jim French oversees or directly conducts all transportation planning and traffic engineering activities, including studies, permanent and temporary traffic signal designs, traffic signal system designs, work zone traffic control plans, and signing and pavement marking plans.

Jim has over 20 years of experience in the engineering field and academia. Prior to co-founding French, he was employed for 11 years at West Virginia University, where he conducted scientific research and taught courses in the various areas of transportation engineering. His works have been published in the scholarly journals of the Institute of Transportation Engineering (ITE), American Society of Civil Engineers (ASCE), and the Transportation Research Board (TRB).

As a practitioner, he has performed numerous traffic-related designs and studies, and has had extensive interaction with the public and various non-technical stakeholders.

PROJECT EXPERIENCE

Regional Traffic Signal Improvement Program, Southwestern Pennsylvania Commission - Sr. Traffic Engineer responsible for supervision of traffic data collection, Synchro model development, and traffic signal design duties as part of the SINC / SINC-UP program Cycle 1 and Cycle 2.

S.R. 0022, Section CCP, Monroeville and Murrysville, PA, PennDOT District 12-0 - Sr. Traffic Engineer responsible for the design of the Adaptive Traffic Signal Control System for 18 traffic signals along US 22.

S.R. 0015, Section 031, Dillsburg Borough and Carroll Township, PA, PennDOT District 8-0 - Sr. Traffic Engineer responsible for designing the Adaptive Traffic Signal Control System for 5 signals along US 15.

S.R. 0018 Signal Upgrades, City of Washington, PennDOT District 12-0 - Sr. Traffic Engineer responsible for the design and preparation of an elaborate origin-destination study to support the reconfiguration of a major interchange on I-70 in Washington, PA.

Beaver Ave, City of Pittsburgh, Urban Redevelopment Authority of Pittsburgh - Sr. Traffic Engineer responsible for the traffic analysis of several alternatives to improve traffic flow on Beaver Avenue between the Casino and Juniata Street in the North Shore/Chateau area of Pittsburgh, PA.

Parkway West Transportation Planning Study, Allegheny County, PennDOT District 11-0 - Sr. Transportation Engineering responsible for preparing the traffic forecasts and capacity analysis for numerous alternatives to reconfigure interchanges on the Parkway West (1-376) in Pittsburgh, PA. This facility is the most heavily travelled freeway in the Pittsburgh metropolitan area.

Erie Bayfront Highway Transportation Planning Study, City of Erie, PA, PennDOT District 1-0 - Sr. Transportation Engineer responsible for preparing the design year traffic forecast for the growing Erie Bayfront corridor. Also responsible for evaluating safety and identifying problematic intersections and street segments.

S.R. 0119 Safety Study, Fayette County, PA, District 12-0. Sr. Traffic Engineer. Performed a safety, traffic and operations study at the intersection of S.R. 0119 and S.R. 1073 (Crawford Avenue) which included crash data analysis, speed analysis, gap study, queue length monitoring, level of service analysis and signal warrant analysis.

SR 0119, Section 20K, McClure Rd/Kingview Rd intersections, PennDOT, District 12-0 – Sr. Traffic Engineer. Performed traffic engineering and safety study of alternatives at the McClure Rd and Kingview Rd intersections on SR 0119 in Westmoreland Co, PA. The study included innovative designs such as the Median U-Turn and Restricted Crossing U-Turn (RCUT) as well as traditional alternatives including signal modifications and a new interchange. The Highway Safety Manual (HSM) was used to quantitatively evaluate safety solutions.

Capitol Complex Pedestrian Safety Study, City of Harrisburg, PennDOT District 8-0 - Sr. Traffic Engineer responsible for developing the baseline Synchro model for an 18-intersection network (12 signalized intersections) surrounding the Capitol Complex in Harrisburg, PA. Also used the Synchro models to evaluate several signal timing and phasing strategies to improve pedestrian safety in the network.

Castle Shannon Transit Oriented Development Transportation Impact Study, Castle Shannon Borough, PA - Sr. Traffic Engineer responsible for preparing the traffic study for plans to convert an existing park-and-ride lot to a transit-oriented development with residential, office, and commercial space at a light rail transit stop.

Traffic Impact Study Reviews, PennDOT District 8-0 - Sr. Traffic Engineer responsible for reviewing traffic impact studies in the Harrisburg, PA region on behalf of PennDOT District 8-0.

SELECT PUBLICATIONS AND PRESENTATIONS

Specifications for Automated License Plate Reading Equipment for Transportation Planning, TRR, 1998

Trip Generation Rates of Consolidated Schools, ITE Journal, 2000

Trip Generation Rates of Correctional Facilities, ASCE Journal, 2000

Development of Design Vehicles for the Hangup Problem, TRR, 2000

Portable Non-Intrusive Traffic Data Collection in Variable Roadside Environments, ASCE, 2006

Delay Analysis Workbook Overview, MASITE Annual Meeting, Bedford Springs, PA, October 6, 2008

Work Zone Safety and Mobility: Traffic Analysis and Impacts, PA Statewide Webinar, October 27, 2009

Updates to the Delay Analysis Workbook and Methodology, PA Statewide Webinar, May 23, 2012

September 15, 2016

Cardno
Shaping the Future

Cardno

10988 Richardson Road
Ashland, VA 23005
USA

Phone 804.285.4811

www.Cardno.com

Nicholas A. Wagner, PE
The EADS Group, Inc.
450 Aberdeen Drive
Somerset, PA 15501

RE: Subsurface Utility Engineering
New Baltimore Street Town Center
City of Cumberland, Maryland

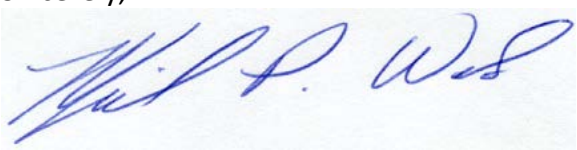
Dear Nick:

Thank you for requesting that Cardno prepare a rate proposal for providing sub-surface utility investigation on the above referenced project.

We have prepared the attached scope and fee based on our understanding of the project and conversations with your office. We are providing a unit rate structure for our services. As we discussed, the location and magnitude of our work will be determined as the design proceeds. We believe that the unit rate approach is the best solution given the current level of information.

If the proposal is acceptable, we will work with you in order to generate the appropriate contractual paperwork. If you have any questions, please do not hesitate to contact me. We look forward to working with you on this project.

Sincerely,



Michael P. Woods
Principal

Attachments

ATTACHMENT A
Scope of Services

<u>Industry Standard of Care</u> – All aspects of the subsurface utility engineering performed on this project will be in accordance with ASCE Standard 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" and industry standards as of the date of the Notice to Proceed.

Project Limits –

The current project limits are described in the Request for Proposal from the City of Cumberland. The limits of the overall project are along Baltimore Street from Canal Street to South George Street. The specific locations for the subsurface utility engineering work will be defined as the project design progresses.

Utility Designating –

Utility designation has not been requested for this proposal. It is our understanding that the base (2-D) information will be prepared via the use of record information and utility owner contact. It is understood that this work will be performed by others.

Once the exact test hole locations are defined, Cardno will utilize utility designation techniques at each test hole location only. This will assure that the excavations are centered over the existing utility facilities. Cardno will not be responsible for rectifying discrepancies between the base information (2-D) and the test hole information obtained. Cardno will work with the design team to determine the best method to rectify the discrepancies in the event that they occur.

Using the appropriate geophysical methods, Cardno will field locate the approximate horizontal location of the existing utilities at the test hole locations.

Utility Locating –

Cardno proposes to perform utility test holes at requested locations. The utility test holes will be performed to identify the horizontal and vertical location of the existing underground utilities. For accuracy purposes, all test hole data will be collected via conventional survey methods.

Using non-destructive vacuum excavation methods, the exact horizontal and vertical location of the utility will be determined. As a part of utility locating, Cardno will contact Miss Utility and provide all equipment and personnel necessary to perform the test holes. Individual test hole data sheets will be supplied for each hole. The test hole data sheet will include: pipe size, pipe material, top and bottom elevation, horizontal location (minimum of two swing ties per hole) and depth of cover. All test hole locations will be restored to their original condition and elevation, including proper compaction and backfill. The test hole information will comply with ASCE Quality Level A standards.

CONDITIONS AND EXCLUSIONS

- Cardno will coordinate all operations with the client.
- "Designating" means to indicate the presence and horizontal location of underground utilities using geophysical prospecting techniques including electromagnetic and sonic methods. Toneable is defined as any utility capable of carrying an electromagnetic tone.
- Cardno will contact Miss Utility, as required by law before excavating.
- The test holes will be backfilled and compacted using the same material that was excavated.
- If the test hole has been excavated in pavement, it will be restored to match existing material to the same depth as the pavement that was removed.
- Cardno will not perform test hole(s) on subaqueous utility crossings.
- Cardno will be responsible for negligent acts, errors, or omissions for its services as outlined within this Scope of Services.
- GPR is fully dependent on the composition of site soils and reacts negatively to highly conductive soils (namely clays and saturated soils). In ideal conditions with highly resistive soils (sands), GPR can be expected to penetrate to a maximum of 10 feet. Soils with significant clay content commonly limit GPR depth penetration to 3 feet or less. For this reason, it is possible that GPR data may prove inconclusive.
- Cardno will not be responsible for the disposal of any hazardous material.
- Special backfill requirements such as flowable fill or 21A gravel are not included.
- Special pavement restoration, other than specified above, is not included. The pavement replacement is limited to the area that was removed for the test hole.
- Cardno will not be responsible for excavating rocks or other debris larger than 4 inches in size from test holes. If the test hole cannot be completed by vacuum excavation because of ground conditions, Cardno will contact the client to discuss possible alternate arrangements.
- Every effort will be made to determine the utility material and diameter, however, the depth of the test hole or ground conditions may prevent an accurate assessment.
- Cardno shall not be required to work other than 7:00 AM to 6:00 PM, Monday through Friday.
- Designating of gravity sewer or drainage lines is not included.
- Cardno shall not be required to enter into any confined spaces such as sewer or drain manholes.

ATTACHMENT B
FEE SCHEDULE

Mobilization – Includes mobilization of equipment and personnel to the project site. For the purposes of this proposal, Cardno has assumed 2 separate mobilizations.

$725.00 per Mobilization

Utility Designation – Includes all utility designation necessary to set-up test hole locations. This will include recovery of survey control and efforts required for data collection.

$1,150.00 – Lump Sum

Quality Level A Test Holes – Includes all personnel and equipment for the purposes of providing test hole services by vacuum excavation. Personnel includes project management, field personnel and equipment, CAD and administrative support necessary to perform tasks as outlined in the scope of services. Services will be provided on a per each basis.

$750.00 per Test Hole up to 6 feet in depth
$100.00 per foot of excavation beyond 6 feet

Subsurface Utility Engineering Estimate (based on quantities provided by EADS)

$ 1,450.00	– Mobilization (2 each)
$ 1,150.00	– Utility Designation (1 LS)
$15,000.00	– Utility Test Holes (20 each)
$ 500.00	– Excess Depth Contingency (5 each)
$18,100,00	**Total***

***Estimate is based on assumed quantities. Cardno will invoice for actual quantities performed in the field.**

NOTE: This proposal is effective for 90 Days from the date hereof and shall expire at that time unless extended in writing by Cardno.

Regular Council Agenda
September 19, 2017

Description

Order accepting the proposal of PMA Insurance Companies to provide Workers Compensation Insurance for the period July 1, 2017 through July 1, 2018 for the estimated amount of $1,102,102 to include costs for Premium, Cash Collateral Fund, and Claims Service Fund, and authorizing the City Administrator to executed a Prefunded Deductible Reimbursement and Security Agreement relative to that coverage

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

- Order -

of the

Mayor and City Council of Cumberland

MARYLAND

ORDER NO. _____ **DATE:** __September 19, 2017__

ORDERED, By the Mayor and City Council of Cumberland, Maryland

THAT the proposal of PA Manufacturers' Association Insurance Company, Manufacturers Alliance Insurance Company, and PA Manufacturers Indemnity Company to provide Workers Compensation Insurance for the period July 1, 2017 through July 1, 2018, be and is hereby accepted in the estimated amount of One Million, One Hundred Two Thousand, One Hundred Dollars ($1,102,102.00) based on the following:

Premium	$270,152
Cash Collateral Fund	$810,000
Claims Service Fund	$ 21,950
Total	$1,102,102

BE IT FURTHER ORDERED, that the City Administrator be and is hereby authorized to execute a Prefunded Deductible Reimbursement and Security Agreement by and between PA Manufacturers' Association Insurance Company, Manufacturers Alliance Insurance Company, and PA Manufacturers Indemnity Company and the City to effect this coverage.

_____

Brian K. Grim, Mayor

SCHEDULE OF CASH PAYMENTS: PREFUNDED DEDUCTIBLE

	Premium	Cash Collateral Fund	Claims Services Fund	Total
1st Installment	$ 26,977.90	$ 81,000	$21,950	$ 129,927.90
PA Assessment	$ 373.00			$ 373.00
Total 1st Installment	$ 27,350.90	$ 81,000	$21,950	$ 130,300.90
Nine Remaining Monthly Installments each	$ 26,977.90	$ 81,000	0	$ 107,977.90
Total Annual Deposits	$ 270,152	$ 810,000	$21,950	$ 1,102,102

*Estimated state assessments/surcharges are payable in addition to premium and are subject to change and/or adjustment.

SCHEDULE OF CASH PAYMENTS: DEDUCTIBLE WITH LOC

	Premium	Escrow	Claims Services Fund	Total
1st Installment	$ 29,057.90	$ 50,000	$21,950	$ 101,007.90
PA Assessment	$ 373.00			$ 373.00
Total 1st Installment	$ 29,430.90	$ 50,000	$21,950	$ 101,380.90
Nine Remaining Monthly Installments each	$ 29,057.90	$ 0	0	$ 29,057.90
Total Annual Deposits	$ 290,952	$ 50,000	$21,950	$ 362,902

*Estimated state assessments/surcharges are payable in addition to premium and are subject to change and/or adjustment.

At audit, the deductible credit factor will be adjusted so that the audited deductible premium will equal the product of the applicable deductible premium rate times the audited workers' compensation payrolls. Changes in workers' compensation modification factors, statutory premium rates and/or premium discounts, and application or changes of any other statutory credit (including any construction classification credit) or debit, will, therefore, not alter the amount of the audited deductible premium due us.

Forms and endorsements per expiring with any updated editions and mandatory state forms.

The following endorsements are not applicable to workers' compensation:

- Knowledge of Occurrence
- Broad Form All States
- Notice of Occurrence
- Unintentional E&O
- Broad Form Named Insured

PREFUNDED DEDUCTIBLE REIMBURSEMENT AND SECURITY AGREEMENT

THIS AGREEMENT (the "Agreement") entered into by and between **Pennsylvania Manufacturers' Association Insurance Company, Manufacturers Alliance Insurance Company and Pennsylvania Manufacturers Indemnity Company**, Blue Bell, Pennsylvania (herein, the "Company"), and **The Mayor and City Council of Cumberland, Maryland**, Cumberland, Maryland (herein, the "Insured") on **July 1, 2017** (the "Effective Date").

WITNESSETH:

WHEREAS, the Insured has requested the Company to issue to it for its benefit and others as reflected in the Named Insured endorsement, effective **July 1, 2017** certain insurance Policies covering the Insured's operations;

WHEREAS, the Company has agreed to do so on the terms and conditions set forth below, as well as those in the insurance Policies it issues to the Insured.

NOW THEREFORE, in consideration of the premises and the mutual promises herein set forth, and intending legally to be bound, the parties agree as follows:

1. Insured and its Subsidiaries

This Agreement is entered into by the Insured for its own benefit, and is a binding obligation of the Insured and any Named Insured under the Policy.

2. Application and Effective Date

This Agreement and Schedule A attached hereto, which is a part of this Agreement, apply to each of the insurance coverages described in Section 3 below as of the effective date(s) of such insurance coverages as shown on Schedule A and will continue in full force and effect until terminated in accordance with the provisions of Section 10 hereof, and the applicable insurance laws governing such insurance coverage.

3. The Insurance Coverages

The Company will issue to the Insured, for the Insured's own benefit, the Company's Policies as shown on Schedule A. Coverage will be provided under each Policy with the retentions and/or deductibles that are set forth in Schedule A attached hereto. Any renewals shall be set forth on an Addendum to Schedule A.

4. Definitions

As used in this Agreement:

(a) "Allocated Loss Adjustment Expenses" are as defined in the applicable endorsement and/or Policy.

(b) "Incurred Losses" means all amounts the Company pays or estimates it will pay for claims and Allocated Loss Adjustment Expenses under each Policy for which the Insured is responsible to reimburse the Company pursuant to the terms of the deductible endorsement(s) attached to each Policy.

(c) "Loss" or "Losses" means any claim or claims to the extent covered by any one of the Policies. "Loss" or "Losses", for purposes of any other type of claim covered under this Agreement besides workers' compensation, shall also include any extra-contractual, punitive or exemplary damages liability which may be imposed with respect to each Policy.

(d) "Material Change in the Insured's Exposure" means (i) a change of plus or minus fifteen (15%) percent in the Insured's exposure (which includes, but is not limited to, a change in estimated total workers' compensation remuneration, allocations of estimated or audited workers' compensation remuneration between classifications, or the addition of a new classification under a workers' compensation and employers liability insurance policy(ies); sales or payroll under a commercial general liability insurance policy(ies); auto counts under an auto policy(ies); or estimated total premium under the Policy, as calculated by the Company pursuant to each Policy, and pursuant to the Company's applicable manuals and rating plans, or (ii) any acquisition, divestiture, merger, consolidation, liquidation, receivership, bankruptcy, plant closing, or layoffs by the Insured.

(e) "Obligation" or "Obligations" means any and all amounts the Insured is or will be required to pay under the terms and conditions of each Policy and this Agreement. The Insured's Obligations include, but are not limited to, Losses, Allocated Loss Adjustment Expenses, Unallocated Loss Adjustment Expenses, premiums, surcharges and assessments under each Policy and any and all indemnification, defense, or hold harmless expenses due or becoming due to the Company under this Agreement.

PMA COMPANIES

(f) "Paid Losses" mean the amounts paid as benefits or damages, or Allocated Loss Adjustment Expenses arising under the Policies. Paid Losses shall be limited, however, not to exceed the amounts specified as payable to the Company in the applicable retrospective premium endorsement or deductible endorsement.

(g) "Policy" means each insurance policy set forth on Schedule A. For purposes of the Agreement, "Policy" shall also include any renewal of the aforesaid Policy and any policy issued by the Company in substitution of the Policy. The Company shall provide this service for the Policy, and subsequent policies which are subject to a deductible endorsement (the amount set for therein is sometimes referred to as the "Deductible").

(h) "Unallocated Loss Adjustment Expenses" means salaries, overhead and other costs related to the claim adjustment process that are not specifically allocated to the expense incurred for a particular claim, including but not limited to any claims administration fees paid or payable in accordance with Section 5 below.

5. Security

5.1. As security for all of the Insured's Obligations, the Insured must provide to the Company one or more clean, unconditional, irrevocable Letter(s) of Credit establishing credit in favor of the Company, or other security such as cash, which is acceptable to the Company. Such Letter(s) of Credit must be issued by a bank(s) which is a member of the Federal Reserve system and is acceptable to the Company. The form of the Letter(s) of Credit must be as shown in Appendix A. The Insured hereby grants to the Company a continuing security interest in

and general lien upon the Insured's right, title and interest in all property of the Insured in the actual or constructive possession of the Company in any capacity whatsoever including, without limitation, any and all securities and certificates of deposit and any funds contained in custodial or other accounts in the actual or constructive possession of the Company and the proceeds of, and income from, the foregoing.

If posting a Letter of Credit, each such Letter of Credit must be issued for a term of at least twelve (12) months and shall be, by its terms, subject to an unlimited number of automatic renewals thereafter for additional terms of at least twelve (12) months, unless the issuer bank advises the Company in writing, at least sixty (60) days prior to the next expiration date, of its intention not to have the Letter(s) of Credit renewed. In that case, the Insured must furnish the Company with a replacement Letter(s) of Credit issued to the Company by an acceptable bank(s), or other security as may be acceptable to the Company, establishing credit or security in an amount equal to the credit under the Letter(s) of Credit being replaced, within not less than thirty (30) business days before the expiry date. The requirement for such security will remain in place until all of the Insured's current and future Obligations have been indefeasibly paid or otherwise concluded in a manner satisfactory to the Company.

5.2. (a) **The amount of the initial required security is $810,000**. At such times as the Company deems it appropriate or necessary, but at least annually, and until all liability with respect to the Insured's Obligations has been paid or otherwise concluded, the Company shall, applying generally accepted actuarial and credit review principles, review the security requirement. The Company shall have the sole right to determine the adequacy of the amount of security to be held. The sum of all of the Insured's Obligations which have been paid by the Insured or satisfied by sums drawn by the Company under the Letter(s) of Credit or other acceptable security held by the Company shall be subtracted to arrive at the required security. If the resulting security requirements exceed the amount of remaining credit available to the Company under the Letter(s) of Credit or other acceptable security as of the calculation date, then the Insured must provide the Company with additional acceptable security equal to such excess within ten (10) days of the Insured's receipt of notice of the increased security requirement. If the required security is less than the remaining credit available to the Company under the Letter(s) of Credit or other acceptable security, then the amount of such remaining credit will be reduced by the amount of such difference, and the Company will execute any document necessary in order to reduce the amount of such credits in accordance with this Section 5.

5.3 The Company or its successors in interest may draw upon any Letter of Credit, trust or other security at any time and from time to time, and such funds shall be applied without diminution because of the insolvency of the Insured or the Company for one or more of the following purposes only:

(a) to reimburse the Company for the Insured's share of Losses, Allocated Loss Adjustment Expenses and, if applicable, Unallocated Loss Adjustment Expenses paid by the Company;

(b) to fund an account with the Company for the full amount secured under this Agreement in the event the Insured has failed to replace timely any expiring Letter of Credit as required by Paragraph 5.1 hereof or to adjust timely the amount secured hereunder as required by Paragraph 5.2

hereof, and such failure would result in a deficiency in the total security provided by the Insured;

(c) to fund an account with the Company for the full amount secured in the event of the filing of a voluntary or involuntary petition in bankruptcy by the Insured, the insolvency of the Insured, the admission in writing by the Insured of its inability to pay its debts as they become due, or a general assignment by the Insured of its assets for the benefit of creditors; or

(d) to fund an account with the Company for the full amount secured in the event that (i) any representation or warranty made in or pursuant to this Agreement or the Policy to induce the Company to enter into this Agreement or a Policy, which at the sole discretion of the Company, shall be determined to be untrue or misleading in any material respect, or (ii) the Insured transfers or sells all or substantially all of its assets, without the prior written consent of the Company,

(e) to pay any other amounts the Company claims are due to it under each Policy or this Agreement.

In the event the Company draws upon a Letter of Credit or other security pursuant to items (b), (c) or (d) above, the Company will be free to hold the proceeds thereof, without liability for interest thereon, until the Insured has fully remedied the circumstances for which the draw was made, whereupon the Company shall promptly return the proceeds held by it, less portions allocable to amounts due it under item (a) above, upon receipt of written instructions from the Insured, signed by a duly authorized officer of the Insured, indicating to whom such return is to be made. The Company shall have no obligation or liability to remit to the Insured any investment income thereupon.

5.4 There will be four (4) scheduled adjustments ("Scheduled Adjustments") to the initial amount of collateral required, using Incurred Losses valued as of the dates indicated in the Schedule of Adjustments shown below. The resulting amount of the collateral, when adjusted, will be the "Adjusted Amount." The Adjusted Amount will equal the sum of i) developed losses, which is equal to Incurred Losses multiplied by the corresponding Loss Development Factor shown in the Schedule of Adjustments ("Developed Losses"), capped by any aggregate deductible amount stated on the deductible endorsement(s) attached to and incorporated within each Policy; ii) the claims handling fee based on Developed Losses calculated pursuant to the terms of the deductible endorsement(s) attached to and incorporated within each Policy; iii) loss based assessment factors, where applicable, multiplied by Developed Losses; iv) loss based premium tax factors, where applicable, multiplied by Developed Losses; and v) any other part of the Obligations incurred but not included in i) through iv) above.

The Scheduled Adjustments are as follows:

Adjustment Number	Adjustment Date	Loss Development Factor
1	July 1, 2019	1.40
2	July 1, 2020	1.25
3	July 1, 2021	1.15
4	July 1, 2022	1.10

5.5 If there is a Material Change in the Insured's Exposure during the term of this Agreement, the Company may amend the Loss Development Factor and the effective deductible premium rate(s) and/or the deductible credit(s) under each Policy, retroactive to the Effective Date of this Agreement. In addition, if there is a Material Change in the Insured's Exposure prior to the completion of the first adjustment of the collateral, the Company may revise the initial amount of collateral required. The Insured agrees to pay the Company the initial amount of collateral required, as recalculated by the Company within fifteen (15) business days of receiving notice.

5.6 Under any circumstance where the collateral which secures Obligations owing to the Company under a Policy is held by Pennsylvania Manufacturers' Association Insurance Company, Pennsylvania Manufacturers' Association Insurance Company acknowledges that it holds (and will hold) possession of the collateral for its own benefit (to the extent it is a secured party) as well as for the benefit of Manufacturers Alliance Insurance Company and Pennsylvania Manufacturers Indemnity Company (to the extent that they (are) secured parties.

6. Breach of Obligations

If the Insured fails to pay or otherwise perform in a timely manner any Obligation due the Company hereunder or under a Policy at any time during the term of this Agreement, and if such failure continues for at least ten (10) business days following the Insured's receipt of written notice of such failure, the Company shall, at its sole discretion have the option of cancelling that Policy due to nonperformance or nonpayment in accordance with the provisions of that Policy subject to applicable law and, pursuant to Section 5.3 hereinabove, have the option of drawing on the Letter(s) of Credit or other security furnished to it under this Agreement in payment of the Obligations due from the Insured, but shall be under no obligation to do so. Alternatively, the Company may terminate the financing related to the Insured's insurance coverages by converting the applicable Policy(ies) to a guaranteed cost rating plan using the Company's filed and approved rates in effect as of the Policy(ies) effective date, and the entire amount of standard premium thereunder shall be immediately due.

7. Renewal Option

The Company is under no obligation, and unless otherwise agreed to in writing, the Company shall not be under any obligation in the future, to renew any of the coverages under each Policy or to offer renewal of the coverages under the same terms and conditions following the expiration of any Policy. If the Company elects not to renew and/or to cancel coverage, it will furnish to the Insured notice of its intent not to renew and/or cancel consistent with the terms and conditions of each Policy.

8. Joint Obligations

The Obligations set forth in this Agreement are Obligations of the Insured and its insured subsidiaries and affiliates jointly and severally. While the Company agrees to look primarily to the Insured for all such Obligations, its recourse is not limited to the Insured, and the Company has the right at all times to hold any or all of the Named Insureds liable for any Obligations due it. The Insured hereby expressly represents and warrants that it is authorized to enter into this Agreement on behalf of, and to bind, its Named Insureds to this Section 8 and all of the other terms and conditions hereof, and stipulates that the foregoing representation and warranty is material and has been specifically relied upon by the Company in entering into this Agreement and agreeing to

issue each Policy under this Agreement.

9. Financial Statements, Access to Records

9.1 Annually while this Agreement remains in force, the Insured will make available to the Company copies of audited financial statements of the Insured and its insured subsidiaries and affiliates.

9.2 At all times while this Agreement remains in effect, the Company will have full and free access to the books and records of the Insured, its subsidiaries and affiliates insured under each Policy, as respects information pertaining to the subject coverages. Such access will be limited, however, to normal business hours and shall be afforded only at reasonable intervals and upon reasonable prior written notice.

10. Term and Termination

10.1 This Agreement shall remain in full force and effect until all of the Insured's Obligations have been indefeasibly paid in full or otherwise satisfactorily concluded and will survive the expiration as well as any cancellation of each Policy.

10.2 Notwithstanding Paragraph 10.1 above, this Agreement shall terminate:

(a) by mutual written consent; or

(b) when the Company notifies the Insured that the Insured's Obligations have been fully and indefeasibly discharged.

11. Entire Agreement, Amendment

This Agreement, together with each Policy issued hereunder, represents the entire agreement between the parties with respect to the subject matter hereof. This Agreement may only be changed by written amendment signed by duly authorized officers of the respective parties. No other changes will be binding or enforceable.

12. Governing Law

This Agreement will be governed in all respects by the laws of the Commonwealth of New York, unless the law of another state is required by the Policy, applicable law or regulation.

13. Notices

All notices or other communications required hereunder will be in writing, sent by registered mail to:

To the Company:

Pennsylvania Manufacturers' Association Insurance Company
Manufacturers Alliance Insurance Company
Pennsylvania Manufacturers Indemnity Company
380 Sentry Parkway
Blue Bell, PA 19422

Attention: Collateral Manager

With a copy to:

Pennsylvania Manufacturers' Association Insurance Company
Manufacturers Alliance Insurance Company
Pennsylvania Manufacturers Indemnity Company
380 Sentry Parkway
Blue Bell, PA 19422
Attention: General Counsel

To the Insured:

ATTENTION: GENERAL COUNSEL
THE MAYOR AND CITY COUNCIL OF CUMBERLAND, MARYLAND
57 N LIBERTY ST
CUMBERLAND, MD 21502

or such other addresses as may be designated in the same manner from time to time.

14. No Waiver

The failure on any occasion by either party to enforce the terms of this Agreement will not be deemed or construed as a waiver of that party's right to enforce those or any other terms of this Agreement on any other occasion.

15. Construction

The terms and conditions of this Agreement will be liberally construed so as to give the fullest possible effect to the intentions of the parties.

16. Severability

If any term or provision of this Agreement is in violation of the law of any state, such term or provision shall be void in the jurisdiction(s) where it is unlawful. The remainder of this Agreement shall remain binding on the parties so that the terms of this Agreement are binding only to the extent lawful under applicable laws. If any provision of this Agreement is determined by a court of law to be unenforceable, the parties hereto agree, and it is their desire, that the court shall modify such provision to the extent necessary to be deemed enforceable by such court. As so modified, the provision shall be binding upon the parties as if originally set forth herein.

17. Assignment

Neither party may assign any of its rights or obligations under this Agreement without the prior written consent of the other party.

18. Remedies

The rights and remedies granted to the parties hereunder will be in addition to, and not in lieu of, any rights or remedies they may otherwise have.

19. Successors

The terms and conditions of this Agreement are binding upon and will inure to the

benefit of the successors and assigns of the parties hereto.

20. Execution

This Agreement may be executed in counterparts, with signature pages exchanged by any commercially reasonable means, including by facsimile or electronic mail.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized officers as of the Effective Date.

ATTEST:

PENNSYLVANIA MANUFACTURERS' ASSOCIATION INSURANCE COMPANY, MANUFACTURERS ALLIANCE INSURANCE COMPANY, PENNSYLVANIA MANUFACTURERS INDEMNITY COMPANY

_____

BY: _____
TITLE: _____
DATE: _____

ATTEST:

THE MAYOR AND CITY COUNCIL OF CUMBERLAND, MARYLAND

for itself and on behalf of its insured subsidiaries and affiliates

_____

BY: _____
TITLE: _____
DATE: _____

PMA COMPANIES

THE MAYOR AND CITY COUNCIL OF COUNCIL OF CUMBERLAND, MARYLAND

PREFUNDED DEDUCTIBLE REIMBURSEMENT AND SECURITY AGREEMENT
SCHEDULE A

Effective **July 1, 2017**, Schedule A of the Prefunded Deductible Reimbursement and Security Agreement entered into by and between **Pennsylvania Manufacturers' Association Insurance Company, Manufacturers Alliance Insurance Company and Pennsylvania Manufacturers Indemnity Company** and **The Mayor and City Council of Cumberland, Maryland**, is amended to include the following:

The following are the Deductible/Retention Amounts applying to all Obligations with respect to the coverages provided under the policies:

POLICY NUMBER	EFFECTIVE DATES	LINE OF BUSINESS	INSURED RETENTION (Footnotes)
201775- 5376801	07/01/2017 to 07/01/2018	Workers' Compensation	$350,000 Deductible; $1,800,000 Aggregate
201675- 5376801	07/01/2016 to 07/01/2017	Workers' Compensation	$350,000 Deductible; $1,921,000 Aggregate
201575- 5376801	07/01/2015 to 07/01/2016	Workers' Compensation	$350,000 Deductible; $1,850,000 Aggregate
201475- 5376801	07/01/2014 to 07/01/2015	Workers' Compensation	$350,000 Deductible; $1,850,000 Aggregate
201375- 5376801	07/01/2013 to 07/01/2014	Workers' Compensation	$350,000 Deductible; $1,950,620 Aggregate
201275- 5376801	07/01/2012 to 07/01/2013	Workers' Compensation	$350,000 Deductible; $1,825,610 Aggregate
201175- 5376801	07/01/2011 to 07/01/2012	Workers' Compensation	$350,000 Deductible; $1,771,887 Aggregate
201075- 5376801	07/01/2010 to 07/01/2011	Workers' Compensation	$350,000 Deductible; $1,750,000 Aggregate
200975- 5376801	07/01/2009 to 07/01/2010	Workers' Compensation	$350,000 Deductible; $1,900,000 Aggregate
200875- 5376801	07/01/2008 to 07/01/2009	Workers' Compensation	$350,000 Deductible; $1,998,000 Aggregate
200775- 5376801	07/07/2007 to 07/01/2008	Workers' Compensation	$350,000 Deductible; $1,912,711 Aggregate
200675- 5376801	07/01/2006 to 07/01/2007	Workers' Compensation	$350,000 Deductible; $1,700,000 Aggregate

1) Occurrence shall include occupational disease defined as: Each person contracting a disease shall be considered to be a separate occurrence.

2) ALAE is inside the Insured's Retention and the Policy Limits. The Insured is responsible for all ALAE and all Loss under the Policy.

THE MAYOR AND CITY COUNCIL OF COUNCIL OF CUMBERLAND, MARYLAND

This Schedule A, which is attached to and made a part of the Agreement, may be executed in counterparts, with signature pages exchanged by any commercially reasonable means, including by facsimile or electronic mail.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their duly authorized officers.

ATTEST

_____

PENNSYLVANIA MANUFACTURERS' ASSOCIATION INSURANCE COMPANY, MANUFACTURERS ALLIANCE INSURANCE COMPANY, PENNSYLVANIA MANUFACTURERS INDEMNITY COMPANY

By: _____

Title: _____

Date: _____

ATTEST

_____

THE MAYOR AND CITY COUNCIL OF COUNCIL OF CUMBERLAND, MARYLAND

By: _____

Title: _____

Date: _____

PMA COMPANIES

Regular Council Agenda
September 19, 2017

Description

Order accepting the bid of Muni-Link for the Utility Billing System Software Package Proposal in the amount not to exceed $49,680 and rejecting all other bids

Approval, Acceptance / Recommendation

Six (6) bids for this RFP were received. None of them are eligible for a local vendor preference certification.

The bid from Sprypoint was disqualified because they did not sign the Affidavit of Qualification to Bid.

The bid from Municipal Agenda Software was disqualified because the company does not have a Utility Billing product at this time; it is still in the development stage.

The bid from Edmunds and Associates was disqualified because the City's RFP specified a one-year initial commitment renewable in 1 year increments. E&A specified a three year minimum term.

The three remaining bids with pricing for the project quoted at:

Muni-Link: $49,680
Able Software: $90,000
Rostech: $113,240

All three systems meet the listed requirements in the bid package and as there are no extenuating circumstances, we feel the best choice for the City of Cumberland is the Muni-Link solution.

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

- Order -

of the

Mayor and City Council of Cumberland

MARYLAND

ORDER NO. _____ **DATE:** __September 19, 2017_

ORDERED, By the Mayor and City Council of Cumberland, Maryland

THAT, The bid of Muni-Link, P.O. Box 250, Bellwood, PA 16617, for the "Utility Billing System Proposal" be and is hereby accepted in the amount not to exceed Forty-Nine Thousand, Six Hundred Eighty Dollars ($49,680); and

BE IT FURTHER ORDERED, that all other bids received be and are hereby rejected.

_____

Brian K. Grim, Mayor

Bids:

Company	*Bid*
Edmunds & Associates, Inc.	N/A
Municipal Agenda Software	N/A
Ros Tech, Inc.	$113,240
Able Software	$90,000
Muni-Link	$49,680
SpryPoint	N/A

Utility Billing System Proposals

Bid Opening: September 6, 2017- 2:30 p.m., City Hall Council Chambers

Company	One-time cost of initial data conversion	Annual recurring cost of Software	Total Cost of Project	Affidavit	Local Preference	Addendum
Edmunds & Associates, Inc. 301 Tilton Road Northfield, NJ 08225	$ 40,500.00 All costs for initial 12 month term	$ 7,266.00	$ 40,500.00	Yes	N/A	1 and 2
Municipal Agenda Software 3822 Washburn Pl. Wesley Chapel, FL 33543	$ 5,000.00	$ 15,000.00	$ 20,000.00 (1 year) $ 26,000.00 (Others)	Yes	N/A	1 and 2
Ros Tech, Inc. 10411 Motor City Drive Suite 750 Bethesda, MD 20817	$ 58,880.00	$ 54,360.00	$ 113,240.00	Yes	None submitted	1 and 2
Useware, Inc dba/Able Software 20251 SW Acacia St. Suite 220 Newport Beach, CA 92660	$ 60,000.00	$ 30,000.00	$ 90,000.00	Yes	None submitted	1 and 2
Muni-Link Po Box 250 Bellwood, PA 16617	$ 12,000.00	$ 37,680.00 (Year 1) Year 2 & beyond - 2.5% cost of living inc.	$ 49,680.00 (Year 1)	Yes	None submitted	1 and 2
SpryPoint 49 Pownal St., Suite 101 Charlottetown, PE Canada C1A3W2	Not complete	Not complete	Not complete	Not complete	None submitted	1 and 2

The appropriate department will review all bids and provide a recommendation to the Mayor and City Council for award based on the determination of the lowest, most responsive bid.

Regular Council Agenda
September 19, 2017

Description

Order authorizing the execution of a Police Candidate Agreement and a Police Academy Assistance Agreement pertaining to the Academy commencing on or about October 2, 2017 and continuing until approximately June 8, 2018

Approval, Acceptance / Recommendation

☐ Budgeted

☐ 1st Reading
☐ 2nd Reading
☐ 3rd Reading

Value of Award (if applicable)

Source of Funding (if applicable)

- Order -

of the

Mayor and City Council of Cumberland

MARYLAND

ORDER NO. _____ **DATE:** __September 19, 2017_

ORDERED, By the Mayor and City Council of Cumberland, Maryland

THAT, the Mayor be and is hereby authorized to execute a Police Candidate Agreement and a Police Academy Assistance Agreement by and between the City of Frederick and the Mayor and City Council of Cumberland pertaining to the Academy commencing on or about October 2, 2017 and continuing until approximately June 9, 2018.

_____

Brian K. Grim, Mayor

POLICE CANDIDATE AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between The City of Frederick (hereinafter "Frederick"), a municipal corporation of the State of Maryland, the City of Cumberland (hereinafter "Cumberland"), a municipal corporation of the State of Maryland, and _____ (hereinafter the "Candidate").

WHEREAS, Frederick and Cumberland both have full service police departments; and

WHEREAS, Frederick conducts a police training academy (hereinafter referred to as the "Academy") to train its officers and recruits in police procedures; and

WHEREAS, the Candidate is a candidate to be a sworn officer of the Cumberland Police Department; and

WHEREAS, Cumberland desires to have the Candidate participate in the Academy; and

WHEREAS, Frederick wishes to help Cumberland maintain a professional and well-trained police force; and

WHEREAS, Frederick, Cumberland, and the Candidate desire to formalize the terms and conditions of the Candidate's participation in the Academy.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties do hereby agree as follows:

1. **Academy Dates.** The Academy will commence on October 02, 2017 and continue until its scheduled conclusion on June 08, 2018, unless unforeseen circumstances require the rescheduling or postponement of certain Academy curriculum, in which event Frederick will advise Cumberland of those rescheduled or postponed classes and any change in the Academy dates or schedule.

2. **Commission Regulations.** Frederick shall train the Candidate in the Academy in compliance with regulations and standards set forth by the Maryland Police Training Commission.

3. **Academy Regulations.** The Candidate shall be responsible at all times during the Academy for complying with all Academy rules and regulations.

4. **Attendance.** Full attendance at all Academy classes and scheduled activities shall be required of the Candidate in order to meet the required standards for successful completion and graduation from the Academy with a certificate of completion.

5. **No Guarantee of Certification.** Cumberland and the Candidate hereby acknowledge and agree that successful completion of and graduation from the Academy is not a guarantee of certification of the Candidate as a police officer by a law enforcement agency or the Maryland Police Training Commission.

6. **Physical Examination.** A complete physical examination by a licensed physician shall be obtained by the Candidate, and a certification provided, determining and certifying that the

Candidate is physically fit and in satisfactory physical condition to participate in all of the physical requirements and training required for successful completion of the Academy, a copy of which certification must be received by Frederick for the Candidate prior to commencement of the Academy. A copy of the Academy physical training requirements is attached hereto and incorporated herein by reference as Exhibit A.

7. **Assumption of Risk.** Cumberland and the Candidate hereby acknowledge and agree that police work, and the training involved for police officers, is an inherently dangerous activity, and Cumberland and the Candidate do hereby agree to assume the risk for all such activity and for Candidate's participation in the Academy, including but not limited to the Emergency Vehicle Operations Course or any other training provided at off site locations or provided by other police agencies.

8. **Indemnification and Hold Harmless.** Cumberland and the Candidate hereby agree that they shall indemnify and hold harmless Frederick and any official, employee, agent or representative of Frederick from and against any and all claims for damage, injury, loss or cost, of whatever kind, arising out of or incident to this Agreement or as a result of the Candidate's participation in the Academy, including but not limited to the Emergency Vehicle Operations Course or any other training provided at off site locations or provided by other police agencies.

9. **No Employment Relationship.** Nothing contained in this Agreement shall be deemed to make any party a partner, joint venturer, or employee of the other party for any purpose. The Candidate will be sponsored by, and under the guidance of, Cumberland, and shall not be considered for any reason or purpose at any time to be an employee of Frederick. Cumberland shall be fully responsible, if applicable, for the payment of any and all salary, employment and medical benefits and other compensation of the Candidate, and shall be responsible for the payment of any and all employment taxes and worker's compensation benefits for the Candidate should they be applicable.

10. **Medical Coverage.** In the event of an injury sustained by the Candidate during the Academy, the Candidate shall comply with the requirements of Cumberland and the Candidate's health insurance provider to obtain medical benefits and coverage. Frederick will not be responsible for providing medical benefits or insurance coverage for the Candidate. Prior to the commencement of the Academy, the Candidate shall provide to Frederick relevant health insurance policy information and procedures.

11. **Uniforms.** Frederick shall provide the Candidate two pairs of pants and two shirts, which will be the standard, required uniform to be worn by the Candidate during the Academy. In addition, Frederick shall provide to the Candidate one pair of sweatpants, one sweatshirt, two tee shirts, and one pair of gym shorts, which shall be the standard, required uniform to be worn by the Candidate during physical training exercises of the Academy.

12. **Training Materials.** Frederick shall provide to each Candidate all required Academy classroom study materials. Cumberland or the Candidate shall be responsible for providing any personal supplies, such as notebooks, paper, pens and pencils.

13. **Training Firearms and Ammunition.** Cumberland shall provide the Candidate with Cumberland's standard issue service firearm, as well as a practice firearm, which will be a "red gun", similar to Cumberland's standard issue service firearm, for use during Academy firearms training. Cumberland shall provide a total of 5,500 rounds of service weapon ammunition, 250

rounds of 00 Buck 12 ga. shotgun and 250 rounds of slug 12 ga. shotgun ammunition, all to be used during the firearms blocks of instruction at the Academy. Frederick shall provide all O.C. spray used during the Academy.

14. **Fees.** Cumberland agrees to pay a flat fee of $2,500 to Frederick, on or before November 01, 2017, for the Candidate's participation in the Academy. The $2,500 fee is not refundable and is not contingent upon the Candidate's successful completion of the Academy. In addition, Cumberland will provide role players and instructors in accordance with a separate agreement between Frederick and Cumberland.

15. **Severability.** In the event that any term or provision of this Agreement is found to be invalid or unenforceable, such finding shall not affect the remaining terms or provisions of this Agreement, which shall remain in full force and effect.

16. **Entire Agreement.** This Agreement represents and contains the entire agreement and understanding of the parties with respect to the subject matter contained herein. No changes, amendments or modifications may be made to this Agreement except by written agreement signed by all parties hereto.

17. **Governing Law.** This Agreement shall be governed by, interpreted and enforced in accordance with the laws of the State of Maryland.

18. **Binding Effect.** This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective personal representatives, heirs, successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first written above.

THE CITY OF FREDERICK

_____	_____
WITNESS	**RANDY MCCLEMENT, MAYOR**

THE CITY OF CUMBERLAND

_____	_____
WITNESS	**BRIAN GRIM, MAYOR**

CANDIDATE

_____	_____
WITNESS	**[PRINTED NAME]**

Approved for legal sufficiency:

_____

City Attorney (Frederick)

Approved for legal sufficiency:

_____

City Attorney (Cumberland)

EXHIBIT A

POLICE ACADEMY ASSISTANCE AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between The City of Frederick (hereinafter "Frederick"), a municipal corporation of the State of Maryland, and the City of Cumberland (hereinafter "Cumberland"), a municipal corporation of the State of Maryland.

WHEREAS, Frederick and Cumberland both have full service police departments; and

WHEREAS, Frederick conducts a police training academy (hereinafter referred to as the "Academy") to train its officers and recruits in police procedures; and

WHEREAS, Cumberland desires to have certain police candidates participate in the Academy in accordance with separate agreements among Frederick, Cumberland, and each candidate; and

WHEREAS, Frederick wishes to help Cumberland maintain a professional and well-trained police force; and

WHEREAS, Frederick and Cumberland desire to formalize the terms and conditions of Cumberland's contributions to the operation of the Academy.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties do hereby agree as follows:

1. **Scope.** This Agreement pertains to the Academy commencing on or about October 02, 2017 and continuing until approximately June 08, 2018.

2. **Firearms and EVOC Instructors.** Cumberland shall provide 1 Maryland Police and Correctional Training Commission (MPCTC) certified firearms instructors and 1 MPCTC certified Emergency Vehicle Operations (EVOC) Instructors to assist the Academy on firearms instruction days or EVOC instruction days, respectively. Instructors must be full-time sworn officers employed by Cumberland and deemed acceptable by Frederick. Instructors must be physically able to instruct in a variety of conditions, including but not limited to all types of weather.

   Frederick will provide Cumberland with dates that the instructors will be required, at least two weeks before each such date. If Cumberland, for any reason, does not provide the required number of instructors to Frederick, Cumberland will pay Frederick at the rate of $100 per hour for each hour that Frederick must supply a substitute instructor.

3. **Role Players.** Cumberland shall provide 1 "role players" to assist at the Academy on practical days. Role players must be adults employed by Cumberland and deemed acceptable by Frederick.

   Frederick will provide Cumberland with dates that the role players will be required, as well as any special requirements for the role players, at least two weeks before each such date. If Cumberland, for any reason, does not provide the required number of role players to Frederick, Cumberland will pay Frederick at the rate of $100 per hour for each hour that Frederick must supply a substitute role player.

4. **Simunition Training Equipment.** Cumberland shall provide marking cartridge weapon

platforms that are the same as their duty weapon platform. Cumberland shall provide one marking cartridge weapon platform for each of Cumberland's candidates in the Academy. Additionally Cumberland shall provide the requisite safety gear for each such Candidate. The safety gear will include: head gear, neck protector and groin protection. The safety gear will be made available for inspection and approval by a member of Frederick's Training Unit staff prior to the commencement of the Academy.

5. **Indemnification and Hold Harmless.** Cumberland hereby agrees that it shall indemnify and hold harmless Frederick and any official, employee, agent or representative of Frederick from and against any and all claims for damage, injury, loss or cost, of whatever kind, arising out of or incident to this Agreement or as a result of its obligations under this Agreement.

6. **No Employment Relationship.** Nothing contained in this Agreement shall be deemed to make either party, nor any employee thereof, a partner, joint venturer, or employee of the other party for any purpose. Cumberland shall be fully responsible for the payment of any and all salary, employment and medical benefits and other compensation of its instructors and role players, and shall be responsible for the payment of any and all employment taxes and worker's compensation benefits for any instructor or role player should they be applicable.

7. **Severability.** In the event that any term or provision of this Agreement is found to be invalid or unenforceable, such finding shall not affect the remaining terms or provisions of this Agreement, which shall remain in full force and effect.

8. **Entire Agreement.** This Agreement represents and contains the entire agreement and understanding of the parties with respect to the subject matter contained herein. No changes, amendments or modifications may be made to this Agreement except by written agreement signed by all parties hereto.

9. **Governing Law.** This Agreement shall be governed by, interpreted and enforced in accordance with the laws of the State of Maryland.

10. **Binding Effect.** This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective personal representatives, heirs, successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first written above.

THE CITY OF FREDERICK

_____	_____
WITNESS	**RANDY MCCLEMENT, MAYOR**

THE CITY OF CUMBERLAND

_____	_____
WITNESS	**BRIAN GRIM, MAYOR**

Approved for legal sufficiency:

_____

City Attorney (Frederick)

Approved for legal sufficiency:

_____

City Attorney (Cumberland)