Palmer
ENGINEERING

November 21, 2014

Purchasing Director
Lexington-Fayette Urban County Government
Room 338, Government Center
200 East Main Street
Lexington, KY 40507

RE: RFP #61-2014 Wolf Run Watershed Water Quality Improvement Projects

Dear Sir or Madam:

In response to the Wolf Run Watershed Water Quality Improvement Projects Request for Proposals, Palmer Engineering and its design team wish to express interest in providing engineering services to LFUCG for the above-mentioned project.

Established in 1969, Palmer Engineering has significant experience providing engineering services civil engineering projects including stream corridor restoration projects. Our record of performance on successful projects including LFUCG, Winchester Municipal Utilities, and Louisville MSD as well as East Kentucky Power Cooperative, Kinder Morgan, and Lowe's demonstrates a wide variety of experience working with municipalities and private companies.

Palmer Engineering offers a diverse team with significant applicable experience. Greg Isaacs, PE, located in our Lexington office, will serve as Project Manager. Greg has significant experience working on projects with LFUCG. Palmer Engineering's Lexington office is staffed with professional engineers, project engineers, and environmental scientists capable of meeting the needs of LFUCG on this project.

Palmer's Lexington office is ideally located for timely responsiveness to LFUCG. Our commitment to quality and customer service, together with readily available personnel, familiarity with the area, and past performance on successful projects, makes Palmer the right choice for this project.

Thank you for the opportunity to present our professional qualifications.

Sincerely,

David Lindeman, PE, PLS
President and CEO

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1) ESTIMATED COST OF SERVICES

Palmer ENGINEERING

Cross Keys Park Pond Water Quality Retrofit	Total Manhours	Total Fee
Task A: Background Review and Investigation		
Total	14	$ 1,480.00
Task B: Field Survey		
Total	102.5	$ 10,322.50
Task D: Hydrologic/Hydraulic Analyses		
Total	82	$ 8,715.00
Task E: Conceptual Design		
Total	117	$ 12,780.00
Task F: Detail Design		
Total	428	$ 46,320.00
Task G: Meetings		
Total	111.5	$ 12,460.90
Task H: Permitting		
Total	108	$ 10,825.00
Task I: Bidding Services		
Total	36	$ 3,850.00
Task J: Costruction Administration Assistance		
Total	100	$ 10,560.00
Sub-Total	1017	$ 108,598.40

Picadome Golf Course Sinkhole Retrofit and Stream Restoration Project	Total Manhours	Total Fee
Task A: Background Review and Investigation		
Total	36	$ 3,994.60
Task B: Field Survey		
Total	141.5	$ 12,353.75
Task D: Hydrologic/Hydraulic Analyses		
Total	97	$ 9,586.44
Task E: Conceptual Design		
Total	126	$ 11,981.20
Task F: Detail Design		
Total	484	$ 47,916.90
Task G: Meetings		
Total	180	$ 25,101.85
Task H: Permitting		
Total	104	$ 10,388.25
Task I: Bidding Services		
Total	46	$ 4,800.00
Task J: Costruction Administration Assistance		
Total	136	$ 13,162.50
Sub-Total	1253.5	$ 129,699.05
Grand Total	2270.5	$ 238,297.45

#61-2014 Wolf Run Watershed Water Quality Improvement Projects - Unit Prices				
Easement Descriptions		Each	$	450.00
Negotiate Easement Acquisition		Each	$	2,400.00
LFUCG Floodplain Special Use Permit		Each	$	2,000.00
FEMA CLOMR/LOMR		Each	$	4,000.00
State Historic Preservation Office		Each	$	2,500.00
US Fish and Wildlife		Each	$	3,000.00
Public Meetings (unit cost per Meeting)		Each	$	2,200.00
Property Owner Meetings (unit cost per Meeting)		Each	$	420.00
Geotechnical Engineering Services				
	Soil Test Borings (track rig w/ SPT sampling)	Foot	$	19.50
	Rock Line Soundings (<20 ft. depth)	Each	$	100.00
	Rock Line Soundings (20' to 50')	Each	$	150.00
	Shelby Tubes	Each	$	75.00
	Drill Rig Mobilization/Demobilization	LS	$	250.00
	Natural Moisture Content Testing	Each	$	9.25
	Atterberg Limits Testing	Each	$	65.00
	Unconfined Compressive Strength Testing (soil)	Each	$	80.00
	Unconfined Compressive Strength Testing (stone)	Each	$	180.00
	Services of Senior Geotechnical Engineer	Hour	$	120.00
Hourly Rates for Personnel				
Project Manager		Hour	$	150.00
Principal / Senior Engineer		Hour	$	140.00
Senior Geotechnical Engineer		Hour	$	120.00
Environmental Specialist		Hour	$	115.00
Senior Biologist / Senior Ecologist / Project Engineer		Hour	$	110.00
Project Biologist / Project Ecologist / Staff Engineer		Hour	$	90.00
Staff Biologist / Staff Ecologist		Hour	$	80.00
Licensed Surveyor		Hour	$	120.00
Two Man Survey Crew		Hour	$	160.00
Draftsperson		Hour	$	75.00
Clerical		Hour	$	60.00
Expenses				
Mileage - Automobile		Mile	$	0.50
Mileage - Truck		Mile	$	0.63
Concrete Monuments		Each	$	25.00
Iron Pins with Caps		Each	$	7.50

2) SPECIALIZED EXPERIENCE AND TECHNICAL COMPETENCE

The Palmer Team brings significant specialized experience to this project. The Palmer Team includes: Palmer Engineering, with a branch office in Lexington, will be the lead consultant. Other team members include Redwing Ecological Services and Thelen Associates. The team will be led by Project Manager and Lexington resident Greg Isaacs. He possesses a unique combination of skills and experience from working on LFUCG projects. Greg will be the point of contact between LFUCG and the Palmer Team. Stephanie Blain, the principal project engineer, has been instrumental on projects involving stream design and restoration, stormwater management, and water quality improvment from sediment, nutrients, bacteria, and other pollutants. Stephanie has received specialized training applicable for this project through graduate study at the University of Kentucky and a 10-day short course with the University of Louisville's Stream Institute. Jeff Cowan, with more than 25 years of experience, will serve as the hydrology/hydraulic modeler. Surveyor Craig Palmer is well qualified to perform the surveying services needed to complete this project. Palmer Engineering will provide project management, project engineering, hydrology/hydraulics modeling, land surveying, and stream assessment for the team. All work provided by Palmer Engineering for this project will take place from Palmer Engineering's Lexington office.

Redwing Ecological Services, a certified DBE, is well known in Lexington and throughout the state for wetland and ecological projects. Redwing has completed several stream and wetland restoration projects in Lexington and central Kentucky. Based in Louisville, the firm's associates have extensive training in various stream design methods including Rosgen principles and other natural stream methods. Redwing staff members Blair Borries, Brad Anderson, and Laura Darnell will assist the Palmer Team with their extensive experience in fluvial geomorphology, engineering design, and botany. Redwing will provide approximately 35% (at a minimum 10%) of the work on this project.

Thelen Associates, an environmental and geotechnical engineering firm, will assist the team with geotechnical engineering services. Well known throughout the southeast, Thelen staff will utilize their Lexington office to provide soil, geotechnical, and dam investigations of the project area. Dr. John Nealon and Lee Czor, are familiar with this area especially dam inspection and evaluations as well as karst risks and sinkholes common in this region.

We envision that the projects will be designed together but bid separately. To the extent possible, all project meetings, site visits, and permits will be for both projects to reduce time and costs.

Task A: Background Review and Investigation

The Palmer Team will conduct site visits and reconnaissance of both the Cross Keys Park Pond Water Quality Retrofit and the Picadome Golf Course Sinkhole Retrofit and Stream Restoration areas. A minimum of one site visit will be made by all key personnel. Review of existing documentation will include:

- Original Construction Drawings and As-built Information (if available)
- LFUCG Greenway Management Plan
- Wolf Run Watershed Based Plan
- 319(h) Grant Application and Contract
- Approved BMP Implementation Plan
- Prior reports as provided by LFUCG
- FEMA Floodway/Floodplain Hydrologic and Hydraulic Models

A summary of findings and discussion of relevant information will be included in the deliverable report for Tasks A – D.

Task B Field Survey

The Palmer Team will begin the surveying by establishing control on each site. Project control will relate the existing control monuments established by LFUCG. This control will be used for site survey and construction on each site. The project engineers will be assisting the surveyors on site to ensure the appropriate information is gathered for analysis and design of the projects. We gather relevant topographic, utility, and property information. Utilities will be located as marked by 811. Property corners will be gathered to the extent needed to establish property boundaries. The Palmer Team has successfully used this same approach most recently on the Stephen's Creek project and other projects with ponds, lakes, and streams. Easement descriptions will be prepared, and can be field staked if needed. Easements, field staking, and construction staking can be completed at the attached unit rates.

Task C: Geotechnical Investigations

Depending on the conceptual design selected, the need for geotechnical investigation could vary widely. A visual level evaluation of the dam structure or a full analysis of the dam may be necessary if significant modifications are required on the dam. A full analysis is not anticipated at this time. Soil sampling, boring, soundings, and consolation are more likely to occur for these projects.

Task D: Hydrologic/Hydraulic Analysis

The Palmer Team will use a variety of programs for the stream restoration. HEC-RAS will be used for hydraulic

modeling of streams. HEC-RAS is one of the standard programs used in hydraulic modeling and approved by USACE. The Palmer Team will also use HEC-HMS to assist in preparing the FEMA CLOMR/LOMR submittals. Rivermorph may be utilized to input and analyze collected stream geomorphology data for natural stream channel design. This program will also assist in calculating the bankfull flow and shear stresses. For hydrologic purposes, the Palmer Team will utilize Storm and Sanitary Analysis, a hydrologic platform for AutoCAD, and PondPack, a standalone program for stormwater detention design. These programs will assist the design team with infiltration basin design and green infrastructure design. Palmer Engineering utilized Stormnet, the predecessor for Storm and Sanitary Analysis and PondPack on the Coldstream/Crimson Court project recently completed for LFUCG.

As stated in the request for proposa, Palmer will complete the analysis for the stream and sinkhole for the 10-year, 25-year, and 100-year 24-hour storm events for both existing and proposed conditions. Additionally, we will conduct a desktop shear stress calculation for the Vaughn's Branch portion of the project.

Task E: Conceptual Design

Wolf Run Watershed is a 10.18 square mile watershed located entirely within Fayette County, Kentucky. Wolf Run was first listed as impaired by Kentucky Division of Water (KDOW) in 1998, with additional impairments being identified in subsequent years. The citizens of the watershed have taken an interest in water quality, forming the Friends of Wolf Run, a community-based watershed group, in 1997. This group continues to be an advocate for water quality in the watershed. The Wolf Run Watershed-Based Plan, dated March 1, 2013, was prepared to provide a comprehensive assessment of the health of the watershed, citizen and stakeholder concerns, watershed remediation strategies, and implementation plans for the future. The Wolf Run Watershed-Based Plan outlined 138 Best Management Practices (BMPs) recommended for implementation within the watershed. LFUCG, with partial funding by a 319(h) Nonpoint Source Implementation Grant, is pursuing implementation of several BMPs through the Cross Keys Park Pond Water Quality Retrofit and Picadome Golf Course Sinkhole Retrofit and Stream Restoration. These projects will address BMPs recommended for implementation including:

- Low Priority BMP #101: Bank Stabilization at Gardenside Tributary Below Cross Keys
- High Priority BMP #106: Cross Keys Park Retention Basin Retrofit
- High Priority BMP #113: Picadome Golf Course Stream Restoration
- High Priority BMP #125: Trash and Debris at Picadome Sinkhole

Cross Keys Park Pond Water Quality Retrofit

The large pond, with approximately 4.0 acres of water surface, at the Cross Keys Park is located on the Gardenside Tributary (as identified in the Wolf Run Watershed-Based Plan), which flows into Cardinal Run and then Wolf Run. Since the construction approximately 40 years ago, the pond has degraded from siltation and appears to have significant nutrient loading. This degradation has reduced water depth, thus reducing aquatic habitat. Current maintenance practices have led to bank erosion, loss of riparian habitat, increased water temperature, and the presence of Canadian geese. Excessive algae blooms during the summer further reduce aquatic habitat and create an eyesore for watershed residents and visitors. It is the Palmer Team's understanding that LFUCG desires the project to meet the following goals:

- Provide water quality treatment to enhance pollutant reductions and improve water quality within Cardinal Run, Gardenside Tributary, and Wolf Run
- Enhance aquatic habitat in and around the retrofitted pond

After review of the existing information and collection of the data, the Palmer Team will evaluate this material and provide LFUCG with a maximum of two conceptual design options and estimated construction cost. The following BMPs will be considered for implementation as outlined in the BMP Implementation Plan:

- Pond – NRCS Conservation Practice Standard Code #378
- Structure for Water Control – NRCS Conservation Practice Standard Code #587
- Sediment Basin – NRCS Conservation Practice

Standard Code #350
- Wetland Construction – NRCS Conservation Practice Standard Code #656
- Riparian Herbaceous Cover – NRCS Conservation Practice Standard Code #390
- Tree/Shrub Establishment – NRCS Conservation Practice Standard Code #612
- Educational Signage and Natural Trails
- Floating Wetland Island Demonstration
- Pond Aeration

These BMPs will be evaluated for effectiveness in meeting the identified project goals and prioritized for installation using a cost-benefit analysis. One review meeting will be held with LFUCG, Kentucky Division of Water, Wolf Run Watershed Council, West Gardenside Neighborhood, and any other involved parties (included in Task G). Final conceptual design materials will be of presentation quality for use for public education. A memorandum on BMP selection and implementation will be prepared relating to the BMP Implementation Plan.

Based on the Palmer Team's observations during the site visit, the existing pond appeared to have excessive siltation, especially at the upstream end. Large portions of the water surface were covered with ice even though temperatures had only been below freezing for less than 24 hours, indicating very shallow water depths, which have led to a reduction in aquatic habitat. The pond and the entire Cross Keys Park lack a wooded riparian corridor, and the existing riparian corridor is dominated by turf grass, which is mowed to the stream banks. The lack of the riparian corridor has contributed to an abundance of Canadian geese inhabiting the pond, bank erosion, and increased water temperatures. No alga was observed during the site visit, but the cold weather conditions would not promote growth; it is perceived to be an issue during the warmer summer months due to excessive sedimentation and organic enrichment. During the site visit, it was noted that a residence is located immediately downstream of the pond outlet, so consideration much be taken when evaluating the pond's ability to receive additional flow or retain more storm water during rain events from upstream areas. An abundance of trash and litter was not observed during the site visit, but consideration of BMPs will be included if litter inputs are shown to warrant inclusion.

Due to the existing excessive siltation, it is anticipated that that sediment will be excavated from the pond to increase water depth and provide additional aquatic habitat. We anticipate that for both project sites, all spoils will be disposed of on site. The contractor will be required to haul off any trash or debris that is not soil, rock or organic material. Coordination with landfills or disposal sites is not included in the proposed fee. Although spoil material will be used to construct wetland and streams as is appropriate, excess material placement is anticipated to occur outside of the 100-year floodplain, if possible, to avoid impacting adjacent private properties. The excess spoils could be used to construct landscaping features. Geotechnical considerations will be an important component to determining the final BMP recommendations. If material will be dredged from the pond, it must be determined if there is an existing clay cap or liner aiding in maintaining a consistent water level. A geotechnical evaluation of the existing pond dam will also be required prior to dredging to ensure that existing foundations are not impacted by material removal. The Palmer Team will use modeling software to access the pond's hydraulic capacity and ability to receive increased drainage. If additional flow can be directed to pond, the Palmer Team can evaluate the rerouting of an existing storm sewer on Cross Keys Road to the pond. The evaluation of feasibility and design of the rerouting of this storm sewer is not included in the proposed fee. The feasibility and benefit of a floating wetland island demonstration and pond aeration device will be assessed, although detailed design of these items is not included in this proposal fee.

Along with dredging of the pond, the Palmer Team anticipates the creation of a forebay between the incoming Cardinal Run and main Cross Keys Park Pond. The sediment forebay will serve as a pre-treatment for the rest of the facility, greatly reducing the overall pond maintenance requirements. The sediment forebay will be sized based on the amount of impervious area in the contributing drainage area. Exit velocities from the forebay will be analyzed to ensure that they will be non-erosive. The bottom of the forebay may be hardened to make sediment removal easier. A fixed vertical sediment depth marked will be installed in the forebay to measure sediment deposition over time

and indicate when maintenance will be required. Direct access for appropriate maintenance equipment will be needed. The need for access road construction will be analyzed by the Palmer Team, but design and permitting of this access road are not included in this proposal. After the sediment forebay, the Palmer Team anticipates the creation of a constructed wetland in the shallow and silted areas of the upper pond. The wetland will provide varied aquatic and wildlife habitat and provide a measure of water quality treatment for the stormwater runoff exiting the sediment forebay.

Additionally, the design will incorporate a strategic planting plan to assist in stabilization of the pond banks' riparian corridor with native herbaceous and woody tree and shrub species. Over time, the riparian buffer will assist in reducing water temperatures due to increased shade and provide wildlife habitat. Creation of a riparian buffer will also help control the Canadian goose population because access to the pond along the banks will be reduced.

Picadome Golf Course Sinkhole Retrofit and Stream Restoration

Two tributaries of Wolf Run, Vaughn's Branch and Big Elm, enter the Picadome Golf Course. A large sinkhole is located at the end of the Big Elm tributary with overflow running overland across the golf course into Vaughn's Branch. Both streams appear to be highly influenced by karst topography and are often dry during low-flow conditions. The stream channels are actively degrading due to increase flow volume and duration and multiple bridge crossings. The stream bed shows evidence of active scour and deposition, especially in the upstream portions. The downstream end of Vaughn's Branch appears to be controlled by shallow bedrock. The Wolf Run Watershed-Based Plan indicates that Vaughn's Branch has some of the highest levels of non-point source pollutants in the watershed. It is the Palmer Team's understanding that LFUCG desires the project to meet the following goals:

- Reduce streambank erosion and improve aquatic habitat on of approximately 400 feet of Big Elm Tributary and 1,800 feet of Vaughn's Branch
- Perform sinkhole remediation to reduce flooding, surface rill, and interrill erosion
- Improve water quality by capturing trash and debris, providing a native riparian buffer zone along more of the stream channel, and water quality treatment to enhance pollutant reductions

After review of the existing information and collection of the data, the Palmer Team will evaluate this material and provide LFUCG with a maximum of two conceptual design options and estimated construction cost. The following BMPs will be considered for implementation as outlined in the BMP Implementation Plan:

- Karst Sinkhole Treatment – NRCS Conservation Practice Standard Code #527
- Structure for Water Control – NRCS Conservation Practice Standard Code #587
- Stream Habitat Improvement and Management – NRCS Conservation Practice Standard Code #395
- Shallow Water Development and Management – NRCS Conservation Practice Standard Code #646
- Riparian Herbaceous Cover – NRCS Conservation Practice Standard Code #390
- Stream Crossing – NRCS Conservation Practice Standard Code #578
- Educational Signage

These BMPs will be evaluated for effectiveness in meeting the identified project goals and prioritized for installation using a cost-benefit analysis. The Palmer Team's approach for the stream restoration reaches will be to conduct a detailed assessment of the existing stream conditions to understand the flows, shear stress, and sediment transport characteristics of the streams at varying flow rates. The collected field assessment data will be analyzed to identify the appropriate stream modifications required to restore and stabilize the degraded stream channels. Reduction of the 100-year shear stresses across the channel and the floodplain will be the basis for the stream restoration. One review meeting will be held with LFUCG, Kentucky Division of Water, Wolf Run Watershed Council, and any other involved parties (included in Task G). Final conceptual design materials will be of presentation quality for use for public education. A memorandum on BMP selection and implementation will be prepared relating to the BMP Implementation Plan.

Based upon the Palmer Team's observations during the site visit, the degraded stream channels within the proposed restoration reaches exhibit vertical eroding banks due to down-cutting of the streambed. Vaughn's Branch has been downcut to bedrock upstream of the restoration reach and within the lower portion of the restoration reach. Vaughn's Branch and Big Elm Tributary lack wooded riparian corridors, and the existing riparian corridor is dominated by turf grass, which is mowed to the streambanks. The lack of a wooded riparian corridor has contributed to bank instability and decreased stream quality. The stream sections dominated by bedrock substrate exhibit lower bank heights, narrower bank widths, and are more stable than the incised/entrenched reaches exhibiting cobble and gravel substrate. In several locations along the stream restoration reaches, water flow was observed entering bedrock fissures, which is expected in an area underlain by karst geology. Restoration designs will need to incorporate numerous lateral constraints including: the proximity of the golf course paths, crossings, and fairways; the presence of an existing sanitary sewerline; stormwater input pipes along the stream restoration corridors; and private properties located along the right descending bank of Vaughn's Branch.

Due to the existing lateral constraints and the overall size of the stream channel, restoration activities are expected to be accomplished primarily through in-channel activities. These activities will likely include the establishment of riffles to provide grade control and aquatic habitat and the installation of in-stream structures such as cross vanes and J-hooks to provide horizontal stability and habitat diversity. An important component of the project will be regrading streambanks to more stable bank slopes and establishing a bankfull bench on each side of the stream to increase connectivity of the stream flows to the adjacent floodprone areas, thereby reducing the shear stress within the stream channels. These activities should be supplemented with the addition of meanders in select locations where permitted by the existing golf course paths, crossings and fairways; sewerline alignments; and stormwater inputs. Where possible, the stream may be relocated to avoid known bedrock fissures to promote longer in-channel stream flows. Additionally, the stream restoration design will incorporate a strategic planting plan to assist in stabilization of the restored streambanks with native herbaceous and woody tree and shrub species. The restoration efforts will emphasize maintenance of visual and physical clearances associated with player use as well as the aesthetics of the golf course landscape.

These efforts will increase stream stability and provide greater in-stream aquatic habitat. In addition, this approach will increase the connectivity of the stream with the floodprone areas through slightly increasing the bed elevation (riffle construction) and decreasing bank height (bench construction). The greater connectivity to the floodprone areas and floodplain can be used not only to offset the increased bed elevation but also to address the stated goal of decreasing pollutant loading. The restoration design will utilize the bankfull bench and other floodprone areas to create depressions to detain, infiltrate, and filter floodwater as flows recede. The design will rely heavily on hydrologic modeling to ensure that restoration activities do not increase flooding of upstream or downstream properties.

The sinkhole located at the downstream extent of Big Elm Tributary appears to have aggraded due to inputs of sediment, debris, and trash. These inputs have significantly reduced the infiltration capacity of the sinkhole, which has resulted in increased flooding. The existing sinkhole drainage rate will be evaluated after rain events by estimating the stormwater runoff volume collected in the sinkhole and determining the time it takes for the sinkhole to drain. The sinkhole enhancement activities are expected to involve removal of collected sediment, debris, and trash from the sinkhole opening and installation of a trash collecting structure where Big Elm Tributary discharges into the sinkhole. This forebay structure is intended to reduce the amount of sediment, trash, and debris entering the sinkhole, and will be located to allow access for LFUCG employees to maintain the structure. Furthermore, a native planting plan will be prepared for areas within and adjacent to the sinkhole to stabilize erosion and filter sediment from the stormwater inputs.

A final component of the project will involve an evaluation of the stormwater inputs to the proposed stream restoration reaches and identification of

appropriate stormwater quality BMPs to collect and treat the stormwater inputs prior to discharging into the restored stream reaches and sinkhole. The Palmer Team will estimate stormwater flows at each discharge point to determine the most appropriate stormwater quality BMP to be implemented based upon constructability, annual maintenance, cost, risk, and longevity. These stormwater quality BMPs could include, but not be limited to, the following: bioretention swales and cells, stormwater wetlands, vegetated swales, vegetated buffers, and/or infiltration features.

Task F: Detailed Design

After approval of the conceptual design, the Palmer Team will design and prepare Final Design Documents for public bidding and an updated construction cost estimate. This task will include coordination of affected utilities; preparation, submittal, and coordination of local, state and national permits required for project construction; design plan review meetings; preparation of bid documents, including plans and specifications; and preparation of documents necessary to meet grant requirements.

Task G: Meetings

As outlined in the request for proposal, there are several meetings that are anticipated. For the meeting the team will prepare the agenda, coordinate the meeting, conduct the meeting, and prepare the meeting summary. The following meetings are included in the fee proposed:

- Kick-off Meeting
- Stakeholders meeting with LFUCG, Kentucky Division of Water, West Gardenside Neighbordhood (Cross Keys only) and Wolf Run Watershed Council
- Conceptual Design
- 50% submittal
- 90% submittal
- 100% submittal
- Pre-bid meeting
- Bid opening
- Pre-construction meeting
- Twenty (20) site progress meetings
- Final inspection
- Project closeout meeting

The following meetings will be according to the attached unit rates plus hourly rates for preparation of exhibits, agendas, summaries, and other relevant data / documents:

- Public or civic groups
- Property owners
- Additional stakeholder meetings

Task H: Permitting

The Palmer Team shall prepare and perform all work necessary to obtain the KDOW Stream Construction Permit and the KDOW 401 Water Quality Certification Permit. The Palmer Team anticipates the Cross Keys Pond project will require an individual U.S. Army Corps of Engineers 404 permit, while a nationwide permit is expected for the Picadome Golf Course Project. On the construction documents, we plan to require requiring the contractor to submit the LFUCG Land Disturbance Permit and the Notice of Intent to KDOW for KYR10. At this point, we expect that tree clearing will be limited to undergrowth and a MOA will not be required. Additionally, seeing that both the sites have previously been disturbed, we do not anticipate the need for archaeological investigation. The Palmer Team will submit the LFUCG Floodplain Special-Use Permit. At this point, we do not know of any utility easements, encroachment permits, or memorandum of understanding that will be required. However, if these items are required, we will be glad to provide this service on an hourly rate or on a negotiated fee basis. Palmer Engineering has completed similar work for LFUCG on the East Lake Trunk Sewer Project, and we are on the KYTC statewide right of way and easement contract. The Palmer Team will submit the FEMA no rise, CLOMR, or LOMR as the design requires. As stated in the RFP, this item will be based upon the unit price line items. The FEMA submittals will include the submittal of the hydrologic/hydraulic model and mapping along with the appropriate application forms.

Task I: Bidding Services

The Palmer Team will provide assistance to LFUCG during the bidding process. We are well acquainted with LFUCG's procedures for bidding; having recently assisted with East Lake Trunk Sewer, Ecton Park Sewer, and the Canine Facility Pump Station. We will provide LFUCG with bid advertisement documents and coordinate with a printing vendor of LFUCG's choice. We shall attend the pre-bid meeting for each project to address questions and comments by contractors. We will issue addendums as required for the project. The Palmer Team will attend and assist with the bid opening. We will collect copies of the bids from LFUCG and tabulate the bids while checking for errors and completeness of the bid documents. We shall make a recommendation of award to LFUCG based upon the information available.

Task J: Construction Administration Assistance

The Palmer Team will perform construction oversight by providing shop drawing review, final inspection and assistance with the final punch list. The team will be fully responsive to the needs and requests of LFUCG including attending necessary meetings, providing on-site representation, and supplying direction and oversight to the contractor. After construction is complete, the Palmer Team can provide post-

construction monitoring as is usually required for the mitigated streams and/or wetlands and their conservation easements. Post-construction monitoring is not included in the request for proposal and would be an additional fee if requested by LFUCG. The Palmer Team will provide the necessary time for attending site progress meetings. If requested by LFUCG, we can assist with construction inspection by providing resident observation. A final inspection and punchlist will be compiled, and record drawings will be prepared for LFUCG. The record drawings will be submitted to LFUCG in both digital and hard copy formats with a project certification. Palmer has provided similar services to LFUCG on several recent projects including Ecton Park Trunk Sewer, East Lake Trunk Sewer, and the Canine Facility Pump Station.

Task K: Easement Acquisition

Stephanie Blain, PE, will manage all Easement Acquisitions from Palmer's Lexington Office. Stephanie is an experienced professional having completed several easement acquisitions for LFUCG, as well as SD1 of Northern Kentucky and KYTC. Additionally, Stephanie can be assisted by several Palmer Employees experienced in easement and right-of-way acquisition including former KYTC Deputy State Highway Engineer for Project Development Kevin Damron; and former KYTC Director of Right of Way and District 7 Right-of-Way Supervisor, Keith McDonald. Prioritizing and minimizing right-of-way acquisitions will be the key to expediting the construction of this project. Palmer Right-of-Way staff members are very experienced in this method of right-of-way and easement acquisition. Stephanie, Greg Isaacs, and two other Palmer Engineering staff members recently completed 48 hours of right-of-way training.

3) CAPACITY OF THE PERSON, FIRM OR TEAM TO PERFORM THE WORK, INCLUDING ANY SPECIALIZED SERVICES, WITHIN THE TIME LIMITATIONS

The Palmer Team has more than sufficient staffing and resources to complete this project within the advertised time frame and can begin work immediately. Palmer Engineering's Lexington office will perform project management and engineering services, including engineering for the Cross Keys Park Pond, hydrology/ hydraulics modeling, land surveying, stream restoration design assistance and stream assessment. Redwing Ecological will provide stream restoration design, geomorphology, botany, and engineering assistance. Thelen Associates' Lexington office will provide dam evaluation and geotechnical engineering services. A chart indicating each person's available capacity is included within this proposal.

Please see the attached similar project sheets, which include a wide array of projects similar in scope and scale. The team of Palmer Engineering, Redwing Ecological Services, and Thelen & Associates has recently designed the Stephens Creek Stream Restoration Project for the NKU Center for Environmental Restoration. The project is currently under review by KDOW and USACE for permit issuance. Palmer Engineering has also completed similar projects dealing with stormwater quality and quantity in the Willow Oak Pond Study and Crimson King Court/Coldstream Court Stormwater Study for LFUCG. Additional stream restoration projects completed by Palmer Engineering and Redwing Ecological Services include: JK Smith Power Station Mitigation, Pond Creek Restoration, Brown Park Stream Restoration, and Bullock Pen Tributary Preserve. Redwing Ecological Services also completed the Parklands of Floyds Fork project that involved various bank stabilization and bioengineering techniques.

4) CHARACTER, INTEGRITY, REPUTATION, JUDGMENT, EXPERIENCE, AND EFFICIENCY OF THE PERSON, FIRM OR TEAM

Palmer Engineering has an exemplary past record for on-time completion of projects, particularly those with challenging design parameters. Palmer Engineering's corporate philosophy mandates a total team effort in meeting client deadlines, with emphasis on the motto "Do it right the first time, on time." Perhaps the best evidence of the quality of Palmer Engineering's work and the character, integrity, and judgment embodied in the firm's reputation is that more than 90% of new contracts entered are with previous clients or referrals. Palmer Engineering takes pride in the number of repeat clients and respects their needs in meeting their time schedules. The Palmer Team looks forward to providing services of the highest quality on this project to LFUCG--on time and within budget. These traits can also be seen in previous projects performed through LFUCG. The Palmer Team members share the philosophy and will provide a product that is of the highest quality. Palmer Engineering has worked with all of the team members previously and believes that prior working relationships will enhance team efficiency and effectiveness.

5) PAST RECORD AND PERFORMANCE ON CONTRACTS WITH THE URBAN COUNTY GOVERNMENT OR OTHER GOVERNMENTAL AGENCIES AND PRIVATE INDUSTRY

As previously stated Palmer Engineering has completed several projects for LFUCG. As proposed for

this project, Greg Isaacs has been the Project Manager for many of those projects. We believe that our performance on past and current projects with LFUCG, along with our pre-selection on both current indefinite contracts with LFUCG, demonstrate Palmer Engineering's past commitment to delivery of projects of the highest quality. Palmer Engineering is currently on the LFUCG RMP Indefinite Services Agreement for the Dig and Replace, Stormwater, Small Pump Stations, and Large Pump Stations Contracts. Palmer Engineering was also selected for the LFUCG Engineering Indefinite Services Agreement for Contract 1 Roadway Corridor and Intersection Design, Contract 2 Right of Way Easement Acquisition, and Contract 4 Structure and Bridge Design. The recently constructed East Lake Trunk Sewer and Ecton Park Trunk Sewer came in under budget and had no design change orders.

The Project Manager, Greg Isaacs, is a Lexington resident working in Palmer's Lexington office. Greg's previous project management experience for LFUCG projects includes: Coldstream Court/Crimson Court, East Lake Trunk Sewer, Ecton Park Trunk Sewer, Landfill Pump Station, Canine Pump Station, Chevy Chase Master Plan, and Chevy Chase Repaving projects. See Greg's attached resume for more information.

Stephanie Blain, a Lexington resident working in Palmer's Lexington office, will be the Principal Project Engineer for the Cross Key portion of this project and will perform Quality Assurance/Quality Control for the Picadome Golf Course Project. Stephanie has been involved in several LFUCG project including Project Manager of the Willow Oak Pond Study, and Project Engineer for the following projects: Coldstream Court/ Crimson Court, East Lake Trunk Sewer, Ecton Park Trunk Sewer, and Chevy Chase Repaving projects.

Reasons to Select Palmer Engineering

Palmer Engineering has an exemplary past record for successful completion of projects, including having received ratings of more than 90 points on a 100-point scale for the 19 most recent projects completed for KYTC. Palmer Engineering has thoroughly studied this project and is the ideal firm to design this project for the following reasons:

- An experienced project manager and project team very familiar with the project and with LFUCG procedures
- A project team that has successfully completed similar projects together in the past
- A project team that has successfully obtained multiple permits through EPA, USACE, KDOW, USFWS, KYDFWR, and SHPO for multiple projects
- A demonstrated history of successful similar project experience
- All change orders on LFUCG projects have been as a result of increased project scope requested by LFUCG personnel
- Excess capacity to complete the work according to the schedule outlined in the RFP
- Strong Lexington roots and extensive familiarity with the project area as evidenced by multiple project team members living in the project area, participating in family and community activities in the project area, and traveling the project area multiple times each day.

We understand the problem, and we can develop the best solution. We appreciate your consideration of our proposal and look forward to our selection and the opportunity for a continued partnership with the Lexington-Fayette Urban County Government.

6) DEGREE OF LOCAL EMPLOYMENT TO BE PROVIDED BY THE PERSON, FIRM OR TEAM IN THE PERFORMANCE OF THE CONTRACT.

Palmer Engineering will be performing design and project management services from its office in downtown Lexington. Thelen Associates also has a Lexington office and has provided geotechnical services for many years in Fayette County. Several Lexington residents will be working on this project. The Palmer Team welcomes the opportunity to work with LFUCG to provide the residents of Fayette County with improved water quality, increased aquatic and wildlife habitat, and restored public green spaces in an urban environment that can be used for education and enjoyment, which they can appreciate for many years to come.

Project Team Organizational Chart
RFQ# 61-2014, Wolf Run Watershed Water Quality Improvement Projects

LFUCG

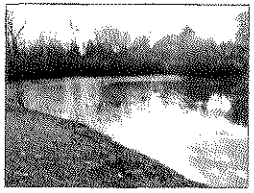
Project Manager
Greg Isaacs, PE

Palmer ENGINEERING

THELEN ASSOCIATES, INC. Geotechnical • Testing Engineers

REDWING

Cross Keys Pond
Stephanie Blain, PE, LEED AP
Principal Project Engineer



Craig Palmer, PLS
Surveyor

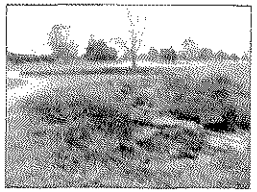
Jeff Cowan, PE, CPESC
Hydraulic Modeler

Lee Czor, PE (Thelen)
John Nealon, PhD, PE, PG (Thelen)
Geotechnical

Laura Darnell (Redwing)
Botanist

Bradley Anderson, PE, LEED AP
(Redwing)
QA/QC

Picadome Golf Course
Bradley Anderson, PE, LEED AP
(Redwing)
Principal Project Engineer



Craig Palmer, PLS
Surveyor

Jeff Cowan, PE, CPESC
Hydraulic Modeler

Blair Borries (Redwing)
Hydro-geologist

Lee Czor, PE (Thelen)
Geotechnical

Laura Darnell (Redwing)
Botanist

Stephanie Blain, PE, LEED AP
QA/QC