

MOTION:

**June 16, 2015
Regular Meeting
Res. No. 15-**

SECOND:

**RE: AUTHORIZE A CONTRACT MODIFICATION BETWEEN
LARDNER/KLEIN LANDSCAPE ARCHITECTS, P.C., AND PRINCE
WILLIAM COUNTY FOR \$173,000 FOR ADDITIONAL DESIGN
REQUIREMENTS ON THE NEABSCO CREEK BOARDWALK
SEGMENT OF THE POTOMAC HERITAGE NATIONAL SCENIC
TRAIL – WOODBRIDGE MAGISTERIAL DISTRICT**

ACTION:

WHEREAS, the Potomac Heritage National Scenic Trail was established in 1983 by Congress and the original concept proposed to establish a network of trails along the Potomac River through Virginia, Pennsylvania, Maryland and Washington, D.C.; and

WHEREAS, on July 6, 2004, the Prince William Board of County Supervisors adopted Resolution Number 04-712, endorsing the alignment of an eight-mile segment of the Potomac Heritage National Scenic Trail from Belmont Bay to Leesylvania State; and

WHEREAS, on November 20, 2012, the Prince William Board of County Supervisors adopted Resolution Number 12-836, awarding a contract in the amount of \$241,463 to Lardner/Klein Landscape Architects, P.C. for the design of a 3,000 liner foot boardwalk to cross the Neabsco Creek from Rippon Landing to the Metz Wetland; and

WHEREAS, the project scope has been modified to incorporate construction and design elements that are more environmentally friendly and expand the project's educational features; and

WHEREAS, the design to build construction estimate for the Neabsco Boardwalk Crossing is currently \$4,000,000; and

WHEREAS, the contract with Lardner/Klein Landscape Architects, P.C., states that if the design to build construction costs exceed the assumed \$1.25 million dollars, then the design fees shall increase by a factor of 20% of the additional design to build construction budget, which is the requested \$173,000 modification; and

WHEREAS, the requested contract modification require an additional \$173,000 per the contract terms; and

WHEREAS, the Potomac Heritage Scenic Trail is funded through the County's Capital Improvement Program, which has adequate funding to commit to the required contract modification;

June 16, 2015
Regular Meeting
Res. No. 15-
Page Two

NOW, THEREFORE, BE IT RESOLVED that the Prince William Board of County Supervisors does hereby authorize a contract modification between Lardner/Klein Landscape Architects, P.C., and Prince William County for \$173,000 for additional design requirements on the Neabsco Creek Boardwalk Segment of the Potomac Heritage National Scenic Trail;

BE IT FURTHER RESOLVED that the Prince William Board of County Supervisors does hereby authorize the Director of Finance to execute the necessary contract documents as approved by the County Attorney.

ATTACHMENT: Contract Modification

Votes:

Ayes:

Nays:

Absent from Vote:

Absent from Meeting:

For Information:

Finance Director

ATTEST: _____
Clerk to the Board



Lardner/Klein Landscape Architects, P.C.

February 26, 2015 (2nd revision 5/21/15)

Donnie Kozanecki, PLA
Construction Project Manager
LEED Green Associate
ISA Certified Arborist
Prince William County Department of Parks and Recreation
14420 Bristow Road
Manassas, Va 20112

**RE: Contract Modification #3
Neabsco Creek Boardwalk (Contract #13032PA0)**

Dear Donnie:

As requested, please find attached a proposed contract modification to cover the following services:

1. Professional Design and Engineering Services to address the increase in budget from \$1.25 million to \$4.0 million probable construction costs for Phase I Boardwalk
2. Professional Design and Engineering Services to incorporate the originally identified Phase II connector boardwalk and viewing tower into the Phase I bid documents

Item #1: Professional Design and Engineering Services to cover increased probable construction costs (Phase 1):

The assumptions that were utilized in the original contract as the basis for our design budget have changed as per decisions confirmed by the County with respect to the design elements for the project. The italicized text is the referenced from the original prime contract agreement. The following documents the changes and are the basis for the request for additional services:

1. **Assumption:** *Should a bridge structure be considered as part of the overall boardwalk design, it shall be a pre-fabricated bridge type.*

During the course of the preliminary design, it was determined to move away from the pre-fab bridge type toward designed bridges to utilize top-down construction and stay more within the character of the rest of the boardwalk design. Delivery issues also highly constrain the use of a prefabricated span, as it is not possible to float the span on a barge. Glulam support members were evaluated for the longest span (60-foot) and additional structural engineering design was required for the 20-foot spans.

2. **Assumption:** *The final design shall include only those features that fit within a 'design-to-build' budget of \$1.25 million for the first phase of construction. This is based on a composite square foot construction cost range of \$41-\$52/square foot inclusive of all built elements. Should the 'design to build' construction cost exceed the assumed \$1.25 million dollars, then the design fees shall increase by a factor of 20% of the additional 'design-to-build' construction budget.*

Equal Opportunity Employer

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Alexandria, VA 22314-3058
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Neabsco Creek Boardwalk
The Prince William County Department of Parks & Recreation
(Contract #13032PA0)

The design to build construction budget is now assumed to be approximately \$3.5 million (a contingency and construction phase services will increase the anticipated budget to \$4 million). The cost increase includes: an increase in the size and finish level of the landing areas to handle three classrooms; the design of the long spans over the main stem of Neabsco Creek (60-foot span) and two other longer 20-foot spans (as noted above); the inclusion in the budget of additional overlook areas along the boardwalk; the change in materials from Southern Yellow Pine to Black Locust; the change in materials from SYP railing to cable railing; and the overall length of the boardwalk at the high end of the assumption range (3000' plus landings).

Basis for Request:

The statement of probable cost as of the 65% design phase was 3.142 million broken down as follows:

Mobilization, Site Preparation, Restoration	\$154,000
Standard Boardwalk <6' above grade	\$670,000
High Elevation Boardwalk w/ cross-bracing) >6'	\$683,500
Low Elevation Boardwalk w/o railing	\$424,800
Ramped Boardwalk w/railing	\$360,600
Long Span	\$62,000
Short Spans	\$42,200
North and South Landing	\$431,700
Contingency (65% design, 10% of construction budget to cover unknowns)	\$269,400
Construction Administration	\$177,800
TOTAL PROBABLE COST AS DESIGNED	3,142,000

Potential cost savings were identified by the project team to get closer to a \$2.2 million construction budget by phasing and deferring the following elements to a later phase, including:

1) Overlooks (two)	\$23,083
2) Landings	\$386,100
3) Shorten the boardwalk	\$689,889
TOTAL potential savings	\$1,099,072

The direction provided by the County was to prepare the final design drawings using Black Locust and Cable railings for the full 3,000-foot length; and, to include the overlooks and landings for a budget of \$4.0 million (including contingency and construction administration). Backing out the anticipated construction phase services and additional design and engineering costs of \$435,000, the design to build construction budget would be \$3.565 million.

As per the original contract's provision for changes to the scope and materials for the work, the cost for additional services would be based upon 20% of a 2.25 million dollar increase in design to build construction budget (\$3.5 million – \$1.25 million), or \$450,000 dollars. However, since the extra cost is related to materials and methods of construction (not a change or addition to the alignment requiring additional environmental, cultural, and

Neabsco Creek Boardwalk
The Prince William County Department of Parks & Recreation
(Contract #13032PA0)

geotechnical studies), we can limit the extra cost to design development and final design services for boardwalk design and structural engineering. The budget for Tasks 8, 9, and 10 will be increased by the amounts shown in Table 1.

Item #2: Professional Design and Engineering Services to cover preliminary and final design services for the Phase 2 Boardwalk Connector and Overlook

Prince William County has identified funding for construction of the originally identified Phase 2 connector boardwalk and a viewing tower as shown on Attachment #1. The connector will create a shorter loop trail that will greatly benefit those future users with mobility challenges.

Assumptions:

- The “design to build” budget for the boardwalk extension is \$200,000 (at \$75/SF construction costs for boardwalk plus incidental site work). The budget is assumed to include a 50-60’ long span of the same or similar design as the long span over Neabsco Creek for the main spine of the boardwalk connecting to the north landing.
- The “design to build” budget for the viewing structure is assumed to be \$280,000 (includes 2-story observation platforms, with ADA accessible lower deck, spotting scopes (2) and designed to accommodate future interpretation (assume the equivalent of 4 locations, 2 on each deck) Construction costs and size are assumed to be a maximum of 1200 SF (600/floor) at \$230/sf.
- Should the ‘design to build’ construction cost for the boardwalk extension structure exceed the budgets noted above, then the design fees shall increase by a factor of 20% of the additional ‘design-to-build’ construction budget.
- The additional services for the boardwalk extension and viewing structure is anticipated to include the following meetings:
 - Four review meetings with PWC Parks Department Staff at 35%, 65%, 90%and 100% completion
 - Two meetings with PHNST committee and/or public meeting
 - Three meetings with PWC Service Authority
- PWC will be responsible for the design and construction of any modification to the existing gravel trail to meet ADA access guidelines linking back to the north landing
- PWC will be responsible for coordinating with VDOT to request a suitable barrier be installed limit vehicular access from Blackburn Road.
- PWC will confirm that the viewing structure and boardwalk extension are allowed under the proposed easement with the HOA

The following additional tasks will be required to design the boardwalk connector and overlook.

New Task 15: Design Boardwalk Connector and Overlook Tower

15.1 Topographic Survey and Utility Designating

- LKLA subconsultant Dominion Surveyors will prepare a topographic survey of the vicinity of the proposed overlook and boardwalk landing area as per Attachment 1. Topographic survey to include one-foot contours, tie in to HOA property corner,

Neabsco Creek Boardwalk
The Prince William County Department of Parks & Recreation
(Contract #13032PA0)

sewer line, overhead electric, mature trees (>6" dbh), shoreline, Blackburn Road pavement edge, shoulder, existing gravel access from Blackburn Road, overhead utilities.

- LKLA will subcontract with a subsurface utility marking firm to determine the existence and mark the location of as many existing utilities as possible on and directly adjacent to the site including all locatable utilities within the requested project area at Neabsco Creek near Blackburn Road (as shown on Attachment 1). Where non-conductive or non-locatable utilities are found, record drawings, if available at the time of the investigation, will be used to depict the approximate location of the utilities and hand-drawn field sketches will be prepared of all utilities marked in the field. This investigation will utilize both active and passive type utility detection equipment, including Ground Penetrating Radar at subconsultant's discretion, but will not include the use of intrusive methods of investigation such as test holes. Also not included in the additional work will be Subsurface Utility Mapping Surveys, Utility Locating (Test Holes), · Utility Test Hole Mapping Surveys, · Site Wide Ground Penetrating Radar Investigation, · As-Builts of Gravity Sanitary and Storm Sewers
- LKLA subconsultant Dominion Surveyors will survey the locations of the marked underground utilities
- PWC will obtain permission from the HOA and Prince William County Service Authority for access and to obtain any as built record drawings for the Cow Branch Sewer.

15.2 Preliminary Design

- LKLA will prepare 35% design drawings for review by PWC showing the alignment of the 200' boardwalk extension, location and elevation of the 50-60' long span, alignment of the connecting trail to the viewing structure, viewing structure and ADA accessible ramp to main level. Assume that two 24 x 36 inch sheets showing 1"=20' or similar site plan, 1/8"=1'0" or similar long span elevation, 1/8" -1'-0" or similar plan and elevation of viewing structure and ADA accessible ramps and a preliminary statement of probable cost. Two options for the location of the viewing structure will be evaluated and a recommendation made (see Attachment 1)
- PWC will review the plans and confirm the alignment, location and desired character of viewing structure

15.3 Environmental and Cultural- amend permit application

- Upon approval of the 35% plans, LKLA subconsultant ESA will amend the wetland joint permit application by sending a letter to VMRC showing the location of the Phase II boardwalk and viewing tower in relation to the wetland delineation line.
- According to LKLA subconsultant JMA, no additional Phase I cultural resource work is needed or included regarding the boardwalk extension and the viewing tower. The north side of Neabsco Creek is disturbed ground (Cow Branch Sewer Project) and the south side of Neabsco Creek was evaluated as part of the primary boardwalk.

15.4 Geotechnical – amend initial study

- Upon approval of the 35% plans, LKLA subconsultant Balter will prepare subsurface investigations for use in determining boardwalk pile depths, long span abutment/retaining wall conditions on the north side, and foundation conditions for the viewing structure as per their proposal in Attachment 2.

Neabsco Creek Boardwalk
The Prince William County Department of Parks & Recreation
(Contract #13032PA0)

- PWC will obtain permission from the HOA and Prince William County Service Authority for access and to obtain any as built drawings for the Cow Branch Sewer.

15.5 Flood Study - amend study

- LKLA subconsultant Wiley|Wilson will update the flood model to include the 2nd long span and resubmit report to County prior to sending to FEMA

15.6 Design Development -

- Based upon the results of the technical studies, LKLA and subconsultant Wiley Wilson will develop 65% design drawings showing
 - Site Plan
 - Preliminary stormwater and erosion control plans – Boardwalk Extension and Viewing Structure
 - Clearing and Demolition Plan, if applicable
 - Plan and Profile – Boardwalk Extension
 - Floor plans and elevations –Viewing Structure
 - Plan and Profile – trail connector from boardwalk to viewing tower
 - Materials and Methods of Construction/Outline Specifications (for new elements: viewing structure, surface trail, and long span abutment)

15.7 Structural and Civil Engineering (subconsultant Wiley|Wilson)

- Scour analysis and abutment design for long span
- Structural Plans and Details – Long Span
- Structural Plans and Details – Viewing Structure

15.8 Final Design –incorporate Boardwalk Extension and Viewing Structure into final plans and specifications – submit 90% and 100% plans for review and approval

Budget

The work will be performed on a cost plus fixed fee basis according to the terms of the Primary Contract. The following is the not to exceed budget for the requested services

TABLE 1: Extra Work Order #3 Task Budget

Task	Scope	Additional Cost
8	Additional Services for Design Development <ul style="list-style-type: none"> • Additional structural design services for custom design spans, in lieu of pre-fab) • Additional structural design services regarding use of Black Locust; comparing the structural requirements with SYP, designing the structural system to accommodate both materials (using the Black Locust as a bid alternate) and research needed to address the weakness of Black Locust in its unseasoned state; • Additional boardwalk design services to address the selection and design of materials: comparing non-structural performance properties of Black Locust with SYP, cable railing with pipe railing, evaluating life cycle costs of both Black Locust and SYP; additional material research on Black 	\$45,000

Neabsco Creek Boardwalk
The Prince William County Department of Parks & Recreation
(Contract #13032PA0)

	Locust (availability and life cycle costs and maintenance requirements); protection of Black Locust during construction	
9	Statements of Probable Cost (Additional Services) <ul style="list-style-type: none"> • Prepare additional statements of probable cost for use of Black Locust (as a bid alternate), research cost and availability of Black Locust, use of cable railing, cost of additional structural elements (additional stringers, fasteners) and comparative cost analysis of Black Locust and SYP) 	\$12,000
10	Final Design (Additional Services) <ul style="list-style-type: none"> • Final design documents required to support higher level of finishes and details, research and develop specifications for the use of Black Locust and Cable railing; develop specifications to address sequence of construction and methods to protect investment in Black Locust surface during top down construction methods. Additional sheets to cover details specific to structural and boardwalk design of long spans (customized) 	\$20,000
Task 15	Design Services for Boardwalk Extension and Viewing Structure <ul style="list-style-type: none"> • Preliminary and final design documents to incorporate the 200' boardwalk extension to Blackburn Road, the 2-story viewing structure (with main level ADA accessible), and connecting surface trail between the boardwalk extension and viewing structure 	\$96,000

Excluded Design and Engineering Services

1. For Item #1 - Additional environmental, cultural or geotechnical work related to any increases in project design to build budget (alignment is staying the same, so no new environmental work is anticipated)
2. For Item #1 and #2 - Additional environmental work that may be required for access road to south landing (access route is on an upland dike) and outside of wetlands. Temporary impact related to construction. Assume that a gravel bed or removable wood planking or similar will be laid down during construction and removed, and that Prince William County will be responsible for the design and construction of a suitable trail surface connecting the boardwalk with the Metz Wetlands parking area
3. For Item #2 – Any additional environmental or permitting work related to the connecting trail between the north landing and the viewing structure adjacent to Blackburn Road
4. For Item #2 – Subsurface utility, geotechnical, environmental, cultural, flood, or permitting work beyond that described in the scope of work for Item #2
5. NOTE: All bidding and construction phase services are excluded, including as built drawings that may be needed for final LOMR approval from FEMA. A separate Contract Modification will be prepared for those services

Neabsco Creek Boardwalk
The Prince William County Department of Parks & Recreation
(Contract #13032PA0)

Contract Modification No. 3 increases the budget for design phase services in the amounts as follows:

Original Contract Amount		\$241,463.00
	Modification No. 1 Additional Services	\$17,700.00
Revised Contract Amount		\$259,163.00
	Modification No. 2 Additional Services	\$2,640.00
Revised Contract Amount	Authorization requested for an upset limit based upon actual cost (labor and overhead) plus fixed fee (10% times labor plus overhead) hourly rates as per the prime contract	\$261,803.00
	Modification No. 3, Item #1 Additional Design and Engineering Services to accommodate increased project construction budget	\$77,000.00
	Modification No. 3, Item #2 Additional Design and Engineering Services to incorporate a 200' boardwalk extension and viewing structure into the project design and bidding documents	\$96,000.00
Requested Contract Authorization		434,803.00

Modification to the Schedule

Based upon the public meeting date of April 11, 2015, and the assumed notice to proceed for additional services date of June 18, 2015, the contract schedule shall also be modified as follows:

- Submit Permit Applications 46 (under review)*
 - Agency Review 50 (completed December 14)*
 - *Submit Draft FLOOD STUDY Report to County -Submitted March 23*
 - *Receive comments from County on FLOOD STUDY - April 7 (pending)*
 - Hold Public Meeting 54* -completed April 11*
 - *Submit CLOMR application to FEMA -pending County review*
 - *Receive comments from FEMA - assume a 60 to 90 day process,*
- Develop Preliminary, Design Development and Final Design Plans for Boardwalk Extension and Viewing Structure**
- Assume notice to proceed by June 18, 2015*
 - *Submit 35% Plans by 30 days NTP*
 - *County review and approval by 45 days NTP*
 - *Submit 65% Plans by 75 days NTP*
 - *County review and approval by 90 days NTP*
 - *Incorporate into and Submit 90% Plans by 120 days NTP October 16, 2015*
 - *County review and approval (see below)*
 - *Submit 100% Plans by 180 days NTP (see below)*

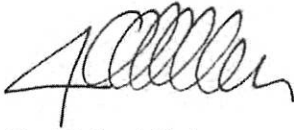
Final Design Phase

Neabsco Creek Boardwalk
The Prince William County Department of Parks & Recreation
(Contract #13032PA0)

- pending approval of Contract Modification #3 - Assume NTP by June 18, 201
 - Submit 90% Plans, Specifications and Estimate 66* - now October 16, 2015
(coordinated with Boardwalk Extension and Viewing Structure
 - Agency Review 70*- now November 13, 2015
 - Secure Permits & Submit 100% Bidding Documents 80*- now January 22, 2016
 - Agency Review 84* now February 12, 2016
 - Submit Bid Ready Documents 86* now February 26, 2015
- *Indicates that schedule may need to be adjusted if more detailed technical studies are needed to address unknown issues.*

Should you have any questions or need more information, please do not hesitate to call.
Thank you.

Lardner/Klein Landscape Architects, P.C.



Jim Klein, ASLA
Principal

Accepted By: _____ Date: _____

ATTACHMENT 1
TASK-HOUR WORKSHEET

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DRAFT 90% DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

GPIN: 8390-29-1608

TELEPHONE
PEDESTAL BOX

GPIN: 8390-39-0818

GPIN: 8390-17-3278

ROAD EDGE

OVERHEAD UTILITY LINE

UTILITY POLE

EX. SANITARY SEWER LINE

APPROX. SURVEY LOCATION

- from road edge to approx. shoreline
- include gravel/pull-off location, overhead electric, sanitary sewer line, buried telecom lines, underground electric, mature trees, other fixed objects, and parcel lines

TRAIL TO CROSSING AND SPUR

ABUTMENT (APPROX. LOCATION)

PHASE II: LONG SPAN CROSSING

PHASE II: BOARDWALK SPUR

90% BOARDWALK ALIGNMENT

0 100 200

Scale: 1"=100'

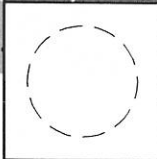
design:

drawn:

date:

checked by:

date:



prepared by:

Planning, Urban Design
Landscape Architecture
Landscape Architecture
Landscape Architecture, PC
815 North Ross Street, Suite 200
Alexandria, VA 22314 480-3121-1270
703-724-9071 fax

Environmental Systems Analysis, Inc.
Environmental Engineers and Inspectors (Virginia)
Arlington, VA 22201
1400 West Street
John Miller Associates, Inc.
(Architecture and General Building Support)
3702 Leeside Ct., Alexandria, VA 22112
Wiley Wilson
(Structural and Hydrologic Analysis)
Lynchburg, VA 24502-0272

The Robert B. Baller Company
Professional Engineers
Orange, VA 22117
1015 West Street
Doris Hines Surveys, Inc.
(Survey and Civil Engineering)
8808 New Free Village Ct., Alexandria, VA 22309
(703) 497-6025

County of Prince William
1 County Complex Court, #601
Falls Church, VA 22041
703-792-4770 Metro 631-1703, Ext. 6770
Fax: 703-792-4611



PWC CONTRACT #
13032PA0

REVISIONS

NO.	DATE	DESCRIPTION

SURVEY LOCATIONS:
PHASE II

SHEET NUMBER

GIS data sources: Prince William County
Department of Information Technology (2013)

Neabsco Creek

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ATTACHMENT 2
PRIME CONTRACT

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May 21, 2015

Jim Klein, ASLA
Principal
Lardner/Klein Landscape Architects
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Alexandria, VA 22314
703-739-0972 (t)
703-739-0973 (f)
Jim.Klein@lardnerklein.com

**Re: Proposal for Supplemental Geotechnical Evaluation
Neabsco Creek Boardwalk
Prince William County, Virginia**

Dear Mr. Klein:

The Robert B. Balter Company (Balter) is pleased to provide this revised proposal for supplemental geotechnical evaluations for the proposed boardwalk at the Neabsco Park in Prince William County, Virginia. The anticipated scope of services and a cost estimate are described below.

Project Background

The project consists of a new (Phase 2) boardwalk loop with a 60-foot span bridge and a viewing tower associated with the planned Neabsco Creek Boardwalk. The creek flows east to Occoquan Bay and the Potomac River, and the local tidal range is about 2 to 2.5 feet. During high tide, the marsh is almost submerged, but at low tide most will be exposed with flooded channels and ponds. Previous geotechnical investigations in this area indicated very soft muck at least 10 feet deep. The new boardwalk loop will be approximately 200 feet long with a bridge span of about 60 feet over the creek, and a possible low retaining wall. The proposed viewing tower will have a maximum height of about 35 feet. We have assumed that the tower location will be selected before our field work begins. There will also be a trail on the north bank, but no geotechnical services have been included for that element.

Site conditions are exceptionally poor relative to performing subsurface exploration borings, but still limiting impacts on the marsh (as mandated). We have assumed the tower and the north end of the new board walk loop will be located at the top of the bank just off of Blackburn Road. For these locations, an all-terrain vehicle (ATV) drill rig access the locations along the existing service road, but some hand clearing may be required due to the wooded conditions. On the marsh, deep muck and tidal submergence prevent use of relatively heavy ATV drills. Conversely, tidal emergence prevents barge or boat-mounted drill rigs of effective size. Standard borings would require highly specialized drilling equipment and will also result in great disturbance. Therefore, subsurface explorations in the marsh will require access by boat, with exploration limited to light equipment and hand techniques, to limit disturbance. We assumed no environmental or permitting constraints will affect our work. Any required permits are excluded from our scope, and must be arranged by other team members.

Proposed Scope

Our scope would include subsurface exploration with soil borings by drill rig, low-impact hand probing and borings, laboratory soil tests, geotechnical engineering evaluation, and preparation of a geotechnical report with boardwalk and tower foundation recommendations. Post-report services would include assistance with geotechnical inputs during development of project specifications.

We have not included participation in meetings or assistance during construction. Those CA services would include engineering and construction inspection and materials testing which would be performed with our certified personnel and in our accredited materials testing laboratory.

Subsurface Exploration – All subsurface explorations will be supervised in the field by an Engineer or Geologist. Two (2) soil borings are planned (two at the selected viewing tower location and one at the north end of the new phase 2 bridge span) to depths of 35 feet each. *Survey and field marking of the boardwalk alignment and tower locations should first be performed by the team surveyor, and we will notify "Miss Utility" as required.* Hand clearing will be required for drill rig access, although we would attempt to reasonably limit site disturbance. These borings will be drilled with an ATV rig equipped with hollow stem augers. Standard Penetration Testing (SPT) and split-spoon sampling would be performed in five foot increments, with additional samples for continuous sampling in the top 10 feet. Bulk samples of near-surface soils and Shelby tubes of cohesive soils would be collected. On completion, the boreholes would be backfilled with drill spoil, but no restoration would be performed.

Additional subsurface information across the marsh would be collected by hand-probing with muck probes along the boardwalk alignment. Muck probes consist of manually pushing a small-diameter steel rod down through soft muck and soil and into firm or stiff underlying soils. It is a simple and subjective way to estimate the depth of weak muck and the general nature of deeper, stronger soils (based on feel and sound). During this process, attempts would also be made to recover soil samples by pushing or driving sampling tubes. In view of the site conditions and equipment limitations, significant sample recovery may not be feasible, however.

Soil borings and muck probes will be field located, but not surveyed, by Balter based on a hand-held GPS device. This proposal assumes access will be permitted to all areas without the need for standby delays.

Materials Laboratory Testing – Geotechnical laboratory testing will be performed in our AASHTO-accredited and Corps of Engineers-validated laboratory facility. An experienced geologist or engineer will review all soil samples, and select some for testing. Engineering index tests will be performed for more accurate classifications and estimates of engineering properties. These will include Natural Moisture, Atterberg limits, Sieve Analyses, Pocket Penetrometers, Organic Contents. Standard Proctor compaction tests will be performed, and Consolidation and Unconfined Compressive Strengths on clays (if warranted).

Geotechnical Evaluation and Report – Geotechnical engineering services will include site reconnaissance, supervision of subsurface sampling and laboratory testing, and interpretation and evaluation of the collected field and laboratory data. We will then develop a geotechnical report under supervision of a Maryland Professional Engineer with many years of geotechnical experience. The report will be issued as a Supplemental Geotechnical



Report and will not be included in our original Geotechnical Report for the original (Phase 1) boardwalk alignment. It will describe our test methods, provide the collected field and laboratory data, and include a Boring Plan and Boring Logs and Profiles with estimated subsurface conditions.

The supplemental geotechnical report will provide our evaluation of subsurface conditions relative to the project. It will provide information required for design of the planned low-capacity boardwalk piles, viewing tower foundations (footings or piles), slope stability and possible low retaining walls. A Draft Report would be submitted for team and owner review, and a Final Report would be developed which addresses any comments.

Post-Report Services – We would provide assistance with geotechnical inputs during the development of the project specifications by others. An allowance has been included in this proposal. It does not include participation in meetings, assistance during bidding or services during the construction period. Such services can be provided if desired, but at additional cost.

Scope and Cost Estimate

We developed the following scope and cost estimate for your consideration. All work will be performed in accordance with the General Conditions, except as modified by our final contract.

DESIGN DEVELOPMENT PHASE

I. SUBSURFACE EXPLORATION (<i>Assumes no environmental concerns</i>)		
A.	Survey and field boring and boardwalk stakeout by Team surveyors;	N/A
B.	Permits required for access; by other Team consultants:	N/A
C.	"Miss Utility" clearance; lump sum:	\$750.00
D.	Mob/Demob ATV Drill Rig, crew; estimate (1) @ \$2,000.00/each	2,000.00
E.	Two (2) SPT borings to depths of 35 feet each, with SPTs at 5-foot intervals; estimate (70) L.F. @ \$26.00/L.F.:	1,820.00
F.	Additional SPTs and split-spoon samples, for continuous sampling in top 10 feet; estimate (6) @ \$30.00/each:	180.00
G.	Standby for hand clearing; estimate (4) hours @ \$325.00/hour:	1,300.00
H.	Bulk Samples; estimate (2) @ \$30.00/each:	60.00
I.	Shelby Tubes; assume (2) @ \$125.00/each:	250.00
J.	Mob/Demob Marsh Rig, crew; estimate (1) @ \$5,600.00/each:	5,600.00
K.	Marsh work, probes, sampling; estimate (1) day @ \$1,800.00/day:	1,800.00
	<i>Estimated Subsurface Exploration Fees:</i>	\$12,760.00
II. LABORATORY TESTING (<i>in our AASHTO and Corps credentialed Laboratory</i>)		
A.	Natural Moisture Contents; estimate (8) @ \$15.00 each:	\$ 120.00
B.	Atterberg Limits; estimate (4) @ \$100.00 each:	400.00
C.	Sieve Analyses; estimate (4) @ \$90.00 each:	360.00
D.	Pocket penetrometer; estimate (20) @ \$12.00/each:	240.00
E.	Organic contents; estimate (2) @ \$80.00:	160.00
F.	Standard Proctor; estimate (2) @ \$140.00/each:	280.00
G.	Consolidation Tests; \$450.00/each (allow one)	450.00
H.	Unconfined Compressive Tests; estimate (2) @ \$150.00 each:	300.00
	<i>Estimated Laboratory Testing Fees:</i>	\$2,310.00



III. PROFESSIONAL SERVICES - REPORT PREPARATION

- A. Project Manager; estimate (8) hours
 - B. Senior Engineer (Design); estimate (40) hours
 - C. Design Engineer (Field); estimate (16) hours
 - D. Technician/Administrative; estimate (3) hours
- Estimated Professional Service Fees Plus 8% Fixed Fee: \$9,885.19***

IV. EXPENSES

- A. Mileage for Project-related travel; allow 1,000 miles @ \$0.60/mile: \$ 600.00
 - B. Miscellaneous (printing, express delivery, etc.); allowance: 100.00
- Estimated Expenses: \$700.00***

DESIGN DEVELOPMENT BUDGET: \$25,655.19

SPECIFICATION PREPARATION PHASE

I. PROFESSIONAL SERVICES

- A. Project Manager; estimate (8) hours
 - B. Senior Engineer; estimate (12) hours
 - C. Technician/Administrative estimate (4) hours
- Estimated Professional Service Fees plus 8% Fixed Fee: \$3,724.83***

II. EXPENSES

- C. Mileage for Project-related travel; allow 200 miles @ \$0.60/mile: \$ 120.00
 - D. Miscellaneous (printing, express delivery, etc.); allowance: 100.00
- Estimated Expenses: \$220.00***

SPECIFICATION PREPARATION BUDGET: \$3,944.83

TOTAL PROJECT BUDGET: \$29,600.02

General Provisions

This proposal is valid for 12 months. Fees for additional consultations, meetings, revisions, draft reports, subsurface explorations and laboratory testing services will reflect the actual quantities provided. Fees will be adjusted in accordance with the unit rates presented above.

Samples will be discarded after completion of our geotechnical engineering report, unless otherwise directed by our client. Longer storage can be requested, but will result in storage fees.

Balter will undertake to obtain underground utility clearances from "Miss Utility". Notwithstanding the foregoing, Balter will not be liable for any costs, liabilities or damages direct, indirect or consequential by virtue of drilling into underground utilities or other materials under the ground. Client shall indemnify, defend and hold harmless Balter from and against all costs, damages, liabilities and expenses incurred by virtue of Balter 's performance of its duties hereunder including but not limited to drilling into underground



utilities. Client may request electronic field searches or vacuum test pits in order to more thoroughly examine the potential for underground utilities, in which case the scope of work and costs for this contract shall be changed to include this service.

The Client and Owner shall indemnify, defend and hold Balter harmless from and against all damages, claims, expenses, and liabilities incurred by Balter including, but not limited to, attorney's fees and expert's fees, as a result of Balter's entry into this contract or the performance of its services herewith, except if due solely to the proven negligence of Balter. Balter liability will be limited to the amount of \$50,000.00, or the amount of the total Balter fee, whichever is greater.

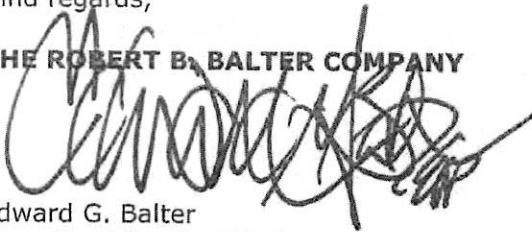
Balter is not required to check or verify client-provided information or the technical adequacy or compliance of any portion of the project designed by the client's consultants or contractors. Balter assumes no responsibility for the accuracy of information provided by the client or of design information provided by others, excluding Balter's subconsultants. The client agrees to defend and indemnify Balter for any delays, costs, losses, or damages caused by false, inaccurate, or non-compliant information provided by the client or the client's consultants or contractors.

Kindly return one executed copy of this proposal for our records.

As always, we appreciate the opportunity to work with you, and we welcome any suggestions how we can best serve your engineering and construction inspection/testing needs.

Kind regards,

THE ROBERT B. BALTER COMPANY



Edward G. Balter
Executive Vice President

EGB/jfw/mjl

ACCEPTED BY:

Authorized Representative

Title

Firm or Agency

Signature

Date





Melissa S. Peacor
County Executive

COUNTY OF PRINCE WILLIAM

OFFICE OF EXECUTIVE MANAGEMENT
1 County Complex Court, Prince William, Virginia 22192-9201
(703) 792-6600 Metro 631-1703 FAX: (703) 792-7484

BOARD OF COUNTY SUPERVISORS

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May 29, 2015

TO: Board of County Supervisors

FROM: Debra D. Andrew
Parks and Recreation Director *DAJM*

THRU: Melissa S. Peacor
County Executive

RE: Authorize a Contract Modification between Lardner/Klein Landscape Architects, P.C. and Prince William County for \$173,000 for Additional Design Requirements on the Neabsco Creek Boardwalk Segment of the Potomac Heritage National Scenic Trail – Woodbridge Magisterial District

I. Background in chronological order is as follows:

- A. Potomac Heritage National Scenic Trail (PHNST) – In 1983, Congress amended the National Trails System Act to designate a corridor for the PHNST between the Chesapeake Bay and the Laurel Highlands of Pennsylvania. Although a unit of the National Park Service, routing, development and management of the PHNST is performed primarily by state and local entities.
- B. Implementation Plan – In December 2002, the Prince William County Park Authority (now Department of Parks and Recreation) adopted an implementation plan for the PHNST in Prince William County, the result of a cooperative effort by the Park Authority, the Northern Virginia Regional Commission (NVRC) and the National Park Service. The implementation plan provides a general alignment of the PHNST as it traverses the eastern portion of the County, from the boundary with Stafford County to the Occoquan River and into Fairfax County. The PHNST through Prince William County is intended to be a variable surface and width trail that connects a variety of recreational and cultural amenities.
- C. Comprehensive Plan – The PHNST is both generally and specifically addressed in the County Comprehensive Plan.
 1. Trails Goal 2 – Plan and implement a comprehensive Countywide network of trails.

2. T2 – Policy 2, Action Strategy 9 – Corridors, trails and blueways generally shown on the trails map may take place on public property, within the public right-of-way, or on private property through voluntary donations by citizens, and through negotiating proffers from landowners and/or the development community as development occurs. Private property owners are not obligated to participate in the trails program. (The PHNST is shown as corridor “H-1” on the trails map)

- D. Belmont Bay to Leesylvania State Park Alignment - The BOCS endorsed the alignment of an eight-mile segment of the PHNST from Belmont Bay to Leesylvania State Park through adoption of Resolution, 04-712, on July 6, 2004.

- E. Neabsco Creek Boardwalk – On November 20, 2012, by Resolution 12-836, the Prince William Board of County Supervisors awarded a contract in the amount of \$241,463 to Lardner/Klein Landscape Architects, P.C., for the design of a 3,000 liner foot boardwalk to cross Neabsco Creek from Rippon Landing to the Metz Wetland.

II. Current Situation is as follows:

- A. Contract Modification for Design Completion – This requested contract modification is for professional design and engineering services to address the increase in project scope and budget from \$1.25 million dollars to \$4.0 million for the probable construction costs for Phase 1 Boardwalk, and to incorporate the originally identified Phase II connector boardwalk and viewing tower into the Phase I bid documents. During the course of the preliminary design the County determined to move away from pre-fabricated bridges and develop plans for top down construction, which is more environmentally sound than having equipment in the wetlands. The additional design costs include increasing the size of the three landings for classroom space; changing the design to use black locust wood instead of southern yellow pine; additional overlook areas; changing from pipe railing to a cable railing and increasing the overall length of the boardwalk. In accordance with the contract (#13032PA0), page 15, should the design to build construction cost exceed the assumed \$1.25 million dollars, then the design fees shall increase by a factor of 20% of the additional design to build construction budget.

- B. PHNST Funding – The contract modification requested by Lardner/Klein would be funded through funds dedicated to the PHNST project in the County’s Capital Improvement Program (CIP). The PHNST received funding through the 2011 CIP and the trail is included in the FY2016-2021 CIP, which identifies the completion of this trail segment is a funded “Critical Milestone”. Parks and Recreation currently has \$1 million in OCA # 445035 Neabsco Boardwalk and \$885,457.82 in OCA # 445013 PHNST dedicated to the development of the boardwalk, with additional funds anticipated through proffers allocations.

- C. Board Action Requested – The Board of County Supervisors is requested to authorize a contract modification between Lardner/Klein Landscape Architects, P.C., and Prince William County for \$173,000 for additional design requirements on the Neabsco Creek Boardwalk Segment of the Potomac Heritage National Scenic Trail.

III. Issues in order of importance are:

- A. Service Level/Policy Impact – What are the service level or policy implications associated with this action?
- B. Fiscal – Is there adequate funding available?
- C. Timing – Is there a timing urgency to this request?
- D. Legal – What are the legal considerations associated with this action?

IV. Alternatives in order of feasibility are:

- A. Authorize a contract modification between Lardner/Klein Landscape Architects, P.C., and Prince William County for \$173,000 for additional design requirements on the Neabsco Creek Boardwalk Segment of the Potomac Heritage National Scenic Trail.
 - 1. Service Level/Policy Impact – The approval of the contract modification and the subsequent implementation of the project would allow the County to pursue its trails policies and level of service standards established by the Parks, Trails and Open Space Chapter of the County Comprehensive Plan.
 - 2. Fiscal Impact – The Department of Parks and Recreation has adequate funding to commit \$173,000 of PHNST CIP funds for the contract modification expense (OCA #445013) (OL3# 3201).
 - 3. Timing – The design is at 65% completion and the contract modification is required to produce the final design plans so that the project can continue according to schedule.
 - 4. Legal – Approval of this contract modification is consistent with the County’s Purchasing Regulations and has been reviewed by the County Attorney.

B. Take No Action

1. Service Level/Policy Impact – The development of the Neabsco Creek Boardwalk would not take place and a gap would exist in the Potomac Heritage National Scenic Trail.
2. Fiscal Impact – The funds in the CIP budget for Neabsco Boardwalk would not be used to fund additional design or construction.
3. Timing – The development of the Neabsco plans would remain at 65% and not developed to final design and biddable documents.
4. Legal – None

V. **Recommendation** is that the Board of County Supervisors concur with Alternative A and approve the attached Resolution.

Staff Contact: Donnie Kozanecki x4234