



October 21, 2019

Steven VanderPloeg  
Environmental Scientist  
US Army Corps of Engineers, Norfolk District Western Virginia Regulatory Section  
9100 Arboretum Parkway, Suite 235  
Richmond, VA 23236

Re: Notice of Triggering of Section 110(k) of the NHPA at Point of Fork

Dear Mr. VanderPloeg:

I write on behalf of the Monacan Indian Nation, for which my firm serves as legal counsel.

Last week Mr. Eric Mai, a former long-term employee of the James River Water Authority's ("JRWA") consultant Circa~ Cultural Resource Management, LLC ("Circa"), courageously prepared a sworn declaration of facts documenting his experiences working for Circa and conducting the archaeological study of Point of Fork, on which JRWA seeks to build a water pump station. Mr. Mai's highly detailed sworn statement, attached as Exhibit A, is shocking. He declares:

My intent is to report an urgent concern about what I believe to be illegal, unethical, unprofessional, and unscientific practices by Circa in its work generally and at Point of Fork specifically. These practices include lying to government officials, instructing employees to lie to government officials, assigning unqualified and untrained personnel to perform sensitive investigations, failing to supervise unqualified personnel, misrepresenting professional and academic qualifications in official filings, falsifying research data, failing to use appropriate technology to obtain reliable data and then massaging the data to look scientific, plagiarizing the work of unaffiliated professionals, minimizing archaeological discoveries, and handling cultural resources inappropriately in the field and in the laboratory.<sup>1</sup>

Mr. Mai's whistle-blowing disclosures fundamentally transform the legal obligations of the Army Corps of Engineers ("Corps") with respect to consideration of JRWA's requests for any future federal permit for this project. JRWA's consultant's "study" at Point of Fork was so purposefully deceptive and inappropriate in its approach, and so lacking in integrity, that the resulting "testing" adversely affected the site. Because the archaeological sites at Point of Fork are eligible for the National Register of Historic Places under Criterion D ("may be likely to yield information important to history or prehistory"), destroying information that could have been recovered from the site constitutes anticipatory demolition under Section 110(k) of the National Historic Preservation Act ("NHPA").<sup>2</sup>

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<sup>1</sup> Sworn Declaration of Mr. Eric Mai, October 16, 2019, Para. 9.

<sup>2</sup> 54 U.S.C. § 306113.

Section 110(k) provides that “a federal agency may not grant a permit to an applicant who has already adversely affected historic property.” (*Committee to Save Cleveland’s Hulett’s v. U.S. Army Corps of Eng’rs*, 163 F. Supp. 2d 776, 792-93 (N.D. Ohio 2001). “Section [110(k)] works to punish those who would seek to manipulate the § 106 process by denying them access to post-demolition permits.” *Id.* See also *Pye v. U.S. Army Corps of Eng’rs*, 269 F.3d 459 (4th Cir. 2001), where post-decision the Corps revoked a permit because the applicant refused to cooperate in the permitting process as required by the NHPA.

In short, it would now be contrary to federal law for the Corps to grant a permit to JRWA for this project.

### **Section 110(k): Anticipatory Demolition Has Occurred**

Testing archaeological sites by disrupting the soil with tools and machinery is inherently destructive. Testing is allowed for the purposes of generating reliable information about the eligibility of sites that can support informed decision making in the Section 106 process.<sup>3</sup> VDHR guidance on Phase II testing makes it clear that excessive or poorly documented testing can be considered an Adverse Effect on the site, and can result in sanctions for the responsible agency.<sup>4</sup>

No reasonable person will read the parade of horrors laid out in Mr. Mai’s sworn statement and conclude that Circa was endeavoring to generate reliable information to support reasoned decision-making. Under Circa’s management, well-meaning staff like Mr. Mai and his colleagues were put in an impossible situation where they were instructed in ways that undermined the goals and objectives of the cultural resource management industry and the clear intent of the law. “The Principal Investigator has the responsibility to conduct field investigations in a manner that will add to the understanding of past cultures and will develop better theories, methods, and techniques for interpreting the archaeological record while causing minimal attrition of the archaeological resource base.”<sup>5</sup> Yet, under Carol Tyrer’s direction, Circa’s fraudulent and malicious approach to the study with which it had been entrusted was clearly intended to manipulate the Section 106 process, and caused more than “minimal attrition of the archaeological resource base.”

Purposefully avoiding meaningful discovery during testing pursuant to Section 106 renders the destruction of the resource a form of anticipatory demolition. Knowingly assigning unqualified persons to conduct unscientific tests with inappropriately destructive methods, as Mr. Mai reveals occurred at Point of Fork, is more than negligence. It is “anticipatory demolition” as contemplated by Section 110(k) of the NHPA, which provides:

Each Federal agency shall ensure that the agency will not grant a loan, loan guarantee, permit, license, or other assistance to an applicant who, with intent to avoid the requirements of [Section 106 of the NHPA], has intentionally

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<sup>3</sup> See The Virginia Department of Historic Resources’ Guidelines for Conducting Historic Resources Survey in Virginia, revised September 2017, hereinafter “VDHR 2017.”

<sup>4</sup> VDHR 2017 at 51.

<sup>5</sup> VDHR 2017 at 54.

significantly adversely affected a historic property to which the grant would relate, or having legal power to prevent it, allowed the significant adverse effect to occur, unless the agency, after consultation with the [Advisory Council on Historic Preservation], determines that circumstances justify granting the assistance despite the adverse effect created or permitted by the applicant.<sup>6</sup>

### **Mr. Mai's Revelations Show Purposeful Harm**

Mr. Mai's sworn declaration contains voluminous evidence that Circa knowingly adversely affected cultural resources through testing without the expectation of securing decision-quality information so as to manipulate the Section 106 process. We take each of these indications of purposeful harm in turn (numbers refer to paragraphs numbers in Mr. Mai's statement):

- I. Circa management sent into the field a crew that was unqualified, untrained, unprepared, and unsupervised.
  - a. The field crew lacked academic training to investigate a site of this kind. (18)
  - b. The field crew lacked practical experience investigating a site of this kind. (20, 36, 38)
  - c. The field crew members were untrained for the techniques they applied. (20, 63)
  - d. The field crew members were sent in without any context for what they were looking for. (17)
  - e. The field crew members were sent in on their own, without supervision. (21, 31, 38, 69)
- II. Circa management denied the crew appropriate technology, training, and guidance to conduct accurate surveys or recover archaeological information.
  - a. Circa management instructed crew members to use outdated, inaccurate techniques. (23, 27)
  - b. Circa management denied crew members' requests for modern equipment with which to conduct scientifically reliable testing. (23)
  - c. Crew members conducted tests in the wrong place, at the wrong depths, and without sufficient time. (25, 26)
  - d. Circa management assigned crew members duties to handle, wash, and curate artifacts despite lacking the necessary training and despite the absence, in practice, of protocols for handling fragile and culturally sensitive objects in Circa's so-called "lab." As a result, staff were not able to differentiate between type, importance, or condition of the artifacts that came under the lab's control. (57)
  - e. Circa management instructed staff to excavate archaeological features during Phase II testing without training, without supervision, and without context regarding the need to not over-excavate features at the testing stage. (20, 21, 36, 47, 53, 63, 64) Given the lack of a complete feature list in the Phase I/II report, it

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<sup>6</sup> 54 U.S.C. § 306113 (emphasis added); *see also* 36 C.F.R. § 800.9(c).

is unclear how many features Circa excavated in this fashion on the JRWA project.

- III. Circa management lied to state officials and demanded that their staff lie.
  - a. Circa management lied about the presence of a supervisor on site. (32)
  - b. Circa management lied about the qualifications of that absent supervisor. (40)
  - c. Circa management instructed staff to lie about the presence of a supervisor on site. (32)
  - d. Circa management lied about the qualifications of their on-site crew. (35, 36, 37)
- IV. Circa management enlisted untrained construction workers to investigate the portions of the site targeted for construction. (42, 43, 45)
  - a. Circa management sent the least qualified, least trained, least experienced people with inappropriate equipment to the most critical portions of the site, and left them unsupervised. (48)
  - b. Construction workers used inappropriate and destructive equipment that had a greater chance of damaging artifacts and features before they could be revealed and recovered. (46)
- V. Circa's management produced Phase I and II reports and a draft treatment plan that are inaccurate, misleading, unreliable, and contain plagiarism. (25, 27, 28, 29, 56, 57, 61)

### **Imagine What Circa Destroyed and/or *Could* Have Documented**

Point of Fork is the location of Rassawek, the Monacan Indian Nation's historic capital. In 1612, when John Smith drew his Map of Virginia, he recorded an Indian town at the fork of the Rivanna and James rivers called Rassawek. Smith learned that Rassawek was the capital of the Monacan people: all Monacan towns sent their tribute to Rassawek and gathered there for major ceremonies. Archaeological work starting in the 1880s at the Point has affirmed the significance of this landscape. Early Smithsonian investigations after a large flood identified between forty and fifty hearths and at least twenty-five burials in the floodplain.<sup>7</sup>

In the 1980s, when the Columbia gas line was put in, Dr. Daniel Mouer identified several sites on the Point *including the pump station site, 44FV0022*. During a weekend of hurried recovery prior to the completion of construction, Dr. Mouer observed human remains, rare artifacts like turtle shell bowls, and a dense artifact concentration that led him to comment, "There was no place we could walk without the tell-tale signs that one or more substantial village sites had been partially destroyed."<sup>8</sup>

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<sup>7</sup> See Gerard Fowkes, *Archaeological Investigations in James and Potomac Valleys*, Government Printing Office, Washington D.C (1894).

<sup>8</sup> See Daniel Mouer, *A Review of the Archaeology and Ethnohistory of the Monacan Indians* (1983). In *Piedmont Archaeology: Recent Research and Results*, edited by J. Mark Wittkofski and Lyle E. Browning, pp. 21-39. Special Publication No. 10 of the Archaeological Society of Virginia.; See also Mouer, *Archaeology at Point of Fork, Fluvanna County, Virginia*, Fluvanna County Historical Society Special Bulletin (1985).

The Council of Virginia Archaeologists in their written comments to the Corps from September 2019 expressed “great concern from Virginia’s professional archaeological community over the proposed JRWA project and its impact to sites of immense significance. These sites, which are part of the sprawling Village of Rassawek, the pre-Colonial Monacan political capital, are exceedingly important due to their exceptional level of preservation, high potential for the presence of burials, and the fact that they are included in the earliest European documentation of the region. We support the Monacan Nation and recognize how valued these places are for the tribe whose ancestral community was centered on this powerful chiefly village.”

It is a testament to how special this place is that one could perform tests as purposefully incompetently as Circa did and still find nine National Register eligible sites in an area only a few acres in size, many of them associated with intense native occupation and activity at the site over thousands of years. Rassawek, and the archaeological region of Point of Fork generally, has considerable potential to provide information of great significance to the region, to the U.S., and to the Monacan Indian Nation. The sensitivity of each of the eligible sites – which include deeply stratified deposits containing fairly unusual feature types for the Virginia Archaic such as postmolds (evidence of historic structures, including buried posts and other structural supports) and burned floors – must be understood as sites that Virginia archaeologists have only rarely been able to excavate, particularly in this region of the state.

If unqualified, untrained, and unsupervised workers found this amount of resources at Rassawek, just imagine what they destroyed and/or could have documented.

### **No Circumstances Justify Excusing This Abuse of Section 106**

Section 110(k) is not mealy-mouthed about its instructions. It makes clear that the agency “*will not*” grant a permit when the applicant has acted intentionally to avoid Section 106’s requirements and harmed a site.

For the Corps to decide otherwise, it must consult with the Advisory Council on Historic Preservation and determine that, notwithstanding the applicant’s intentionally destructive actions, JRWA should be awarded a permit anyway.<sup>9</sup> What evidence does the Corps have that JRWA’s actions warrant such an exception? None. JRWA has shown no evidence that its actual intent was to help the Corps fulfill its Section 106 obligations under federal law, either by doing legitimate study of the site, or by meaningfully exploring alternative sites for its project, or by earnestly and honestly engaging with interested Native American tribes. Consider that:

- As demonstrated in Exhibit B,<sup>10</sup> JRWA has long embraced the counsel of its engineering consulting firm, Timmons, who advised that gamesmanship with the permitting of this project would allow them to construct the water pump station while destroying highly significant historic properties.
- Circa’s own staff and former collaborators, as indicated by Mr. Mai’s brave disclosures and the complaints lodged with VDHR by Mr. Dan Hayes, former geoarchaeologist for the

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<sup>9</sup> 54 U.S.C. § 306113; *see also* 36 C.F.R. § 800.9(c).

<sup>10</sup> Memorandum from Timmons to JRWA (Dec. 16, 2015) (disclosed in response to FOIA request).

project, are deeply concerned about the quality and intentions of the work performed so far at the site.

- JRWA persists in defending Tyrer and insists she will remain on their project team, despite the overwhelming evidence that has come to light that her investigations at Point of Fork were purposefully inappropriate and deceptive. For nearly a year the Monacan Indian Nation has, in good faith, tried to convey to JRWA through its counsel that the evidence was strong and growing that Circa was endangering the site and, by implication, their project, only to be ignored. JRWA has also ignored clear evidence of plagiarism, calling pages copied from Dr. Jessica Herlich's dissertation without attribution "inadvertent misattribution." JRWA downplayed Tyrer's violations of the anticipatory burial permit and VDHR's findings that Tyrer falsified her resume, and instead insinuated that VDHR staff who discovered her lies acted inappropriately.
- In short, continued attempts by JRWA to suggest that the project is not affecting major Monacan archaeological sites are deeply disingenuous and illustrate the continuing lack of seriousness with which the project proponent approaches these resources.
- Even now, JRWA has served VDHR with a notice of appeal, attached as Exhibit C, in which JRWA states its intention to appeal VDHR's determination that Tyrer does not meet the Secretary of the Interior's Professional Qualification Standards and that her work should have to be reviewed by a qualified professional.
- Incredibly, notwithstanding all available evidence, JRWA also disputes that the site at Point of Fork is the location of the historic Monacan capital at Rassawek, and shockingly disputes that project will "directly affect" the Monacan Indian Nation at all, even as it pursues a burial permit to excavate Monacan ancestors.<sup>11</sup> The Nation is left speechless at this clear evidence of bad faith dealings.

At every stage of this process, this permit applicant has communicated through words and actions that they are not interested in supporting the Corps' compliance with the NHPA. Indeed, this permit applicant engaged a consultant to anticipatorily harm a cultural site to minimize or destroy evidence of the site's relevance to thwart the Section 106 process.

**Even if The Corps Ignores All of These Circumstances and Still Considers JRWA Eligible to Seek a Permit for Its Pump Station, The Corps May No Longer Permit Construction at This Location**

The Phase I and II testing performed by Circa at Point of Fork produced "results" that are wholly unreliable, as indicated by Mr. Mai's declaration. The testing impacted many aspects of the site, including with heavy machinery, for naught. JRWA's only path now is to attempt to persuade the Corps to ignore Section 110(k) and allow JRWA to start all over again with testing. It would be highly inappropriate to reward this egregious abuse of the process by granting JRWA a second bite at the apple, even if they subsequently hire a competent archaeologist who agrees to do appropriate investigation. VDHR guidance clearly states, "Testing that destroys large portions of a site prevents the consideration of other site treatment alternatives and shall be avoided at the

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<sup>11</sup> Exhibit C.

Phase II level. In the context of the 106 process, excessive testing at the Phase II level may result in a finding of Adverse Effect and sanctions to the responsible agency.”<sup>12</sup>

Should the Corps seek to permit second round Phase I and Phase II testing at the current location on Point of Fork, the Monacan Indian Nation will have no choice to but to seek interventions by the courts and sanctions of the Corps.

Thus, JRWA has put the Corps in the position of being forced to deny the permit: the Corps cannot rely on the deeply flawed Phase I and II investigations to make decisions in compliance with Section 106, and the Corps cannot require new Phase I and II investigations because doing so would itself adversely affect the site. Congress enacted Section 110(k) in response to just these types of situations.

## Conclusion

In conclusion, by means of this letter, the Corps is on notice that the provisions of Section 110(k) have been triggered. To comply with Section 110(k), the Corps must now do the following:

- (1) The Corps must formally notify the Advisory Council on Historic Preservation that anticipatory demolition has occurred, and “provide documentation specifying the circumstances under which the adverse effects to the historic property occurred,” 36 C.F.R. § 800.9(c)(2);
- (2) The Corps must seek the views of the State Historic Preservation Officer, the Tribes, and “other parties known to be interested in the undertaking,” *id.*; and
- (3) In consultation with the ACHP and the Tribes, determine whether special circumstances may justify granting the permits, notwithstanding the applicant’s destruction of cultural resources. *Id.*

The Monacan Indian Nation looks forward to consulting with the Corps as your agency complies with each stage of the process.

Sincerely,



Marion Werkheiser  
Attorney at Law  
Counsel for the Monacan Indian Nation

Cc: John Eddins, Program Analyst, Advisory Council on Historic Preservation  
Julie Langan, Director, Virginia Department of Historic Resources

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<sup>12</sup> VDHR 2017 at 51.

Anticipatory Demolition

Oct. 21, 2019

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Edward J. Passarelli, Deputy Chief, Natural Resources Section, ENRD, US Department  
of Justice

Tom Walker, Chief, Regulatory Branch, US Army Corps of Engineers, Norfolk District



EXHIBIT A:  
SWORN DECLARATION OF ERIC MAI

## **DECLARATION OF ERIC MAI**

**Commonwealth of Virginia  
City of Richmond**

**Eric Mai declares and certifies:**

### **Professional Background**

1. My name is Eric Mai. I am 33 years old. I reside in Richmond, Virginia.
2. I am a full-time graduate student in the Virginia Commonwealth University Master's program in Urban and Regional Studies and Planning. I earned a Master of Archaeology and Heritage degree from the University of Leicester in 2017, a Graduate Certificate in Geographic Information Systems from Virginia Commonwealth University in 2018, a Bachelor of the Arts degree in Art History from Christopher Newport University in 2011, and attended an archaeological field school at Tel Dor, Israel with Haifa University in 2011.
3. I was employed by Circa~ Cultural Resource Management LLC ("Circa") for over six years from January 2012 to May 2018 as a full-time hourly worker in the position of archaeological field technician. Circa is a cultural resource management ("CRM") firm which performs archaeological and architectural history investigations to comply with federal, state, and local regulations regarding historic preservation. During my employment I had daily exposure to the work practices of Circa and its President, Carol Tyrer.
4. For nine months between May 2017 through January 2018, I was assigned by Tyrer to conduct archaeological survey and testing in advance of the James River Water Authority's ("JRWA") proposed construction project at Point of Fork in Fluvanna County, Virginia. Circa and the JRWA rely on this survey and testing in a proposed Treatment Plan that would guide treatment of the cultural resources at the site should the project proceed.
5. I resigned my position at Circa in May 2018, motivated by my deep concerns about Circa's practices arising from my experiences excavating at Point of Fork and my cumulative experiences during my employment.
6. At no point during my employment did Circa state any concerns to me about the quality of my work nor were any disciplinary actions taken against me.

### **Purpose**

7. I am coming forward because I believe it is the right thing to do. I have prepared this declaration of my own volition, without pressure by or compensation from any party.
8. I offer these facts based on my reasonable, genuine, and good faith belief in their truth. To the extent that I offer limited opinions, I also do so in good faith based on my observations and experience.
9. My intent is to report an urgent concern about what I believe to be illegal, unethical, unprofessional, and unscientific practices by Circa in its work generally and at Point of Fork specifically. These practices include lying to government officials, instructing employees to lie to government officials, assigning unqualified and untrained personnel to perform sensitive investigations, failing to supervise unqualified personnel, misrepresenting professional and academic qualifications in official filings, falsifying research data, failing to use appropriate technology to obtain reliable data and then massaging the data to look scientific, plagiarizing the work of unaffiliated professionals, minimizing archaeological discoveries, and handling cultural resources inappropriately in the field and in the laboratory.
10. I sincerely regret that I did not come forward sooner. My job at Circa was my first professional employment in CRM. It was not until I pursued advanced education in the field and gained exposure to the work of other CRM firms that I began to understand that the way things are done at Circa is not, as we were told by Tyrer, acceptable or common practice in the CRM field. I did not fully and timely appreciate how harmful the methods Circa employs are to the public interest.
11. I understand that other former Circa employees have resigned for similar reasons.

### **Background of Archaeological Investigations on Point of Fork**

12. The archaeological investigation conducted by Circa at Point of Fork is flawed, inadequate, and unreliable, the reports of the investigation are misleading and inaccurate, and the proposed treatment plan based on those reports is inappropriate and unsupported. On this basis I conclude that the continued participation of Tyrer in the JRWA project will negatively impact the quality of the proposed treatment of sensitive cultural resources.
13. In 2017 and 2018, as an employee of Circa, I was part of a crew assigned to conduct archaeological investigations in the area proposed by the JRWA for the construction of a water pump station. The investigation was intended to assess the eligibility of known cultural resources for listing in the National Register of Historic Places and to identify unrecorded cultural resources including archaeological sites. Should the JRWA's proposed water pump station be constructed at this specific site, it would require significant disruption of the earth, which could contain significant archaeological evidence and cultural resources including artifacts and human remains. The purpose of the Circa investigation was to determine, preliminarily, what might be on or in the earth, what might be its cultural importance to the public and to interested parties (like affiliated Native American tribes), and to recommend a plan of treatment.
14. Circa was engaged to conduct this work by the Timmons Group ("Timmons"), an engineering consulting firm headquartered in Richmond, Virginia. JRWA had engaged Timmons as their project lead for the proposed pump station. Circa has also performed CRM work as a subcontractor to Timmons for other Timmons clients.
15. Part of our crew's charge was to search for unrecorded sites by excavating archaeological shovel test pits in a grid of regular survey lines called transects. We also were to conduct deeper testing in the lower floodplain areas with the assistance of a geoarchaeological subconsultant. Deep testing involves using heavy machinery to dig a trench to record soil stratigraphy (color and texture changes) indicative of different periods of human activity on the site and archaeological features indicative of human occupation and use.
16. I was present on site from the commencement to the end of initial testing. I was present for most shovel testing. I was present for all deep trench testing that was conducted at the proposed pump station and was instructed to excavate most of the archaeological features that we found in the trenches.

### **The Primary Crew Was Untrained, Unqualified, Unprepared, and Unsupervised**

17. Prior the start of our work, Tyrer provided the field crew little background information on Point of Fork. We were not provided materials related to the prior documentation of Point of Fork as the historical chief city of the Monacan Indian Nation. We were not provided the map showing the location of Rassawek at this location prepared by Captain John Smith, nor any information related to the subsequent documentation by archaeologists associated with the Commonwealth of Virginia or the Smithsonian. Tyrer did say that human burials had previously been uncovered and documented on the site and suggested the site might be of great importance to Native Americans but provided no additional details.
18. Of the initial crew on the project, I was the only person with a master's degree and a BA in archaeology or a related field. The other two crew members do not have college degrees or any formal training investigating Native American sites; both were hired as a result of family friendships with Tyrer. They have both also since resigned from Circa.
19. Tyrer has expressed to me and colleagues that she avoids hiring people with master's degrees because they ask for too much money. Based upon my observations, she also prefers to hire young, inexperienced people as field technicians because they will not question her requests or approaches.
20. Notwithstanding my degrees, I have never taken a university course on Native American history or archaeology. I had no prior experience excavating Native American archaeological features in trenches when I was directed to work at Point of Fork. Tyrer did not train us how best to excavate such features prior to assigning us this work.
21. Tyrer did not accompany us to the site. She handed us a map with markings indicating where we should conduct shovel test pits and instructed us to drive to the site and begin work. We rarely saw her on site for the first five months of our work on site. During my employment, she almost never accompanied her crews into the field.



### **The Crew Lacked Appropriate Technology, Training, and Guidance to Conduct Accurate Surveys**

22. In Tyrer's description of Circa on her LinkedIn page she asserts, "In addition to staff skills and experience, the firm is also equipped with specialized computer support services including mapping software. Our use of technology enables the firm to report results and exchange data in a cost efficient, accurate, and timely manner." This was certainly not true while I was employed by Circa to perform excavations at Point of Fork.
23. During my entire tenure at Circa, we did not employ technologies to ensure accurate documenting of the locations of archaeological resources, such as GPS, total station, or transit, even though these technologies have been available in the CRM field for at least the last 15 years. I made repeated requests to Tyrer for a Trimble GPS, for transit use at Phase II and Phase III excavations, and iPad technology so that Circa's work could be more accurate, efficient, and higher quality. She turned down my requests citing costs. Instead, crew members used basic compasses to attempt to map the transects along which we dug shovel test pits. Circa did not train crew members to properly use compasses; we did our best to figure it out for ourselves. Circa owned a GPS but used it to record metal detector responses, not to verify shovel test pit transects. Consequently, many times on projects, including on the JRWA project, our shovel test pit survey transects were inaccurate.
24. I lobbied Tyrer for several years to adopt current mapping technology. She acquired mapping software just before I resigned and after completion of the JRWA project work. Instead, Tyrer commonly provided maps with hand-drawn locations of the shovel test pits crews were to conduct. She did this on the JRWA project; the initial transects located at the pump station were hand-drawn. After beginning shovel testing based on our guess of project boundaries, our hand drawn transects were submitted to Timmons to create a map with intended shovel test pits. The maps created by Timmons were not based on a scientifically accurate location of shovel test pits.
25. Because of this mapping deficit, there were several times on the JRWA project when we conducted shovel test pits in the wrong location, well outside of the project area targeted for construction. I believe it very likely that listed locations in the archaeology reports of shovel test pits on the site are inaccurate and the quality and usefulness of those shovel test pits is poor. I believe the site boundary delineation may be influenced by insufficiencies in the shovel test pit survey.
26. Further, according to Virginia guidelines, shovel test pits should be excavated down to culturally sterile soil (soil showing no evidence of human habitation, frequently found *below* layers of human habitation). Tyrer neglected to tell us that we were digging on several areas in a flood plain, so we almost certainly mistook flood deposits as sterile soil and stopped digging before getting to archaeological evidence. That is, most of our test pits were too shallow to have revealed site features which, if present, would be destroyed when future construction disturbs the ground more deeply than our test pits. Later deep trench testing revealed that many areas of the site contained what is known as a Buried A Horizon, an early living surface buried under a subsequent flood event.
27. Virginia Department of Historic Resource ("VDHR") guidelines require the use of Munsell Soil Color Charts when evaluating a site. A Munsell book contains soil color swatches and descriptions that crew members use to differentiate site stratigraphy over large areas. Site stratigraphy is important to identifying the location, size, and boundaries of areas of occupation. Tyrer possessed a single long-outdated Munsell book which was often unavailable during field projects because it was in use on other projects. While an updated Munsell book was purchased in the latter half of 2017, it was not consistently used at the Point of Forks site. We were not properly trained to use the Munsell book and were not allotted time in the field to conduct Munsell assessments.
28. Tyrer did not invite me to review or verify the maps of purported test areas created by Timmons for the Point of Fork site or to review for accuracy the report drawing conclusions from these tests. Tyrer also did not, in my experience, discuss her conclusions regarding a site's sensitivity or eligibility with the field crew who surveyed or tested it, and field crew were almost never given the opportunity to review drafts of field reports before they were submitted to clients and agencies.
29. I have read correspondence sent to the VDHR by the geoarchaeological subconsultant hired by Tyrer to assist on the site. He stated various objections because Tyrer credited him with co-authorship of the Treatment Plan, and he similarly was never provided the opportunity to review the draft Treatment Plan in advance and object to its conclusions.



### **Tyrer Lied to State Officials and Demanded That Her Staff Do So**

30. Early in the JRWA project, Tyrer provided the crew with a burial permit issued by VDHR, which required her to be on site and supervising the crew's work. The purpose of the requirement is to ensure that burials, if encountered, are recognized as such and that timely and proper protocols are followed for addressing such discoveries. Tyrer was aware that burials were previously documented on the site.
31. Tyrer did not travel to Point of Fork and was largely absent from the site for the first five months of our work. Her absence was consistent with my experience as a crew member on several previous Circa projects that excavated human remains. Tyrer did not remain on site for any of those excavations.
32. On October 12, 2017, Greg LaBudde, a professional with VDHR, visited the site while our crew was working. He asked who was supervising, for which we had no immediate answer since Tyrer's practice was not to designate a field supervisor, even in her absence. When a crew member informed Tyrer of LaBudde's visit, Tyrer was said to have become concerned and bothered. She demanded that a member of the crew inform LaBudde that Tyrer was typically at the site and that she had just left the site temporarily that day. I understood this to mean that Tyrer was asking the entire crew to lie on her behalf.
33. LaBudde returned to the site the following day, October 13, 2017, and Tyrer was again absent. A crew member, following Tyrer's directive, told LaBudde that Tyrer had only temporarily left the site but that she was supervising our work closely—both false statements. The crew member to whom Tyrer spoke by phone that day—one of her longest serving employees—later resigned, explaining to me that her asking him to lie was a major reason for that decision.
34. After LaBudde's second visit, Circa staff learned that Tyrer had received a letter of complaint from VDHR because the project was not complying with the requirement of the burial permit that Tyrer directly supervise work on the site.
35. Soon thereafter, Joe Hines, project lead for Timmons, came to the site and asked me about my professional and academic credentials. Tyrer then instructed me to send her my resume. Tyrer suggested that she might forward my resume to VDHR as "part of modifications to the burial permit." I was concerned about her motivations for the request, because I believed Tyrer had been dishonest previously when communicating with clients and agencies on prior projects. I sent her a copy of my resume in PDF format as that format is harder to manipulate.
36. About two years later, in July 2019, I received a copy of my resume that Tyrer submitted to VDHR. It is substantially modified, and grossly mischaracterizes and exaggerates my experience with prehistoric sites. I have not surveyed and analyzed Native American sites of all periods, as the resume states. My expertise is not in Native American archaeology as the resume states; my master's thesis focused on enslavement of African Americans on Virginia plantations in the antebellum period. While I earned a Master in Archaeology and Heritage degree, I never took a university course on Native American history or archaeology. Further, the submitted resume identifies me as a Field Supervisor, but I was never promoted to or paid as a Field Supervisor during my time at Circa. I was never given the responsibilities of site supervision at Point of Fork or on other projects consistent with that position. I believe Tyrer intentionally mischaracterized my career and expertise to create the appearance of the presence of a highly qualified on-site crew member to lessen the implications of her failure to supervise or guide her employees in this important investigation.
37. In October 2019, I had the opportunity to review a letter from Tyrer to VDHR dated October 20, 2017 in which she insinuates that LaBudde's surprise site visits were inappropriate and that he was hostile or intimidating to our crew. LaBudde was, in fact, very professional. Tyrer's letter, like the unauthorized reworking of my resume, exaggerates my credentials. For example, she states: "Please note that Mr. Mai has performed surveys and analyzed Native American sites of all periods, including Paleoindian to Late Woodland." While I have worked on field crews on several Native American sites, I do not possess enough knowledge to differentiate between Native American site periods and have not investigated all periods, as Tyrer is fully aware.
38. After the VDHR letter of complaint, Tyrer was present more frequently on site, though she typically sat in her vehicle completing reports for other projects. Tyrer did not directly supervise the work we were doing. While I personally excavated most of the Native American cultural features at the proposed pump station, for which I did not possess expert knowledge, Tyrer did not observe my excavations nor did she have direct contact with any Native American cultural feature. The conclusions that she made in the archaeological report are based on the notes that I took on these cultural features, which may be insufficient due to my inexperience in excavating Native American cultural features.
39. After the VDHR letter of complaint, Tyrer replaced two crew members at the Point of Forks site who both lacked academic credentials with two new field crew members who possessed at least a BA in anthropology or a related field. Neither new member had worked for Circa previously. Before long they were reassigned to other sites. One resigned after a short period, stating to other crew members that she was uncomfortable with Circa's methods.



40. I have read the public reporting beginning in September 2019 that VDHR, after an investigation, determined that Tyrer had falsified her academic credentials and qualifications on her CV, which was used to help JRWA secure an anticipatory burial permit for Point of Fork and possibly numerous prior project contracts. Specifically, I have read that she claimed to have two master's degrees, including one in archaeology, but, that VDHR discovered that she has only one master's degree which is not in archaeology, anthropology, or a related field, on which basis VDHR concluded that Tyrer is not qualified under the U.S. Secretary of Interior's standards to lead the work she conducted at Point of Fork.
41. Tyrer was consistently vague when discussing her academic degrees in my presence during my employment. She never referred to having taken any specific archaeology or anthropology courses. She never referred to specific faculty from whom she has learned in her claimed master's in archaeology program. She did state that she was enrolled in a degree program that was ending due to some issues at the educational institution, but that they were going to allow her to complete her degree.

#### **Tyrer Enlisted Untrained Construction Workers to Conduct Archaeological Investigation on Portions of the Site Targeted for Construction**

42. During shovel testing on the entire portion of the site where JRWA plans the most ground disturbance—surrounding the proposed water pump station location itself—Tyrer enlisted unoccupied construction workers from Faulconer Construction (vendors to JRWA engineering consultant, Timmons) to perform sensitive archaeological investigations.
43. These workers had never excavated or tested an archaeological site of any kind. They had no educational background or training in archaeology.
44. It is my understanding that Circa did not pay these workers – they were paid by Faulconer Construction.
45. Faulconer Construction workers dug shovel test pits and screened the soil for artifacts, although they told me they had no idea what they were looking for. I was concerned that they would not accurately recognize soil changes and that stratigraphy in the shovel test pits they recorded would be inaccurate.
46. I observed Faulconer Construction workers using inappropriate and destructive equipment, such as a post-hole digging bar, to excavate shovel test pits. Such a tool is heavy and would have a greater chance of damaging artifacts and features before they could be revealed and recovered.
47. I attempted to reduce the harms of using unskilled and untrained persons to conduct sensitive tests by urging them to use proper equipment and trying my best to monitor their work while also doing my own tests. But I was regularly directed by Tyrer to excavate archaeological features in the deeper testing trenches away from this critical area; therefore, there were many times when these construction crew were excavating or screening with no supervision whatsoever.
48. In summary, to the area of greatest proposed disturbance by JRWA, Tyrer sent the least qualified and supervised people to conduct testing.

#### **Archaeological Sensitivity at Point of Fork**

49. I have read recent public statements by legal counsel for JRWA that Point of Fork is likely not the location of Rassawek, the Monacan Indian Nation's capital city, and that there is low likelihood of burials at the site. I am not familiar with any scientific evidence or data that would make such assertions reasonable, especially considering the voluminous documentary evidence that places Rassawek on Point of Fork, and the uncovering by a storm of numerous human burials at the site in a prior decade.
50. While my knowledge of Native American archaeology is limited, based on my personal experience with excavations at Point of Fork, the area where the pump station is proposed represents a significant Native American occupation. Tyrer herself stated at the beginning of the project that the proposed construction was on a major site with likely burials, but, as detailed above, left us in the dark as to what we might find and without time or resources to do the background research ourselves.
51. In almost every deep trench we dug at Point of Fork we found archaeological features indicative of significant human habitation (shelter floors and supports, hearths), culture (decorative pottery, including with crenulations), and industry (stone tool construction).
52. While, as I have stated, I am not an expert on Native American sites, I believe the number and types of artifacts and features uncovered were unusual in their archaeological richness. The archaeological remains we found during testing, for example soapstone bowl fragments, were among the most impressive I saw during my more than six years with Circa, and the sites continued to be on my mind after I left Circa.

53. Based on the type and number of features we found during testing, I believe there are numerous features that would be identified by a full-scale data recovery on the site, and at many different depths across the site. I do not believe that machine stripping as contemplated by the Treatment Plan would effectively identify these features because many of them were not visible in our trenches until machine stripping had already removed significant portions of these features. Fine variations in soil color and texture were often difficult to determine at the pace and scale of machine excavation, and it was not until artifacts were seen and sometimes damaged that features could be discerned.
54. Even if the Army Corps of Engineers somehow determines that excavating this site in advance of its destruction is appropriate, a full and scientific excavation would require far more work, and far more careful and costly work, than is proffered in the proposed Treatment Plan.

**Circa's Site Report and Treatment Plan Are Inaccurate, Misleading, Unreliable, and Contain Plagiarism**

55. After resigning from Circa, I obtained and reviewed a copy of Circa's Phase I/II archaeology report and their proposed site Treatment Plan.
56. Phase I/II report is not a full and accurate assessment of what we found during survey and testing. For example, even with the flawed survey methodology and flawed mapping accuracy and the use of untrained and unsupervised workers, the crew nonetheless found significant evidence of Native American occupation at the JRWA site, including in areas that are downplayed or not acknowledged in the report. For example, we found concentrations of fire-cracked rock (evidence of cooking, as in hearths), debitage (evidence of stone tool production), and other cultural material during shovel survey (and laying on the surface of the ground) by the power line easement near the top of the upper floodplain area. I do not believe the Circa report accurately characterizes the site's cultural richness in this area.
57. The methodology used to analyze the artifacts we found is also misstated. For example, the careful methods used to investigate artifacts in the laboratory Tyrer claims to have followed were not, in fact, used. All artifacts sent to the lab were treated the same, regardless of type, importance, or condition. This approach was consistent with Circa's approach on prior projects. One of my colleagues on the JRWA project crew also served as Circa's lab manager. He was responsible for all artifact processing. However, he does not have training in handling artifacts. He does not have any educational background that would have prepared him for those responsibilities. He has now resigned from Circa.
58. Circa's proposed Treatment Plan (their proposal for how they plan to mitigate the damage to the sites if the plans to build on the site are authorized) also contains promises for quality of care of treatment that is contradicted by Circa's prior practice and capacity. For example, the plan promises that screening will be done using 1/8<sup>th</sup> inch mesh, which would be preferred at such a sensitive and important site. Screening methods that use smaller mesh screens tend to result in greater quantities of artifacts collected and greater quantities create increased opportunities for rare or underrepresented artifacts to be collected. But I cannot recall Circa ever using such tight screens on a site, no matter how important or sensitive the site.
59. The large trenches proposed in Circa's Treatment Plan will require substantial set-backs due to the depth of the excavations. The plan does not make clear how and whether these set backs will be mitigated.
60. The plan promises extensive monitoring. Based on my experience working with Circa, particularly at Point of Forks, Tyrer herself almost never shows up to monitor work. Also, Circa has lost many of its more experienced staff over the last year. As a result, it is unlikely that Tyrer will have available Circa staff with monitoring experience.
61. In summer 2019, it became publicly known that an important and lengthy section of Tyrer's proposed Treatment Plan for the Point of Fork site was plagiarized from the dissertation of a former graduate student unaffiliated with the project or Circa. I was not at Circa when the Treatment Plan was written. However, during my employment at Circa only Tyrer or the architectural historian on staff authored such documents.



**Circa's Approach to Point of Fork Was the Rule, Not the Exception: Pervasive Inadequacies of Methodology, Ethics, and Expertise**

62. After having spent more than six years at Circa at the start of what I hoped would be a long career in CRM, the ethical and professional lapses in Circa's work that I observed were pervasive. Circa's problematic work at Point of Fork was consistent with Tyrer's approach on most sites.
63. Direct staff training was virtually nonexistent at Circa. Tyrer never instructed me on how to properly excavate test units or features, how to assess soil typology, or how to correctly fill out test unit or shovel test pit forms that created the written record for the archaeological investigations we conducted.
64. Because the position at Circa was my first experience in American archaeology and in CRM, I initially learned most of my archaeological approaches from the more senior field staff at Circa, who had no formal archaeological schooling and little archaeological training outside of Tyrer's instruction or that of previous Circa staff.
65. Circa's information recording and collection was spotty, at best, and outright fabricated at worst. On multiple occasions, staff were instructed to create documentation after-the-fact, and even to create paperwork for shovel test pits that had not been dug or to invent data about shovel test pits that were not gathered.
66. For example, during Circa's survey in Nokesville, Virginia of a project reviewed by the Virginia Department of Environmental Quality ("VDEQ"), Tyrer directed staff to excavate every 100 feet instead of every 50 feet as required by the VDHR archaeological survey guidelines. Tyrer directed Circa staff to falsify these shovel test pits by creating non-existent shovel test pit records so that it would appear that all areas were surveyed every 50 feet. Also, when VDEQ reviewed Circa's work at Nokesville and found no Munsell soil color descriptions on the shovel test pits forms, Tyrer directed Circa staff to guess at Munsell values and add them to test pit paperwork in the lab.
67. There was nervousness among the young staff around these regular directions to falsify records. On one occasion, a staff member joked about rubbing dirt on the forms so they would appear to have been used in the field.
68. I understand that a former Circa employee possesses one or more voice recordings of Tyrer discussing falsifying shovel test pit forms.
69. As happened at Point of Fork, Tyrer typically does not visit archaeological sites during fieldwork to supervise or guide the methodology or approach of Circa staff. Tyrer works from home or at the office and writes the reports, frequently without visiting the places about which the reports are written.
70. Tyrer frequently changes the people assigned to crews from week to week, sending out crews of people who have no prior knowledge of the site or the situation in the field. This frequent turnover has caused crew to survey incorrect locations and generated other methodological issues.
71. Sometimes Tyrer will pause fieldwork at a site mid-survey and move the crew to another site for months at a time, without taking precautions to protect the first site during the delays. When the crew returns to these abandoned sites, they must address deteriorated conditions from exposure to bad weather. In some cases, these delays damaged cultural resources present at the original site.
72. I have read the public statements made by the JRWA's legal counsel that Tyrer *must* have been qualified to lead the Point of Fork work—notwithstanding her falsified resume—because Tyrer had performed so many prior investigations in Virginia. From my own observations I can attest that one doesn't become qualified to do quality work by repeatedly getting away with doing poor work. When I suggested more efficient and scientifically accurate ways of completing work, Tyrer responded to me that the way she conducted work was the way it has always been done. I and other crew members often suggested ways in which to do the work in a way that we felt was more accurate; however, Tyrer always rejected our suggestions in favor of her established methods.

**Circa's Priorities Are Project Speed and Money, Not Quality or Discovery**

73. My experience leads me to conclude that the priorities at Circa are money and speed in assistance of developer timelines over the quality of the work or value of discoveries.
74. Circa would take on multiple projects simultaneously without enough staff to complete the work, or where the budget submitted was inadequate relative to the work required once an investigation began.
75. As just one example, for work in advance of a housing development in Mechanicsville, Virginia, I went into some trees on the site and found a historic house foundation, chimney, and associated archaeological site. The house was on historic maps, but



Tyrer had not been aware of it before our field visit. The recording of the site was then rushed because Circa had not anticipated or apparently budgeted money or time to document a significant site.

76. Circa also prematurely ended archaeological testing required as part of the construction of the Redskins training camp in Richmond on Broad Street. The project area contained a site that had been a Civil War encampment and later became a freedman's community. We found features that several staff members considered likely to have been part of Civil War fortifications. I was present for all excavations at this site, as well as the machine monitoring. I believe that the archaeological investigations undertaken were rushed and features ignored.
77. Based on the Circa projects with which I have direct experience, I believe there are many more examples where state archaeological guidelines and proposal commitments were not followed as required by the terms of the contracts received by Circa.
78. Salary at Circa was not high enough to attract or retain trained archaeologists. For example, I was paid \$10.50 per hour at the start of my employment in 2012 and approximately \$16.50 per hour when I left in 2018, having obtained a master's degree and a graduate certificate in the interim. My colleagues and I were all hourly employees entitled to overtime for work over 40 hours per week. However, Tyrer required us to falsify our hours reports by moving excess hours onto other weeks to avoid Circa paying overtime.
79. Circa has conducted several projects for Timmons. A Circa colleague shared with me that Timmons had expressed interest in acquiring Circa.

I declare under penalty of perjury that the foregoing is true and correct.

Eric V. Mai  
Signature of Declarant

ERIC V. MAI  
Name of Declarant

Subscribed and sworn to before me this 16<sup>th</sup> day of OCTOBER 2019.

# VIRGINIA NOTARY ACKNOWLEDGMENT

Commonwealth of Virginia

City of Richmond

The foregoing instrument was acknowledged before me this 16th day of October, 2019, by Eric Mai (name of person acknowledged).

Susan Wager Williams 10/16/2019

Signature of Notarial Officer

Notary Registration Number: 4138154

My Commission Expires: March 31, 2023

(Seal)

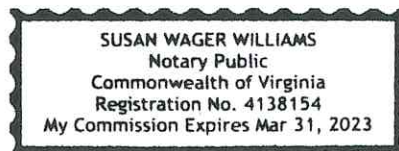


EXHIBIT B:  
MEMORANDUM FROM TIMMONS TO JRWA, DECEMBER 16, 2015

## **ALTERNATE INTAKE AND PUMP STATION SITE**

### **PRELIMINARY Evaluation of the Potential Cost and Schedule Implications**

Prepared by Timmons Group - Dec 16, 2015

Below is a PRELIMINARY evaluation of the potential cost and schedule implications to relocating the JRWA intake further upstream as proposed by Fluvanna County. Please note this is a limited review based upon a limited timeline.

#### **Specific Due Diligence to evaluate the Fluvanna proposed intake:**

Below is an approximate schedule to perform the additional due diligence to evaluate the feasibility of the proposed Fluvanna site:

1. Bathymetric & Topographic Survey: 4-6 weeks from Notice to Proceed (NTP). We need to establish survey control on the river bank in order to perform the bathymetric survey and river conditions need to be optimal to complete the work.
2. Geotechnical Investigation: 4-6 weeks from NTP
3. Wetlands Delineation & COE Confirmation: 2-3 months (dependent upon COE schedule to confirm wetlands)
4. Preliminary Engineering & Construction Cost Pricing: 4-6 weeks following receipt of bathymetric survey, wetlands & geotechnical information
5. *Total timeline for evaluation of the site: 3-4 months from NTP. Assuming NTP early Jan, then this would be completed in Mar/Apr 2016.*
6. *Recommended budget: \$100,000 to \$120,000 based upon previous work.*

#### **COE Permit Risks**

Currently the proposed pump station and intake have less than 0.1 acres of PERMANENT wetland impacts (0.09 acres permanent impacts as proposed). This is critical because it allows the COE to utilize a Nationwide Permit, which would be an administrative permit and require little or no public involvement other than public notifications. If we were to impact any additional wetlands with the new PS site, or have to increase the impacts in the river due to the underwater topography (i.e., push the intake further out into the river), it could force the permanent impacts to exceed 0.1 acres. This would most likely put this into an "individual permit" category which would require extensive public involvement such as public hearings.

### **Additional Pipeline Costs:**

We evaluated 3 potential pipeline routes (graphic will be forthcoming). Following are the order of magnitude additional costs just for the pipeline:

Alternate	Length of Add'l Pipeline	Order of Magnitude Probable Add'l Costs	Add'l Property Owners to Cross	Comments*
1	10,000	\$3.5 million	3	Along CSX ROW on adjacent properties to Colonial Gas
2	16,300	\$5.4 million	12	Along Bremo / Point of Fork Road to Colonial Gas
3	15,900	\$6.3 million	14	Along Bremo / Rte 6 to Colonial Gas

\* Please note - construction cost along an existing road is further increased due to traffic maintenance and safety issues.

### **Pump Station Impacts:**

Based upon a preliminary review of the pipeline routes, it appears that the pumps will need to be increased from 350 HP to 400 HP due to extra length of pipeline. This will increase electrical equipment and generator costs, etc. Order of magnitude increase could range from \$1 to \$1.5 million to include redesign and additional construction costs (we would need to study further to determine exact numbers).

### **DEQ Permitting Implications – Major Modification to the Permit:**

- Based upon initial conversations with DEQ, moving the intake to this location (approximately 2.2 miles upstream) would represent change in hydrologic characteristics for the intake location.
- As such, this will require another Major Modification for the permit (what JRWA just went through to relocate the recently issued permit).
- Moving the intake upstream about 250' to the Hammond Property would be considered a Minor Modification, which would be administrative in nature and require no additional public involvement, just a simple issuance of a letter by DEQ noting the change.
- Scott Kudlas (who signed the permit) noted that moving it to the adjacent property approximately 250' upstream was “a slam dunk” for DEQ to approve with little or no issue.
- However, moving it a significant distance upstream (such that it changes the hydrologic characteristics of the intake location) would give DEQ some heartburn because both DEQ and JRWA would essentially be starting from square one again.
- Furthermore, this opens the permit back up to public comment / scrutiny once again and would the City of Richmond and Henrico another opportunity to scrutinize the permit.
- A Major Modification would require the JRWA to submit another \$25,000 fee to DEQ for review of the application.

- *A Minor Modification would require the JRWA to submit a \$5,000 fee to DEQ for review of the application.*

#### **Schedule & Costs Implications for relocating the intake:**

- Given this will require a Major Modification to the DEQ permit, it means that we will start the permitting process all over again.
- It took approximately 20 months to acquire the most recently issued permit and we would anticipate a similar timeline.
- *We would recommend the JRWA budget approximately 18-24 months to complete this task.*
- To date, Timmons Group costs have far exceeded \$100,000 to assist JRWA with acquiring the current permit.
- *We would recommend the JRWA budget \$125,000 for costs to relocate the permit IN ADDITION to the other costs (bathymetric survey, preliminary engineering, geotech, environmental, etc.) associated with relocating the pump station and intake, which are approximately \$120,000.*
- *We would recommend a total \$250,000 budget.*

#### **Additional Easement Acquisition Costs:**

- Depending upon the route chosen by Fluvanna / JRWA, we would need to acquire anywhere from 3 to 14 additional easements.
- *At approximately \$5,000 per easement, this would equate to \$15,000 to \$70,000 in additional costs, not to mention the associated timeline for acquisition.*

#### **Long-term Operations Costs:**

Given the anticipated increase in motor HP, this will in turn require a higher electrical costs for pumping the water to Ferncliff. It is difficult to calculate the total increase on an annual basis without further evaluation, but based upon an initial review of the base rates, *the pumping costs could increase anywhere from 20-30% on an annual basis.*

#### **Construction at the Rte 6 bridge:**

It has been noted that there currently is construction going on at the Rte 6 bridge near Columbia. Going this route will still require an independent easement and extensive coordination with VDOT regarding construction.

#### **Interest Rate Increase:**

- I attended the VRA Board meeting on December 8, 2015 in Richmond. The VRA's financial advisor put up a graphic showing how the bond issuance rates were starting to trend upwards towards the end of 2015.

- While there are no guarantees on rates until the bonds are sold, it appears to be common belief that rates are trending upwards and any delay in financing could result in higher rates for both the JRWA and Louisa County.
- *The US Federal Reserve is meeting today to discuss interest rate increases.*

### **Materials & Labor Costs Increase:**

While we enjoyed a somewhat flat construction market during the recession, it appears that construction costs are consistently rising again.

Per the attached Construction Costs Index, construction costs are steadily increasing since 2010, with the last 12-months (Q4 2014 thru Q3 2015) seeing an increase of approximately 4.4% and the last three years of approximately 4% per year.

### **Other Considerations:**

While we have attempted to quantify the mechanics, logistics, schedule and approximate costs for moving the intake structure upstream, we believe Fluvanna and the JRWA also need to take the following items into consideration:

1. Cobbs Creek Intake: The proposed Fluvanna intake location is upstream of the Cobbs Creek reservoir intake. One of the advantages to locating in Columbia was the future ability of JRWA to work with Henrico County to purchase capacity in the reservoir should Louisa or JRWA choose to do so.
2. Dominion WWTP / Coal Ash discharge into the James River: There was significant public concern regarding Dominion's plans to discharge into the James River and a potential "mixing zone" in the James River. This would move the intake 2.2 miles closer to that discharge. Currently the JRWA withdrawal permit issued would have legal precedence over any permit issued by DEQ for the Dominion Coal Ash discharge. Should the JRWA request a Major Modification, then the Dominion discharge permit could have legal precedence (i.e. the relocated JRWA permit would be "in queue" after the Dominion permit, thereby forcing the JRWA to adhere to the Dominion permit, vs. Dominion needing to adhere to the JRWA permit currently issued).
3. DEQ Relationship and Efforts on behalf of JRWA: Given the extensive permitting process the JRWA just went through with DEQ (both time and costs) and the fact that DEQ issued an extensive permit, permit construction limitations, and justification for the withdrawal (a total of 74 pages), it would appear any attempt to move the proposed intake to a location that would change the hydrologic characteristics could make the permit that was just issued invalid. Given the time, effort and involvement by DEQ as well as other agencies, such as engaging the AG's office to defend DEQ's position, DEQ could perceive Fluvanna or the JRWA's desire to move it further upstream as disingenuous and the most recent permit issuance as a "waste of everyone's time".

4. Relationships with other Regulatory Agencies: Impact to relationships with the other review agencies, such as VMRC and COE who have already put significant time and effort into working with our team for the current permit relocation.
5. Ability to construct within Historically Sensitive Areas: While we respect the historical significance and sensitivity of Point of Fork Farm and other properties of historical significance, much like wetlands, there are laws and regulations in place that allow for this type of construction to take place in these areas that help protect and preserve these properties. We can list several examples of past and current projects that have been constructed in areas of historical significance. A very relevant example is a steel recycling plant constructed on the Petersburg National Battlefield in Dinwiddie County.
6. Practical aspect of the above ground impacts: Constructing a 2,400 SF footprint, 35' tall pump station is no different than constructing a similar size 2 story house on a lot on the James River in terms of above ground property impacts.

### **Summary & Conclusion:**

Based upon our PRELIMINARY evaluation of relocating the intake approximately 2.2 miles upstream, following is our summary & conclusion:

1. Increased capital costs for additional pipeline and potential upgrades to the pump station, could range from approximately \$5 million upwards to \$8 million in 2015 Construction Numbers.
2. JRWA could see an increase in annual pumping costs of 20-30%.
3. A Major Modification to the permit will be required and could take approximately 18-24 months to complete and require a \$25,000 DEQ application review fee in addition to approximately \$250,000 in costs associated with permit reapplication, due diligence and preliminary design for the new intake.
4. Construction costs are increasing approximately 4% per year based upon most recent 3 years and any delay could see a substantial increase in costs (i.e. 4% of \$10 million is \$400,000), so delays could see that number increase.
5. There are significant permitting risks associated with DEQ, VMRC and COE, not to mention potential damage to the relationships with regulatory agency staff.

In our professional opinion, we do not believe it is wise or prudent for the JRWA to consider moving the intake to the proposed Fluvanna location. As such, our recommendation would be for the JRWA to move the pump station and intake onto the adjacent Hammond Property and adjust the pipeline routing accordingly.



EXHIBIT C:  
JRWA NOTICE OF APPEAL

## **NOTICE OF APPEAL**

### **DENIAL OF PERMIT FOR APPLICATION FOR ARCHAEOLOGICAL EXCAVATION OF HUMAN REMAINS AT THE POINT OF FORK IN FLUVANNA COUNTY**

Pursuant to Virginia Code § 2.2-4026 and Rule 2A:2 of the Rules of the Supreme Court of Virginia, the James River Water Authority (“Appellant”), by counsel, hereby gives notice of its intent to appeal the agency actions of the Virginia Department of Historic Resources. Specifically, Appellant intends to appeal the following agency case decisions by the Virginia Department of Historic Resources:

1. Denial of a permit for the Appellant’s application for Archaeological Excavation of Human Remains at the Point of Fork in Fluvanna County (DHR File No. 2015-0984) (hereinafter, “Appellant’s Application”);
2. Decision that the archaeological consultant associated with Appellant’s Application does not meet the requirements established by the Secretary of the Interior and promulgated through 36 C.F.R. § 61 as the Professional Qualifications Standards for Archaeology, and incorporated into the Department of Historic Resources’ regulations at 17VAC5-20-40(C);
3. Decision that a research design and data recovery plan must be reviewed and revised by a qualified archaeological consultant to meet standards of the Department of Historic Resources;
4. Decision that a research design and data recovery plan must be reviewed and revised by a qualified archaeological consultant to meet the approval of the Monacan Indian Nation;
5. Decision that Appellant’s Application will “directly affect” the Monacan Indian Nation;
6. Decision that 17VAC5-20-40(A)(3) requires Appellant to obtain permission for access from third-party “owners” of properties to which Appellant holds a utility easement; and

7. Decision that an area through which the project forming the basis of Appellant's Application is planned to pass is associated with Rassawek, a reported historical settlement of the Monacan Indian Nation.

#### **RULE 2A:2 INFORMATION**

In accordance with Rule 2A:2, the Appellant further states as follows:

1. The identity and address of Appellant are:

James River Water Authority  
132 Main Street  
Palmyra, Virginia 22963

2. Counsel for Appellants are:

Justin W. Curtis (VSB No. 76641)  
Paul T. Nyffeler (VSB No. 77144)  
AquaLaw PLC  
6 South 5th Street  
Richmond, Virginia 23219

3. The identities and addresses of the other parties to this appeal are:

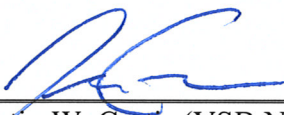
Virginia Department of Historic Resources  
c/o Julie V. Langan, Director  
2801 Kensington Avenue  
Richmond, Virginia 23221

4. To Appellants' knowledge, counsel for the other parties to this appeal is:

The Honorable Mark R. Herring  
Attorney General of Virginia  
Office of the Attorney General  
202 North Ninth Street  
Richmond, Virginia 23219

5. This appeal will be taken to the Circuit Court for the County of Fluvanna.

Respectfully submitted,



---

Justin W. Curtis (VSB No. 76641)

Paul T. Nyffeler (VSB No. 77144)

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Justin@aqualaw.com

pnnyffeler@aqualaw.com

October 4, 2019

**CERTIFICATE OF SERVICE**

I hereby certify that on this 4th day of October, 2019, a true copy of the foregoing Notice of Appeal was delivered by hand and also sent by certified mail to:

Virginia Department of Historic Resources  
c/o Julie V. Langan, Director  
2801 Kensington Avenue  
Richmond, Virginia 23221

  
\_\_\_\_\_  
Justin W. Curtis