



THE
CITY OF BRUNSWICK
MARYLAND

1 WEST POTOMAC STREET · BRUNSWICK, MARYLAND 21716 · (301) 834-7500

FINANCE & UTILITY COMMISSION MEETING

BRUNSWICK CITY HALL

Wednesday, August 17, 2022

5:00 PM

Agenda

1. Water Loss Survey Discussion
2. PO# 230062 – Clark Azar Engineering Estimate - Yourtee Springs Line Rehabilitation – Phase 2
3. Master Plan Consultants

I. General Summary:

Water Loss Systems, Inc. (WLS) was contracted by the Town of Brunswick, MD to perform a system-wide leak detection survey on the town's water system which consists of approximately 46.6 mi of underground pipe. Field work for this project began on Monday, June 13, 2022 and concluded on Wednesday, June 29, 2022. During the survey, WLS detected a total of seventeen (17) leaks that were losing a combined 110 gallons per minute (gpm) of treated water. All the leaks have been categorized into one of four types and then classified according to the number of gallons lost on a daily basis. (See Table 1)

II. Leak Types & Classifications:

WLS uses two main categories to classify leaks: type and class. There are four types of leaks that can be encountered during a survey. They are: *hydrant leaks, valve leaks, service leaks, and main leaks*. After detecting a leak, WLS determines what type of leak is present. This is determined by analyzing and studying the sound of the leak. Each type of leak makes a distinct sound which WLS uses in determining the problem.

Once the type of leak is identified, WLS categorizes the leak into one of three classifications. The classification is based on the number of gallons lost per leak/per day. This classification is estimated using two methods. The first method involves analyzing the amount of sound that is heard at the leak location. The second method is determining how far the leak noise is traveling. This is done by listening to multiple points at varying distances to determine what sound is still present at those locations.

Table 1:

(Each leak has been labeled as Class A, B, or C)

- 1.) Class A - Leaks that lose more than 25,000 gallons per day
- 2.) Class B - Leaks that lose more than 10,000 gallons per day, but less the 25,000 gallons
- 3.) Class C - Leaks that lose less than 10,000 gallons per day

III. Leaks:

Hydrant Leaks

During the survey work, WLS detected nine (9) fire hydrant leaks. In all (9) cases, the leaks were identified as class “C” leaks. All hydrants should be flushed first before deciding whether to use a repair kit. Flushing the hydrant will force any debris (small rocks, sediment, etc.) out of the main valve allowing the hydrant to seat properly. If flushing does not fix the problem, the valve seat or main valve may need to be replaced. All additional information about the hydrant leaks is found on the Leak Survey Findings form located behind Tab 2.

Valve Leaks

WLS sound-tested multiple valves throughout the system and detected one valve leak. The details are below:

- **Leak #15 – 302 Petersville Rd (Niningers Auto):** The leak is located within a foot or two of the blowoff out in the parking lot. This is a Class C leak losing 2 gpm.

Service/Meter Leaks

WLS sound-tested multiple services throughout the system and detected two (2) service leaks. Those leaks are outlined below:

- **Leak #6 – 221 Knoxville Rd:** Leak is located on the service line approximately 3’ from the meter box. This is a Class B leak losing 7 gpm.
- **Leak #16 – 27 Petersville Rd:** Leak is located on the service line; approximately 3’ from the meter box. The asphalt looks like a repair has been made on this service line. The repair is potentially leaking. This is a Class C leak losing 5 gpm.
- **Leak #17 – 2148 Rohrersville Rd:** Leak is on the 2” water line that runs through the Mennonite farm property. Due to not having a 2nd point of sound, WLS was not able to correlate and pinpoint this leak. WLS suggest moving the corp for the stone house farther up the line and running a new service over to the existing one. You can cap the 2” line just below the nep tap and eliminate the leak and swampy area at the bottom of the field. This is a Class B leak losing 10 gpm.

Main Leaks

WLS sound-tested the entire water system and detected four (4) main leaks. The details are below:

- **Leak #3 – Cummings Dr & 13th Ave:** Leak is located on the 6” main that runs down 13th Ave; approximately 10’ south of the tee at the intersection. This is a Class B leak losing 10 gpm.
- **Leak #4 – 523 E. Potomac St:** Leak is located on the mechanical tee for the fire hydrant. This is a Class A leak losing 20 gpm.
- **Leak #7 – 3150 Cemetery Cir:** Leak is located on the 2” line that runs up the hill, approximately 10’ east of the corp. This is a Class B leak losing 7 gpm.
- **Leak #9 – 2nd Ave & E. F St:** Leak is located on the 8” main that runs down 2nd Ave; approximately 51’ south of the in-line valve at E. F St. This is a Class A leak losing 35 gpm.

IV. GIS Updates:

To complete this survey, WLS used a copy of the water distribution system map that corresponded to the survey areas. The GIS Department provided these maps. This set of maps was used as the working maps which assisted WLS in identifying fire hydrants, mater mains, valve locations, and service locations that could be use as listening points throughout the system. These maps were accurate for the most part and only contained a few changes. WLS will indicate these changes on the final maps.

V. Understanding the Final Maps:

To complete this survey, WLS used two copies of the water distribution system maps that corresponded to the survey areas. The GIS Department provided these maps. The first set was used as working maps to assist in identifying fire hydrants, water mains, valve locations, and service locations that could be use as listening points throughout the system. The second set has been used in the final report to show both our leak findings as well as all GIS updates and will be submitted to the Service Authority for review. Each group of maps will have color-coded dots on them that indicate points of interest. The color of the dots is defined in Table 2 below:

Table 2:

- | | |
|---------------------------------|--------------------------------------|
| ● - A “Red” dot indicates a | Hydrant Leak |
| ● - A “Blue” dot indicates a | Main Leak |
| ● - An “Orange” dot indicates a | Service, Meter, or Valve Leak |
| ● - A “Green” dot indicates a | GIS Update/Change |

VI. Summary of Financial Benefit:

After completing the survey, WLS has determined that the Town of Brunswick, MD is experiencing a water loss of approximately **110 gallons/minute** (gpm) of treated water. This loss would translate to approximately **158,400** gallons per day, **4,818,000** gallons per month, and **57,816,000** gallons per year. The Town pays approximately \$10.00 per 1,000 gallons used for its water. If the leaks outlined in this report were repaired, the Town of Brunswick, MD could potentially save **\$578,160.00** over the course of a year.

The information presented in this report is designed to both inform and serve the Town of Brunswick, MD. If there are questions about any of the information contained in this report, please contact our office at 301-253-0040. Thank you for your trusted business.

Water Loss Systems, Inc.
 26409 Aiken Drive - Clarksburg, MD 20871
 301-253-0040 ph / 301-253-3232 fax
www.waterlosssystems.com

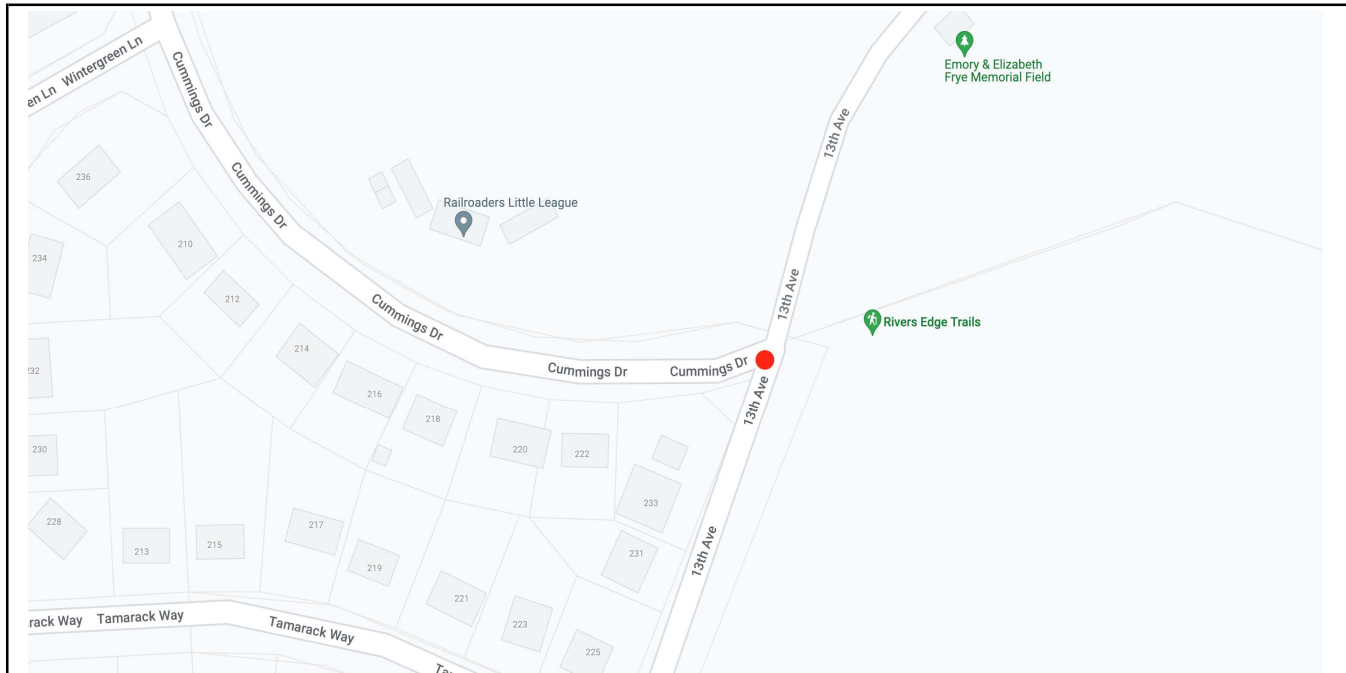
Leak Report

Client: Town of Brunswick, MD
Date: 6.15.22 **Map:** 177
Report: 3 **Location:** Cummings Dr & 13th Ave

| | <u>LEAK TYPE</u> | | <u>Covering</u> |
|--------------------|-------------------------|-------------|---------------------------|
| Main Line Leak : | <u>X</u> | Meter Leak: | Concrete: <u> </u> |
| Service Leak: | <u> </u> | Curb Stop: | Asphalt: <u> X </u> |
| Fire Hydrant Leak: | <u> </u> | Corp Stop: | Soil: <u> </u> |
| Valve Leak: | <u> </u> | Joint Leak: | <u> </u> |
| Yard Hydrant: | <u> </u> | | |

Recommended Action: Excavate & Repair

Leak Site Marked: Yes **Estimated Leakage:** 14,400 gallons/day



Comments: Leak is located on the 6" main that runs down 13th Ave; approximately 12' south of the tee at the intersection.

Authorized Signature: Joseph R Apolenis

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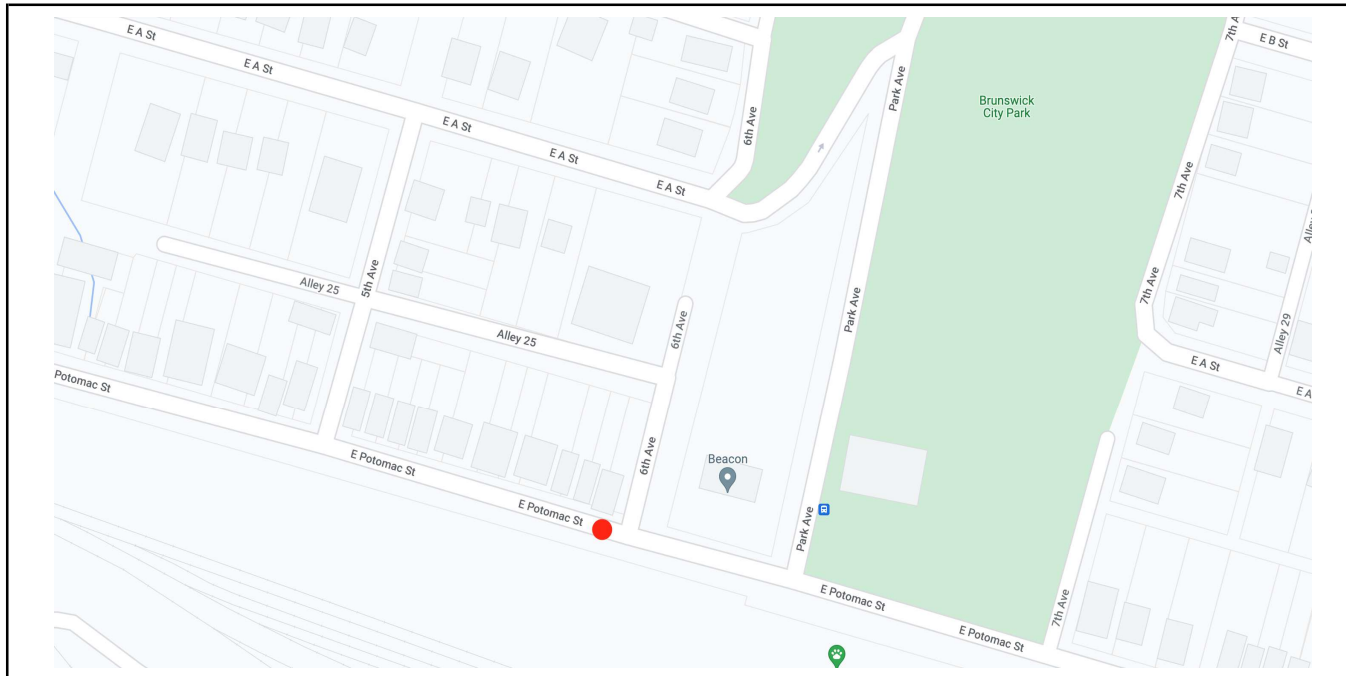
Leak Report

Client: Town of Brunswick, MD
Date: 6.16.22 **Map:** 191
Report: 4 **Location:** 523 E. Potomac St

| | <u>LEAK TYPE</u> | | <u>Covering</u> |
|--------------------|-------------------------|-------------|-----------------------------|
| Main Line Leak : | <u> X </u> | Meter Leak: | Concrete: <u> </u> |
| Service Leak: | <u> </u> | Curb Stop: | Asphalt: <u> X </u> |
| Fire Hydrant Leak: | <u> </u> | Corp Stop: | Soil: <u> </u> |
| Valve Leak: | <u> </u> | Joint Leak: | |
| Yard Hydrant: | <u> </u> | | |

Recommended Action: Excavate & Repair

Leak Site Marked: Yes **Estimated Leakage:** 28,800 gallons/day



Comments: Leak is located on the tee for the hydrant leg at 523 E. Potomac St.

Authorized Signature: Joseph R Apolenis

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Leak Report

Client: Town of Brunswick, MD

Date: 6.22.22 **Map:** Knoxville

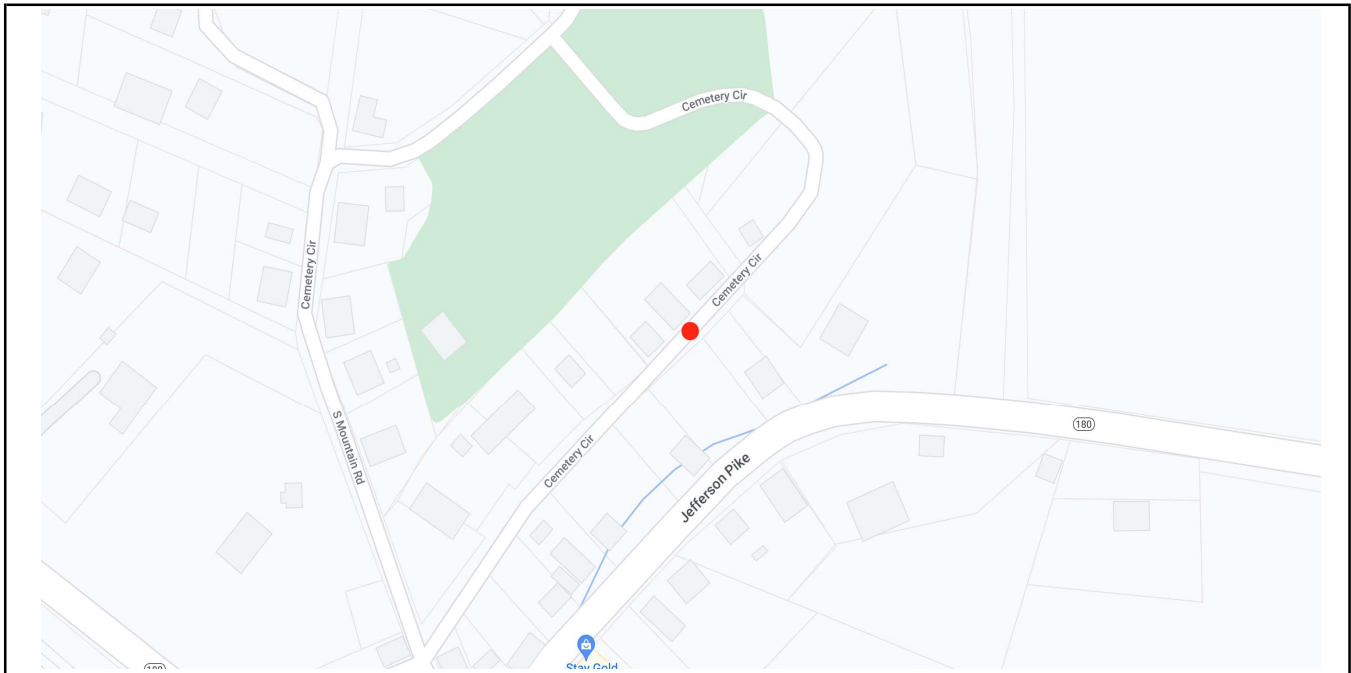
Report: 7 **Location:** 3150 Cemetery Cir

| | <u>LEAK TYPE</u> | <u>Covering</u> |
|--------------------|------------------|---|
| Main Line Leak : | <u>X</u> | Meter Leak: <u> </u> Concrete: <u> </u> |
| Service Leak: | <u> </u> | Curb Stop: <u> </u> Asphalt: <u>X</u> |
| Fire Hydrant Leak: | <u> </u> | Corp Stop: <u> </u> Soil: <u> </u> |
| Valve Leak: | <u> </u> | Joint Leak: <u> </u> |
| Yard Hydrant: | <u> </u> | |

Recommended Action: Excavate & Repair

Leak Site Marked: Yes

Estimated Leakage: 14,400 gallons/day



Comments: Leak is located on the 2" main; approximately 10' east of the corp for 3150.

Authorized Signature: _____

Joseph R Apolenis

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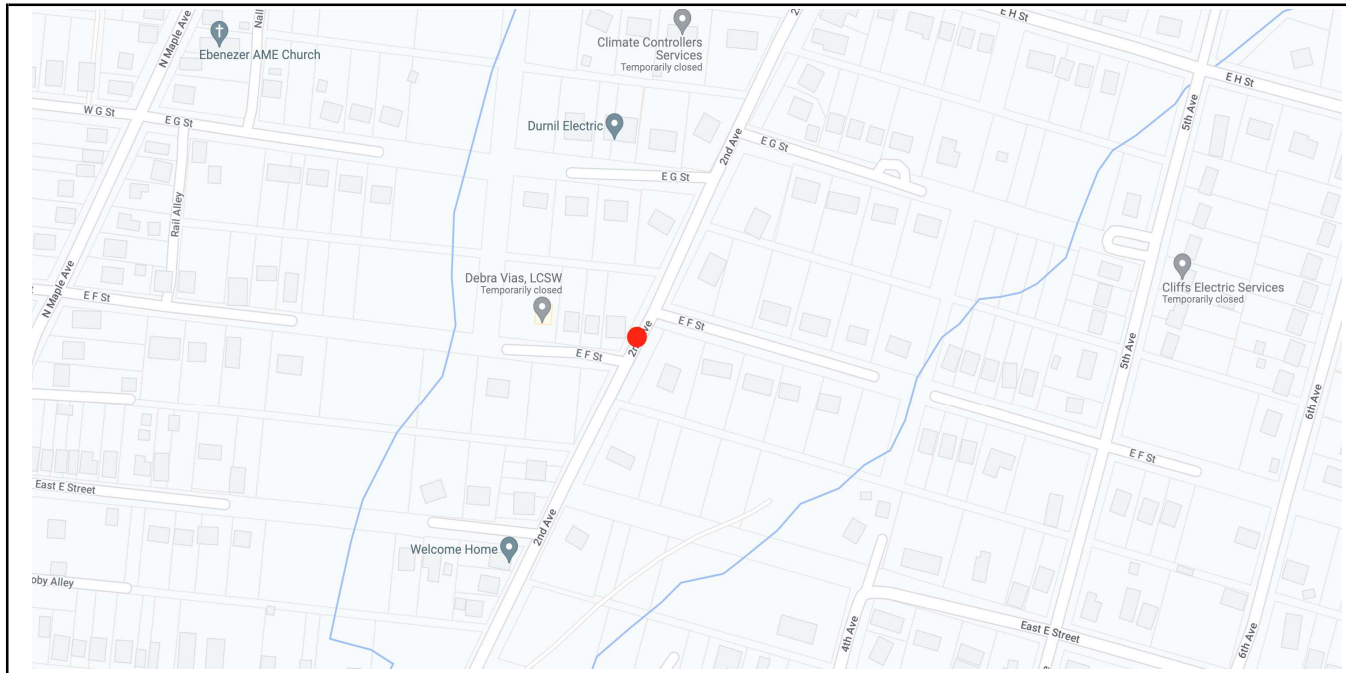
Leak Report

Client: Town of Brunswick, MD
Date: 6.23.22 **Map:** 136
Report: 9 **Location:** 2nd Ave & E. F St

| | <u>LEAK TYPE</u> | | <u>Covering</u> |
|--------------------|-------------------------|-------------|------------------------|
| Main Line Leak : | <u>X</u> | Meter Leak: | Concrete: _____ |
| Service Leak: | _____ | Curb Stop: | Asphalt: <u>X</u> |
| Fire Hydrant Leak: | _____ | Corp Stop: | Soil: _____ |
| Valve Leak: | _____ | Joint Leak: | _____ |
| Yard Hydrant: | _____ | | |

Recommended Action: Excavate & Repair

Leak Site Marked: Yes **Estimated Leakage:** 50,400 gallons/day



Comments: Leak is located on the 8" main that runs down 2nd Ave; approximately 51' south of the inline valve at the above intersection.

Authorized Signature: _____ *Joseph R Apolenis*

Purchase Orders

Budget Proof List for Purchase Orders



User: jmosse
 Printed: 08/10/2022 - 10:07AM
 Batch: 00013.08.2022 - PW08102022JM

| PO Line Description | PO Number | Amount | Outstanding Amt | Budget | Activity | Encumbered | Remaining Budget |
|---|------------|-------------|-----------------|--------|----------|------------|------------------|
| 20-532-19-8510 Yourtee Rehab-Phase II-PAYGO | 0000230062 | \$25,500.00 | 25,500.00 | 0.00 | 0.00 | 25,500.00 | -25,500.00 |
| Engineering Water Line Replacement | | | | | | | |
| 20-532-19-8510 Totals: | | \$25,500.00 | 25,500.00 | 0.00 | 0.00 | 25,500.00 | -25,500.00 |
| Grand Total: | | | | | | | |



CLARK | AZAR & ASSOCIATES

City of Brunswick

Work Order #335.033

Tritapoe Drive Waterline Replacement from Addition Avenue to Western Avenue

In accordance with "City of Brunswick Professional Engineering Contract" dated October 31, 2017, City and Engineer agree as follows:

Description:

The city intends to replace approximately 2,500 linear feet of waterline on Tritapoe Avenue within the city limits. CAA has been asked to prepare a proposal for the design of the replacement waterline from Addition Avenue to Western Avenue. The design will include plans and profiles for the new line as well as reconnections to existing houses along the road. This work shall be broken into three phases and indicated on the on the plan set. Road restoration will be included in the design package.

The scope of work for each of these items is described in the following section:

Services of Engineer:

The services provided by Clark | Azar Associates (CAA) will involve field survey, final design, permitting and bid assistance.

Survey/Basesheet Development

CAA will contract with a MD licensed surveyor to prepare a topographic survey of the anticipated project limits. We assume the survey will cover approximately 2,500 linear feet of roadway. The survey will be performed based on Maryland state plane datum for horizontal and vertical datum. The survey will show the elevations of the existing features at 2-foot contour intervals, with spot elevations plotted as needed for clarity. Visible planimetric features collected will include, but not be limited to, the following: edge of pavement for all paved surfaces, drives, sidewalks, buildings and other major structures, fences and walls, utility poles and manholes within the survey limits. Property line will be shown at an approximate location based on available records. No boundary work will be performed. No private utility locating is included. The work will be along East F Street from 2nd Avenue to 5th Avenue.

CAA will develop a basesheet for use during design from records provided by the City of Brunswick and the above described topographic survey.

Geotechnical Investigation



CLARK | AZAR & ASSOCIATES

CAA will perform soil borings along the waterline route to determine if rock is present and prepare a geotechnical report outlining the subsurface conditions encountered. No pavement design is included. The geotechnical investigation will involve 9 soil borings performed to a depth of 7-10 feet.

Design and Permitting

CAA will prepare a complete package of construction documents suitable for bidding and construction of the waterline. CAA will prepare a 50% CD package for review by the city. A review meeting will be held with the city staff to review the plans and receive comments.

CAA will then advance the plans to the 100% CD package and provide to the city for bidding. CAA will attend a pre-bid conference and address contractor RFI's during the bid. A conforming set of drawings will be provided that incorporates the 100% CD's and any addenda issued during the bid phase.

CAA assumes that no construction administration work will be necessary.

Assumptions/Exclusions:

This proposal excludes all field testing such as environmental (wetlands, endangered species, specimen tree, etc.) and hazardous materials surveys. Any services not specifically referenced are excluded from this proposal.

It is assumed that all construction activity will occur with the public right-of-way and that the city will obtain any permits if required.

Forestry work including tree save plans will not be required.

No permitting will be required.

Owner's Responsibilities:

Owner shall have those responsibilities set forth in Section 3 of the referenced contract.

Fees:

Owner shall pay Engineer for services rendered on an hourly basis as follows:

| | | |
|------------------|-----------------------|-----------------------|
| <u>Services:</u> | <u>Compensation:</u> | <u>Estimated Fee:</u> |
| As stated above | Standard Hourly Rates | \$25,500.00 |

The terms of payment are set forth in Section 9 and 10 of the referenced Contract.



CLARK | AZAR & ASSOCIATES

Terms and Conditions:

Execution of this Work Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Work Order signed by Owner.

The effective date of this work order is based on acceptance of this work order dated

_____, 2022.

Designated Representative for Task Order:

OWNER:
City of Brunswick

By: _____
David B. Dunn, City Administrator

ENGINEER:
Clark | Azar & Associates, Inc.

By: *Dana Clark*
Dana Clark, PE, President

Designated Representative for Project:

David B. Dunn, City Administrator
DDunn@Brunswickmd.gov
(301) 834-7500 X200

John W. Strong, Project Manager
Jstrong@clarkazar.com
(240) 912-3492

Request for quotes Master Plan Consultants

Dewberry (work with on the County Hazard Mitigation Plan) no response

CBM Consulting (prepared Downtown Small Area Plan) 175,000 to 200,000
depending on number of in person meetings (verbal est.)

Renaissance Planning 140,000

Consultant worked with staff on the abstract and the preparation of the HAPP grant and has worked with EPA team from the Recreation Economy for Rural Communities grant that we were awarded. The Consultant will also allow us to select areas of assistants based on in house workload which will help the City cut overall cost to complete the Master Plan.

Good morning Bruce,

Thanks again for reaching out to us. Below is a rough estimate for the comp plan update based on our brief discussion. I would be happy to discuss this in more detail with you at your earliest convenience. Let me know if you would like to set up a time to reconnect this week.

Phase 1 Project Launch and Visioning: \$25,000

- Public Involvement Plan
- Project Branding (logo, color scheme, templates)
- Community Visioning
 - Session 1 (in person)
 - Session 2 (Virtual)
- Draft and Final Community Visioning Statement & Guiding Principles

Phase 2 Policy Framework: \$30,000

- Existing Conditions, Growth Trends Analysis and Base Mapping
- Community Engagement
 - Session 1 (in person)
 - Session 2 (virtual)
- Staff Work Session to Identify Policy Themes
- Draft and Final Policy Priorities

Phase 3 Review Existing Plans & Policies: \$10,000

- Review Existing Plans
- Plan Review Memo

- Recommendations for Comp Plan Element Updates

Phase 4 Actions, Strategies, Implementation: \$65,000

- Community Engagement
 - Session 1 (in person)
 - Session 2 (virtual)
- Opportunity Score Mapping to Inform New Housing Element
- Draft Strategies and Actions for Each Policy Theme/Plan Element
- Implementation Details for Each Action
- Draft Comprehensive Planning Document (30 pages or less)
- Draft Comprehensive Plan Technical Companion Volume

Phase 5 Review and Adoption: \$10,000

- Online Survey to Gather Public Feedback
- Plan Adoption Meeting
- Final Comprehensive Plan (30 pages or less) and Technical Companion

TOTAL: \$140,000

Regards,

Kate

Katharine Ange (*she/her*)

President



Recommendation: Based on the above estimates we recommend Renaissance Planning be awarded the contract to assist the City in the preparation of the Master Plan.