

COUNTY OF YORK

MEMORANDUM

DATE: March 16, 2023
TO: York County Board of Supervisors
FROM: Neil A. Morgan, County Administrator 
SUBJECT: Springfield Road/Tranquility Development

Recently, the Board asked me to provide a report regarding the above-referenced topic. Accordingly, this memo summarizes the history of the situation and what we might expect going forward.

Quick History

The development known as Tranquility is a large parcel that had at one time been approved as an expansion area for the contiguous Kings Creek timeshare community. It was ultimately purchased by Tranquility Residential, LLC, after some preliminary interest from Mid-Atlantic Realty, both York County based businesses. The only public street access to the property was from Springfield Road, which has been accurately described as a narrow, minimally VDOT-maintained road.

The land use approval in 2018 was for an age-restricted, for-sale product and occurred in the context of several well-understood factors. As the landowner, the developer had a right to develop the property with its access from Springfield. I believed that having the main access off of Springfield would have been very undesirable in the long term for the residents of Springfield Road. While the County and VDOT could have leveraged some road improvements under that scenario, the permanent character of Springfield Road would have been altered. Permanent resident and visitor traffic would have passed through this small neighborhood, and improvements to the existing portion of the road would have been limited by the narrow right of way, even under the best-case scenario.

The developer proposed, and the County ultimately approved, a scenario in which all of the permanent resident and visitor traffic will come through the private streets of the Kings Creek timeshare community. Once construction is complete, only emergency vehicles will be allowed to access Tranquility from Springfield Road, and the conditions on Springfield will largely return to its historic situation as a quiet dead-end street. I continue to believe that the long-term interests of Springfield Road were served by the decision to prohibit permanent traffic from using Springfield Road.

There is no question that the residents of this street are being inconvenienced during construction, and I certainly understand their frustration. Unfortunately, no one can say with certainty when construction will be completed, although it appears to be proceeding quickly. It is also true that almost every large construction project, regardless of precautions, is disruptive to those living nearby, and this situation is no exception.

Attached are excerpts from the 2018 documents associated with the Board of Supervisors' actions on Tranquility. I did recommend approval with the conditions that now exist. It was unanimously approved by the Board of Supervisors. There were, of course, considerations in addition to the trade-off of temporary versus permanent vehicle access on Springfield Road. Among the other considerations was the opportunity for an age-restricted for-sale development that was an identified need in the Comprehensive Plan and the fact that no school costs would be generated by this type of development. The choice before the Board of Supervisors was not no development versus what is being built today. The privately owned land could have been developed in other ways that would not necessarily have resulted in a better long-term outcome. Again, avoiding putting all of the (permanent) traffic from any development on Springfield Road was an important and good outcome, in my judgment.

Activity Subsequent to Construction Beginning

When the site work began, the residents of Springfield Road were impacted, as anticipated. Attached are a series of emails and other documents from November 2021 that representatives of the County received (and responded to) requesting various actions to mitigate the impact of the construction traffic on Springfield Road. Several actions were taken by the County, VDOT, and the developer. Additionally, the County suggested, and the developer and the Board of Supervisors subsequently agreed to adjust the sanitary sewer design so that a future extension to the residents of Springfield Road would be feasible. Prior to the construction of Tranquility, there was no prospect of sanitary service in this area. To my knowledge, we have not been contacted or received additional complaints until the February 21, 2023, Board meeting. My general impression was that the residents continued to be inconvenienced, but they saw that efforts were made to mitigate the problems and understood that the level of disruption would decline over time.

Some additional actions taken by the Developer to voluntarily improve the daily activities of the project and safety for the residents since that time include: hosting a "meet and greet" with the residents of Springfield Road at the commencement of construction in efforts to establish a healthy relationship from the beginning; various improvements to Springfield Road by constructing pull-offs to assist in vehicle passing; adding additional signage to aid in bringing awareness to the sensitivity as it relates to speeding, trash, and noise; installing privacy fences in two separate locations for the benefit of Springfield Road residents; replacing several damaged mailboxes, not knowing if it was the Developers issue or not; establishing an ongoing relationship between the site superintendent and some Springfield Road residents to field and address any neighborhood complaints.

Other Actions Requested at the February 21, 2023 Meeting

Everyone at the County is certainly motivated to do whatever we can to make the situation on Springfield Road tolerable until construction ends and to make sure that once the road is closed to Tranquility after construction, residents find themselves in a better situation than before all of this started.

Some suggestions are not feasible or would put the County in legal jeopardy to pursue. For example, “halting” construction arbitrarily while designing and building an alternate road access is not a real option. The County would have no legal basis to halt construction as the developer is following the proffered conditions.

At its March 7, 2023, meeting, the Board directed staff to undertake a feasibility study to determine if there is a practical opportunity to design and build an alternate construction road connecting Tranquility to Hawks Nest Road. Our strategy to expedite this work is to utilize one of our preselected engineering consultants. Public Works has preliminarily selected AH Environmental for this task. Even avoiding a lengthy procurement process does not make the feasibility work quick or easy. We hope to have work underway within sixty days due to the need to develop a scope of services, a price, and the reality that local engineers are currently extremely busy.

Even without a professional study, the staff is aware of many variables that a feasibility study must consider. These include coordinating with multiple property owners (Commonwealth, EVRIFA, and Tranquility Residential, LLC.), receiving input from VDOT, reviewing an existing DEQ agreement which limits the use of the former fuel farm property, determining an optimal route, delineating any wetlands, potentially modifying the Tranquility approved site plan (archaeological study, erosion, and sediment control) and then coming up with a design and construction budget and timeline.

As I stated on March 7, we should avoid raising expectations that an alternate route is a likely solution. It is likely that Tranquility will be completed during the time period it would take to design and build such a project.

There were other suggestions that can and are being implemented with assistance from the York County Sheriff, VDOT, Henderson, Inc., and the developer. Earlier speeding issues have largely been abated. We have asked VDOT to focus on ongoing street maintenance until such time as construction traffic comes to an end. The staff has also contacted those involved with the development advising them of the ongoing concerns, and asked them to voluntarily take action to mitigate some of the problems. They have committed to do what they can to help without conceding their rights to develop the property as planned.

Specifically, Henderson, Inc. advises that they are taking or continuing the following actions:

- While acknowledging that light vehicle traffic associated with home construction will be substantial, they are voluntarily limiting average heavy vehicle traffic to no more than twenty-five daily trips.

- They will be providing a direct phone number to contact the developer for impacted residents and a central email address to specifically respond to any concerns, suggestions, or positive feedback.
- Continued dust control measures
- Validation of the commitment that no construction will occur between the hours of 7:00 p.m. and 7 a.m.
- Weekly coordination meetings that involve all parties working on the project to address items such as scheduled activities for the week, related traffic and noise impact, clarity on the best way to communicate any potential impact to residents outside of normal daily activity, and encouraged opportunities for carpooling in efforts to reduce vehicle traffic.
- Willingness to offer job site tours to the residents of Springfield Road at significant project milestones in efforts to show progress, offer updates, and address any concerns
- Providing flagmen, in coordination with VDOT, when surges of heavy vehicle construction traffic may be necessary.

Thoughts on Longer-Range Actions

The County, VDOT, and the developer are motivated to help the residents during this disruptive period. We will not be halting construction, and the disruption related to construction will continue for an extended period. We should expect ebbs and flows of traffic volume as site work shifts toward home construction. No one can say with certainty when construction will end, which can be a function of the weather, the economy, and other factors. However, it will come to an end, and the question becomes, what happens on Springfield Road after that?

I would recommend the County consider two actions. First, with Henderson's assistance, a new sewer line has already been stubbed out on Springfield Road. Perhaps the County should explore with the residents whether the entire street should be upgraded with sewer. Secondly and related would be a project to rebuild the road. The developer is obligated by proffer to restore the road to pre-existing conditions after construction. As an alternative, I would suggest working with VDOT and the developer to come up with a plan to upgrade the length of the Springfield to a more modern public road to the extent right of way width would allow that. Other than patching and maintenance, it would not make sense to rebuild the road until construction is substantially complete. However, the sewer work could occur in the meantime if residents would see this as desirable. I would be interested in the Board's and the residents' views on these two suggestions as well as other possibilities.

Attachments:

- Ordinance Number 18-4 - adopted March 20, 2018
- Email Communication dated November 15, 2021
- Email Communication dated November 8, 2021
- Springfield Road/Woods of Kings Creek Correspondence

BOARD OF SUPERVISORS
COUNTY OF YORK
YORKTOWN, VIRGINIA

Ordinance

At a regular meeting of the York County Board of Supervisors held in York Hall, Yorktown, Virginia, on the 20th day of March, 2018:

<u>Present</u>	<u>Vote</u>
Sheila S. Noll, Chairman	Yea
Thomas G. Shepperd, Jr., Vice Chairman	Yea
Jeffrey D. Wassmer	Yea
Walter C. Zaremba	Yea
W. Chad Green	Yea

On motion of Mr. Shepperd, which carried 5:0, the following resolution was adopted:

AN ORDINANCE TO APPROVE AN APPLICATION TO REZONE 83.4 ACRES LOCATED AT 2000 SPRINGFIELD ROAD FROM EO (ECONOMIC OPPORTUNITY) TO PDR (PLANNED DEVELOPMENT RESIDENTIAL) TO AUTHORIZE A SENIOR HOUSING-INDEPENDENT LIVING DEVELOPMENT

WHEREAS, Mid-Atlantic Land Management, LLC, has submitted Application No. PD-48-18 requesting to amend the York County Zoning Map by reclassifying approximately 83.7 acres of land located at 2000 Springfield Road (Route 687), further identified as Assessor's Parcel No. 11-4-1 (GPIN 114c-2303-1468) from EO (Economic Opportunity) to PDR (Planned Development Residential) for the purpose of establishing a 213-unit senior housing-independent living development consisting of a mix of single-family detached houses, duplexes, and triplexes; and

WHEREAS, said application has been forwarded to the York County Planning Commission in accordance with applicable procedure; and

WHEREAS, the Planning Commission has considered this application; and

WHEREAS, the York County Board of Supervisors has conducted a duly advertised public hearing on this application; and

WHEREAS, the Board has carefully considered the public comment and Planning Commission deliberations with respect to this application;

NOW, THEREFORE, BE IT ORDAINED by the York County Board of Supervisors this the 20th day of March, 2018, that Application No. PD-48-18 be, and it is hereby, approved to amend the York County Zoning Map by reclassifying approximately 83.7 acres of land located at 2000 Springfield Road (Route 687), further identified as Assessor's Parcel No. 11-4-1 (GPIN I14c-2303-1468) from EO (Economic Opportunity) to PDR (Planned Development Residential) subject to the following conditions:

1. Age Restriction

This Planned Development shall be developed and operated as age-restricted senior housing in accordance with the definition of Senior Housing-Independent Living Facility set forth in Section 24.1-104 of the York County Zoning Ordinance.

2. General Layout, Design, and Density

- a) The development shall be designed and constructed in accordance with the provisions of 24.1-411, Standards for Senior Housing (Housing for Older Persons), except as modified herein.
- b) Appropriate development plans prepared in accordance with the provisions of Article V (Site Plans) of the Zoning Ordinance or Chapter 20.5 (Subdivisions) of the York County Code shall be submitted to and approved by the Development Services Division prior to the commencement of any land clearing or construction activities on the site. Except as modified herein, said plans shall be in substantial conformance with the overall development master plan titled "Conceptual Master Plan: Tranquility" prepared by AES Engineering Consultants and dated January 10, 2018, supplemented by the Tranquility Community Impact Assessment dated January 26, 2018, copies of which shall be kept on file in the office of the York County Planning Division.
- c) The maximum number of residential units shall be 213.
- d) Residential unit types shall be limited to single-family detached houses, duplexes, and triplexes.

3. Residential Area Design Parameters

The following dimensional standards shall be observed:

- a) Minimum yard requirements:

1. The minimum building separation between any two principal buildings, including attached decks or porches, shall be fifteen feet (15') provided, however, that where two adjacent structures are separated by less than twenty feet (20'), any fences shall be limited to the rear yard and all adjacent facing walls shall be constructed with an approved fire-resistive exterior finish (or other approved alternatives) and said fire-resistive construction shall include associated projections (cornices, eaves, overhangs, fireplaces, etc.). This shall include the projections for fireplaces extending into the fifteen-foot (15') separation.
 2. The minimum side yard setback shall be 7.5 feet with the exception of corner lots, where the minimum side yard setback shall be ten feet (10').
 3. The minimum distance between any principal building and an accessory building, or between any two accessory buildings, shall be ten feet (10');
 4. The minimum front yard setback shall be twenty feet (20').
 5. The minimum rear yard setback shall be fifteen feet (15').
 6. The minimum distance between any accessory building and any public or private street right-of-way or common area boundary line shall be twenty feet (20'), provided, however, that accessory structures located in rear yards may be located as close as five feet (5') to a coterminous rear or side lot line/common area boundary line;
 7. The minimum setback from any external property line shall be twenty feet (20').
 8. Notwithstanding the provisions of Section 24.1-220 of the Zoning Ordinance, in the case of corner lots, only the shorter of the two lot frontages shall be defined as a front yard and subject to the minimum front yard setback requirement.
 9. The maximum building height shall not exceed forty feet (40') for single-family detached dwellings, duplexes, and triplexes.
- b) Architectural design of all buildings shall be in substantial conformance with the building elevations received by the Planning Division on January 10, 2018, copies of which shall be kept on file in the office of the Planning Division.

4. Streets and Roads

- a) Vehicular access to the development shall be via Tranquility Drive. Access to Springfield Road shall be limited to construction vehicle traffic while the project is under construction and gated emergency access once construction is complete.
- b) The developer shall submit a performance surety, in an amount determined sufficient by the Virginia Department of Transportation, to ensure that Springfield Road will be restored to its previous or better condition following the completion of construction activities on the property. Said performance surety shall be submitted in such form as shall be acceptable to the subdivision agent and the County Attorney as to format, sufficiency, and manner of execution and shall have been posted to the satisfaction of the Subdivision Agent and the County Attorney prior to the issuance of a Land Disturbing Activity Permit for any work on the property.

5. Fire and Life Safety

- a) The gated emergency access road shall have a minimum pavement width of twenty feet (20'), excluding shoulders, shall have an inside turning radius of 33 feet, and shall be hard-surfaced and engineered to support up to 80,000 pounds.
- b) Notwithstanding the provisions of Section 24.1-411(h) of the Zoning Ordinance, the developer shall not be required to submit a detailed description of proposed operational procedures that will ensure and facilitate the safety of the residents in the event of fire or other emergencies.

6. Open Space and Recreation

- a) Common open space shall be provided as generally depicted on the referenced master plan. No fifty-foot (50') perimeter buffer shall be required provided, however, that no single-family attached house shall be permitted on any home lot located within fifty feet (50') of any residentially zoned property.
- b) Recreational facilities shall be provided as depicted on the referenced master plan and as described in the referenced Community Impact Assessment and as set forth below:
 - i) A community clubhouse with a minimum of 3,000 square feet with an exercise room, kitchenette, and an open room with a minimum area of 1,000 square feet. The community clubhouse shall not be required to include a beauty parlor, chapel, or laundry facilities.

- ii) A swimming pool with a surface area of a minimum of 1,700 square feet.
- iii) Sidewalks along at least one side of all streets, with the exception of cul-de-sacs.
- iv) Outdoor grill and picnic area.
- v) A patio area with fire pit.
- vi) A formal lawn, at least 10,000 square feet in area, for community events.

7. General

- a) Construction activities, including excavation, demolition, alteration, or repair of any building or improvement, shall be prohibited between the hours of 7:00 PM and 7:00 AM.
- b) The developer shall ensure that the property owner's association documents required to be delivered to prospective purchasers include a statement indicating that the property or housing unit is within a Planned Development located adjacent to an active military base.

8. Proffered Conditions

This reclassification shall be subject to the conditions set forth in the proffer statement titled "Mid-Atlantic Land Management, LLC, Proffers" dated February 6, 2018 and signed by Lamont D. Myers, Member/Manager, Mid-Atlantic Land Management, LLC, and Michael J. Goellner, Member/Manager, Tranquility Kings Creek, LLC.

BE IT FURTHER ORDAINED that in accordance with Section 24.1-114(e)(1) of the York County Zoning Ordinance, a certified copy of this ordinance, together with a duly signed copy of the proffer statement, shall be recorded at the expense of the applicant in the name of the property owner as grantor in the office of the Clerk of the Circuit Court prior to application for site plan approval.

A Copy Teste:


Mary E. Simmons
Deputy Clerk

COUNTY OF YORK

MEMORANDUM

DATE: March 2, 2018 (BOS Mtg. 3/20/18)
TO: York County Board of Supervisors
FROM: Neil A. Morgan, County Administrator 
SUBJECT: Application No. PD-48-18, Mid-Atlantic Land Management, LLC

ISSUE

This application is a request to amend the York County Zoning Map by reclassifying approximately 83.7 acres of land located at 2000 Springfield Road (Route 687), further identified as Assessor's Parcel No. 11-4-1, from EO (Economic Opportunity) to PDR (Planned Development Residential) subject to voluntarily proffered conditions. The applicant proposes to establish a 213-unit senior housing-independent living development, pursuant to Section 24.1-361(c)(2) of the Zoning Ordinance, consisting of a mix of single-family detached houses, duplexes, and triplexes. The property is designated Economic Opportunity in the Comprehensive Plan and is currently approved for timeshare development as part of the Kings Creek Plantation timeshare resort approved by the Board in December 1997.

DESCRIPTION

- Property Owner: Tranquility Kings Creek, LLC
- Location: 2000 Springfield Road (Route 687)
- Area: 83.7 acres
- Frontage: Approximately 46 feet on Springfield Road
- Utilities: Public water and sewer
- Topography: Ravines and moderate and severe slopes are present on the property.
- 2035 Land Use Map Designation: Economic Opportunity
- Zoning Classification: EO – Economic Opportunity
- Existing Development: None
- Surrounding Development:

North: Jamestown-Yorktown Foundation support complex; former state fuel farm
East: U.S. Naval Weapons Station Yorktown
South: Kings Creek Plantation timeshare resort
West: Single-family detached houses

- Proposed Development: 213-unit senior housing-independent living development

CONSIDERATIONS/CONCLUSIONS

1. The subject property consists of an undeveloped 83.7.-acre parcel located at the end of Springfield Road. A 79.8-acre portion of the parcel was approved for timeshare development as part of the original rezoning and Special Use Permit, approved in December 1997, to authorize development of the 1,100-unit Kings Creek Plantation timeshare resort on 147.3 acres off of Penniman Road (Route 641). In April 2005 the Board approved a 400-unit addition to the timeshare project on two adjacent parcels, adding 25.1 acres to the project and increasing the maximum allowable number of timeshare units to 1,500. The timeshare developer has since released its option to purchase the subject property, and it was subsequently sold to a third party, from whom the applicant has a contract to purchase the property.
2. The proposed project would be a senior housing-independent living development with a maximum of 213 residential units, including an unspecified mix of single-family detached, duplex, and triplex units. The gross density of the project would be 2.54 dwelling units per acre. According to the materials submitted by the applicant, typical lot sizes would be 6,050 square feet for the single-family detached homes and 4,345 square feet for duplexes and triplexes.
3. Pursuant to Section 24.1-361(c)(2) of the Zoning Ordinance, senior housing is a permitted use in the PDR district subject to the senior housing performance standards set forth in Section 24.1-411; however, these standards can be modified by the Board at the time of Planned Development approval. Many of the senior housing performance standards are appropriate for age-restricted apartment complexes such as Colonial Harbor on Ft. Eustis Boulevard and the Marlyn development on Bulifants Boulevard but less so for developments such as this one, with individual owner-occupied housing units on subdivided lots. Accordingly, the applicant has requested the following deviations from the senior housing performance standards:
 - Minimum Building Separation. Both the senior housing performance standards and the PDR provisions specific to senior housing require a minimum building separation of thirty feet (30'), whereas in a typical PDR development, the minimum building separation is twenty feet (20'). The applicant is requesting a minimum building separation of fifteen feet (15'). Building separation has been the subject of some discussion in the County over the years. Most recently, when the Board approved the rezoning of The Marquis South Pod from EO to PDR to authorize a residential development,

that approval included a condition allowing up to 10% of the single-family detached homes to have a minimum side yard setback of 7.5 feet subject to a provision requiring that any two principal buildings separated by less than twenty feet (20') must either be constructed with a sprinkler system or have adjacent facing walls constructed with an approved fire-resistive exterior finish. Similarly, the applicant has requested a minimum building separation of fifteen feet (15'), provided that adjoining structures be built with cementitious siding or a similar fire-resistant material. The Department of Fire and Life Safety has indicated that it has no objection to the proposed minimum building separation, noting that fifteen feet (15') provides necessary space for emergency personnel to perform their tasks and effectively deploy ground ladders and that the proposed building exteriors will minimize the likelihood of fires spreading from one house to another.

- **Front Yard Setbacks.** The senior housing performance standards require front, side, and rear yards around each building that provide a minimum of 25 feet of open landscaped space. In PDR developments, front yard setbacks are governed by a provision requiring a minimum distance of thirty feet (30') between any principal building and any public or private street right-of-way; however, the Board has the ability to modify it upwards or downwards at the time of plan approval and has done so on several recent occasions. Twenty-foot (20') front yard setbacks have previously been approved for The Reserve at Williamsburg (with the condition, modified in 2013, that porches at least four feet in depth be provided), the approved single-family detached home subdivision (Marquis Estates) at The Marquis South Pod (in 2013), the Whittaker's Mill development (in 2014) on Peniman Road which is now under construction, and the approved Arbordale project on Bulifants Boulevard (in 2017). I believe that a 20-foot front yard setback would be equally appropriate in the Tranquility project but, I do not recommend approval of the applicant's request to allow front porches within fifteen feet (15') of the front property line.
- **Corner Lot Setbacks.** Section 24.1-220 of the Zoning Ordinance states that in the case of corner lots, all yards abutting a street are considered front yards with a minimum setback of thirty feet (30') unless a larger setback is otherwise required. However, for both the Whittaker's Mill and Arbordale developments, the Board has modified this provision by allowing the longer of the two "front" yards of corner lots – i.e., the side where the side of the house faces – to be treated as a side yard with a minimum setback of ten feet (10'). These allowances were based largely on the fact that with ten feet (10') of sidewalk and green area between the travel lanes and the lot boundaries, homes on corner lots would still be twenty feet from the paved street surface. For the Tranquility project, the applicant has requested a similar provision for corner lots but with a minimum side yard setback of 7.5 feet. While this project is also proposed to have sidewalks with green strips – at least on one side of the street – I know of no reason to reduce the minimum

allowable corner lot setback requirement even further than they have already been reduced in previous cases and I do not believe the aesthetic and safety objectives of front yard setback requirements would be achieved with 7.5-foot side yard setbacks from the street right-of-way.

- **Maximum Building Height.** The applicant is requesting a maximum building height of forty feet (40'), as specified in the PDR provisions. The senior housing performance standards allow a maximum height of 35 feet.
 - **Perimeter Buffer.** Senior housing developments are required to be surrounded by a fifty-foot (50') landscaped perimeter buffer, which is a standard Zoning Ordinance requirement for all multi-family housing. Since the proposed development is not an apartment complex, the applicant is requesting that this requirement be waived. It should be noted that most of the development would be surrounded by a buffer area significantly greater than fifty feet (50') simply by virtue of the large RPA buffer areas which are designated on the sketch plan as common open space. There would be only two areas with less than a 50-foot buffer, and in both instances, the sketch plan indicates that single-family detached units would be built adjacent to existing lots that are occupied by single-family detached homes. The Zoning Ordinance does not require transitional buffers between different single-family residential zoning districts adjacent to each other (between the RR and R13 zoning districts, for example).
4. For senior housing, the Zoning Ordinance requires a minimum of two hundred square feet of common active/passive outdoor recreation area per dwelling unit – slightly less than an acre in this case. The applicant has gone well beyond this requirement by designing the project to conform with the much higher open space and recreation area requirements of the PDR district (i.e., a minimum of 40% open space and 10% recreation area). As a result, the proposed development would have more extensive recreation amenities than required. Specifically, the senior housing standards require, at a minimum, a common meeting/activity room at least one thousand feet (1,000') in size with various facilities such as a lounge, kitchen, exercise equipment, etc. As described and proffered by the applicant, the Tranquility project would have 41.7 acres of open space (much of it in the RPA) with 9.1 acres of recreation area, including a swimming pool, a patio area with fire pit, a picnic area, a formal lawn at least 10,000 square feet in size for community events, and a clubhouse of at least 3,000 square feet which would include an open room of at least 1,000 square feet, an exercise room, and a kitchenette. The applicant has requested a waiver from the requirement that a chapel, beauty parlor, and laundry facilities be provided. While such amenities would be appropriate in a senior apartment community, I agree with the applicant that they are not needed in a community of single-family detached and attached homes, each of which will have its own laundry room.

5. Proposed access to the project would be via an extension of Tranquility Drive, which is a 24'-wide private street off of Penniman Road and Route 199 that serves the Kings Creek Plantation timeshare resort. The road extension would be located within an existing forty-foot (40') utility/access easement extending from the Kings Creek Plantation property to the subject property. The sketch plan also shows a proposed gated access to Springfield Road that would be used for emergency situations. This would not only provide access for emergency vehicles but also allow ingress and egress for residents in the event of a crash or other incident that caused Tranquility Drive to be blocked.

The Department of Fire and Life Safety has expressed the following concerns about the proposed use of Tranquility Drive to access the project:

- Kings Creek Plantation is a timeshare resort with families on vacation and various amenities that are accessed by foot.
- The Department of Fire and Life Safety responds to more emergencies in age-restricted communities than timeshare communities.
- Lights and sirens associated with emergency vehicle traffic along Tranquility Drive will reduce the quality of life for the timeshare occupants.
- Existing speed bumps on Tranquility Drive will slow down emergency response to the senior housing community and potentially cause additional pain and suffering for patients being transported.

As an alternative, the FLS Department recommends that Springfield Road, which is an older, substandard road serving twelve to thirteen residential properties, be redeveloped and used as the main entrance to the development.

The FLS Department's concerns are understandable; however, it should be noted that the pavement width of Springfield Road is only about ten (10) to thirteen (13) feet along most of its approximately 1,850-foot length, whereas the minimum VDOT width standard for a shoulder-and-ditch road carrying the amount of traffic that would be generated by the Tranquility project is eighteen feet (18'). A road widening of this magnitude would be a multi-million dollar project and would be cost-prohibitive for a housing development of this size (and, most likely, for virtually any potential development of the subject property, whether residential or commercial). Furthermore, if the development were to be accessed by Springfield Road, the emergency vehicle lights and sirens would be no less disruptive to the year-round residents who live along this road than they would be to the vacationers staying at Kings Creek Plantation. Similarly, residential streets also have foot traffic, although not as much on Springfield Road because of its low development density. Regarding the speed bumps, they are relatively modest in height, in staff's opinion, and there are only five of them along the entire 2,100-foot length of Tranquility Drive. In summary, although the proposed access arrangement might not be

ideal, I believe it is acceptable given the property's constraints and is probably the only feasible option available.

I am concerned, however, about the impact of construction traffic on Springfield Road and the residents it serves. According to the application materials, construction is expected to begin in 2019 and last through 2024. Springfield Road carries approximately 180 vehicles per day, according to 2016 traffic volume estimates published by VDOT, so there would be less traffic disruption than would be the case on a busier road. Another concern is noise. Pursuant to Section 16-19.2(h) of the County's noise ordinance, construction activities are limited to the hours of 7:00 AM to 7:00 PM *if any resulting sound is plainly audible beyond the boundary of the property on which the work is being performed*. In order to eliminate any possible ambiguity in the enforcement of this provision and minimize disruption of the adjacent residential neighborhood, staff has proposed a condition of approval specifically prohibiting construction activities on the site between 7:00 PM and 7:00 AM. In addition, I recommend that the developer be required to post a surety, in an amount determined sufficient by VDOT, to guarantee that when construction of the project is completed, Springfield Road will be restored to its previous or better condition. A condition to that effect has been included in the proposed resolution.

6. According to the traffic impact analysis (TIA) submitted by the applicant, the project can be expected to generate approximately 770 average daily vehicle trips, including 46 in the AM peak hour and 57 in the PM peak hour. These figures are based on the ITE (Institute of Transportation Engineers) *Trip Generation* manual (9th edition). By comparison, if timeshares were built on the subject property as currently approved, they would be expected to generate 1,271 average daily vehicle trips, including 26 in the AM peak hour and 115 in the PM peak hour. The timeshare trip estimates are based on existing traffic counts into and out of Kings Creek Plantation, which is accessed solely by Tranquility Drive, and an assumed development of 364 timeshare units. (The trip generation rates in the ITE manual are much higher than observed rates at Kings Creek Plantation.)

As previously noted, all traffic into and out of the development would be via Tranquility Drive and would travel through the unsignalized intersection of Tranquility Drive, Penniman Road, and Marquis Center Parkway (Route 199). The possible need for a traffic signal at this intersection sometime in the future was a topic of discussion in 1997 when Kings Creek Plantation was first approved and in 2005 when the 400-unit expansion was approved. A condition of previous site plan approvals for Kings Creek Plantation requires the developer to conduct a signal warrant analysis prior to the completion of 75% (825 units) of the original 1,100 units to determine if a traffic signal is needed at this intersection. This site plan condition also states that "the necessary funding of the required traffic signal, if any, shall be determined after the submission of the analysis." In the event that a signal is not warranted at the 75% stage, a use permit condition that was established with the approval of the 400-unit expansion in 2005 requires the timeshare developer to

have a second signal warrant analysis performed prior to the construction of the 1,101st unit.

The TIA for the Tranquility project indicates that a traffic signal will likely be warranted by 2024; the applicant has proffered to have another signal study conducted when the development reaches 80% of its build-out (170 units) and to install a traffic signal if one is warranted. Given the pace of construction at Kings Creek Plantation – with 458 units built in the past twenty years – it is likely that the Tranquility project threshold (170 units) will be reached before the 825th timeshare unit is built.

The TIA also indicates that if the project is approved, the existing right-turn lane from northbound Penniman Road onto Tranquility Drive will need to be extended from its current length of 180 feet of storage with a 90-foot taper to 200 feet of storage with a 200-foot taper. Accordingly, the applicant has proffered to build the necessary turn lane improvements prior to the issuance of the 110th Certificate of Occupancy for the development. The existing left-turn lane on southbound Penniman Road provides approximately 150 feet of storage and a 100-foot taper, and no further improvements will be warranted by the proposed development, according to the TIA.

7. In the fifteen years since the Zoning Ordinance was amended to provide opportunities for senior housing, the Board has approved ten senior housing projects and one mixed-use development with an age-restricted housing component. There are five age-restricted housing developments in place (with a combined total of 554 units) and six more (with a combined total of 835 units) that have been approved but are not yet built. Together these projects, which are listed in the table below, encompass a wide range of senior housing opportunities, including independent living, congregate care, assisted living, and memory care.

Project Name	Unit Type	Location	Units
Existing Projects			
Colonial Harbor	Congregate Care	Route 105/Route 17	118
Commonwealth Senior Living	Independent/Assisted	Commons Way	140
Verena Apartments	Independent Living	Mooretown Road/Reserve Way	120
Villas at Yorktown	Independent Living	Route 17/Falcon Road	72
The Crossings on the Peninsula	Assisted Living	Route 171/Route 134	104
SUBTOTAL			554
Future Projects			
South Park	Independent	Denbigh Boulevard	151
Pickett Property	Independent/Assisted	Route 17	300
Yorktown Crescent (portion)	Independent Living	Ft. Eustis Boulevard	44
Marlyn Development	Independent Living	Bulifants Boulevard	130
Hamilton Assisted Living	Assisted Living	Route 17/Battle Road	40
The Phoenix at Yorktown	Independent/Assisted	Victory Boulevard	170
SUBTOTAL			835
TOTAL			1,389

Not included in this table is The Reserve at Williamsburg, of which the Verena apartment complex was the first – and the only age-restricted – phase. The Reserve was first approved in 2006 as a 459-unit senior housing development consisting of an unspecified mix of apartments, condominiums, townhouses, single-family detached houses, and potentially an assisted living component. Following completion of the Verena apartments, the developer applied for an amendment to the Planned Development to remove the age-restriction from all future phases of the project. In explaining its rationale for the change, the developer cited a weak market for owner-occupied senior housing, the inability of seniors to sell their existing homes, and difficulty obtaining financing for one of the future phases (a 198-unit apartment complex) with the age restrictions in place. Ultimately the application was approved subject to proffered conditions which included cash proffers to address the school impacts. Market conditions have improved since then, and the proposed project is qualitatively different from the other approved senior housing projects in the County that are in the development pipeline. Nevertheless, the experience with The Reserve serves as a cautionary tale about the potential for future developer-initiated requests to “save” a lagging project in the face of changing market demands for age-restricted housing.

8. Two tributary streams run through the subject parcel, which is adjacent to King Creek. Consequently, much of the property is located within a Chesapeake Bay Resource Protection Area (RPA) buffer, primarily along the perimeter of the property. No home lots are proposed in the RPA, all of which is designated on the sketch plan as common open space. The boundaries of the RPA buffers have been verified by County Stormwater staff. In addition, a wetlands delineation of the property has been performed which has been approved by the Army Corps of Engineers (USACE) and indicates the presence of jurisdictional wetlands on the property. The project layout has been designed to avoid impacts on jurisdictional wetlands, which are located in areas designated as common open space; however, permits from the USACE and the state of Virginia will be required for the extension of Tranquility Drive across the RPA/wetland area that lies between the subject parcel and the adjacent parcel to the south.
9. The applicant has submitted a fiscal impact analysis for the proposed development which projects that in the stabilization year, the development is expected to generate annual net revenues (revenues minus expenditures) of \$575,000. The fiscal impact analysis uses a benefit-to-cost ratio to measure the strength of the fiscal impact, where a ratio greater than 1.0 indicates a positive fiscal impact (i.e., a ratio of 1.5-to-1 equals \$1.50 of revenue to the County for every one dollar spent on County-provided services). The analysis projects that the proposed development would yield a positive ratio of 3.07-to-1 annually and 4.24-to-1 over ten years.

Much of the positive fiscal impact is attributable to the fact that the units would be age-restricted to prohibit occupancy by school-age children. It should be noted, however, that there will likely be some indirect impact on school enrollment if this project is approved. Most senior housing residents come from the surrounding ar-

ea, so it is likely that at least some of the future Tranquility residents will be seniors who already live in the County and whose previous homes will be occupied by families with school-age children. It should also be noted that the fiscal impact analysis accounts for the increased demand placed on fire and life safety resources by senior housing developments in comparison with general market housing.

For purposes of comparison, the fiscal impact analysis also analyzes the fiscal impacts that would likely be associated with the approved by-right timeshare development. This analysis assumes that 364 timeshare units would be built on the property and that construction would not start until the completion of Kings Creek Plantation, beginning in FY 2039 and finishing in FY 2064. For these reasons, the fiscal impact analysis compares the present value of future net revenues generated by the proposed housing development and the alternative by-right timeshare development over a fifty-year period. Under these assumptions and this methodology, a timeshare development would be expected to have a higher benefit cost ratio of 11.4 to 1 but would generate significantly less net revenue. Specifically, a timeshare development would generate net revenues totaling \$3.4 million (based on present value) over the fifty-year period, compared to of \$11.3 million that would be generated by the proposed senior housing development. This is because the Tranquility project is assumed to be completed by FY 2025 and will be generating annual net revenues for a much longer period than would a by-right timeshare project.

10. The subject parcel is adjacent to Naval Weapons Station Yorktown. In accordance with Section 15.2-2204.D of the *Code of Virginia*, staff sent the Commanding Officer of the Naval Weapons Station written notice of this application and the opportunity to submit comments or recommendations. The Navy's comments are included in the attached letter from CAPT Kosnar dated February 7, which notes the property's proximity to an Explosive Ordnance Disposal (EOD) range and a new rifle range that is under construction and nearly complete. According to the letter, both of these facilities can generate high levels of noise – and, in the case of the EOD range, vibrations – at the project site that “typically generate complaints from residents and others engaged in noise sensitive land uses.” The letter recommends that “alternative site plans and project designs that account for” these noise impacts be utilized and that noise disclosure statements be included in real estate contracts for the sale or purchase of lots within the Tranquility project.

It should be noted that the noise exposure zones depicted in the attachments to CAPT Kosnar's letter are based on peak decibel levels (dBP), which measure noise at a specific instance in time, and not on day-night levels (DNL), which average noise over a 24-hour period and are more commonly used for land use planning. A Noise and Vibration Study conducted for the Naval Weapons Station in 2012 contains noise contour maps showing the area affected by EOD noise based on CDNL (C-weighted Day-Night Sound Level) modeling, which accounts specifically for impulse noise. According to these maps, none of the subject property is

within the noise zone where noise-sensitive uses are specifically not recommended (Noise Zone II, with a decibel range of 62 to 70 dBC).

The rifle range was also a topic of discussion when the residential rezoning of The Marquis South Pod was considered in 2013 and again in 2016 when that rezoning was amended. As was noted at the time, the military land use compatibility guidelines for small arms ranges cited in the Environmental Assessment (EA) that was performed for the range state that it is only in those areas with peak noise levels greater than 104 dBP that “noise-sensitive land uses” such as schools and housing are specifically not recommended; according to the noise modelling, peak noise levels generated by the rifle range will not exceed 104 dBP anywhere on the subject property. For areas with peak noise levels in the 87-104 dBP range, such as the subject parcel, the guidelines recommend that residential uses incorporate noise level reduction features into building design and construction. It should also be noted that the Tranquility parcel is approximately 4,000 feet further from the rifle range than is The Marquis South Pod.

PLANNING COMMISSION RECOMMENDATION

The Planning Commission considered this application at its February 14 meeting at which the applicant, the property owner, and a representative of Kings Creek Plantation spoke in support of the application. Following the public hearing, the Commission discussed and voted on the application. A motion to recommend approval of the application failed on a tie (2:2) vote, with Messrs. Myer and Peterman voting in the affirmative and Messrs. Jons and Phillips voting in the negative; Messrs. Sturk and Titus were absent, and Mr. King recused himself citing a potential conflict of interest. In voting not to recommend approval, Mr. Phillips expressed concern about the amount of residential development that has already been approved in recent years, and Mr. Jons expressed concern about the impact that construction of the project would have on the residents of Springfield Road in terms of noise and heavy construction vehicle traffic. No further motions were made. (For more information, please see the attached Planning Commission minutes.)

COUNTY ADMINISTRATOR RECOMMENDATION

Set back more than a third of a mile from Penniman Road and Route 199 (Marquis Center Parkway), with no public road access other than Springfield Road, which is well below VDOT’s minimum width standards, the subject parcel appears to have very little viability for the retail, office, and light industrial uses for which the EO zoning district is intended. In my opinion, any such uses along the Route 199/Penniman Road corridor are far more likely in the years ahead to locate in the existing Marquis retail center, which is also zoned EO, or the 32-acre EO-zoned property between Penniman Road and Route 199, which has 1,900 feet of road frontage along Route 199 and will have its viability for commercial development enhanced by the realignment of Water Country Parkway, which is expected to be under construction in the upcoming fiscal year and, when complete, will result in a four-way signalized intersection with Route 199 and Marquis Parkway.

With timeshare construction at Kings Creek Plantation less than half complete, the prospect of the subject parcel being developed as a timeshare community as previously approved appears remote, particularly since the King's Creek Plantation developer has allowed its option on the property to expire. Given the property's various constraints, the proposed senior housing community is an appropriate use of the property, in my opinion, and would be compatible with the surrounding area. In addition, I believe that most of the requested deviations from the senior housing performance standards are consistent with the intent of the PDR standards and appropriate in view of the fact that the applicant is proposing to build single-family detached and attached units rather than apartments.

I understand the concerns expressed by the Commanding Officer of the Naval Weapons Station and I appreciate the Navy's desire to be a good neighbor by promoting compatible land use around the base. While I believe the data indicates that the impact of noise on the proposed development will be an occasional annoyance rather than a recurring nuisance, I do agree with the Navy that there is value in ensuring that anyone considering purchasing a home in the development is aware that it is located adjacent to an active military base. Accordingly, a condition is proposed to require that information made available to prospective purchasers of homes or lots in the development include a statement disclosing that an active military base is adjacent to the development.

I recommend that the Board approve this application subject to the conditions set forth in proposed Ordinance No. 18-4.
Cross/3496

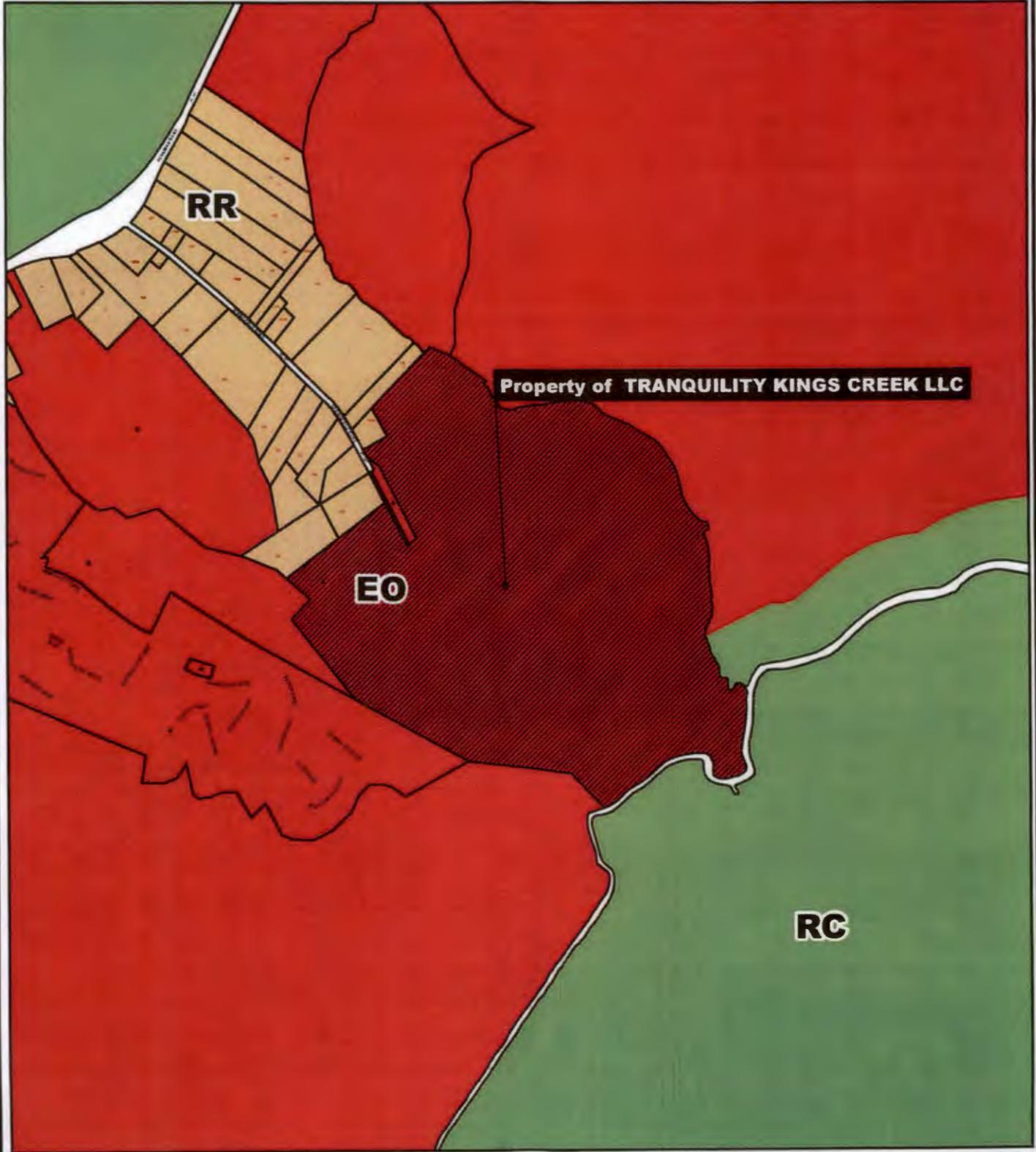
Attachments:

- Planning Commission minutes excerpts, February 14, 2018
- Zoning Map
- Project Narrative
- Survey Plat
- Sketch Plan
- Color Sketch Plan Exhibit
- Typical Lot Layouts
- Building Elevations
- Proffer Statement
- Environmental Analysis
- Analysis of Impacts on Public Facilities and Services
- Traffic Impact Analysis
- Fiscal Impact Analysis
- Letter from CAPT Kosnar dated February 7, 2018
- Proposed Ordinance No. 18-4

APPLICANT
Mid-Atlantic Land Management, LLC
Rezone from EO to PDR for 213-unit senior housing development
2000 SPRINGFIELD RD

ZONING MAP

APPLICATION NUMBER: PD-48-18



★ = Conditional Zoning

0 350 700 1,400
Feet

Printed on January 11, 2018



**SOURCE: YORK COUNTY
GIS PARCEL DATA and
ZONING DATA**

THIS IS NOT A LEGAL PLAT.
This map should be used for
information purposes only. It is
not suitable for detailed site planning.

Bellamy, Mark

From: Bellamy, Mark
Sent: Monday, November 15, 2021 11:02 AM
To: Green, Chad
Cc: Morgan, Neil; Kassel, Susan; 'Carroll, Rossie (VDOT)'
Subject: Springfield RD follow up
Attachments: 2021_11_15_10_03_15.pdf; Emergency access; RE: [EXTERNAL] CYCF - Springfield Road/Woods at King's Creek

Chad;

Last week you provided us a list of concerns raised by Conserve York County Foundation (CYCF) and the residents of Springfield RD, which is attached. The following are updates to those concerns;

1. Per the attached email dated 11/9/2021 the speed and traffic study shows the 85th percentile speed to be 27mph. Attached to this email was the traffic calming guide, which includes the procedure and requirements for physical traffic calming measures. Based on the conditions present, Springfield RD would not qualify for physical traffic calming measures. On 11/15 I spoke with Rossie Carroll, VDOT Residency Administrator, regarding temporary traffic calming measures. I was informed no temporary measures are available.
2. Pull-off - Per the attached email dated 11/9/2021, Public Works is working on creating a pull-off. As of 11/15 - Richard Sutton told me the developer has agreed to create this pull-off at his expense and construction of the pull-off may begin as early as this week. I understand VDOT has agreed to this as well. Our thanks to Richard.
3. Pavement Condition - As I mentioned above I spoke with Mr. Carroll this morning. He tells me they intend to do some minor paving work on Springfield. And that he had inspected the road last Thursday.
4. Overgrowth – Mr. Carroll tells me they will also be doing a small amount of trimming bushes, no trees.
5. Noise - Per Major Montgomery the Sheriff will enforce noise ordinance, which I've already included in an email to CYCF.
6. Emergency entrance- See attached email titled "Emergency access". Plans call for a controlled access to FLS.
7. Vegetation Buffer- As mentioned in 11/9/2021 email Ms. Kassel will approach the developer on this item.
8. Property Assessments / Assistance – This item addressed in 11/9/2021 email.
9. Street Lights. Last Friday, Planning and Development Services identified a group of poles that might be appropriate to host street lights. They are currently waiting on confirmation that these poles can support lights and if so the subsequent pricing from Dominion Energy. Our thanks to Caitlin Aubut.

I have not shared any updates with Walt or Ron. I assumed you would want to do that. If that's not the case let me know. As things change on these items we will update you as appropriate. Mark

Springfield Road/Woods of Kings Creek

We are residents living on or near Springfield Road in the Bruton District of York County. We have the following concerns about the Woods at Kings Creek development and the construction activities, which are scheduled to last five years.

1. Safety - Speeding is a daily problem on Springfield Road. The speeding has become much worse since construction began. We would like temporary traffic calming devices placed on Springfield Road until construction is complete.
2. Safety - Vehicles are unable to pass the large trucks. We could like the developer to build emergency pull-offs on Springfield Road (like those on Interstate 64 during construction) so vehicles can safely maneuver.
3. Safety - Road condition. Most of us have lived our entire lives on Springfield Road and since construction began, the condition of the road has worsened. We ask that VDOT repair damage that has occurred to date and for VDOT to monitor the condition of the road at least monthly.
4. Safety - Vegetation along and over Springfield Rd is causing large trucks to meander back and forth as they make their way down the road to avoid hitting tree limbs. The trucks are striking the vegetation. The trees and overgrowth need to be trimmed back.
5. Noise & Traffic - The developer is not abiding by the hours of operation they agreed to in the ordinance passed by the Board of Supervisors in 2018. Large trucks are routinely idling and loading starting at daybreak, well before 7:00am. We ask the developer to stop working before 7:00am and after 7:00pm.
6. Emergency Entrance - We are concerned the emergency entrance will eventually be transformed into a permanent entrance, disrupting our way of life after construction is finished.
7. Protecting Our Way of Life - Almost every family on Springfield Road has lived here for generations. We ask the developer to not build on lots 23-27 (5 lots) and lots 9-13 (5 lots) for a total reduction in lots of 10 and to restore vegetation for a buffer of at least 50 feet. This will help protect our small community defend our quiet way of life.
8. Increasing Property Assessments - We are concerned about increasing property assessments directly related to the building of this new community. We fear increasing assessments will force us from our neighborhood.

Other Comments:

9-Street Lights

164 Clark Ln

220 Banana Rd W 23186

Susie Wallace

1177 Springfield Rd
W 23188

Biganne
Nathan
Joshua Mullin 1151 Springfield Rd

Lawrence White

Name: James Moore

Address: 1115 Springfield Rd. 1167 Springfield Rd

Maria Miller - Elvora Smith - Arlene Mill

Bellamy, Mark

From: Bellamy, Mark
Sent: Tuesday, November 9, 2021 5:27 PM
To: 'Ron Struble'
Cc: Morgan, Neil
Subject: Emergency access
Attachments: Woods at Kings Creek emergency access.JPG

[Additional information regarding the emergency access.](#)

Bellamy, Mark

From: Bellamy, Mark
Sent: Tuesday, November 9, 2021 4:13 PM
To: 'Ron Struble'
Cc: Morgan, Neil; Doug Holroyd; Montee Jons; Green, Chad; Roane, Stephen; Zaremba, Walter C.; THOMAS CHAMBERLAIN; Kassel, Susan; Woodward, Brian; Sutton, Richard; Carroll, Rossie (VDOT); Montgomery, Ron; Shepperd, Thomas; Noll, Sheila S.
Subject: RE: [EXTERNAL] CYCF - Springfield Road/Woods at King's Creek
Attachments: FW: Spring Field Rd traffic data

Ron;

1. VDOT determines who gets speed bumps. <https://www.virginiadot.org/programs/resources/Traffic-Calming-Guide-For-Neighborhood-Streets.pdf> This link outlines the requirements for speed bumps. (physical traffic calming measures) The last, and only in my tenure, physical traffic calming measure took approximately two years from request to installation. Generally, it requires a consensus of the neighbors and specific approval by those living directly next to it. They do create noise. Those are just a couple of the many challenges of physical traffic calming measures.
2. Pull-offs. I hope we are able to do this. Still TBD.
3. I have an email from VDOT stating they will monitor the condition of the pavement during this time.
4. I'm not sure what "without warning" means. If it means you get a ticket the first time, remember that cuts both ways. And frankly that would be counter to the way the County enforces ordinances. Are you suggesting we should fine people the first time their grass gets too tall? That's not the way we have enforced that particular ordinance. They get a written warning first. Eventually non-compliance will get you in court with a judge, but not the first time. Dismiss an employee the first time they're late? I can't speak for the Sheriff but I would speculate with many things his Deputies have some discretion. Are you suggesting no discretion?
5. I'll suggest to VDOT to trim trees.
6. This request is inconsistent with the conversation we had the other night at the Senior Center. You told me the other night you were not trying to renegotiate, I think the word you used was "re-legislate" the development. I'll ask Susan to approach the developer. But, obviously this is not within our control as an approved site plan exists. I perceive it to be a really big ask.
7. The County has several programs to protect seniors, veterans and low income earners. I'd suggest those residents (not CYCF) who feel they might be impacted contact the appropriate County office, such as Housing, Social Services, Commissioner of Revenue or Utility Billing as appropriate.
8. This is a gated emergency access entry point required as part of the rezoning.
9. No question here. Your comments are so noted.

I've attached the speed and traffic study mentioned in a previous email. The 85 percentile speed is 27mph. The high speed was 42mph. And over the 6 day period there were 872 vehicles or about 145 per day. That sounds like a lot but is actually only about 1 every 10 minutes, assuming my math is correct. I've requested VDOT post speed limit signs on the road. By state code the speed is 25 as I understand it. One of the dynamics of getting involved with neighborhoods is often some portion of the speeders are the residents themselves. I hope this information is helpful. I'd noticed that Ms. Noll and Mr. Shepperd had been overlooked and have added them to this email for their awareness as well. I hope to have more specific answers for you as time allows. Mark

From: Ron Struble <struble6@gmail.com>
Sent: Monday, November 8, 2021 1:10 PM
To: Bellamy, Mark <bellamy@yorkcounty.gov>
Cc: Morgan, Neil <Neil.Morgan@yorkcounty.gov>; Doug Holroyd <doug.holroyd@gmail.com>; Montee Jons

<bpositive122@yahoo.com>; Green, Chad <Chad.Green@yorkcounty.gov>; Roane, Stephen <Stephen.Roane@yorkcounty.gov>; Zaremba, Walter C. <zaremba@yorkcounty.gov>; THOMAS CHAMBERLAIN <tchamberlain7@cox.net>; Kassel, Susan <Susan.Kassel@yorkcounty.gov>; Woodward, Brian <woodwarb@yorkcounty.gov>; Sutton, Richard <Richard.Sutton@yorkcounty.gov>; Carroll, Rossie (VDOT) <C.Carroll@vdot.virginia.gov>; Montgomery, Ron <montgomr@yorkcounty.gov>; Shepperd, Thomas <shepperd@yorkcounty.gov>; Noll, Sheila S. <noll@yorkcounty.gov>

Subject: Re: [EXTERNAL] CYCF - Springfield Road/Woods at King's Creek

Mark - I very much appreciate the quick response. The possibility of emergency pull-off (s) is news here and I believe will go a long way to remedying the most immediate safety issues we have highlighted for Springfield Rd.

I wanted to take a moment to step back and provide a compilation of concerns from the residents we have spoken with since we became involved two weeks ago. Springfield Rd consists of 12 residences and 8 vacant lots. The majority of residents are older, minority, and on a fixed income. We have spoken with six of the residents and here is a compilation of their (and our) concerns. Those six residents have told us they have spoken to "almost everyone" on the road, but we can't confirm that fact. We understand it will take time to address all of these, but I think it's fair for all to be familiar with what has been brought up by the community now that construction is underway and all residents there are aware of what is happening in their neighborhood. Mr. Green and Mr. Zaremba will be meeting us on Springfield Road to meet with some of the residents this week in order to hear their concerns firsthand and walk the space.

Resident/CYCF Concerns:

1. Speeding construction vehicles from Henderson & large trucks. CYCF: This has been satisfactorily addressed to date, but stricter enforcement by the YCSD does not appear to be a permanent solution as traffic will only increase as building construction ramps up. Could/would the County (or VDOT) consider speed bumps along the roadway, either temporary or permanent to slow traffic on a more longer-term basis?
2. Inability of vehicles to safely pass on Springfield Rd. CYCF: The solution of emergency pull-offs, if implemented appears to be a satisfactory solution to all.
3. Road condition. Residents claim the road is already seeing signs of additional decay from truck traffic. CYCF: Request VDOT monitor this road on a monthly basis until construction is complete and use funds set aside in the surety if the damage is occurring. We strongly advocate for the rehabilitation/repaving of this road when construction is complete.
4. Developer is not abiding by hours of operation they agreed to as written in the ordinance. CYCF: This needs to be strictly enforced without warning.
5. Vegetation needs to be trimmed along Springfield Rd causing large trucks to meander back and forth as they make their way down the road to avoid hitting tree limbs. Semi-trucks are striking the vegetation. CYCF: For YC/VDOT consideration or action.
6. The resolution removed buffers for the residents on Springfield Rd. As allowed, these new homes can be 20 feet from the Springfield Rd resident's property lines. All vegetation has already been removed. CYCF: We would ask York County to approach the developer and modify the plan to restore vegetated buffers to at least 30 feet or perhaps 50 feet. This would require the elimination of the following lots in the new development. These lots are 23-27 (5 lots) and lots 9-13 (5 lots) for a total reduction in lots of 10 from the plan. This would be a generous and long-term accommodation to the neighborhood in order to remedy the elimination of traditional

buffers in the original resolution. We recognize this would be totally voluntary on the developer's behalf, as the plan has already been approved.

7. Increasing property assessments. CYCF: Is there any means to protect these residents from increasing property assessments for their land?

8. Emergency entrance. Residents express concern this emergency entrance will be turned into a permanent entrance on Springfield Rd, increasing traffic permanently from the development. CYCF: Perhaps affirmation from the County and developer that they will not seek any adjustment to the entrance, or perhaps this entrance be removed and revegetated when construction is complete.

9. Residents have an overall sense they are being pushed out of the area and developers have an eye on their property to expand, due to its proximity to the highway system and amenities. The community is unsettled, to say the least. CYCF: This is a communication issue between Springfield Rd residents and their leaders, both elected, appointed, and paid staff. We also intend to address this sort of "pushing out" concern in the land use element of the new Comprehensive Plan.

Regards,
Ron Struble
President, Conserve York County Foundation

On Mon, Nov 8, 2021 at 10:55 AM Bellamy, Mark <bellamy@yorkcounty.gov> wrote:

Ron;

Good morning to you as well. To summarize that conversation for all copied here; we have very limited options for the issue as you portray it. The Sheriff's office can address some of the safety issues you allege and VDOT is aware of your concerns as well. As a first step I have asked the Sheriff's Office for increased presence there as resources allow. A few days later I also had a conversation with Major Montgomery. The result of that conversation was that the Sheriff's Office would do a speed study. (results will be available shortly)

With regard to this morning's email, generally, the site shouldn't be operational prior to 7am. Public Works is / will be working with the contractor on the following (no guarantees);

- Hours of operation
- Installation of a pull-off(s) to aid in traffic passing on Springfield

And while we recognize the inconvenience; there is the possibility of significant improvements for the residents of Springfield such as new road surface, a wider road surface and sanitary sewer.

Mark

From: Ron Struble <struble6@gmail.com>
Sent: Monday, November 8, 2021 9:49 AM

To: Bellamy, Mark <bellamy@yorkcounty.gov>

Cc: Morgan, Neil <Neil.Morgan@yorkcounty.gov>; Doug Holroyd <doug.holroyd@gmail.com>; Montee Jons <bpositive122@yahoo.com>; Green, Chad <Chad.Green@yorkcounty.gov>; Roane, Stephen <Stephen.Roane@yorkcounty.gov>; Zarembo, Walter C. <zarembo@yorkcounty.gov>; THOMAS CHAMBERLAIN <tchamberlain7@cox.net>; Kassel, Susan <Susan.Kassel@yorkcounty.gov>

Subject: [EXTERNAL] CYCF - Springfield Road/Woods at King's Creek

Mark - Good morning. I trust you had a good weekend. Note more video taken this morning (before dictated work hours) of work ongoing at the job site and also video of how vehicles are trying to pass on Springfield Road. Workers were loading a semi at 6:32 am (Video included). I do not know what time the loading began. That fully loaded sem (seen in video 7562 passing a pickup truck that has pulled off the road) departed fully loaded at 6:46 am. I have also included a third video of a truck passing a car, which has had to pull off the road, again before 7:00 am. I have not received anything from you other than verbally last Wednesday on our concerns. Can you please update me (in writing) on actions being taken/contemplated by the County to mitigate the truck passing issue and now you can add the contractor ignoring work hours to the list. This is the second violation as I understand after Susan said the trucks were to be clearing only, but the video we sent last week showed drainage equipment being brought in. I would add finally that since this rezoning approval included a waiver of community standards for buffers between adjacent property owners and all trees have been cleared, this loading is occurring approximately 150 unimpeded feet from a residence at 6:32 in the morning.

On the positive side, all of 10 vehicles I counted between 6:30 and 7:00, including the two semi's were driving very very slowly.

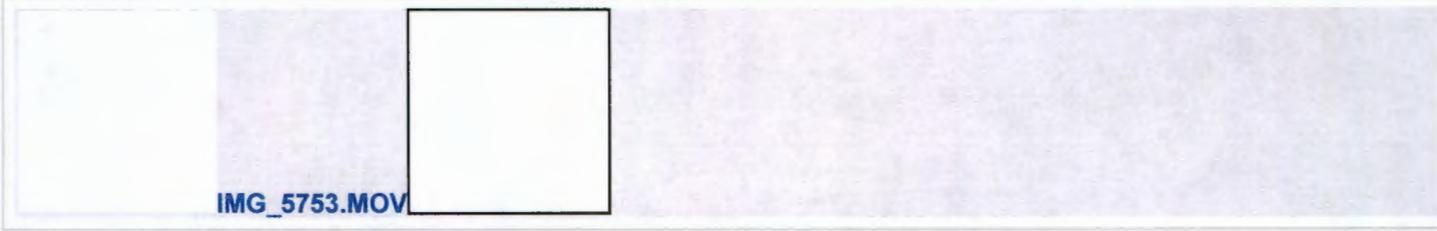
Sincerely,

Ron Struble

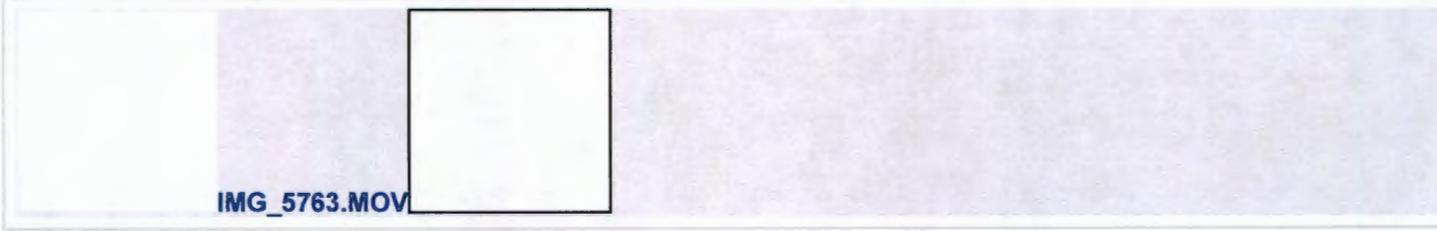
President, Conserve York County Foundationery slowly.

Sincerely,

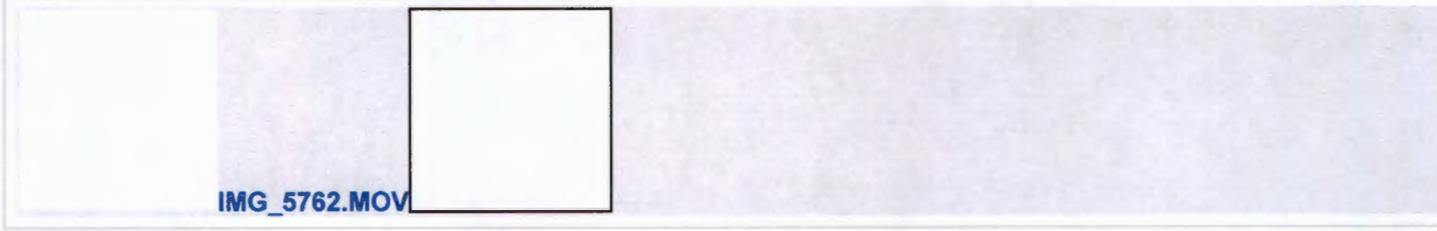
Ron Struble



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IMG_5763.MOV



IMG_5762.MOV

WARNING: This email originated outside York County's email servers. Please verify the sender's identity, and use caution when clicking any links or opening any attachments.

Bellamy, Mark

From: Bellamy, Mark
Sent: Monday, November 8, 2021 4:15 PM
To: 'Ron Struble'
Cc: Morgan, Neil; Doug Holroyd; Montee Jons; Green, Chad; Roane, Stephen; Zaremba, Walter C.; THOMAS CHAMBERLAIN; Kassel, Susan; Woodward, Brian; Sutton, Richard; Carroll, Rossie (VDOT); Montgomery, Ron; Shepperd, Thomas; Noll, Sheila S.
Subject: RE: [EXTERNAL] CYCF - Springfield Road/Woods at King's Creek

I'll reply as time permits. M

From: Ron Struble <struble6@gmail.com>
Sent: Monday, November 8, 2021 1:10 PM
To: Bellamy, Mark <bellamy@yorkcounty.gov>
Cc: Morgan, Neil <Neil.Morgan@yorkcounty.gov>; Doug Holroyd <doug.holroyd@gmail.com>; Montee Jons <bpositive122@yahoo.com>; Green, Chad <Chad.Green@yorkcounty.gov>; Roane, Stephen <Stephen.Roane@yorkcounty.gov>; Zaremba, Walter C. <zaremba@yorkcounty.gov>; THOMAS CHAMBERLAIN <tchamberlain7@cox.net>; Kassel, Susan <Susan.Kassel@yorkcounty.gov>; Woodward, Brian <woodwarb@yorkcounty.gov>; Sutton, Richard <Richard.Sutton@yorkcounty.gov>; Carroll, Rossie (VDOT) <C.Carroll@vdot.virginia.gov>; Montgomery, Ron <montgomr@yorkcounty.gov>; Shepperd, Thomas <shepperd@yorkcounty.gov>; Noll, Sheila S. <noll@yorkcounty.gov>
Subject: Re: [EXTERNAL] CYCF - Springfield Road/Woods at King's Creek

Mark - I very much appreciate the quick response. The possibility of emergency pull-off (s) is news here and I believe will go a long way to remedying the most immediate safety issues we have highlighted for Springfield Rd.

I wanted to take a moment to step back and provide a compilation of concerns from the residents we have spoken with since we became involved two weeks ago. Springfield Rd consists of 12 residences and 8 vacant lots. The majority of residents are older, minority, and on a fixed income. We have spoken with six of the residents and here is a compilation of their (and our) concerns. Those six residents have told us they have spoken to "almost everyone" on the road, but we can't confirm that fact. We understand it will take time to address all of these, but I think it's fair for all to be familiar with what has been brought up by the community now that construction is underway and all residents there are aware of what is happening in their neighborhood. Mr. Green and Mr. Zaremba will be meeting us on Springfield Road to meet with some of the residents this week in order to hear their concerns firsthand and walk the space.

Resident/CYCF Concerns:

1. Speeding construction vehicles from Henderson & large trucks. CYCF: This has been satisfactorily addressed to date, but stricter enforcement by the YCSD does not appear to be a permanent solution as traffic will only increase as building construction ramps up. Could/would the County (or VDOT) consider speed bumps along the roadway, either temporary or permanent to slow traffic on a more longer-term basis?
2. Inability of vehicles to safely pass on Springfield Rd. CYCF: The solution of emergency pull-offs, if implemented appears to be a satisfactory solution to all.
3. Road condition. Residents claim the road is already seeing signs of additional decay from truck traffic. CYCF: Request VDOT monitor this road on a monthly basis until construction is complete and use

funds set aside in the surety if the damage is occurring. We strongly advocate for the rehabilitation/repaving of this road when construction is complete.

4. Developer is not abiding by hours of operation they agreed to as written in the ordinance. CYCF: This needs to be strictly enforced without warning.
5. Vegetation needs to be trimmed along Springfield Rd causing large trucks to meander back and forth as they make their way down the road to avoid hitting tree limbs. Semi-trucks are striking the vegetation. CYCF: For YC/VDOT consideration or action.
6. The resolution removed buffers for the residents on Springfield Rd. As allowed, these new homes can be 20 feet from the Springfield Rd resident's property lines. All vegetation has already been removed. CYCF: We would ask York County to approach the developer and modify the plan to restore vegetated buffers to at least 30 feet or perhaps 50 feet. This would require the elimination of the following lots in the new development. These lots are 23-27 (5 lots) and lots 9-13 (5 lots) for a total reduction in lots of 10 from the plan. This would be a generous and long-term accommodation to the neighborhood in order to remedy the elimination of traditional buffers in the original resolution. We recognize this would be totally voluntary on the developer's behalf, as the plan has already been approved.
7. Increasing property assessments. CYCF: Is there any means to protect these residents from increasing property assessments for their land?
8. Emergency entrance. Residents express concern this emergency entrance will be turned into a permanent entrance on Springfield Rd, increasing traffic permanently from the development. CYCF: Perhaps affirmation from the County and developer that they will not seek any adjustment to the entrance, or perhaps this entrance be removed and revegetated when construction is complete.
9. Residents have an overall sense they are being pushed out of the area and developers have an eye on their property to expand, due to its proximity to the highway system and amenities. The community is unsettled, to say the least. CYCF: This is a communication issue between Springfield Rd residents and their leaders, both elected, appointed, and paid staff. We also intend to address this sort of "pushing out" concern in the land use element of the new Comprehensive Plan.

Regards,
Ron Struble
President, Conserve York County Foundation

On Mon, Nov 8, 2021 at 10:55 AM Bellamy, Mark <bellamy@yorkcounty.gov> wrote:

Ron;

Good morning to you as well. To summarize that conversation for all copied here; we have very limited options for the issue as you portray it. The Sheriff's office can address some of the safety issues you allege and VDOT is aware of your concerns as well. As a first step I have asked the Sheriff's Office for increased presence there as resources allow. A few days later I also had a conversation with Major Montgomery. The result of that conversation was that the Sheriff's Office would do a speed study. (results will be available shortly)

With regard to this morning's email, generally, the site shouldn't be operational prior to 7am. Public Works is / will be working with the contractor on the following (no guarantees);

- Hours of operation
- Installation of a pull-off(s) to aid in traffic passing on Springfield

And while we recognize the inconvenience; there is the possibility of significant improvements for the residents of Springfield such as new road surface, a wider road surface and sanitary sewer.

Mark

From: Ron Struble <struble6@gmail.com>
Sent: Monday, November 8, 2021 9:49 AM
To: Bellamy, Mark <bellamy@yorkcounty.gov>
Cc: Morgan, Neil <Neil.Morgan@yorkcounty.gov>; Doug Holroyd <doug.holroyd@gmail.com>; Montee Jons <bpositive122@yahoo.com>; Green, Chad <Chad.Green@yorkcounty.gov>; Roane, Stephen <Stephen.Roane@yorkcounty.gov>; Zarembo, Walter C. <zarembo@yorkcounty.gov>; THOMAS CHAMBERLAIN <tchamberlain7@cox.net>; Kassel, Susan <Susan.Kassel@yorkcounty.gov>
Subject: [EXTERNAL] CYCF - Springfield Road/Woods at King's Creek

Mark - Good morning. I trust you had a good weekend. Note more video taken this morning (before dictated work hours) of work ongoing at the job site and also video of how vehicles are trying to pass on Springfield Road. Workers were loading a semi at 6:32 am (Video included). I do not know what time the loading began. That fully loaded sem (seen in video 7562 passing a pickup truck that has pulled off the road) departed fully loaded at 6:46 am. I have also included a third video of a truck passing a car, which has had to pull off the road, again before 7:00 am. I have not received anything from you other than verbally last Wednesday on our concerns. Can you please update me (in writing) on actions being taken/contemplated by the County to mitigate the truck passing issue and now you can add the contractor ignoring work hours to the list. This is the second violation as I understand after Susan said the trucks were to be clearing only, but the video we sent last week showed drainage equipment being brought in. I would add finally that since this rezoning approval included a waiver of community standards for buffers between adjacent property owners and all trees have been cleared, this loading is occurring approximately 150 unimpeded feet from a residence at 6:32 in the morning.

On the positive side, all of 10 vehicles I counted between 6:30 and 7:00, including the two semi's were driving very very slowly.

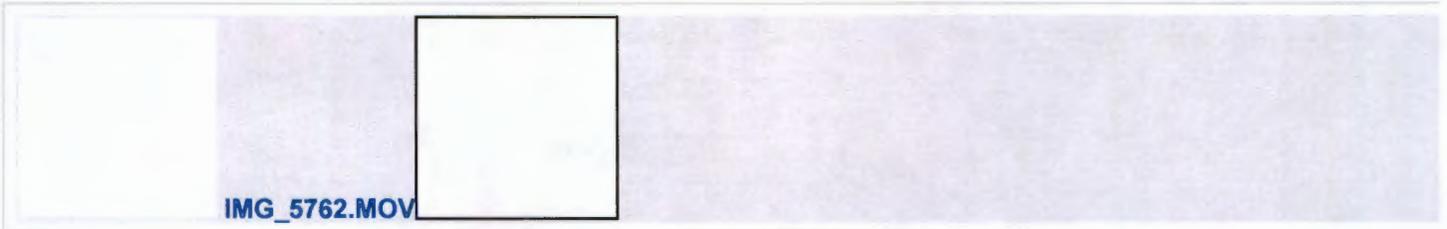
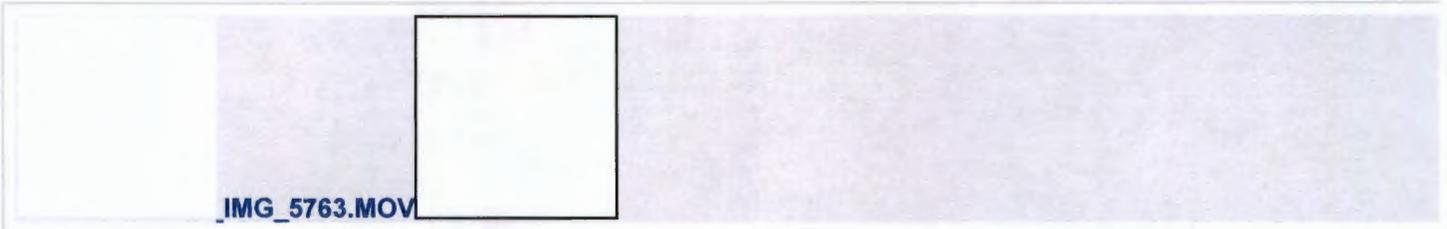
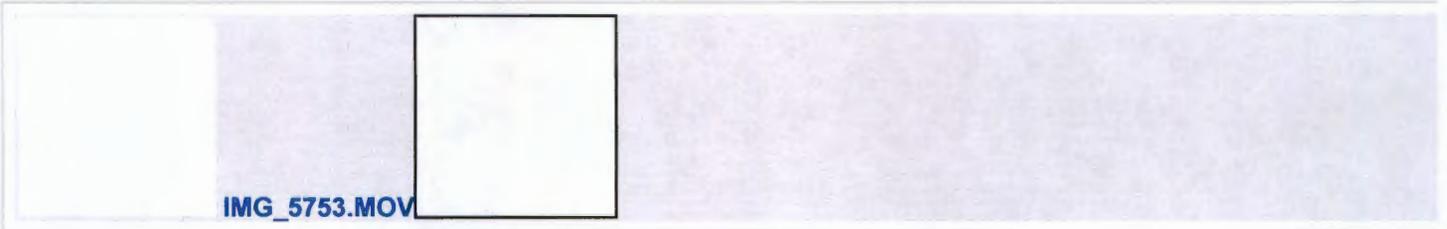
Sincerely,

Ron Struble

President, Conserve York County Foundationery slowly.

Sincerely,

Ron Struble



WARNING: This email originated outside York County's email servers. Please verify the sender's identity, and use caution when clicking any links or opening any attachments.

Springfield Road/Woods of Kings Creek

We are residents living on or near Springfield Road in the Bruton District of York County. We have the following concerns about the Woods at Kings Creek development and the construction activities, which are scheduled to last five years.

1. Safety - Speeding is a daily problem on Springfield Road. The speeding has become much worse since construction began. We would like temporary traffic calming devices placed on Springfield Road until construction is complete.
2. Safety - Vehicles are unable to pass the large trucks. We could like the developer to build emergency pull-offs on Springfield Road (like those on Interstate 64 during construction) so vehicles can safely maneuver.
3. Safety - Road condition. Most of us have lived our entire lives on Springfield Road and since construction began, the condition of the road has worsened. We ask that VDOT repair damage that has occurred to date and for VDOT to monitor the condition of the road at least monthly.
4. Safety - Vegetation along and over Springfield Rd is causing large trucks to meander back and forth as they make their way down the road to avoid hitting tree limbs. The trucks are striking the vegetation. The trees and overgrowth need to be trimmed back.
5. Noise & Traffic - The developer is not abiding by the hours of operation they agreed to in the ordinance passed by the Board of Supervisors in 2018. Large trucks are routinely idling and loading starting at daybreak, well before 7:00am. We ask the developer to stop working before 7:00am and after 7:00pm.
6. Emergency Entrance - We are concerned the emergency entrance will eventually be transformed into a permanent entrance, disrupting our way of life after construction is finished.
7. Protecting Our Way of Life - Almost every family on Springfield Road has lived here for generations. We ask the developer to not build on lots 23-27 (5 lots) and lots 9-13 (5 lots) for a total reduction in lots of 10 and to restore vegetation for a buffer of at least 50 feet. This will help protect our small community defend our quiet way of life.
8. Increasing Property Assessments - We are concerned about increasing property assessments directly related to the building of this new community. We fear increasing assessments will force us from our neighborhood.

Other Comments:

Street Lights

1600 Clark Ln

220 Barrow Rd Wauseon

Susie Wallace

1177 Springfield Rd
Wauseon OH 23188

Biyanne
Mullin
Joshua Mullin 1751 Springfield Rd

Lawrence White

Name: James Moore

Address: 1115 Springfield Rd. 1167 Springfield Rd

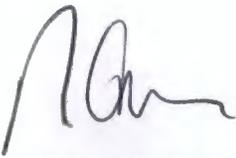
Annita Mullin - Gloray Smith - Arlene Mill

COUNTY OF YORK

MEMORANDUM

DATE: March 13, 2023

TO: York County Board of Supervisors

FROM: Neil A Morgan, County Administrator 

SUBJECT: Newport News Waterworks' Posture for Risk and Threat

As a follow up to your request during the March 7, 2023 work session the following outlines Newport News Waterworks (NNWW) history, current operations and risk/threat assessment.

NNWW History

Collis P. Huntington (1821 -1900) may best be known as a railroad magnate of the late 1800's and the founder of the shipyard. Equally significant to the local community, he is credited with creating the region's fresh water supply by establishing the Newport News Light and Water Company on August 12, 1889. The system continued to operate and grow under private ownership until 1926 when the City of Newport News acquired it, and the Virginia Assembly authorized a three-person commission to manage it; in 1958, the Waterworks Commission became a department under control of the City Manager. Since being chartered in 1889, Newport News Waterworks (NNWW) has developed into a regional utility that provides drinking water to the cities of Hampton, Newport News, Poquoson, and portions of York County and James City County.

Current Operations

Today, NNWW operates two water treatment plants; each capable of independently serving the needs of Peninsula residents under normal operations. Water is stored in a series of reservoirs throughout the region. Supply to the northern end of York County (Lightfoot) is augmented by a well system that was transferred from York County to NNWW in October 2008 based on an agreement from July 2004. NNWW provides annual water quality reports for its drinking water sourced from reservoirs and from the well system. The latest report for each is attached to this memorandum. Several sections are noteworthy in the report including "How We Treat Your Water, About Lead, and Important Health Information". The system supports roughly 410,000 customers with about 60,000 of those being York County residents and businesses.

Risk/Threat Framework

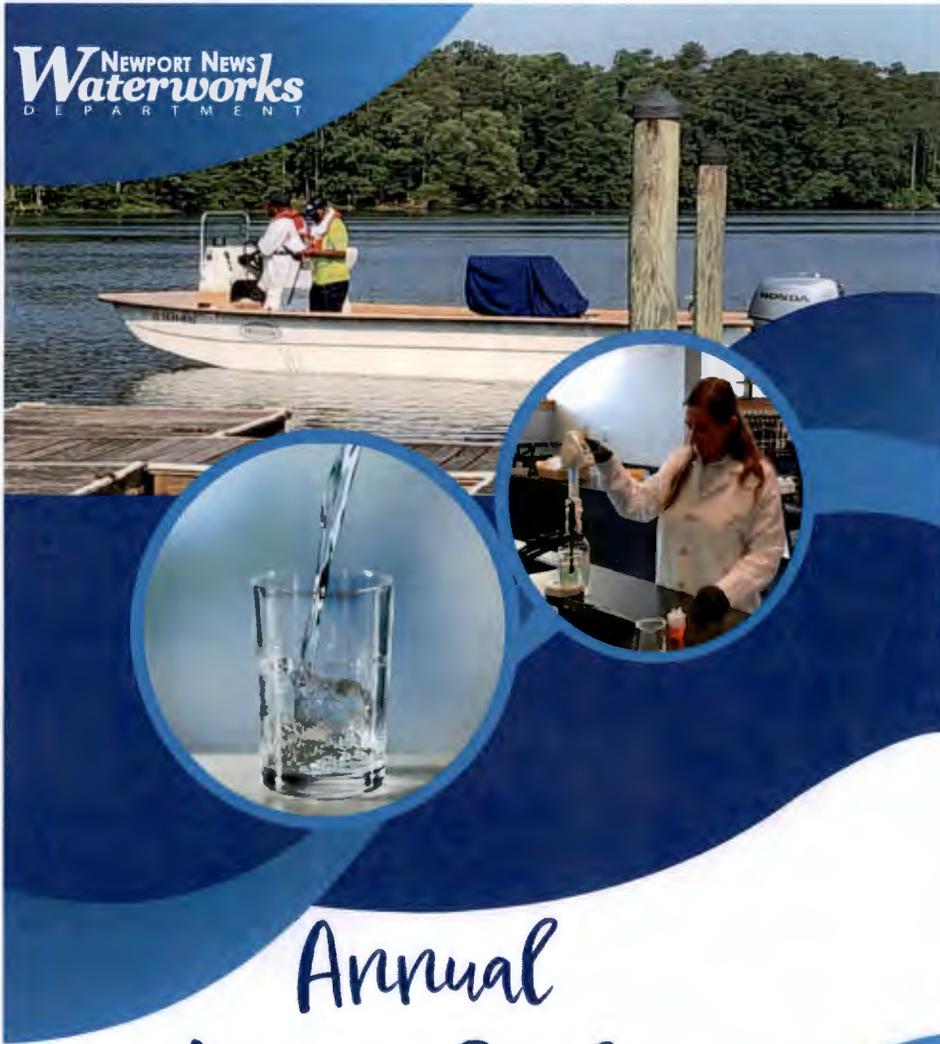
NNWW is a critical infrastructure that operates 24 hours per day, seven days per week, and 365 days per year. They have developed their own Continuity of Operations Plan (COOP), which is regularly exercised. Additionally, under the 2018 America's Water Infrastructure Act (AWIA), NNWW completed in 2020 a thorough vulnerability assessment of its installations and network; AWIA requires risk assessments and response plans to address

internal hazards or threats, such as cybersecurity, physical security, monitoring and testing. The assessments are for official use only; if further information is needed we would recommend a tour of one of the treatment plants and a briefing from NNWW staff. Please contact Mark and or Heather to arrange the tour, should you desire one.

Bellamy/3309

Attachment:

- Newport News Waterworks Quality Report



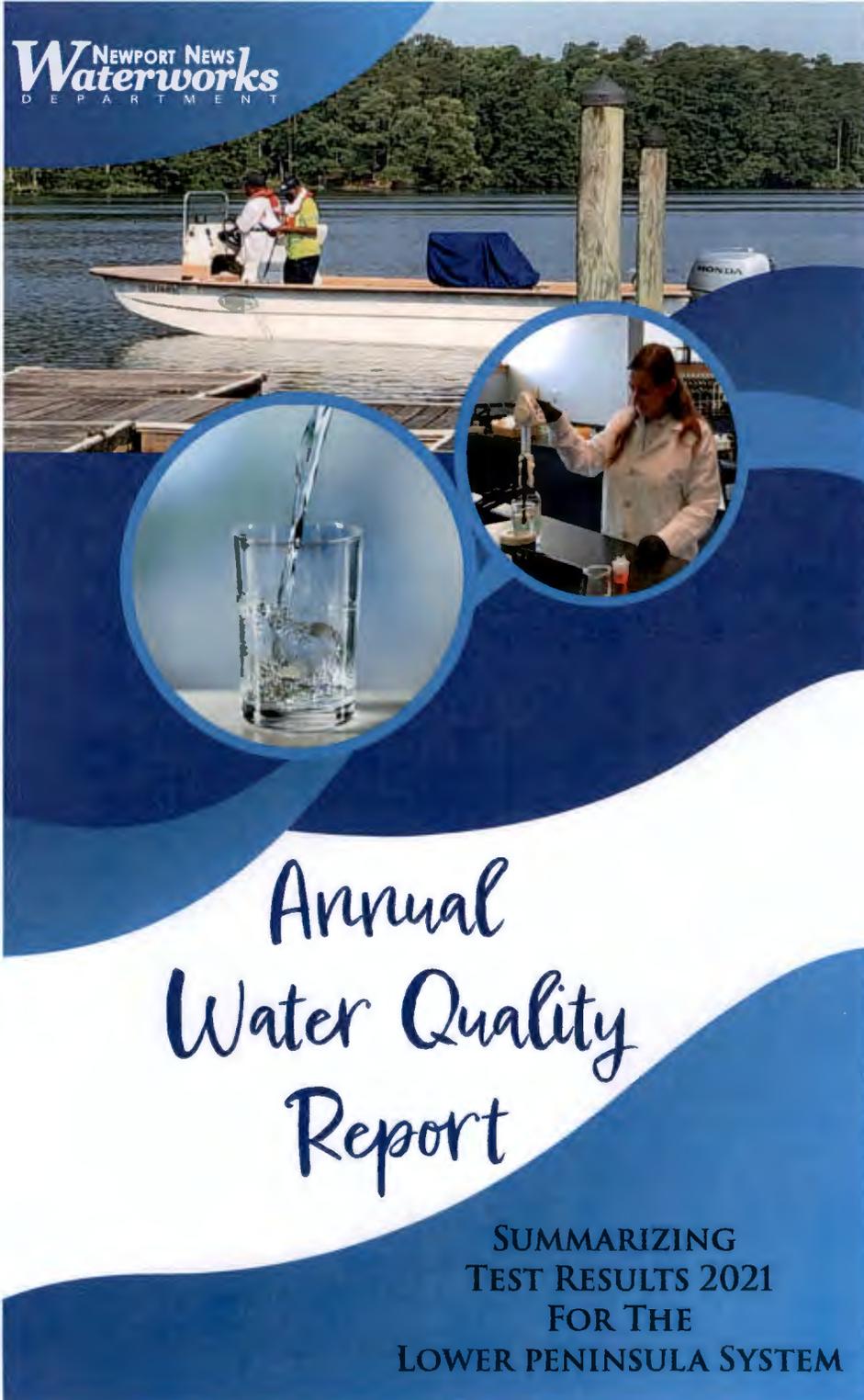
Annual Water Quality Report

Table of Contents

Lower Peninsula Report 2
Lower Peninsula Extended Data 15
Lightfoot System Report 22
Lightfoot System Extended Data 25
Click any page number to go directly to that page

COMBINED ANNUAL WATER QUALITY REPORT SUMMARIZING TEST RESULTS FROM 2021

W NEWPORT NEWS
Waterworks
DEPARTMENT



Annual Water Quality Report

SUMMARIZING
TEST RESULTS 2021
FOR THE
LOWER PENINSULA SYSTEM

ABOUT THIS REPORT

This annual water quality report or “Consumer Confidence Report” is written, prepared and distributed by the City of Newport News Waterworks Department (Newport News Waterworks) as required by the Safe Drinking Water Act. It is reviewed and approved by the Virginia Department of Health, Office of Drinking Water in Norfolk. This report explains where your water comes from, what our tests show about it and other things you should know about your drinking water.

This report and the water quality report for our Lightfoot System are available online at nnva.gov/waterqualityreport. Both online reports include additional test results. A paper copy of this report is available at all local libraries in the Waterworks service area and in city halls and county offices in our service area. If you would like to receive a copy of this report in the mail, please call Waterworks at 757-926-1000.

HOW CAN I GET INVOLVED?

Since Waterworks is a department of the City of Newport News, major decisions about your drinking water are made by Newport News City Council. They meet on the second and fourth Tuesday of each month at 7:00 p.m. and you are welcome to attend and participate. These meetings are broadcast live on the Newport News City Channel (in Newport News - Cox channel 48 and Verizon FIOS channel 19) and streamed live on Facebook at www.facebook.com/NewportNewsTV. They also can be viewed live or on-demand by all customers in our service area at www.nnva.gov/nntv.



NOTICIA EN ESPAÑOL

Este reporte contiene información importante acerca de la calidad del agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

CONTENTS

Your Water Utility	1
Where Your Water Comes From	2
Source Water Assessment	2
More About Source Water	3
How We Test Your Water	4
Key Terms	5
Water Quality Testing Results - Regulated Substances	6-7
Additional Testing	8
Water Quality Testing Results - Unregulated Substances	8
Water Quality Testing Results - Non-regulated Microbials	9
Important Health Information	9
How We Treat Your Water	10
Public Health Precautions	10
About Lead	11
Additional Information of Interest	12
Contact Information	Back Cover

YOUR WATER UTILITY

Newport News Waterworks serves as a regional water provider for five jurisdictions: Newport News, Hampton, Poquoson, York County and part of James City County. We are committed to providing a reliable supply of high quality drinking water to our customers. Our drinking water is treated and tested using state-of-the-art equipment and advanced procedures, and it meets or surpasses state and federal standards. The bottom line: The quality of your water is excellent.

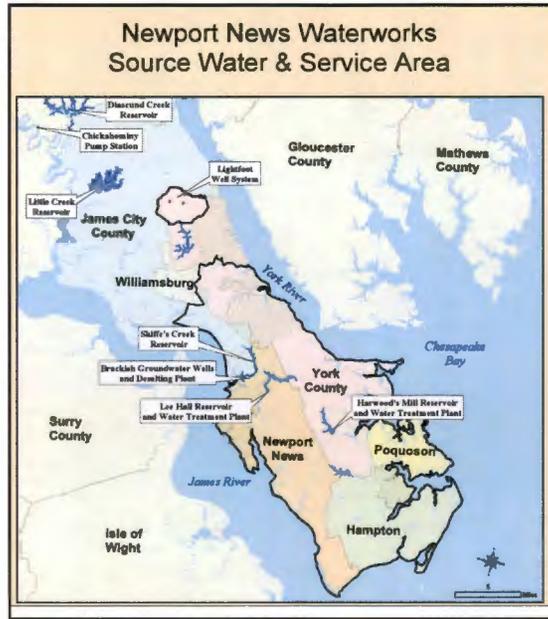


WHERE YOUR WATER COMES FROM

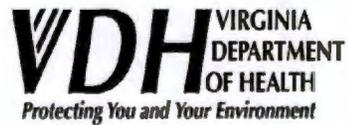
The primary source of your drinking water is surface water from the Diascund Creek Reservoir. When water is available, it is pumped from the river above Walkers Dam and transferred through pipes to our reservoirs for storage.

Waterworks owns and operates five reservoirs that store and supply water to our two treatment plants.

Small amounts of groundwater from deep wells in the Lee Hall area provide a second source of water. The two source waters are treated separately, then blended together before being distributed to the service area.



SOURCE WATER ASSESSMENT



The Virginia Department of Health (VDH) updated its Source Water Assessment of Waterworks' surface water sources in 2021. The report consists of maps showing the source water assessment area, an inventory

of known land use activities, potential sources of contamination, a susceptibility explanation chart and definitions of key terms. Using the criteria developed by the state in its approved Source Water Assessment Program, Waterworks' surface water sources are rated as relatively high in susceptibility to contamination (which is one reason why water treatment is so important), while our deep groundwater wells are rated as low in susceptibility. The Source Water Assessment is available from Waterworks by calling Customer Service at 757-926-1000.

MORE ABOUT SOURCE WATER

WHAT'S IN MY WATER BEFORE IT'S TREATED?

Generally speaking, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and radioactive material and can pick up substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides** that may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organics, are by-products of industrial processes and petroleum production, and also can come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

HOW WE TEST YOUR WATER

To ensure that tap water is safe to drink, U.S. Environmental Protection Agency (U.S. EPA) regulations limit the amount of certain contaminants in water provided by public water systems. (The U.S. Food and Drug Administration is responsible for setting these limits on bottled water.) The water quality information listed here is based upon tests conducted in 2021 by Newport News Waterworks. Samples of finished water were taken at regular intervals from specific locations (the treatment plants, residences, and businesses) across the Waterworks service area.



Every regulated substance that we detected in the water, even in the smallest amounts, is listed in the table on pages 6 and 7. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such

contamination, and whether or not Waterworks meets the set regulation. For help understanding the tables, please see the key terms on the next page and the footnotes at the bottom of the table. Tables with the results of testing for unregulated substances and non-regulated microbials can be found on pages 8 and 10.

An expanded version of the tables in this report, which list additional test results, can be found on our website at nnva.gov/waterqualityreport. A separate water quality report is available for our Lightfoot well system customers in York County. That report also can be found on our website. To request that copies of these reports be mailed to you, call Newport News Waterworks Customer Service at 757-926-1000.

KEY TERMS

We've defined these water-quality terms and abbreviations, some unique to the water industry, to help you better understand the test results on the following pages.

AL: Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL: Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible, using the best available treatment technology.

MCLG: Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL: Maximum Residual Disinfectant Level - The highest level of a disinfectant allowed in drinking water. The addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG: Maximum Residual Disinfectant Level Goal - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

MRL: Minimum Reporting Level - Estimate of the lowest concentration of a compound that laboratories would report as a detection.

ND: Not detected - Does not equate to zero, but refers to an amount below analytical reporting limits.

NTU: Nephelometric Turbidity Unit - A measure of water clarity. Turbidity greater than five (5) NTUs is just noticeable to the average person.

pCi/L: Picocuries per liter - A measure of radioactivity. EPA considers 50 pCi/L to be the level of concern for beta particles.

ppb: Parts per billion or micrograms per liter ($\mu\text{g/L}$). Equivalent to one penny in \$10 million.

ppm: Parts per million or milligrams per liter (mg/L). Equivalent to one penny in \$10 thousand.

ppt: Parts per trillion or nanograms per liter (ng/L). Equivalent to one penny in \$10 billion.

TT: Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

Turbidity: A measure of water clarity, which serves as an indicator of the treatment facility's performance.

WATER QUALITY TESTING RESULTS REGULATED SUBSTANCES

Contaminant	Unit	EPA's Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Highest Reportable Result (what we found)	Range of Individual Test Results Low-High	Meets State & Federal Standards	Likely Source
INORGANICS							
Copper	ppm	0	AL = 1.3	0.062 ¹	0.008-0.319	YES	Corrosion of household plumbing
Lead	ppb	0	AL = 15	<1.0 ¹	<1.0	YES	Corrosion of household plumbing
Fluoride	ppm	4	4	0.77	0.71-0.77	YES	Added to promote strong teeth
Barium	ppm	2	2	0.025	0.020-0.025	YES	Erosion of natural deposits
Nitrate	ppm	10	10	0.074	0.033-0.074	YES	Erosion of natural deposits
Nitrite	ppm	1	1	0.003	0.002-0.003	YES	Erosion of natural deposits
DISINFECTION BY-PRODUCTS AND PRECURSORS							
Total Trihalomethanes (TTHM)	ppb	0	80	17 ²	3-24	YES	By-product of chlorination
Haloacetic Acids (HAA5)	ppb	0	60	18 ²	<2-19	YES	By-product of chlorination
Total Organic Carbon (TOC) Removal		none	TT	1.19 ³	0.68-1.69	YES	Naturally present in the environment
MICROBIOLOGICAL							
Turbidity	NTU	n/a	TT	0.237 ⁴	0.018-0.237	YES	Soil runoff
Total Chlorine (Chloramines)	ppm	MRDLG=4.0	MRDL=4.0	3.2 ⁵	<0.02-5.3 ⁵	YES	Water additive (disinfectant) used to control microbes
RADIOLOGICAL (FROM TESTING COMPLETED IN 2016)							
Combined Radium -226 & -228	pCi/L	0	5	0.8	0.2-0.8	YES	Erosion of natural deposits
Beta emitters	pCi/L	0	4	2.5	1.4-2.5	YES	Decay of natural & man-made deposits

Footnotes:

Except for radiological testing, which was completed in 2016, the results reported in the table above are for samples taken in 2020-2021. Samples taken in 2020 are part of required four-quarter or annual running averages. Lead and Copper results are from 2019, but are not part of quarterly or annual running averages.

(1) At least 90% of the samples were at or below this level. None of the individual samples exceeded the Action Level. Because our lead and copper levels are so low, we only have to test every three years. Lead and copper testing was completed in 2019. **(2)** The highest detected levels of THM and HAA are based on a specific location's four-quarter running average. The range numbers are the results from individual samples. The data in "Highest Result" column include samples from 2020. The range is for samples taken in 2021. **(3)** Compliance is based on a running four-quarter average. The range is the individual monthly ratio from both water treatment plants. TOC has no adverse health effects, but can be a critical component in the formation of disinfection by-products. The data in the "Highest Result" column includes samples from 2020. The range is for samples taken in 2021. **(4)** Turbidity is a measure of water cloudiness. It is a good indicator of the effectiveness of our filtration system. 100% of samples were within the turbidity limit. **(5)** For Chloramines, a system-wide annual running average is used. The range numbers are the results of individual samples. The data in the "Highest Result" column includes samples from 2020. The range is for samples taken in 2021.

MCLs are set at very stringent levels. To experience the possible health effects described for many regulated contaminants, a person would have to drink two liters of water at the MCL level every day for a lifetime to have a one-in-a-million chance of having a possible health effect.

ADDITIONAL TESTING

In 2019, Waterworks participated in the U.S. EPA's fourth round of the Unregulated Contaminant Monitoring Rule (UCMR4). Unregulated contaminants are those that do not yet have a drinking water standard set by the U.S. EPA. The purpose of monitoring for these contaminants is to help the U.S. EPA decide whether they need to be regulated in the future in order to protect public health. The results for contaminants we detected are shown in the table below.

UNREGULATED CONTAMINANT MONITORING REGULATION-4 (UCMR4)					
UNREGULATED CONTAMINANTS					
Contaminant	Unit	MRL	Average	Range of Test Results (Low-High)	Sources and Comments
Manganese	µg/L	0.4	9.6	2.91-24.1	Naturally-occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemical; essential nutrient
Haloacetic Acids					
Dichloroacetic Acid (DCAA)	µg/L	0.2	11.6	1.6-27.1	By-product of drinking water chlorination
Trichloroacetic Acid (TCAA)	µg/L	0.5	3.0	0.7-11.7	By-product of drinking water chlorination
Dibromoacetic Acid (DBAA)	µg/L	0.3	<0.3	<0.3-0.4	By-product of drinking water chlorination
Bromochloroacetic Acid (BCAA)	µg/L	0.3	2.2	0.4-3.3	By-product of drinking water chlorination
Bromodichloroacetic Acid (BDCAA)	µg/L	0.5	0.8	<0.5-2.3	By-product of drinking water chlorination
Chlorodibromoacetic Acid (CDBAA)	µg/L	0.3	<0.3	<0.3-0.7	By-product of drinking water chlorination

WATER QUALITY TESTING RESULTS

NON-REGULATED MICROBIALS MONITORED AT THE SOURCE*

Contaminant	Unit	MCLG	MCL	Highest Amount Detected	Range of Test Results (Low-High)	Likely Source
<i>Cryptosporidium</i>	#/L	0	TT	0.05	0.00-0.05	Human or animal fecal waste

* Found in source water only, not in treated water.

IMPORTANT HEALTH INFORMATION

Cryptosporidium is a parasitic microbe found in surface waters throughout the U.S. Our monitoring indicates the presence of these organisms at very low levels in our source water but not in our treated water. Current test methods approved by the EPA do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause



cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps.

Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness.

We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. U. S. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

HOW WE TREAT YOUR WATER

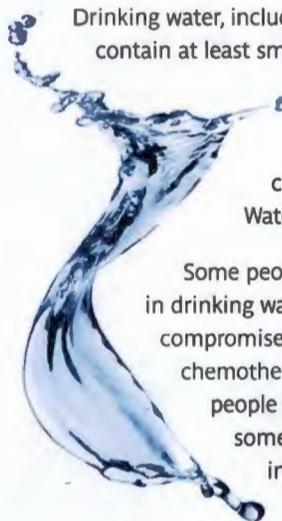
Untreated water is pumped to our treatment plants, where it passes through screens before aluminum sulfate (alum) and polymer are added. These chemicals cause tiny particles in the water to cling together (coagulation), making the particles easier to remove. After the water is clarified, ozone (disinfection) is added to kill micro-organisms such as bacteria and viruses. The water is then sent through filters to remove any remaining particles (filtration). Lime is added to adjust the pH, fluoride is added to prevent tooth decay, and zinc orthophosphate is added to control corrosion inside the pipes. Finally, chloramines, the secondary disinfectant, are added to maintain disinfection through the pipe system while the water travels to your home or business.



Filter gallery pipes at our Lee Hall Water Treatment Plant.

The brackish groundwater is pumped to the desalination plant located at our Lee Hall facility. Using a process called reverse osmosis, water is forced by high pressure through membranes that can remove the salt and other contaminants to produce very high quality water. When it is used, the finished water is blended with treated surface water and sent out to our customers.

PUBLIC HEALTH PRECAUTIONS



Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

ABOUT LEAD

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. **We have not detected lead in the treated water tested monthly at either of Waterworks' treatment plants.**

Lead in drinking water comes primarily from pipe materials associated with service lines and home plumbing. Waterworks is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.



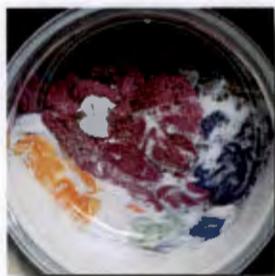
To reduce the potential for lead exposure, Waterworks adds lime during the treatment process to adjust the pH of the water and reduce corrosion of plumbing. We also add zinc orthophosphate to the water as a corrosion inhibitor. Zinc orthophosphate forms a protective

layer on the inside of the pipes, which prevents lead and other metals from dissolving into the water. Lime and zinc orthophosphate are harmless to humans – especially in the quantities we use – and help prevent lead contamination.

Nonetheless, if your water has been sitting for several hours or longer, you can further minimize the potential for lead exposure by running cold water until it becomes as cold as it will get before using it for drinking or cooking. This could take from 30 seconds to 2 minutes or even longer. **Waterworks and the health department recommend that you use only cold water for drinking, cooking, and especially for making baby formula.** Information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available from the Safe Drinking Water Hotline (800-426-4791) or at www.epa.gov/safewater/lead.

ADDITIONAL INFORMATION OF INTEREST

Sodium - The U.S. EPA has not set a standard for sodium in drinking water. However, sodium levels are usually low and unlikely to be a significant contribution to adverse health effects. The average level of sodium found in our treated water in 2021 was 11.8 mg/L and the range was 11.3-12.3. Should you have a health concern, please contact your health care provider.



Water Hardness - The U.S. EPA has not set a standard for hardness. Water treated by Newport News Waterworks is considered moderately hard (4-6 grains, which is equal to 70-120 mg/L as calcium carbonate or CaCO₃). In 2021 the average was 52 mg/L with a range of 40-64.

Fluoride - Fluoride is added to water to help prevent tooth decay. Newport News Waterworks adheres to drinking water regulations set by the U.S. EPA and guidance provided by the Virginia Department of Health (VDH). VDH has adopted the recommendation of 0.71 mg/L, set by the U.S. Department of Health and Human Services, as the optimum level of fluoride concentration in drinking water. This is the target Waterworks strives to achieve. Information about fluoridation, oral health, and current issues is available at www.cdc.gov/fluoridation.



ABOUT PFAS

Recent national news reports, books, and movies about a group of synthetic chemicals known as PFAS may have some Waterworks customers concerned about the safety of their drinking water. We want to assure you that we're aware of this issue and have been conducting water quality testing.

PFAS stands for perfluoroalkyl and polyfluoroalkyl substances. Two of these chemicals, Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), have been used to make carpets, clothing, food packaging, non-stick cookware, and other materials. They're also found in firefighting foams, which have been used extensively on U.S. military bases.

For most people, consumer products and food are the main sources of exposure to these chemicals; however, drinking water can be a source in communities where these chemicals have contaminated the water supplies. Such contamination is typically localized and associated with a specific facility, for example, an industrial plant where these chemicals were produced or an airfield at which they were used for firefighting.

There have been no industrial PFAS manufacturers, in the watersheds of Waterworks' reservoirs (properties that drain to our reservoirs), and our screening program includes airports and military facilities in the watersheds.

At this time, there is no regulatory limit on the concentration of these chemicals in drinking water. The U.S. EPA has, however, established a "health advisory" and is currently considering regulations. The voluntary health advisory sets a limit for the sum of two of the PFAS chemicals, PFOS and PFOA at 70 ng/l. Waterworks has detected both PFOS and PFOA in the treated water, however, at levels an order of magnitude below the health advisory limit. EPA has stated that it may regulate PFOS and PFOA in the future and Waterworks will continue to monitor developments in this area.

Waterworks customers can be assured that their water meets all federal and state standards for safety. We are committed to protecting public health and will continue to monitor this issue closely to stay ahead of potential health risks.

	Unit	MRL	MAX CONC	RANGE
Perfluorooctanoic Acid (PFOA)	ppt	2.0	4.3	<2.0-4.3
Perfluorooctane Sulfonate (PFOS)	ppt	2.0	5.9	3.1-5.9
Total PFAS	ppt	2.0	9.1	4.4-9.1



CONTACT US

If you have questions or concerns about your water or water quality, please contact Waterworks Customer Service.

Here is some important contact information to keep handy:

757-926-1000 8 a.m. - 5 p.m., Mon. - Fri.	wwcs@nnva.gov monitored 8 a.m. - 5 p.m., Mon. - Fri.
Drop Box & Walk-in Payment Center 700 Town Center Drive (Oyster Point City Center) 8 a.m. - 5 p.m., Mon. - Fri.	Drop Box & Walk-in Payment Center 2400 Washington Avenue (Newport News City Hall Annex) 8:30 a.m. - 4 p.m., Mon. - Fri.

Emergency Service: 757-234-4800

For emergencies only, after normal business hours, on weekends and holidays.

CONNECT WITH US

<https://myservices.nnww.nnva.gov>

Use our online portal to manage your account, pay your water bill, sign up for paperless billing, and choose automatic payment options, report an outage, and request certain services.

www.nnva.gov/waterworks

Check out our website to see our extended water quality report, read fact sheets, and find other helpful information.

www.facebook.com/nnwaterworks

Find us on Facebook to receive helpful tips, special announcements, and updates. Plus, we get to hear from you!

Yanni A. Le Gouvellec, PhD, P.E., BCEE, Director
Rhonda Sturgis, Ed.D., Acting Assistant Director
Bruce Utne, Acting Facilities Manager
Sherry L. Williams, Water Quality Manager

Waterworks Lower Peninsula System Water Quality Report 2021 - Expanded Version

TERM	DEFINITION
AL	Action Level
Finished Water	Treated water, drinking water
ICR	Information Collection Rule
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MRDL	Maximum Residual Disinfection Level
ND	Nephelometric Turbidity Units
NTU	Nephelometric Turbidity Units

TERM	DEFINITION
ppb	parts per billion or micrograms per liter (ug/L)
ppm	parts per million or milligrams per liter (mg/L)
ppt	parts per trillion or nanograms per liter (ng/L)
pCi/L	picocuries per liter (a measure of radioactivity)
Source Water	Water prior entering the treatment plant, reservoir water
TT	Treatment Technique
VOC	Volatile Organic Compound

2021 Regulated Contaminants of the Distribution System

Contaminant, units	MCLG	MCL	MAX CONC	RANGE	COMMENTS
Total Coliform	0	Presence of coliform bacteria in >5% of monthly samples	0.00%	0.0% - 0.0%	0 positive samples in 2021. 2180 samples collected 2021
E.Coli	0	A routine sample & a repeat sample are total coliform positive, and one is also fecal coliform or E.coli positive	0%		
Total Trihalomethane THM, ppb	0	80	17	3 - 24	Max Conc- qt compliance avg at a specific site Range- individual samples collected in 2021
HAA(5)	0	60	18	<2 - 19	Max Conc- qt compliance avg at a specific site Range- individual samples collected in 2022
Total Chlorine (Chloramines)	4	MRDL=4.0	3.2	<0.02 -5.3	Max Conc- mn compliance avg, includes 2020 data Range- individual samples collected in 2021
TOC Removal		TT (Compliance removal ratio)	1.22 (Min % removal)	1.06-1.70	Min Conc- qt compliance avg, includes 2020 data Range- weekly samples collected in 2021
Lead, ppb		AL=15 (>10% samples exceed AL)	<1.0 90% percentile	<1.0	2019 Sampling event; no sample exceeded the AL
Copper, ppm		AL=1.3 (>10% samples exceed AL)	0.062 90% percentile	0.008 - 0.319	2019 Sampling event, no samples exceeded the AL

2021 Regulated Health Risk Contaminants

Inorganics- Regulated at the Treatment Plant

Substance	Unit	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	COMMENTS
Arsenic	ppb	none	50	<1			YES	NO	
Antimony	ppb	6	6	<1			YES	NO	
Barium	ppm	2	2	0.025	0.020-0.025	Erosion of natural deposits	YES	NO	
Beryllium	ppb	4	4	<1			YES	NO	
Cadmium	ppb	5	5	<1			YES	NO	
Chromium	ppb	100	100	<1			YES	NO	
Cyanide	ppb	200	200	<5			YES	NO	2018 data
Fluoride	ppm	4	4	0.77	0.71 - 0.77		YES	NO	Fluoride is added to promote strong teeth
Mercury	ppb	2	2	<0.2			YES	NO	
Nitrate	N, ppm	10	10	0.074	0.033- 0.074	Erosion of natural deposits	YES	NO	
Nitrite	N, ppm	1	1	0.003	0.002-0.003	Erosion of natural deposits	YES	NO	
Lead	ppb	n/a	15-AL	<1			YES	NO	2019 data
Selenium	ppb	50	50	<2			YES	NO	
Thallium	ppb	0.5	2	<1			YES	NO	
Bromate	ppb	0	10	<1			YES	NO	
Turbidity	NTU	n/a	TT	0.237	0.018-0.237		YES	NO	At least 100% of monthly samples had turbidity of < 0.30 NTU

Radiological- Regulated at the Treatment Plant

Substance	Unit	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	COMMENTS
Gross Alpha, inc Radon & Uranium	pCi/L	0	15	ND	ND	Erosion of natural deposits	YES	NO	2016 samples
Combined Radium (-226 & -228)	pCi/L	0	5	0.8	0.2-0.8		YES	NO	2016 samples
Beta emitters	pCi/L	0	4	2.5	1.4-2.5	Decay of natural & man-made deposits	YES	NO	2016 samples

2021 Regulated Nonhealth Risk Contaminants

Contaminant, units	MCLG	MCL	AVERAGE	RANGE
pH	n/a	6.5-8.2	7.6	7.5 - 7.6
Chloride, ppm	n/a	250	16	16
Color, color units	n/a	15	0	0
Copper, ppm	n/a	1.3	<0.001	0.000 - 0.001
Iron, ppb	n/a	300	4	0 - 8
Manganese, ppb	n/a	50	6.4	5.1 - 7.7
Silver, ppb	n/a	100	<1	ND
Sulfate, ppm	n/a	500 (proposed)	32	30 - 33
Total Dissolved Solids, ppm	n/a	500	111	103 - 119
Zinc, ppm	n/a	5	0.207	0.185 - 0.229

2021 Regulated Health Risk Contaminants

Organics- Regulated at the Treatment Plant

Substance	Units	MCLG	MCL	AVERAGE	RANGE	Likely Source	Meets EPA Standards	Violations?
Regulated VOC	ppb							
Benzene	ppb	0	5	ND	ND		YES	NO
Carbon Tetrachloride	ppb	0	5	ND	ND		YES	NO
Chlorobenzene	ppb	100	100	ND	ND		YES	NO
o-Dichlorobenzene	ppb	600	600	ND	ND		YES	NO
p-Dichlorobenzene	ppb	75	75	ND	ND		YES	NO
1,2-Dichloroethane	ppb	0	5	ND	ND		YES	NO
1,1-Dichloroethylene	ppb	7	7	ND	ND		YES	NO
cis-1,2-Dichloroethylene	ppb	70	70	ND	ND		YES	NO
trans-1,2-Dichloroethylene	ppb	100	100	ND	ND		YES	NO
Dichloromethane	ppb	0	5	ND	ND		YES	NO
1,2-Dichloropropane	ppb	0	5	ND	ND		YES	NO
Ethylbenzene	ppb	700	700	ND	ND		YES	NO
Styrene	ppb	100	100	ND	ND		YES	NO
Tetrachloroethylene	ppb	0	5	ND	ND		YES	NO
1,2,4-Trichlorobenzene	ppb	70	70	ND	ND		YES	NO
1,1,1-Trichloroethane	ppb	200	200	ND	ND		YES	NO
1,1,2-Trichloroethane	ppb	3	5	ND	ND		YES	NO
Trichloroethylene	ppb	0	5	ND	ND		YES	NO
Toluene	ppb	1	1	ND	ND		YES	NO
Vinyl Chloride	ppb	0	2	ND	ND		YES	NO
Xylene	ppb	10	10	ND	ND		YES	NO
38 Unregulated VOC	ppb	n/a	n/a	ND	ND		n/a	n/a
Chloroform	ppb	n/a	n/a	4.6	3.7-5.6	By-product of drinking water chlorination	n/a	n/a
Dichlorobromomethane	ppb	n/a	n/a	2.2	2.1-2.2	By-product of drinking water chlorination	n/a	n/a
Dibromochloromethane	ppb	n/a	n/a	0.8	0.6 - 0.9	By-product of drinking water chlorination	n/a	n/a
Bromoform	ppb	n/a	n/a	ND	ND-1	By-product of drinking water chlorination	n/a	n/a

2021 Miscellaneous Analyses of Finished Water at Water Treatment Plant

Contaminant	Units	MCLG	MCL	AVERAGE	RANGE
Alkalinity	CaCO3 ppm	n/a	n/a	32	35 - 66
Aluminum	ppb	n/a	50-200	23	<25 - 186
Bromide	ppb	n/a	n/a	<0.010	<0.010 - 0.13
Calcium	ppm	n/a	n/a	20	22 - 42
Hardness	CaCO3 ppm	n/a	n/a	52	40 - 64
Lead	ppm	n/a	n/a	<1	<1
Magnesium	ppm	n/a	n/a	1.7	0.9 -2.6
Molybdate	ppb	n/a	n/a	<1	<1
Nickel	ppb	n/a	n/a	<1	<1
Ortho-Phosphorus	P, ppm	n/a	n/a	0.210	0.196 - 0.289
Potassium	ppm	n/a	n/a	1.4	1.1 - 3.6
Silica	ppm	n/a	n/a	2.0	1.0 - 4.0
Sodium	ppm	n/a	n/a	11.8	11.3-12.3
Specific Conductance	uhmo/cm	n/a	n/a	174	189 - 245

Analytee	Unit	MRL	MAX	RANGE	Comment
PFOA	ppt	2.0	4.3	<2.0 - 4.3	
PFOS	ppt	2.0	5.9	3.1 - 5.9	
Total PFAS	ppt	2.0	9.1	4.4 - 9.1	EPA Health Advisory= 70 ppt

2021 Microbial Monitoring of Source Water

Substance	Unit	MCLG	MCL	MAX CONC	RANGE
Giardia	#/L	0	n/a	0.050	0.00 - 0.05
Cryptosporidium	#/L	0	TT	0.050	0.00 - 0.05

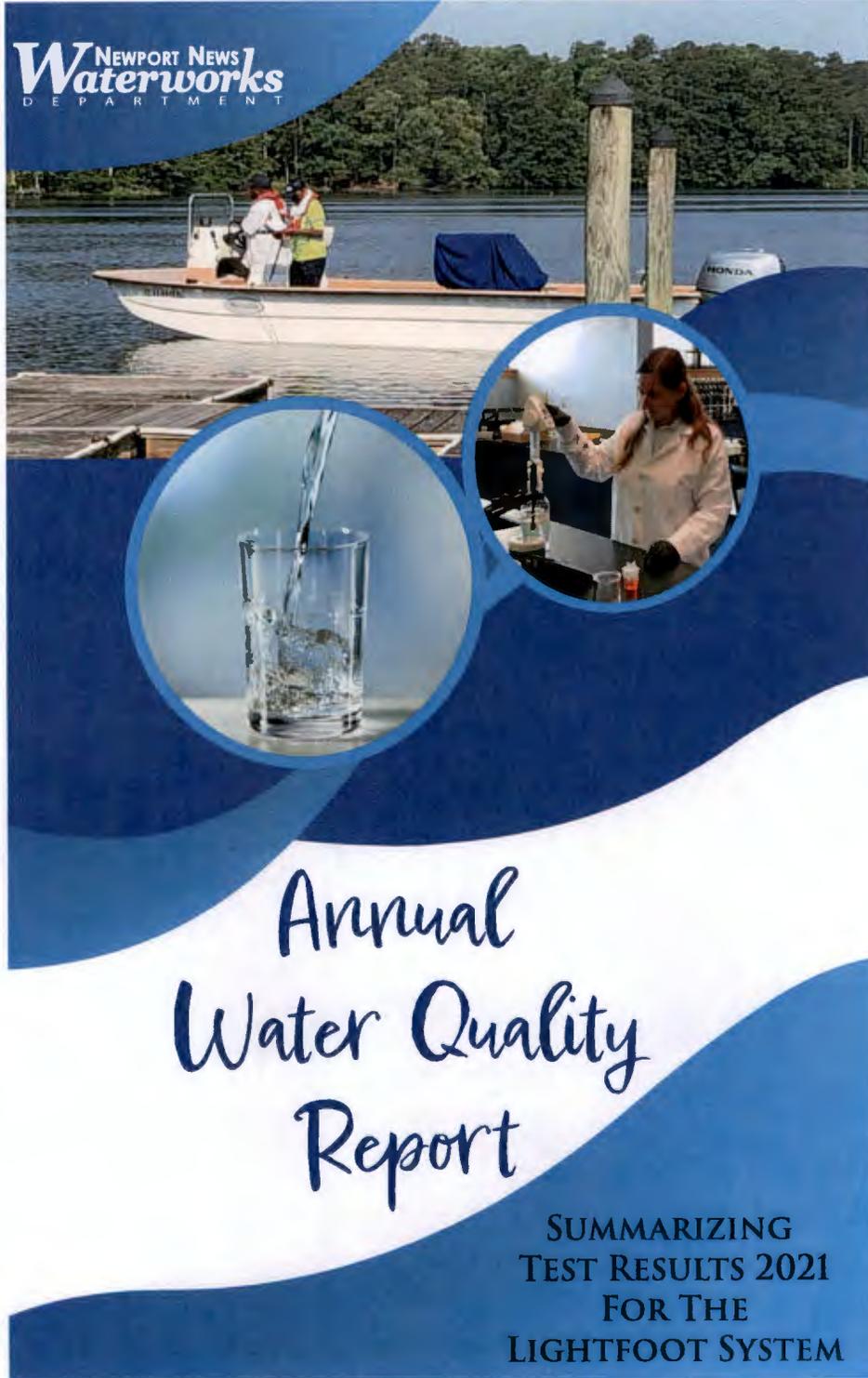
Unregulated Contaminant Monitoring Regulation- UCMR4 (2018-2019)

Analytee	Units	MRL	AVG. CONC	RANGE	Sources and Comments
Manganese	ug/L	0.4	9.6	2.91 - 24.1	Naturally-occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemical; essential nutrient
Haloacetic Acids					By-product of drinking water chlorination.
DCAA	ug/L	0.2	11.6	1.6 - 27.1	
TCAA	ug/L	0.5	3.0	0.7 - 11.7	
DBAA	ug/L	0.3	<0.3	<0.3-0.4	
BCAA	ug/L	0.3	2.2	0.4-3.3	
BDCAA	ug/L	0.5	0.8	<0.5 - 2.3	
CDBAA	ug/L	0.3	<0.3	<0.3-0.7	

Unregulated Contaminant Monitoring Regulation-4 (URMC4)				
Unregulated Contaminates	UNITS	MRL	MAX	Range
UCMR4- Trace Metals				
Geranium	µg/L	0.3	<0.3	<0.3
Manganese	µg/L	0.4	24.1	2.9 - 24.1
UCMR- Pesticides and Pesticide Manufacturing Byproduct				
alpha-Hexachlorocyclohexane	ug/L	0.01	<0.01	<0.01
Chlorpyrifos	ug/L	0.03	<0.03	<0.03
Dimethipin	ug/L	0.20	<0.02	<0.02
Ethoprop	ug/L	0.03	<0.03	<0.03
Oxyfluorfen	ug/L	0.05	<0.05	<0.05
Profenofos	ug/L	0.3	<0.3	<0.3
Tebicomazole	ug/L	0.2	<0.2	<0.2
Permethrin, cis & Tran	ug/L	0.04	<0.04	<0.04
Tribufos	ug/L	0.07	<0.07	<0.07
UCMR4- Semi-Volatile Organic Compounds				
Butylated hydroxyanisole	ug/L	0.03	<0.03	<0.03
o-Toluidine	ug/L	0.007	<0.007	<0.007
Quinoline	ug/L	0.02	<0.02	<0.02
UCMR4- Organic Alcohols				
1-Butanol	ug/L	2.0	<2.0	<2.0
2-Methoxyethanol	ug/L	0.4	<0.4	<0.4
2-Propen-1-ol	ug/L	0.5	<0.5	<0.5
UCMR4- Microcystin Congeners and Nodularin				
Microcystin-LA	µg/L	0.008	<0.008	<0.008
Microcystin-LF	µg/L	0.006	<0.006	<0.006
Microcystin-LR	µg/L	0.02	<0.02	<0.02
Microcystin-LY	µg/L	0.009	<0.009	<0.009
Microcystin-RR	µg/L	0.006	<0.006	<0.006
Microcystin-YR	µg/L	0.02	<0.02	<0.02
Nodularin	µg/L	0.005	<0.005	<0.005

Unregulated Contaminant Monitoring Regulation-4 (URMC4)				
Unregulated Contaminates	UNITS	MRL	MAX	Range
UCMR4- Cylindrospermopsin and Anatoxin				
Anatoxin-a	ug/L	0.03	<0.03	<0.03
Clyindrospermopsin	ug/L	0.09	<0.09	<0.09
UCMR4- Total Microcystin				
Total Microcystins	µg/L	0.3	<0.3	<0.3
UCMR4- Haloacetic Acids				
Monochloroacetic Acid (MCAA)	µg/L	2.0	2.9	<2.0 - 2.9
Monobromoacetic Acid (MBAA)	µg/L	0.3	0.3	<0.3 - 0.3
Dicloroacetic Acid (DCAA)	µg/L	0.2	27.1	1.6 - 27.1
Trichloroacetic Acid (TCAA)	µg/L	0.5	11.7	0.7 - 11.7
Dibromoacetic Acid (DBAA)	µg/L	0.3	0.4	<0.3 - 0.4
Bromochloroacetic Acid (BCAA)	µg/L	0.3	3.3	0.4 - 3.3
Bromodichloroacetic Acid (BDCAA)	µg/L	0.5	2.3	<0.5 - 2.3
Chlorodibromoacetic Acid (CDBAA)	µg/L	0.3	0.7	<0.3 - 0.7
Tirbromoacetic Acid (TBAA)	µg/L	2.0	<2.0	<2.0

W NEWPORT NEWS
Waterworks
DEPARTMENT



Annual Water Quality Report

SUMMARIZING
TEST RESULTS 2021
FOR THE
LIGHTFOOT SYSTEM

ABOUT THIS REPORT

This annual water quality report or “Consumer Confidence Report” is written, prepared and distributed by the City of Newport News Waterworks Department (Waterworks) as required by the Safe Drinking Water Act. It is reviewed and approved by the Virginia Department of Health, Office of Drinking Water in Richmond. This report explains where your water comes from, what our tests show about it and other things you should know about your drinking water.

The report provides details about the water you drink every day as a customer of Newport News Waterworks. We test our water for the presence of more than 100 substances, and this report includes a chart showing you the levels of several regulated and non-regulated substances we detected in 2021. Our goal is to meet your need for a clean, safe supply of drinking water at a reasonable cost, while providing long-term management of our water resources.

This report is available on our website at www.nnva.gov/waterqualityreport, where you also can find the water quality report for our surface water system and additional test results for both systems. A paper copy of this report is available at the Williamsburg Regional Library in Norge. If you would like to receive a copy of this report in the mail, please call Waterworks Customer Service at 757-926-1000.

HOW CAN I GET INVOLVED?

Since Waterworks is a department of the City of Newport News, major decisions about your drinking water are made by Newport News City Council. They meet on the second and fourth Tuesday of each month at 7:00 p.m. and you are welcome to attend and participate. These meetings are broadcast live on the Newport News City Channel (in Newport News - Cox channel 48 and Verizon FIOS channel 19) and streamed live on Facebook at www.facebook.com/NewportNewsTV. They also can be viewed live or on-demand by all customers in our service area at www.nnva.gov/nntv.



INSIDE

Your Water Utility.....	1
How We Test Your Water.....	2
Additional Information of Interest.....	2
Key Terms.....	3
Water Quality Testing Results.....	4-5
How Hard Is My Water?.....	5
Where Your Water Comes From.....	6
Source Water Assessment.....	6
How We Treat Your Water.....	6
More About Source Water.....	7
Important Health Information.....	8
About Lead.....	8
Contact Information.....	Back Cover

YOUR WATER UTILITY

Newport News Waterworks serves as a regional water provider for five jurisdictions: Newport News, Hampton, Poquoson, York County and part of James City County. We are committed to providing a reliable supply of high quality drinking water to our customers. Our drinking water is treated and tested using state-of-the-art equipment and advanced procedures, and it meets or exceeds state and federal standards. The bottom line: The quality of your water is excellent.



HOW WE TEST YOUR WATER

To ensure that the water provided to you is safe to drink, the Virginia Department of Health (VDH) and the U.S. EPA set limits on the amounts of certain substances in water provided by public water systems. We routinely monitor for substances in your drinking water according to these federal and state laws. (The U.S. Food and Drug Administration is responsible for setting these limits on bottled water.) The table on pages 4 and 5 includes the monitoring results for samples collected by Newport News Waterworks. Every regulated substance that was detected in the water, even in the smallest amounts, is listed in the table.



The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contamination, and whether or not Waterworks meets the set regulation. For help understanding the table, please see the definitions on the next page and the footnotes at the bottom

of the table. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's toll free Safe Drinking Water Hotline at 1-800-426-4791.

An expanded version of the tables in this report, which lists additional test results, can be found on our website at www.nnva.gov/waterqualityreport. (Be sure to view the Lightfoot Well System Report). A second water quality report is available on our website for our customers on the Lower Peninsula, who are served by our surface water supply system. To request that copies of these reports be mailed to you, call Newport News Waterworks Customer Service at 757-926-1000.

ADDITIONAL INFORMATION OF INTEREST

Sodium - The U.S. EPA has not set a standard for sodium in drinking water. However, sodium levels are usually low and unlikely to be a significant contributor to adverse health effects. The average level of sodium found in our treated water in 2021 was 52 mg/L, and the range was 36-67 mg/L. Should you have a health concern, please contact your health care provider.

Fluoride - No additional fluoride is added to your well water. Any fluoride detected is naturally occurring.



KEY TERMS

We've defined these water-quality terms, unique to the water industry, to help you better understand the test results on the following pages.

AL: Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL: Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible, using the best available treatment technology.

MCLG: Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL: Maximum Residual Disinfectant Level - The highest level of a disinfectant allowed in drinking water. The addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG: Maximum Residual Disinfectant Level Goal - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

MRL: Minimum Reporting Level - Estimate of the lowest concentration of a compound that laboratories would report as a detection.

ND: Not detected - Does not equate to zero, but refers to an amount below analytical reporting limits.

pCi/L: Picocuries per liter - A measure of radioactivity. EPA considers 50 pCi/L to be the level of concern for beta particles.

ppb: Parts per billion or micrograms per liter ($\mu\text{g/L}$). Equivalent to one penny in \$10 million.

ppm: Parts per million or milligrams per liter (mg/L). Equivalent to one penny in \$10 thousand.

ppt: Parts per trillion or nanograms per liter (ng/L). Equivalent to one penny in \$10 billion.

TT: Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

WATER QUALITY TESTING RESULTS

REGULATED SUBSTANCES

Contaminant and Unit of Measurement	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Max Detected Level	Range Detected (Low-High)	Meets State & Federal Standards	Likely Source	Year Tested
LEAD AND COPPER							
Lead (ppb)	0	AL = 15	<1.18 ¹	<1.0-2.15	YES	Corrosion of household plumbing	2019
Copper (ppm)	1.3	AL = 1.3	0.039 ¹	0.012-0.062	YES	Corrosion of household plumbing	2019
INORGANICS - REGULATED AT THE WELLS							
Barium (ppb)	2	2	<1.0	<1.0	YES	Erosion of natural deposits	2021
Fluoride (ppm)	4	4	0.73	0.47-0.73	YES	Fluoride occurs naturally in groundwater	2021
Nitrate - Nitrite (ppm)	10	10	0.083	<0.023-0.083	YES	Erosion of natural deposits	2021
REGULATED CONTAMINANTS IN THE DISTRIBUTION SYSTEM							
Total Trihalomethanes THM (ppb)	N/A	80	42	7-42	YES	By-product of drinking water chlorination	2021
Haloacetic Acids HAA (ppb)	N/A	60	6	<2-6	YES	By-product of drinking water chlorination	2020
DISINFECTANTS							
Free Chlorine (ppm)	MRDLG = 4	MRDL = 4	Avg = 1.32 ²	0.55-1.75 ²	YES	Disinfectant added to control microbes	2020 & 2021
RADIOLOGICAL - REGULATED AT THE WELLS							
Alpha Emitters (pCi/L)	0	15	<0.42	<0.42 ³	YES	Erosion of natural deposits	2016
Beta/Photon Emitters (pCi/L)	0	50	6.5	6.4-6.5 ³	YES	Decay of natural and man-made deposits	2016
Combined Radium -226 &-228 (pCi/L)	0	5	1.4	0.7-1.4 ³	YES	Occurs naturally in rock, soil, water, plants and animals	2016

Footnotes:

(1) At least 90% of the samples were at or below this level. None of the individual samples exceeded the Action Level. Our low lead and copper levels require us to only test every three years. (2) The highest detected level is based on a running annual average, which includes data from 2019. The range numbers are the results of individual samples collected in 2021. (3) Radiological levels are tested every 6 years, next sampling in 2022.

WATER QUALITY TESTING RESULTS

UNREGULATED SUBSTANCES

Contaminant and Unit of Measurement	Max Detected Level	Range Detected (Low-High)	Likely Source	Year Tested
UNREGULATED ORGANICS - MONITORED AT THE WELL SITE				
Chloroform (ppb)	2.4	1.8-2.4	By-product of chlorination	2019
Dichlorobromomethane (ppb)	2.1	1.5-2.1	By-product of chlorination	2019
Dibromochloromethane (ppb)	1.5	1.2-1.5	By-product of chlorination	2019

Note: MCLs are set at very stringent levels. To experience the possible health effects described for many regulated contaminants, a person would have to drink two liters of water at the MCL level every day for a lifetime to have a one-in-a-million chance of having a possible health effect.

HOW HARD IS MY WATER?

No EPA standard is set. Water from the Lightfoot Well System is considered slightly hard at an average of 42 mg/L in a range of 27-58 mg/L as CaCO₃ or calcium carbonate.

WHERE YOUR WATER COMES FROM



Your drinking water comes from fresh water wells located in the Lightfoot area. These wells provide, on average, a little more than 360,000 gallons of water per day to our Lightfoot customers.

SOURCE WATER ASSESSMENT

The Virginia Department of Health (VDH) conducted its Source Water Assessment of the Lightfoot Wells in 2002. Using the criteria developed by the state in its approved Source Water Assessment Program, the VDH determined the susceptibility to contamination was high for one of the two wells. One way our well water customers can protect their drinking water is by keeping septic systems in good repair and ensure they are functioning properly.



The assessment report consists of maps showing: the Source Water Assessment area; inventory of known land use activities, potential conduits to groundwater, and potential sources of contamination of concern; susceptibility explanation chart; and definitions of key terms. The Source Water Assessment is available from Waterworks by contacting Customer Service at 757-926-1000.

HOW WE TREAT YOUR WATER

Groundwater usually requires little or no treatment. Waterworks adds a small amount of chlorine to your well water for disinfection purposes and to ensure a disinfection "residual" throughout the distribution system. The addition of chlorine to your water protects public health and helps us best comply with the U.S. Environmental Protection Agency's (U.S. EPA's) 2006 Groundwater Rule (www.epa.gov).



MORE ABOUT SOURCE WATER

WHAT'S IN MY WATER BEFORE IT'S TREATED?

Generally speaking, the sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and radioactive material and can pick up substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides that may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, are by-products of industrial processes and petroleum production, and also can come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

IMPORTANT HEALTH INFORMATION



Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. U.S. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* or other contaminants are available from the Safe Drinking Water Hotline at 800-426-4791. Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

ABOUT LEAD

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. **We have not detected lead in the Lightfoot System water that we tested at the wells.** Lead in drinking water comes primarily from pipe materials and components associated with service lines and home plumbing. Newport News Waterworks is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components.

If your water has been sitting for several hours or longer, you can minimize the potential for lead exposure by running cold water until it becomes as cold as it will get before using it for drinking or cooking. This could take 30 seconds to 2 minutes or longer. **Waterworks and the health department recommend that you use only cold water for drinking, cooking, and especially for making baby formula.**



If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize any exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at epa.gov/safewater/lead.



CONTACT US

If you have questions or concerns about your water or water quality, please contact Waterworks Customer Service.

Here is some important contact information to keep handy:

757-926-1000 8 a.m. - 5 p.m., Mon. - Fri.	wwcs@nnva.gov monitored 8 a.m. - 5 p.m., Mon. - Fri.
Drop Box & Walk-in Payment Center 700 Town Center Drive (Oyster Point City Center) 8 a.m. - 5 p.m., Mon. - Fri.	Drop Box & Walk-in Payment Center 2400 Washington Avenue (Newport News City Hall Annex) 8:30 a.m. - 4 p.m., Mon. - Fri.

Emergency Service: 757-234-4800

For emergencies only, after normal business hours, on weekends and holidays.

CONNECT WITH US

<https://myservices.nnww.nnva.gov>

Use our online portal to manage your account, pay your water bill, sign up for paperless billing, and choose automatic payment options, report an outage, and request certain services.

www.nnva.gov/waterworks

Check out our website to see our extended water quality report, learn about smart meters and find other helpful information.

www.facebook.com/nnwaterworks

Find us on Facebook to receive helpful tips, special announcements, and updates. Plus, we get to hear from you!

Yann A. Le Gouellec, PhD, P.E., BCEE, Director
Rhonda Sturgis, Ed.D., Acting Assistant Director
Bruce Ljtne., Acting Facilities Manager
Sherry L. Williams, Water Quality Manager

Waterworks Lightfoot System Water Quality Report 2021 - Expanded Version

TERM	DEFINITION
AL	Action Level
Finished Water	Treated water, drinking water
ICR	Information Collection Rule
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MRDL	Maximum Residual Disinfection Level
ND	Nephelometric Turbidity Units

TERM	DEFINITION
NTU	Nephelometric Turbidity Units
ppb	parts per billion or micrograms per liter (ug/L)
ppm	parts per million or milligrams per liter (mg/L)
pCi/L	picocuries per liter (a measure of radioactivity)
Source Water	Water prior entering the treatment plant, reservoir water
TT	Treatment Technique
VOC	Volatile Organic Compound

2021 Regulated Contaminants of the Lightfoot Distribution System

Contaminant, units	MCLG	MCL	MAX CONC	RANGE	YR TESTED	COMMENTS
Total Coliform	0	Presence of coliform bacteria in >1 of monthly samples	0.00%	0%	2021	0 positive sample, 104 samples analyzed in 2021
E.Coli	0	A routine sample & a repeat sample are total coliform positive, and one is also fecal coliform or E.coli positive	0%	0%	2021	0 positive sample, 104 samples analyzed in 2021
Total Trihalomethane THM, ppb	0	80	42	7 - 42	2021	
HAA(5)	0	60	6	<2 - 6	2021	
Free Chlorine	4	MRDL=4.0	1.32	0.55 - 1.75	2020-2021	Max Conc- mn compliance avg, includes 2020 data Range- individual samples collected in 2021
Lead, ppb		AL=15 (>10% samples exceed AL)	1.18 90% percentile	<1.0 - 2.15	2019	No sample exceeded the AL
Copper, ppm		AL=1.3 (>10% samples exceed AL)	0.039 90% percentile	0.012 - 0.062	2019	No sample exceeded the AL

2021 Regulated Health Risk Contaminants

Metals- Regulated at the Wells

Substance	Unit	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	YR Tested
Arsenic	ppb	none	50	<2	<2		YES	NO	2021
Barium	ppb	2	2	<1.0	<1.0	Erosion of natural deposits	YES	NO	2021
Cadmium	ppb	5	5	<1.0	<1.0		YES	NO	2021
Chromium	ppb	100	100	<1.0	<1.0		YES	NO	2021
Lead	ppb	n/a	15-AL	<1.0	<1.0		YES	NO	2021
Mercury	ppb	2	2	<0.2	<0.2		YES	NO	2021
Selenium	ppb	50	50	<5.0	<5.0		YES	NO	2021
Thallium	ppb	0.5	2	<1.0	<1.0		YES	NO	2021
Antimony	ppb	6	6	<1.0	<1.0		YES	NO	2021
Beryllium	ppb	4	4	<1.0	<1.0		YES	NO	2021

Inorganics- Regulated at the Wells

Substance	Unit	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	YR Tested
Fluoride	ppm	4	4	0.73	0.47-0.73		YES	NO	2021
Nitrate	N, ppm	10	10	0.083	0.023 - 0.083	Erosion of natural deposits	YES	NO	2021
Nitrite	N, ppm	1	1	<1.0	<1.0	Erosion of natural deposits	YES	NO	2021

Radiological- Regulated at the Wells

Substance	Unit	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	YR Tested
Alpha emitters	pCi/L	0	15	<0.42	<0.42	Erosion of natural deposits	YES	NO	2016
Beta emitters	pCi/L	0	50	6.5	6.4-6.5	Decay of natural & man-made deposits	YES	NO	2016
Combined Radium (-228, -226)	pCi/L	0	5	1.4	0.7-1.4		YES	NO	2016

2021 Regulated Nonhealth Risk Contaminants					
Regulated at the Wells					
Contaminant, units	MCLG	MCL	AVERAGE	RANGE	YR Tested
pH	n/a	6.5-8.5	8.4	8.2 - 8.6	2021
Chloride, ppm	n/a	250	8.8	8.2 - 9.4	2021
Color, color units	n/a	15	0	0	2021
Copper, ppb	n/a	1300	<1.0	<1.0	2021
Iron, ppb	n/a	300	5.4	<5.0 - 10.7	2021
Manganese, ppb	n/a	50	<1	<1	2021
Sulfate, ppm	n/a	500 (proposed)	5.8	5.7 - 5.9	2021
Total Dissolved Solids, ppm	n/a	500	217	194 - 240	2021
Zinc, ppm	n/a	5	<0.002	<0.002	2021

2021 Regulated Health Risk Contaminants									
Organics- Regulated at the Point of Entry									
Substance	Units	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	YR Tested
Regulated VOC	ppb								
Benzene	ppb	0	5	ND	ND		YES	NO	2019
Carbon Tetrachloride	ppb	0	5	ND	ND		YES	NO	2019
Chlorobenzene	ppb	100	100	ND	ND		YES	NO	2019
o-Dichlorobenzene	ppb	600	600	ND	ND		YES	NO	2019
p-Dichlorobenzene	ppb	75	75	ND	ND		YES	NO	2019
1,2-Dichloroethane	ppb	0	5	ND	ND		YES	NO	2019
1,1-Dichloroethylene	ppb	7	7	ND	ND		YES	NO	2019
cis-1,2-Dichloroethylene	ppb	70	70	ND	ND		YES	NO	2019
trans-1,2-Dichloroethylene	ppb	100	100	ND	ND		YES	NO	2019
Dichloromethane	ppb	0	5	ND	ND		YES	NO	2019

2021 Regulated Health Risk Contaminants									
Organics- Regulated at the Point of Entry									
Substance	Units	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	YR Tested
1,2-Dichloropropane	ppb	0	5	ND	ND		YES	NO	2019
Ethylbenzene	ppb	700	700	ND	ND		YES	NO	2019
Styrene	ppb	100	100	ND	ND		YES	NO	2019
Tetrachloroethylene	ppb	0	5	ND	ND		YES	NO	2019
1,2,4-Trichlorobenzene	ppb	70	70	ND	ND		YES	NO	2019
1,1,1-Trichloroethane	ppb	200	200	ND	ND		YES	NO	2019
1,1,2-Trichloroethane	ppb	3	5	ND	ND		YES	NO	2019
Trichloroethylene	ppb	0	5	ND	ND		YES	NO	2019
Toluene	ppb	1	1	ND	ND		YES	NO	2019
Vinyl Chloride	ppb	0	2	ND	ND		YES	NO	2019
Xylene	ppb	10	10	ND	ND		YES	NO	2019
38 Unregulated VOC	ppb	n/a	n/a	ND	ND		n/a	n/a	2019
Chloroform	ppb	n/a	n/a	2.4	1.8-2.4	By-product of drinking water chlorination	n/a	n/a	2019
Dichlorobromomethane	ppb	n/a	n/a	2.1	1.5-2.1	By-product of drinking water chlorination	n/a	n/a	2019
Dibromochloromethane	ppb	n/a	n/a	1.5	1.2-1.5	By-product of drinking water chlorination	n/a	n/a	2019
Bromoform	ppb	n/a	n/a	ND	ND	By-product of drinking water chlorination	n/a	n/a	2019

2021 Miscellaneous Analyses

Contaminant	Units	MCLG	MCL	AVERAGE	RANGE	YR Tested
Alkalinity	CaCO3 ppm	n/a	n/a	161	139 - 183	2021
Aluminum	ppb	n/a	50-200	<5	<5	2021
Ammonia	ppm	n/a	n/a	<0.030	<0.030	2021
Calcium	ppm	n/a	n/a	11.5	5.2 - 17.8	2021
Calcium Hardness	CaCO3 ppm	n/a	n/a	28	13 - 44	2021
Hardness	CaCO3 ppm	n/a	n/a	42	27-58	2021
Lead	ppm	n/a	n/a	<0.001	<0.001	2021
Magnesium	ppm	n/a	n/a	2.5	1.7 - 3.3	2021
Nickel	ppb	n/a	n/a	<1	<1	2021
Potassium	ppm	n/a	n/a	8.5	7.9 - 9.1	2021
Ortho-Phosphorus	ppm	n/a	n/a	0.028	0.023 - 0.033	2021
Silica	ppm	n/a	n/a	31	30 - 32	2021
Sodium	ppm	n/a	n/a	52	36 - 67	2021
Specific Conductance	uhmo/cm	n/a	n/a	318	269 - 368	2021