WORCESTER COUNTY PLANNING COMMISSION AGENDA
Thursday November 3, 2022

**Worcester County Government Center, Training Room A, 3rd Floor, One West Market St.
Snow Hill, Maryland 21863

I. **Call to Order** (1:00 p.m.)

II. **Administrative Matters** (1:00 p.m. est.)
A. Review and Approval of Minutes – October 6, 2022
B. Board of Zoning Appeals Agenda – November 10, 2022
C. Technical Review Committee Agenda – November 9, 2022

III. **Amendment of the Worcester County Comprehensive Plan for Water and Sewerage Systems** (1:05 p.m. est.)
Request for a text amendment to allow for a discharge permit and wastewater and water plant improvements to serve the existing and future expansion of the Riverview Mobile Home Park in Bishopville, Maryland. The proposed amendment would only serve the mobile home park. Rauch Engineering is the applicant on behalf of the owner, James Latchum.; SW 2022-03.

IV. **Miscellaneous**

V. **Adjournment**

*****Please note the temporary change in meeting location above.***

WORCESTER COUNTY PLANNING COMMISSION
MEETING MINUTES – October 6, 2022

Meeting Date: October 6, 2022
Time: 1:00 P.M.
Location: Worcester County Government Office Building, Room 1102

Attendance:

Planning Commission	**Staff**
Jerry Barbierri, Chair	Jennifer Keener, Director, DRP
Mary Knight, Secretary	Gary Pusey, Deputy Director, DRP
Brooks Clayville	Kristen M. Tremblay, Zoning Administrator
Marlene Ott	Stu White, DRP Specialist
Betty Smith	Robert Mitchell, Director, Environmental Programs
	Roscoe Leslie, County Attorney

I. Call to Order

II. Administrative Matters

A. Review and approval of minutes, September 1, 2022

As the first item of business, the Planning Commission reviewed the minutes of the September 1, 2022 meeting.

A motion was made by Ms. Knight, seconded by Ms. Ott, and carried unanimously.

B. Board of Zoning Appeals Agenda, September 8, 2022

As the next item of business, the Planning Commission reviewed the agenda for the Board of Zoning Appeals meeting scheduled for October 13, 2022. Ms. Tremblay was present for the review to answer questions and address concerns of the Planning Commission. No comments were forwarded to the Board.

C. Technical Review Committee Agenda, September 14, 2022

As the next item of business, the Planning Commission reviewed the agenda for the Technical Review Committee meeting scheduled for October 12, 2022. Ms. Tremblay was present for the review to answer questions and address concerns of the Planning Commission. No comments were forwarded to the Committee.

III. Worcester County Comprehensive Plan Update

A. As the next item of business, Patti Stevens, Chair of the Worcester County Bike and Pedestrian Coalition gave a presentation entitled "Creating Safe Places to Walk and Bike on Maryland's Coast – Worcester County." She stated that she understood the County was in the very initial phases of

updating the Comprehensive Plan and she felt the status of bike and pedestrian paths in the County may be helpful to the Commission as it moves forward with the update.

Ms. Stevens provided a history of the Worcester County Bike and Pedestrian Coalition, which was formed in 2020 to share information, identify common goals, obtain resources and foster public education to improve safety and expand resources to walk and bike safely in the County. She summarized some of the activities that were held on the Eastern Shore, the Lower Shore and especially in Worcester County.

In the County, she discussed efforts that were ongoing in the Town of Berlin, which was an Honorable Mention as a Bike Friendly City in 2020, and Ocean City and Pocomoke City. She discussed a Bikeway Feasibility Study that was underway in Snow Hill, and most recently, the Worcester County Commissioners supported a $100,000 allocation of funds through the Tri County Council for a planning grant to collect data and identify future bike trail projects.

Ms. Stevens noted that biking is becoming more popular in the County, and besides health benefits associated with biking, there are economic benefits through increased tourism and environmental benefits by reducing vehicle congestion.

She closed by stating the County's 2006 Comprehensive Plan recommended the creation of a region-wide trail and bikeway system that would connect communities with commercial, cultural and recreational centers. She stated she hoped the County can continue placing an emphasis on developing a trail and bikeway system with the update of the Comprehensive Plan. Jennifer Keener, Director, Department of Development Review and Permitting made a presentation to the Planning Commission regarding upcoming updates to the Worcester County Comprehensive Plan.

B. As the next item of business, Director Jennifer Keener stated the Staff is in the beginning phase of updating the County's Comprehensive Plan, which was initially adopted in 2006, with an amendment in 2011. By State Law, plans are required to be reviewed every 10 years, and the State of Maryland has placed Worcester's update in the 2021-2024 timeframe.

Ms. Keener stated the purpose of today's presentation is to provide the Commission with background data that will show the current status of the County in regards to population growth, and housing, amongst others.

She noted that the County's population did not increase as rapidly as the 2006 Plan envisioned. The Plan anticipated a 2020 population of 62,043 residents, while the 2020 Census indicated the County's population was actually 52,607 residents, which represented an increase of about 6,000 residents since 2000.

Ms. Keener noted that State projections indicate the County's population will grow by about 9,300 persons over the next 25 years, to almost 62,000 people. She pointed out that these latest figures would be about what the 2006 Plan expected the County's population to be in 2020, instead of in 2045 which is the new projection.

She stated the County's population has increased at a similar rate as the other counties on the Lower Eastern Shore, and most of the County's population growth has occurred as a result of in-migration, and not from a natural increase. In fact, she noted that over the last 10 years the County has experienced more deaths than births.

Ms. Keener pointed out that most of the new residents came from other counties within Maryland, with almost 40% of new residents coming from out-of-state. She also noted that the County's median age has been steadily increasing, from 43 years old in 2000 to almost 51 years old in 2020, and this trend is expected to continue over the next 25 year period.

School enrollment is expected to remain stable, both County-wide and in the north, central and south planning areas.

She noted that the County's household incomes are higher than the other three counties in the Lower Eastern Shore.

She summarized data that showed while housing stock is in great abundance, housing affordability is an issue of great concern, especially among renters, and the State is requiring that Comprehensive Plans contain a new Housing Element, in recognition that housing is an important issue throughout the State.

She noted that the County's economy is strong and will continue to grow in the health services sector as the population ages, and that agriculture will continue to be important to the County's economy and to its rural way of life.

She closed by stating that analyzing this data will help in the Plan update, and that a Request For Proposals is currently being drafted to hire a consultant that will conduct an extensive public outreach program as the Plan update process begins. In addition to obtaining public input that will help identify issues the County faces, the public outreach efforts will also identify potential solutions to these issues, and prepare a roadmap for what the County's future should be. She noted that the Planning Commission will be provided with regular status reports on this important process.

IV. Adjourn – A motion to adjourn was made by Ms. Ott and seconded by Ms. Knight.

_____
Mary Knight, Secretary

_____
Stuart White, DRP Specialist

NOTICE OF PUBLIC HEARING
WORCESTER COUNTY
BOARD OF ZONING APPEALS
AGENDA

THURSDAY NOVEMBER 10, 2022

Pursuant to the provisions of the Worcester County Zoning Ordinance, notice is hereby given that a public hearing will be held in-person before the Board of Zoning Appeals for Worcester County, in Training Room A on the third floor of the Worcester County Government Center, One West Market Street, Snow Hill, Maryland.

6:30 p.m.

Case No. 22-52, on the lands of Celeste McGee, requesting an after-the-fact variance to the side yard setback from 20 feet to 7.3 feet (to encroach 12.7 feet) for an existing shed in the E-1 Estate District (A-1 Agricultural setbacks apply) pursuant to Zoning Code §§ ZS 1-116(c)(4), ZS 1-122(c)(1)B.1, ZS 1-203(b)(4) and ZS 1-305, located at 12550 Daye Girls Road, Tax Map 9, Parcel 271, Tax District 5, Worcester County, Maryland.

6:35 p.m.

Case No. 22-55, on the lands of Curtis United Methodist Church, on the application of Kenneth Shockley, requesting a variance to the front yard setback from 60 feet from the center of the road right-of-way to 41.4 feet (to encroach 18.6 feet) and a side yard variance from 35 feet to 13.3 feet (to encroach 21.7 feet) for an addition to an existing church in the A-1 Agricultural District pursuant to Zoning Code §§ ZS 1-116(c)(4), ZS 1-201(c)(18) and ZS 1-305, located at 11808 Campbelltown Road, Tax Map 14, Parcel 151, Tax District 3, Worcester County, Maryland.

6:40 p.m.

Case No. 22-51, on the application of Hugh Cropper, IV, on the lands of Francis J. Townsend, III, requesting a special exception to allow a 3 lot subdivision in the RP Resource Protection District, pursuant to Zoning Code §§ ZS 1-116(c)(3), ZS 1-215(c)(3) & ZS 1-311, located at the intersection of West Torquay and Sussex Roads, Tax Map 21, Parcel 320, Tax District 10, Worcester County, Maryland.

6:45 p.m.

Re-Advertisement of Case No. 22-47, on the application of Mark Cropper, on the lands of Charles Barreras, requesting a variance to the rear yard setback from 30 feet to 22.48 feet (to encroach 7.52 feet) for a proposed 2nd floor deck addition in the R-3 Multi-family Residential District, pursuant to Zoning Code §§ ZS 1-116(c)(4), ZS 1-207(b)(2) and ZS 1-305, located at 46 Lookout Point, Tax Map 16, Parcel 41, Section 4, Lot 104, Tax District 3, Worcester County, Maryland.

6:50 p.m.

Case No. 22-54, on the application of Mill Brook Engineering, on the lands of Lake Haven MHP, requesting a variance to the side yard setback of 300 feet to 119 feet (to encroach

181 feet) for an addition to a Wastewater Treatment Plant in the R-4 General Residential District pursuant to Zoning Code §§ ZS 1-116(c)(4), ZS 1-208(b)(6), ZS 1-208(c)(9) and ZS 1-328(c) located at 11003 Grays Corner Road, Tax Map 21, Parcel 161, Tax District 3, Worcester County, Maryland.

Administrative Matters

WORCESTER COUNTY TECHNICAL REVIEW COMMITTEE
AGENDA

Wednesday, November 9, 2022 at 1:00 p.m.
Worcester County Government Center, 3rd Floor Training Room A, One West Market St.
Snow Hill, Maryland 21863

I. **Call to Order**

II. **Seaside Village**
Seaside Village RPC Step II and Step III Phase 2A site plan revisions. Located on the northerly side of Rt. 50 (Ocean Gateway), East of Golf Course Road, Tax Map Parcel 707, Tax District 10, R-3 Multi-Family Residential District, Seaside Venture, LLC, owner / George, Miles, & Burr LLC, engineer.

III. **Beech Tree Place** – Major Subdivision
Proposed 9 lot single family major subdivision located at the northeast corner of Stephen Decatur Highway and Snug Harbor Road, Tax Map 33, Parcel 298, Lot 22A, Tax District 10, R-2 Suburban Residential District, Magnolia Court, LLC, owner / Ronnie Carpenter, engineer.

IV. **Farmers Bank of Willards** – Minor site plan review
Proposed construction of a 2,100 sq. ft. bank building. Located on the west side of Stephen Decatur Highway at the northern intersection with Whispering Woods Drive, Tax Map 26, Parcel 203, Tax District 10, C-2 General Commercial District, Wayne Lauman, owner / Frank Lynch, surveyor.

V. **Adjourn**

*****Please note the temporary change in meeting location above.***

DEPARTMENT OF
ENVIRONMENTAL PROGRAMS

LAND PRESERVATION PROGRAMS
STORMWATER MANAGEMENT
SEDIMENT & EROSION CONTROL
SHORELINE CONSTRUCTION
AGRICULTURAL PRESERVATION
ADVISORY BOARD

Worcester County
GOVERNMENT CENTER
ONE WEST MARKET STREET, ROOM 1306
SNOW HILL, MARYLAND 21863
TEL: 410-632-1220 / FAX: 410-632-2012

WELL & SEPTIC
WATER & SEWER PLANNING
PLUMBING & GAS
CRITICAL AREAS
FOREST CONSERVATION
COMMUNITY HYGIENE

10/27/22

Worcester County Planning Commission
Worcester County Courthouse
1 West Market Street, Room 1201
Snow Hill, MD 21863

RE: *Comprehensive Water and Sewerage Plan Amendment* – Riverview Mobile Home Park (SW-2022-03)

Dear Commissioners:

We are writing to forward the proposed *Worcester County Comprehensive Water and Sewerage Plan (The Plan)* amendment to propose a text amendment to *The Plan* to allow for a discharge permit to be applied for the effluent from the Riverview Mobile Home Park in Bishopville, MD, and to build a wastewater plant and improve water infrastructure to support a future park expansion as well in *The Plan,* for your review and comment to the County Commissioners. According to Chapter One, Section 1.4.2 of *The Plan* ("Application for Amendments"), the applicant submitted a complete application for a text amendment and we have attached it.

The amendment, requested by Rauch Engineering, on behalf of the owner of Riverview Mobile Home Park, Jim Latchum, would allow for the construction of a wastewater treatment plant for stream discharge and modifications to the existing water treatment plant to serve an expansion of the park up to sixty (60) units. The existing conventional subsurface multi-use septic system would be connected to the proposed wastewater plant, and septic would be properly abandoned after the required year-long timeframe for operational testing of the wastewater treatment plant. To allow for the review of such a permit, it is also necessary to modify Section 1.2.2 D (Protection of the Environment) of *The Plan* amended language would make it possible for this facility to apply for a discharge permit.

The Riverview park, located in Bishopville, is in *The Plan* as a multi-use septic system serving the residents of the park. Maximum number of trailers was capped at 66, and they have run between 58-63 units in our historical records and have the ability to add the last system connections. The septic is a single system, with a low pressure-dosed drain field that has the old system as a backup. They have conventional (zero) treatment at the present, and the system and drain field is an innovative system repair located entirely in the critical area. There is no guaranteed state funding for pre-treatment (a

package plant) that would be required with a system replacement should the existing system fail. In Worcester County, this system is the only large multi-use septic system (over 5,000 gpd) that does not have groundwater discharge permit, is located within the critical area, is not adjacent to any sewer planning area, and does not have a more secure state funding source for the addition of treatment (systems located in our state parks).

Within our calculations, the park currently contributes 1,214 pounds of nitrogen annually to the Coastal Bays using Maryland Department of the Environment's (MDE's) nitrogen delivery ratio for systems located within the 1,000 ft critical area (attached). A advanced treatment plant would dramatically reduce this loading to the watershed with the advanced treatment technologies available today. Grants for a system of this size would be very hard to secure. The water quality funding scoring in Maryland is geared towards larger community systems, systems that have failed or need significant repair, or systems under a consent order. This park is currently not under a consent order. A replacement of the system with treatment would be an immense debt burden imposed on the rental rates for the existing park residents. The owner believes that getting additional units for the park within the existing property would assist in spreading the cost of the upgrade to treatment to an affordable price point that would provide a stable future for the park's residents, and it would be a bonus to the county to add to the park's ability to provide affordable workforce housing for additional individuals and families. The park's location, located away from any county sewer service or planning areas made nutrient reductions unfeasible by connection to existing plants. This was examined during watershed restoration planning done to identify nutrient reduction opportunities within this watershed.

The owners and their consultants have explored additional onsite testing to expand the septic capability and explored adjacent properties for spray irrigation and have not been able to find or secure these outlets for additional land application of treated effluent. In fact, there has been a concerted effort over the last couple years by the owners and the county to examine options and confer with state agency staffs any alternatives to a point source discharge for this park. The prior amendments for this park were not approved due to language revisions that MDE wanted included in the text amendment. Those changes have been discussed and reviewed in the interim and the revised language is presented in this amendment.

This amendment is proposing a community wastewater system served by a wastewater treatment plant with Enhanced Nutrient Removal (ENR) utilizing a packaged Membrane Bioreactor (MBR) type of treatment plant. The applicant is offering that the treatment plant will have a capacity of .03 MGD and will treat the effluent to 0.3 mg/l TP (Total Phosphorus) and 3 mg/l TN (Total Nitrogen). The final permit limits, as mentioned above, will be decided by MDE, and could be different especially regarding the total phosphorus concentration (TP). This would be in concert with the approved *Plan* text that will not contribute to degradation or level of impairment on the receiving waterbody. They have also offered a comparison of typical effluent concentrations of on-site septic systems, similar to Riverview MHP's existing community multiuse septic system, has discharge concentrations to 14.6 mg/l TP and 55.3 mg/l TN. They have also proposed that the wastewater treatment plant is expected to accept the existing water treatment plant discharge currently discharged to a sedimentation pond adjacent to the plant under as state discharge permit. The inclusion of this wastewater would eliminate the need for the additional discharge permit and the sedimentation pond currently supporting the water treatment plant.

The proposed point discharge to the Bishopville Prong requires a net zero total phosphorus load to the Prong due to the impaired status of the waterway. This is proposed to be achieved through ENR

treatment of 0.3 mg/l concentration or lower from plant treatment practices plus a secondary two-stage filtration system integrated into the treatment process for further effluent polishing. The owner's consultant has referenced studies confirming multiple polishing systems capable of achieving 0.015 mg/l concentrations of TP in the post-filtration effluent. The consultant has indicated that the load must be mitigated to achieve a net-zero TP discharge to the Bishopville Prong. 1.36 lbs of TP needs to be offset through treatment practices within the watershed. The consultant indicates the Owner proposes to achieve a minimum of 1.36 lbs/yr TP removal from naturally generated sources on owner-controlled and owned parcel adjacent to the proposed MHP expansion shown.

This property generates 3.6 lbs/yr of TP from naturally occurring sources per the consultant's use of "Model My Watershed" software. The Owner proposed installation of BMPs on this property with a minimum of 40% removal efficiency which will reduce the TP load by 1.44 lbs/yr. This is proposed to generate a net reduction in TP to the Bishopville Prong of 0.08 lbs/yr at minimum. All necessary easements and land-use restrictions needed to facilitate and maintain the on-site BMP will be provided by the Owner, Jim Latchum. All of the proposed offsets through BMPs or otherwise are solely proposed on land entirely owned or controlled by the park owner. As the state wanted, the land use for the BMP offsets will be maintained for the life of the WWTP and the discharge permit.

The applicant has detailed Riverview MHP's current water production demand of 7,700 GPD and a calculated average EDU of 117 GPD. They have proffered that the current water system has adequate physical and allocated capacity to meet those needs. The addition of 60 lots would be added to the water system with an estimated EDU of 150 GPD. This would bring the weighted average EDU to 132 GPD and the total demand for the 126 lots of 17,000 GPD total production.

Currently, the general allocation permit (GAP) for water allocates 15,000 GPD for average daily flow with 22,000 GPD for month of maximum use. Riverview MHP, prior to 2014, held a GAP for 22,000 GPD average flow with 38,000 GPD for maximum month use. Riverview will seek to increase the current GAP allocation of 15,000 GPD to the pre-2014 level of 22,000 GPD. To do that and allow Environmental Programs as the local Approving Authority to sign off on the GAP application, the application has to be in conformance with the *Master Water & Sewerage Plan.*

Amendment Text Revisions Proposed

The proposed amendment text change is attached. After an investigation by staff that included multiple conversations with MDE staff, we have made the following edits of the submitted amendment to *The Plan* to implement this amendment:

Under: 1.2 WATER AND SEWER SERVICE GOALS

Existing language:

- Section 1.2.2 D Protection of the Environment

D. To the greatest possible extent, effluent should be discharged through ocean outfalls or treated/disposed on land (but not discharged into coastal bays, regardless of the level of treatment). Long-term discharges into the coastal bays should be prohibited for any new projects.

Revise and replace with the following:

Under: 1.2 WATER AND SEWER SERVICE GOALS

Proposed language:

Section 1.2.2 D Protection of the Environment:

D. To the greatest possible extent, effluent from wastewater treatment plants in the Coastal Bays watershed should be conserved and reused to mitigate saltwater intrusion and so should be treated and discharged on land to allow percolation. Direct discharge into the coastal bays should be avoided because the water quality in most embayments is degraded due to high nutrient inputs, which persist in bays because tidal flushing rates are low. When the land discharge is impractical, discharge through ocean outfalls is preferred. Direct surface water discharge to the bays may be considered for existing large multi-use systems that do not have a groundwater discharge permit and that are not adjacent to or within approved sewer planning areas, subject to the following conditions:

(i) Enhanced treatment will be required to achieve a net reduction in the nutrient loadings generated from the existing system to the receiving waterbody.

(ii) The discharge cannot contribute to a degradation of the level of impairment on the receiving waterbody.

(iii) Before any new surface wastewater discharge permit application is submitted to the Maryland Department of Environment (MDE), the owner of the proposed system or the county will be required to submit the necessary information to MDE including, but not limited to, the following:

- Documentation showing that alternative wastewater disposals have been evaluated and all possible alternatives have been explored and determined to be infeasible.

- A wastewater treatment plant concept design with supporting data that demonstrates the ability of the plant to produce treated effluent that will:

    - o Achieve significant nutrient reductions and meet ENR level effluent limits required by MDE in the surface discharge permit.

- A pollution control plan with the necessary Best Management Practices (BMPs), in combination with the new ENR wastewater treatment facility, to fully offset the additional nutrients generated by the new surface discharge. As part of its review, MDE will evaluate whether the pollution control plan (Best management practices or BMPs) proposed by the owner, or the county is consistent with existing TMDLs and determine if the proposed BMPs will generate sufficient credits to fully offset the pollution generated by the proposed WWTP discharge. At a minimum, the pollution control plan shall include:

    - o A written agreement with any property owners hosting the BMP or the area which drains to the BMP used as the required offset. The written agreement must be included in a W&S Plan Amendment for the proposed surface wastewater discharge. Any BMPs will be re-evaluated as part of the normal discharge permit renewal cycle. Should a BMP become ineffective due to a land use change or for any other reason, MDE shall be notified in a timely manner, and an alternative BMP designed to achieve an equivalent nutrient reduction as the ineffective BMP shall be submitted for evaluation as soon as practicable.

o A certificate from the owner of the WWTP asserting responsibility for the continuous operation, maintenance, and performance of both the offset BMP and the WWTP.

o The proposed plan should include how climate change, including flooding, sea level rise, saltwater intrusion and storm surge will impact the performance of the WWTP and the BMP offset.

(iv) An WWTP annual report will be submitted to MDE, including the BMP operation status and annual reduction achieved through onsite monitoring data collection. Discharge from the new WWTP shall meet permit conditions for one year before the existing wastewater system can be removed.

Comprehensive Plan Policies

The *Comprehensive Plan* assigns one land use designations for these properties:

1. Existing Developed Area

Existing Developed Centers are defined (p. 13) as follows:

- Existing residential and other concentrations of development in unincorporated areas and provides for their current development character to be maintained.
- Not designated as growth areas, these areas should be limited to infill development.

The *Comprehensive Plan* has the following relevant excerpts for this proposed amendment:

Chapter One, "Introduction" states:

- Provide for adequate public services to facilitate the desired amount and pattern of growth (p.8).

Chapter Three, "Natural Resources" states:

- Provides a goal that Worcester County recognizes the value of and is committed to conservation and protection of the following natural resources (...) clean surface and ground water (p.33).
- Worcester County recognizes the value of and is committed to conservation and protection of the following natural resources...clean surface and ground water (p. 33).
- Improve water bodies on the "Impaired Water Bodies (303d) List" to the point of their removal from this list (p. 33).

Chapter Three, "TMDLs" states:

- "all reasonable opportunities to improve water quality should be undertaken as a part of good faith efforts to meet the TMDL standards." (p.36)

Chapter Five, "Housing" states:

- A goal that "Worcester County residents should be able to live in comfortable, safe, and affordable housing." (p.67)
- Mobile homes should be recognized as an affordable housing alternative and additional park locations should be designated. (p. 67)

Chapter Six, "Public Infrastructure" states:

- Consistent with the development philosophy, facilities and services necessary for the health, safety, and general welfare shall be cost effectively provided (p.70).
- Plan for efficient operation, maintenance, and upgrades to existing sanitary systems as appropriate (p. 73).
- Provide for the safe and environmentally sound water supply and disposal of wastewater generated in Worcester County (p.73).
- Sewer systems should be sized to serve their service areas' planned for land uses (p. 74).

Zoning

The *Planning Area* is appropriate zoned for the current and proposed uses planned for the existing sanitary area properties. These properties, carries one zoning designation, R-4 (General Residential District). We would also note that any future expansion will have plan review for construction permitting and a Board of Zoning Appeal application for Special Exception for the Wastewater Treatment Plant construction, which the applicant has already indicated they are aware will be required.

Staff's Comments

Staff comments are submitted below for your consideration.

1. This proposal seeks to meet existing housing needs and demand generated by providing a stable future for an existing mobile home park.
2. The subject properties are mapped as an IDA (Intensely Developed Area) for the Atlantic Coastal Bays Critical Area, with a very small portion within the LDA (Limited Development Area). Any future construction and/or expansion will be required to comply with the regulations appropriate to these designations.
3. The text revision within this amendment will allow MDE to process
4. This text amendment change will permit the wastewater treatment plant and will need to comply with MDE's procedures and state law in the investigation and ultimate approval of a surface water discharge permit.
5. This amendment is also to permit the expansion of a water appropriation permit for the water treatment plant and to allow that plant's discharge to be treated by the wastewater plant before discharge.
6. Any new development will need to occur in the manner and character of the surrounding neighborhood in existing developed areas. Compliance with local zoning, critical area, storm water and other local and state regulations will be required.
7. The proposed amendment has included a condition not to cause an exacerbation of any existing impairments to the receiving waterbody. This particular waterbody, the Bishopville Prong, is impaired for nutrients and the issuance of any future surface water discharge permit cannot contribute to worsening that impairment. Those conditions will be considered in any future MDE review of a discharge permit application for this property that will review those impairments as permit limits and any special conditions are vetted for inclusion in and future discharge permit. This is aided by the owner's proposed nutrient offsets and level of treatment considerations, along with the strict language included in the text changes proposed.

If you need further information, please contact me at (410) 632-1220 x 1601.

Sincerely,

Robert J. Mitchell, LEHS, REHS/RS
Director

Attachments

cc: WS Amendment File (SW 2022-03)

Attachment 1

Application and Appendices

Riverview Mobile Home Park
Water S& Sewer Amendment
October 27, 2022
Case No. SW 2022-03

RAUCH inc.
Engineering | Survey | Architecture | Environmental

October 27, 2022
Attn: Planning Commission
Worcester County
1 W Market St
Suite 1201
Snow Hill, MD 21863

Riverview Mobile Home Park. Bishopville, Maryland
Mobile Home Park Lot Expansion and Wastewater Project – Water and Sewer Plan Amendment Application

Dear reviewers:

RAUCH inc. is assisting in the concept and planning phase of a mobile home park expansion and wastewater treatment upgrade Bishopville, MD. Riverview Mobile Home Park proposes to add 60 lots to its existing 66 lots. Please find the subsequent application package for your review.

The County's Comprehensive Plan Objectives include:

- Provide for adequate housing opportunities for all income and age groups
- Accommodate planned future growth through designated "growth centers" with development standards designed to minimize environmental and habitat disruption
- Provide adequate public health, safety, social, recreation, and waste disposal services
- Maintain and enhance the county's livability

The Riverview Park, located in Bishopville, is in The Plan as a multi-use septic system serving the residents of the park. Maximum number of trailers was capped at 66, and they have run between 58-63 units in our historical records and have the ability to add the last system connections. The septic is a single system, with a low pressure-dosed drain field that has the old system as a backup. They have conventional (zero) treatment at the present, and the system and drain field is an innovative system repair located entirely in the critical area. There is no guaranteed state funding for pre-treatment (a package plant) that would be required with a system replacement should the existing system fail. This is the only large multi-use septic systems (over 5,000 gpd) that does not have groundwater discharge permit, is located within the critical area, and is not adjacent to any sewer planning area, and does not have a state funding source for the addition of treatment (systems located in our state parks).

The park currently contributes 1,214 pounds of nitrogen annually to the Coastal Bays using Maryland Department of the Environment's (MDE's) nitrogen delivery ratio for systems located within the 1,000 ft critical area (attached). A treatment plant would dramatically reduce this loading to the watershed with the advanced treatment technologies available today. Grants for a system of this size would be very hard to secure. The water quality funding scoring in Maryland is geared towards larger community systems, systems that have failed or need significant repair, or systems under a consent order. This park is not under a consent order. A replacement of the system with treatment would be an immense debt burden imposed on the rental rates for the existing park residents. The owner believes that getting additional units for the park within the existing property would assist in spreading the cost of the upgrade to treatment to an affordable price point that would provide a stable future for the park's residents and perhaps add to the park's ability to provide affordable housing for additional individuals. They have explored additional onsite testing to expand the septic capability and explored adjacent properties for spray irrigation and have not been able to find or secure these outlets for additional land application of treated effluent.

The expansion project will contribute to these goals by utilizing existing development areas (EDAs) currently classified as IDA and LDA. Furthermore, the project will reduce the overall nutrients impacting the Atlantic Coastal Bay's Bishopville Prong from Riverview Mobile Home Park. A text amendment to the Worcester County Comprehensive Water and Sewer Plan is concurrently proposed which would modify Section 1.2.2 D Protection of the Environment and allow point discharges within the County subject to the criteria included within the proposed text amendment. This proposed text amendment would facilitate the Riverview Mobile Home Park project and is included as Appendix A-7 within the Riverview Mobile Home Park Lot Expansion and Wastewater Project – Water and Sewer Plan Amendment Application.

We believe this project is consistent with Worcester County goals and will help the County achieve its stated goals. If any further information is needed or you wish to discuss our project, please contact James Cook at 410-770-9081.

Best regards,

James Cook
Project Manager, RAUCH inc.
jcook@raucheng.com
410-770-9081

RAUCH inc.

Engineering | Survey | Architecture | Environmental

Riverview Mobile Home Park.
Bishopville, Maryland

Mobile Home Park Lot Expansion and Wastewater Project
Water and Sewer Plan Amendment Application

Main Office: 106 N Harrison St – Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410.770.9081

RAUCH

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Main Office: 106 N Harrison St – Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410.770.9081

RIVERVIEW MHP AMENDMENT APPLICATION NARRATIVE

WORCESTER COUNTY TEXT AMENDMENT

In order to facilitate point discharges within Worcester County, the Worcester County Comprehensive Water and Sewer Plan must be amended. Thorough and detailed conversations with Maryland Department of the Environment (MDE) have yielded a proposed text amendment to the Worcester County CWSP which would allow point discharges within the County subject to the outlines and requirements within the proposed text amendment to Section 1.2.2 D – Protection of the Environment.

This language currently reads:

- *Section 1.2.2 D - Protection of the Environment*

D. To the greatest possible extent, effluent should be discharged through ocean outfalls or treated/disposed on land (but not discharged into coastal bays, regardless of the level of treatment). Long-term discharges into the coastal bays should be prohibited for any new projects.

Revised language to this section is proposed and is included as Appendix A-7 in this application package.

LAND USE

Riverview Mobile Home Park is located in Worcester County and is made up of Two Parcels, 0268 and 0167, acres adjacent to the Bishopville Prong in Bishopville, MD. Parcel 0268 is 24.32 acres, classified as IDA, and serves as the residential portion of the mobile home park. Parcel 0167 is 6.42 acres, classified as LDA, and houses the water treatment plant and other auxiliary support for the community. Mr. Latchum (Owner) and Riverview Mobile Home Park have previously been "Granted a use of land permit by the Board of Appeals for Worcester County to locate a one hundred and twenty (120) lot trailer park." (Appendix A-1). This use of land permit was "Granted without any required time for completion.". The park is located in a general residential R-4 zoning area within the County (Appendix A-4).

PAST EXPANSION

The park has periodically added new lots in accordance with its land grant permit as the capacity to serve new lots with water and sewer has been verified by the County. The most recent expansion to 66 lots was approved by Worcester County Environmental Programs in 2016 (Appendix A-2). This latest expansion has put the park at its maximum capacity with regard to the central sewage system which currently utilizes a series of septic tanks which pump effluent via a force main to tile fields on the West side of the park.

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FUTURE EXPANSION

Mr. Latchum proposes to expand the mobile home park to 126 lots (Appendix A-5). This expansion requires an upgraded community wastewater treatment system. To serve the current and proposed lots and reduce the total overall nutrients in the septic effluent, the proposed wastewater treatment system would be an Enhanced Nutrient Removal (ENR) wastewater treatment plant. with a point discharge to the Bishopville Prong, located adjacent to the existing water treatment plant on parcel 0167. This treatment plant will have a capacity of .03 MGD and will treat the effluent to .3 mg/l TP and 3 mg/l TN (Appendix A-3). The typical on-site septic system, similar to Riverview MHP's existing community cluster septic system, treats effluent to 14.6 mg/l TP and 55.3 mg/l TN[1]. Additionally, the proposed wastewater treatment plant is expected to accept the existing water treatment plant discharge currently discharged to a sedimentation pond adjacent to the plan under MDE permit 16-DP-2982 and NPDES permit MD2982X09. This would eliminate the need for the discharge permit and the sedimentation pond currently supporting the water treatment plant.

NITROGEN LOAD

The total nitrogen (TN) load generated by the existing OSDS systems is calculated to be 613.8 lbs/yr per the Bay Model of nutrient loads from septic tanks. The proposed ENR plant, including proposed expansion and elimination of existing OSDS systems, would generate a total of 275.9 lbs/yr assuming 30,000 gpd. This will generate 321 TP credits from the ENR upgrade and OSDS elimination.

Total number of existing residential units = 66
Total number of existing residential units within the CA = 66
Total number of existing residential units located outside of the Critical Area = 0

Nutrient Loads from Septic Tanks per Bay Model

TN from Septic Tanks within Critical Area = 9.3 #/yr per residential unit
TN from Septic Tanks outside of the Critical Area = 3.5 #/yr per residential unit

Total Nutrient Credits for removal of septic tanks from Riverview Mobile Home Park

TN - (66 x 9.3) 613.8 #/yr

Proposed Riverview Mobile Home Park WWTP

Capacity = 30,000 gal/day

---

[1] From Otis, RJ, W.C. Boyle and D.K, Sager, 1974, "The Performance of Household Wastewater Treatment Units Under Field Conditions" Home Sewage Treatment, American Society or Agricultural Engineers Publication, St. Joseph, MI.

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TN - Effluent = 3 mg/l

Nutrient Load from Riverview Mobile Home Park WWTP

TN - 365 x .03 x 3 x 8.4 = 275.9 #/yr

Nutrient Credits available for trading from Proposed Riverview Mobile Home Park WWTP

TN – 613.8 #/yr – 275.9 #/yr = 337.9 #/yr

5% Retired = 16.9#/yr

TN Credit 337.9#/yr – 16.9 #/yr = 321 #/yr

PHOSPHORUS LOAD

The proposed point discharge to the Bishopville Prong requires a net zero total phosphorus load to the Prong due to the impaired status of the waterway. This will be achieved through ENR treatment of 0.3 mg/l concentration or lower from plant treatment practices plus a secondary two-stage filtration system integrated into the treatment process for further effluent polishing. Studies confirm multiple polishing systems capable of achieving 0.015 mg/l concentrations of TP in the post-filtration effluent (Appendix A-6). Based on this technology which will be incorporated into the treatment process, the discharge from the treatment plant will generate a total of 1.36 lbs/yr of TP (Table 1). This load must be mitigated to achieve a net-zero TP discharge to the Bishopville Prong.

Table 1

Riverview - Phosphorus Calculations		
GPD	ENR plus Filtration - TP Concentration mg/l	*1 mg/L = lbs/gal*
30,000	0.015	*0.00000830*

Phosphorus Loads	
lbs/day	**0.00**
lbs/mo	**0.11**
lbs/yr	**1.36**
Treatment Required	**1.36**

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1.36 lbs of TP must be offset through treatment practices within the watershed. The Owner proposes to achieve a minimum of 1.36 lbs/yr TP removal from naturally generated sources on owner-controlled and owned parcel adjacent to the proposed MHP expansion shown (Figure 1).

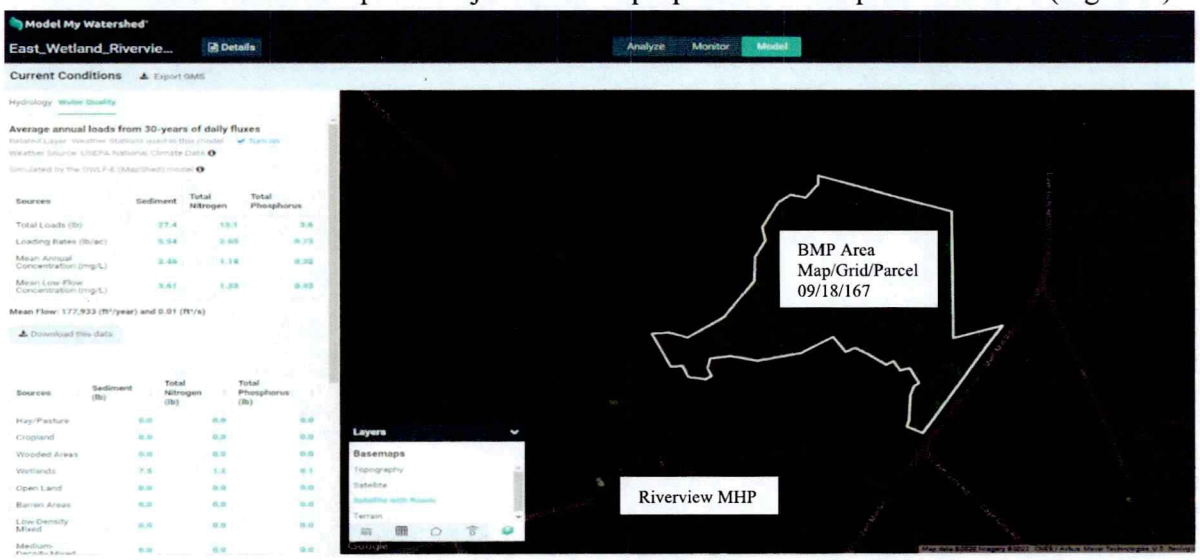

Figure 1

This site generates 3.6 lbs/yr of TP from naturally occurring sources per "Model My Watershed" software. The Owner proposed installation of BMPs on this property with a minimum of 40% removal efficiency which will reduce the TP load by 1.44 lbs/yr. This will generate a net reduction in TP to the Bishopville Prong of 0.08 lbs/yr at minimum (Table 2).

Table 2

Riverview - Phosphorus Removal Calculations		
WWTP GPD	ENR - TP Concentration mg/l	*1 mg/L = lbs/gal*
30,000	0.015	*0.00000830*
WWTP Generated Annual Phosphorus Loads		
lbs/day	**0.00**	
lbs/mo	**0.11**	
lbs/yr	**1.36**	

Slag Box Phosphorus Reduction Calculations	
	Calculation Method "Model My Watershed"
Drainage Area Annual TP Loads (Existing)	3.6
TP Load Reduction using BMPs with a minimum of 40% removal efficiency	1.44
Net Watershed Phosphorus Contribution (WWTP Load Less BMP Reduction)	**-0.08**

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All necessary easements and land-use restrictions needed to facilitate and maintain the on-site BMP will be provided by The Owner, Jim Latchum. All proposed offsets through BMPs or otherwise are solely proposed on land entirely owned or controlled by The Owner. Land use for the BMP offsets will be maintained for the life of the WWTP and the discharge permit.

WATER SUPPLY

Riverview MHP has a current water production demand of 7,700 GPD and a calculated average EDU of 117 GPD. The current water system has adequate physical and allocated capacity to meet those needs. The addition of 60 lots would be added to the system with an estimated EDU of 150 GPD. This would bring the weighted average EDU to 132 GPD and the total demand for the 126 lots of 17,000 GPD total production. Currently, the GAP allocates 15,000 GPD for average daily flow with 22,000 GPD for month of maximum use. Riverview MHP, prior to 2014, held a GAP for 22,000 GPD average flow with 38,000 GPD for maximum month use. Riverview will seek to increase the current GAP allocation of 15,000 GPD to the pre-2014 level of 22,000 GPD.

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AMENDMENT APPLICATION

Application for Amendment of the Comprehensive Water and Sewerage Plan

Worcester County, Maryland

Date: 10/27/2022

Applicant (name, mailing address, phone and FAX number):

Contact Person: James Latchum
Telephone: 410-770-9081

Riverview Mobile Home Park

Amendment Type: ✓ Water ✓ Sewer ___ Other
Amendment Character: ✓ Addition ___ Deletion ___ Change

Please complete all the applicable forms included in this package. If a system does not already exist, the "Existing System" sheet is not required. Include a map of the area to be served at a scale of at least 1" = 2,000'. Return the completed application to:

Department of Environmental Programs
1 West Market Street Room 1306
Snow Hill, Maryland 21863

The fee for major amendment [adding or deleting service capacity or area(s)] is $500.
Minor amendments (not adding or deleting service) are $100.
Note: Modification of this form will void the application.

Property Identification:
Tax Map 0009 Parcel Number(s): 0268/0167
Town/Community Name: Bishopville

Location Description:
Two Parcels of 24.32 and 6.42 acres adjacent to the Bishopville Prong in Bishopville, MD.
Parcel 0268 is classified as IDA and serves as a mobile home park and parcel 0167 is LDA.

Property Owner Signature: James W. Latchum Date: _____

Applicant Signature: James W. Latchum Date: _____
(If other than property owner)

Water and Sewerage Plan Amendment Application
Worcester County, Maryland
Proposed Uses

* Please provide as much detail as possible on the proposed uses and review Worcester County zoning provisions for permitted uses.

Tax Map	Parcel	Zoning	Proposed Use*	EDU's Needed (Approx.)
0009	0268/0167	R4	R4	60 (In addition to existing 66)

April 13, 2004

Water and Sewerage Plan Amendment Application
Worcester County, Maryland
Existing Sewer System

System Parameters

Date: 10-27-22
System Name: Community Force Main and Septic Tank/Tile Field
System owner: James Latchum
System operator: Jaime Latchum
Priority/Sewer and Water Plan Category: S-1
Service area: Riverview MHP
[Tax Map and parcel(s)] Tax Map: 0009 Parcels: 0268/0167

	Year 2010	2015	2025
Population served:			
EDU's served	66	66	66
EDU's unserved	0	0	0
GPD per EDU	112	126	117
System capacity			
Demand (MGD)	.0074	.0083	.0077
Planned (MGD)	.014	.014	.014
Permitted (NPDES/groundwater)	.01	.01	.01

Collection system description: Headers serving 2 - 5 mobile homes are connected to a septic tank and an effluent pump. Effluent travels to drain filed via 1.5", 2", and 2.5" effluent force main.

Treatment Plant
Location (N/E): 40° 26' 46" N 79° 58' 56" W
Type: Community septic/tile field
Site area (acres): 30.74 Occupied area: 10.0 Unused area: 20.74
Current Capacity (MGD): Secondary: .01 Advanced: N/a
Potential Capacity (MGD): Secondary: .01 Advanced: N/a
Existing flow (MGD): .0077 Average: .0077 Peak: .009
Sludge disposal: Pump and Haul Septic Tank

Discharge:
Type: Community septic/tile field
Location: 40° 26' 46" N 79° 58' 56" W
NPDES/groundwater permit number: N/a

Comments (planned expansion; alteration, abandonment if interim [indicate date], or other changes; problems; etc.)

Riverview Mobile Home Park plans to add 60 lots. The existing tile field will be terminated and removed. The existing and new flow will utilize grinder pumps in conjunction with new and existing FM to send sewage to a new ENR treatment plant located on parcel 0167 and adjacent to the existing water treatment plant.

Water and Sewerage Plan Amendment Application
Worcester County, Maryland

Date: _____

Planned Sewer System

System Name: Packaged Membrane Bioreactor and Force Main
Area Served: Riverview Mobile Home Park Parcel 0268
Owner: James Latchum
Operator: Jaime Latchum

Population and Capacity	2015	2020	2025	2030
Population Served (EDU):	0	0	126	126
Population Unserved (EDU):	0	0	0	0
GDP per EDU:	0	0	133*	133*
System Capacity Demand (MGD)	0	0	.017	.017
System Capacity Planned:	0	0	.03	.03
Permitted Capacity (MGD):	0	0	.03	.03

Collection System

Type (circle one): Combined **Separate**
Description: Existing force main plus new force main to serve expansion
Condition of Transmission facilities: Existing force main is in good repair and currently serves the existing 66 mobile homes. New FM will be added to serve the expanded lots.

Treatment Facility

Location (MD coordinates): Lat: 38.4276 Long: -75.1855
Type: ENR MBR Bioreactor
Total Site Size (acres): 30.74 **Occupied by facility:** .016
Design Flow (MGD) .03
Existing Flow (MGD): Average: .0077 **Peak:** .009
Sludge disposal method:

Discharge

Type: Point Discharge
Location: Bishopville Prong 38.42788 -75.18698
NPDES permit # & expiration date: N/a - To be applied for upon inclusion in W&S plan.

Op., Maint., and Replacement Costs: $1,700,000 Sewer Proj. Est.
Funding Source: Privately Funded

Comments: *Calculated GPD per EDU in the existing sewer system is shown as 117 GPD. Design estimates used for additional 60 lots is 150 GPD per EDU. The existing calculated and weighted flow combined with the estimated GPD per EDU averages out to 133 GPD per EDU with a total annual average daily flow of 17,000 GPD.

April 13, 2004

Water and Sewerage Plan Amendment Application
Worcester County, Maryland

Existing Water System

Date: 10/27/2022

System name: Riverview MHP

System owner: James Latchum

System operator: Jamie Latchum

Priority/Sewer and Water Plan Category: W-1

Service area: Riverview Mobile Home Park Parcel 0268

	Year 2015	2020	2025
EDU's Population served:			
Served	66	66	66
Unserved	0	0	0
GPD per EDU	112	126	117
System capacity			
Demand (MGD)	.0083	.0077	.0165
Planned (MGD)	.015	.015	.022

Production Wells

	Well #1 (WO-81-1182)		Well #2 (WO-88-0114)	
Well number:				
Aquifer:	Manokin		Manokin	
Location:	Parcel 0167		Parcel 0167	
Depth:	286'		295'	
Diameter:	6"		6"	
Max. yield:	Number of gallons per minute			26 GPM
Pumping capacity:	average production			6 GPM
Water quality:	High Iron		High Iron	

Treatment

Water source:	Manokin			
Type:	Salt Treatment and Chlorination			
Location:	Parcel 0167			
Rated Capacity:	AKA permitted, rated, or design capacity			.015 MGD
Average production:	how much a production well can provide on average			.0077 MGD
Max. peak flow:	peak hourly demand		1,560 GPH	
Storage capacity:	N/a			
Sludge disposal:	Sedimentation Pond - will be eliminated upon completion of new WWTP			

Comments (expansion plans [MGD/dates]; problems; planned improvements; etc.)

Existing treatment plant and water lines will continue to be used.

New lines will be added to serve expansion areas. The existing treatment plant can treat the additional volume for the new lots. The current water appropriation is for 15,000 GPD average daily flow. The additional lots are expected to increase the water demand to17,000 GPD. Riverview MHP, prior to 2014, held a GAP for 22,000 GPD average flow. Riverview will seek to increase the GAP allocation to the pre-2014 level from its current 15,000 GPD.

Water and Sewerage Plan Amendment Application
Worcester County, Maryland
Planned Water System

Date:
System Name: Riverview MHP
System Owner: James Latchum
System Operator: Jamie Latchum

Sewer/Water Plan proposed category: W-1 & W-3

Service area: [Tax Map and parcel(s)]

Population served: (EDU's served)

Year		
2015	2020	2025
66	66	126

Gallons per EDU: 133

Constructed by: Planned

Distribution System: 1.5" and 2" water lines made up of existing lines and proposed lines to serve additional lots.

System parameters:

Well location: Well depth/aquifer: The Points of Withdrawal are Located at Riverview Mobile Home Park, Shell Mill Road, Bishopville, Worcester County, Maryland. 286 & 295 - Manokin
Treatment facilities: Salt Purification and Chlorination (Existing)
Storage facilities: N/a
Distribution system: Existing and new 1.5", 2", and 2.5" water lines
Pumping capacity: 38,000 GPD
System Cost: Funding source: $65,000 Proj. Est. Privately Funded

Construction schedule:
Start: 3/28/2023
Complete: 7/11/2024

Comments:

Agreement,

Policies: Allocation:

APPENDICES

Main Office: 106 N Harrison St – Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410.770.9081

Appendix A-1

Worcester County Planning and Zoning Commission
Snow Hill, Maryland 21863

JRC

February 28, 1973

COPY

The Hartford Insurance Group
Philadelphia Regional Office
7 Penn Center Plaza
Philadelphia, Pennsylvania 19103

Attention: Mr. C.J. LeMay - Bond Department

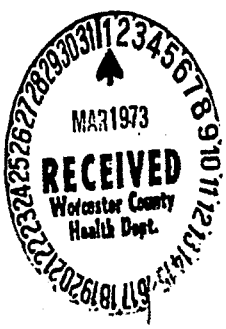
Gentlemen:

Your questionnaire of February 26th is enclosed partially filled out.

Mr. Latchum was granted a use of land permit by the Board of Appeals for Worcester County to locate a one hundred and twenty (120) lot trailer park. This permit was granted without any required time for completion. At the present time very little has been done other than cutting out for roads and the staking of some trailer lots.

We have this date been in touch with the Worcester County Health Department and have been advised by them that they are in the process of approving eighteen (18) trailer lots that Mr. Latchum expects to have in operation for the coming summer season.

Under the circumstances we have outlined this office will be unable to release your bond until the 18 lots have been completed in compliance or until Mr. Latchum decides to reduce the size of his park to a lesser number of sites.



Page Two   The Hartford Insurance Group   February 28, 1973

Trusting this information is sufficient, I am

Very truly yours,

T. Howard Collins,
Zoning Inspector

THC:bw
Enclosure
CC: Mr. J. Watson Latchum
James R. Trader, Worcester County Health Department

Appendix A-2

DEPARTMENT OF
ENVIRONMENTAL PROGRAMS

LAND PRESERVATION PROGRAMS
STORMWATER MANAGEMENT
SEDIMENT & EROSION CONTROL
SHORELINE CONSTRUCTION
AGRICULTURAL PRESERVATION
ADVISORY BOARD

Worcester County

GOVERNMENT CENTER
ONE WEST MARKET STREET, ROOM 1306
SNOW HILL, MARYLAND 21863
TEL: 410-632-1220 / FAX: 410-632-2012

WELL & SEPTIC
WATER & SEWER PLANNING
PLUMBING & GAS
CRITICAL AREAS
FOREST CONSERVATION
COMMUNITY HYGIENE

12/1/16

Mr. James Latchum
P.O. Box 321
Bishopville, MD 21813

Re: Riverview Mobile Home Park
Tax Map 9, Parcel 268
Bishopville, MD

Dear Mr. Latchum:

This letter is intended to answer your inquiry regarding expansion of the above referenced mobile home park. Our investigation included visits to the property and review of the file information and supplied records on flow and pumping cycle log information on the current low pressure dosing (LPD) onsite sewage system serving the park.

The park is currently improved with fifty-eight (58) occupied pad sites. We have permitted additional units in the past and the current DHMH mobile home park operation permit is at sixty-three (63) units. The current system, a replacement system installed in 2004, is an LPD system originally sized for 56 units at 250 gpd per unit. The design flow was 14,000 gpd with average flow at 10 gpm and peak at 40 gpm. The absorption area is 14,040 sf with a loading rate of 0.8 gallons/sf/day with the remainder to the first system installed for the park. That is 6 pumps for 6 trenches and the 7th pump overflows to the initial system installed for the park. The dose is designed at up to 936 gallons (12 times a day) with pumping rate of 170 gpm.

The park does not currently have a groundwater discharge permit for the sewage flow from the mobile homes. The park does have a discharge permit for the potable water treatment plant and a water appropriation permit for the water withdrawal. The current county *Master Water and Sewerage Plan* has the planning figure for the park at a maximum of 66 units.

From your operating records tracking flow over the last five years utilizing the volumes recorded in the annual appropriation reports, it appears flow to the system is 6,760 gpd with a highest average flow in the month of July of 7,772 gpd. You have also shared meter readings for the past year from the pump counters for the components of the LPD system. There was some flow to the overflow system in pump number 7, but there were months that showed no flow at all going to that system.

Riverview MH Park
12/1/16

Based on an examination of the supplied data, our records, and the regulation, the following points are offered:

- Because it doesn't exceed the onsite design capacity, an expansion from the current 58 units to a maximum of 66 units could be accommodated at this time. That is the maximum number of units that could be utilized before other regulatory factors are applied.
- Any expansion which will generate additional wastewater flow will require administration of MDE's current *Guidelines for Large Onsite Sewage Disposal Systems with a Maximum Accumulative Flow Greater or Equal to 5,000 Gallons Per Day*
- A State Groundwater Discharge Permit will be required for any expansion of the current wastewater flow as the facility maximum daily flow is in excess of 10,000 gpd
- Any expansion of the facility must be in conformance with the Worcester County *Master Water and Sewerage Plan,* which will require an amendment to the *Plan* for the expansion.
- Suitable absorptive area required for proposed onsite subsurface systems shall be based on maximum daily flows
- As specified in the *Large Flow Guidelines* a site evaluation will be needed to expand the current drain field capacity to accommodate additional flow from an expansion of the park. The overall site suitability will be determined in accordance with COMAR 26.04.02 and the County Groundwater Protection Plan (GPR), where applicable. This would include an examination of mounding and nitrogen loading with an hydrologic balance analysis.
- The soil application rate will be based on effluent quality and upon a detailed soil and site evaluation.
- Any increase in flow past the onsite design capacity will require a treatment plant be installed.

You indicated that you or a subsequent owner would like to pursue an expansion of the park to perhaps one hundred (100) units or more. To do that, the above information would have to be considered in developing a work scope for investigating the potential of the property to handle this expansion. The first step would be an evaluation, including onsite testing to investigate the feasibility of adding sewage disposal area to the park. The ultimate absorptive area needed to serve an expanded flow will need to consider the loading rates described in the Code of Maryland Regulation (COMAR) 26.04.02.05 K as part of any site evaluation done for the property. Realizing favorable perc rates will make the search for the ultimate absorptive area needed to service the proposed expansion that much easier. Conversely, having longer perc rates will require more absorptive areas be located to serve the proposed expansion. Locating sufficient absorptive area to serve any proposed expansion that meets setback and other requirements will be very difficult if longer perc rates are encountered in the investigative activities. It would be best to have a consultant run rates and evaluate soil conditions on promising areas within the property as part of the site evaluation process.

This determination did not consider any zoning requirements with the expansion and we suggest you follow up with the Department of Development Review and Permitting for their comments on any expansion plans.

Riverview MH Park
12/1/16

If you have any questions, would like additional information, or would like to discuss this matter further, please contact me at 410-632-1220 x1601.

Sincerely,
WORCESTER COUNTY ENVIRONMENTAL PROGRAMS

Robert J. Mitchell, LEHS
Director

cc: Property File

Riverview MHP Performance Standards - ENR Treatment

The water characteristics are summarized below:

Flow Conditions	
Flow (Average):	25,000 GPD
Flow (Peak Day):	30,000 GPD
Primary Source / Type:	Domestic

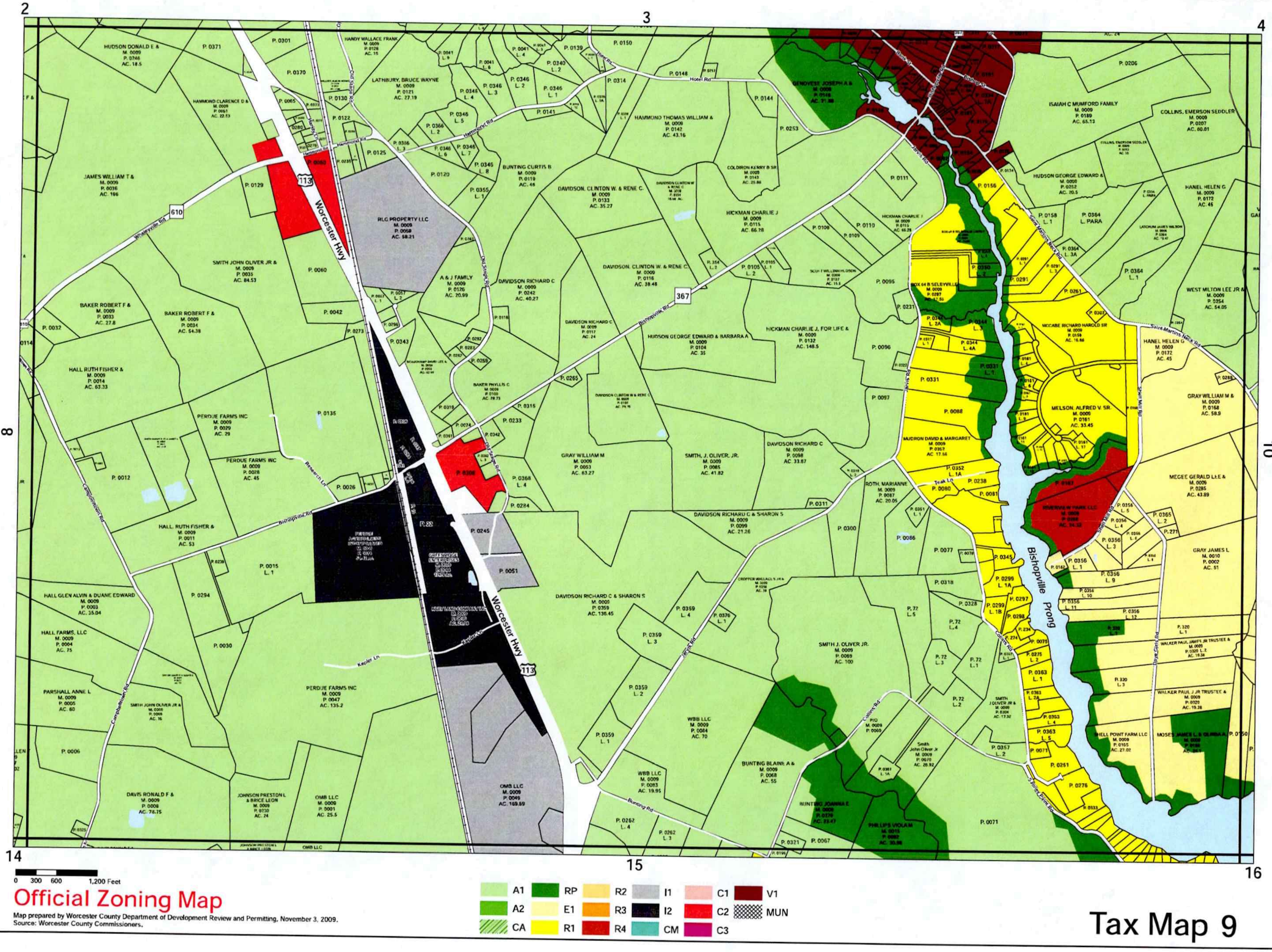
Site	
Elevation:	0,500 ft.
Process Blowers:	15 HP (approx.)
Flow Eq Blower (optional):	3 HP (approx.)

Influent Waste Characteristics	
BOD5:	52.2 lbs/day
TSS:	52.2 lbs/day
TKN:	7.3 lbs/day
TP:	1.7 lbs/day
pH:	6 to 8 pH units
Alkalinity:	300 mg $CaCo_3$/L
Min. Water Temperature:	20° C

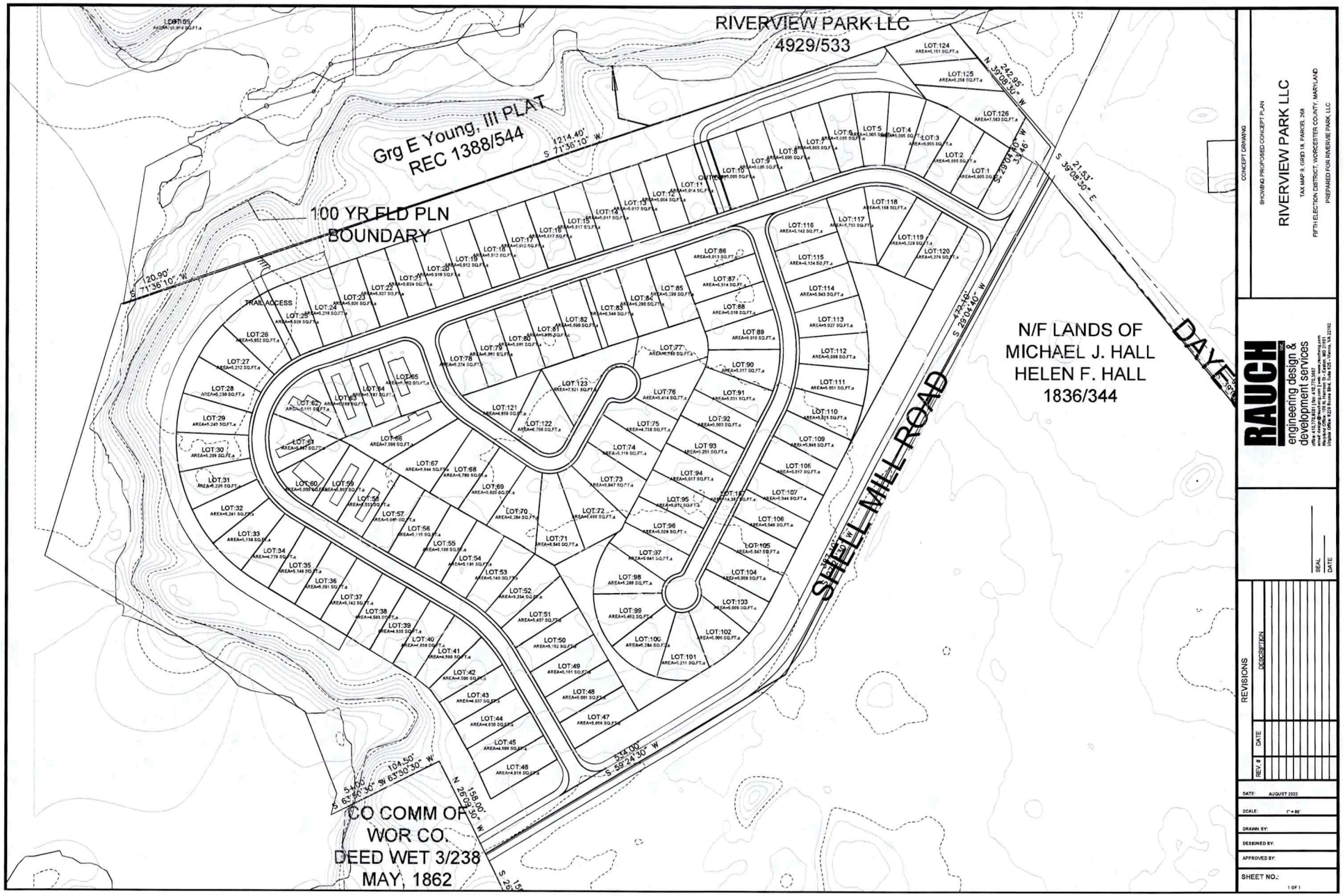
Effluent Requirements	
BOD5:	5 mg/L
TSS:	10 mg/L
TN:	3 mg/L
TP:	0.3 mg/L*
pH:	6 to 8 pH units
Alkalinity (No Less Than):	80 mg $CaCo_3$/L

chemical addition required

Appendix A-4


Worcester Hwy
Bishopville Rd
Bishopville Prong
Whaleyville Rd
Hammond Rd
Campbelltown Rd
Bunting Rd
Collins Rd
Saint Martins Neck Rd
Hotel Rd
Research Ln
Kepler Ln
113
610
367
0 300 600 1,200 Feet
Official Zoning Map
Map prepared by Worcester County Department of Development Review and Permitting, November 3, 2009.
Source: Worcester County Commissioners.
A1
A2
CA
RP
E1
R1
R2
R3
R4
I1
I2
CM
C1
C2
C3
V1
MUN
Tax Map 9

Appendix A-5


RIVERVIEW PARK LLC
4929/533
Grg E Young, III PLAT
REC 1388/544
100 YR FLD PLN
BOUNDARY
TRAIL ACCESS
N/F LANDS OF
MICHAEL J. HALL
HELEN F. HALL
1836/344
SHELL MILL ROAD
DAYE
CO COMM OF
WOR CO.
DEED WET 3/238
MAY, 1862
CONCEPT DRAWING
SHOWING PROPOSED CONCEPT PLAN
RIVERVIEW PARK LLC
TAX MAP 9, GRID 18, PARCEL 268
FIFTH ELECTION DISTRICT, WORCESTER COUNTY, MARYLAND
PREPARED FOR RIVERVIE PARK, LLC
RAUCH INC
engineering design &
development services
REVISIONS
REV.# DATE DESCRIPTION
SEAL
DATE
DATE: AUGUST 2022
SCALE: 1" = 50'
DRAWN BY:
DESIGNED BY:
APPROVED BY:
SHEET NO.: 1 OF 1

EnviTreat
Wastewater Treatability Specialists
700 Research Center Blvd., Fayetteville, AR 72701
www.envitreat.com

Technology Comparison Testing
Rhode Island Hatchery

(for EA Engineering, Science, and Technology, Inc., PBC)

July 15, 2022

Executive Summary:

EA Engineering, Science, and Technology, Inc., PBC (EA) was retained by the Rhode Island Department of Management (RIDEM) to assess the effectiveness of four wastewater technologies to meet the effluent phosphorus discharge requirement for the Lafayette State Trout Hatchery in North Kingstown, Rhode Island. The permitted phosphorus effluent limit is 0.025 mg/L total phosphorus. The wastewater technologies were selected by Fuss & O'Neil in 2018 under contract with RIDEM to select water treatment technologies for the hatchery discharge. The four selected wastewater technologies for phosphorus removal are:

1. Parkson DynaSand filters comprised of flocculation and coagulation followed by two-stage sand filtration.
2. Evoqua using coagulation and flocculation with magnetite as a ballasting agent.
3. Veolia using coagulation and flocculation with microsand as a ballasting agent.
4. Nexom using ferric oxide absorption technology.

The purpose of the current testing was to compare the effectiveness of each of these technologies in removing phosphorus (total and reactive). To ensure a margin of safety, the goal of these tests was to reduce total phosphorus below 0.015 mg/L. EA collected 5-gallon water samples from the exiting raceway five times over the course of 15 months (March 2021, July 2021, October 2021, February 2022, and June 2022). Each sample was shipped to EnviTreat who bench-tested each of these five samples using the four technologies described above. EnviTreat developed a summary report for each sample and shared each report with RIDEM. In each report, the effectiveness of each technology was assessed in terms of meeting the target total phosphorus concentration. This report is a comprehensive summary of the findings of the testing on five samples.

Results were as follows:

- Total phosphorus in the hatchery discharge samples varied over a narrow range of 0.069 to 0.102 mg/L phosphorus.
- The hatchery discharge did not contain minerals of concern at concentrations that would interfere with the phosphorus analytical testing method.
- Ferric chloride coagulant with anionic polymer was effective at removing total and reactive phosphorus in the coagulation technologies (Parkson, Evoqua, Veolia), as described below:

  - The Parkson technology was able to remove total and reactive phosphorus to less than the 0.015 mg/L goal in each of the five sampling events.
  - The Evoqua technology was able to meet the 0.015 mg/L of phosphorous on all but one occasion, but coagulant dose rate had to be raised above the optimum dose rate during three of the tests to achieve acceptable phosphorus removal. EnviTreat recommends filter polishing on this technology.
  - The Veolia technology was able to meet the 0.015 mg/L of phosphorous on all but one occasion, but coagulant dose rate had to be raised above the optimum dose rate during four of the tests to achieve acceptable phosphorus removal. EnviTreat recommends filter polishing on this technology.
- The Nexom technology was able to remove total and reactive phosphorus to less than the 0.015 mg/L goal with the exception of one sample. The failure in that test was likely due to test setup; no failures occurred in subsequent testing. The Nexom technology can likely meet the phosphorus target, but it is more complex than the Parkson technology.

Operation of the bench-scale systems showed that the Parkson and Nexom technologies were the easiest to operate. The Parkson technology is a simple coagulation/flocculation followed by sand filtration and appears to be a very robust option. The Nexom technology was also effective at removing phosphorus. The ability of the Nexom technology to achieve the removal observed during these tests is likely but not certain. The technology must coat the filtration particles with ferric oxide, return them to system for adsoption/filtration, then shear the coating off to remove the phosphorus. The Nexom technology is more complex than the Parkson technology.

Matt Frigon July 15, 2022

Matt Frigon, Manager, EnviTreat
Email: mfrigon@eaest.com Tel: 678-938-7521

Proposed Text Amendment to the Worcester County Comprehensive Water and Sewer Plan to allow a surface water discharge

Under: 1.2 WATER AND SEWER SERVICE GOALS

Section 1.2.2 D Protection of the Environment:

i. To the greatest possible extent, effluent from wastewater treatment plants in the Coastal Bays watershed should be conserved and reused to mitigate saltwater intrusion and so should be treated and discharged on land to allow percolation. Direct discharge into the coastal bays should be avoided because the water quality in most embayments is degraded due to high nutrient inputs, which persist in bays because tidal flushing rates are low. When the land discharge is impractical, discharge through ocean outfalls is preferred. Direct surface water discharge to the bays may be considered for existing large multi-use systems that do not have a groundwater discharge permit and that are not adjacent to or within approved sewer planning areas, subject to the following conditions:

   (i) Enhanced treatment will be required to achieve a net reduction in the nutrient loadings generated from the existing system to the receiving waterbody.

   (ii) The discharge cannot contribute to a degradation of the level of impairment on the receiving waterbody.

   (iii) Before any new surface wastewater discharge permit application is submitted to the Maryland Department of Environment (MDE), the owner of the proposed system or the county will be required to submit the necessary information to MDE including, but not limited to, the following:

   - Documentation showing that alternative wastewater disposals have been evaluated and all possible alternatives have been explored and determined to be infeasible.
   - A wastewater treatment plant concept design with supporting data that demonstrates the ability of the plant to produce treated effluent that will:
     - Achieve significant nutrient reductions and meet ENR level effluent limits required by MDE in the surface discharge permit.
   - A pollution control plan with the necessary Best Management Practices (BMPs), in combination with the new ENR wastewater treatment facility, to

fully offset the additional nutrients generated by the new surface discharge. As part of its review, MDE will evaluate whether the pollution control plan (Best management practices or BMPs) proposed by the owner, or the county is consistent with existing TMDLs and determine if the proposed BMPs will generate sufficient credits to fully offset the pollution generated by the proposed WWTP discharge. At a minimum, the pollution control plan shall include:

- A written agreement with any property owners hosting the BMP or the area which drains to the BMP used as the required offset. The written agreement must be included in a W&S Plan Amendment for the proposed surface wastewater discharge. Any BMPs will be re-evaluated as part of the normal discharge permit renewal cycle. Should a BMP become ineffective due to a land use change or for any other reason, MDE shall be notified in a timely manner, and an alternative BMP designed to achieve an equivalent nutrient reduction as the ineffective BMP shall be submitted for evaluation as soon as practicable.
- A certificate from the owner of the WWTP asserting responsibility for the continuous operation, maintenance, and performance of both the offset BMP and the WWTP.
- The proposed plan should include how climate change, including flooding, sea level rise, saltwater intrusion and storm surge will impact the performance of the WWTP and the BMP offset.

(iv) An WWTP annual report will be submitted to MDE, including the BMP operation status and annual reduction achieved through onsite monitoring data collection. Discharge from the new WWTP shall meet permit conditions for one year before the existing wastewater system can be removed.

RAUCH inc.
Engineering | Survey | Architecture | Environmental

October 27, 2022
Attn: Planning Commission
Worcester County
1 W Market St
Suite 1201
Snow Hill, MD 21863

Riverview Mobile Home Park. Bishopville, Maryland
Mobile Home Park Lot Expansion and Wastewater Project – Water and Sewer Plan Amendment Application

Dear reviewers:

RAUCH inc. is assisting in the concept and planning phase of a mobile home park expansion and wastewater treatment upgrade Bishopville, MD. Riverview Mobile Home Park proposes to add 60 lots to its existing 66 lots. Please find the subsequent application package for your review.

The County's Comprehensive Plan Objectives include:

- Provide for adequate housing opportunities for all income and age groups
- Accommodate planned future growth through designated "growth centers" with development standards designed to minimize environmental and habitat disruption
- Provide adequate public health, safety, social, recreation, and waste disposal services
- Maintain and enhance the county's livability

The Riverview Park, located in Bishopville, is in The Plan as a multi-use septic system serving the residents of the park. Maximum number of trailers was capped at 66, and they have run between 58-63 units in our historical records and have the ability to add the last system connections. The septic is a single system, with a low pressure-dosed drain field that has the old system as a backup. They have conventional (zero) treatment at the present, and the system and drain field is an innovative system repair located entirely in the critical area. There is no guaranteed state funding for pre-treatment (a package plant) that would be required with a system replacement should the existing system fail. This is the only large multi-use septic systems (over 5,000 gpd) that does not have groundwater discharge permit, is located within the critical area, and is not adjacent to any sewer planning area, and does not have a state funding source for the addition of treatment (systems located in our state parks).

The park currently contributes 1,214 pounds of nitrogen annually to the Coastal Bays using Maryland Department of the Environment's (MDE's) nitrogen delivery ratio for systems located within the 1,000 ft critical area (attached). A treatment plant would dramatically reduce this loading to the watershed with the advanced treatment technologies available today. Grants for a system of this size would be very hard to secure. The water quality funding scoring in Maryland is geared towards larger community systems, systems that have failed or need significant repair, or systems under a consent order. This park is not under a consent order. A replacement of the system with treatment would be an immense debt burden imposed on the rental rates for the existing park residents. The owner believes that getting additional units for the park within the existing property would assist in spreading the cost of the upgrade to treatment to an affordable price point that would provide a stable future for the park's residents and perhaps add to the park's ability to provide affordable housing for additional individuals. They have explored additional onsite testing to expand the septic capability and explored adjacent properties for spray irrigation and have not been able to find or secure these outlets for additional land application of treated effluent.

The expansion project will contribute to these goals by utilizing existing development areas (EDAs) currently classified as IDA and LDA. Furthermore, the project will reduce the overall nutrients impacting the Atlantic Coastal Bay's Bishopville Prong from Riverview Mobile Home Park. A text amendment to the Worcester County Comprehensive Water and Sewer Plan is concurrently proposed which would modify Section 1.2.2 D Protection of the Environment and allow point discharges within the County subject to the criteria included within the proposed text amendment. This proposed text amendment would facilitate the Riverview Mobile Home Park project and is included as Appendix A-7 within the Riverview Mobile Home Park Lot Expansion and Wastewater Project – Water and Sewer Plan Amendment Application.

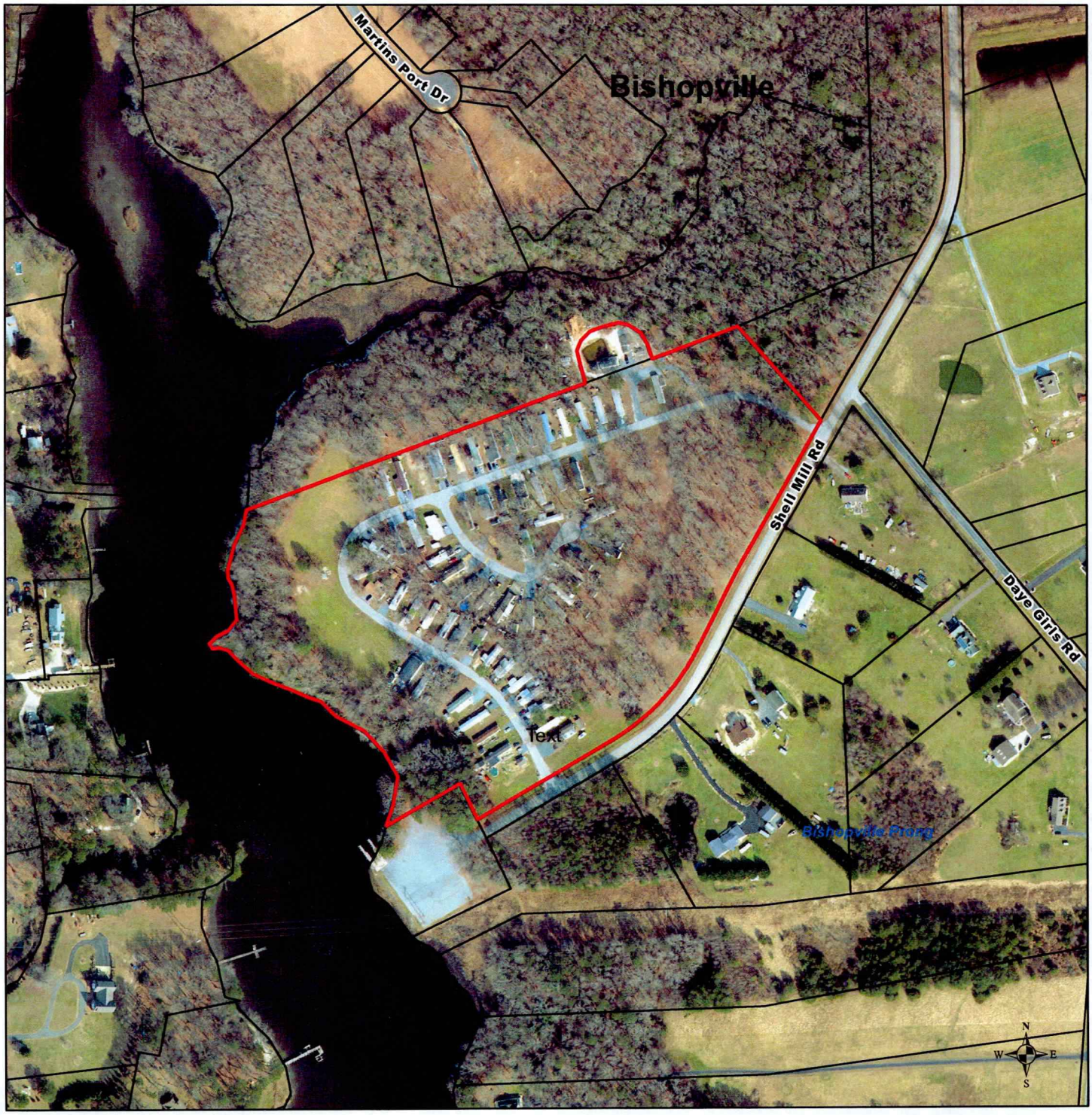
We believe this project is consistent with Worcester County goals and will help the County achieve its stated goals. If any further information is needed or you wish to discuss our project, please contact James Cook at 410-770-9081.

Best regards,

James Cook
Project Manager, RAUCH inc.
jcook@raucheng.com
410-770-9081

Attachment 2

Maps



Proposed Area

Aerial

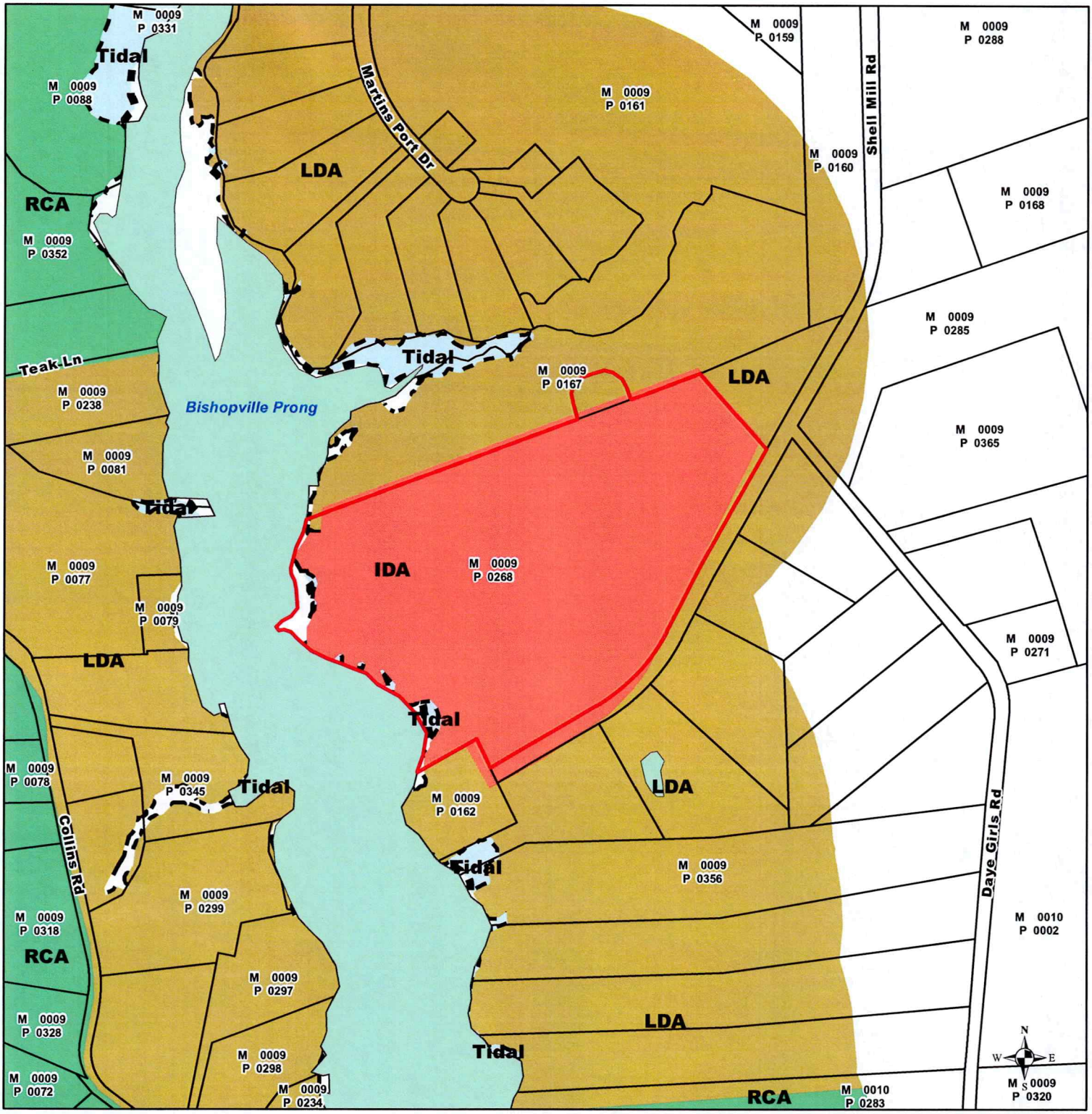
Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

Prepared by Worcester County Environmental Programs, June 24, 2021
Parcel boundaries are approximate.
This map is for planning purposes only.

0 350 700
Feet



Legend

- Proposed Area
- IDA - Intensely Development Areas
- LDA - Limited Development Areas
- RCA - Resource Conservation Areas
- Tidally Influenced Areas

Critical Areas

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

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Feet

Prepared by Worcester County Environmental Programs, June 24, 2021
Parcel boundaries are approximate.
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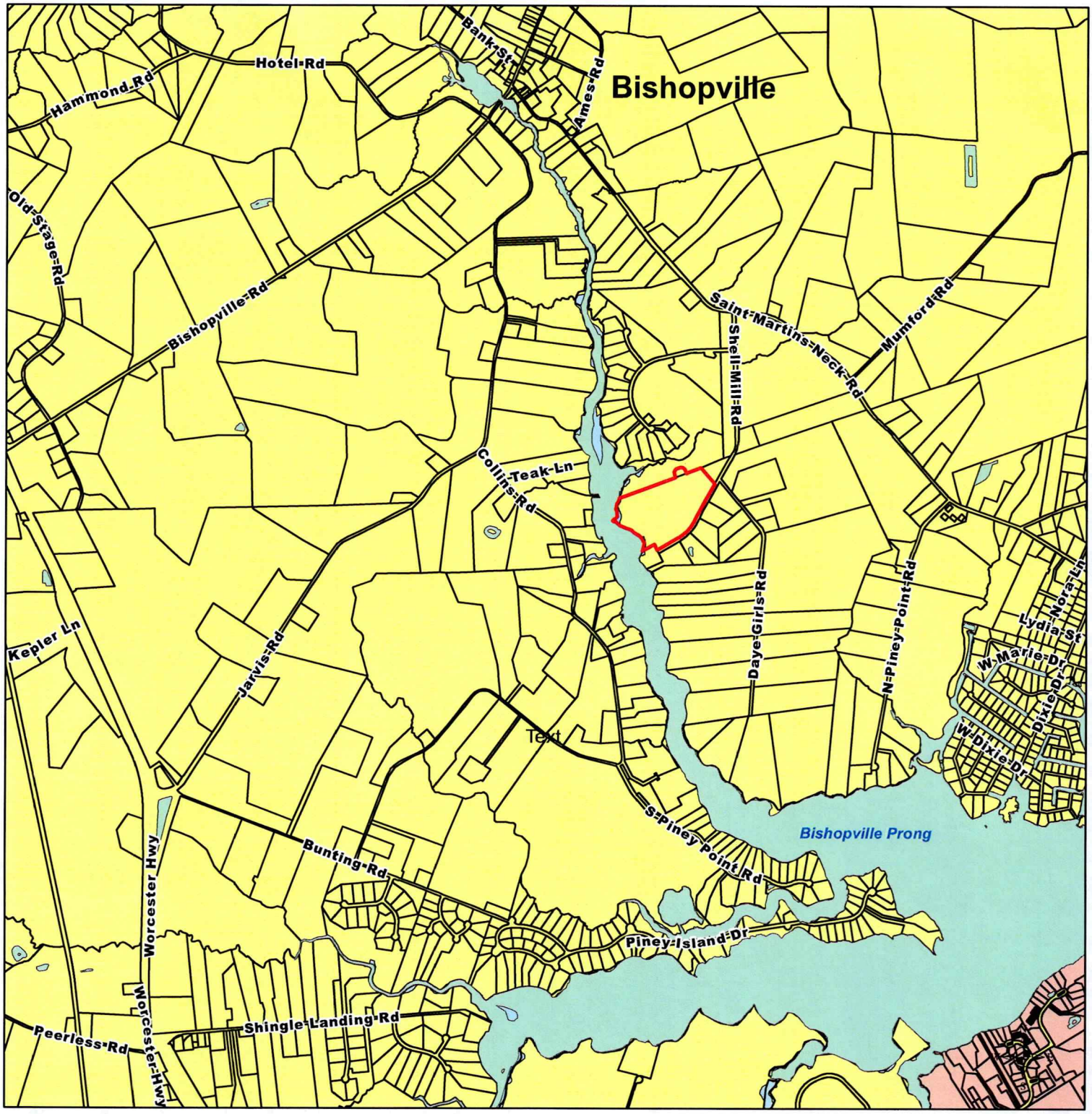

Proposed Area

General Location

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

Prepared by Worcester County Environmental Programs, June 24, 2021
Parcel boundaries are approximate.
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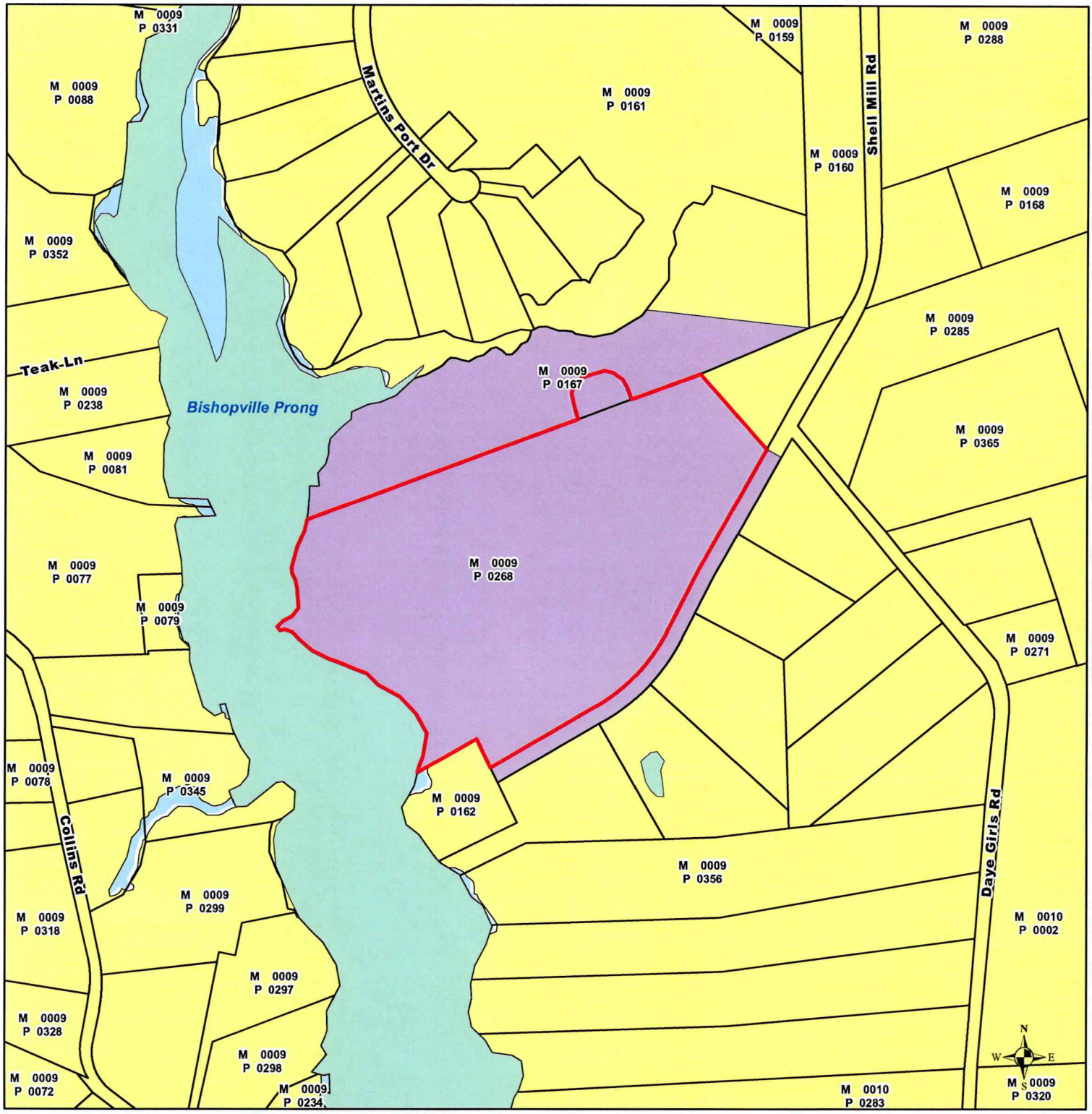
Feet



Legend

- Proposed Area
- Priority Funding Area

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

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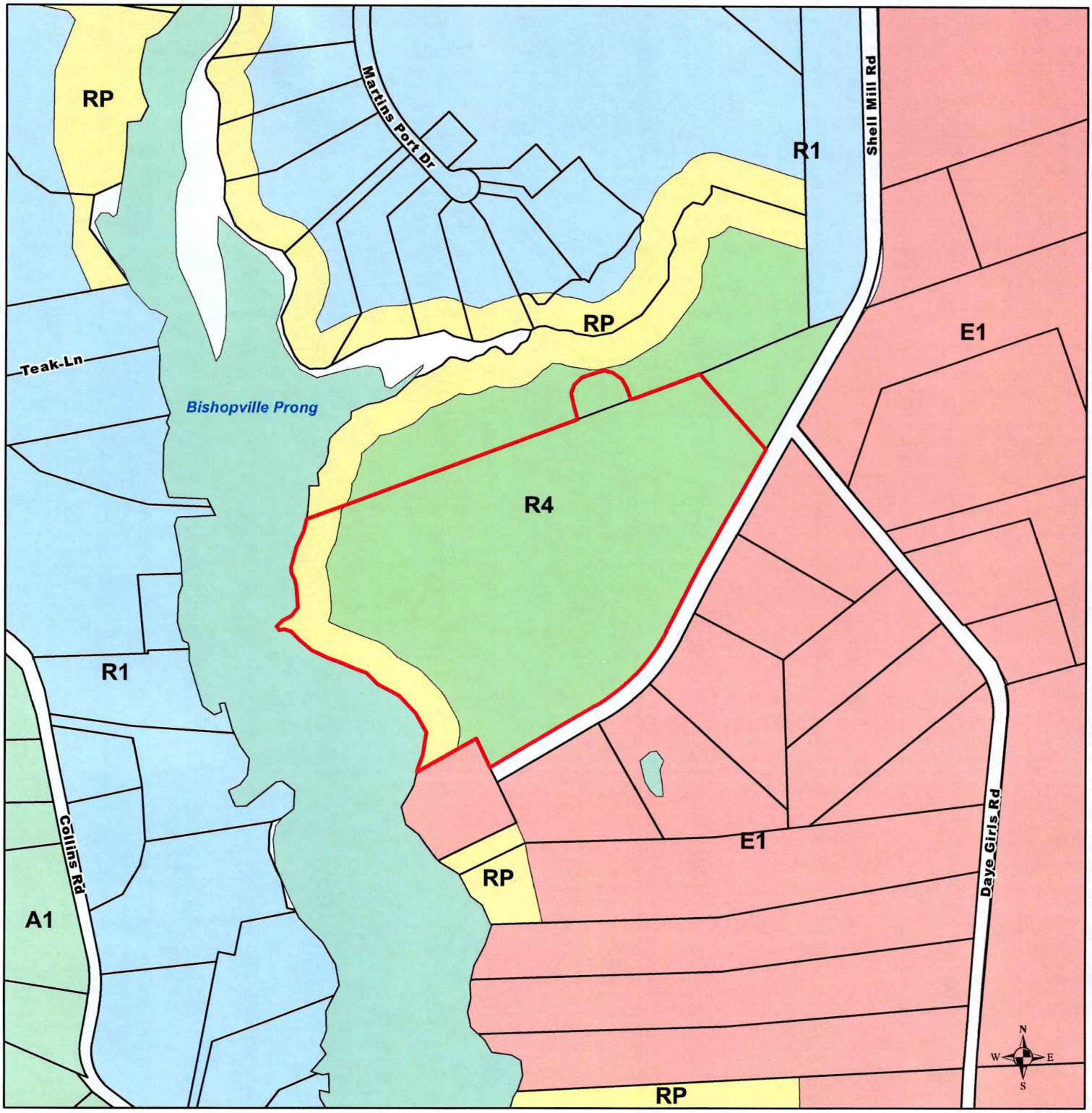

Legend

Proposed Area

Zoning

E1 RP

R1 A1

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

0 440 880
Feet

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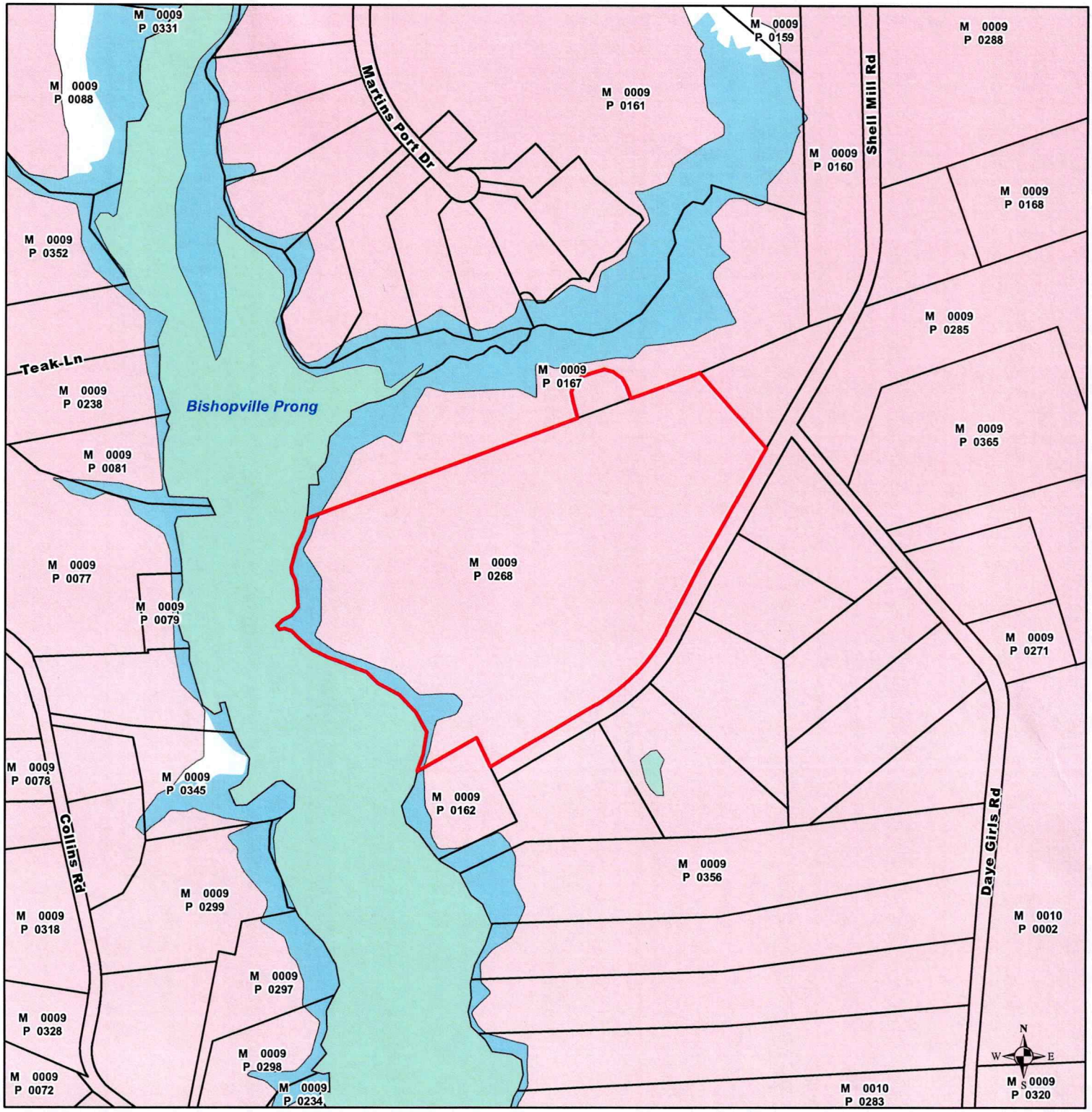

Legend

Proposed Area

Floodplain

Flood Zone

100 Year Floodplain

500 Year Floodplain

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

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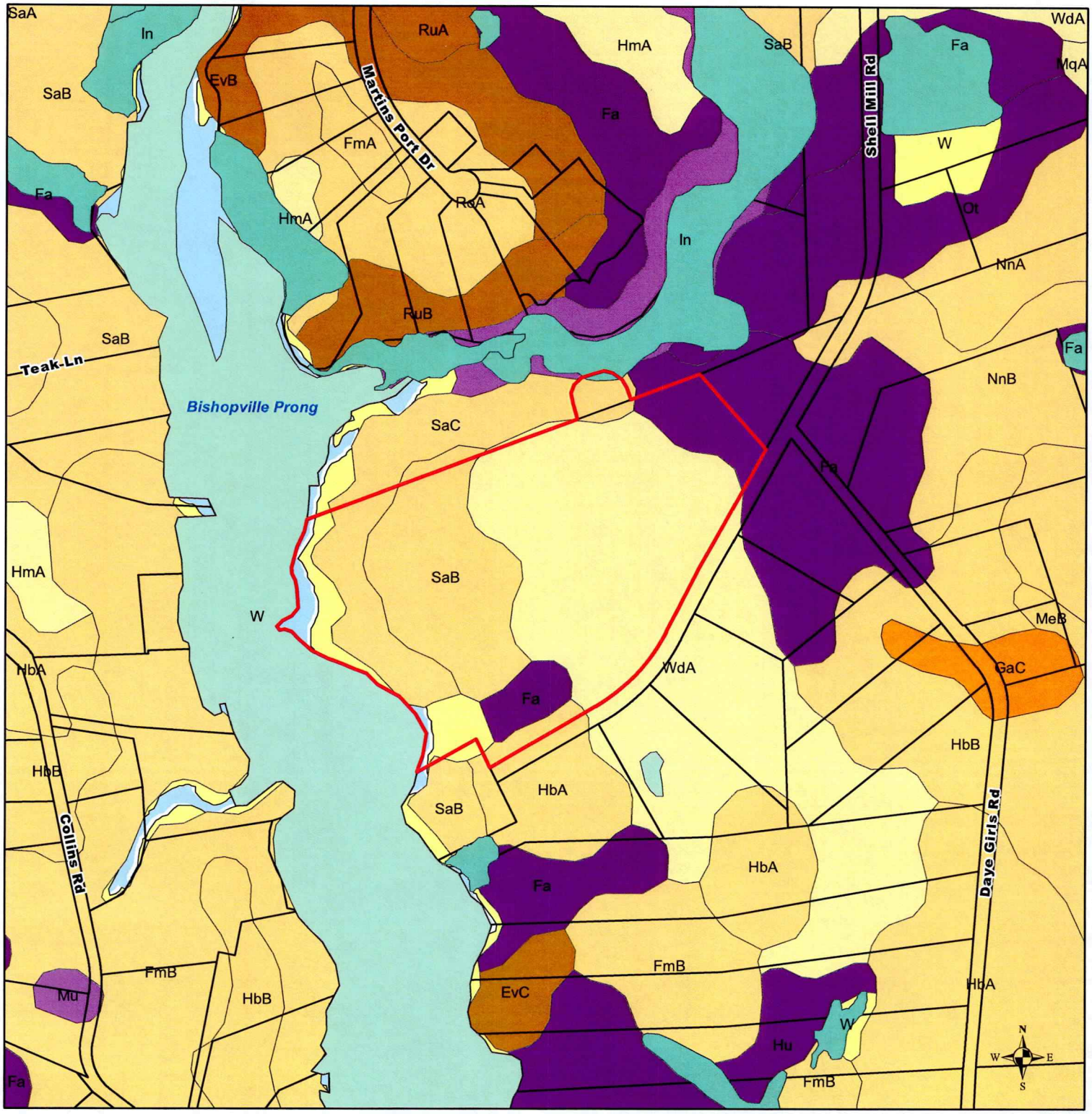

Legend

Proposed Area

Soil

- Excessively drained
- Somewhat excessively drained
- Moderately well drained
- Very poorly drained
- Poorly drained
- Well drained

Soils

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

0 440 880
Feet

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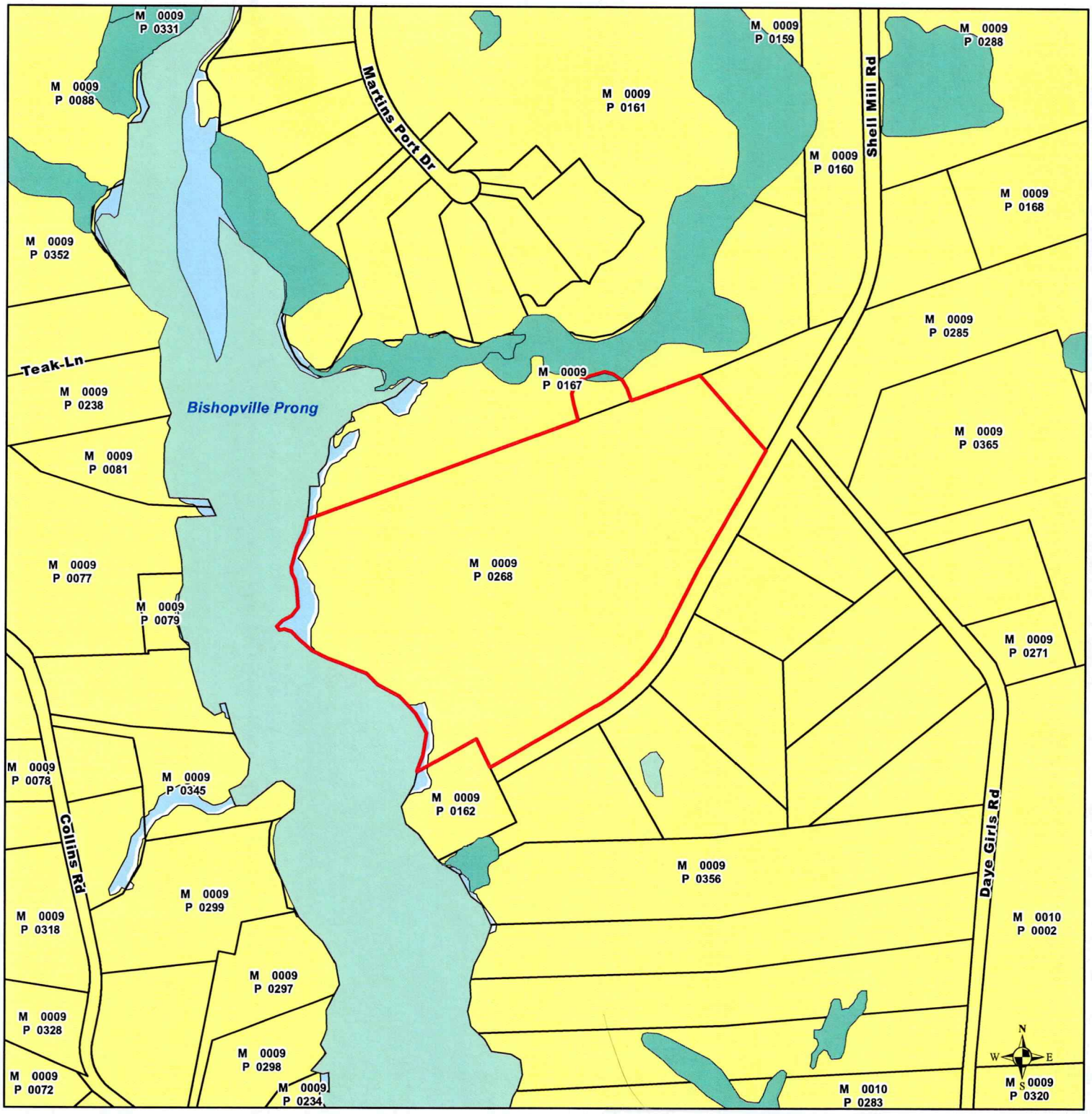

Legend

- Proposed Area
- Wetlands

Wetlands

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

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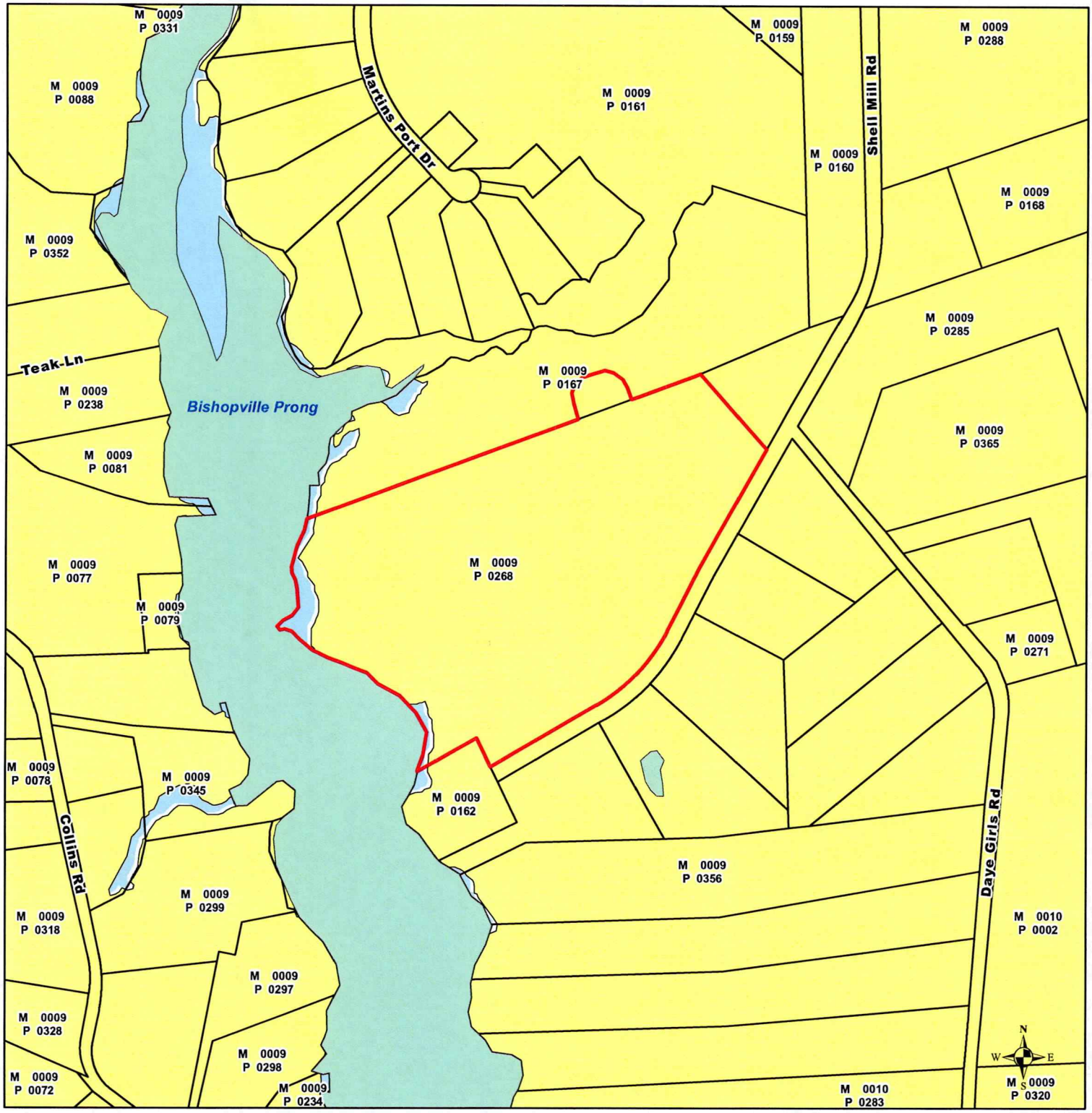
Feet



Legend

Proposed Area

Water Planning Area

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

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This map is for planning purposes only.

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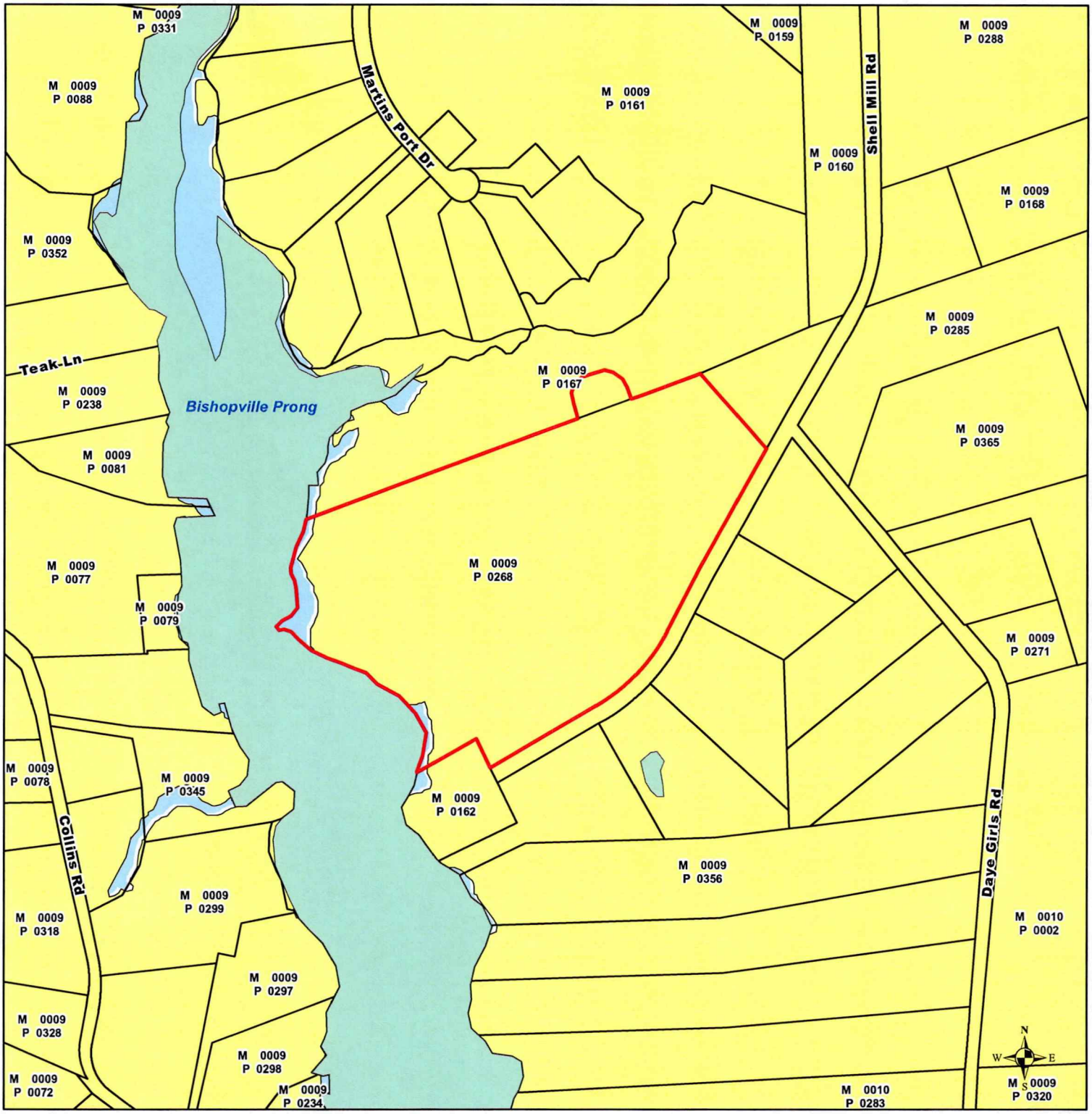
Feet



Legend

Proposed Area

Sewer Planning Area

Riverview Mobile Home Park

Tax Map: 9
Parcel: 268 & 167

Water and Sewer Amendment

0 440 880
Feet

Prepared by Worcester County Environmental Programs, June 24, 2021
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