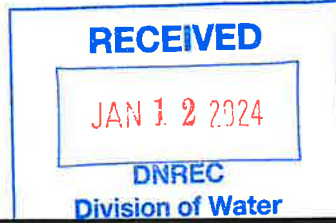


Transmittal Letter

3001/24

Solutions, IPEM
Jim Eriksen, PE
303 North Bedford Street
Georgetown, DE 19947
p: 302.297.9215
e: jeriksen@solutionsipem.com



January 11, 2023

To: **DE DNREC Division of Water
SWDS**

89 Kings Highway
Dover, DE 19901
302-739-9946

Attention: Gregory Pope/Davison Mwale

Re: Riverwood

Job Number: G20098

We are sending you:

Attached Under Separate Cover

Delivery via:

UPS US Mail Fed Ex Hand Carried Picked up Other

Quantity	Description
1	Set of Riverwood Sewer Plans
1	Sewer Narrative
1	Completed Application
1	Review Fee \$825 (Check #110559)
1	Public Notice Fee \$300 (Check #1089820)
1	CD w/ digital files
1	Sussex County P&Z Approval Letter

These are transmitted as checked below

As requested For your use Resubmit copies for review Resubmit copies for approval

Comments:

Copy to:

Signature



Department of Natural Resources
and Environmental Control

89 Kings Hwy
Dover, DE 19901
dnrec.delaware.gov

Phone: (302) 739-9946
Fax: (302) 739-8369

Division of Water
Commercial and Government Services Section

**INSTRUCTIONS FOR COMPLETING THE PERMIT APPLICATION FOR THE CONSTRUCTION OF
WASTEWATER COLLECTION AND CONVEYANCE SYSTEMS**

The following items must accompany the application. Please note that incomplete application packages will be returned in their entirety and not reviewed until such time as all required information is received.

- 1. A narrative summary of the intended purpose and design of the proposed facilities.
- 2. One (1) set of final construction plans and specifications, if applicable, signed and sealed by a Delaware-registered Professional Engineer, or a Delaware-registered Professional Land Surveyor for gravity systems only. One (1) electronic copy of final Plans.
- 3. One (1) electronic copy of final Plans.
- 4. The final plans must be drawn to scale showing slopes, inverts, pipe types and sizes, existing and proposed ground surfaces, tops of manholes, water lines, stormwater and stream crossings, encasements shown in plan and profile, and other information if pertinent or requested.
- 5. For pump/lift stations and force mains, include all calculations and pump/performance curves.
- 6. A check made payable to the State of Delaware for eight hundred twenty-five dollars (\$825.00), the non-refundable permit review fee. This fee covers the initial review and one follow-up review of any corrections or changes made to address the Division's comments. An additional eight hundred twenty-five dollars (\$825.00) non-refundable review fee must be submitted for resubmission of the plans if changes are made to the project which trigger a complete review of the permit application.
- 7. Your permit will have a public notice requirement if your system includes force mains or pump/lift stations. Include a check made payable to the State of Delaware for three hundred dollars (\$300.00) for the reimbursement of legal notices if the system has a force main connection or a pump/lift station.
- Please submit the completed application package, as outlined above, to DE DNREC, Division of Water, Commercial and Government Services Section, 89 Kings Highway, Dover, DE 19901. Please note, a new application, including the review fee, must be submitted if the Division's comments are not addressed or if requested supplemental information is not provided within one (1) year of the comment or request date.
- The following items must be submitted prior to permit issuance:
- 8. Verification from the appropriate county or municipal planning authority that the project has the proper zoning approval.
- 9. A letter from the owner/operator of the wastewater facilities to which the proposed collection and conveyance facilities connect. The letter must include confirmation that the owner/operator has approved the project, that the owner/operator will take responsibility for treating and disposing of the wastewater to be conveyed and that the downstream facilities have the capacity to manage the additional flows without causing or contributing to violations of Delaware's Environmental Protection Act (7 Del. C., Chapter 60) and the regulations promulgated thereafter. This includes, but is not limited to, unauthorized discharges such as overflows at manholes and violations of the treatment system's operating permit (for example, the National Pollutant Discharge Elimination System (NPDES) permit).

- Visit us on the web at: <https://dnrec.alpha.delaware.gov/water/surface-water/>

**APPLICATION FOR THE CONSTRUCTION OF
WASTEWATER COLLECTION AND CONVEYANCE SYSTEMS**

Application must be complete, typewritten or clearly printed

Date Application Submitted _____

PROJECT INFORMATION			
Project Name and Location/ Address Riverwood 31000 Block Phillips Branch Road, Harbeson, DE 19951			
Tax Parcel Number(s) 234-17.00-3.00			
County <input type="checkbox"/> Kent <input type="checkbox"/> New Castle <input checked="" type="checkbox"/> Sussex		Watershed (www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessment.aspx) <input type="checkbox"/> Chesapeake Bay <input type="checkbox"/> DE Bay/Estuary <input checked="" type="checkbox"/> Inland Bays/Atl Ocean <input type="checkbox"/> Piedmont	
Sewer District or Interceptor Angola Sanitary Sewer District		Wastewater Treatment/Disposal Facility Name Inland Bays Regional Wastewater Facility	
Anticipated Construction Start Date March 15, 2024		Treatment/Disposal Facility Owner and Operating Permit Number Sussex County, #LTS 5004-90-12	
Please note, construction permits expire three (3) years from the date of permit issuance.			
Are you requesting <u>plan review and comment</u> or WPC Construction Permit issuance? (circle one)			
Design Flow (gallons/day) Average 75,600	Peak 302,400	Peak Factor 4.0	Basis of Design 240 Gal/EDU/Day
Description 117 lot residential community, 1 on-site pool house. Gravity collection system to onsite pump station to discharge via forcemain to existing 20" forcemain along Phillips Branch Road, which discharges at the Inland Bays Regional Wastewater Facility.			
OWNER/DEVELOPER			
Company Name Riverwood Development, LLC			
Mailing Address 30 East Pine Street			
City Georgetown		State DE	Zip 19947
Contact Name Jamie King, ESQ			
E-Mail Address jamie@tunnellraysor.com			
Telephone (302) 644-4442	Cell	Fax	

ENGINEER

Company Name
Solutions IPEM

Mailing Address
303 North Bedford Street

City Georgetown	State DE	Zip 19947
---------------------------	--------------------	---------------------

Contact Name
Jim Eriksen

E-Mail Address
jeriksen@solutionsipem.com

Telephone (302) 297-9215	Cell	Fax
------------------------------------	-------------	------------

GRAVITY SEWER INFORMATION

Ownership <input type="checkbox"/> Public <input checked="" type="checkbox"/> Private	Type of Sewer System <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other?	If Other, list below
---	--	-----------------------------

Type of Pipe PVC SDR 26	Length (ft) 4747.34	Diameter (in) 8	Joint Specification Wall Bell & Spigot	Min. Slope (ft/ft) 0.0030	Min. Velocity (ft/sec) 2.0
-----------------------------------	-------------------------------	---------------------------	--	-------------------------------------	--------------------------------------

Ductile Iron Pipe	76.19	10	Wall Bell & Spigot	0.0040	2.0

Minimum Pipe Cover (ft) 4	Number of Manholes 23	Drop manholes provided? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Maximum Distance Between Manholes (ft) 400
-------------------------------------	---------------------------------	---	--

Minimum ten foot (10') horizontal & eighteen inch (18") vertical separation from water lines maintained? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If not, explain provisions to prevent cross-contamination:
--	---

Explain any special challenges (for example, stream, highway and/or railroad crossings, directional drilling, elevated sewers, etc.)

Comments

PUMP/LIFT STATION INFORMATION				
Ownership <input type="checkbox"/> Public <input checked="" type="checkbox"/> Private		Type of Wastewater <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other?		If Other, list below
Pump Station Flows (gallons/day) Design		Average 75,600	Peak 302,400	Peak Factor 4.0
Basis of Design 240 GPD/EDU			Pump Type non-clog	
Will peak flows be accommodated if largest unit fails? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Pump calc's and pump curves attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cycle Time (minutes)	Wet Well Detention Time (minutes)
Check valves provided on discharge line? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Gate valves provided on discharge line? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If not, explain alternate procedure:				
Ventilation provided in wet well? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Dry Well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is an alarm system included? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Alternate source of power? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
What other provisions for emergency operations?				
Height of Influent Above Pump (suction head) (ft) 6.0		Height of Effluent Above Pump (discharge head) (ft) 10.94		Friction Loss (ft) 6.87
Pump Design Point 210GPM @ 47.87ft	Pump Operating Point 212GPM @ 48.1ft	Static Head (ft) 41	Total Head (ft) 47.87	Required Motor Horsepower (hp) 7.2
FORCE MAIN INFORMATION				
Type of Pipe C900 PVC		Length (ft) 413.7		Diameter (in) 6
Hazen-Williams "C" Design Factor 150	Type of Joints ASTM D3139	Velocity Under Design Conditions (ft/sec) 2.38		Minimum Pipe Cover (ft) 4
Air relief valves specified? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Clean-outs provided? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Maximum distance between clean-outs (ft)
Minimum ten foot (10') horizontal & eighteen inch (18") vertical separation from water lines maintained? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			If not, explain provisions to prevent cross-contamination:	
Comments				

Riverwood Sanitary Sewer Narrative

Riverwood is a proposed residential subdivision in Sussex County located on the 31000 block of Phillips Branch Road. The subdivision will contain 117 single family lots and a pool/pool house. All the residential lots and pool house will be served by a gravity collection system which will discharge into a proposed Artesian Wastewater Management, Inc. pump station. The pump station will discharge via a 6" force main and tie into an existing 20" forcemain along Phillips Branch Road which discharges to the Inland Bays Regional Wastewater Facility. Solutions IPEM has been provided with sewer tie-in locations and elevations along with existing and future pipe sizes, materials, and lengths for pump station design. The sewer system will be owned and maintained by Artesian Wastewater Management, Inc. The system has been designed per Artesian standards.



OVER 100 YEARS OF SUPERIOR SERVICE

July 14, 2022

Jason Palkewicz
Solutions IPEM
303 N Bedford Street
Georgetown, DE 19947

RE: Riverwood Ability to Serve Letter, Tax Parcel 234-17.00-3.00

With reference to your request concerning Water and Wastewater Service (collectively, "Service") for the proposed Riverwood Subdivision project consisting of approximately 117 single family homes and an amenities area, located on Phillips Branch Road in Indian River Hundred, Sussex County, Delaware known as Tax Parcel Number 234-17.00-3.00 (the "Property"), please be advised as follows:

Subject to the following conditions, Artesian Water Company, Inc. and Artesian Wastewater Management, Inc. (collectively, "Artesian") is willing and able to provide Service to the Property that meets all applicable State of Delaware, Delaware Department of Natural Resources and Environmental Control, and Sussex County standards. Artesian has existing water and wastewater Certificates of Public Convenience and Necessity ("CPCNs") from the Delaware Public Service Commission.

Based on current conditions and subject to the development entity and Artesian entering Water and Wastewater Service Agreements (collectively, "Agreements") that addresses the financial terms of the provision of Service for the Property, in accordance with Artesian's tariff as approved by the Delaware Public Service Commission, Artesian is willing and able to provide the required Service for this Property.

This letter shall expire if Agreements are not executed within one year of the date of this letter

Yours very truly,

ARTESIAN WATER COMPANY, INC.

A handwritten signature in black ink, appearing to read "Adam Gould".

Adam Gould
Manager of Systems Planning and Design

PLANNING & ZONING COMMISSION

ROBERT C. WHEATLEY, CHAIRMAN
KIM HOEY STEVENSON, VICE-CHAIRMAN
R. KELLER HOPKINS
J. BRUCE MEARS
HOLLY J. WINGATE



Sussex County

DELAWARE
SUSSEXCOUNTYDE.GOV
302-855-7878 T
302-854-5079 F
JAMIE WHITEHOUSE, AICP, MRTPI
DIRECTOR

November 30th, 2022

Ms. Mackenzie Peet, Esquire
Baird, Mandalas, Brockstedt, Federico & Cardea
1413 Savannah Road
Lewes, Delaware 19958

Electronically delivered to: mackenzie@bmbde.com

Subject: Notice of Decision – Preliminary Major Subdivision Plan for Riverwood (2021-32)
Tax Parcel: 234-17.00-3.00 & 5.00

Dear Ms. Peet,

At their meeting of October 27th, 2022, the Sussex County Planning and Zoning Commission approved the Preliminary Major Subdivision Plan for Riverwood (2021-32). This approval was made further to the public hearing that was held on October 13th, 2022. The plan proposes 117 single family lots to be established as a cluster subdivision within the Agricultural Residential (AR-1) Zoning District. The property is located on the northwest side of Phillips Branch Road (S.C.R. 302) and is 58.6 acres +/-.

This preliminary approval is valid for a period of three (3) years. If no final approval is granted within this time, a subsequent preliminary approval may be necessary. Additionally, the Planning and Zoning Commission moved to have this approval subject to the following nineteen (19) conditions:

- a. There shall be no more than 117 lots within the subdivision.
- b. The Final Site Plan shall confirm that approximately 46% of the site remains as open space, subject to the final engineering of the site.
- c. The developer shall establish a homeowner's association responsible for the maintenance of streets, roads, buffers, stormwater management facilities and other common areas.
- d. The stormwater management system shall meet or exceed the requirements of the State and County. The Final Site Plan shall contain the approval of the Sussex Conservation District for the design and location of all stormwater management areas and erosion and sedimentation control facilities.



COUNTY ADMINISTRATIVE OFFICES
2 THE CIRCLE | PO BOX 417
GEORGETOWN, DELAWARE 19947

- e. There shall be a vegetated or forested buffer that is at least 30 feet wide installed along the perimeter of this subdivision adjacent to lands of other ownership. This buffer shall utilize existing forest or similar vegetation if it exists in the buffer area. Where trees currently exist in the buffer area, stump removal or construction activities that disturb the existing grade of the area within the buffer shall be prohibited. All silt fencing shall be located along the interior limit of the buffer area (the edge of the buffer nearest the interior development) and the Final Site Plan shall identify “Limit of Disturbance” to prevent disturbance of buffer area.
- f. There shall be a minimum buffer from regulated non-tidal wetlands of at least 25 feet. Where trees currently exist in the buffer area, stump removal or construction activities that disturb the existing grade of the area within the buffer shall be prohibited. All silt fencing shall be located along the interior limit of this buffer area (the edge of the buffer nearest the interior development) and the Final Site Plan shall identify the “Limit of Disturbance” to prevent disturbance of buffer area.
- g. The development shall comply with all DelDOT entrance and roadway improvement requirements.
- h. Sidewalks shall be installed on at least one side of all internal streets with a connection to the DelDOT multi-modal path. A system of downward screened streetlighting shall also be provided.
- i. Amenities including a pool and bathhouse shall be constructed and open to use by residents of this development on or before the issuance of the 70th residential building permit. The Final Site Plan shall contain details as to the size and location of these amenities.
- j. The subdivision shall be served by publicly regulated central water system providing drinking water and fire protection.
- k. Street design shall meet or exceed Sussex County standards.
- l. Road naming and addressing shall be subject to the review and approval of the Sussex County Geographic Mapping Office.
- m. Construction, site work, and deliveries shall only occur on the site between the hours of 7:00a.m. through 5:00p.m., Monday through Friday, and between the hours of 7:00a.m. and 2:00p.m. on Saturdays. No Sunday hours shall be permitted. A 24-inch by 36-inch “NOTICE” sign confirming these hours in English and Spanish shall be prominently displayed at the site entrance during construction.

- n. The Applicant shall coordinate with the local school district regarding the location of a school bus stop within the subdivision. If required by the school district, the location of the bus stop area shall be shown on the Final Site Plan.
- o. The Final Site Plan and Declaration of Restrictions shall state that agricultural activities exist nearby, and they shall include the Agricultural Use Protection Notice.
- p. The Final Site Plan shall include a Landscape Plan depicting all landscaping to be provided or preserved in all of the buffer areas. The Landscape Plan shall also clearly show all forested areas that will be preserved. The Landscape Plan shall also identify "Limits of Disturbance" within the site.
- q. The Final Site Plan shall include a Grading Plan for the site. No building permit shall be issued for individual lots until an individual lot grading plan has been supplied to and approved by Sussex County. No certificate of occupancy shall be issued until a grading certificate is submitted to the Building Code Department demonstrating general conformity with the individual site grading plan.
- r. A revised Preliminary Site Plan either depicting or noting these conditions must be submitted to the Office of Planning and Zoning.
- s. The Final Site Plan shall be subject to the review and approval of the Planning and Zoning Commission.

This plan is subject to a final approval that must be granted by the Planning and Zoning Commission. The Final Major Subdivision Plan shall comply with all requirements of Chapters 99 and 115 of the Sussex County Code. Staff note that all applicable agency approvals must be received prior to the facilitation of a final plan to the Planning Commission.

Please feel free to contact me at 302-855-7878 or at chase.phillips@sussexcountynj.gov with any questions or concerns. Thank you.

Sincerely,



Chase Phillips
Planner II

CC: Mr. Jason Palkewicz, P.E. – Solutions IPEM, Inc.
Mr. Timothy Green, Director of Land Development – Schell Brothers
Ms. Jennifer Norwood, Manager – Planning and Zoning Department
Mr. John Ashman, Director of Utility Planning – Engineering

RECEIPT

January 12, 2024

2

RCVD FROM Schell Brothers LLC \$825.00
FOR Eight Hundred twenty-five dollars and 00/100 DOLLARS
Plan review fee WPCC 3001/24 Riverwood

ACCT	\$	825.00
PAYMENT	\$	825.00
	\$	-

<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

CHECK # 110559

CASH

OTHER BY Kevin Bronson

DNREC, Surface Water Discharges Section, 89 Kings Hwy, Dover, DE 19901

RECEIPT

January 12, 2024

3

RCVD FROM Schell Brothers LLC \$300.00
FOR Three Hundred Dollars and 00/100 DOLLARS
WPCC Legal Notice Reimbursement 3001/24

ACCT	\$	300.00
PAYMENT	\$	300.00
	\$	-

<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

CHECK # 108982

CASH

OTHER BY Kevin Bronson

DNREC, Surface Water Discharges Section, 89 Kings Hwy, Dover, DE 19901