

3058/24

TRANSMITTAL

ARCHITECTS
ENGINEERS

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www.gmbnet.com


DATE: July 3, 2024 GMB NO: 220024.A
TO: DNREC Division of Water Commercial & Government Services Section 89 Kings Highway Dover, DE 19901 RE: Armada Subdivision Georgetown, DE
ATTN: Plan Reviewer



COPIES:	DESCRIPTION
1	Armada Sewer Plans (24 x 36)
1	Armada Sewer Plans (electronic)
1	Armada Application for Construction of WW Collection and Conveyance Systems
1	Narrative Summary
1	GMB Check - \$825.00 – Review Fee
1	GMB Check - \$300.00 – Advertisement Fee
1	Planning & Zoning PSP Approval Letter, dated 6/8/2023
1	Artesian Resources, Ability to Serve Letter, dated 1/7/2022

REMARKS: Please find enclosed the Armada Sewer Plans, Application, Narrative Summary, Zoning Approval, Artesian Ability to Serve Letter and Review Fee for your review and approval. Please contact our office with any questions or comments.

COPIES TO: Grayway Developers, INC.
Attn: Webster Gray (w/o encl.)



Christopher J. Pfeifer, P.E.
Vice President/ Sr. Project Manager



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. A check made payable to the State of Delaware for three hundred dollars (\$300.00) for the reimbursement of legal notices (advertisement filing expense.)

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 07/01/2024

PROJECT INFORMATION			
Project Name and Location/ Address Armada Subdivision Pump Station Approximately 5700 lf West of Indian Mission Road & Harmon's Hill Road Millsboro, DE 19966			
Tax Parcel Number(s) 234-16.00-25.00 & 25.05			
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 Artesian Wastewater Management, Inc.		Wastewater Treatment/Disposal Facility Name Artesian Wastewater Management, Inc.	
Anticipated Construction Start Date July 2024		Treatment/Disposal Facility Owner and Operating Permit Number Artesian Wastewater Management, Inc.	
Please note, construction permits expire three (3) years from the date of permit issuance.			
Are you requesting plan review and comment or WPCC Construction Permit issuance? (circle one)			
Design Flow (gallons/day) Average 16,330 GPD		Peak 69,403 GPD	Peak Factor 4.25
		Basis of Design 240 GPD/EDU	
Description The Armada development pump station consists of a new developer-built pump station that will be turned over to Artesian Wastewater Management, Inc. after completion. The proposed pump station will serve a total of 68 equivalent dwelling units (EDUs) from the Armada subdivision.			
OWNER/DEVELOPER			
Company Name Grayway Developers, Inc.			
Mailing Address 507 North York Street, Suite 2D			
City Mechanicsburg		State PA	Zip 17055
Contact Name Webster Gray			
E-Mail Address webster.gray@yahoo.com			
Telephone 717-460-7029		Cell	Fax

ENGINEER						
Company Name George, Miles & Buhr, LLC.						
Mailing Address 206 West Main Street						
City Salisbury		State MD		Zip 21801		
Contact Name Christopher J. Pfeifer						
E-Mail Address cpfeifer@gmbnet.com						
Telephone 410-742-3115		Cell		Fax		
GRAVITY SEWER INFORMATION						
Ownership <input type="checkbox"/> Public <input type="checkbox"/> Private		Type of Sewer System <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other?			If Other, list below	
Type of Pipe	Length (ft)	Diameter (in)	Joint Specification	Min. Slope (ft/ft)	Min. Velocity (ft/sec)	
Minimum Pipe Cover (ft)	Number of Manholes	Drop manholes provided? <input type="checkbox"/> Yes <input type="checkbox"/> No		Maximum Distance Between Manholes (ft)		
Minimum ten foot (10') horizontal & eighteen inch (18") vertical separation from water lines maintained? <input 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 Submitted under separate application.						

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 69,403 GPD	Average 16,330 GPD	Peak 69,403 GPD	Peak Factor 4.25	
Basis of Design Submersible in Wet Well with Aboveground Vault		Pump Type Submersible 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) 10 min	Wet Well Detention Time (minutes) 33.14 min	
Check valves provided on discharge line? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Gate valves provided on discharge line? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If not, explain alternate procedure: Plug Valves will be used on discharge line per Artesian requirements				
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? Bypass Pumping Connection				
Height of Influent Above Pump (suction head) (ft) N/A (flooded suction)	Height of Effluent Above Pump (discharge head) (ft) 16.42 ft		Friction Loss (ft) 3.10	
Pump Design Point 48 GPM	Pump Operating Point 65.9 GPM	Static Head (ft) 33.60 ft	Total Head (ft) 37.81 ft	Required Motor Horsepower (hp) 7.5 HP
FORCE MAIN INFORMATION				
Type of Pipe Polyvinyl Chloride (PVC) C900 DR 18 Ductile Iron (discharge pipe)		Length (ft) 165 ft	Diameter (in) 3-inch	
Hazen-Williams "C" Design Factor C=130 (PVC) C=120 (DI)	Type of Joints Gasketed Bell & Spigot	Velocity Under Design Conditions (ft/sec) 1.93 fps	Minimum Pipe Cover (ft) 4-feet	
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) N/A		
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				

**Armada
Pump Station
Narrative Summary**

The Armada development pump station consists of a new developer-built pump station that will be turned over to Artesian Wastewater Management, Inc. (AWMI) after completion. The proposed pump station will serve 68 (sixty-eight) equivalent dwelling units (EDUs). Those EDUs are comprised of 67 (sixty-seven) single family units and one (1) EDU based on AWMI infiltration requirements.

The pump station will consist of an eight (8') foot diameter, round precast concrete wet well with two (2) 7.5 HP submersible non-clog pumps with removable guiderail system and wet well ventilation supply fan. The station will also include an aboveground stainless steel valve vault enclosure to house check valves, plug valves, air release valve, and bypass connection. An emergency generator and controls cabinet shall be constructed adjacent to the wet well. Alarms will be monitored through the AWMI's SCADA system.

The pump station has an operating capacity of approximately 65.9 gallons per minute (GPM), which satisfies the design point of 48 GPM. The pumps have been designed to operate under flow conditions provided by AWMI as the proposed three-inch (3") force main will manifold into an existing force main that runs along Harmon's Hill Road (Route 302).

The proposed Armada force main design consists of the installation of approximately one hundred and sixty-five (165 LF) linear feet of three-inch (3") polyvinyl chloride (PVC C900 DR 18) force main pressure pipe within the proposed development via the open cut pipe installation method. The proposed force main will require a perpendicular crossing under Harmon's Hill Road to the proposed manifold connection point via jack and bore. The flows will then be conveyed through the existing Artesian force main system and ultimately to AWMI wastewater treatment plant.

All proposed jack and bore entrance and receiving pits have been shown on the plans provided. Additionally, the approximately seventy-five (75 LF) linear feet of three-inch (3") polyvinyl chloride (PVC C900 DR 18) crossing Harmon Hill Road via jack and bore shall be installed with a six-inch (6") steel casing pipe per DeIDOT standard specifications. The proposed Armada force main will reside in the AWMI Sewer District and shall eventually discharge into the AWMI Wastewater Treatment Facility.

Limits of pavement restoration shall be as shown on the drawings. All pavement restoration shall be in accordance with DeIDOT standard specifications. All force main installation via jack and bore within the State right-of-way shall be in accordance with DeIDOT standard specifications. Legal holidays and/or Sunday work within the State right-of-way will not be permitted without prior written request and approval.

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 OF PLANNING & ZONING

June 8, 2023

Mr. David Hutt
Morris James, LLP
107 W. Market Street
P.O. Box 690
Georgetown, DE 19947

By email to: dhutt@morrisjames.com

RE: Notice of Decision Letter for the Preliminary Subdivision Plan for **Armada (2022-16)** for the creation of a cluster subdivision to divide 47.07 acres +/- into sixty-seven (67) single-family lots and lying on the south side of Harmons Hill Road (S.C.R. 302), approximately 1-mile west of Indian Mission Road (Route 5).

Tax Parcels: 234-16.00-25.00 & 25.05

Dear Mr. Hutt,

At their meeting of **Thursday, May 11, 2023**, the Planning & Zoning Commission **approved** the **Preliminary Major Subdivision Plan** for **Armada (2022-16)** for the creation of a cluster subdivision to consist of sixty-seven (67) single-family lots, to be located on the south side of Harmons Hill Road (S.C.R. 302), approximately 1-mile west of Indian Mission Road (Route 5). The properties lie within the Agricultural Residential (AR-1) Zoning District and lie within the Low-Density Area per Sussex County's 2019 Comprehensive Plan.

The Preliminary Subdivision Plan is valid for three (3) years from the date of Planning Commission decision. A Final Subdivision Plan shall be approved within three (3) years of the date of approval of the Preliminary Subdivision Plan, or the action of the Planning Commission shall be deemed canceled. Unless an extension is granted, approval shall be rendered null and void if substantial construction is not commenced within five (5) years of the date of recordation of the final plat.

As part of their motion, the Planning Commission acted to approve the development subject to the following conditions (which shall be clearly annotated on the Revised Preliminary and Final Subdivision Plans):

- A. There shall be no more than 67 lots within the subdivision.
- B. There shall be a homeowner's association responsible for the maintenance of the streets, buffers, stormwater management facilities, and other common areas.
- C. As shown on the Preliminary Site Plan, approximately 70% of the site shall remain as open space. This shall include at least 15 acres of the existing forest area. The Final Site Plan shall depict all forested areas that will be preserved.



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

- D. The stormwater management system shall meet or exceed the requirements of the State and County and the Final Site Plan shall contain the approval of the Sussex Conservation District. The system shall be maintained and operated using Best Management Practices.
- E. There shall be a forested and/or vegetated buffer strip that is at least 30 feet wide along the perimeter of the subdivision adjacent to the land of other ownership in accordance with Section 99-5 of the Subdivision Ordinance. 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 the "Limit of Disturbance" to prevent disturbance of the buffer area.
- F. The development shall comply with DelDOT entrance roadway improvement requirements.
- G. Street design shall meet or exceed Sussex County standards.
- H. Road naming and addressing shall be subject to the review and approval of the Sussex County Geographical Information Office.
- I. The subdivision shall be served by Artesian Water Resources for its central wastewater system and for drinking water and fire protection.
- J. Sidewalks shall be installed on at least one side of all internal streets.
- K. Construction, site work, and deliveries shall only occur on the site between the hours of 7:00 a.m. and 6:00 p.m. Monday through Saturday. No Sunday hours are 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.
- L. The Applicant shall coordinate with the local school district for 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.
- M. There shall be on-site recreational amenities including a playground, pavilion, and walking trail. These amenities shall be completed and open to use prior to the issuance of the 34th residential building permit.
- N. The Final Site Plan shall include a Landscape Plan depicting all landscaping to be provided, the preservation of all buffer areas, and the forested areas that will be preserved. The Landscape Plan shall also identify all "Limits of Disturbance" within the site.
- O. 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.
- P. A revised Preliminary Site Plan either depicting or noting these conditions must be submitted to the Office of Planning and Zoning.
- Q. The Final Site Plan shall be subject to the review and approval of the Planning and Zoning Commission.

The Final Subdivision Plan must comply with the County's Subdivision Code, including submission of agency approval letters to the Planning and Zoning Office.

Please submit a minimum of **one (1) full size (24"x36")** and **one (1) electronic PDF copy** of a Final Subdivision Plan to the Planning and Zoning Office for consideration on the next available agenda for Planning Commission. It is recommended that **two (2) copies** of a check print are first submitted to staff for review.

Please note that a \$10.00 per lot fee will be required to be paid prior to the approval of any Final Subdivision Plan. For 67 lots, the fee is \$670.00.

Please feel free to contact me during business hours with any question from 8:30 AM – 4:30 PM, Monday through Friday, at 302-855-7878.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael Lowrey', written in a cursive style.

Mr. Michael Lowrey
Planner III

CC: Mr. Andy Wright, Chief Code Official – Building Code
Mr. John Ashman, Director of Utility Planning & Design – Engineering – Utility Planning
Ms. Susan Isaacs, Engineering Project Coordinator – Engineering – Public Works
Jeff Clark, Engineer - Land Tech Planning, LLC
2022-16 Armada - Subdivision File



OVER 100 YEARS OF SUPERIOR SERVICE

Artesian Water Company ▲ Artesian Wastewater Management ▲ Artesian Utility Development ▲ Artesian Water Pennsylvania
▲ Artesian Water Maryland ▲ Artesian Wastewater Maryland

January 7, 2022

Mr. Jeff Clark
Land Tech Land Planning, LLC
32895 Coastal Highway
Bethany Beach, DE 19930

RE: Armada Ability to Serve Letter

With reference to your request concerning Water and Wastewater Service (collectively, "Service") for the proposed Armada Subdivision Project on Harmons Hill Road in Indian River Hundred, Sussex County, Delaware known as Tax Parcel Number 2-34-16.00-25.00 (the "Property"), please be advised as follows:

Subject to the following conditions, Artesian Water Company, Inc. and Artesian Wastewater Management, Inc. (collectively, "Artesian") are 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. The property owner must provide Artesian with signed petitions requesting water service that Artesian's could use to seek application for CPCN approval from the Commission for any parcels not currently in Artesian's territory. CPCN's are necessary before Artesian can provide Service at the Property. Artesian anticipates acquiring the wastewater CPCN by the end of this month. If granted the CPCN's, Artesian can provide Service in accordance with Artesian's Commission approved tariffs, as amended from time to time.

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

RECEIPT

	July 18th, 2024		79
<i>RCVD FROM</i>	George, Miles & Buhr, LLC		\$825.00
	Eight Hundred twenty-five dollars and 00/100		<i>DOLLARS</i>
<i>FOR</i>	Plan review fee WPCC 3058/24 Armada Subdivision Pump Station		
<i>ACCT</i>	\$ 825.00	<input checked="" type="checkbox"/>	<i>CHECK #</i> 4006
<i>PAYMENT</i>	\$ 825.00		<i>CASH</i>
	\$ -		<i>OTHER</i> BY <i>Kevin Bronson</i>

DNREC, Commercial & Government Services Section, 89 Kings Hwy, Dover, DE 19901

RECEIPT

	July 18th, 2024		80
<i>RCVD FROM</i>	George, Miles & Buhr, LLC		\$300.00
	Three Hundred Dollars and 00/100		<i>DOLLARS</i>
<i>FOR</i>	WPCC Legal Notice Reimbursement 3058/24		
<i>ACCT</i>	\$ 300.00	<input checked="" type="checkbox"/>	<i>CHECK #</i> 4005
<i>PAYMENT</i>	\$ 300.00		<i>CASH</i>
	\$ -		<i>OTHER</i> BY <i>Kevin Bronson</i>

DNREC, Commercial & Government Services Section, 89 Kings Hwy, Dover, DE 19901