



September 23, 2022

Mr. Nazih Elkallassi, Chairman  
Town of Wareham  
Zoning Board of Appeals  
54 Marion Road  
Wareham, MA 02571

**RE: *Response to Water Department Comments, August 11, 2022***  
***Villages 801 Main Street, LLC - Wareham, MA***  
***ADE Job #3271.00***

Dear Chairman Elkallassi:

This response letter addresses the comments made in the Town of Wareham Water Department's letter dated August 11, 2022 for the above-referenced project. Please note that the Water Department's comments are italicized, and our responses follow in bold text.

- 1. The project is off an existing 8-inch Asbestos Cement water main on Main Street. There is an existing residential home located at 801 Main St (Water Account #25700) that will remain.*

**No response necessary.**

- 2. Plan shows the proposed development as: Less than 200 feet of new 6" water main to service 7 residential connections in 4 buildings. No (0) additional hydrant is shown on the plan. One (1) additional terminal end hydrant shall be required to be installed at the end of the new 6-inch water main.*

**A hydrant at the end of the new 6" line has been added to the plans.**

- 3. Developer will confirm the need for any additional on-site fire hydrants from the Wareham Fire District Fire Department.*

**There were no comments received from the Fire Department.**

- 4. All proposed buildings will be served by Domestic water services in each of the seven (7) units within the four (4) buildings. No proposed water connections are shown for the existing Barn/Garage proposed to be converted to two residential units. An updated plan is required to indicate these proposed new water connections. No Irrigation service is shown on the plan, so none is*

*assumed proposed at this time.*

**Two new services for the barn have been added to the plans.**

- 5. A dual spring check valve backflow device is required on each residential domestic service.*

**This is called out in Water System Notes that have been added to the plans.**

- 6. A testable Dual Check Valve Assembly (DCVA) or Reduced Back Pressure-Zone (RPZ) backflow protection device is required on each commercial/business building and all proposed new Fire Sprinkler connections, type required device installed will be dependent upon the potential hazards at each location.*

**This is called out in Water System Notes that have been added to the plans.**

- 7. All RPZ devices must include the installation of a means to catch water and properly divert that water to a floor drain or other designated location from the bottom of the device. This is required for routine testing procedures and for control of water within the facility.*

**This is called out in Water System Notes that have been added to the plans.**

- 8. All new water infrastructure installations shall comply with the Wareham Fire District (WFD) Rules & Regulations adopted February 11, 2002 Updated March 2022. Document can be found at <http://www.warehamfiredistrict.org/>*

**This is called out in Water System Notes that have been added to the plans.**

- 9. Please note the following section of the WFD Rules and Regulations: Section 4.0 - WATER MAIN MATERIALS  
All water main materials used within the WFD system shall conform to ANSI/AWWA standards, and where applicable, have National Sanitary Foundation approval. All material must be installed as to have no leakage under 150 pounds hydrostatic pressure. In general, the WFD has*

*standardized on lead-free materials and ductile iron for pipe and fittings. Cast iron fittings shall not be accepted.*

*PIPE: All water main pipe shall be buried at a depth of no less than 4.5 feet and not more than 6 feet deep and conform to one of the following standards:*

*a) District owned water mains: Class 52 (or better) or pressure class 350 North American made cement lined ductile iron pipe. Pipes will be manufactured by McWane Ductile, US Pipe, American Pipe, or approved equal. ii. Pipe shall meet the latest revision of the following standards:*

*ANSI/AWWA C104/A21.4 Cement - Mortar Linings ANSI/AWWA C105-A21.5 Polyethylene Encasement for Ductile Iron Pipe ANSI/AWWA C110/A21.10 Ductile-Iron and Grey-Iron Fittings, 3 Inch Through 48 Inch for Water ANSI/AWWA C111/A21.11 Rubber - Gasket Joints ANSI/AWWA C115/A21.15 Flanged Pipe ANSI/AWWA C150/A21.50 Design ANSI/AWWA C151/A21.51 Water Pipe ANSI/AWWA C153/A21.53 Fittings - Ductile Iron ANSI/AWWA C600 Installation*

*iii. All products shall be constructed of ductile iron. Cast iron products are only acceptable if written permission is provided by the WFD. iv. Exterior of pipe shall be provided with zinc coating as follows: i. Consists of a layer of arc applied or paint applied, 99.99% pure zinc coating having a mass of 200g/m<sup>2</sup>. ii. Has a finish layer of standard shop applied bituminous paint in accordance with AWWA C-104. iii. Pipe markings shall include the word "Zinc" in the pipe markings or label required by AWWA C-151 and/or other markings as deemed appropriate by the manufacturer. iv. Shall comply with all applicable parts of ISO 8179 for zinc coatings. v. Minor scratches in the zinc coating will not need to be repaired due to the self-healing nature of zinc coatings but larger areas shall be repaired by field application of a zinc rich paint in accordance with ISO 8179.*

*b) Private owned mains - Beyond District owned gate valves: Material listed in paragraph a) above or ii. C-900 DR-14 PVC (Permitted only beyond District owned gate valves) i. Where organic contaminants exist (e.g. petroleum) in the soil that are not compatible providing safe water with PVC pipe, PVC pipe shall not be used. In such situations only ductile iron pipe shall be acceptable. iii. Fittings shall be ductile iron.*

*c) Pipe Laying Conditions: Pipe laying conditions shall be Type 5 (Table 1).*

*g) Restraining System: All pipes shall be restrained. Restraints shall be provided by Sure Stop 350 gaskets (Gripper) for sizes 3 inch to 24 inches in diameter and TR Flex over 24 inches in diameter or equal by approved manufacturers (Field Lok 350, Fast grip). Where soil is believed to provide the necessary friction for restraint, permission shall be obtained by the WFD in writing and calculations by certified by a professional engineer in the state of Massachusetts shall be provided. Thrust blocks or*

*mechanical joint restraints can be provided as described below are acceptable alternatives where appropriate*

**This is called out in Water System Notes that have been added to the plans.**

10. *In conjunction with the Wareham Fire Department we request hydrant spacing meet no greater than 300-foot spacing for "high hazard" occupancies and 500-foot spacing otherwise. Final determination on the need for additional hydrants and their location will be determined by the Wareham Fire Department.*

**A hydrant at the end of the new 6” line has been added to the plans.**

11. *Plan shows no new proposed hydrant. The nearest hydrant is across the street approximately 260 feet from the Northerly edge of the property. For water quality flushing purposes and for optimized fire protection a terminal end hydrant is required to be installed on the end of the new 6-inch water main.*

**A hydrant at the end of the new 6” line has been added to the plans.**

12. *All hydrants shall be Mueller Super Centurion traffic model hydrants. Hydrants shall have a gate valve attached to an anchoring tee. All hydrants and all gate valves shall be Open-Left.*

**This is called out in Water System Notes that have been added to the plans.**

13. *If needed the developer shall provide WFDWD with fixture count calculation per 248 CMR 10.14(4), and AWWA-M22 to validate service line and sizing of the domestic service water meter shall be adequate.*

**This is called out in Water System Notes that have been added to the plans.**

14. *The cost of the first initial installed water meter for any \*Non-Residential service or Residential Service meter greater than 5/8-inch meter shall be paid by the applicant. Selection of type/brand of the meter shall be determined by the Wareham Water Department.*

*\*This meter cost is not shown in the estimated fees below.*

**Understood - no response necessary.**



15. *Plan shows landscaping improvements but no proposed irrigation system.*

**An irrigation system is not proposed at this time.**

16. *The property owner or their designee shall complete a "Water Service Application Card". Application cards are available at the Water Department office. All application and service fees shall be paid in accordance with the rate tariff in effect at the time of application. No work will begin until application fees are paid.*

|   |             |
|---|-------------|
| System Development Fee per 6-inch Domestic Connection.                            | \$15,510.81 |
| System Development Fee per 1-inch Domestic Connection (7) \$903.89 Each           | \$ 6,327.23 |
| System Development Fee per New Fire Hydrant                                       | \$ 2,954.44 |
| <i>New Main Acceptance Testing Fee (Estimate Only)<br/>Invoiced at later date</i> | \$ 1,500.00 |
| Town of Wareham Excavation Permit per Trench Cut (NA)                             | \$ 250.00   |
| <i>Refundable As-Built Warranty Deposit (Minimum)<br/>Invoiced at later date</i>  | \$ 1,000.00 |


*Total Estimated Fees: \$27,542.48  
 Total Estimated Fees Due at the time of Application: \$24,792.48*

**Understood - no response necessary.**

Please call us at (508) 888-9282 if you should have any questions.

Sincerely,

**ATLANTIC DESIGN ENGINEERS, INC.**

  
 Richard J. Zabaczynski, P.E.  
 Vice President

RJT/rp

cc. Villages 801 Main Street, LLC  
 Wareham Fire District Water Department