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NITRATE TARGETS FOR WATER QUALITY MANAGEMENT PLAN CONSISTENCY

Overview

At the Highlands Council meeting of April 24, 2008, the Council requested additional analysis on a staff recommendation for Council consistency determinations regarding amendments to Areawide Water Quality Management Plans for areas in the Planning Area where municipalities have chosen not to conform to the Regional Master Plan (RMP).

Within the Preservation Area and conforming Planning Area municipalities, the staff recommended that all RMP policies should be applied to consistency determinations for both sewer service areas and septic system service areas through Water Quality Management Planning (WQMP) amendment reviews. For nonconforming municipalities in the Planning Area, the staff recommended that any WQMP amendment for sewer service areas be reviewed for consistency based on the RMP policies to ensure that the construction of sewerage systems and water supply infrastructure are consistent with the RMP.

The following analysis addresses the Council's request for additional information on the remaining consistency policy issue regarding nitrate targets for nonconforming municipalities. For septic system service areas in nonconforming municipalities, the staff proposal was to adopt an RMP consistency policy that would strongly recommend that municipalities use the nitrate targets in the RMP in establishing appropriate septic densities but that any WQMP amendment would be deemed consistent with the RMP should the amendment be based upon the minimum nitrate target in the WQMP rules. It must be emphasized that any municipality in the Planning Area that conforms to the RMP is required to use the nitrate thresholds of the RMP.

Discussion

The primary issue in question is the choice of an appropriate nitrate target for WQMP consistency determinations for nonconforming municipalities of the Planning Area. The range of this choice of appropriate nitrate target begins with the minimum requirements in the New Jersey Department of Environmental Protection (NJDEP) newly adopted WQMP rules at N.J.A.C. 7:15 and ends with the more stringent nitrate targets in the RMP. The difference between these two approaches to nitrate targets is discussed below.

WQMP Approach

The WQMP rules include septic system density requirements based on nitrate dilution analyses using a 2 mg/L nitrate target and annual average ground water recharge. The rules at N.J.A.C. 7:15-5.25(e)1 require that the density of systems in undeveloped and underdeveloped areas shall not exceed the nitrate planning standard of 2.0 mg/L of nitrate on a HUC11 basis. This nitrate planning standard will result in required average lot sizes of between 4 and 7 acres per single-family dwelling depending on local conditions. The WQMP rules encourage the development of County Wastewater Management (WMP) and municipalities have the option of participating in the development of the County plan. If a municipality opts out of the County WMP, the sewer service areas in the municipality (if any) are frozen at the Existing Area Served, and any development using septic systems or on-site treatment systems are limited to 2,000 gallons per day per development, which equates to 5 dwelling units for residential development. No WQMP amendments will be accepted for other developments.

RMP Approach

The policies in the RMP for conforming municipalities are based upon estimated median nitrate concentrations in the Planning Area's Land Use Capability Map Zones (Existing Community Zone- 2 mg/L, Conservation Zone- 1.87 mg/L, and Protection Zone-0.72 mg/L,) and drought ground water recharge. While the respective septic density for these three zones is 9.4, 10, and 26.1 acres per septic system on average, the RMP septic policies are not based upon septic density and are instead based upon septic yield. The RMP policies require conforming municipalities to conduct comprehensive planning using the yield of allowable additional septic systems. Accordingly, the Council calculated septic system yields for the HUC14 subwatersheds and conforming municipalities are required to examine these yields and conduct comprehensive and coordinated planning to address other RMP policies.

It is the goal of the RMP to apply all the resource based standards of the Plan in order to guide growth away from sensitive environmental areas and to appropriate areas capable of sustaining that growth. Application of the nitrate standards absent the comprehensive planning of the RMP will result in sprawl that, though lowering the number of septic systems, will not further the other goals of the Act.

Analysis

In order to examine the difference in these two approaches, the Council staff conducted a preliminary analysis. The Council staff examined the existing zoning in the Planning Area to determine whether compliance with the WQMP rules will require more stringent septic system densities in municipalities or whether existing zoning already meets or exceeds the required densities.

Based upon a preliminary regional analysis, the Council staff determined that approximately 40% of the residentially zoned land area has zoning that is more stringent than the WQMP rules requirement while 60% of the land area is less stringently zoned. These percentages are based on both developed and undeveloped lands, and reflect significant areas of existing development at higher densities than are commonly applicable to new development, and so we might expect that 50% or more of the existing zoning for developable lands is at densities that meet the WQMP rules. The minimum zoned densities in the Highlands Region are approximately 10 to 12 acres per septic system. Therefore, differences between the existing zoning, the WQMP rules and the RMP will be

greatest in the Protection Zone, while a few municipalities already have zoning roughly equivalent to Conservation Zone requirements.

In addition, Council staff conducted an analysis comparing the RMP polices to the WQMP requirements. Overall, the RMP density standards for the Planning Area as a whole will be more stringent than the WQMP rules, reducing densities to approximately 30 percent of the WQMP levels. The estimated difference between the approaches is that the WQMP rules and existing zoning would result in approximately 20,600 new septic systems and the RMP policies would result in approximately 6,200 new septic systems. However, this would only be the case if all municipalities with Planning Area lands chose not to conform.

Conclusion

Council staff stands by its original recommendation in order to foster comprehensive planning by nonconforming municipalities. The nitrate targets established in the RMP are designed not only to protect and enhance the existing water quality in the Highlands subwatersheds, but also to ensure that the yield of additional septic systems are properly planned and distributed to avoid sprawling development patterns and to guide the growth into appropriate areas. While nonconforming municipalities should be strongly encouraged to utilize the Highlands Council's more detailed nitrate analysis and more protective nitrate targets in developing a WMP, a municipality's decision to meet the NJDEP's requirements should be supported by the Council through consistency determinations.