**MARYLAND DEPARTMENT OF THE ENVIRONMENT**

**WATER and SCIENCE ADMINISTRATION**

**1800 Washington Boulevard**

**Baltimore, Maryland 21230**

Response to Public Comments

Regarding

Trappe East Wastewater Facility

State Discharge Permit Application No. 19-DP-3460

**August 17, 2020**

**RESPONSE DOCUMENT**

**State Discharge Permit Application No. 19-DP-3460**

Town of Trappe, P.O. Box 162, Trappe, Maryland 21673 and Trappe East Holding Business Trust, 1960 Gallows Road, Suite 300, Vienna, VA 22182 submitted an application for a permit to discharge an average of 540,000 gallons per day of treated domestic wastewater from the Trappe East Wastewater Treatment Facility, located at East End of Backtown Road, Trappe, Maryland, to groundwater via a spray irrigation system.

A Notice of Tentative Determination to issue a discharge permit was published on August 30 and September 6, 2019, and a public hearing was held on November 19, 2019. Testimony received during the public hearing and written comments on the tentative determination have been reviewed. A summary of the significant comments related to the proposed groundwater permit and the Department's response are provided below.

1. **COMMENT**

The MDE tentative determination (TD) fails to comply with the Chesapeake Bay TMDL and the Choptank River TMDL. Why the TD allows for a discharge limit of total nitrogen (TN) up to 8mg/l when the proven technology can achieve 3 mg/l. The Department shall not be able to propose phosphorus limit in a spray field without knowing the field can accept phosphorus. The 60- day storage capacity is inadequate. The organic fertilizer blackout dates in the State of Maryland between 12/16 and 3/1 is 75 days.

**RESPONSE**

The Chesapeake Bay TMDL and the Choptank River TMDL are not applicable to a State Groundwater Discharge Permit. The previous permit effluent quality limitations of TN <8 mg/l and total phosphorus (TP)<3 mg/l were revised to TN<3 mg/l and TP <0.3 mg/l, respectively.

The Lakeside at Trappe Nutrient Management Plan (NMP) dated 6/2/2020 submitted to MDE has been reviewed and found satisfactory. The NMP indicates that the vegetation to be planted on the spray field is orchardgrass.

The irrigation effluent TP load of 5.6 lb/acre/year based on 0.3 mg/l effluent TP concentration and an irrigation flow of 0.54 mgd is much less than the TP uptake rate of 18 -45 lbs/acre/year for the orchardgrass to be planted on the spray field as shown on Page 18 of the NMP.

The irrigation effluent total nitrogen (TN) load of 56.2 lb/acre/year based on 3 mg/l effluent TN concentration and an irrigation flow of 0.54 mgd is less than the orchardgrass TN uptake rate of 222-311 lbs/acre/year shown on Page 18 of the NMP. The TN and TP applied on the spray field will be removed by the orchardgrass.

The storage requirement in the draft permit was revised from 60 days to 75 days to meet the Maryland Department of Agriculture (MDA) requirement of prohibition against a winter application of nutrient source to agricultural land from 12/16 through 2/28 of the following year.

2. **COMMENT**

MDE needs to withdraw its tentative determination until Talbot County has made a decision to amend the Talbot County Water and Sewer Plan. The discharge permit should be consistent with the proposed Trappe East Water and Sewer Plan Amendment

**RESPONSE**

The Trappe East Water and Sewer (W&S) Plan Amendment No.1 (Resolution 281) was approved by the Talbot County Council on 8/11/2020. A Membrane Bio-Reactor (MBR) wastewater treatment plant (WWTP) was proposed and included in the Resolution 281 with the MBR performance indicators of meeting effluent quality limitations of total nitrogen (TN) <3 mg/l and total phosphorus (TP) <0.3 mg/l. The previous permit effluent quality limitations of TN <8 mg/l and TP<3 mg/l were revised to TN<3 mg/l and TP <0.3 mg/l, respectively, to be consistent with the approved Water and Sewer Plan amendment.

3. **COMMENT**

The draft permit application should be considered a "new" permit application and should incorporate all the up-to-date data. The Fact Sheet should be revised to reflect Ms. Cheryl Lewis is no longer on the Trappe East Town Council. The wastewater system would consist of biological nutrient removal, the phosphorus effluent quality limitation should be 2 mg/l instead of 3 mg/l shown in the draft discharge permit. The effluent from this facility would flow to a 32.5 million-gallon storage pond followed by UV disinfection prior to being land applied via spray irrigation. The spray irrigation area would consist of 93 acres on the northeast portion of the property. The new permit is identifying 83.3 acres of required area with 22 acres as reserve. The use of trees in the spray field may not provide adequate phosphorus uptake. The new permit does not include a nutrient management plan.

**RESPONSE**

The existing Trappe East groundwater permit (permit no. 04-DP-3460) was issued and became effective on December 1, 2005. The renewal permit (permit no. 19-DP-3460) will include applicable existing permit conditions and updated information such as dividing the project into 5 phases and revising locations of the 87.6 acres primary irrigation area (7.1 + 9.2 + 71.3 =87.6).

Cheryl Lewis name and contact information has been deleted from page 2 of the Fact Sheet.

As mentioned in Response No.1, the total phosphorus (TP) effluent limitation of 3 mg/l was revised to 0.3 mg/l. Orchardgrass instead of trees was proposed for planting on the spray field. The irrigation effluent TP load of 5.6 lb/acre/year based on 0.3 mg/l effluent TP concentration and an irrigation flow of 0.54 mgd is much less than the TP uptake rate of 18 -45 lbs/acre/year for the orchardgrass

The Lakeside at Trappe Nutrient Management Plan (NMP) dated 6/2/2020 submitted to MDE has been reviewed and found satisfactory. The NMP indicates that the vegetation to be planted on the spray field is orchardgrass.

4. **COMMENT**

MDE should not issue the proposed Discharge Permit until all questions raised by neighboring property owners and related to technical issues received have been answered by the Town of Trappe and/or developer.

**RESPONSE**

This response document addresses the questions raised by the neighboring property owners and related technical issues received by MDE.

5. **COMMENT**

MDE should not issue the proposed Discharge Permit until the nutrient management plan (NMP) has been developed, submitted, and approved by MDE

**RESPONSE**

The NMP dated 6/2/2020 was submitted to MDE. The NMP has been reviewed and found satisfactory.

6. **COMMENT**

MDE should draft a Discharge Permit that matches the construction development phase being proposed in the permit. Each new construction phase would require a modification to the permit, along with a public notice and comment period for that phase.

**RESPONSE**

As stipulated in permit condition I.A.2., the permittee is required to notify MDE for flow increase of each phase. Upon receiving the flow increase notice of each phase from the Permittee, MDE will review the performance of the wastewater treatment system and the spray irrigation system prior to approving the flow increase.

7. **COMMENT**

MDE must publish a notice of application received and offer the public a chance to request an informational meeting.

**RESPONSE**

Two notices of application received were published in ***The Star Democrat*** on March 29 and April 5, 2019. No public information requests were received by MDE and therefore a Public Meeting was not scheduled.

8. **COMMENT**

MDE needs to withdraw its tentative determination until Talbot County has made a decision to amend the Talbot County Water and Sewer Plan. The discharge permit should be consistent with the proposed Trappe East Water and Sewer Plan Amendment

**RESPONSE**

The Trappe East Water and Sewer (W&S) Plan Amendment No.1 (Resolution 281) was approved by the Talbot County Council on 8/11/2020. A Membrane Bio-Reactor (MBR) wastewater treatment plant (WWTP) was

proposed and included in the Resolution 281 with the MBR performance indicators of meeting effluent quality limitations of total nitrogen (TN) <3 mg/l and total phosphorus (TP) <0.3 mg/l. The previous permit effluent quality limitations of TN <8 mg/l and TP<3 mg/l were revised to TN<3 mg/l and TP <0.3 mg/l, respectively, which is consistent with the approved Water and Sewer Plan amendment.

**9. COMMENT**

The draft Discharge Permit allows a monthly average discharge limit of 8 mg/l of total nitrogen and 3 mg/l of phosphorus. As presented in the Hydro-Geologic Report and noted by the Developer, a Membrane Bio-Reactor (MBR) which meets Enhanced Nutrient Removal limitations of 3 mg/l of total nitrogen and 0.3 mg/l of phosphorus will be constructed. The permit should be amended to reflect the Membrane Biological Reactor (MBR) standards as the permit limits.

**RESPONSE**

As mentioned in Response No. 1, the original draft permit effluent limitations of total nitrogen (TN, 8 mg/l) and total phosphorus (TP, 3 mg/l) have been revised to 3 mg/l and 0.3 mg/l, respectively, The permit effluent limitations of TN <3 mg/l and TP <0.3 mg/l reflects the MBR performance standard.

**10. COMMENT**

As part of the Permit review, MDE should consider the Bay TMDL and the John D. Hynes & Associates, Inc. hydrogeological evaluation of the proposed spray site as it relates to urban stormwater runoff and the proposed spray irrigation to determine impacts of the proposed development on the streams within Choptank watershed…..MDE should also include detailed baseline groundwater monitoring requirements in the permit and confirm that the groundwater monitoring wells are properly located.

**RESPONSE**

The Bay TMDL is applicable to treated wastewater from a WWTP discharging to surface water and is not applicable to a WWTP discharging effluent to groundwater using a spray irrigation system. The vegetation planted on the spray field needs the nitrogen and phosphorus in the treated wastewater for healthy growth and maintenance.

Groundwater monitoring wells are the major water quality monitoring tool for groundwater and surface water quality protection. Placement of the groundwater monitoring wells was determined using groundwater flow data available in the Hydro-Geologic Report. There are 12 groundwater monitoring wells (4 upgradient wells and 8 downgradient wells) which are required to be installed in the primary spray field to intercept groundwater flow for water quality monitoring prior to exiting to surface water.

**11. COMMENT**

Explain how MDE factors increasing extreme weather events when setting a spray rate in inches per year.

**RESPONSE**

Section I.C.1 of the draft permit stipulates that the hydraulic loading rates of the spray irrigation area shall not exceed 2 inches/week (annual average). Section I.C. 2. stipulates that irrigation of treated wastewater shall not take place during periods of precipitation, high winds, freezing conditions, or saturated soil. At no time shall spray irrigation be conducted on areas with bare unvegetated soils or with groundwater table depth less than 2' from ground surface. Excessive irrigation resulting in surface runoff or ponding is prohibited.
The annual average loading rate of 2 inches/week provides flexibility in system operation. In the hot summer,

the vegetation planted in the spray field with high water demand may require an irrigation rate of 4 inches/week. On a rainy day or in the freezing winter season, no irrigation is allowed which meets the above operational conditions of no surface runoff or ponding. On rainy days or in freezing weather, the treated wastewater will be stored in a lagoon.

**12. COMMENT**

Explain why only corn was used to model nitrogen uptake and other crops or trees were not modeled. Why is there no Nutrient Management Plan associated with this permit? What species of vegetation will receive the spray? Would crops sprayed with effluent be harvested and sold? How much effluent will crops be able to tolerate? MDE should not issue the proposed permit until a Nutrient Management Plan has been approved by MDE.

**RESPONSE**

The Lakeside at Trappe Nutrient Management Plan (NMP) dated 6/2/2020 submitted to MDE has been reviewed and found satisfactory. The NMP indicates that the vegetation to be planted on the spray field is orchardgrass..

Page 17 of the NMP shows the irrigation effluent total nitrogen (TN) load of 56.2 lb/acre/year based on 3 mg/l effluent TN concentration and an irrigation flow of 0.54 mgd. The TN load of 56.2 lb/acre/year is less than the orchardgrass TN uptake rate of 222-311 lbs/acre/year shown on Page 18 of the NMP.

The irrigation effluent total phosphorus (TP) load of 5.6 lb/acre/year based on 0.3 mg/l effluent TP concentration and an irrigation flow of 0.54 mgd is less than the orchardgrass TP uptake rate of 18 -45 lbs/acre/year shown on Page 18 of the NMP.

Permit Condition I.C.9 requires grass clippings from cutting vegetation planted on the spray site shall be collected and removed from the spray field to eliminate onsite accumulation of nutrients in the clippings.

**13. COMMENT**

MDE should modify the draft permit to match the proposed construction development phases and require major modifications with public participation for each new construction phase.

**RESPONSE**

Permit Condition I.A.2 includes 5 development phases with wastewater flow assigned to each phase: Phase I flow 100,000 gpd , Phase II flow 100,000 gpd, , Phase III flow 100,000 gpd, Phase IV flow 100,000 gpd And Phase V flow 140,000 gpd. The permittee is required to notify MDE for the flow increase of each phase. Upon receiving the flow increase notice of each phase from the Permittee, MDE will review the performance of the wastewater treatment system and the spray irrigation system prior to approving the flow increase.

These permit conditions were included in the draft permit when MDE published the tentative determination on August 30 and September 6, 2019. A public hearing was held on 11/19/2019 and the phase development proposal was discussed during this hearing.

**14. COMMENT**

The applicant should be required to monitor surface water at five locations not influenced by tidal water and adequately capture the runoff coming from the spray irrigation fields. Are there steps in place to monitor Miles Creek for contamination associated with the wastewater disposal system? Who is responsible to clean up Miles Creek in the event of a system failure? What plans, procedures, and safeguards are in place to address major storm events or equipment failure? How will groundwater discharge from Trappe East impact surface water in Miles Creek? Will tidal mixing affect the accuracy of results of the monitoring stations?

**RESPONSE**

Section I.C. 2. of the discharge permit stipulates that excessive irrigation resulting in surface runoff or ponding is prohibited. The permitted irrigation rate of 2 inches/week was determined based on the soil permeability to absorb irrigation water. The prohibition of surface runoff and ponding permit condition is included in the groundwater discharge permits issued for all spray irrigation systems installed and operated in Maryland. Since surface runoff is prohibited, no irrigation water will directly flow into Miles Creek to cause contamination..

Twelve groundwater monitoring wells (4 upgradient wells and 8 downgradient wells) were required in the discharge permit to intercept groundwater flow for water quality monitoring prior to exiting to surface water. Groundwater quality limitations included in Section I.A.3 of the draft discharge permit must be met for protecting the groundwater quality. Groundwater monitoring wells are the major water quality monitoring tool for groundwater and surface water quality protection. The surface water monitoring stations are in the auxiliary role. The original surface water monitoring station SW-1 located at Koogler Road and Wrights Mill Road and another original monitoring station SW-2 shown on Map B of the draft permit were deleted. SW-1 was deleted due to tidal effect and property ownership and SW-2 was deleted due to property ownership. MW-5 groundwater monitoring well was added on Map B after deletion of SW-1 and SW-2 for monitoring groundwater quality prior to discharging into Miles Creek. The groundwater quality affecting this portion of the Miles Creek will be monitored by groundwater monitoring wells MW-3, MW-4, MW-5, and MW-6 shown on Map B. The permittee will be responsible for effluent and groundwater water quality violations.

**15. COMMENT**

How much land in Trappe East is available for immediate development? What is the remaining capacity of the current wastewater treatment plant?

**RESPONSE**

The first phase of the proposed Lakeside development consists of 400 single family lot PUD. Section 1 of Phase 1 will include 89 single family lots. Development of Phase 1 Section 1 is expected in the summer of 2020. The Trappe municipal wastewater treatment plant is currently operating below the permit limits. Available WWTP capacity is reserved for future planned development. The Lakeside developer requested that the Town allocate up to 30,000 gallons per day of the available capacity to support the development of Phase 1 Section 1. The Town Planning Commission and Town Council are currently considering the request. The Town Engineer has confirmed that the WWTP has sufficient capacity to handle the Lakeside request as well as the other planned demands for future growth. The developer additionally has the option of installing a wastewater treatment plant onsite.

**16. COMMENT**

A change in land use and increase in impervious surface will increase surface water runoff. Have these changes been considered and what are the potential impacts evaluated?

**RESPONSE**

The Lakeside development will be designed and constructed implementing State and local regulated Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP) stormwater management practices. The intent of the regulations is to mitigate stormwater runoff resulting from land use changes to protect adjacent properties, waterways, wetlands and groundwater. The proposed stormwater management practices can be expected to reduce nutrient loads resulting from the current farming practices, by managing drainage from the developed site to simulate undisturbed natural woodland conditions.

**17. COMMENT**

Has the WWTP been fully designed and approved? How can MDE be confident that the proposed facility will function as suggested by the applicant? Who will construct and operate the WWTP? Is approval by the Public Service Commission required? How can MDE be certain that the proposed WWTP will meet all applicable standards?

**RESPONSE**

The WWTP design plan has not been approved by MDE yet. The design of the WWTP shall be reviewed and approved by MDE Engineering and Capital Projects Program prior to issuing a construction permit for installing the WWTP. The groundwater discharge permit must be acquired before the issuance of the MDE construction permit.

Section I.D.1 of the discharge permit requires the wastewater treatment plant and the spray irrigation system be operated by a Maryland State Certified Operator in accordance with the provisions of COMAR 26.06.01 and consistent with the approved operation and maintenance manual. Section I.B.1 of the discharge permit requires the permittee to submit discharge monitoring reports, monthly operating reports and groundwater monitoring reports to MDE for effluent and groundwater quality verification.

**18. COMMENT**

Should determinations in the hydrology report from 2001 and 2002 be reexamined due to passage of considerable time?

**RESPONSE**

The hydrogeological report was updated on 11/5/2019.

**19. COMMENT**

Does the spray field reach the required setbacks of the Talbot County Slope Rule?

**RESPONSE**

The proposed spray irrigation boundaries comply with all MDE and MDA buffer and setback limits. Paragraph 3.1.2.4 Buffer of the Maryland Department of The Environment Guidelines For Land Application / Reuse Of Treated Municipal Wastewaters establishes the following buffer requirements for Class II effluent: "*For irrigating Class II Effluent with water quality defined in Table 1, the buffer zone widths shall be 25 feet from property lines, housing structures, public roads and streams, 50 feet from schools and playgrounds, and 100 feet to potable wells and water intakes*." Wastewater from the proposed Lakeside WWTP will meet Class II effluent standards required by the discharge permit. Paragraph 3.1.2.2 Slopes, further defines slope related limitations for slow-rate systems for effluent disposal as: "*Slopes not to exceed 15% on cultivated lands and 25% on uncultivated (forested) lands."* None of the proposed irrigation areas, cultivated or forested, exceeds these limits.

Public comments suggested that buffer standards imposed by Talbot County zoning on development outside of the Critical Area should also be applied. The Talbot County zoning regulations are not applicable within the incorporated Town of Trappe. Since all of the proposed irrigation areas are within the Town limits, the Talbot County buffers are not applicable to this permit. Nevertheless, in the interest of being responsive to local concerns, the spray irrigation areas have been adjusted to comply with Section 190-37.1 of the Zoning, Subdivision and Land Development Chapter of the Talbot County Code. Although MDE design guidelines permit application of Class II effluent within 25', the proposed irrigation areas provide at least a 100' buffer, which would be required for lands in the unincorporated area of the County. Additionally, the County zoning regulations provide for expansion of the stream buffer in certain areas of steep slopes. In particular, the County zoning requires expansion of the buffer "to include and extend beyond contiguous, sensitive areas, such as slopes 15% or greater, hydric soils, or highly erodible soils, whose development or disturbance may impact streams, wetlands, or other aquatic environments." The attached exhibits demonstrate full compliance with the applicable State Guidelines for Land Application and consistency with the more restrictive setbacks that would apply in unincorporated areas of the County.

20. **COMMENT**

Will MDE evaluate and survey the effect of nitrogen, coliform, and phosphorus on Wrights Mill, Gibson Wright Mill House, and the pond listed in the Maryland Historical Trust, section 106?

**RESPONSE**

Permit Condition I.A.2. requires the irrigation water shall meet total nitrogen < 3 mg/l, total phosphorus <0.3 mg/l and fecal coliform < 3 MPN/100ml effluent quality limitations. Total nitrogen and total phosphorus in the irrigation water will be further removed by the vegetation shown in Comment/Response No.1. The low concentration fecal coliform remaining in the irrigation water will be adsorbed by soil before entering the groundwater. Permit Condition I.B.3 requires that fecal coliform not be detected (non-detect limit) at the downgradient groundwater monitoring wells. These two permit conditions are to ensure the nitrogen, coliform and phosphorus in the irrigation water are completely removed before leaving the spray irrigation field.

21. **COMMENT**

What will prevent effluent from pooling, oversaturating the soil, or running off into streams? How will soil saturation levels be monitored? Will spray operations be shut off with ground saturation or during rain events? How will that be monitored and controlled? What times of the year will spraying be done? What vegetation will be metabolically active enough in the winter months? The 60-day storage requirement needs to be adjusted to accurately account for the number of days that irrigation can occur according to the growing season, the fertilizer prohibition period, and consideration of future weather patterns.

**RESPONSE**

Section I.C. 2. of the discharge permit stipulates that irrigation of treated wastewater shall not take place during periods of precipitation, high winds, freezing conditions, or saturated soil. At no time shall spray irrigation be conducted on areas with bare unvegetated soils or with groundwater table depth less than 2' from ground surface. Excessive irrigation resulting in surface runoff or ponding is prohibited. The original 60 days storage requirement has been revised to 75 days to meet the Maryland Department of Agriculture (MDA) requirement of prohibition against a winter application of nutrient source to agricultural land from 12/16 to 2/28 of the following year.

22. **COMMENT**

What height are the sprayers and their nozzles? What sort of aerosol will be generated with regards to droplet size and how far they would carry and/or remain suspended in the air? How far from housing would sprayer nozzles and their aerosols be? Is there any protection preventing wind from spreading effluent onto homeowner yards, roads, or public spaces?

**RESPONSE**

The irrigated area complies with buffers specifically established by the Maryland Department of the Environment to prevent impacts to adjacent property, including drift or aerosol concerns. All irrigated areas are set back at or beyond mandated buffers. There are no residences within close proximity of the proposed irrigation areas. The closest residence is over a thousand feet from the irrigated areas and further buffered by established trees. In addition to the irrigation system design, the wastewater is being treated to ENR standards with discharge limits of TN<3 mg/l and TP<0.3 mg/l). The proposed ENR limit effluent could actually be permitted for direct discharge to surface water. Membrane filtration and UV disinfection provide the ultimate level of treatment to eliminate bacteria and other pathogens.

The setbacks required by MDE's Guidelines adequately address the aerosol concerns presented by these questions considering the level of treatment proposed by this facility.

23. **COMMENT**

Will nearby drinking water wells be impacted by this discharge?

**RESPONSE**

Groundwater quality limitations included in Section I.A.3 of the draft discharge permit require that the permittee not exceed the groundwater quality standards which are drinking water standards, adopted by the Department of the Environment in COMAR 26.04.01 and 26.08.02.09C. Groundwater monitoring wells have

been placed downgradient to ensure that the discharge does not exceed the groundwater quality standards. Section I.C.3 also requires the permittee to provide a minimum 100-foot buffer to potable wells, surface water intakes and perennial streams to prevent spray droplets from entering adjacent properties, either by direct application or wind carry-over.

24. **COMMENT**

MDE needs to show evidence for how this discharge will not negatively impact The Biodiversity Conservation Network Areas separating the two spray irrigation areas and require the applicant to conduct a Breeding Bird Survey and Anadromous Fish Spawning Survey.

**RESPONSE**

The Biodiversity Conservation Network (or BioNet) of Maryland identifies and prioritizes ecologically important lands to conserve Maryland's biodiversity (*i.e.*, plants, animals, habitats, and landscapes). BioNet is a source of environmental data and is not part of a regulatory program. The Biodiversity Conservation Network (or BioNet) of Maryland does not establish any Federal, State or locally enforceable regulatory standards. BioNet classifies the waterway and wooded area, that separates the two spray fields areas, as a Tier 4 BioNet Priority area. A Tier 4 BioNet area is considered as "Moderately Significant for Biodiversity Conservation". Biota is Maryland's GIS Data Catalog. Biota data indicates that a Tier 4 area may provide habitat for interior dwelling birds. The relatively narrow width and age composition of the corridor, however, limits the viability of the area as prime interior dwelling bird habitat. Any potential habitat within this limited corridor will not be disturbed by any clearing within the Tier 4 area. The low-profile spray system will also not interfere with migration or access to the habitat. A Tier 4 area may also serve as a wildlife corridor for fish, small animals, deer and birds. The corridor will not be disturbed since there will be no clearing within the area. There is no basis or regulatory requirement to conduct a FID or Fish Spawning Survey for this Tier 4 BioNet Priority area as requested in hearing response comments.

**25. COMMENT**

MDE should update its guidelines for land application of treated wastewater to apply a consumptive use standard and to account for changing weather patterns.

**RESPONSE**

The application rate for a spray irrigation system is determined based on the soil infiltration rate with the application of a safety factor. The maximum hydraulic loading rates of the Trappe East spray irrigation area is limited at 2 inches/week (annual average). The vegetation consumptive use rate in Maryland ranges from 0.26 "/wk to 0.45"/wk based on the golf course irrigation rate. Since the application rate is based on the soil infiltration rate alone, the application rate is always less than the sum of the soil infiltration rate and the consumptive use. Therefore, the application rate is a conservative number to ensure the system is not over applied.

**26. COMMENT**

The Tentative Determination (TD) and Fact Sheet fail to adequately explain the changes between the expired permit and this Tentative Determination. MDE should explain the changes made between the TD and the expired permit, and why these changes were considered by the Department as a minor permit medication and not a major permit medication, and therefore treated as such in the re-application process. MDE should consider an approach to safely manage any new load of wastewater while addressing the outdated system currently operated by the Town of Trappe.

**RESPONSE**

The updated Fact Sheet includes a section entitled "Rationale For Permit Conditions" which adequately explains the changes between the expired permit and the draft permit. Changes to the previous permit were included in the renewal permit and published for public comment on August 30 and September 6, 2019, respectively. Changes to the previous permit were also discussed during the public hearing on November 19, 2019. The changes were processed as major modifications with public notice and public comment.

As shown in Comment and Response No.1, the nitrogen in the irrigation water will be completed removed by the vegetation planted in the spray field. The yearly nitrogen load transported to surface water from the Trappe East Spray Irrigation system will be zero.