

**WATER RECLAMATION AND REUSE ADDENDUM TO AN  
APPLICATION FOR A VIRGINIA POLLUTANT DISCHARGE  
ELIMINATION SYSTEM PERMIT OR A VIRGINIA POLLUTION  
ABATEMENT PERMIT**

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**\*\*\*IMPORTANT\*\*\***

This addendum is also available in a fillable Word form at  
<https://www.deq.virginia.gov/Programs/Water/LandApplicationBeneficialReuse/WaterReclamationReuse.aspx>.  
Complete and submit either the Adobe or Word form of the addendum.

**\*\*\*IMPORTANT\*\*\***

Before completing this addendum, read the addendum instructions to determine the information and attachments needed to complete the addendum.

For all projects that propose a new or increased diversion of source water to water reclamation and reuse, a Cumulative Impact Analysis (CIA) Results Summary or written confirmation that a CIA is not required for the project must be submitted with this addendum.

Incomplete addendums will not be processed.

**A. Applicant Information**

1. Project\*:

Name: \_\_\_\_\_

Location (street, route no. or other identifier): \_\_\_\_\_

\_\_\_\_\_

County or city: \_\_\_\_\_

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

\* Attach additional information as needed.

2. Owner:

Name: \_\_\_\_\_

Mailing address (street or P.O. box, city, state and zip code): \_\_\_\_\_

\_\_\_\_\_

Telephone number: \_\_\_\_\_ Fax number: \_\_\_\_\_

E-mail address: \_\_\_\_\_

3. Operator:

Name: \_\_\_\_\_

\_\_\_\_\_

Mailing address (street or P.O. box, city, state and zip code): \_\_\_\_\_

\_\_\_\_\_

Telephone number: \_\_\_\_\_ Fax number: \_\_\_\_\_

E-mail address: \_\_\_\_\_

## B. Permitting Information

1. If the owner named in item A.2 is applying for an emergency authorization to produce, distribute or reuse reclaimed water for the same project named in item A.1, attach a completed [Emergency Authorization Application](#) to the addendum.
2. For each reclamation system, satellite reclamation system, conjunctive system<sup>1</sup>, and reclaimed water distribution system that will be (i) part of the project named in item A.1 and (ii) under common ownership or management with the owner named in item A.2, provide the following:

System type*	System name	Is system currently permitted by DEQ? (Yes/No)	DEQ Permit number**

\* For system type, enter reclamation system, satellite reclamation system, conjunctive system<sup>1</sup>, or reclaimed water distribution system, as applicable. Reclaimed water distribution systems may include, but are not limited to:

- (i) Existing potable water distribution systems, sewer or wastewater collection systems, and irrigation distribution systems that will be (a) converted to reclaimed water distribution systems, (b) part of the project named in item A.1, and (c) under common ownership or management with the owner named in item A.2 (see item B.2.c); and
- (ii) Reclaimed water hauling operations (see item B.5)

\*\* Applicable only where the system is currently permitted by DEQ.

- a. For each system identified in item B.2 that is not currently permitted by DEQ and will be covered by a permit different from that currently covering or to cover another system identified in item B.2, provide the following (attach additional information as needed):

System name:

\_\_\_\_\_

DEQ permit number to cover the system, if available. \_\_\_\_\_

b. Where a reclamation system or conjunctive system<sup>1</sup> identified in item B.2 will reclaim industrial wastewater (e.g., industrial effluent or other industrial water streams prior to final treatment) for reuse exclusively on the site of the facility producing the industrial wastewater, and the owner of that system identified in item A.2 wishes to claim an exclusion from the requirements of the Water Reclamation and Reuse Regulation in accordance with [9VAC25-740-50.A.5](#), provide the following (attach additional information as needed):

(1) Name of the reclamation system or conjunctive system<sup>1</sup> as identified in item B.2:

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(2) The following criteria that will apply to reuses of reclaimed industrial water produced by the system (check all that apply):

- The reclaimed industrial wastewater will not contain or is not expected to contain pathogens or other constituents in sufficient quantities and with a potential for human contact that may be harmful to human health.
- Reuse of the reclaimed industrial wastewater will involve a closed or isolated system that prevents worker contact with reclaimed water of the system.
- Other measures will be in place, including but not limited to, applicable federal and state occupational safety and health standards and requirements to adequately inform and protect employees from pathogens or other constituents that may be harmful to human health in the reclaimed industrial water to be reused at the industrial facility.

**Note #1: For a mixture of industrial wastewater and domestic wastewater or municipal wastewater (or sewage) to be reclaimed, refer to the instructions of item C.4 to determine if the mixture is an industrial wastewater.**

**Note #2: If DEQ has not yet confirmed that the reclamation system or conjunctive system<sup>1</sup> identified in item B.2.b(1) qualifies for exclusion from the requirements of the Water Reclamation and Reuse Regulation, complete all information in the addendum that applies to the system and reuses of reclaimed water produced by the system.**

c. For each reclaimed water distribution systems identified in item B.2 that is an existing potable water distribution system, a sewer or wastewater collection system, or irrigation distribution system to be converted to distribute reclaimed water, provide the following:

(1) Name of the system to be converted to a reclaimed water distribution as identified in item B.2:

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(2) Current name of the system to be converted if different from the name identifying the system in item B.2:

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(3) A system conversion plan and an operations and maintenance manual attached to the addendum, unless the existing system will not be converted within 90 days of DEQ's authorization of the project named in item A.1.

d. For each system identified in item B.2 that is new, or existing and proposing a modification<sup>2</sup> or expansion, provide the following (attach additional information as needed):

(1) Name of the system as identified in item B.2:

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(2) A preliminary engineering report (PER), or a request to waive submittal of a PER or portion of a PER for the proposed modification<sup>2</sup> or expansion of an existing system, attached to the addendum.

Attached: PER  or Request to waive PER submittal (all or portion of)

**Note: Do not complete item B.2.d for reclamation systems and conjunctive systems<sup>1</sup> identified in item B.2.b and reclaimed water distribution systems that are hauling operations identified in item B.5.**

3. For each system (i.e., reclamation system, satellite reclamation system, conjunctive system<sup>1</sup>, or reclaimed water distribution system) and, as applicable, associated reclaimed water storage facilities and pump stations that (i) are not under common ownership or management with the owner named in item A.2, and (ii) will provide reclaimed water to or receive reclaimed water from a system identified in item B.2, provide the following:

System Type*	System Name	DEQ Permit Number**	Name of system in item B.2 that will provide or receive reclaimed water to or from the system identified in 2 <sup>nd</sup> column

\* For system type, enter reclamation system, satellite reclamation system, conjunctive system<sup>1</sup> or reclaimed water distribution system. Reclaimed water distribution systems may include, but are not limited to reclaimed water hauling operations.

\*\* Where the system does not currently have coverage under a permit issued by DEQ, leave blank. Permit coverage will be required in order for this system to receive reclaimed water from or provide reclaimed water to a system identified in item B.2.

a. For each unpermitted reclaimed water distribution system identified in item B.3 that qualifies and is applying for alternative permit coverage in accordance with [9VAC25-740-40.D](#):

(1) Complete the following information:

Name of reclaimed water distribution system as identified in item B.3:

\_\_\_\_\_

Name of person or party who will own or manage distribution system:

\_\_\_\_\_

Contact information of person or party who will own or manage distribution system:

Mailing address:

Street or P.O. Box: \_\_\_\_\_

City or town: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone number: \_\_\_\_\_ Fax number: \_\_\_\_\_

E-mail address: \_\_\_\_\_

(2) Attach, if one exists, a copy of the service agreement or contract that is or will be established between the distribution system and the reclamation system, satellite reclamation system, or conjunctive system<sup>1</sup> identified in item B.2 that will provide reclaimed water to the distribution system; and

(3) Complete items that apply to reclaimed water distribution systems, excluding reclaimed water hauling operations, in the addendum.

**Note: For reclaimed water distribution systems that are hauling operations, provide only the information specified in item B.5.**

4. For each system identified in B.2 that will blend reclaimed water received from two or more systems identified in item B.2 or B.3 for subsequent reuse, complete the following information (attach additional information as needed):

a. Name of blending system as identified in item B.2:

\_\_\_\_\_

b. Design flow of only the blending components of the system identified in B.4.a: \_\_\_\_\_ (MGD)

- c. Each system that will provide unblended reclaimed water to the system identified in item B.4.a and characteristics of the unblended reclaimed.

Name of system that will provide unblended reclaimed water to blending system*	Type of unblended reclaimed water**	Nutrient content of unblended reclaimed water ***

\* Enter the name of the system as identified in item B.2 or B.3.

\*\* Enter the type of unblended reclaimed water to be provided by the system (i.e., Level 1, Level 2 or Other). For a system identified in item B.2 that will provide unblended reclaimed water, refer to item C.7 and associated instructions to determine the type of the unblended reclaimed water. For a system identified in item B.3 that will provide unblended reclaimed water, refer to the permit covering that system for the type of the unblended reclaimed or leave blank if unknown.

\*\*\* Enter the nutrient content of the unblended reclaimed water to be provided by the system (i.e., not applicable (or NA), BNR or non-BNR). The nutrient content of the *unblended* reclaimed water is “not applicable” where there will be no irrigation reuse of the blended reclaimed water. Where there will be irrigation reuse of the blended reclaimed water, enter either “BNR” or “non-BNR” for the nutrient content of the *unblended* reclaimed water. “BNR” (or “Biological Nutrient Removal”) refers to annual average concentrations of total nitrogen (N) and total phosphorus (P) in the reclaimed water that are less than or equal to 8.0 mg/l and 1.0 mg/l, respectively; and “non-BNR” refers to annual average concentrations of total N and total P in the reclaimed water that are greater than 8.0 mg/l or 1.0 mg/l, respectively.

5. For each reclaimed water distribution system identified in item B.2 or B.3.a that will be a reclaimed water hauling operation, provide the following:

- a. The name of the hauling operation:

\_\_\_\_\_

and

- b. An Application for Reclaimed Water Hauling Operations attached to the addendum.

### C. General Information

1. If the owner identified in item A.2 is applying for a variance to the Water Reclamation and Reuse Regulation in accordance with [9VAC25-740-55](#) for the project identified in item A.1, attach a completed [Water Reclamation and Reuse Variance Application](#) to the addendum.
2. If the project identified in A.1 proposes a new or increased diversion of source water from the discharge of a VPDES permitted wastewater treatment works (WWTW) to reclamation and

reuse, attach to the addendum the results summary of a Cumulative Impact Analysis (CIA) for the project or written confirmation that the project does not require a CIA. A new, more current CIA may be required where (i) the project has been changed following and possibly in response to the results of a prior CIA, or (ii) the addendum is to replace an emergency authorization (see item B.1) previously issued for the project.

**Note: Processing of the addendum will be suspended until the applicable CIA Results Summary or written confirmation of no CIA required is attached to the addendum.**

3. For each reclamation system, conjunctive system<sup>1</sup>, and satellite reclamation system identified in item B.2, provide the following:

a. The name of the system as identified in item B.2:

\_\_\_\_\_

b. A design description, site plan and general location map (check all that apply):

Attached to the addendum,

and/or

Contained in the PER submitted with the addendum per item B.2.d for the same system.

4. Provide the following information regarding each WWTW that will divert source water (as wastewater) to reclamation systems or conjunctive systems<sup>1</sup> identified in item B.2 (attach additional information as needed). This includes WWTWs that are or will be part of conjunctive systems<sup>1</sup>. Attach additional information as needed.

Name of WWTW	Wastewater type to be diverted by WWTW*	VPDES or VPA individual permit number issued to the WWTW	VPDES general watershed permit number issued to the WWTW**	Names of all reclamation systems and conjunctive systems <sup>1</sup> identified in item B.2 to which wastewater will be diverted from the WWTW***

\* Enter the type of wastewater to be diverted by the WWTW (i.e., domestic, municipal or industrial). For mixtures of industrial wastewater and domestic wastewater or municipal wastewater (or sewage), the mixture is an industrial wastewater if greater than 90 percent of the combined average daily influent flow of the WWTW is industrial wastewater in accordance with the Sewage Collection and Treatment Regulations ([9VAC25-790](#)).

\*\* Refers to a permit issued in accordance with the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia ([9VAC25-820](#)), and applies only to facilities with existing individual VPDES permits.

\*\*\* List the reclamation systems and conjunctive systems<sup>1</sup> by the same names used to identify them in item B.2.

**Note: Do not complete item C.4 for industrial WWTWs diverting wastewater to reclamation systems and conjunctive system<sup>1</sup> that have been confirmed by DEQ to qualify for exclusion from the requirements of the Water Reclamation and Reuse Regulation in accordance with [9VAC25-740-50.A.5](#) (see item B.2.b).**

- a. For each WWTW identified in item C.4, list and describe all unit treatment processes of the WWTW (attach additional information as needed), or provide a description or title of an alternate source containing the same information below.

Name of WWTW*	Unit treatment processes of WWTW

**OR**

Name of WWTW*	Description or title of alternate source**	DEQ office where alternate source was submitted***	Date of submittal to DEQ

\* Enter the name of the WWTW as identified in item C.4.

\*\* An alternate source must contain current unit treatment process information for the WWTW.

\*\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).



- b. For only municipal WWTWs identified in item C.4 that receive discharges from significant industrial users (SIUs), provide the following (attach additional information as needed):

Name of municipal WWTW*	Names of all SIUs indirectly discharging to the municipal WWTW	Does the municipal WWTW have a pretreatment program?*** (Yes/No/NA)

\* Enter the name of the WWTW as identified in item C.4.

\*\* Refers to a pretreatment program developed for a WWTW with SIUs in accordance with procedures described in Part VII of the VPDES Permit Regulation ([9VAC25-31-730](#)). Enter “NA” (for “not applicable”) where the WWTW is not required to have pretreatment program, or enter “Yes” or “No” to indicate that the WWTW is required to have the pretreatment program and the status of the program.

- c. For each municipal WWTW identified in item C.4.b that (i) does not have a pretreatment program, and (ii) will provide source water to reclamation systems or conjunctive systems<sup>1</sup> identified in item C.4 for the production of reclaimed water meeting a minimum of Level 1 standards and, if applicable, any additional standards developed for the protection of public health and the environment, provide the following (attach additional information as needed):

(1) The name of the WWTW:

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(2) Analyses attached to the addendum of source water from the WWTW for, at a minimum, pollutants of concern that will be indirectly discharged by all SIUs identified in item C.4.b to the WWTW.

(3) A source water evaluation attached to the addendum based on the analyses for item C.4.c(2).

- d. For each WWTW identified in item C.4, provide the following regarding source water to be diverted by the WWTW:

(1) Analyses of the source water performed within the 12 most recent months prior to the submittal date of the addendum for the following, excluding, as applicable, analyses submitted per item C.4.c(2):

(a) BOD<sub>5</sub> and TSS. Enter the most recent analysis and date of analysis for BOD<sub>5</sub> and TSS in source water from the WWTW:

Name of WWTW*	BOD <sub>5</sub> (mg/l)	Date of analysis	TSS (mg/l)	Date of analysis

\* Enter the name of the WWTW as identified in item C.4.

(b) All other constituents. All analyses for all other constituents in the source water of the WWTW are (check all that apply):

Attached to the addendum,  
and/or

Contained in analyses previously submitted to DEQ as described below:

Name of WWTW*	Description of analyses previously submitted**	DEQ office where analyses were submitted***	Date of submittal to DEQ

\* Enter the name of the WWTW as identified in item C.4.

\*\* Analyses previously submitted to DEQ may include, but are not limited to, analyses submitted with the application for the permit covering the project identified in item A.1, or submitted in discharge or other monitoring reports required by the permit.

\*\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).

- (2) Characterization of other constituents. For each WWTW identified in item C.4 that will provide source water believed to contain pollutants that have not been analyzed or measured, complete the following:

Name of WWTW*	Pollutant believed to be present in source water from the WWTW	Estimated concentration or measurement of pollutant**

\* Enter the name of the WWTW as identified in item C.4.

\*\* Include units of concentration or measurement (e.g., mg/l, colonies/100 ml, pH standard units, etc.) for the pollutant believed to be present in source water from the WWTW.

- e. For each reclamation system and conjunctive system<sup>1</sup> identified in item C.4 that will produce Level 1 reclaimed water from source water provided by a municipal WWTW also identified in item C.4, but will not be covered by the same permit covering the WWTW, attach a copy of the executed contractual agreement between the reclamation system or conjunctive system<sup>1</sup>, and the municipal WWTW. Where no contractual agreement has been executed in this case, provide the following information:

Name of reclamation system or conjunctive system <sup>1</sup> . *	Name of WWTW to provide source water to system and be covered by a separate permit*

\* Enter the name of the system and WWTW as identified in C.4.

5. Provide the following information regarding each sewage collection system (SCS) that will divert source water (e.g., sewage or municipal wastewater) to a satellite reclamation system identified in item B.2:

Name of SCS	Name of SCS owner	Name of WWTW at end of SCS, and VPDES or VPA permit number issued to that WWTW	Name of satellite reclamation system identified in item B.2 that will receive source water from SCS*

\* Enter the name of the satellite reclamation system as identified in item B.2.

- a. For each SCS identified in item C.5 that will receive discharges from one or more SIUs, excluding any SIU whose discharge has no potential to reach the satellite reclamation system intake by way of the SCS, complete the following information (attach additional information as needed):

Name of SCS*	Name of each SIU discharging to SCS	Latitude and longitude of satellite reclamation system** intake	Distance between each SIU discharge and satellite reclamation system intake** *** (miles)

\* Enter the name of the SCS as identified in item C.5.

\*\* Refers to the satellite reclamation system identified in item C.5 that will receive source water from the SCS.

\*\*\* Distance measured in units of miles along the course and length of the SCS pipelines between each SIU discharge and the satellite reclamation system intake.

b. For each SCS identified in item C.5.a that will provide source water to satellite reclamation systems identified in item C.5 for the production of reclaimed water meeting a minimum of Level 1 standards and, if applicable, any additional standards developed for the protection of public health and the environment, provide the following (attach additional information as needed):

(1) The name of the SCS:

\_\_\_\_\_

(2) Analyses attached to the addendum of source water from the SCS for, at a minimum, pollutants of concern discharged by all SIUs identified in item C.5.a to the SCS.

(3) A source water evaluation attached to the addendum based on the analyses for item C.5.b(2).

c. For each SCS identified in C.5, provide the following regarding source water to be diverted by the SCS:

(1) Analyses of the source water performed within the 12 most recent months prior to the submittal date of the addendum for the following, excluding, as applicable, analyses to be submitted per item C.5.b(2):

(a) BOD<sub>5</sub> and TSS. Enter the most recent analysis and date of analysis for BOD<sub>5</sub> and TSS in source water from the SCS:

Name of SCS*	BOD <sub>5</sub> (mg/l)	Date of analysis	TSS (mg/l)	Date of analysis

\* Enter the name of the SCS as identified in item C.5.

(b) All other constituents. All analyses for all other constituents in the source water of the SCS are (check all that apply):

Attached to the addendum,

**and/or**

Contained in analyses previously submitted to DEQ as described below:

Name of SCS*	Description of analyses previously submitted**	DEQ office where analyses were submitted***	Date of submittal to DEQ

\* Enter the name of the SCS as identified in item C.5.

\*\* Analyses previously submitted to DEQ may include, but are not limited to, analyses submitted with the application for the permit covering the project identified in item A.1, or submitted in reports required by the permit.

\*\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).

(2) Characterization of other constituents. For each SCS identified in item C.5 that will provide source water believed to contain pollutants that have not been analyzed or measured, complete the following:

Name of SCS*	Pollutant believed to be present in source water from the SCS	Estimated concentration or measurement of pollutant**

\* Enter the name of the SCS as identified in item C.5.

\*\* Include units of concentration or measurement (e.g., mg/l, colonies/100 ml, pH standard units, etc.) for the pollutant believed to be present in source water from the SCS.

- d. For each satellite reclamation system identified in item C.5 that will produce Level 1 reclaimed water from source water provided by a SCS also identified in item C.5, attach a copy of the executed contractual agreement between the satellite reclamation system and the SCS. Where no contractual agreement has been executed in this case, provide the following information:

Name of satellite reclamation system*	Name of SCS to provide source water to satellite reclamation system*

\* Enter the name of the satellite reclamation system and SCS as identified in item C.5.

6. For each system identified in items B.2 or B.4.a that (i) will distribute reclaimed water or blended reclaimed water, respectively, to end users for reuse, and (ii) is not identified in item B.2.b for exclusion, provide the following (attach additional information as needed):
- a. The name of the system as identified in item B.2 or item B.4.a:

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- b. All proposed and existing reuses by all end users of the reclaimed water or blended reclaimed water that will be distributed by the system identified in item C.6.a. Check or otherwise enter applicable reuses.

<b>Level 1 reuses*</b> <b>(Check all that apply)</b>		<b>Level 2 reuses*</b> <b>(Check all that apply)</b>		<b>Other reuses**</b> <b>(List below)</b>
<input type="checkbox"/>	All types of landscape irrigation in public access areas (i.e., golf courses, cemeteries, public parks, school yards and athletic fields)	<input type="checkbox"/>	Irrigation for any food crops commercially processed	
<input type="checkbox"/>	Toilet and urinal flushing	<input type="checkbox"/>	Irrigation for nonfood crops and turf, including fodder, fiber and seed crops; pasture for foraging livestock; sod farms; ornamental nurseries; and silviculture	
<input type="checkbox"/>	Firefighting or protection and fire suppression	<input type="checkbox"/>	Irrigation to establish vegetative erosion control at a construction site until construction is complete	
<input type="checkbox"/>	Outdoor reuse (i.e., lawn watering and noncommercial car washing)	<input type="checkbox"/>	Landscape impoundments with no potential for public access or contact	
<input type="checkbox"/>	Commercial car washes	<input type="checkbox"/>	Soil compaction	
<input type="checkbox"/>	Commercial air conditioning systems	<input type="checkbox"/>	Dust control	
<input type="checkbox"/>	Irrigation for any food crops not commercially processed, including crops eaten raw	<input type="checkbox"/>	Washing aggregate	
<input type="checkbox"/>	Landscape impoundments with potential for public access or contact	<input type="checkbox"/>	Making concrete	
<input type="checkbox"/>	Commercial laundries	<input type="checkbox"/>	Livestock watering that does not involve milking livestock	
<input type="checkbox"/>	Ship ballast	<input type="checkbox"/>	Aquaculture for the production of fish that will not be consumed raw	
<input type="checkbox"/>	Livestock watering that involves milking livestock	<input type="checkbox"/>	Stack scrubbing	
<input type="checkbox"/>	Aquaculture for the production of fish that will be consumed raw, such as for sushi	<input type="checkbox"/>	Street washing	
		<input type="checkbox"/>	Boiler feed	
		<input type="checkbox"/>	Once-through cooling	
		<input type="checkbox"/>	Recirculating cooling towers	

\* Level 1 and Level 2 reuses apply to only reuses of reclaimed domestic wastewater or municipal wastewater (or sewage).

\*\* Enter reuses of reclaimed domestic wastewater or municipal wastewater not found in the first and second columns (Level 1 reuse and Level 2 reuse, respectively), and reuses of reclaimed industrial wastewater not otherwise excluded per [9VAC25-740-50.A.5](#) (see item B.2.b). Reuses involving below-ground drip irrigation



and indirect potable reuse proposed after October 1, 2008, and indirect nonpotable reuse proposed after January 29, 2014, must also be entered in this column.

7. For each system identified in item B.2 or B.4.a that will produce reclaimed water from wastewater or a blend of two or more reclaimed waters, respectively, provide the following information:

Name of system*	Level 1 reclaimed water**	Level 2 reclaimed water**	Other reclaimed water***, ****	Designated design flow (MGD)****
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\* Enter the name of the system as identified in item B.2 or B.4.a.

\*\* Check all reclaimed water types (i.e., Level 1, Level 2, or Other) that will be produced from wastewater or a blend of two or more reclaimed waters by the system. For a system that will blend reclaimed waters, the reclaimed water type applies to the final blended reclaimed water and not the individual reclaimed waters used to make the blend.

\*\*\* Check the “Other” reclaimed water type if the system:

- (i) Will produce reclaimed water from industrial wastewater or a blend of two or more reclaimed waters produced from industrial wastewaters, and will not otherwise be excluded per [9VAC25-740-50.A.5](#) (see item B.2.b);
- (ii) Will produce reclaimed water from municipal wastewater or a blend of two or more reclaimed waters produced from municipal wastewaters for reuses not listed under [9VAC25-740-90.A](#) (see Appendix B of the addendum);
- (iii) Has or will have in the permit or authorization covering the system, reclaimed water treatment and standards for the reclamation of municipal wastewater that are other than or in addition to Level 1 or Level 2 treatment and standards, developed in accordance with [9VAC25-740-70.D](#). This applies whether reuses of such reclaimed municipal wastewater will be listed ([9VAC25-740-90.A](#)) or unlisted ([9VAC25-740-90.B](#)).

\*\*\*\* Designated design flow (DDF) applies to systems that will produce reclaimed water from wastewater, and will vary from system to system (see instructions for more details). Refer to item B.4 for design flows of systems that will blend two or more reclaimed waters to produce another reclaimed water.

- a. Provide the name of each existing system identified in item C.7 that will be modified<sup>2</sup> to provide the type(s) of reclaimed water checked for that system: \_\_\_\_\_

**Note: Existing systems proposing a modification<sup>2</sup> or expansion may be required to submit a preliminary engineering report (see item B.2.d).**

8. For each reuse listed under “Other reuses” in item C.6.b, provide the following information (attach additional information as needed):

a. General information. Complete items C.8.a(1) through (5), or for reuses other than indirect potable reuse, provide the description or title of an alternative source containing the information requested in items C.8.a(1) through (5):

(1) The name, as identified in item C.6.b, and a description of the reuse.

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(2) A description of any known risks to human health associated with the reuse.

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(3) A description of public access and human exposure, including worker contact, to reclaimed water that will be caused by the reuse.

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(4) A description of the reclaimed water treatment necessary to prevent nuisance conditions by the reuse.

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(5) A description of the potential for improper or unintended use of reclaimed water related to the reuse.

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**OR**

Name of Reuse*	Description or title of alternate source**	DEQ office where alternate source was submitted***	Date of submittal to DEQ

\* Enter the name of the reuse as identified in item C.6. Do not list reuses in this table that involve indirect potable reuse.

\*\* An alternate source must contain current information regarding the reuse.

\*\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).

b. Information for indirect *nonpotable* reuse (INPR) and indirect *potable* reuse (IPR). For each reuse identified in item C.8.a as INPR or IPR, complete the information indicated in items C.8.b(1) through (3), and attach the information requested in item C.8.b(4); or for only INPR, provide the description or title of an alternative source containing the information requested in items C.8.b(1) through (4):

(1) Information regarding the system identified in item C.6.a that will discharge reclaimed water (unblended or blended) for the INPR or IPR identified in item C.8.a(1):

(a) Name of the system as identified in item C.6.a:

\_\_\_\_\_

(b) VPDES permit number issued to the system: \_\_\_\_\_

(c) Where the system will have a discharge for INPR or IPR that is separate from other discharges to surface waters from the same system, provide the mapping coordinates for only the INPR or IPR discharge point:

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

(2) Information regarding the surface water to which the system identified in item C.8.b(1)(a) will discharge reclaimed water or blended reclaimed water for INPR or IPR:

(a) Name of the surface water:

\_\_\_\_\_

(b) Type of surface water at the point of the system discharge (check only one):

- Marsh or wetland that is tidally influenced
- Marsh or wetland that is not tidally influenced
- Lake or pond
- River or stream that is tidally influenced
- River or stream that is not tidally influenced

(c) For only IPR, a description of all uses other than IPR of the surface water:

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(3) Information regarding each end user or waterworks that will withdraw from the surface water named in item C.8.b(2)(a) for INPR or IPR (attach additional information as needed):

(a) Name of the end user or waterworks:

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(b) The number of the Virginia Water Protection (VWP) permit authorizing the surface water withdrawal by the end user or waterworks:

VWP permit no. \_\_\_\_\_ or No permit required

(c) The mapping coordinates at the location of the INPR or IPR withdrawal by the end user or waterworks:

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

(d) From the location of the INPR or IPR discharge point indicated in item C.8.b(1)(c) or the VPDES permit application, to the location of the INPR or IPR withdrawal indicated in item C.8.b(3)(c), provide the:

Approximate shortest distance by way of the surface water named in C.8.b(2)(a):

Feet \_\_\_\_\_

Approximate residence or transport time of the discharged reclaimed water (unblended or blended):

Hours \_\_\_\_\_ Minutes \_\_\_\_\_

(e) The approximate mixing ratio of the discharged reclaimed water (unblended or blended) to ambient water at the location of the INPR or IPR withdrawal indicated in item C.8.b(3)(c):

Mixing ratio \_\_\_\_\_

(4) For each end user or waterworks identified in item C.8.b(3)(a) that will not be under common ownership or management with the system identified in item C.8.b(1)(a), attach a copy of the contractual agreement established between the end user or waterworks and the system.

**OR (for INPR only)**

Name of INPR*	Description or title of alternate source**	DEQ office where alternate source was submitted***	Date of submittal to DEQ

\* Enter the name of the INPR as identified in item C.6.b.

\*\* An alternate source must contain current information regarding the INPR.

\*\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).

c. Information for only indirect potable reuse (IPR).

**Note: Prior to completing item C.8.c for projects proposing IPR, schedule a pre-application meeting with the DEQ Regional Office covering the area where the project will be located. DEQ may require additional or more detailed information for the IPR proposal determined on a case-by-case basis.**

For each reuse identified in item C.8.a as IPR, attach to the addendum the information indicated in items C.8.c(1) through (4):

- (1) A description of the multiple barriers that will be implemented by the system identified in item C.8.b(1)(a) and the waterworks identified in C.8.b(3)(a) to produce water of a quality suitable for the IPR. The description is to address, at a minimum, the following barriers:
  - (a) Contaminant source control and protection;
  - (b) Effective and reliable treatment;
  - (c) Environmental buffers and natural attenuation;
  - (d) Monitoring programs; and
  - (e) Responses to adverse conditions, including a contingency plan and notification program.
- (2) An evaluation of the combined effectiveness of all barriers described in item C.8.c(1) to achieve the water quality necessary for the IPR.
- (3) Information to establish reclaimed water standards and monitoring requirements for the IPR, including applicable modeling of the discharge or contaminants introduced by the discharge from the system identified in item C.8.b(1)(a) to the surface water identified in item C.8.b(2)(a), and any other information deemed necessary by DEQ.
- (4) A water balance for the IPR that accounts for the volumes of reclaimed water to be generated, stored and discharged by the system identified in item C.8.b(1)(a), received by the surface water identified in item C.8.b(2)(a), and withdrawn from the same surface water by the waterworks identified in item C.8.b(3)(a).

9. For each conjunctive system<sup>1</sup> and satellite reclamation system identified in item B.2 that will require an auxiliary plan according to the criteria established in [9VAC25-740-100.B.7](#), provide the following information (attach additional information as needed):

a. Name of the conjunctive system<sup>1</sup> or satellite reclamation system as identified in item B.2:

\_\_\_\_\_

b. A description of auxiliary plan measures to be immediately implemented by the system identified in item C.9.a to manage wastewater and reclaimed water in the event that primary reuses of reclaimed water generated by the system cease or fail:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. If auxiliary plan measures described in item C.9.b are currently authorized by a DEQ permit but the permit, in this case, is or will be different from the permit that will authorize the system identified in item C.9.a, check the applicable type and enter the number of the DEQ permit covering the auxiliary plan measures:

Permit type: VPDES  VPA  Other

If "Other" permit type, describe: \_\_\_\_\_

Permit number: \_\_\_\_\_

10. For each reclaimed water distribution system identified in items B.2 or B.3.a, excluding distribution systems that are reclaimed water hauling operations identified in item B.5:

a. Provide the following information:

Reclaimed water distribution system name*	Number of pump stations**	Number of filling stations**	Reclaimed water type***

\* Enter the name of the reclaimed water distribution system as identified in item B.2 or B.3.a.

\*\* Applicable to pump stations and filling stations that will be part of the reclaimed water distribution system.

\*\*\* Enter the reclaimed water type (e.g., Level 1, Level 2 or other) that will be conveyed by the reclaimed water distribution system to end uses or users. If a distribution system will blend different reclaimed water types prior to distribution for reuse, refer to items B.4.c and C.7 to determine the type of the blended reclaimed water.

- b. Attach a scaled map of the reclaimed water distribution system.
- c. Attach all measurements and analyses of reclaimed water monitored at or within the distribution system, and during the 12 most recent months prior to the submittal date of the addendum.

**OR**

If previously submitted to DEQ, provide an alternate source of the information, map or analyses specified in items C.10.a, C.10.b or C.10.c, respectively.

Reclaimed water distribution system name*	Description or title of alternate source**	DEQ office where alternate source was submitted***	Date of submittal to DEQ

- \* Enter the name of the reclaimed water distribution system as identified in item B.2 or B.3.a.
- \*\* Indicate to which item, C.10.a, C.10.b or C.10.c, the alternate source applies. An alternate source must contain information or maps that are current, or analyses performed during the 12 most recent months prior to the submittal date of the addendum for the reclaimed water distribution system.
- \*\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).

**D. Reclaimed water management (RWM) plan**

For each system identified in item B.2 that will require a Reclaimed Water Management (RWM) plan or amendment of an existing RWM plan, provide the applicable information specified in Section D.

1. Information required for all RWM plans. Submit with the addendum all RWM plans required for systems identified in item B.2, and include in each RWM plan the following:
  - a. The names of all systems as identified in item B.2 that will be covered by the RWM plan.
  - b. A description and map of the expected service area to be covered by the RWM plan.
  - c. A current inventory of reject water storage, and reclaimed water system and nonsystem storage facilities within the service area of the RWM plan.
  - d. A water balance that accounts for the annual average and monthly average volumes of reclaimed water to be generated or received, stored, reused and discharged or disposed by each system that will be covered by the RWM plan (see item D.1.a).

**OR**

If previously submitted to DEQ, provide an alternate source of the information specified in items D.1.c and D.1.d. **Note: Do not provide an alternative source in lieu of submitting the information specified in items D.1.a and D.1.b.**

Description or title of alternate source*	DEQ office where alternate source was submitted**	Date of submittal to DEQ

\* Indicate to which item (e.g., D.1.c or D.1.d) the alternate source applies. An alternate source must contain the most current information.

\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).

2. Additional information required for RWM plans. For each system to be covered by the RWM plan (see item D.1.a) that will not be the exclusive end user of reclaimed water it distributes for reuse, provide the following, as applicable, in the RWM plan:
- a. Examples of service agreements or contracts to be established between the system and end users regarding implementation of and compliance with the system’s RWM plan.
  - b. A description of how end users will be monitored by the system to verify that end users are complying with the terms of the service agreement or contract they have with the system.
  - c. An education and notification program, if applicable, based on (i) the quality of reclaimed water to be distributed by the system directly to end users, and (ii) the expected reuses of the end users listed in item C.6.
  - d. A cross-connection and backflow prevention program where the system is a reclaimed water distribution system, as identified in item B.2.
  - e. A description of how reclaimed water quality in the system will be maintained to meet standards for intended reuses of that water, and contingency measures to eliminate or minimize the potential for the system to deliver substandard reclaimed water to end users where the system is a reclaimed water distribution system, as identified in item B.2.
  - f. The name of the system as identified in the RWM plan (see item D.1.a) where the system is a conjunctive system<sup>1</sup> or satellite reclamation system, and is required to have an auxiliary plan as indicated in item C.9.a.
- 
- g. Information regarding new end users or new reuses of reclaimed water distributed by the system where the system is currently authorized by DEQ and covered by the RWM plan.

**OR**



If previously submitted to DEQ, provide an alternate source of the information specified in items D.2.a through D.2.f. **Note: Do not provide an alternative source in lieu of submitting the information specified in item D.2.g.**

Description or title of alternate source*	DEQ office where alternate source was submitted**	Date of submittal to DEQ

\* Indicate to which item (e.g., D.2.a, D.2.b, D.2.c, D.2.d, D.2.e or D.2.f) the alternate source applies. An alternate source must contain the most current information.

\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).

3. Information required for irrigation reuse in RWM plans. For each system to be covered by the RWM plan (see item D.1.a) that will distribute reclaimed water to an end user for irrigation reuse, provide the following (attach additional information as needed):

a. The name of the system as identified in the RWM plan (see item D.1.a):

\_\_\_\_\_

b. Type(s) of irrigation reuse by the end users that will receive reclaimed water from the system (check all that apply):

Bulk irrigation reuse - reuse of reclaimed water for irrigation of a total area greater than five acres on one contiguous property.

Nonbulk irrigation reuse - reuse of reclaimed water for irrigation of a total area less than or equal to five acres on one contiguous property.

c. A description of how the system will ensure that end users will achieve supplemental rates of irrigation for the type(s) of irrigation reuse checked in item D.3.b:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- d. The concentration of total nitrogen (N) and total phosphorus (P) present or expected to be present in the reclaimed water distributed by the system for irrigation reuse (check all that apply):
- Annual average concentrations less than or equal to 8.0 mg/l total N and 1.0 mg/l total P (BNR).
  - Annual average concentrations greater than 8.0 mg/l total N or 1.0 mg/l total P (non-BNR)
- e. Where the system will distribute reclaimed water to bulk irrigation reuse sites (see item B.3.b) under common ownership or management with the system, provide the following information for each of these sites (attach additional information as needed):

Bulk irrigation reuse site name or other identifier	Net acreage*	Location description and map**

\* Net acreage of the bulk irrigation reuse site after setbacks required in accordance with [9VAC25-740-170.H](#) are deducted from the gross acreage.

\*\* Submit a map displaying the location of the bulk irrigation reuse site and the system as part of the RWM plan covering the system. Where there are multiple sites listed that are within close proximity of the system, the map may display the location of more than one site.

- f. For each bulk irrigation reuse site identified in item D.3.e, submit the following information:
- (1) A nutrient management plan, if applicable; and
  - (2) A site plan.
- g. Where the system identified in item D.3.a will distribute non-BNR reclaimed water (see item D.3.d) to nonbulk irrigation reuse (see item D.3.b), describe measures that are or will be implemented to manage nutrient loads from nonbulk irrigation reuse within the service area of the RWM plan covering the system (see item D.1.b):

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**OR**

If previously submitted to DEQ, provide an alternate source of the applicable information, maps and site plans specified in items D.3.a through D.3.e, D.3.f (2) and D.3.g. **Note: Do not provide an alternative source in lieu of submitting the information specified in item D.3.f (1), if applicable.**

Description or title of alternate source*	DEQ office where alternate source was submitted**	Date of submittal to DEQ

\* Indicate to which item (e.g., D.3.a, D.3.b, D.3.c, D.3.d, D.3.e, D.3.f (2) or D.3.g) the alternate source applies. An alternate source must contain the most current information.

\*\* Enter the abbreviation of the DEQ office: Northern Regional Office (NRO), Piedmont Regional Office (PRO), Tidewater Regional Office (TRO), Valley Regional Office (VRO), Blue Ridge Regional Office (BRRO), or South West Regional Office (SWRO).

### E. Consent to Receive and Certify Receipt of Electronic Mail

Check only one of the following to consent or decline to receive electronic mail from DEQ as follows:

- Applicant or permittee consents to receive by electronic mail the permit and any plan approvals associated with the permit that may be issued for the proposed pollutant management activity, and to certify receipt of such electronic mail when requested by the DEQ.
- Applicant or permittee declines to receive by electronic mail the permit and any plan approvals associated with the permit that may be issued for the proposed pollutant management activity.

## F. Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of person signing above (printed or typed): \_\_\_\_\_

Title of person signing above: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of person signing above (printed or typed): \_\_\_\_\_

Title of person signing above: \_\_\_\_\_

### Addendum Footnotes

- <sup>1</sup> Conjunctive systems are systems consisting of a wastewater treatment works and reclamation system having no or minimal separation of treatment processes between the treatment works and reclamation system. A satellite reclamation system is a type of conjunctive system that operates within or parallel to a sewage collection system to produce reclaimed water for reuse, and may return its treatment process wastewater and residuals to the sewage collection system. For the purposes of this addendum, the term “conjunctive system” refers to only a conjunctive system that is other than a satellite reclamation system.
- <sup>2</sup> For the purposes of this addendum, the modification of an existing reclamation system, satellite reclamation system, conjunctive system<sup>1</sup>, or reclaimed water distribution system is any change to the facilities or-treatment processes of the system-that may result in the addition of new or revision of existing reclaimed water standards, monitoring requirements or conditions in the permit currently issued to the existing system.

# WATER RECLAMATION AND REUSE ADDENDUM TO AN APPLICATION FOR A VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT OR A VIRGINIA POLLUTION ABATEMENT PERMIT

## \*\*\*IMPORTANT\*\*\*

This addendum is also available in a fillable Word form at <https://www.deq.virginia.gov/Programs/Water/LandApplicationBeneficialReuse/WaterReclamationReuse.aspx>. Complete and submit either the Adobe or Word form according to the instructions provided below.

## ADDENDUM INSTRUCTIONS

### WHO MUST COMPLETE THE ADDENDUM

Owners or operators of a **new or existing unpermitted system** (i.e., reclamation system, satellite reclamation system, conjunctive system<sup>1</sup> or reclaimed water distribution system) must complete this addendum to submit with an application for either a Virginia Pollutant Discharge Elimination System (VPDES) permit or Virginia Pollution Abatement (VPA) permit.

Owners or operators of an **existing permitted system** (i.e., reclamation system, satellite reclamation system, conjunctive system<sup>1</sup> and reclaimed water distribution system) must complete this addendum to submit (i) with the application to reissue a VPDES or VPA permit covering the existing system, or (ii) independent of the permit application for **only expansion or modification<sup>2</sup> of the existing permitted system**. A new VPDES or VPA permit application may be required with the addendum if new information is required to permit or authorize the reclamation and reuse project that was not provided on the application forms for the issuance or reissuance of the VPDES or VPA permit.

### WHAT PROJECTS DO NOT REQUIRE THE ADDENDUM

It is not necessary to complete this addendum for the following:

1. Existing systems or end users permitted by the Department of Environmental Quality (DEQ) to produce, distribute or reuse reclaimed water prior to October 2, 2008 unless proposing an expansion or modification<sup>2</sup> of the existing facilities.
2. Facilities or activities that are specifically excluded or prohibited by [9VAC25-740-50](#) of the Water Reclamation and Reuse Regulation.

### WHO TO CONTACT FOR ASSISTANCE AND WHERE TO FILE THE ADDENDUM

For assistance with questions about the addendum and instructions, contact the DEQ regional office covering the area where the project will be located. Submit the completed addendum to the same office unless instructed otherwise. DEQ regional office information can be found on the DEQ website at <http://www.deq.virginia.gov/Locations.aspx> or can be obtained by calling the DEQ Central Office in Richmond, Virginia at (804) 698-4000.

### INSTRUCTIONS TO COMPLETE THE ADDENDUM

Complete all applicable items of the addendum in the spaces, tables or boxes provided, or attach information as directed. Indicate on the cover or other prominent location of each attachment the item of the addendum for which the attachment is being submitted.

Information required to complete the addendum may be provided, in part, by referencing alternative sources of information previously submitted to the DEQ unless changes have occurred that require the submission of new or more current information. Exceptions to referencing alternative sources are noted in the following instructions.

Applicants are encouraged to contact the DEQ regional office covering the area where the project will be located with questions about the addendum and instructions. See “WHO TO CONTACT FOR ASSISTANCE AND WHERE TO FILE THE ADDENDUM” above for more information.

Unless provided in the “FOOTNOTES” of the addendum instructions, definitions for terms used in the addendum are contained in [9VAC25-740-10](#) of the Water Reclamation and Reuse Regulation.

**\*\*\*IMPORTANT\*\*\***

**For all projects that propose a new or increased diversion of source water to water reclamation and reuse, a Cumulative Impact Analysis (CIA) Results Summary or written confirmation that a CIA is not required for the project must be submitted with the addendum. An incomplete addendum will not be processed.**

**FOOTNOTES**

- <sup>1</sup> Conjunctive systems are systems consisting of a wastewater treatment works and reclamation system having no or minimal separation of treatment processes between the treatment works and reclamation system. A satellite reclamation system is a type of conjunctive system that operates within or parallel to a sewage collection system to produce reclaimed water for reuse, and may return its treatment process wastewater and residuals to the sewage collection system. For the purposes of this addendum, the term “conjunctive system” refers to only a conjunctive system that is other than a satellite reclamation system.
- <sup>2</sup> For the purposes of this addendum, the modification of an existing reclamation system, satellite reclamation system, conjunctive system<sup>1</sup>, or reclaimed water distribution system is any change to the facilities or treatment processes of the system that may result in the addition of new or revision of existing reclaimed water standards, monitoring requirements or conditions in the permit currently issued to the existing system.

**LIST OF ABBREVIATIONS AND ACRONYMS**

BOD <sub>5</sub>	Biochemical Oxygen Demand, 5-day
BNR	Biological Nutrient Removal
CCBP	Cross-Connection and Backflow Prevention
CIA	Cumulative Impact Analysis
DCR	Department of Conservation and Recreation
DEQ	Department of Environmental Quality
GM 10-2001, Rev. 1	DEQ Water Guidance Memorandum No. 10-2001, Revision 1
INPR	Indirect Nonpotable Reuse
IPR	Indirect Potable Reuse
MGD	Million Gallons per Day
N	Nitrogen
NMP	Nutrient Management Plan
P	Phosphorus
PER	Preliminary Engineering Report
POCs	Points of Compliance
RWM plan	Reclaimed Water Management plan

SCS	Sewage Collection System
SIU	Significant Industrial User
TSS	Total Suspended Solids
VPA permit	Virginia Pollution Abatement permit
VPDES permit	Virginia Pollutant Discharge Elimination System permit
WWTW	Wastewater Treatment Works

## A. Applicant Information

**A.1 Project.** Complete the name and physical location information of the project that is to be authorized for water reclamation and reuse in accordance with [9VAC25-740-10 et seq.](#) The name of the project is to apply to all components of the project under common ownership or management, which may consist of one or more systems and associated reclaimed water storage facilities and irrigation reuse sites. Where different components of the project occur at different physical locations, report the physical locations of these components separately. For each reclamation system, satellite reclamation system, and conjunctive system<sup>1</sup> that will be part of the project, report the latitude and longitude of the point where source water for reclamation will be introduced into the system. For each reclaimed water distribution system that will be part of the project, report the latitude and longitude of the point where reclaimed water will be introduced into the distribution system. Attach additional information as needed.

**A.2 Owner.** The owner is the person or entity that owns the project identified in item A.1. Complete the owner name and contact information in item A.2.

**A.3 Operator.** The operator is the person or entity that operates and manages the project identified in item A.1. The operator may also be the owner identified in A.2. Complete the operator name and contact information in item A.3.

## B. Permitting Information

**B.1** Application for an Emergency Authorization to produce, distribute or reuse reclaimed water. Where the owner named in item A.2 is applying for an emergency authorization to produce, distribute or reuse reclaimed water ([Emergency Authorization Application](#)) for the same project named in item A.1, the owner is encouraged to submit the addendum with the Emergency Authorization Application to expedite mandatory replacement of the emergency authorization with another authorization or permit. When the addendum is submitted with the Emergency Authorization Application, the emergency authorization will be processed first. Information contained in the Emergency Authorization Application may be used to complete applicable parts of the addendum where the information will remain relevant to the project.

**\*\*\*IMPORTANT\*\*\***

**Following the issuance of an emergency authorization for the project, the owner must coordinate again with the DEQ Office of Water Supply to determine the need for a new or revised CIA to submit with the addendum. See also instruction for item C.2.**

**B.2** Systems under common ownership or management with the owner. For each system (i.e., reclamation system, satellite reclamation system, conjunctive system<sup>1</sup>, and reclaimed water distribution system) that will be part of the project named in item A.1 and under common ownership or management with the owner named in item A.2, enter in the table provided the type and name of the system, and DEQ permit status and number issued to the system. Reclaimed water distributions systems may include, but are not limited to, (i) existing potable water distribution systems, sewer or wastewater collection systems, and irrigation distribution systems that will be converted to reclaimed water distribution systems (see item B.2.c); and (ii) reclaimed water hauling operations (see item B.5). **Note: Where the only system to be listed in item B.2 is a reclaimed water hauling operation that will not blend reclaimed water prior to distribution for reuse (see item B.4), complete an Application for Reclaimed Water Hauling Operations in lieu of the addendum (see item B.5).**

**B.2.a** Systems of the project to be covered by different permits. For each system identified in item B.2 that is not currently permitted by DEQ and will be covered by a permit different from that currently covering or to cover to another system identified in item B.2, enter in the space provided the name of the unpermitted system and, if available, the corresponding DEQ permit number to cover the system.

**B.2.b** Limited exclusion for onsite reclamation and reuse of industrial wastewater. In accordance with [9VAC25-740-50.A.5](#), the reclamation of industrial wastewater (e.g., industrial effluent or other industrial water streams prior to final treatment) for reuse exclusively on the site of the facility producing the industrial wastewater, may be excluded from the requirements of the Water Reclamation and Reuse Regulation if this reuse meets one or more qualifying criteria. **Note: For a mixture of industrial wastewater and domestic wastewater or municipal wastewater (or sewage) to be reclaimed, refer to the instructions of item C.4 to determine if the mixture is an industrial wastewater.**

If claiming the onsite reclamation and reuse of industrial wastewater exclusion for a reclamation system or conjunctive system listed in item B.2, enter the name of the system in the space provided and check all applicable qualifying criteria for the exclusion. If none of the criteria apply, the system is not eligible for exclusion in accordance with [9VAC25-740-50.A.5](#). If one or more criteria apply, the system may be eligible for exclusion. In this case, contact the DEQ Regional Office covering the area where the project will be located to confirm that the exclusion applies prior to completing further information about the system in the addendum. This may involve a scheduled DEQ inspection of the system and proposed onsite reuses of reclaimed water produced by the system, and analyses of the reclaimed water. If DEQ determines that the system is eligible for exclusion, attach to the addendum DEQ's written confirmation of the exclusion and do not provide any further information regarding the system and reuse(s) of reclaimed water produced by the system in the addendum. Where the project named in item A.1 consists of only the excluded system, the addendum is not required for the project.

Note that systems and reuses excluded from the requirements of the Water Reclamation and Reuse Regulation in accordance with [9VAC25-740-50.A.5](#) may remain subject to the requirements of the VPDES Permit Regulation ([9VAC25-31](#)) or the VPA Permit Regulation ([9VAC25-32](#)). For example, irrigation reuse of reclaimed industrial wastewater on the same property as the industry that produces the reclaimed water may be excluded from the requirements of the Water Reclamation and Reuse Regulation. However, the same activity may be considered land treatment requiring a VPA permit to manage pollutants with the potential to impact groundwater.

**B.2.c** Systems converted to reclaimed water distribution systems. Existing potable water distribution systems, sewer or wastewater collections systems, and irrigation distribution systems may be converted for use as reclaimed water distribution systems in accordance with [9VAC25-740-110.B](#). For each reclaimed water distribution system identified in item B.2 that (i) is an existing potable water distribution system, sewer or wastewater collection system, or irrigation distribution system, and (ii) will be converted to distribute reclaimed water, provide the name of the system as it is identified in item B.2 and the current name of the system prior to conversion if different from that in item B.2. Also, attach to the addendum a conversion plan and an operations and maintenance (O&M) manual for the system that will be converted. The system conversion plan and O&M manual are to contain, at a minimum, items specified in [9VAC25-740-110.B.6](#). Submission of these documents with the addendum is not required where conversion of the existing system to a reclaimed water distribution system will not occur within 90 days of DEQ's authorization of the project named in item A.1.

**B.2.d** Preliminary engineer reports. Preliminary engineering report (PERs) are required for new reclamation systems, satellite reclamation systems, and reclaimed water distribution systems, and for the modification<sup>2</sup> or expansion of similar but existing systems ([9VAC25-740-120.A.](#)). For each system identified in item B.2 requiring a PER, complete the name of the system and attach to the addendum a PER for that system. Where one PER will apply to more than one system, list the names of all such systems in item B.2.d.(1). For only proposed modification<sup>2</sup> or expansion of an existing system, a request to waive submittal of a PER or portion of a PER may be attached to the addendum in lieu of a PER. DEQ may grant such a request based on project information previously submitted to the agency, and the scope of the proposed modification<sup>2</sup> or expansion. **Note: Do not complete item B.2.d for reclamation systems and conjunctive systems<sup>1</sup> identified in item B.2.b and reclaimed water distribution systems that are hauling operations identified in item B.5.**



**B.3** Other systems not under common ownership or management. Systems identified in item B.2 may provide reclaimed water to or receive reclaimed water from *other* systems (i.e., reclamation systems, satellite reclamation systems, conjunctive systems<sup>1</sup>, or reclaimed water distribution systems including, but not limited to, reclaimed water hauling operations) and, as applicable, reclaimed water storage facilities and pump stations associated with these systems that are not under common ownership or management with the owner named in item A.2. For each of the *other* systems, complete information in the table provided, including the system type and name, the number of the DEQ permit covering the system, and the name of the system identified in item B.2 that will provide reclaimed water to or receive reclaimed water from the *other* system. **Note: Where the *other* system is not covered by a VPDES or VPA permit to produce and/or distribute reclaimed water, the system identified in B.2 will not be authorized to provide reclaimed water to or receive reclaimed water from the *other* system until such time the *other* system has the appropriate permit coverage.**

**B.3.a** Alternative permit coverage for reclaimed water distribution systems. In most cases where a reclamation system (i.e., reclamation system, satellite reclamation system, or conjunctive system<sup>1</sup>) will provide reclaimed water to a distribution system that is under separate ownership or management, the reclamation system and reclaimed water distribution system will require separate permit coverage.

Alternatively and in accordance with [9VAC25-740-40.D](#), a reclaimed water distribution systems identified in item B.3 that does not have DEQ permit coverage may be covered by the permit that will authorize the project named in item A.1 where all of the following criteria are met:

1. The distribution system will receive reclaimed water from a reclamation system, satellite reclamation system, or conjunctive system<sup>1</sup> identified in item B.2,
2. The distribution system will not distribute reclaimed water to any end user other than the owner or management of that distribution system, and
3. A service agreement or contract is or will be established between the distribution system and the reclamation system, satellite reclamation system, or conjunctive system<sup>1</sup> identified in item B.2 that will provide reclaimed water to the distribution system.

Under this alternative permitting option, the reclamation system is responsible for ensuring that the distribution system complies with applicable requirements of the permit covering the reclamation system through the terms and conditions of the service agreement or contract between the two systems.

Where the reclaimed water distribution system does not have a permit and does not qualify for the alternative permitting option above, separate permit coverage of the reclaimed water distribution system will be required before the project named in item A.1 may be authorized by DEQ to provide reclaimed water to the distribution system.

This alternative permitting option for reclaimed water distribution systems may also apply to hauling operations that distribute reclaimed water (see item B.5) for only reuse by the owner or management of the hauling operation. In this case, the hauling operation and the reclamation system providing reclaimed water to the hauling operation must be under separate ownership or management, and the hauling operation must establish a service agreement or contract with the reclamation system.

If applying for alternative permit coverage for a qualifying reclaimed water distribution system identified in B.3, complete contact information for the person or party that will own or manage the distribution system in item B.3.a(1), attach a copy of the service agreement or contract per item B.3.a(2), and complete items that apply to reclaimed water distribution systems, excluding reclaimed water hauling operations, in the remainder of the addendum per item B.3.a(3). **Note: For reclaimed water distribution systems that are hauling operations, provide only the information specified in item B.5.**

**B.4** Systems blending reclaimed water. A reclamation system, conjunctive system<sup>1</sup>, reclaimed water distribution system, or combination thereof that will blend reclaimed water from other systems may produce water of different quality and character than that of the reclaimed water used to produce the blend. For each system identified in item B.2 that will blend reclaimed from two or more systems identified in items B.2 or B.3, complete information in items B.4.a through B.4.c.

**B.4.a** Provide the name of the system as identified in item B.2 that will blend reclaimed water.

**B.4.b** Provide the design flow (in units of MGD) for only those components of the system identified in item B.4.a that will blend reclaimed.

**B.4.c** For each identified in item B.2 or B.3 that will provide reclaimed water to the blending system identified in B.4.a, complete information in the table provided, including the name of the system and the type and nutrient content of reclaimed water it will provide.

For a system identified in item B.2 that will provide unblended reclaimed water, refer to item C.7 and associated instructions to determine the type (i.e., Level 1, Level 2 or “Other”) of the reclaimed water. For a system identified in item B.3 that will provide unblended reclaimed water, refer to the permit covering the system for the type of the reclaimed water or leave blank if unknown (e.g., where the system has yet to be authorized by DEQ).

Nutrient content of the *unblended* reclaimed water is “not applicable” where there will be no irrigation reuse of the blended reclaimed water. Where there will be irrigation reuse of the blended reclaimed water, the nutrient content of the *unblended* reclaimed water is either “BNR” or “non-BNR”. “BNR” (or “Biological Nutrient Removal”) refers to annual average concentrations of total nitrogen (N) and total phosphorus (P) in the reclaimed water that are less than or equal to 8.0 mg/l and 1.0 mg/l, respectively; and “non-BNR” refers to annual average concentrations of total N and total P in the reclaimed water that are greater than 8.0 mg/l or 1.0 mg/l, respectively.

Where an end user will blend reclaimed water that it receives from two or more systems identified in item B.2 or B.3 for subsequent reuse, the end user is considered a reclamation system and will require separate permit coverage. Optionally, the same end user may be covered by the permit issued to one of the systems identified in item B.2 providing reclaimed water to the end user where the end user is under common ownership or management with the permitted system ([9VAC25-740-40.E](#)). In this case, complete items B.2 and B.4 for the end user, and enter “reclamation system” as the system type for the end user in item B.2.

For each system that will blend reclaimed water identified in item B.4.a, also complete item C.7 regarding the reclaimed water type of the blended reclaimed water.

**B.5** Application for a reclaimed water hauling operation. A reclaimed water hauling operation transports and distributes reclaimed water to one or more end users, including an end user that is also the hauling operation. Components of RWHOs include, at a minimum, tank trucks or other equipment used to haul reclaimed water; may additionally include reclaimed water storage facilities, reclaimed water filling stations, and facilities or equipment considered necessary to maintain the quality of reclaimed water distributed by the hauling operation; and must comply with applicable design criteria specified in [9VAC25-740-110.B](#) and C. For each reclaimed water distribution system identified in item B.2 or B.3.a that will be a reclaimed water hauling operation, enter the name of the hauling operation in the space provided and attach an Application for a Reclaimed Water Hauling Operation.

## **C. General Project Information**

**C.1** Variance application. In accordance with [9VAC25-740-55](#), any person or entity wishing to initiate a project for the production, distribution, or reuse of reclaimed water that is not excluded from the requirements of the Water Reclamation and Reuse Regulation per [9VAC25-740-50](#), may apply to DEQ for a variance from the design, construction, operation, or maintenance requirements of the regulation. If applying for this variance, complete and attach a [Water Reclamation and Reuse Variance Application](#) (Variance Application) to the addendum. Additional information is provided in the instructions of the Variance Application.

**C.2** Cumulative Impact Analysis (CIA). A Cumulative Impact Analysis (CIA) may be required for the project identified in item A.1 where any of the following apply:

- (i) The project proposes a new or increased diversion of source water from a VPDES permitted WWTW discharge to reclamation and reuse. This applies, for example, to (a) a reclamation system or conjunctive system<sup>1</sup> that proposes to divert a portion or all of the discharge from a VPDES permitted

WWTW to reclamation and reuse, or (b) a satellite reclamation system that proposes to withdraw source water (as sewage) for reclamation and reuse from a sewage collection system that also delivers sewage to a VPDES permitted WWTW.

- (ii) The project has been changed following and possibly in response to the results of a prior CIA for the project. This applies, for example, where (a) changes to the project will increase the diversion of source water from the same VPDES permitted WWTW discharge to reclamation and reuse; or (b) a prior CIA for the project indicated that it would result in significant adverse impacts to beneficial uses of the receiving water for the VPDES permitted WWTW discharge, and the project was subsequently changed to avoid or reduce these impacts.
- (iii) An application for an emergency authorization to produce, distribute or reuse reclaimed water is attached to the addendum (see item B.1), and the existing municipal WWTW to be issued the emergency authorization has a VPDES permitted discharge.
- (iv) The addendum is to replace an emergency authorization (see item B.1) previously issued for the project.

The owner identified in item A.2 is allowed a maximum of two new requests for CIAs per year for the project identified in item A.1. At the request of the owner, DEQ will determine the need for a CIA and, if needed, perform a CIA for the project. DEQ will provide the owner the results summary of the CIA or written confirmation that the project does not require a CIA. The owner/applicant must attach this information to the addendum. Instructions to request CIAs related to water reclamation and reuse projects are provided at DEQ's [Water Reclamation and Reuse Program webpage](#). **Note: Processing of the addendum will be suspended until the applicable CIA results summary or written confirmation of no CIA required is attached to the addendum.**

**C.3** General information for reclamation systems, conjunctive systems<sup>1</sup>, and satellite reclamation systems. Submit for each reclamation system, conjunctive system<sup>1</sup> and satellite reclamation system identified in item B.2, a design description, site plan, and general location map. In the design description and site plan, include components and unit processes of the system, such as but not limited to, treatment, storage, reuse and disposal facilities, and reliability features and controls. On the general location map for the system, display the entire system to scale, nearest roads to the system, access to the location of the system, and orientation of the system with a north arrow and reference to at least two geographic features (e.g., numbered or named roads, named streams or rivers, etc.).

Alternatively, if a preliminary engineering report (PER) will be submitted with the addendum per item B.2.d for the same system identified in item C.3.a, and the PER contains a design description, site plan and/or general location map for the system, the PER may be referenced to provide all or part of the information specified in item C.3.b.

Information regarding existing and previously permitted wastewater treatment works, reclamation systems, conjunctive systems<sup>1</sup>, and satellite reclamation systems need not be included in item C.3 unless these systems are directly tied into new reclamation systems, conjunctive systems<sup>1</sup>, and satellite reclamation systems identified in item B.2, or are critical to the understanding of the complete project identified in item A.1.

**C.4** Wastewater treatment works (WWTW) providing source water. For each WWTW that will divert source water to a reclamation system or conjunctive system<sup>1</sup> identified in item B.2, including WWTWs that are or will be part of conjunctive systems<sup>1</sup> identified in item B.2, complete information in the table provided. This includes the name of the WWTW, the type of wastewater diverted by the WWTW, the number of the VPDES or VPA individual permit issued to the WWTW, the number of the VPDES general watershed permit issued to the WWTW (if applicable), and the names of all reclamation systems and conjunctive systems<sup>1</sup> identified in item B.2 to which wastewater will be diverted from the WWTW. The wastewater type diverted by the WWTW should be domestic, municipal or industrial. For a mixture of industrial wastewater and domestic wastewater or municipal wastewater (or sewage), the mixture is an industrial wastewater if greater than 90 percent of the combined average daily influent flow of the WWTW is industrial wastewater in accordance with the Sewage Collection and Treatment Regulations ([9VAC25-790](#)). The VPDES general watershed permit refers to a permit

issued in accordance with the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia ([9VAC25-820](#)), and applies only to facilities with existing individual VPDES permits. **Note: Do not complete item C.4 for industrial WWTWs diverting wastewater to reclamation systems and conjunctive system<sup>1</sup> that have been confirmed by DEQ to qualify for exclusion from the requirements of the Water Reclamation and Reuse Regulation in accordance with [9VAC25-740-50.A.5](#) (see item B.2.b).**

**C.4.a** Unit treatment processes of WWTWs. For each WWTW identified in item C.4, complete information in either the first or second table. If completing the first table, provide a list and description of all unit treatment processes for the WWTW up to and including the point where water will be diverted from the WWTW to the reclamation system or conjunctive system<sup>1</sup>. If completing the second table, provide the description or title of an alternative source containing the same information and on file with DEQ. If providing an alternate source of information, additionally include the DEQ office location where the source was received and the date the source was submitted to DEQ. Do not list an alternate source that does not contain current unit treatment process information for the WWTW.

**C.4.b** Pretreatment programs for municipal WWTWs with significant industrial user (SIU) discharges. For each *municipal* WWTW identified in item C.4 that will have one or more significant industrial users (SIUs) (as defined in [9VAC25-31-10](#)) indirectly discharging to the WWTW, complete information in the table provided. This includes the name of the WWTW, the names of all SIUs indirectly discharging to the WWTW, and the applicability and status of a pretreatment program for the WWTW. A pretreatment program, in this case, refers to a program developed in accordance with procedures described in Part VII of the VPDES Permit Regulation ([9VAC25-31-730](#)). As needed, contact the DEQ Regional Office covering the area where a WWTW identified in C.4.b will be located for assistance determining the applicability and status of the WWTW's pretreatment program.

**C.4.c** Source water evaluations for municipal WWTWs with SIU discharges. For each WWTW identified in item C.4.b that (i) will provide source water to reclamation systems or conjunctive systems<sup>1</sup> identified in item C.4 for the production of reclaimed water meeting Level 1 standards and, as applicable, other additional standards developed for the protection of public health and the environment, and (ii) is not required to have a pretreatment program in accordance with procedures described in Part VII of the VPDES Permit Regulation ([9VAC25-31-730](#)), complete or provide the information indicated for items C.4.c (1) through C.4.c (3).

**C.4.c(1)** Enter the name of the WWTW as described in item C.4.c.

**C.4.c(2)** Perform and attach to the addendum, analyses of source water from the WWTW identified in item C.4.c(1) for, at a minimum, pollutants of concern that will be indirectly discharged by all SIUs identified in item C.4.b to the WWTW. These analyses are to be performed within 12 months prior to the submittal date of the addendum, and samples for the analyses are to be collected at the point where source water from the WWTW will be diverted to the reclamation systems or conjunctive systems<sup>1</sup> identified in item C.4.

**C.4.c(3)** Perform and attach to the addendum an evaluation of the source water (or source water evaluation) using the analyses performed for item C.4.c(2). The evaluation must determine if and to what degree pollutants of concern discharged by SIUs to the WWTW will interfere with the ability of the WWTW to provide source water to a reclamation system and conjunctive system<sup>1</sup> that is suitable for the production of reclaimed water meeting (i) Level 1 standards, and (ii) as applicable, any additional standards developed for the protection of public health and the environment, and contained in an existing permit or authorization covering a reclamation system or conjunctive system<sup>1</sup> identified in item C.4. **Note: Where the source water evaluation indicates that the WWTW identified in item C.4.c(1) may not be capable of providing source water suitable for the production of reclaimed water meeting Level 1 standards or, as applicable, any additional standards developed for the protection of public health and the environment, the production of Level 1 reclaimed water by the reclamation system or conjunctive system<sup>1</sup> may not be authorized.**

**C.4.d** Analyses and characterization of source water from WWTWs. Provide analyses and characterizations of the source water to be diverted by each WWTW identified in item C.4. Analyses of source water that will be diverted by a WWTW to a reclamation system or conjunctive system<sup>1</sup>, are required in accordance with [9VAC25-740-100.B.3.c](#). Source water samples for analyses must be collected at the point of diversion from the

WWTW to the reclamation system or conjunctive system<sup>1</sup>. DEQ, at its discretion, may request additional information, including analyses of source water, to complete the addendum per [9VAC25-31-100.F.1](#) and [9VAC25-32-60.A.1](#). For WWTWs that require source water analyses for pollutants of concern per item C.4.c(2), do not include these analyses for the same WWTWs in item C.4.d(1).

**C.4.d (1)(a)** For each WWTW identified in item C.4, complete information in the table provided, including the name of the WWTW and analyses for BOD<sub>5</sub> and TSS in the source water of the WWTW. Enter only the most recent analysis and date of analysis for BOD<sub>5</sub> and TSS performed within the 12 most recent months prior to the submittal date of the addendum.

**C.4.d (1)(b)** For each WWTW identified in item C.4, attach to the addendum and/or describe all analyses for all other constituents in the source water from the WWTW that were performed and previously submitted to DEQ within the 12 most recent months prior to the submittal date of the addendum. For analyses attached to the addendum, ensure that the name of the WWTW with which the analyses are associated is clearly displayed on the analyses, and matches the name used to identify the WWTW in item C.4.

If providing a description of analyses previously submitted for a WWTW in lieu of or in addition to attaching analyses to the addendum, complete information in the table provided, including the name of the WWTW, a description of the previously submitted analyses, the DEQ regional office location where the analyses were submitted, and the date of the submittal. Analyses previously submitted may include, but are not limited to, analyses submitted with the application for the permit covering the project identified in item A.1, or routinely reported in discharge or other monitoring reports required by the permit.

**C.4.d(2)** For each WWTW identified in item C.4 that will provide source water believed to contain pollutants that have not been analyzed or measured, complete information in the table provided, including the name of the WWTW, the name of the pollutant believed to be present in source water from the WWTW, and the estimated concentration or measurement of the pollutant in the source water.

**C.4.e** Contractual agreements between reclamation systems or conjunctive systems<sup>1</sup>, and municipal WWTWs. A reclamation system or conjunctive system<sup>1</sup> authorized to produce reclaimed water meeting Level 1 standards (Level 1 reclaimed water) is required to establish a contractual agreement with each municipal WWTW providing source water to the system unless the system and WWTW are authorized by the same permit ([9VAC25-740-150.B](#)). Where there will be multiple municipal WWTWs providing source water to the same system that are not authorized by the permit covering the system, multiple contractual agreements may be required, particularly where the WWTWs are not under common ownership or management with each other. In all cases, the contractual agreement must, at a minimum, require the WWTW to notify the reclamation system or conjunctive system<sup>1</sup> of all SIUs that will discharge to the WWTW. The contractual agreement should also require that such notifications allow the reclamation system or conjunctive system<sup>1</sup> sufficient time prior to the anticipated start date of a new SIU discharge to adequately perform a source water evaluation for pollutants of concern from the SIU discharge (see item C.4.c(3)).

For each reclamation system or conjunctive system<sup>1</sup>, and municipal WWTW that will require a contractual agreement, attach to the addendum a copy of the executed contractual agreement between the reclamation system or conjunctive system<sup>1</sup>, and the municipal WWTW. If no contractual agreement has been executed in this case, complete information in the table provided, including the name of the reclamation system or conjunctive system<sup>1</sup>, and the name of the WWTW. **Note: A copy of an executed contractual agreement is to be submitted to DEQ before the reclamation system or conjunctive system<sup>1</sup> may receive source water from the WWTW.**

To determine which reclamation systems or conjunctive systems<sup>1</sup>, and municipal WWTWs will require contractual agreements, refer to (i) item C.7 and associated instructions of the addendum to identify reclamation systems and conjunctive systems<sup>1</sup> that will produce Level 1 reclaimed water; and (ii) item C.4 to identify each municipal WWTW that will provide source water to these reclamation systems and conjunctive systems<sup>1</sup>, but will not be authorized by the same permits covering these systems.

**C.5** Sewage collection systems providing source water. For each sewage collection system (SCS) that will divert source water (e.g., sewage or municipal wastewater) to a satellite reclamation system identified in item

B.2, complete information in the table provided. This includes the name of the SCS, the name of the SCS owner, the name of the WWTW at the end of the SCS and the VPDES or VPA permit number issued to that WWTW, and the name of the satellite reclamation system identified in item B.2 that will receive source water from the SCS.

**C.5.a** SIU discharges to SCSs. For each SCS identified in item C.5 that will receive discharges from one or more SIUs, as defined in [9VAC25-31-10](#), complete information in the table provided. This includes the name of the SCS, the name of each SIU discharging to the SCS, the latitude and longitude of the satellite reclamation system intake, and the distance measured along the course and length of the SCS pipelines between each SIU discharge and the satellite reclamation system intake. Do not complete this information for any SIU discharge that has no potential to reach the satellite reclamation system intake by way of the SCS.

**C.5.b** Source water evaluations for SCSs with SIU Discharges. For each SCS identified in item C.5.a that will provide source water to a satellite reclamation system identified in item C.5 for the production of reclaimed water meeting Level 1 standards and, as applicable, other additional standards developed for the protection of public health and the environment, complete or provide the information indicated for items C.5.b(1) through C.5.b(3).

**C.5.b(1)** Enter the name of the SCS as described in item C.5.b

**C. 5.b(2)** Perform and attach to the addendum, analyses of source water from the SCS identified in item C.5.b(1) for, at a minimum, pollutants of concern that will be discharged by all SIUs identified in item C.5.a to the SCS. These analyses are to be performed within 12 months prior to the submittal date of the addendum, and samples for the analyses are to be collected at the point where source water from the SCS will be diverted to the satellite reclamation systems identified in item C.5.

**C.5.b(3)** Perform and attach to the addendum an evaluation of the source water (or source water evaluation) using the analyses performed for item C.5.b(2). The evaluation must determine if and to what degree pollutants of concern discharged by SIUs to the SCS will interfere with the ability of the SCS to provide source water to a satellite reclamation system that is suitable for the production of reclaimed water meeting (i) Level 1 standards, and (ii) as applicable, any additional standards developed for the protection of public health and the environment, and contained in an existing permit or authorization covering the satellite reclamation system identified in item C.5. **Note: Where the source water evaluation indicates that the SCS identified in item C.5.b(1) may not be capable of providing source water suitable for the production of reclaimed water meeting Level 1 standards or, as applicable, any additional standards developed for the protection of public health and the environment, the production of Level 1 reclaimed water by the satellite reclamation system may not be authorized.**

**C.5.c** Analyses and characterization of source water from SCSs. Provide analyses and characterizations of the source water to be diverted by each SCS identified in item C.5. Source water samples for analyses are to be collected at the point of diversion from the SCS to the satellite reclamation system. DEQ, at its discretion, may request additional information, including analyses of source water, to complete the addendum per [9VAC25-31-100.F.1](#) and [9VAC25-32-60.A.1](#). For SCSs that require source water analyses for pollutants of concerns per item C.5.b(2), do not include these analyses for the same SCSs in item C.5.c(1).

**C.5.c(1)(a)** For each SCS identified in item C.5, complete information in the table provided, including the name of the SCS and analyses for BOD<sub>5</sub> and TSS in the source water of the SCS. Enter only the most recent analysis and date of analysis for BOD<sub>5</sub> and TSS performed within the 12 most recent months prior to the submittal date of the addendum.

**C.5.c(1)(b)** For each SCS identified in item C.5, attach to the addendum and/or describe all analyses for all other constituents in the source water from the SCS that were performed and previously submitted to DEQ within the 12 most recent months prior to the submittal date of the addendum. For analyses attached to the addendum, ensure that the name of the SCS with which the analyses are associated is clearly displayed on the analyses, and matches the name used to identify the SCS in item C.5.

If providing a description of analyses previously submitted for a SCS in lieu of or in addition to attaching analyses to the addendum, complete information in the table provided, including the name of the SCS, a

description of the previously submitted analyses, the DEQ regional office location where the analyses were submitted, and the date of the submittal. Analyses previously submitted may include, but are not limited to, analyses submitted with the application for the permit covering the project identified in item A.1, or submitted in reports required by the permit.

**C.5.c(2)** For each SCS identified in item C.5 that will provide source water believed to contain pollutants that have not been analyzed or measured, complete information in the table provided, including the name of the SCS, the name of the pollutant believed to be present in source water from the SCS, and the estimated concentration or measurement of the pollutant in the source water.

**C.5.d** Contractual agreements between satellite reclamation systems and SCSs. A satellite reclamation system authorized to produce reclaimed water meeting Level 1 standards (Level 1 reclaimed water) is required to establish a contractual agreement with each SCS providing source water to the system ([9VAC25-740-150.D](#)). The contractual agreement must, at a minimum, require the SCS to notify the satellite reclamation system of all SIUs that will discharge to the SCS. The contractual agreement should also require that such notifications allow the satellite reclamation system sufficient time prior to the anticipated start date of a new SIU discharge to adequately perform a source water evaluation for pollutants of concern from the SIU discharge (see item C.5.b(3)).

For each satellite reclamation system and SCS that will require a contractual agreement, attach to the addendum a copy of the executed contractual agreement between the satellite reclamation system and the SCS. If no contractual agreement has been executed in this case, complete information in the table provided, including the name of the satellite reclamation system and the name of the SCS. **Note: A copy of an executed contractual agreement is to be submitted to DEQ before the satellite reclamation system may receive source water from the SCS.**

To determine which satellite reclamation systems and SCSs will require contractual agreements, refer to (i) item C.7 and associated instructions of the addendum to identify satellite reclamation systems that will produce Level 1 reclaimed water, and (ii) item C.5 to identify each SCS that will provide source water to these satellite reclamation systems.

**C.6** Reclaimed water reuses by all end users. For each system identified in items B.2 or B.4.a that (i) will distribute reclaimed water or blended reclaimed water, respectively, to end users for reuse, and (ii) is not identified in item B.2.b for exclusion, complete the information indicated for items C.6.a and C.6.b. If information will be provided for more than one system under item C.6, attach to the addendum the same information for each system.

**C.6.a** Enter the name of the system meeting the criteria described in item C.6.

**C.6.b** Check or, as applicable, enter the types of all proposed and existing reuses by all end users of reclaimed water or blended reclaimed water that will be distributed by the system identified in item C.6.a. The reuses may include those of the system identified in item C.6.a where the system will distribute reclaimed water directly to its own reuses.

Reuses with check boxes listed under “Level 1 reuses” and “Level 2 reuses” in the first two columns of the table apply to only reclaimed domestic wastewater or municipal wastewater (or sewage). Reuses of reclaimed municipal wastewater not found in the first two columns, or all reuses of reclaimed industrial wastewater not otherwise excluded per [9VAC25-740-50.A.5](#) (see item B.2.b) must be entered under “Other reuses” in the third column of the table. Reuses involving below-ground drip irrigation and indirect potable reuse proposed after October 1, 2008, and indirect nonpotable reuse proposed after January 29, 2014, must also be entered under “Other reuses” regardless of the type of wastewater (domestic, municipal or industrial) used to produce the reclaimed water for these reuses. When entering indirect nonpotable reuse under “Other reuses”, briefly list beside “indirect nonpotable reuse” and in parenthesis the nonpotable reuses that will be part of the indirect nonpotable reuse (e.g., “indirect nonpotable reuse (closed loop cooling, irrigation of non-food crops)”). Do not list these nonpotable reuses separate from the indirect nonpotable reuse under “Other reuses” or check them if listed under “Level 1 reuses” or “Level 2 reuses” in the table for item C.6.b.

Additional information regarding “Other reuses” listed in item C.6 is requested in item C.8.

**C.7** Reclaimed water types and designated design flows of systems that produce reclaimed water. Complete information in the table provided, including the name of each system identified in item B.2 that will produce reclaimed water from wastewater or item B.4.a that will blend two or more reclaimed waters, all reclaimed water types that will be produced by the system, and the designated design flow of the system according to the following instructions.

1. Reclaimed water types. In item C.7, Level 1 and Level 2 reclaimed water types correspond with Level 1 and Level 2 treatment and standards for reclaimed *municipal* wastewater contained in the Water Reclamation and Reuse Regulation (see Appendix A of the addendum). For each system identified in item C.7 that will produce reclaimed water from *municipal* wastewater or a blend of two or more reclaimed waters produced from *municipal* wastewaters, refer to Appendix A to determine the treatment and standards (i.e., Level 1, Level 2 or both) that the system will be capable of achieving, and check the corresponding reclaimed water type(s) of the system in item C.7. If the system will be capable of achieving Level 1 treatment and standards, check the “Level 1” reclaimed water type for the system in item C.7, or the “Level 1” and “Level 2” reclaimed water types if the system will have separate discharge points and monitoring requirements for Level 1 and Level 2 reclaimed water. If the system will be capable of achieving only Level 2 treatment and standards, check only the “Level 2” reclaimed water type for the system in item C.7. If the system will not be capable of meeting Level 1 or Level 2 treatment and standards, and will not be modified to do so, do not check “Level 1” or “Level 2” reclaimed water types for the system.

Check the “Other” reclaimed water type for a system identified in item C.7 if the system:

- (i) Will produce reclaimed water from *industrial* wastewater or a blend of two or more reclaimed waters produced from *industrial* wastewaters, and will not otherwise be excluded per [9VAC25-740-50.A.5](#) (see item B.2.b);
- (ii) Will produce reclaimed water from *municipal* wastewater or a blend of two or more reclaimed waters produced from *municipal* wastewaters for reuses not listed under [9VAC25-740-90.A](#) (see Appendix B of the addendum). Reuses that are not listed may include, but are not limited to, below-ground drip irrigation and indirect potable reuse proposed after October 1, 2008, and indirect nonpotable reuse proposed after January 29, 2014; or
- (iii) Has or will have in the permit or authorization covering the system, reclaimed water treatment and standards for the reclamation of *municipal* wastewater that are other than or in addition to Level 1 or Level 2 treatment and standards, developed in accordance with [9VAC25-740-70.D](#). This applies whether reuses of such reclaimed *municipal* wastewater will be listed ([9VAC25-740-90.A](#)) or unlisted ([9VAC25-740-90.B](#)).

**Note:** Where a system identified in item C.7 will produce and provide reclaimed water to a system identified in item C.6.a for distribution to reuses identified in item C.6.b, the system in item C.7 must be capable of producing reclaimed water meeting the minimum treatment and standards, if established in regulation, a permit or an authorization, required for the reuses identified item C.6.b. For example, “Level 1 reuses” and “Level 2 reuses” identified in item C.6.b will require the system identified in item C.7 to produce reclaimed water meeting a minimum of Level 1 and Level 2 treatment and standards, respectively. “Other reuses” identified in item C.6.b having existing reclaimed water treatment and standards other than or in addition to Level 1 or Level 2 contained in an existing permit or authorization, will require the system identified in item C.7 to produce reclaimed water meeting a minimum of the other or additional treatment and standards. Where the system identified in item C.7 will not be able to produce reclaimed water meeting the minimum treatment and standards required for a reuse identified in item C.6.b and will be the sole provider of reclaimed water distributed to the reuse, remove the reuse from item C.6.b.

For a system identified in item C.7 that will produce reclaimed water from a blend of two or more reclaimed waters, analyses of the final blended reclaimed water may be required to determine or verify the reclaimed water type of that water. DEQ has the authority to request additional information to



complete the addendum, including but not limited to, analyses of blended reclaimed water in accordance with [9VAC25-31-100.F.1](#) and [9VAC25-32-60.A.1](#).

2. Designated design flow of systems producing reclaimed water. The designated design flow (DDF) refers the design flow of a reclamation system, conjunctive system<sup>1</sup> or satellite reclamation system that may be some percentage of or equal to the design flow of a WWTW providing source water to the system. The permitted design flow of a WWTW is the capacity at which the WWTW is designed to reliably treat an average 24-hour influent flow rate, assessed over a period of a month for all months of operation within a year, including appropriate peak factors provided to meet applicable reliability and redundancy requirements. The average 24-hour influent flow rate is based on projected estimates of influent flow to be received by the WWTW. **Note that DDF applies to systems that will produce reclaimed water from wastewater, but not to systems that will blend two or more reclaimed waters to produce another reclaimed water.**

- a. DDF based on WWTW flow. The DDF of a system identified in item C.7 that will produce reclaimed water, will be the design flow of the WWTW providing source water to the system where the system is either a conjunctive system or satellite<sup>1</sup> reclamation system. By definition, these systems consist of a WWTW and reclamation system having no or minimal separation of treatment processes between the treatment works and the reclamation system.
- b. DDF based on separate treatment. The DDF of a reclamation system identified in item C.7 that will produce reclaimed water will be the design flow of only the system's treatment train where such treatment will be separate from and frequently in addition to the treatment train of the WWTW providing source water to the system. The DDF of the reclamation system, in this case, will normally be less than the design flow of the WWTW where reclamation and reuse of the WWTW's effluent will be secondary to other options to eliminate the effluent (e.g., by discharge to surface water or land treatment), but may be equal to the design flow of the WWTW where reclamation and reuse is or may at any time become the primary option to eliminate the WWTW's effluent.

**Example #1:** A WWTW with a permitted discharge to surface waters and a design flow of 2.0 MGD is conjunctive system capable of producing Level 2 reclaimed water with no or minimal additional treatment. In this scenario, the DDF of the conjunctive system is the same as the design flow of the WWTW (2.0 MGD).

**Example #2:** Where the WWTW described in Example 1 will divert a portion of its flow to a separate reclamation system treatment train (e.g., additional filtration and higher level disinfection) to produce Level 1 reclaimed water for reuse, the DDF of the reclamation system is the design flow of the additional separate treatment needed to produce Level 1 reclaimed water.

**Example #3:** Where the WWTW described in Example 1 does not have a permitted discharge to surface waters and will divert all of its flow to additional separate filtration and higher level disinfection to produce Level 1 reclaimed water for exclusively reuse, the DDF of the reclamation system must be the design flow of the WWTW, 2.0 MGD.

- c. Design Flows for Regional Reclamation Systems. A regional reclamation system that receives source water from more than one WWTW for the production of reclaimed water will not, in most cases, have a DDF but will have a design flow the same as that required for WWTWs.

**C.7.a** Systems to be modified to produce reclaimed water types. An existing system identified in item C.7 may not be capable of achieving the treatment and standards required for all or any of the reclaimed water type(s) checked in item C.7 for that system. For example, an existing system identified in item C.7 proposes to produce Level 1 and Level 2 reclaimed water types from municipal wastewater, but is capable of achieving only Level 2 treatment and standards due to limitations of the system's current treatment processes. Under these circumstances, the existing system may be modified to achieve both Level 1 and Level 2 treatment and standards. Where an existing system will be modified<sup>2</sup> to achieve one or more reclaimed water types checked for that system in item C.7, enter the name of the system in the space provided. Enter the name of more than

one system, as needed. **Note: Existing systems proposing a modification<sup>2</sup> or expansion may be required to submit a preliminary engineering report (see item B.2.d).**

**C.8** Additional information regarding “Other reuses”. Reuses identified in item C.6.b as “Other reuses” may require the development of reclaimed water treatment and standards in addition to or other than Level 1 and Level 2 treatment and standards. Information provided in tem C.8 will be used by DEQ, as determined necessary and on case-by-case basis, to develop reclaimed water treatment and standards for each of these reuses in accordance with [9VAC25-740-90.B](#), [9VAC25-740-70.D](#) and [9VAC25-740-70.E](#).

For each reuse listed under “Other reuses” in item C.6.b, complete or attach the information in item C.8.a, item C.8.b if the reuse is indirect nonpotable or indirect potable, and item C.8.c if the reuse is indirect potable reuse. Per [9VAC25-740-10](#), indirect *potable* reuse is defined as the discharge of reclaimed water to a receiving surface water for the purpose of intentionally augmenting a water supply source, with subsequent withdrawal after mixing with the ambient surface water and transport to the withdrawal location, followed by treatment and distribution for drinking water and other potable water purposes. Indirect *nonpotable* reuse is defined as the discharge of reclaimed water to a receiving surface water for the purpose of intentionally augmenting a water source, followed by withdrawal from the water source with or without mixing and transport to the withdrawal location, for reuse or distribution for reuse other than indirect potable reuse.

If an alternate source of the information for items C.8.a and C.8.b has previously been submitted to DEQ for reuses other than indirect potable reuse and no changes have occurred or are anticipated that would require the submission of new or more current information for items C.8.a and C.8.b, a description or title of an alternate source of the information, including the DEQ regional office where it was submitted and the date of its submittal, may be provided in lieu of completing or attaching the same information in item C.8. Submit the information for items C.8.a, C.8.b and C.8.c for every application to issue or reissue a permit, or to issue an administrative authorization that will cover indirect potable reuse.

**C.8.a** General information. Complete general information for each reuse listed under “Other reuses” in item C.6.b, including the name of the reuse as identified in item C.6.b, and a description of the reuse, any known risks to human health associated with the reuse, public access and human exposure (including worker contact) to reclaimed water that will be caused by the reuse, the reclaimed water treatment necessary to prevent nuisance conditions by the reuse, and the potential for improper or unintended use of reclaimed water related to the reuse.

**C.8.b** Information for indirect nonpotable reuse (INPR) and indirect potable reuse (IPR). For each reuse identified in item C.8.a as INPR or IPR, complete the information indicated in item C.8.b (see instructions for items C.8.b(1) through (4)).

**C.8.b(1)** System discharging reclaimed water (unblended or blended) for INPR or IPR. INPR and IPR by definition, involve a discharge of reclaimed water to surface waters at a defined point, such as an outfall, which will require a VPDES permit. If a system identified in item C.6.a will discharge reclaimed water for the INPR or IPR identified in item C.8.a(1), provide the name of the system as identified in item C.6.a, and the VPDES permit number that will authorize the–discharge. If the discharge of reclaimed water is separate from other discharges to surface waters from the same system (e.g., separate from an outfall for an effluent discharge), additionally provide the mapping coordinates (latitude and longitude) of the reclaimed water discharge. If the system will have more than one separate discharge of reclaimed water for the INPR or IPR to surface waters, provide the mapping coordinates for each of these discharges.

**C.8.b(2)** Surface water receiving discharge of reclaimed water (unblended or blended) for INPR or IPR. Complete the name and check the type of the surface water to which the system identified in item C.8.b(1)(a) will discharge reclaimed water for the INPR or IPR. For only IPR, additionally provide a description of all uses other than IPR of the same surface water. Such other uses may include, for example, other types of water withdrawals unrelated to INPR or IPR, habitat for aquatic species, or recreational uses (boating, sport fishing, swimming, etc.). **Note: A surface water that will be part of an IPR project is considered a water supply source, and all uses of that surface water, including but not limited to, IPR, must be deemed acceptable by the Virginia Department of Health in accordance with the Waterworks Regulations ([12VAC5-590](#)).**

**C.8.b(3)** End user or waterworks that will withdraw from the surface water for INPR or IPR. Provide the name of each end user or waterworks that will withdraw water from the surface water named in item C.8.b(2)(a) for INPR or IPR. The end user or waterworks may be required to have a Virginia Water Protection (VWP) Permit for the withdrawal, or may be excluded from VWP permitting requirements in accordance with [9VAC25-210-310](#). As applicable, provide either the VWP Permit number or indicate that no permit is required for the withdrawal of the end user or waterworks.

For each point of INPR or IPR withdrawal by the end user or waterworks, provide the mapping coordinates (latitude and longitude) and verify that these coordinates correspond with coordinates for the same withdrawal in the VWP Permit, if required, for the withdrawal. From the discharge point of the reclaimed water (unblended or blended) identified in item C.8.b(1)(c) or the VPDES permit application for the discharge (see instructions for item C.8.b(1)), to the location of each INPR or IPR withdrawal identified in item C.8.b(3)(c), provide the approximate shortest distance by way of the surface water named in item C.8.b(2)(a) and the approximate residence or transport time of reclaimed water. At each point of INPR or IPR withdrawal, provide the approximate mixing ratio of discharged reclaimed water (unblended or blended) to ambient water.

**C.8.b(4)** Contractual agreement established between end user or waterworks and system. For each end user or water works identified in item C.8.b(3)(a) that will *not* be under common ownership or management with the system discharging reclaimed water (unblended or blended) for INPR or IPR identified in item C.8.b(1)(a), attach a copy of the contractual agreement established between the end user or waterworks and the system to the addendum. For INPR withdrawals by end users, the contractual agreement is to state, at a minimum, the responsibilities of each party to properly manage the reclaimed water (unblended or blended) for INPR in a manner protective of the environment and public health. For IPR withdrawals by waterworks, the contractual agreement must identify the responsibilities of each party to implement multiple barriers described in item C.8.c(1) (see also [9VAC25-740-100](#).D.3 and D.8).

**C.8.c** Information for only indirect potable reuse (IPR).

**Note #1: Prior to completing item C.8.c for projects proposing IPR, schedule a pre-application meeting with the DEQ Regional Office covering the area where the project will be located. DEQ may require additional or more detailed information for the IPR proposal determined on a case-by-case basis.**

**Note #2: Do not describe or reference information previously submitted to DEQ to complete item C.8.c. The information requested in item C.8.c must be submitted with the initial application and each application to reissue the VPDES permit authorizing the IPR.**

For each reuse identified in item C.8.a as IPR, attach to addendum the information indicated in item C.8.c (see instructions for items C.8.c(1) through (4)).

**C.8.c(1)** Description of multiple barriers for IPR. Describe the multiple barriers that will be implemented by the system identified in item C.8.b(1)(a) and the waterworks identified in item C.8.b(3)(a) to produce water of a quality suitable for the IPR. Multiple barriers must include, at a minimum, those listed in items C.8.c(1)(a) through (e) (see further details below). **Note: Pursuant to 9VAC25-740-90.C.2, all reclaimed water generated by a reclamation system or conjunctive system<sup>1</sup> for IPR shall meet, at a minimum, Level 1 reclaimed water standards, reclaimed water standards developed pursuant to 9VAC25-740-90.B, and any other standards that may apply, including but not limited to, the Water Quality Standards ([9VAC25-260](#)) and total maximum daily loads (TMDLs). Where there is more than one standard for the same pollutant, the more stringent standard shall apply.**

**C.8.c(1)(a)** Contaminant source control and protection. This involves the control of contaminants with the potential to adversely impact public health by preventing or minimizing the entry of such contaminants into the wastewater collection system that will deliver source water to the reclamation system or conjunctive system<sup>1</sup>, or the surface water to which reclaimed water (unblended or blended) is discharged and subsequently withdrawn by a waterworks for the IPR. In accordance with [9VAC25-740-100](#).D.3.a, contaminant source control and protection for the IPR must, at a minimum, (i) address pretreatment requirements for SIUs in accordance with [9VAC25-740-150](#).E, (ii) address education requirements in accordance with [9VAC25-740-170](#).A.1, and (iii) describe other measures to reduce the introduction of contaminants from domestic sources that may include, but

are not limited to, community collection programs for hazardous wastes and unused pharmaceuticals. **Note: Where the reclamation system or conjunctive system<sup>1</sup> is also required to submit a reclaimed water management (RWM) plan (see Section D of the addendum), the system's Education and Notification program in the RWM plan (see item D.2.c) may include and incorporate by reference the education requirements of contaminant source control and protection for the IPR.**

**C.8.c(1)(b)** Effective and reliable treatment. This involves the use of treatment processes at both the system and the waterworks that, in combination with any natural attenuation provided by the surface water identified in item C.8.b(2)(a), will reliably achieve the water quality necessary for the IPR. A description of treatment processes for the system may be satisfied by referencing the design description for the same system provided in item C.3. **Note: In accordance with [9VAC25-740-130.C](#), reclamation systems, conjunctive systems<sup>1</sup>, and pump stations must meet Reliability Class I as defined in [9VAC25-740-10](#) if they are identified as a component of an IPR project in the addendum. No exception or variance shall be granted for this requirement.**

**C.8.c(1)(c)** Environmental buffers and natural attenuation. This involves the use of an environmental buffer, specifically the surface water identified in item C.8.b(2)(a), to provide further removal or degradation of certain contaminants when exposed to naturally occurring physical, chemical, and biological processes in the environment over time.

**C.8.c(1)(d)** Monitoring programs. This involves monitoring at progressive stages of treatment or barriers of the project to verify that they are working effectively and reliably to achieve the necessary water quality for the IPR. This monitoring may (i) occur at or within the three primary components of the IPR project, including the system, the waterworks, and the surface water; and (ii) include operational monitoring in addition to compliance monitoring required by the VPDES Permit authorizing the discharge of reclaimed water (unblended or blended) to the surface water, the VWP Permit authorizing the water withdrawal from the surface water by the waterworks, and the Waterworks Operation Permit authorizing the production and distribution of finished potable water.

**C.8.c(1)(e)** Responses to adverse conditions – contingency plan and notification program. To address those circumstances where the system may experience a catastrophic treatment failure that cannot be corrected by subsequent treatment or barriers, or fails to produce reclaimed water meeting the standards or limits at the point of discharge to the surface water for the IPR project, the system must have (i) a contingency plan that describes all alternatives to be implemented in lieu of discharging substandard reclaimed water to the surface water, and (ii) a notification program as described in [9VAC25-740-170.A.2](#).

**C.8.c(2)** Evaluation of combined effectiveness of multiple barriers. Evaluate the combined effectiveness of all barriers described in item C.8.c(1) to achieve the water quality necessary for the IPR. For an existing IPR project, the evaluation is to include among other items, summaries of operational and reclaimed water monitoring data, failures to achieve the water quality necessary for the IPR, and as applicable, measures that have been or will be implemented to identify and correct ineffective barriers. For a proposed IPR project, the combined effectiveness of the multiple barriers may be based on the combined effectiveness of similar multiple barriers implemented for similar existing IPR projects.

**C.8.c(3)** Information to establish reclaimed water standards and monitoring requirements for IPR. Due to the complexity of IPR projects, DEQ must evaluate and establish reclaimed water standards and monitoring requirements for IPR on a case-by-case basis in accordance with [9VAC25-740-90.B](#). For this evaluation, submit applicable modeling of contaminants introduced by the discharge of reclaimed water (unblended or blended) from the system identified in item C.8.b(1)(a) to the surface water identified in item C.8.b(2)(a) for IPR, and any other information deemed necessary by DEQ. See also Note #1 in the instructions for item C.8.c.

**C.8.c(4)** Water balance for the IPR project. In a water balance for the IPR, account for the volumes of reclaimed water (unblended or blended) to be generated, stored and discharged by the system identified in item C.8.b(1)(a) to the surface water identified in item C.8.b(2)(a), and withdrawn from the same surface water by the waterworks identified in item C.8.b(3)(a). Refer to the VWP permit issued to the waterworks for the authorized water withdrawal volumes. Mixing ratios provided in item C.8.b(3)(e) may be used to approximate the volume of reclaimed water that may be withdrawn by the waterworks as some percentage of the total water withdrawn (reclaimed water and ambient water) by the waterworks. **Note: Any changes by the system identified in**

**C.8.b(1)(a) to distribute reclaimed water (unblended or blended) to other reuses or end users in addition to the IPR identified in item C.8.a(1) will require the submission of a RWM plan for the system. In this case, the system's water balance in the RWM plan (see item D.1.d) must include the water balance for the IPR, which may be incorporated by reference.**

**C.9** Auxiliary plan. An auxiliary plan describes measures to be immediately implemented for the management of wastewater and reclaimed water by a conjunctive system<sup>1</sup> or satellite reclamation system in the event that the demand for reclaimed water from the system is significantly reduced or ceases. An auxiliary plan is required for only those conjunctive systems<sup>1</sup> and satellite reclamation systems that meet the following criteria ([9VAC25-740-100.B.7](#)):

1. The system relies primarily or completely on water reclamation and reuse to eliminate wastewater;
2. The system relies on irrigation as the primary or only reuse of reclaimed water, *or* on one or more end users, each consuming a significant volume of reclaimed water such that the ability of the conjunctive system<sup>1</sup> or satellite reclamation system to manage wastewater would be adversely impacted if the end user(s) were to discontinue receiving reclaimed water from the system; *and*
3. The system does not have the ability to implement *two or more* of the following options:
  - Reclaimed water storage
  - The discharge of reclaimed water to another permitted reuse system
  - In the case of a conjunctive system<sup>1</sup>, the discharge of reclaimed water to a surface water of the state under a VPDES permit
  - In the case of a satellite reclamation system, the discharge of reclaimed into the sewage collection system from which it received source water for reclamation
  - Suspension of reclaimed water production for planned periods

For each conjunctive system<sup>1</sup> and satellite reclamation system identified in item B.2 that will require an auxiliary plan, complete items C.9.a, C.9.b and, if applicable, C.9.c

**C.9.a** Enter the name of the conjunctive system<sup>1</sup> or satellite reclamation system as identified in item B.2 requiring an auxiliary plan.

**C.9.b** In the space provided, describe the auxiliary measures to be immediately implemented by the system identified in item C.9.a to manage wastewater and reclaimed water in the event that primary reuses of reclaimed water generated by the system cease or fail.

**C.9.c** If auxiliary plan measures described in item C.9.b are currently authorized by a DEQ permit but the permit, in this case, is or will be different from the permit that will authorize the conjunctive system<sup>1</sup> or satellite reclamation system identified in C.9.a, complete information regarding the applicable type and number of the DEQ permit covering the auxiliary plan measures.

**C.10** Reclaimed water distribution system - ancillary components, reclaimed water type, location map and analyses. For each reclaimed water distribution system identified in items B.2 or B.3.a, excluding distribution systems that are reclaimed water hauling operations identified in item B.5, provide the information, map and analyses specified for items C.10.a through C.10.c (see further details below). If alternative sources of the information and attachments for items C.10.a, C.10.b or C.10.c have previously been submitted to DEQ and no changes have or will occur that would require the submission of new or more current information or materials, descriptions or titles of the alternate sources, including the DEQ regional office where they were submitted and the date of their submittal, may be provided in lieu of completing items C.10.a, C.10.b or C.10.c.

**C.10.a** Ancillary components and reclaimed water type. For each reclaimed water distribution system, complete information in the table provided, including the name of the system as identified in B.2 or B.3.a, the number of pump stations and filling stations that will be part of the system, and the reclaimed water type (e.g., Level 1, Level 2 or other) that will be conveyed by the system to end uses or users. If a distribution system will blend different reclaimed water types prior to distribution for reuse, refer to items B.4.c and C.7 to determine the type of the blended reclaimed water.

**C.10.b** Distribution system map. For each reclaimed water distribution system identified in C.10.a, attach to the addendum a scaled map that displays the name of the distribution system, legends, and the location of all mains, primary lateral pipelines, storage facilities, pump stations, and filling stations that will be part of the system. Ensure that the number of pump stations and filling stations displayed on the map corresponds with the number of pump stations and filling stations provided in item C.10.a for the same reclaimed water distribution system.

**C.10.c** Reclaimed water analyses. For each reclaimed water distribution system identified in C.10.a, attach to the addendum all measurements and analyses of reclaimed water monitored at or within the distribution system, and during the 12 most recent months prior to the submittal date of the addendum. Measurements and analyses may include, but are not limited to, those (i) required by a DEQ permit covering the distribution system, or (ii) performed independent of a permit issued by DEQ. Monitoring at or within the distribution system applies to monitoring of mains, primary lateral pipelines, storage facilities, pump stations and filling stations that are part of the distribution system.

## **D. Reclaimed water management (RWM) plan.**

**General instructions.** A RWM plan is required for a new or expanding system identified in item B.2 that will act as a reclaimed water agent by distributing reclaimed water directly to one or more end users, including an end user that is also the applicant or permittee. For each system requiring a RWM plan, provide (i) the information specified in item D.1, (ii) all applicable information specified in item D.2 if the system will not be the exclusive end user of the reclaimed water that it distributes (i.e., the system will distribute reclaimed water to end users in addition to or other than the owner or management of the system), and (iii) all applicable information specified in item D.3 if the system will distribute reclaimed water to end users that include, but are not limited to, the system for irrigation reuse. Where the system identified in item B.2 is also identified in item B.5 as a reclaimed water hauling operation, do not include a RWM plan in the addendum for that system.

Alternative sources of the information specified in Section D may be referenced in lieu of completing or attaching items under Section D where such information has previously been submitted to DEQ and no changes have occurred or will occur that would require the submission of new or more current information. Exceptions to referencing alternative sources are noted in the following instructions.

Updates to an existing RWM plan to add new end users or new reuses may be submitted with or independent of a permit application to reissue or modify the VPDES or VPA permit authorizing the water reclamation and reuse project (see also instructions for item D.2.g).

Where multiple systems acting as reclaimed water agents are to be authorized by the same permit, one or more RWM plans may be required for all the systems determined by a variety of factors (e.g., the number and proximity of the systems to each other, types of reclaimed water to be delivered by each, etc.). In this case, contact the DEQ Regional Office covering the area where the project named in item A.1 will be located to determine the need for more than one RWM plan.

A RWM plan is not required where the project named in item A.1 includes a reclamation system or conjunctive system<sup>1</sup> that will distribute reclaimed water to exclusively indirect *potable* reuse (IPR) as indicated in items C.6 and C.8. Where the project named in item A.1 includes a reclamation system or conjunctive system<sup>1</sup> that will distribute reclaimed water to exclusively indirect *nonpotable* reuse, contact the DEQ Regional Office covering the area where the project will be located to determine the need for application information in addition to or in lieu of a RWM plan. Where the same system will distribute reclaimed water to IPR and to other reuses or end users in addition to IPR, provide the information that applies to the IPR in items C.8.a through C.8.c, and submit a RWM plan.

**D.1 Information required for all RWM plans.** For all RWM plans required for systems identified in item B.2, provide the information specified in items D.1.a through D.1.d.

**D.1.a.** Names of all systems that will be covered by the RWM plan. A RWM plan may cover more than one system (e.g., reclamation system, conjunctive system<sup>1</sup>, satellite reclamation system, and reclaimed water

distribution system). Provide the names of all systems as identified in items B.2 that will be covered by the RWM plan. Do not include reclaimed water hauling operations identified in item B.5.

**D.1.b.** Description and map of the service area. A RWM plan must contain a description and map of the expected service area for the term of the permit that will be issued to the project identified in item A.1 (i.e., five years for a VPDES permit or ten years for a VPA permit). The service area is the geographic area that will receive reclaimed water directly from the system(s) named in the RWP plan per item D.1.a for reuses identified in item C.6.

In the service area description, include, at a minimum, the size and geographic boundaries of the service area, and the current and projected number of end users within the service area that will receive reclaimed water from the system(s) named in the RWM plan. On the service area map, display the location of all reclaimed water reuses according to reuse categories that include, at a minimum, urban-unrestricted access, irrigation-unrestricted access, irrigation-restricted access, landscape impoundments, construction, and/or industrial. For each system that will be covered by the RWM plan, determine which reuse categories will apply by (i) comparing the reuses identified in item C.6 of reclaimed water (unblended or blended) distributed by the system with reuses listed in Appendix B of the instructions, and (ii) finding a matching reuse and corresponding reuse category. For the purposes of the service area map, a reuse listed in the last column (“Other reuses”) of the table in item C.6 may be included in a reuse category listed above where the reuse has been previously approved by DEQ and is similar to other reuses within the reuse category. A reuse listed in the last column of item C.6 that is unlike the reuses of any reuse category listed above, is to be added as a new and separate reuse category to display on the map whether it has or has not been previously approved by DEQ. Where two or more reuse categories will be displayed on the map, particularly where they occur within the same area, a legend of the reuse categories is recommended.

The service area map must show and identify the geographic boundaries of the service area, and the location of all public potable water supply wells and springs, and public water supply intakes within these boundaries. This information is available upon request from the Virginia Department of Health, Office of Drinking Water at central and field office locations (<http://www.vdh.virginia.gov/drinking-water/contact-us/>).

For each system that will (i) be covered by the RWM plan per item D.1.a, and (ii) provide reclaimed water to a reclaimed water hauling operation identified in item B.5, do not include the service area of the hauling operation in the service area description and map of the RWM plan covering the system. Hauling operations are required to submit a separate RWM plan that includes a description and map of their service area in the Application for Reclaimed Water Hauling Operations. Where the hauling operation will be covered by the same permit or authorization to be issued to the project identified in item A.1, the service area description and map contained in the RWM plan of this addendum may reference the service area information contained in the RWM plan for the hauling operation.

**Note: The service area descriptions and maps must be included in the applicable RWM plans submitted under Section D, and updated with each application to renew the permit covering the project named in item A.1. Do not reference alternative sources to provide this information.**

**D.1.c.** Inventory of storage. Submit a current inventory of reject water storage, and reclaimed water system and nonsystem storage facilities. In each inventory, include (i) only reject water storage and system storage facilities that will be under common ownership or management with systems covered by the RWM plan, and (ii) nonsystem storage facilities that will be located within the service area of and receive reclaimed water directly from systems covered by the RWM plan. Also include all amendments that have been made to an existing inventory to ensure that it is current. For each storage facility contained in the inventory, provide or, as applicable, update the following information:

1. Name or identifier,
2. Location (including latitude and longitude at the center of the facility),
3. Function (i.e., reject water storage, system storage or non-system storage),
4. Type (i.e., covered tank, uncovered tank, lined pond, unlined pond, etc.),

5. Design capacity, and
6. Location (latitude and longitude) and distance of the nearest potable water supply well and spring, and public water supply intake, to each storage facility within 450 feet of that facility. Distance is to be measured from the perimeter of a storage facility to the nearest point of these water supply features.

Facilities included in the storage inventory must comply with applicable design, construction and operation requirements specified in [9VAC25-740-110.C](#). Where a facility is unable to meet these requirements, a variance for the facility may be requested of and granted by DEQ in accordance with [9VAC25-740-55](#).

**D.1.d.** Water balance. Submit a water balance for each system to be covered by the RWM plan (See item D.1.a) that accounts for all annual average and monthly average inputs and outputs (by volume) of reclaimed water by the system. Inputs and outputs of each water balance are to include the following:

1. Reclaimed water to be generated or received. This is the reclaimed water to be generated by the system, received by the system from other systems (e.g., reclamation systems, conjunctive systems<sup>1</sup>, satellite reclamation systems and reclaimed water distribution systems), or both. Other systems in this case, may be under common ownership or management with the system (see item B.2), or not (see item B.3).
2. Reclaimed water to be stored. This is the reclaimed water to be stored in system and nonsystem storage facilities that are included in the storage inventory (see item D.1.c) and under common ownership or management with the system. This does not include storage for substandard reclaimed water in reject water storage facilities. Refer to [9VAC25-740-110.C](#) for design requirements of reclaimed water storage facilities. Precipitation data used to design uncovered reclaimed water system storage facilities should be based on the wettest growing season over the most recent 25-year interval.
3. Reclaimed water to be reused. This is the reclaimed water to be reused by all end users that will receive reclaimed water from the system, including but not limited to, an end user that is the system. Reuse must include projected reclaimed water demands for each reuse category that is displayed on the service area map of the RWM plan (see item D.1.b). If reuses will include INPR or IPR (see items C.6 and C.8), which involve a discharge to surface waters, include these reuses under “reclaimed water to be reused” and not “reclaimed water to be discharged or disposed” in the water balance.

Where the system will distribute reclaimed water to IPR, and to other reuses or end users in addition to IPR, the system’s water balance in the RWM plan must include the water balance developed for only IPR in item C.8.c(4). Where the system will distribute reclaimed water to exclusively IPR, do not include the water balance for IPR in the system’s water balance in item D.1.d.

4. Reclaimed water to be discharged or disposed. This is the reclaimed water to be discharged or disposed by the system, and may be in lieu of or in addition to other management options (e.g., storage or retreatment). Reclaimed water may be discharged, for example, from a conjunctive system to a surface water for purposes other than IPR or INPR, or from a satellite reclamation system to a sewage collection system. An example of reclaimed water disposal may be via a land treatment system described in the Sewage Collection and Treatment Regulations ([9VAC25-790](#)).

Where the system will be a conjunctive system, only that portion of the system’s effluent diverted to reclamation and subsequently discharged to surface waters is to be considered discharged in the water balance. This would apply, for example, where the quality of the reclaimed water produced by the system is found to be substandard for the intended reuses but complies with the effluent limits of the VPDES permit issued to the conjunctive system.

Discharge or disposal of reclaimed water included in the water balance must be authorized by a DEQ permit. Leaks of reclaimed water from storage or distribution are not acceptable methods of discharge or disposal, and are not to be included in the water balance.

The water balance for a system covered by the RWM plan is not the same as a water balance that may be needed to demonstrate supplemental irrigation at a bulk irrigation reuse site. However, water balances for the RWM plan are to include bulk irrigation reuse as an output where this reuse is included in any of the reuse categories displayed on the service area map of the RWM plan (see item D.1.b).



**D.2 Additional information required for RWM plans.** For each system that will (i) be covered by the RWM plan (see item D.1.a) and (ii) not be the exclusive end user of reclaimed water it distributes for reuse, provide for the RWM the information specified in items D.2.a through D.2.g that applies.

**D.2.a.** Example service agreements or contracts. Submit one or more examples of service agreements or contracts to be established between the system and end users regarding implementation of and compliance with the system's RWM plan.

DEQ Water Guidance Memorandum No.10-2001, Revision 1 (GM 10-2001, Rev. 1) contains the minimum water reclamation and reuse conditions for service agreements or contracts. These include general conditions, followed by other conditions that are specific to reuse categories (i.e., urban unrestricted access, irrigation-unrestricted access, irrigation-restricted access, landscape impoundments, construction, industrial, and others established on a case-by-case basis). The minimum general conditions to include in all service agreements or contracts are the following:

1. A condition that:
  - a. Specifies the type(s) of reclaimed water to be provided by the system to the end user (e.g., reclaimed water meeting, at a minimum, Level 1 or Level 2 standards, or standards established by DEQ on a case-by-case basis and contained in the permit or authorization issued to the system), and
  - b. Lists the intended reuses of the reclaimed water type(s) by the end user. Reuses listed in the service agreement or contract must be among those listed in item C.6 of the addendum and approved by the DEQ.
2. A condition that requires the end user to notify and receive authorization from the system for new reuses or changes to existing reuses of reclaimed water by the end user prior to initiating these reuses. Authorization of new or changed reuses may require the addition of new conditions or the modification of existing conditions contained the service agreement or contract.
3. A condition stating that the system shall reserve the right to perform routine or periodic inspections of the end user's reclaimed water reuses and, as applicable, storage facilities; and to terminate the agreement or contract with and withdraw service to the end user for any failure by the end user to comply with the terms and conditions of the agreement or contract if corrective action for such failure is not taken by the end user.
4. A condition requiring end users that are property owners to report all potable and non-potable water supply wells on their property to the system.
5. A condition that prohibits the following by end users:
  - a. Direct potable reuse of reclaimed water;
  - b. The reuse of reclaimed water for food preparation or incorporation as an ingredient into food or beverage for human consumption;
  - c. The return of reclaimed water to the reclaimed water distribution system after the reclaimed water has been delivered to an end user; and
  - d. Overspray of surface waters, including wetlands, from irrigation or other reuses of reclaimed water.
6. A condition stating that there shall be no nuisance conditions (e.g., ponded water that attracts mosquitoes or other vectors, strong odors that are the subject of frequent and wide spread complaints from the surrounding community, and any condition determined by a court of law to be a nuisance condition) resulting from the distribution, storage or use of reclaimed water.

Other general conditions may apply as indicated in GM 10-2001, Rev. 1.

Conditions specific to a reuse category will apply when the reuse category is identified within the service area of a RWM plan (see instructions for item D.1.b). Where there will be more than one reuse category within the service area, it is recommended that the example service agreement or contract include general conditions and divide all other conditions into modules according to reuse categories. This is similar to the organization of

water reclamation and reuse conditions for service agreements or contracts contained in GM 10-2001, Rev. 1. The modules may then be included in or removed from an actual service agreement or contract determined by the applicability of conditions in each module to the particular reuses of the end user.

For reuses of reclaimed water that are listed in reuse categories other than urban-unrestricted access, irrigation-unrestricted access, irrigation-restricted access, landscape impoundments, construction or industrial, the DEQ RO may require the inclusion of additional or modified conditions in an actual service agreement or contract between the reclaimed water agent and end user(s).

**D.2.b.** Monitoring of end users. Provide a description of how end users will be monitored by the system to verify that the end users are complying with the terms of the service agreements or contracts they have with a system. Monitoring must include, at a minimum, metering of end users' reclaimed water consumption (by volume); and may also include inspection of end users' reuses and, as applicable, storage facilities.

**D.2.c.** Education and Notification (E&N) program. Submit an E&N program for the system only where reuses of reclaimed water distributed by the system and located within the service area of the RWM plan will (i) require Level 1 reclaimed water (see Appendix B), (ii) be in areas accessible to the public, or (iii) be likely to have human contact. This may apply to reuses of water reclaimed from domestic, municipal or industrial wastewater where standards for the reclaimed water are or will be established to protect human health in the event that human contact with the reuses is likely. An E&N program would not apply, for example, to reuses of Level 2 reclaimed water, which is not suitable for reuses with potential for human contact.

The E&N program must include, at a minimum, components for education, notification, and mode of communication; and each component is to contain the information or procedures specified in [9VAC25-740-170.A](#).

Where the system will distribute reclaimed water to IPR and to other reuses or end users in addition to IPR, the system's E&N program may include and incorporate by reference the education requirements of contaminant source control and protection for the IPR (see item C.8.c(1)(a)).

**D.2.d.** Cross-Connection and Backflow Prevention (CCBP) program. Where the system is a reclaimed water distribution system, as identified in item B.2, submit a CCBP program that includes, at a minimum, the following:

1. An evaluation for potential cross-connections of the distribution system to a potable water system. A similar evaluation for potential cross-connections of the distribution system to a sewage collection system is recommended when any portion of a sewage collection system will be located near the distribution system, and the distribution is under minimal pressure.
2. An evaluation for potential backflow and the public health risks associated with such backflow from industrial end users to the distribution system.
3. A description of inspections to be performed by the owner identified in item A.2 at the time end users connect to the distribution system and periodically thereafter (e.g., once per year or more often) to prevent cross-connections to a potable water system or, if applicable, a sewage collection system; and to prevent backflow from industrial end users. **Note: These inspections are only required where evaluations performed per items 1 and 2 above determine that there exists the potential for (i) cross-connection between the distribution system and a potable water system or sewage collection system, or (ii) back flow to the distribution system from industrial users and with public health risks.**

**D.2.e.** Reclaimed water quality maintenance and contingency measures in the distribution system. Where the system is a reclaimed water distribution system, as identified in item B.2, provide a description of how reclaimed water quality will be maintained in the distribution system to meet the minimum standards, excluding corrective action threshold standards, for the intended reuses of the reclaimed water in compliance with [9VAC25-740-90](#). The level of detail in the description will be determined by various characteristics of the distribution system, including but not limited to, size and gradient; pressure within; volume and type (e.g., covered or uncovered) of system storage that will be part of the distribution system; and quality of reclaimed

water to be delivered by the distribution system based on the intended reuses of that water. Also include in the description the number and location of reclaimed water points of compliance (POCs) within the distribution system. POCs are associated with reclaimed water monitoring of the distribution system, which is or may be required where degradation of reclaimed water quality below required standards for the intended reuses occurs in storage or during distribution.

To address circumstances where reclaimed water quality in the distribution system does not meet minimum standards for the intended reuses of that water, provide a description of contingency measures that will be implemented to eliminate or minimize the potential to deliver such water from the system to the reuses. This also applies to reclaimed water quality in system storage that is part of the distribution system. Contingency measures to address substandard reclaimed water in the distribution system are short-term actions not intended to replace routine maintenance of the system, and may include but are not limited to, emergency repairs, a supplemental treatment or retreatment step (e.g., additional disinfection) at those locations where degradation of the reclaimed water is occurring, diverting to only reuses for which Level 2 reclaimed water is authorized and the substandard reclaimed water meets a minimum of Level 2 standards (e.g., applicable where the distribution system is authorized to deliver Level 1 reclaimed water under non-contingency circumstances), or diverting to a VPDES or VPA permitted effluent disposal system provided the water meets the effluent limits of the permit. A discharge of substandard reclaimed water from the distribution system to a sanitary sewer may be another acceptable contingency measure where allowed under local sewer use ordinances and authorized by DEQ. A discharge of substandard reclaimed water from a distribution system to a storm drain is not an acceptable contingency measure.

Where the distribution systems will be authorized to provide reclaimed water to reuses that require Level 1 reclaimed water, will be in areas accessible to the public, or are likely to have human contact, include in the description of contingency measures a reference to and procedures to coordinate with the E&N program submitted for the same system under item D.2.c.

**D.2.f.** Auxiliary plan. Information regarding an auxiliary plan is to be provided in item C.9 for each conjunctive system<sup>1</sup> or satellite reclamation system identified in item B.2 meeting specific criteria contained in [9VAC25-740-100.B.7](#) (see also instructions for item C.9). Where the same system will be covered by the RWM plan (see item D.1.a), enter the name of the system as identified in the RWM in the space provided.

**D.2.g.** Information for new end users or new reuses. Where the system is currently covered by the RWM plan, the RWM plan has previously been approved by DEQ, and the system proposes to distribute reclaimed water to new end users or new reuses that have not been approved by DEQ as of the submittal date of the addendum, submit the following information to update the RWM plan:

1. All proposed new end users. Provide the number and identity of all proposed new end users with which the system will establish a service agreement or contract (see item D.2.a). Where there will be two or more new end users in proximity of each other and receiving reclaimed water from the same system for similar reuses (e.g., individual end users within a residential development or a residential high rise), the new end users may be identified as a group rather than individually. If identifying end users by a group, indicate the number of end users in each group. Also, include the number of all proposed new end users in the projected number of end users included in the description and map of the RWM plan (see item D.1.b);
2. All proposed new reuses. Identify all proposed new reuses and ensure that these reuses are also identified in item C.6 (see instructions for item C.6);
3. All proposed new reclaimed water types. Identify all proposed new reclaimed water types (e.g., Level 1, Level 2 or other) to be distributed by the system to new end users or new reuses identified in 1 or 2 above, respectively; and ensure that the new reclaimed water types are also identified in item C.7. Where changes to the system will be necessary to enable it to distribute new reclaimed water types to new end users or new reuses, also describe these changes in the RWM plan. Where a preliminary engineering report (PER) is attached to the addendum per item B.2.d and describes these changes, the RWM plan may reference the PER;

4. Maximum monthly and maximum annual reclaimed water demands (in units of million gallons) of all new end users, new reuses, or both, as applicable. If the system will distribute more than one reclaimed water type to new end users or new reuses, provide this information separately for each reclaimed water type; and
5. Maximum monthly and maximum annual reclaimed water capacities of the system (in units of million gallons). Where expansion of the system is proposed, provide the system's current and future available reclaimed water capacities, and ensure that this information is consistent with the PER, if required, and submitted per item B.2.d. If more than one reclaimed water type will be produced by the system, provide this information separately for each reclaimed water type.

When determining the volume of reclaimed water an existing authorized system has or may have available to distribute to existing and new end users and new reuses, various factors should be considered, including but not limited to, the type of system distributing the reclaimed water, common or separate ownership or management of connected systems, and reclaimed water storage in the system(s). For example, where the system is a reclamation system, the designated design flow of the system will represent, in many cases, the maximum reclaimed water available for existing and new end users and new reuses. Where the system is a reclaimed water distribution system and under separate ownership or management from the reclamation system that provides reclaimed water to the distribution system, the maximum amount of available reclaimed water for existing and new end users and new reuses may be some percentage of the reclamation system designated design flow. The reclaimed water distribution system may also receive reclaimed water from more than one reclamation system and from other reclaimed water distribution systems. A reclamation system or reclaimed water distribution system may have additional available reclaimed water in storage that is part of the system.

Where the system is a reclamation system and the designated design flow of that system will be increased to meet the reclaimed water demands of existing and new end users or new reuses, a new or revised CIA may be required for the reclamation system (see item C.2). Contact the DEQ Regional Office that authorized the existing reclamation system with questions regarding a new or revised CIA that may be required as a result of the system adding new end users or new reuses of reclaimed water.

**Note: Information for new end users or new reuses must be included in the applicable RWM plans submitted under Section D. Do not reference alternative sources to provide this information.**

**D.3 Irrigation reuse information required for RWM plans.** For each system that will (i) be covered by the RWM plan (see item D.1.a) and (ii) distribute reclaimed water to end users including, but not limited to, the system for irrigation reuse, include in the RWM plan the information specified in items D.3.a through D.3.g that applies to the system.

**D.3.a.** Name of system. In the space provide, enter the name of the system as identified in the RWM plan covering the system.

**D.3.b.** Type of irrigation reuse. Check all boxes that represent the type(s) of irrigation reuse by end users receiving reclaimed water from the system identified in item D.3.a. Bulk irrigation reuse is the reuse of reclaimed water for irrigation of a total area greater than five acres on one contiguous property. Nonbulk irrigation reuse is the reuse of reclaimed water for irrigation of a total area less than or equal to five acres on one contiguous property. **Note: Land treatment of wastewater as described in the Sewage Collection and Treatment Regulations ([9VAC25-790-880](#)) is not considered irrigation reuse of reclaimed water, and is specifically excluded from the requirements of the Water Reclamation and Reuse Regulation. Do not include irrigation associated with land treatment as irrigation reuse when identifying types of irrigation reuse in item D.3.b.**

**D.3.c.** Supplemental irrigation with reclaimed water. In the space provided, enter a description of how the system, will ensure that end users, including the system, will achieve supplemental rates of irrigation with reclaimed water. Supplemental irrigation is defined in the Water Reclamation and Reuse Regulation (9VAC25-740) as irrigation, which in combination with rainfall, meets but does not exceed the water necessary to maximize production or optimize growth of the irrigated vegetation. Include in the description the following that apply based on the type(s) of irrigation reuse checked item D.3.b:

1. For nonbulk irrigation reuse, describe (i) educational materials and instructions to be provided to non-bulk irrigation end users, explaining how supplemental irrigation is to be achieved in a manner protective of the environment and public health, and (ii) how this information will be distributed to end users. At a minimum, this information is to be provided to nonbulk irrigation end users at the time of their initial connection to the system for reclaimed water service (e.g., in the service agreement or contract between the system and end user), and may be distributed with other information regarding nutrient management for nonbulk irrigation reuse (see item D.3.g).
2. For bulk irrigation reuse by end users, including the system, describe the methodology(s) that will be used to calculate supplemental irrigation. Supplemental irrigation is based largely on the water demands of the irrigated vegetation and is most often correlated with the evapotranspiration rate of the vegetation, minus inputs from rainfall. Refer to GM 10-2001, Rev. 1 for several accepted methods to calculate the water demand at irrigation reuse sites. Because factors affecting the water demand vary from day to day, the rate of supplemental irrigation must be calculated for every day that bulk irrigation reuse with reclaimed water occurs. Supplemental irrigation may be calculated manually or with use of automated weather-based irrigation controllers.

As defined in 9VAC25-740-10, supplemental irrigation may allow the application of water (reclaimed or other) in addition to that volume lost to evapotranspiration by the crop where the additional water will “maximizes production or optimizes growth of the irrigated vegetation”. This may be necessary to leach salts that have accumulated in the soil from reclaimed water or other sources when the concentrations of the salts adversely affect the productivity or growth of the irrigated vegetation. Where it is demonstrated by the system or an end user other than the system that (i) salts will accumulate or have accumulated to undesirable levels in the soil of the irrigation reuse site, and (ii) the application of reclaimed water will not contribute or has not contributed significantly to the salt problem, an additional volume of reclaimed water less than or equal to ten percent of the water lost to evapotranspiration by the irrigated vegetation may be used for leaching and is to be added to evapotranspiration losses to calculate supplemental irrigation. Given a similar scenario but where the application of reclaimed water will contribute or has contributed significantly to the salt problem, no volume of reclaimed water in addition to that lost to evapotranspiration by the irrigated vegetation may be used to leach salts from soils at the irrigation reuse site. In this case, any additional volume of water required for leaching must be from sources other than reclaimed water, be low in salts (e.g., rainwater, potable water, etc.), and included as an input in the calculation of supplemental irrigation.

**Note: Where a bulk irrigation reuse site will receive non-BNR reclaimed water (see item D.3.d) from the system, supplemental irrigation cannot cause nutrient loads from the application of non-BNR reclaimed water to exceed the nutrient recommendations contained in the nutrient management plan for the site (see item D.3.f).**

**D.3.d.** Nutrient content of reclaimed water. Check the box or boxes that represent the nutrient content of reclaimed water to be distributed by the system to irrigation reuse. Nutrient content relates to the concentrations of total nitrogen (N) and total phosphorus (P), and for the purposes of the addendum, is expressed in terms of Biological Nutrient Removal (or BNR). BNR is defined as treatment that achieves annual average concentrations less than or equal to 8.0 mg/l total N and 1.0 mg/l total P. Non-BNR is treatment that achieves annual average concentrations greater than 8.0 mg/l total N or 1.0 mg/l total P. Calculate annual average total N and total P concentrations of the reclaimed water to be distributed by the system using all monitoring data for these parameters collected over the most recent calendar year prior to submittal of the addendum. Where this monitoring data will not be available at the time of addendum submittal (e.g., for systems that are not yet constructed), the annual average concentrations of total N and total P in the reclaimed water may be estimated using known concentrations of Total N and Total P in reclaimed water produced by existing systems that reclaim source water of similar character and consist of unit treatment processes similar to those of the system that will produce reclaimed water to be distributed by the system identified in D.3.a. When estimating annual average total N and total P concentrations of the reclaimed water, include assumptions and calculations used to derive these estimates in the RWM plan covering the system.

**D.3.e.** Bulk irrigation reuse sites under common ownership or management. Where the system will distribute reclaimed water to bulk irrigation reuse sites (see item D.3.b) under common ownership or management with that system, provide the following for each of these sites:

1. The name or other identifier, net acreage, and location description of the bulk irrigation reuse site in the table provided. Net acreage is the area of the site after setbacks required in accordance with 9VAC25-740-170.H are deducted from the gross acreage.
2. A map included in the RWM plan covering the system, displaying the location of the bulk irrigation reuse site and the system. Where there are multiple bulk irrigation reuse sites listed in the table under item D.3.e that are within close proximity of the system, the map may display the location of more than one site.

**D.3.f.** Additional information for bulk irrigation reuse sites. For each bulk irrigation reuse site identified in item D.3.e, submit the following information and clearly identify in this information the system that will (i) distribute reclaimed water to the site, and (ii) be under common ownership or management with the site:

1. A nutrient management plan (NMP) prepared by a nutrient management planner certified by the Department of Conservation and Recreation, Division of Soil and Water Conservation (DCR) in accordance with the Nutrient Management Training and Certification Regulations, [4VAC5-15](#), where:
  - (a) The nutrient content of reclaimed water that will be applied to the irrigation reuse site meets non-BNR but not BNR (see item D.3.d); **or**
  - (b) Independent of the reclaimed water nutrient content and in addition to irrigation reuse (i) there is no option to dispose of the reclaimed water through a VPDES permitted discharge, or (ii) there is an option to dispose of the reclaimed water through a VPDES permitted discharge, but the VPDES permit does not allow discharge of the full nutrient load under design flow. The latter situation would typically, but not exclusively, apply to a treatment works with a VPDES permitted discharge that chooses to implement water reclamation and reuse in lieu of providing treatment to meet nutrient effluent limits at design flow. A NMP required under these circumstances, must be approved by the DCR in accordance with [9VAC25-740-100.C.5](#). With the NMP, include a copy of the letter from DCR approving the NMP.

**Note #1: NMPs are also required for bulk irrigation reuse sites that will receive non-BNR reclaimed water from the system but will not be under common ownership or management with the system (i.e., are not listed in item D.3.e). NMPs for these sites are not to be submitted to DEQ but must be submitted to the system by the end user that owns or manages the site.**

**Note #2: NMPs for bulk irrigation reuse sites, when required, must be included in the applicable RWM plans submitted under Section D. Do not reference alternative sources in lieu of submitting the most current NMPs.**

2. A site plan and, if applicable, the area of proposed expansion to an existing bulk irrigation reuse site, displayed on the most current USGS topographic maps and showing the following:
  - (a) The boundaries of the irrigation reuse site;
  - (b) The location of all of the following within 250 feet of the irrigation reuse site:
    - potable and non-potable water supply wells and springs
    - public water supply intakes
    - occupied dwellings
    - property lines
    - areas accessible to the public
    - outdoor eating, drinking and bathing facilities
    - surface waters, including wetlands
    - limestone rock outcrops and sinkholes
  - (c) Setbacks areas around the irrigation reuse site in accordance with [9VAC25-740-170](#).

**D.3.g.** Nutrient management for nonbulk irrigation reuse. Where the system identified in item D.3.a will distribute non-BNR reclaimed water (see item D.3.d) to nonbulk irrigation reuse (see item D.3.b), describe in the space provided measures that will be implemented by the applicant or permittee to manage nutrient loads from nonbulk irrigation reuse within the service area of the RWM plan covering the system (see item D.1.b).

Measures to manage nutrient loads from nonbulk irrigation reuse of non-BNR reclaimed water must include, at a minimum, the following:

1. Language in the example service agreement or contract between the system and end users (see item D.2.a) explaining proper use of the reclaimed water by the end user for the purpose of managing nutrients.
2. Routine distribution of literature (annually or more often) to individual nonbulk irrigation end users describing the proper use of reclaimed water for irrigation in accordance with [9VAC25-740-170.A.1](#). This applies to only reuses that require Level 1 reclaimed water, will be in areas accessible to the public, or are likely to have human contact.
3. Monthly monitoring of nitrogen (N) and phosphorus (P) loads from nonbulk irrigation reuses to the service area of the RWM plan covering the system, based on the total monthly metered consumption of reclaimed water for nonbulk irrigation reuse within the service area and the monthly average concentrations of total N and total P in the reclaimed water.

Although not required for nonbulk irrigation reuse of non-BNR reclaimed water, nutrient management plans prepared in accordance with 4VAC5-15 may be an appropriate measure to manage nutrients at specific nonbulk irrigation reuse sites.

## **E. Consent to Receive and Certify Receipt of Electronic Mail**

Section E must be completed by all applicants or permittees submitting the addendum.

The Department of Environmental Quality (DEQ) may deliver permits and certifications (i.e., permit issuances, reissuances, modifications, revocation and reissuances, terminations, denials, and administrative and emergency authorizations associated with permits), and plan approvals to recipients, including applicants or permittees, by electronically certified mail where the recipients notify DEQ of their consent to receive mail electronically (§ [10.1-1183](#)). Check only one of the boxes to either consent or decline to (i) receive by electronic mail the permit and any plan approvals associated with the permit that may be issued for the proposed pollutant management activity, and (ii) certify, as applicable, receipt of such electronic mail when requested by the DEQ.

## **F. Certification Statement**

Section F must be completed by all applicants or permittees submitting the addendum.

Provide the name, title and signature of the appropriate signatory authority or authorities specified in [9VAC25-31-110](#) of the VPDES Permit Regulation or [9VAC25-32-70](#) of the VPA Permit Regulation.

## Appendix A

<b>Treatment and Standards for Reclaimed Water*</b>	
<b>1. Level 1</b>	
a. Treatment	Secondary treatment with filtration and higher-level disinfection.
b. Bacterial Standards	(1) Fecal coliform <sup>1</sup> : monthly geometric mean <sup>2</sup> less than or equal to 14 colonies/100ml; corrective action threshold at greater than 49 colonies/100 ml; or
	(2) E. coli <sup>1</sup> : monthly geometric mean <sup>2</sup> less than or equal to 11 colonies/100 ml; corrective action threshold at greater than 35 colonies/100 ml; or
	(3) Enterococci <sup>1</sup> : monthly geometric mean <sup>2</sup> less than or equal to 11 colonies/100 ml; corrective action threshold at greater than 24 colonies/100 ml.
c. Total Residual Chlorine (TRC) <sup>3</sup>	Corrective action threshold at less than 1.0 mg/l <sup>4</sup> after a minimum contact time of 30 minutes at average flow or 20 minutes at peak flow.
d. pH	6.0 – 9.0 standard units
e. Five-day Biochemical Oxygen Demand (BOD <sub>5</sub> )	(1) BOD <sub>5</sub> : monthly average less than or equal to 10 mg/l; or (2) Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> ) <sup>5</sup> : monthly average less than or equal to 8 mg/l.
f. Turbidity <sup>6</sup>	Daily average of discrete measurements recorded over a 24-hour period less than or equal to 2.0 nephelometric turbidity units (NTU); corrective action threshold at greater than 5.0 NTU.
<b>2. Level 2</b>	
a. Treatment	Secondary treatment and standard disinfection.
b. Bacterial Standards	(1) Fecal coliform <sup>1</sup> : monthly geometric mean <sup>2</sup> less than or equal to 200 colonies/100ml; corrective action threshold at greater than 800 colonies/100 ml; or
	(2) E. coli <sup>1</sup> : monthly geometric mean <sup>2</sup> less than or equal to 126 colonies/100 ml; corrective action threshold at greater than 235 colonies/100 ml; or
	(3) Enterococci <sup>1</sup> : monthly geometric mean <sup>2</sup> less than or equal to 35 colonies/100 ml; corrective action threshold at greater than 104 colonies/100 ml.
c. Total Residual Chlorine (TRC) <sup>3</sup>	Corrective action threshold at less than 1.0 mg/l <sup>4</sup> after a minimum contact time of 30 minutes at average flow or 20 minutes at peak flow.
d. pH	6.0 – 9.0 standard units
e. Five-day Biochemical Oxygen Demand (BOD <sub>5</sub> )	(1) BOD <sub>5</sub> : monthly average less than or equal to 30 mg/l; maximum weekly average 45 mg/l; or (2) Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> ) <sup>5</sup> : monthly average less than or equal to 25 mg/l; maximum weekly average 40 mg/l.
f. Total	Monthly average less than or equal to 30 mg/l; maximum weekly average 45



Suspended Solids (TSS)	mg/l.
<p><sup>1</sup>After disinfection.</p> <p><sup>2</sup>For the purpose of calculating the geometric mean, bacterial analytical results below the detection level of the analytical method used shall be reported as values equal to the detection level.</p> <p><sup>3</sup>Applies only if chlorine is used for disinfection.</p> <p><sup>4</sup>TRC less than 1.0 mg/l may be authorized by the board if demonstrated to provide comparable disinfection through a chlorine reduction program in accordance with the Sewage Collection and Treatment Regulations (<a href="#">9VAC25-790</a>).</p> <p><sup>5</sup>Applies only if CBOD<sub>5</sub> is used in lieu of BOD<sub>5</sub>.</p> <p><sup>6</sup>Where ultraviolet radiation will be used for disinfection of Level 1 reclaimed water, other turbidity standards may apply in accordance with <a href="#">9VAC25-740-110.A.2.a</a>.</p>	

\* [9VAC25-740-70.A](#) of the Water Reclamation and Reuse Regulation

## Appendix B

Minimum Standard Requirements for Reuses of Reclaimed Water*		
Reuse Category	Reuse	Minimum Standard Requirements <sup>a</sup>
1. Urban – Unrestricted Access	All types of landscape irrigation in public access areas (i.e., golf courses, cemeteries, public parks, school yards and athletic fields) Toilet flushing <sup>b</sup> Firefighting or protection and fire suppression <sup>b</sup> Outdoor reuse (i.e., lawn watering and noncommercial car washing) <sup>b</sup> Commercial car washes Commercial air conditioning systems	Level 1
2. Irrigation – Unrestricted Access <sup>c</sup>	Irrigation for any food crops not commercially processed, including crops eaten raw	Level 1
3. Irrigation – Restricted Access <sup>c, d, e</sup>	Irrigation for any food crops commercially processed	Level 2
	Irrigation for nonfood crops and turf, including fodder, fiber and seed crops; pasture for foraging livestock; sod farms; ornamental nurseries; and silviculture	
4. Landscape Impoundments <sup>f</sup>	Potential for public access or contact	Level 1
	No potential for public access or contact	Level 2
5. Construction <sup>e</sup>	Soil compaction Dust control Washing aggregate Making concrete Irrigation to establish vegetative erosion control <sup>g</sup>	Level 2
6. Industrial <sup>e</sup>	Commercial laundries Ship ballast <sup>h</sup>	Level 1
	Livestock watering <sup>i</sup> Aquaculture <sup>j</sup> Stack scrubbing Street washing Boiler feed Once-through cooling <sup>k</sup> Recirculating cooling towers <sup>k</sup>	Level 2

<sup>a</sup> For reclaimed industrial wastewater, minimum standards required shall be determined on a case-by-case basis relative to the proposed reuse or reuses.

<sup>b</sup> These reuses of reclaimed water are prohibited in accordance with [9VAC25-740-50.B.2](#) where they would

involve the distribution of reclaimed water to a one-family or two-family dwelling in order to occur.

<sup>c</sup> Reclaimed water treated to Level 1 or 2 may be used for surface irrigation, including spray irrigation. Reclaimed water treated to Level 2 may be used for spray irrigation if the area to be irrigated restricts access to the public and has appropriate setbacks in accordance with [9VAC25-740-170](#). Reclaimed water treated to Level 1 or 2 may be used for irrigation of food crops eaten raw, excluding root crops, only when there will be no direct contact (or indirect contact via aerosol carry) between the reclaimed water and edible portions of the crop.

<sup>d</sup> For irrigation with reclaimed water treated to Level 2, the following shall be prohibited unless Level 1 disinfection is provided:

1. Grazing by milking animals on the irrigation reuse site for 15 days after irrigation with reclaimed water ceases, and
2. Harvesting, retail sale or allowing access by the general public to ornamental nursery stock or sod farms for 14 days after irrigation with reclaimed water ceases.

<sup>e</sup> Worker contact with reclaimed water treated to Level 2 shall be minimized. Level 1 disinfection shall be provided when worker contact with reclaimed water is likely.

<sup>f</sup> Landscape impoundments may also be used to store reclaimed water for other subsequent reuses of that reclaimed water, such as irrigation, if included in an inventory of reclaimed water storage facilities submitted to the board pursuant to [9VAC25-740-110.C.15](#).

<sup>g</sup> Irrigation with reclaimed water to establish vegetative cover at a construction site shall be subject to requirements for irrigation reuse specified in [9VAC25-740-100.C](#). Continued irrigation of the same site following construction completion shall be subject to the minimum standard requirements of reuse category 1, 2, or 3 contained in this table, determined by the intended reuse of the irrigated site.

<sup>h</sup> Reuse of reclaimed water for ship ballast shall also comply with applicable federal regulations and standards governing the use and discharge of ship ballast.

<sup>i</sup> Level 1 disinfection shall be provided when the reclaimed water is consumed by milking livestock.

<sup>j</sup> Level 1 disinfection shall be provided for aquaculture production of fish to be consumed raw, such as sushi.

<sup>k</sup> Windblown spray generated by once-through cooling or recirculating cooling towers using reclaimed water treated to Level 2, shall not reach areas accessible to workers or the public unless Level 1 disinfection is provided. See also setback requirements in [9VAC25-740-170](#) for open cooling towers.

\* [9VAC25-740-90.A](#) of the Water Reclamation and Reuse Regulation