

**WASTEWATER PROJECTS
COST ALLOCATION AGREEMENT
between the
CITY OF CHARLOTTESVILLE, VIRGINIA,
the
ALBEMARLE COUNTY SERVICE AUTHORITY,
and the
RIVANNA WATER AND SEWER AUTHORITY**

This Agreement is made for purposes of identification this ___ day of ___, 2014, by and between the CITY OF CHARLOTTESVILLE, VIRGINIA, a municipal corporation (the “City”), the ALBEMARLE COUNTY SERVICE AUTHORITY, a public body politic and corporate (“ACSA”), and the RIVANNA WATER AND SEWER AUTHORITY, a public body politic and corporate (“RWSA”).

WITNESSETH:

A. RWSA owns and/or operates facilities for the interception and treatment of wastewater pursuant to the terms of a Four-Party Agreement dated June 12, 1973, among the City, RWSA, ACSA and the Board of Supervisors of Albemarle County (the “Four-Party Agreement”) and several supplementary agreements.

B. The urban wastewater system generally serves all of the City of Charlottesville, the urban growth area of Albemarle County surrounding the City of Charlottesville, and the Crozet area of Albemarle County and consists of all wastewater-related facilities operated by RWSA and served by the Moores Creek Advanced Wastewater Treatment Facility, including sewer interceptors, pipelines, pump stations, and other appurtenances connected thereto (the “Urban Wastewater System”).

C. RWSA, in order to increase the available capacity of the wastewater treatment system for wet weather, has undertaken several wastewater projects, including the Rivanna Pump

Station Project described in the Authorization to Construct dated August 5, 2013 (the “RPS Project”) issued by the Virginia Department of Environmental Quality. The RPS Project is designed to increase the capacity of the Rivanna Interceptor to carry a rate equivalent to 53 million gallons per day (MGD) at the crest of the wastewater flow to the pump station resulting from a two-year recurrence wet weather event.

D. Prior to this Agreement, and until approximately 1999, RWSA allocated the cost of new wastewater projects jointly agreed upon by the City and ACSA in addition to those described in Section 4.1 and Exhibit 6 of the Four-Party Agreement (irrespective of whether they were capacity-related) pursuant to Section 7.2(b) of the Four-Party Agreement, except for the Moores Creek Relief Sewer Project, 30% of the costs for which were allocated to the City and 70% of the costs for which were allocated to ACSA pursuant to an Agreement dated June 29, 1990. The cost and debt service for new wastewater projects commenced on or after approximately 1999 (irrespective of whether they were capacity-related) were allocated to the City and ACSA based on historical budgeted wastewater flows from the City and ACSA on a system-wide basis. The City and ACSA now want to (i) more accurately reflect future cost allocation for the RPS Project and all other existing or future capacity-related wastewater projects, without true-up for past allocations (including past allocations of charges set for the fiscal year ending June 30, 2014 and all prior fiscal years), to cover future costs of the RPS Project and all other capacity-related projects including, but not limited to, design, bidding, and easement acquisition and (ii) confirm the existing and continuing cost allocation method for existing and future non-capacity-related wastewater projects.

NOW THEREFORE, for and in consideration of the premises and other good and valuable consideration, the receipt of all of which is hereby acknowledged, the City, ACSA and RWSA agree as follows:

1. Allocation of Previously Incurred Costs. Except as otherwise provided in the Four-Party Agreement with respect to the projects listed on Exhibit 6 thereof or in the Agreement dated June 29, 1990 with respect to the Moores Creek Relief Sewer project, or as may otherwise be agreed to by the City, ACSA and RWSA, charges related to all wastewater projects in RWSA's Capital Improvements Program ("CIP") for which construction has been commenced prior to the date hereof and charges related to the RPS Project, in each case for work performed or debt service owed for periods on or prior to June 30, 2014, or prior to the date of this Agreement, whichever occurs later, irrespective of when invoiced or paid, have been or will be allocated to the City and ACSA through the setting of wastewater rates for each of the City and ASCA using the allocation percentages set by RWSA on and after 1999, and shall not be subject to true-up. Charges for work performed and debt service owed shall include the budgeted (as opposed to actual) costs of engineering, construction, legal and land costs, administrative costs, permit fees, debt service (including anticipated debt service in the period before bonds are issued or loans are obtained to finance wastewater projects), and establishment of reserves and related expenses (hereinafter collectively referred to as the "Debt Service Charges").

2. Allocation of Future Debt Service Charges Related to the RPS Project and all Capacity-Related Wastewater Projects. RWSA shall allocate all Debt Service Charges for the RPS Project and all existing and future wastewater projects in RWSA's CIP for the purpose of increasing wastewater treatment system capacity (excluding projects for the maintenance,

rehabilitation and repair of such projects) (individually, a “Capacity-Related Wastewater Project”, and collectively, the “Capacity-Related Wastewater Projects”) related to budgeted work performed or debt service owed for periods on or after July 1, 2014 or on or after the date of this Agreement, if later, irrespective of when invoiced or paid, by setting wastewater rates in such a manner (or imposing a Debt Service Charge, if permitted by the Four-Party Agreement, as amended) so as to allocate a percentage of such Debt Service Charges to the City, and the remaining percentage of such Debt Service Charges to ACSA, based upon dry and wet weather flows of each of the City and ACSA for the RPS Project and any existing and future Capacity-Related Wastewater Projects as provided in Section 4 below, and subject to adjustment as provided in Section 5 below. A list of existing Capacity-Related Wastewater Projects is attached hereto as Exhibit A.

3. Allocation of Future Debt Service Charges Related to Non-Capacity-Related Wastewater Projects. Debt Service Charges for RWSA wastewater projects that are in RWSA’s CIP and are not capacity-related, but (i) improve the quality but not quantity of service (e. g., technology to increase the removal of pollutants from wastewater, which may be in response to more stringent federal or state regulations), or (ii) limited to the rehabilitation, maintenance or repair of the existing Urban Wastewater System or equipment replacement or renewal (collectively, “Non-Capacity-Related Wastewater Projects”), unless otherwise agreed to by the City, ACSA and RWSA, shall be determined and allocated based upon the annual projection of system-wide wastewater flows from the City and ACSA, as has been historically done since 1999; provided, however, that the Debt Service Charges for such projects only serving the City or only serving ACSA shall be allocated solely to such party. A list of existing Non-Capacity-

Related Wastewater Projects, including those serving only the City or ACSA, is attached hereto as Exhibit B.

4. Flow Metering, Data and Methodology. Dry and Wet Weather Flows (as defined in subsection a. below) shall be based upon data collected from wastewater flow meters and an analysis of such data within the particular Capacity-Related Wastewater Project (each, a “Metering Event”) by a professional engineering consulting firm (the “Engineer”) selected by RWSA, subject to the approval of both the City and ACSA, such approval not to be unreasonably delayed or withheld. Metering Events to update Dry and Wet Weather Flows for the RPS Project and all existing and future Capacity-Related Wastewater Projects shall be performed every five years as more fully described in subsection b. below.

a. Dry Weather, Peaking and Wet Weather Flows Metering Analysis. Dry Weather Flows for the RPS Project and each Capacity-Related Wastewater Project shall be defined as the average daily flow at the location in the Urban Wastewater System on the downstream end of each specific Capacity-Related Wastewater Project (the “Project Location”) multiplied by a factor to be determined by the Engineer as appropriate for the project to take into account probable diurnal variation in dry weather flows at the peak of a wet weather event. Average daily flow shall be determined by the Engineer based on metering data at the Project Location for a specific period of time for each Metering Event sufficient to identify repetitively similar results, with flow during periods influenced by rainfall and other anomalies identified by the Engineer removed from the data analyzed, and shall be an arithmetic average of the remaining dataset. The Engineer shall also meter wastewater flows during rainfall events at the Project Location during a Metering Event, together with analyzing data from rain gauges installed at nearby

locations to reasonably predict rainfall in the collection system served by the Project Location. Rainfall events shall be categorized based upon recurrence frequency. When, in the opinion of the Engineer, a sufficient number of rainfall events have occurred to allow a reasonably accurate approximation of the predicted wastewater flows during a 2-Year recurrence rain event (a “2-Year Storm”), to include data from at least one rain event with a recurrence near or with less frequency of recurrence than a 2-Year Storm, the Engineer shall analyze and model the data and recurrence interval of the rainfall events for which data has been collected and extrapolate the predicted wastewater flow of the 2-Year Storm in the form of a hydrograph showing the rise and fall of the flow during the storm with the peak of the hydrograph occurring when the dry weather component of the flow (that flow that would be present in the sewer had no rain occurred) equals the average daily flow multiplied by the factor determined by the Engineer as appropriate for the project to take into account probable diurnal variation weather flows at the peak of a wet weather event. This 2-Year recurrence wastewater flow event and the data extrapolated therefrom is known as the total maximum flow or the peaking flow (the “Peaking Flow”). Wet Weather Flow shall be defined as the Peaking Flow on the hydrograph of the 2-Year Storm minus the Dry Weather Flow. The parties agree that the data generated by a properly installed, calibrated and operating meter installed in the Urban Wastewater System at the Project Location, combined with rain gauges within the upstream RWSA, City, and ACSA sewer collection systems, shall be used to determine total Dry Weather Flow and Peaking Flow for a Capacity-Related Wastewater Project, but to determine the component of those totals attributed to the ACSA collection system vis-à-vis the City collection system will require additional meters upstream (as the sewer

flows) from the Project Location, generally providing data during the same period and using the same methodology for determining Dry Weather Flow and Peaking Flow at the upstream locations, where material wastewater flows pass through collector interconnections from a system owned by the City or ACSA into a system owned by a different entity among the RWSA, the City, or ACSA. Recognizing that both the City and ACSA have a limited number of sewer service connections from residences and businesses connected directly to a RWSA interceptor and, in addition, recognizing that some the collector interconnections carry a very small flow, the City and ACSA further agree that the Engineer shall not be required to meter every collector interconnection and may extrapolate for unmetered locations when, in the Engineer's professional judgment, such extrapolations are unlikely to produce results materially different than the results that would have been obtained by attempting to meter every collector interconnection. A spreadsheet showing the analysis of the 2006 flow data from the Engineer for the Urban Wastewater System, including the RPS Project, is attached hereto as Exhibit C.

b. Flow Metering Analysis Updates. To the extent practicable, Dry Weather Flow, Peaking Flow and Wet Weather Flow calculated pursuant to subsection a. above for each Capacity-Related Wastewater Project will be updated by the Engineer every fifth year, beginning in 2015, and subsequently updated every five (5) years thereafter. In the event the Peaking Flow is determined by the Engineer to be more or less than the Project's design capacity, the allocations used in Section 5.b. shall be based on the Peaking Flow most recently determined by the Engineer. Recognizing that the determination of Peaking Flow requires capturing data that occurs infrequently and is based upon weather events which cannot be controlled, the Engineer may use data

captured in the two preceding calendar years prior to the year of the update in addition to data from the year of the update, if necessary to provide sufficient data from the analysis (for example, data collected in 2018, 2019, or 2020 may be used for the 2020 update). Further, the deadline for completing an update shall be extended should abnormally dry weather conditions prevail over an extended period making the collection of sufficient flow data during significant rainfall events unavailable. The Engineer shall provide with each such flow update an updated projection of future Dry Weather Flows, Peaking Flows and Wet Weather Flows for the Project Locations, together with the predicted portion of these flows from the ACSA and City, combined to equal the total projected Dry Weather, Peaking and Wet Weather Flows. Dry Weather Flow projections in 2020 and every ten (10) years thereafter shall be based upon updated land development and population projections provided by the planning departments at the City and County of Albemarle; Dry Weather Flow projections in 2015 and every ten (10) years thereafter shall update the current Dry Weather Flow based on the most recent data analysis, but projections of future flow extended from the new current flow will use the same planning data from the immediate prior projection. RWSA's cost for the purchase or lease, maintenance, repair, calibration, and replacement of sewer meters, and the cost of data collection and analysis, including the cost of the Engineer and any other engineering services required by RWSA to carry out the terms of this Agreement, and any other miscellaneous costs including legal expenses incurred by RWSA in connection with this Agreement and its performance hereunder, shall be allocated as described in Section 10 below.

5. Flow Allocation Methodology and Debt Service Schedules. Debt Service Charges are set by RWSA through its Board of Directors as part of the annual approval of the fiscal year operating budget, and such charges may be amended at other times during the fiscal year, but historically have been maintained for the entire fiscal year and adjusted annually. Debt Service Charges for the RPS Project and each Capacity-Related Wastewater Project shall be based upon budgeted costs and may be applied uniformly over multiple fiscal years as permitted under Section 7.4 of the Four Party Agreement. For the purpose of determining Debt Service Charges, estimated or actual costs in a fiscal year assigned to a project may include (i) cash payments and/or the build-up of reserves prior to the closing of bond or loan financing for the applicable project, except to the extent bond proceeds are reimbursing such payments or reserves, and (ii) debt payments after the closing of bond or loan financing until the maturity date. Budgeted costs, whether estimated or actual, for the items set forth in clause (i) above shall be included in Debt Service Charges for the RPS Project or any Capacity-Related Wastewater Projects and allocated based upon the most recent proportional projected dry and wet weather flows by the City and ACSA over the entire 60-year projection period. For budgeted, whether estimated or actual, bond or loan repayments set forth in clause (ii) above, RWSA shall prepare worksheets to allocate Debt Service Charges for each bond issue, using the cost allocation method applicable to the project or group of projects financed by the bond or loan for the term of the bond or loan as follows:

a. Allocation of Bonded Debt. RWSA shall create a debt service schedule for each bond, promissory note or other debt instrument evidencing a loan, including any refinancing of the same (individually, a “Bond”, and collectively, the “Bonds”), allocate the debt service to the applicable rate center, and allocate the rate center debt service on a

project-by-project basis using the formula in this Agreement for all Capacity-Related Wastewater Projects, the Four-Party Agreement for all projects under Exhibit 6 thereof, or the system-wide historical Urban Wastewater System flows as has been done since 1999 for all other wastewater projects, as follows:

(i) a total debt service amortization schedule shall be maintained for each outstanding Bond;

(ii) the applicable amount of each Bond shall be allocated to the respective rate center based upon the estimated amount of proceeds from the Bond used for each project (whether one or more) and the rate center for the applicable project (e.g. water and wastewater – rural or urban rate centers, with the Urban Wastewater Rate Center applicable to projects covered under this Agreement);

(iii) within each rate center, the particular Bond debt service amortization shall then be allocated based on the estimated use of the proceeds of the Bond for each project or group of projects and applicable cost allocation method for each project financed by such Bond.

(iv) a total of the Bond debt service amounts for each project derived from the allocation in subsection (iii) above shall be prepared for the allocation for each project or group of projects within the Urban Wastewater Rate Center, in order to account for the fact that any one wastewater project could be financed by more than one Bond.

b. Allocation Table for Dry and Wet Weather Flows. The table of flows prepared by the Engineer as provided in Section 4.a shall be projected to cover a sixty-

year period into the future, and be broken down into yearly increments and shall show the projected Dry Weather and Peaking Flow for each year of the sixty-year period for each of the City and ACSA as needed for the applicable project. Wet Weather Flow is then calculated as the difference between Peaking Flow and Dry Weather Flow for each of the years in the sixty-year period. RWSA shall use the table of flows including the projection of Wet Weather Flows to create a schedule of six debt service segments for the purpose of allocating the debt service amounts determined under Section 5.a. The debt service segments shall be comprised of the average percentage of flows for each of the six successive ten-year periods within the sixty-year table of flows. An example of the schedule of segments is shown below:

Ten year Flow Data	Debt Service Segments	WW / DW Flow Ratio			DW _{ACSA} & DW _{City} % of Avg. Daily			WW _{ACSA} & WW _{City} % of I&I		
		% of Flow for Avg. day	% of Flow for I&I	Total Max or Peak Flow	ACSA	CITY	100%	ACSA	CITY	100%
Year 1 - 10	Segment 1	16%	84%	100%	55%	45%	100%	38%	62%	100%
Year 11 - 20	Segment 2	18%	82%	100%	59%	41%	100%	43%	57%	100%
Year 21 - 30	Segment 3	20%	80%	100%	62%	38%	100%	48%	52%	100%
Year 31 - 40	Segment 4	23%	77%	100%	65%	35%	100%	53%	47%	100%
Year 41 - 50	Segment 5	25%	75%	100%	67%	33%	100%	59%	41%	100%
Year 51 - 60	Segment 6	xx%	xx%	100%	xx%	xx%	100%	xx%	xx%	100%

Used in section 6.	DW	WW	DW _{ACSA}	DW _{City}	WW _{ACSA}	WW _{City}
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Debt Service Charges for each Capacity-Related Wastewater Project for the first five years, and each five-year period thereafter, shall be based upon the average projected flows for the corresponding ten year debt service segment (i.e. debt service segment 1 will be used for five years (years 1-5) of the debt service, debt service segment 2 will be used for next five years (years 6 – 10) of debt service, debt service segment 3 will be used for the next five years (years 11 – 15) of debt service, etc.) until retirement of the

debt for the project, including any refinancing of such debt, if any, using the allocation method for such project provided under Section 6 below, based upon the Engineer’s flow analysis for the project as updated pursuant to Section 4.b. The first year of debt service segment 1 shall be defined as the first fiscal year in which RWSA budgets to begin incurring costs for the project, and may be different from the year in which Bonds funding the project are issued.

6. Allocation Formula. The allocation formula for determination of the Debt Service Charges to be allocated to the City and ACSA for the RPS Project and each Capacity-Related Wastewater Project is set forth below:

$$D_{ACSA} = [(D_{DRY} \times DW_{ACSA}) + (D_{WET} \times WW_{ACSA})]$$

$$D_{CITY} = [(D_{DRY} \times DW_{CITY}) + (D_{WET} \times WW_{CITY})]$$

Where:

DEBT SERVICE

D_{ACSA} = Project Debt Service Charges to ACSA for a given fiscal year

D_{CITY} = Project Debt Service Charges to City for a given fiscal year

D_{TOTAL} = Total Project Debt Service Charges for a given fiscal year required to meet RWSA revenue requirements

D_{DRY} = Debt Service attributed to total Dry Weather Flow ($D_{TOTAL} \times DW$)

D_{WET} = Debt Service attributed to total Wet Weather Flows ($D_{TOTAL} \times WW$)

RATIOS OF FLOW FOR TEN YEAR SEGMENTS

DW = The ratio of (TDW/TF) total dry weather flow to total flow for the given ten-year segment determined by the methodology above

WW = The ratio of (TWW/TF) total wet weather flow to total flow for the given ten-year segment determined by the methodology above

DW_{ACSA} = The ratio of ACSA Dry Weather Flow Projection to Total Dry Weather flow used for the given ten-year segment determined by the methodology above

DW_{CITY} = The ratio of City Dry Weather Flow Projection to Total Dry Weather flow used for the given ten-year segment determined by the methodology above

WW_{ACSA} = The ratio of ACSA Wet Weather Flow Projection to Total Wet Weather flow used for the given ten-year segment determined by the methodology above

WW_{CITY} = The ratio of City Wet Weather Flow Projection to Total Wet Weather flow used for the given ten-year segment determined by the methodology above

FLOW

TDW = Total Dry Weather Flow Projection used for the given ten-year segment determined by the methodology above

TF = Total 2-Year Storm Projected Flow (Peak Flow) or the sum of DW and WW for the given ten-year segment

TWW = Total 2-Year Storm Wet Weather Flow Projection used for the ten-year segment determined by the methodology above.

An example of this calculation for a hypothetical Capacity-Related Wastewater Project is attached hereto as Exhibit D.

7. Data Acquisition (Metering) Plan. Prior to commencement of construction for each Capacity-Related Wastewater Project, RWSA will provide the City and ACSA with a Dry and Wet Weather Flow analysis for the new Project Location, if available, or otherwise develop the data as soon as practicable, recognizing the timing of the development of Wet Weather Flow

analysis is weather dependent. Debt Service Charges for each such Project shall be established based upon such analysis until updated from that date as described in Section 4.b above. In the event a Project needs to proceed and incur costs before the analysis is available, Debt Service Charges in the interim may be based upon a percentage agreed by the City and ACSA, or allocated by the methodology described in Section 10, until the data is available. The cost of such initial analysis and each update to the analysis shall be allocated using the same allocation method used for operational costs as set forth in Section 10 below.

8. Inflow and Infiltration Remediation. RWSA, the City and ACSA shall engage in aggressive cost-effective inflow and infiltration remediation methods, including conducting sewer system evaluation surveys meeting EPA standards; and promptly repair identified defects when repair is more cost-effective than interception and treatment. The City and ACSA agree to continue to diligently pursue the previously set goal of reducing the inflow and infiltration measured in the urban wastewater system in 2006 for a 2-Year Storm by at least twenty-five percent (25%) by 2020.

9. Capacity-Related Wastewater Upgrade or Replacement Projects. In the event a Capacity-Related Wastewater Project requires upgrading or replacement prior to the end of its projected useful life due to actual or projected flows exceeding the design capacity of the Project as determined by the Engineer in the original flow analysis done for the project pursuant to Section 4.a. above (whether due to failure to curtail inflow and infiltration or exceeding growth projections or both), as between the City and ACSA, the party responsible for the excess flows agrees to have the Debt Service Charges for that portion of the additional capacity included in the upgraded or replacement project attributable to such excess flow allocated to it.

10. Operational and Maintenance Charges. Except as otherwise specifically provided herein, the City and ACSA will continue to pay operational and maintenance charges not in RWSA's CIP developed by RWSA to cover costs for routine labor, chemicals, supplies, power, depreciation, and all other operational and maintenance costs associated with wastewater interception and treatment for the Urban Wastewater System on the basis of their percentage of overall wastewater system flows as has been done since 1999.

WITNESS the following duly authorized signatures and seals:

[SIGNATURES ON FOLLOWING PAGES]

CITY OF CHARLOTTESVILLE

By: _____
Mayor

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2014, by _____.

Notary Public

My commission expires: _____

ID No. _____

ALBEMARLE COUNTY SERVICE AUTHORITY

By: _____
Chairman

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of
_____, 2014, by _____.

Notary Public

My commission expires: _____

ID No. _____

RIVANNA WATER AND SEWER AUTHORITY

By: _____
Chairman

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of
_____, 2014, by _____.

Notary Public

My commission expires: _____
ID No. _____