VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

20111 SHAY ROAD
VICTORVILLE CA 92394
(760) 246-8638

ORDINANCE NO. 002

CONNECTION FEES

February 2020

AN ORDINANCE PRESCRIBING FEES FOR CONNECTING ANY PARCEL WITHIN THE BOUNDARIES OF THE VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY TO THE SEWERAGE SYSTEM, OR FOR INCREASING THE STRENGTH AND/OR QUANTITY OF WASTEWATER ATTRIBUTABLE TO A CONNECTED PARCEL WITHIN THE REGIONAL SERVICE AREA, AND PROVIDING FOR THE COLLECTION OF SUCH FEES, ALL PURSUANT TO THE STATEMENT OF FINDINGS AND BOARD ACTION SET FORTH IN THIS ORDINANCE NO. 002.

STATEMENT OF FINDINGS AND BOARD ACTION
REGARDING THE ADOPTION OF
ORDINANCE NO. 002

WHEREAS, Ordinance No. 002, adopted May 26, 1983 by the Board of Commissioners (Commission) of the Victor Valley Wastewater Reclamation Authority (VVWRA), as amended from time to time, establishes and imposes a schedule of fees for the connection of real property to the VVWRA sewerage system, and

WHEREAS, the Commission believes that it is necessary and desirable to update and clarify the terms and conditions applicable to the calculation of connection fees for the benefit of the member entities and the users within the boundaries of VVWRA; and

WHEREAS, the funds collected pursuant to the Connection Fee Schedule attached as Table 1 of Ordinance No. 002 are used to pay for capital improvements to the VVWRA sewerage system that are designed and constructed for the purpose of increasing the capacity of the VVWRA sewerage system to meet growth, and;

WHEREAS, a study was conducted on behalf of VVWRA by Raftelis in August, 2019, and was received, filed and approved by the Commission on September 19, 2019 (the "Study"); and

WHEREAS, the Study, a copy of which is attached to this Ordinance and incorporated herein by this reference, has determined that an increase is necessary in the amount of the connection fees collected by VVWRA to ensure the ongoing ability of VVWRA to increase the capacity of the VVWRA sewerage system to meet growth; and

WHEREAS, the Board of Commissioners conducted a Public Hearing and a First Reading of the Ordinance at the regular meeting held on September 19, 2019.

NOW THEREFORE BE IT RESOLVED that the Board of Commissioners of the Victor Valley Wastewater Reclamation Authority does hereby ordain as follows:

Section 1. Findings. The Board of Commissioners asserts and adopts the findings set forth above;

Section 2. Amendment of Table I of Ordinance No. 002 Table I, as referenced in Sections 3.01, 3.05, and 3.08 of Ordinance No. 002, is hereby repealed and is now amended, revised as set forth in this amendment to Ordinance 002, including any attachments hereto, and incorporated herein by this reference.

Section 3. Amendment of Table IV of Ordinance No. 002 Table IV, as referenced in Section 3.08 of Ordinance No. 002, is hereby repealed and is now amended and revised as set forth in this Amendment to Ordinance 002, including any attachments hereto, and is incorporated herein by the reference.

Section 4. Continued Effect of Remaining Provisions of Ordinance No. 002. The remaining provisions of Ordinance No. 002 not expressly repealed or amended by this Ordinance shall remain in full force and effect.

Section 5. Effective Date. This Ordinance shall take effect and be in full force thirty (30) days after its adoption. Prior to the expiration of the fifteen (15) days from its adoption, the Ordinance or a summary of it shall be published in The Daily Press, a newspaper of general circulation within the boundaries of the Victor Valley Wastewater Reclamation Authority, or a newspaper of substantially equivalent circulation.

LEGISLATIVE HISTORY

ORDINANCE NO. 002

ADOPTED: 05/26/83

AMENDED: 07/25/85
AMENDED: 01/01/86
AMENDED: 08/21/97
AMENDED: 03/25/99
AMENDED: 03/19/02
AMENDED: 07/23/02
AMENDED: 03/13/06
AMENDED: 06/29/09
AMENDED: 03/20/14

REPEALED AND RESTATED: 02/27/20

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ORDINANCE NO. 002

PART I - GENERAL PROVISIONS

SECTION 1.01: SHORT TITLE

This Ordinance shall be known as the "Connection Fee Ordinance for the Victor Valley Wastewater Reclamation Authority" and may be cited as such.

SECTION 1.02: PURPOSE

The purpose of this Ordinance is to establish and impose fees for connecting a parcel within the boundaries of VVWRA to the regional sewerage system or for increasing the strength and/or quantity of wastewater discharged into the regional sewerage system, and to provide for collection of said charges. All funds collected under this Ordinance shall be used for capital expansion of the regional sewerage system.

SECTION 1.03: AUTHORITY TO ACT

VVWRA is empowered to fix fees and charges for connecting to or altering use of its sewerage system pursuant to the Service Agreement between member entities dated November 1976; the Joint Powers Agreement which created VVWRA, dated December 1977; Sections 6500 et seq. of the California Government Code, relating to Joint Powers Authorities; VVWRA's Wastewater Ordinance; each as amended from time to time; and other applicable law.

SECTION 1.04: ADDITIONAL REVENUE

The revenue generated by the connection fees herein defined shall be in addition to all revenue otherwise collected by VVWRA, including, but not limited to ad valorem taxes, federal and state grants, contract revenue, investment income, fees, service charges, and charges imposed under VVWRA's Wastewater Ordinance.

SECTION 1.05: ADMINISTRATION

The Senior Administrative Officer shall administer, implement and enforce the provisions of this Ordinance in accordance with policies established by the Board of Commissioners.

SECTION 1.06: VALIDITY

If any part, section, subsection, paragraph, sentence, clause, or phrase of this Ordinance is held invalid or unconstitutional for any reason by any court, that decision shall not affect the validity or constitutionality of the remainder of this Ordinance. The Board of Commissioners declares that it would have adopted each part of this Ordinance irrespective of the validity of any other part.

PART II - DEFINITIONS

This Ordinance shall be interpreted according to the definitions set forth in the VVWRA Wastewater Ordinance, as supplemented by the following definitions (in the event of any conflict between the definitions in the VVWRA Wastewater Ordinance and the definitions contained herein, the definitions contained herein shall prevail):

SECTION 2.01: AMMONIA NITROGEN

Ammonia nitrogen shall mean the soluble ionized and unionized ammonia nitrogen component in wastewater that can be measured using the procedure described in the current edition of "Standard Methods for the Examination of Water and Wastewater", published by the American Public Health Association.

SECTION 2.02: BIOCHEMICAL OXYGEN DEMAND (BOD)

Biochemical Oxygen Demand or BOD shall mean the measure of decomposable organic material in wastewater as represented by the oxygen utilized as determined by the procedure described in the current edition of "Standard Methods for the Examination of Water and Wastewater", published by the American Public Health Association.

SECTION 2.03: BOARD OF COMMISSIONERS

Board of Commissioners shall mean the Board of Commissioners of the Victor Valley Wastewater Reclamation Authority of San Bernardino County, California.

SECTION 2.04: CAPACITY UNIT

Capacity Unit shall mean the loading in terms of capacity that a typical single-family home places on the sewerage system over a twenty-four (24) hour period based on flow, biochemical oxygen demand, suspended solids, and ammonia nitrogen.

SECTION 2.05: INDUSTRIAL WASTEWATER

Industrial Wastewater shall mean all waterborne wastes and wastewater of the community excluding wastewater of domestic origin and uncontaminated water, and shall include all wastewater from any producing, manufacturing, processing, institutional, commercial, agricultural, brine wastewater resulting from the regeneration of water conditioning devices, or any other operation where the wastewater discharged includes significant quantities of wastes of non-human origin.

SECTION 2.06: INDUSTRIAL WASTEWATER PERMIT

Industrial Wastewater Permit shall mean a Nondomestic Wastewater Discharge Permit as

required by Article 08 of the Wastewater Ordinance.

SECTION 2.07: MEMBER ENTITIES

Member Entities shall mean the participating agencies in VVWRA, which include the City of Victorville, County Service Areas No. 42 and No. 64, The Town of Apple Valley and the Hesperia Water District.

SECTION 2.08: NEW CONNECTION

A New Connection shall mean any of the following located within the regional service area that contributes to the Regional Sewerage System:

(1) A connection to the sewerage system for the first time of any improvement or parcel(s) of land.

(2) An existing connection from a parcel or improvement where the number or strength of capacity units attributable to said parcel or improvement has been increased due to construction of additional dwelling or other units or a change in land usage.

(3) An existing connection from an industrial, commercial, or institutional parcel or improvement where operational modifications (such as changes in the manufacturing process or the use of different constituents) have increased the original number or strength of capacity units attributable to said parcel or improvement.

SECTION 2.09: PARCEL

Parcel shall mean real property or any improvement thereon, real or personal, which has or seeks access to the sewerage system.

SECTION 2.10: PERSON

Person shall mean any individual, partnership, committee, association, corporation, public agency, or any other organization, entity, or group of persons, public or private.

SECTION 2.11: REGIONAL SEWERAGE SYSTEM

Regional Sewerage System shall mean that portion of the Sewerage System that is owned and operated by VVWRA.

SECTION 2.12: SENIOR ADMINISTRATIVE OFFICER

Senior Administrative Officer shall mean the General Manager of the Victor Valley Wastewater Reclamation Authority.

SECTION 2.13: SEWERAGE SYSTEM

Sewerage System shall mean the network of wastewater collection, conveyance, treatment and disposal facilities which are interconnected by means of sewers either owned in whole or in part by the VVWRA, the Member Entities, or as to which the VVWRA has a contractual right of use.

SECTION 2.14: TOTAL SUSPENDED SOLIDS

Total suspended Solids shall mean the insoluble solid matter suspended in wastewater that is separable by laboratory filtration in accordance with the procedure described in the current edition of "Standard Methods for the Examination of Water and Wastewater", published by the American Public Health Association.

SECTION 2.15: VVWRA

VVWRA shall mean the Victor Valley Wastewater Reclamation Authority, a Joint Powers Authority and Public Agency of the State of California, located in San Bernardino County, California.

SECTION 2.16: WASTEWATER

Wastewater shall mean the liquid and water-carried domestic or nondomestic wastes from dwellings, commercial buildings, industrial facilities, and institutions, together with any ground water, surface water, and stormwater that may be present, whether treated or untreated, which is contributed into or permitted to enter the regional sewerage system.

SECTION 2.17: WASTEWATER ORDINANCE

Wastewater Ordinance shall mean VVWRA Ordinance 001 (also referred to as Ordinance 90-19), as amended from time to time.

PART III - FEES

SECTION 3.01: CONNECTION FEES

(1) No person or parcel shall connect any parcel or improvement within the regional service area to the sewerage system until a sewer connection permit or similar instrument has been issued by the local agency having jurisdiction over land use. Connection fees shall be collected as described in Section 3.05 herein.

(2) All applicants for new connections shall pay a connection fee in accordance with Sections 3.02 and 3.03, and the Connection Fee Schedule set forth in the Tables to this Ordinance. With respect to new connections which constitute an increase in the existing strength and/or quantity of wastewater attributable to a particular parcel or improvement already connected, the connection fee shall be based on the increase in anticipated use of the sewerage system only.

(3) A credit against new connection fees shall be allowed with respect to new construction replacing a demolished building that had been connected to the sewerage system. The credit shall be equal to the connection fee that was paid with respect to the demolished building under the terms of this Ordinance or its predecessors. There will be no additional charge for an exact duplication of replacement construction. It shall be the responsibility of the applicant to demonstrate to the reasonable satisfaction of the Senior Administrative Officer, the user category and the number of units of usage applicable to the demolished building and that such building was connected to the sewerage system. In no case shall the credit provided exceed the new connection fee, calculated in accordance with Section 3.03.

SECTION 3.02: CALCULATION OF THE CONNECTION FEE (INDUSTRIAL DISCHARGERS)

(1) The connection fee for any parcel or improvement within the regional service area connecting to the sewerage system shall be based on anticipated use and shall equal the product of the estimated number of capacity units which will result from the connection, as determined in paragraph (3) of this section, and the connection fee rate determined pursuant to Section 3.03 hereof.

(2) Industrial dischargers shall provide approved flow measuring devices at their point of discharge when required by VVWRA or a Member Entity.

(3) The anticipated use of the sewerage system by industrial dischargers shall be calculated in terms of capacity units (CU).

The number of capacity units (CU) shall be determined by the following formula:

$$CU = X\left(\frac{Q_2}{Q_1}\right) + Y\left(\frac{BOD_2}{BOD_1}\right) + Z\left(\frac{TSS_2}{TSS_1}\right) + A\left(\frac{NH3_2}{NH3_1}\right)$$

Where:

X = A proportional share of the total capital costs required to construct an incremental expansion of the sewerage system for conveyance, treatment, and disposal of wastewater which is attributable to flow,

Y = A proportional share of the total capital costs required to construct an incremental expansion of the sewerage system for conveyance, treatment, and disposal of wastewater which is attributable to biochemical oxygen demand (BOD),

Z = A proportional share of the total capital costs required to construct an incremental expansion of the sewerage system for conveyance, treatment, and disposal of wastewater which is attributable to total suspended solids (TSS),

A = A proportional share of the total capital costs required to construct an incremental expansion of the sewerage system for conveyance, treatment, and disposal of wastewater which is attributable to ammonia nitrogen (NH3),

Q_1 = Average flow of wastewater from a single family home in gallons per day,

BOD_1 = Average loading of biochemical oxygen demand in the wastewater from a single family home in pounds per day,

TSS_1 = Average loading of total suspended solids in the wastewater from a single family home in pounds per day,

$NH3_1$ = Average loading of ammonia nitrogen in the wastewater from a single family home in pounds per day,

Q_2 = Estimated flow of wastewater which will enter the sewerage system via the connection in gallons per day,

BOD_2 = Estimated loading of biochemical oxygen demand which will enter the sewerage system via the connection in pounds per day,

TSS_2 = Estimated loading of total suspended solids which will enter the sewerage system via the connection in pounds per day.

$NH3_2$ = Estimated loading of ammonia nitrogen which will enter the sewerage system via the connection in pounds per day.

Q, BOD, SS, NH3, X, Y, Z, and A shall be determined by periodic review.

(4) A capacity unit has the following values in computing the loading on the regional sewage system:

Flow	=	**245 gallons per day, or 20 fixture units**
BOD	=	**200 mg/l, or 0.40866 pounds per day**
TSS	=	**250 mg/l, or 0.51082 pounds per day**
NH3	=	**20 mg/l, or 0.040866 pounds per day**

(5) Any facility which is subject to an Industrial Wastewater Permit shall be considered a discharger of industrial wastewater. The loadings of flow, BOD, total suspended solids, and ammonia nitrogen resulting from the connection of such a facility, for the purpose of calculating the number of capacity units attributable to such a connection, shall equal the loadings based on information contained in the Industrial Wastewater Permit, including the estimated sanitary wastewater loadings. Each full-time employee shall be considered to discharge 15 gallons per day of single family home strength wastewater.

The Senior Administrative Officer may, at any time after connection, verify the actual flow, BOD, total suspended solids, and ammonia nitrogen attributable to the new connection. Should a discrepancy exist between measured quantities and the estimated quantities of flow, BOD, total suspended solids, and ammonia nitrogen upon which the connection fee had been based, the owner of the parcel or improvement shall, upon written notification, pay to the VVWRA the difference between the connection fee paid and the amount due on the basis of the verified quantities.

SECTION 3.03: CALCULATION OF THE CONNECTION FEE RATE

The total capital costs required to construct an incremental expansion of the regional sewerage system to provide additional capacity shall be determined periodically by VVWRA. In addition, VVWRA shall calculate the number of capacity units that can be accommodated by the incremental expansion and shall then divide the former value by the latter value. The resulting value shall be known as the capacity unit rate.

The number of capacity units resulting from a domestic or dwelling unit connection through which no industrial wastewater is discharged shall be based on the actual number of fixture units per connection. No connection, however, shall be charged less than the fee for eight (8) fixture units.

SECTION 3.04: CAPITAL IMPROVEMENT FUNDS

Connection fee revenue collected pursuant to this Ordinance and all accruals thereon shall be deposited into a capital account and shall be maintained in accordance with prudent management and investment policies adopted by VVWRA. All connection fee revenue with respect to the regional sewerage system is owned by VVWRA. Any connection fee imposed separately by the Member Entities in connection with local tributary sewerage systems and collection sewers shall be owned

and maintained by such Member Entities.

The connection fee imposed pursuant to this Ordinance, which is for the capital cost of expansion of the regional sewerage system, shall be used for capital expansion of the regional sewerage system.

SECTION 3.05: IMPOSITION, PAYMENT, AND COLLECTION OF CONNECTION FEE

No sewer use by any person or parcel shall be permitted prior to payment of the connection fee. The connection fee for a parcel shall be paid and collected at the time of final inspection or the date the certificate of occupancy is issued for improvements to the subject parcel, whichever occurs first. No person who has secured a sewer connection permit prior to July 1, 1982 from the local agency having jurisdiction over land development shall be liable for the payment of a connection fee with respect to facilities of the type, quantity, and strength of use therein described.

In order to assure uniform calculation and collection of connection fees, and in accordance with good audit procedures, each Member Entity shall be responsible for the calculation and collection of connection fees from properties located within their respective jurisdictions. Member Entities shall use the connection fee worksheet and/or other forms as provided by or as approved by VVWRA. Connection fees shall be calculated according to VVWRA Ordinance 001 and 002. Notwithstanding the foregoing, VVWRA shall be responsible for calculating the number of capacity units applicable to an Industrial Wastewater Permit as provided in Table I.

Connection fee revenue shall be forwarded to VVWRA on a monthly basis by each Member Entity. Connection fees collected during each calendar month are due and payable no later than the last day of the next month. Interest will be assessed for connection fees received more than thirty (30) days beyond the due date. The interest charge will be calculated using the State of California legal interest rate applicable to judgements.

SECTION 3.06: CREDIT

A credit against the connection fee shall be allowed with respect to any building which had been constructed and was located within the regional service area prior to July 1, 1982.

SECTION 3.07: APPEALS

Any User permit applicant, or permit holder affected by any decision, action, or determination, including Cease and Desist Orders, made by the Senior Administrative Officer, interpreting or implementing the provisions of this Ordinance or in any permit issued herein, may file with the Senior Administrative Officer a written request for reconsideration with ten (10) days, setting forth in detail the facts supporting the user's request for reconsideration. The Senior Administrative Officer shall render a decision on the request for reconsideration to the user, permit applicant or permit holder in writing within fifteen (15) days of receipt of the request. If the ruling

on the request for reconsideration made by the Senior Administrative Officer is unsatisfactory, the person requesting reconsideration may, within ten (10) days after notification of the Senior Administrative Officer's action, file a written appeal with the Secretary of the Board of Commissioners.

SECTION 3.08: TABLES

Tables I through V are included in this Ordinance as follows: Table I, Connection Types and Definitions; Table II, Equivalent Fixture Units; Table III, Commercial Facility Fees; Table IV, Cost of Expansion; and Table V, EDU Credit Program.

SECTION 3.09: PERIODIC REVIEW

This Ordinance, including the Tables, shall be reviewed at least annually by the Senior Administrative Officer, and shall be revised as needed. A revision of this Ordinance requires the approval of the Board of Commissioners and shall be presented for Public Hearing at a regularly scheduled meeting of the Board.

SECTION 3.10: CONFLICT WITH PREVIOUS PROVISIONS

If any provision of this Ordinance is in conflict with any provision of any previous ordinance, resolution or other regulation of VVWRA, then the provisions of this Ordinance shall govern.

END OF TEXT OF ORDINANCE

THIS ORDINANCE NO. 002 IS APPROVED AND ADOPTED this 27th day of February 2020.

Scott Nassif
Chair, VVWRA Board of Commissioners

APPROVED AS TO FORM

Piero C. Dallarda of
Best Best & Krieger LLP
VVWRA General Counsel

ATTEST:

Larry Bird
Secretary, VVWRA Board of Commissioners

CERTIFICATION

I, Kristi Casteel, Secretary to the Board of Commissioners ("Commission") of the Victor Valley Wastewater Reclamation Authority, certify that the foregoing Ordinance was introduced at a regular meeting of the Board of Commissioners on September 19, 2019, and was adopted by the Commission at a regular meeting held on the February 27, 2020 by the following vote of the Commissioners:

AYES: 4

NOES: 0

ABSTAINED: 0

ABSENT: 0

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Victor Valley Wastewater Reclamation Authority on this February 27, 2020.

Kristi Casteel
Secretary to the Board of Commissioners

TABLE I

CONNECTION FEE SCHEDULE

CONNECTION TYPES AND DEFINITIONS

A. NEW UNITS

1. RESIDENTIAL

All dwelling units shall be charged on a total fixture unit (F.U.) basis. The fee for each fixture unit is $200.00. A typical single family home will have twenty (20) fixture units, which is considered to be one equivalent dwelling unit (EDU). The connection fee for one EDU is $4,679.00.

For single family homes, mobile homes, multiple family dwellings (apartments), condominiums, motels/hotels (rooms only), or any other form of residential property, the residential column of Table II shall be used for determining fixture units. In the case of jointly used facilities (such as laundry rooms, cabanas, clubhouses, etc.) for serving more than one residential unit, these additional fixture units shall be determined using the public use column of Table II.

2. COMMERCIAL

Each commercial building, office, store, motel/hotels (restaurant and service facilities) or separately owned or operated commercial space, or like structure, or any other similar structure or use, with a separate service connection, shall be billed on a fixture unit basis with each fixture unit charged at $200.00. The public use column of Table II shall be used for determining the number of fixture units. In addition, sewerage facility fees shall also be collected for those categories listed in Table III.

3. INDUSTRIAL

Connection fees for Users requiring an Industrial Wastewater Permit will be calculated according to Ordinance No. 002 (Section 3.02) by VVWRA and will be based on wastewater quantity and strength contained in the application for permit for industrial wastewater discharge and other pertinent data. The Wastewater Ordinance defines which dischargers are industrial and provides instructions for completing the application for industrial discharge. The connection fee for each capacity unit (CU) for an industrial discharger is $4,679.00.

For purposes of this Ordinance, the following types of facilities shall be considered Industrial Users in addition to any definition contained in the Wastewater Ordinance:

1. Bakeries.

2. Commercial facilities with garbage grinders of 2 hp or greater may be classified as Industrial Users.

3. Laundries.

4. Facilities with servicebay or garage facilities that have floor drains in the work area.

5. Facilities with swimming pools open to general public use if the swimming pool, filters, or associated equipment have floor drains in the work area or connections to the sewer system.

6. Hospitals.

7. Prisons Industrial Users.

B. EXISTING UNITS

1. SUPPLEMENTAL FEES

a. Supplemental fees shall be collected for modifications that result in the addition of fixture units to all structures and units connected to the sewer system. The fee shall be based only on the actual number of fixtures added using the appropriate fixture unit tables.

b. Exemptions to Supplemental Fees:

1. Additions to residential units that previously paid for their connections on a flat fee-EDU basis (as opposed to a total fixture unit basis)

2. Additions to residential units that connect as exempt properties developed as of July 1, 1982 (See Section 11.2 of VVWRA Ordinance No. 80-19)

c. Supplemental fees shall be collected for modifications by Industrial Users that

result in increasing the original number of flow or strength of capacity units attributable to a parcel or improvement.

2. FIXTURE UNIT TABLE

For purposes of determining the fixture unit count applicable to any development under this Ordinance, the "Table of Equivalent Fixture Units" most recently adopted by VVWRA shall be utilized.

TABLE II

CONNECTION FEE SCHEDULE

EQUIVALENT FIXTURE UNITS

See Attached

TABLE III

CONNECTION FEE SCHEDULE

COMMERCIAL FACILITY FEES

Category	Unit	Fee
Prison	Per Bed	$ 146.52
Restaurant	Per Seat	65.92
Cocktail Bar	Per Seat	26.38
Hospital	Per Bed	329.76
Laundromat	Per Machine	293.04
Day Care Center	Per Child	29.31
Convalescent Care Center	Per Bed	73.26

The Victor Valley Wastewater Reclamation Authority may require the owner to submit plans and other information as may be needed to determine the charge.

TABLE IV

CONNECTION FEE SCHEDULE

COST OF EXPANSION

For support purposes, the rate schedules contained in this Ordinance are based upon the findings of the Victor Valley Wastewater Reclamation Authority Wastewater Rate Study, which was completed by Raftelis in August 2019. The Wastewater Rate Study and its findings and recommendations were approved by the Board of Commissioners on September 19, 2019.

TABLE V

CONNECTION FEE SCHEDULE

EDU CREDIT PROGRAM

Resolution No. 85-4 of the VVWRA entitled "Resolution of the Victor Valley Wastewater Reclamation Authority Establishing Policy Guidelines for a Limited Term 'EDU Credit' Program," and the formulas for the EDU Credit Program entitled "VVWRA Deferred Payment Sewer Financing Approach Requirements and Procedures to Determine 'Credit' Amount," dated May 30, 1985, all as previously adopted by the VVWRA, are incorporated herein by this reference and, in conjunction with any contracts executed for that purpose, shall govern those situations wherein a project is approved for inclusion in the EDU Credit Program.

RAFTELIS STUDY

SEE ATTACHED

VICTOR VALLEY
WASTEWATER RECLAMATION AUTHORITY

2019 Wastewater Rate Study and Connection Fee Update

Final Report / August 19, 2019

VVWRA

RAFTELIS

RAFTELIS

August 19, 2019

Chieko Keagy
Controller
Victor Valley Wastewater Reclamation Authority
20111 Shay Road
Victorville, CA 92394

Subject: 2019 Wastewater Rate Study and Connection Fee Update Report

Dear Ms. Keagy,

Raftelis is pleased to provide this 2019 Wastewater Rate Study and Connection Fee Update Report for the Victor Valley Wastewater Reclamation Authority (Authority). The contents of this Report include a financial plan for the Authority for fiscal year (FY) 2020 to FY 2024, proposed user charges over the same timeframe, as well as updated connection fees.

The major objectives of the study include the following:

- Develop a five-year financial plan through FY 2024 to ensure financial sufficiency, meet operating costs, ensure sufficient funding to meet debt obligations, and fund necessary capital expenditures
- Propose updated user charge rates for FY 2020 to FY 2024
- Update the prior connection fee calculation methodology and develop proposed connection fees that are justifiable and fair to both new and existing users of the Authority's wastewater system.

This Report summarizes the key findings and recommendations related to the development of the financial plan, the associated user charges, and the updated connection fee. It has been a pleasure working with you and we thank you, Xiwei Wang, and other Authority staff for the support provided during this study.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Sanjay Gaur
Vice President

Charles Diamond
Consultant

445 S Figueroa Street, Suite 2270
Los Angeles, CA 90071
www.raftelis.com

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1. Executive Summary

1.1. Background of the Study

The Victor Valley Wastewater Reclamation Authority (Authority) is a Joint Power public agency of the State of California formed in 1977 to maintain compliance with the Federal Clean Water Act and to provide wastewater treatment within a 279 square mile service area in San Bernardino County. The primary function of the Authority is to receive and treat wastewater from the four member agencies listed below:

- Town of Apple Valley
- City of Hesperia
- City of Victorville
- County of San Bernardino Special District Service Areas No. 42 (Oro Grande) and No. 64 (Spring Valley Lake)

The Authority is governed by a Board of Commissioners that consists of four elected officials representing each member agency listed above. The Authority operates a Regional Wastewater Treatment Plant with 17 million gallons per day (MGD) of treatment capacity in the City of Victorville. Additionally, the Authority completed construction in April 2018 of two Sub-regional Wastewater Reclamation Plants with 1 MGD of treatment capacity each in the Town of Apple Valley and the City of Hesperia. Wastewater treated by the Authority is either discharged to the Mojave River or utilized as recycled water for irrigative use after undergoing an extensive cleaning and purification process.

The Authority engaged Raftelis in 2018 to conduct a wastewater rate study and connection fee update (Study). The purpose of the Study is to update the Authority's financial plan, user charges, and connection fees. User charges assessed per million gallons (MG) of billed wastewater flows and one-time connection fees assessed per equivalent dwelling unit (EDU) of new development constitute the vast majority of the Authority's annual revenues. Therefore, both user charges and connection fees must be appropriately set to ensure the financial sufficiency of the Authority in manner that is equitable across member agencies.

The Authority last conducted a Financial Plan Update Study and Connection Fee Study in 2014. These prior studies established proposed user charges and connection fees through fiscal year (FY) 2018.[1] Since these prior studies were completed in 2014, unanticipated circumstances have significantly impacted the Authority's financial situation. Firstly, the service area has experienced slower growth from new development than what was anticipated in the 2014 studies. Consequently, lower revenues from user charges and connection fees have been collected compared to projections from the prior financial plan. Additionally, a flow diversion by the City of Victorville and non-payment of connection fees by the City of Hesperia have critically impacted the Authority's financial situation in an adverse manner.

This Study was conducted in order to develop an updated financial plan that accounts for the aforementioned financial challenges which have emerged since the prior studies were conducted in 2014, and to develop updated user charges and connection fees that enhance the financial stability of the Authority. All analyses, results, and recommendations related to this Study are outlined in this Wastewater Rate Study and Connection Fee Update Report (Report).

[1] The Authority's fiscal year spans from July 1 of the prior calendar year to June 30 of the concurrent calendar year. For example, FY 2018 spanned from July 1, 2017 to June 30, 2018.

Given these considerations, the major objectives of this Study include the following:

1. Develop an updated five-year financial plan through FY 2024 to ensure financial sufficiency, meet operating costs, ensure sufficient funding to meet debt obligations, and fund necessary capital expenditures;
2. Develop proposed user charges rates for FY 2020 to FY 2024; and
3. Update the prior connection fee calculation methodology and develop proposed connection fees that are justifiable and fair to both new and existing users of the Authority's wastewater system.

1.2. Results and Recommendations

1.2.1. FINANCIAL PLAN

For this Study, Raftelis and the Authority examined three different financial planning scenarios. The Status Quo Scenario provided the Authority an understanding of the adequacy of current User Charges and Connection Fees in funding the Authority's expenses and debt obligations. Scenario 1, which is not recommended by Raftelis but approved by the Authority's Board of Commissioners, is an alternative revenue adjustment schedule that neither meets the Authority's revenue requirements nor its debt coverage requirements. Note that it incorporates the proposed Connection Fees discussed in Section 5. Scenario 2 presents Raftelis' recommended financial plan and required revenue adjustments in order to adequately meet the Authority's O&M, capital, and debt service expenses as well as meeting its required debt coverage ratio. As with Scenario 1, Scenario 2 incorporates the proposed Connection Fees rather than the current fees. Table 1-1 summarizes the different scenarios examined for this study.

Table 1-1: FY 2020-2024 Scenario Revenue Adjustment Comparison

Description	Connection Fees	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Cumulative Increase
Date Effective		Oct. 2019	July 2020	July 2021	July 2022	July 2023	
Status Quo	Current	0%	0%	0%	0%	0%	0%
Scenario 1 (Approved)	Proposed	8%	8%	8%	8%	8%	46.9%
Scenario 2 (Raftelis Recommended)	Proposed	25%	2.5%	2.5%	2.5%	2.5%	38.0%

Figure 1-1: Scenario 1 O&M/R&R Fund Financial PlanFigure 1-1 illustrates Scenario 1's inability to meet the Authority's O&M and R&R capital expenses and the significant reliance on reserves to meet the Authority's costs for most of the Study Period. As a result of this depletion of reserves, the Authority is unable to meet its combined reserve targets as well as unable to meet its SRF Loan Reserve Requirement (Figure 1-2). As mentioned above, Scenario 1 also results in the Authority not meeting its debt coverage requirements in FY 2020 and FY 2021, as illustrated in Figure 1-3. It is for these reasons that Raftelis cannot recommend this scenario.

Figure 1-1: Scenario 1 O&M/R&R Fund Financial Plan

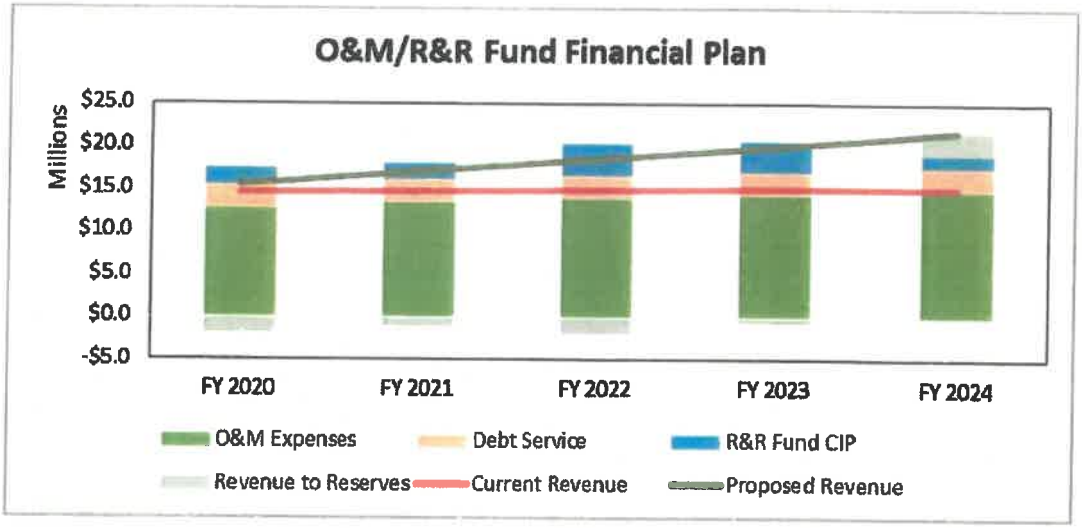


Figure 1-2: Scenario 1 Total Fund Balance

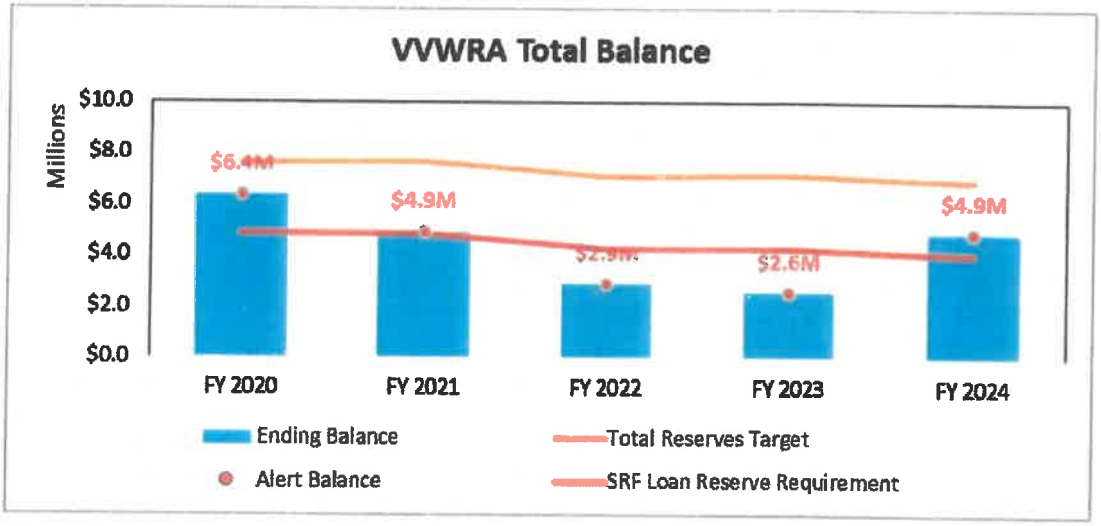
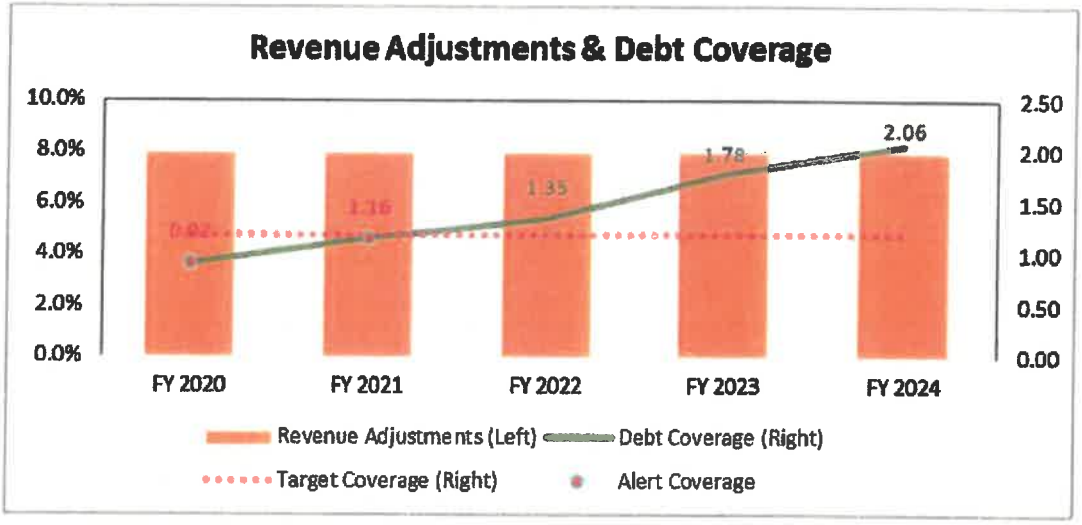


Figure 1-3: Scenario 1 Debt Coverage



In contrast, while Scenario 2 requires some reliance on reserves, it does meet the SRF Reserve Requirement and the debt coverage requirement for the entire Study period. In order to fully fund expenses through rate revenue and not rely on reserves at all, the Authority would have to utilize greater revenue adjustments than proposed in Scenario 2. Figure 1-4, Figure 1-5, and Figure 1-6 show how the Authority meets its obligations while sufficiently funding its expenses.

Figure 1-4: Scenario 2 O&M/R&R Fund Financial Plan

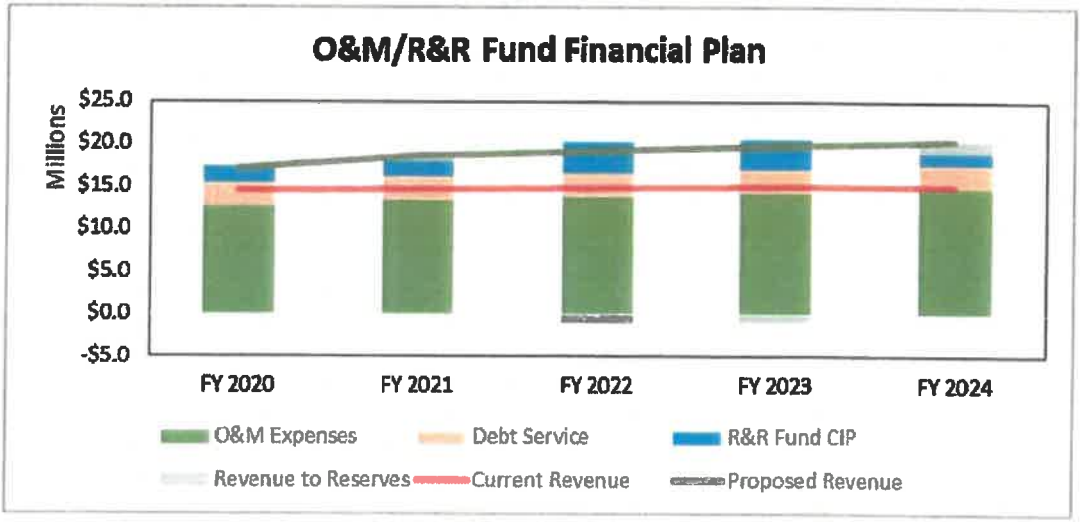


Figure 1-5: Scenario 2 Total Fund Balance

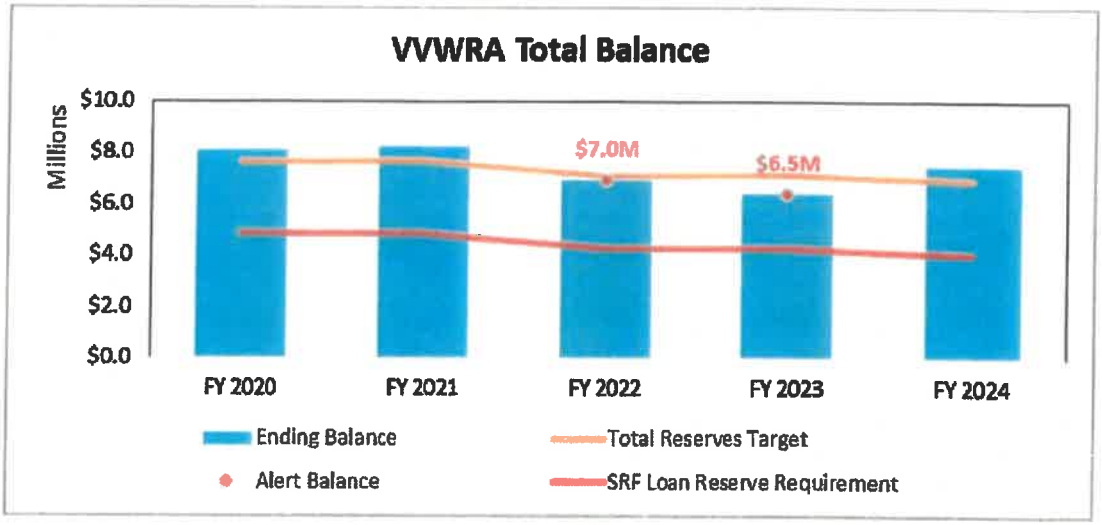
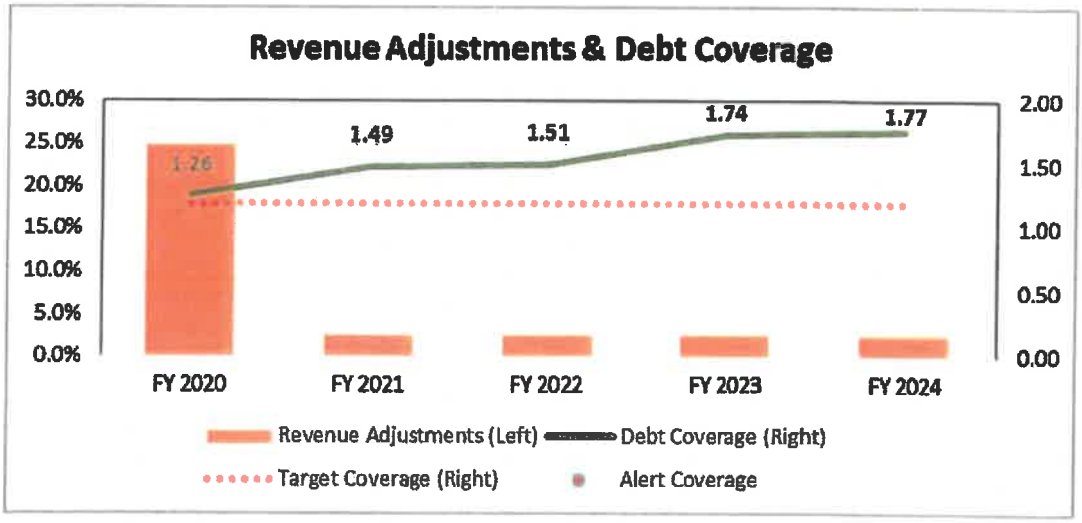


Figure 1-6: Scenario 2 Debt Coverage



1.2.2. PROPOSED USER CHARGES

Proposed User Charges are calculated by simply increasing the prior year's rates by the proposed revenue adjustments from Table 1-1. **Error! Reference source not found.** shows proposed user charges in each year throughout the Study Period for Scenario 1 and Scenario 2.

Table 1-2: Proposed User Charges (per MG)

Description	Current FY 2019	Proposed FY 2020	Proposed FY 2021	Proposed FY 2022	Proposed FY 2023	Proposed FY 2024
Date Effective		Oct. 2019	July 2020	July 2021	July 2022	July 2023
Scenario 1 (Approved)	$3,503	$3,784	$4,087	$4,414	$4,768	$5,150
Scenario 2 (Raftelis Recommended)	$3,503	$4,379	$4,489	$4,602	$4,718	$4,836

1.2.3. UPDATED CONNECTION FEES

The Authority has not updated its Connection Fees since 2014. Therefore, they are no longer reflective of new development's share of the facilities. The Authority utilizes a uniform per EDU Connection Fee that is based on expected demand of one single family residential customer (the equivalent dwelling unit). This translates other customer types to an equivalent number of single-family residential customers. The assumed gallons per day of wastewater flow contributed by one EDU is 200 gallons.

Table 1-3: Current Connection Fee

Description	Connection Fee
1 EDU	**$4,000**

The Authority's wastewater system has capacity within the existing system to serve future growth; however, there are also specific growth-related capital projects necessary accommodate new equivalent dwelling units. Therefore, we utilized the hybrid approach. Section 5 provides the detailed calculation of the buy-in and incremental components combined to arrive at the proposed Connection Fee. Table 1-4 shows the resulting proposed Connection Fee per equivalent dwelling unit (EDU) in comparison to the current Connection Fee.

Table 1-4: Proposed Connection Fee Impact

Description	Impact
Proposed Connection Fee ($/EDU)	**$4,679**
Current Connection Fee ($/EDU)	**$4,000**
Difference ($)	**$679**
Difference (%)	**17.0%**

2. Introduction

2.1. Background of the Study

The Victor Valley Wastewater Reclamation Authority (the Authority) is a Joint Power public agency of the State of California formed in 1977 to maintain compliance with the Federal Clean Water Act and to provide wastewater treatment within a 279 square mile service area in San Bernardino County. The primary function of the Authority is to receive and treat wastewater from the four member agencies listed below:

- Town of Apple Valley
- City of Hesperia
- City of Victorville
- County of San Bernardino Special District Service Areas No. 42 (Oro Grande) and No. 64 (Spring Valley Lake)

The Authority is governed by a Board of Commissioners that consists of four elected officials representing each member agency listed above. The Authority operates a Regional Wastewater Treatment Plant with 17 million gallons per day (MGD) of treatment capacity in the City of Victorville. Additionally, the Authority completed construction in April 2018 of two Sub-regional Wastewater Reclamation Plants with 1 MGD of treatment capacity each in the Town of Apple Valley and the City of Hesperia. Wastewater treated by the Authority is either discharged to the Mojave River or utilized as recycled water for irrigative use after undergoing an extensive cleaning and purification process.

The Authority engaged Raftelis in 2018 to conduct a wastewater rate study and connection fee update (Study). The purpose of the Study is to update the Authority's financial plan, user charges, and connection fees. User charges assessed per million gallons (MG) of billed wastewater flows and one-time connection fees assessed per equivalent dwelling unit (EDU) of new development constitute the vast majority of the Authority's annual revenues. Therefore, both user charges and connection fees must be appropriately set to ensure the financial sufficiency of the Authority in manner that is equitable across member agencies.

The Authority last conducted a Financial Plan Update Study and Connection Fee Study in 2014. These prior studies established proposed user charges and connection fees through fiscal year (FY) 2018.[2] Since these prior studies were completed in 2014, unanticipated circumstances have significantly impacted the Authority's financial situation. Firstly, the service area has experienced slower growth from new development than what was anticipated in the 2014 studies. Consequently, lower revenues from user charges and connection fees have been collected compared to projections from the prior financial plan. Additionally, a flow diversion by the City of Victorville and non-payment of connection fees by the City of Hesperia have critically impacted the Authority's financial situation in an adverse manner.

This Study was conducted in order to develop an updated financial plan that accounts for the aforementioned financial challenges which have emerged since the prior studies were conducted in 2014, and to develop updated user charges and connection fees that enhance the financial stability of the Authority. All analyses, results, and recommendations related to this Study are outlined in this Wastewater Rate Study and Connection Fee Update Report (Report).

[2] The Authority's fiscal year spans from July 1 of the prior calendar year to June 30 of the concurrent calendar year. For example, FY 2018 spanned from July 1, 2017 to June 30, 2018.

Given these considerations, the major objectives of this Study include the following:

4. Develop an updated five-year financial plan through FY 2024 to ensure financial sufficiency, meet operating costs, ensure sufficient funding to meet debt obligations, and fund necessary capital expenditures;
5. Develop proposed user charges rates for FY 2020 to FY 2024; and
6. Update the prior connection fee calculation methodology and develop proposed connection fees that are justifiable and fair to both new and existing users of the Authority's wastewater system.

3. Key Assumptions

The Study period is from FY 2020 to 2024. The Study is based on the FY 2020 budget inflated annually to forecast changes in costs. Various types of assumptions and inputs were incorporated into the Study based on directions from Authority staff. The cost escalation factors are shown in Table 3-1. The general inflation rate of 3% is based on a historical Consumer Price Index (CPI) range of 3-3.5%. All other inflationary assumptions were determined based on Authority staff estimates.

Table 3-1: Cost Escalation Factors

Inflationary Category	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
General	3.0%	3.0%	3.0%	3.0%	3.0%
Salaries	3.0%	3.0%	3.0%	3.0%	3.0%
Benefits	5.0%	5.0%	5.0%	5.0%	5.0%
Utilities	3.0%	3.0%	3.0%	3.0%	3.0%
Capital	3.1%	3.1%	3.1%	3.1%	3.1%
Non-Inflated	0.0%	0.0%	0.0%	0.0%	0.0%
Non-Recurring	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%
Combined Salary/Benefits	3.0%	3.0%	3.0%	3.0%	3.0%

The Authority does not expect to serve any additional agencies over its current customer base during the Study period. However, across its member agencies, they expect the addition of 500 equivalent dwelling units (EDUs) per fiscal year. This incremental increase (Table 3-2, Line 1) will both provide the Authority with additional connection fee revenues and slightly increase wastewater flows annually during the Study period (Line 2). The Authority does not expect water conservation to affect wastewater flows during the Study period (Line 3). The resulting projected flows in million gallons (MG) are shown in Line 4.

Table 3-2: System Demand Assumptions

Line	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
1	Incremental Increase in EDUs	500	500	500	500	500
2	Annual Growth in Billed Wastewater Flows	0.59%	0.80%	0.80%	0.80%	0.80%
3	Water Conservation Factor	100%	100%	100%	100%	100%
4	Total Billed Wastewater Flows (MG)	3,900	3,931	3,963	3,994	4,026

4. Financial Plan Development

4.1. Operating & Maintenance Expenses

The Authority's combined Operating and Maintenance (O&M) expenses are shown in Table 4-1. The FY 2020 budget is inflated according to the inflationary factors shown in Section 3. Personnel Expenses include salaries, CALPERS benefits, and insurance. Maintenance Expenses includes costs such as vehicle repairs, maintaining safety equipment, and grounds maintenance. Operations Expenses encompass costs such as utility bills, wastewater treatment costs, and lab supplies. Administrative Expenses include office supplies, legal services, and permits & professional fees. Note that Construction Expenses consist of other interest expenses and are not capital improvements themselves.

Table 4-1: Budgeted and Projected Water O&M Expenses

Description	FY 2020 Budgeted	FY 2021 Projected	FY 2022 Projected	FY 2023 Projected	FY 2024 Projected
Personnel Expenses	$4,974,695	$5,481,876	$5,687,015	$5,890,914	$6,102,583
Maintenance Expenses	$2,864,482	$2,950,416	$3,038,929	$3,130,097	$3,224,000
Operations Expenses	$3,433,685	$3,556,645	$3,684,056	$3,816,082	$3,952,891
Administration Expenses	$1,822,648	$1,877,327	$1,933,647	$1,991,657	$2,051,406
Construction Expenses	$10,957	$10,957	$10,957	$10,957	$10,957
Total	$13,106,467	$13,877,222	$14,354,605	$14,839,707	$15,341,837

4.2. Debt Service Obligations

Table 4-2 lists the Authority's annual debt service for the Study period. The debt obligation for both the 9.5 MGD Capital Improvements and 11 MGD Expansion of the treatment plant will be fulfilled during the Study period (FY 2020 and FY 2022 respectively). Additionally, the Authority does not intend to incur any new debt during the Study period.

Table 4-2: Annual Debt Service

Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Current Debt					
9.5 MGD Capital Improvements	$265,049	$0	$0	$0	$0
11 MGD Expansion	$579,870	$579,870	$579,870	$0	$0
North Apple Valley Interceptor	$258,151	$258,151	$258,151	$258,151	$258,151
Phase IIIA Regulatory Upgrades	$1,027,610	$1,027,610	$1,027,610	$1,027,610	$1,027,610
Upper Narrows Replacement	$257,745	$257,745	$257,745	$257,745	$257,745
Nanticoke Bypass	$271,633	$271,633	$271,633	$271,633	$271,633
Apple Valley Sub-Regional	$1,024,951	$1,024,951	$1,024,951	$1,024,951	$1,024,951
Hesperia Subregional	$1,462,850	$1,462,850	$1,462,850	$1,462,850	$1,462,850
Total Current Debt	**$5,147,861**	**$4,882,810**	**$4,882,810**	**$4,302,940**	**$4,302,940**
Proposed Debt	**$0**	**$0**	**$0**	**$0**	**$0**
Total Debt Service	**$5,147,861**	**$4,882,810**	**$4,882,810**	**$4,302,940**	**$4,302,940**

4.3. Capital Improvement Plan

Table 4-3 lists the Authority's capital improvement plan (CIP) for the Study period. The Authority intends to fully fund its CIP for the Study period through User Charge and Connection Fee Revenues. User Charge revenues (O&M/R&R Fund) will fund capital repair and replacement projects, while the Connection Fee revenues (Capital Fund) will fund new capital projects.

Table 4-3: FY 2020-2024 Capital Improvement Plan

Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Digester 4&5 Dome Repair and Misc. Mechanical	$325,000	$386,660	$0	$0	$0
Digester 4&5 Dome Repair and Misc. Mechanical	$50,000	$0	$0	$0	$0
SCADA Upgrade Project (Ignition)	$0	$143,322	$0	$0	$0
Coating Project: UV and DAFTS	$425,000	$0	$0	$0	$0
Digital Information Management System (DIMS)	$0	$61,866	$0	$0	$0
Headworks Replacement	$50,000	$154,664	$212,631	$3,288,628	$0
Oro Grande Interceptor First Priority - possible USDA grant	$150,000	$103,109	$2,498,409	$0	$0
Ossum Wash	$0	$670,210	$0	$0	$0
R4B South Lower Narrows	$0	$0	$0	$0	$0
Interceptor Risk Assessment Report	$50,000	$0	$0	$0	$0
Programmable Logic Control (PLC) Replacement	$400,000	$0	$0	$0	$0
Programmable Logic Control (PLC) Replacement	$55,000	$0	$0	$0	$0
Fleet Replacement	$100,000	$0	$0	$0	$0
Network Re-design and updates	$100,000	$51,555	$0	$0	$0
Network Re-design and updates	$35,000	$0	$0	$0	$0
Main Switch Board Upgrade/Replacement	$0	$0	$372,103	$0	$0
Motor Control Center (MCC) - Aqua Diamonds	$0	$170,130	$0	$0	$0
UV Generator Tie-in to South Perc. Pond PS	$0	$0	$398,682	$0	$0
Micro-grid/Battery Storage Project	$0	$0	$0	$0	$0
Storm Water Spill Containment System	$400,000	$0	$0	$0	$0
Digester 1-5 Engineering Services	$50,000	$20,622	$0	$0	$0
Golf Cart Recharging Station	$0	$15,466	$0	$0	$0
Operations Building Extension	$0	$206,219	$0	$0	$0
Digesters 4 and 5 Supernatant Line	$0	$77,332	$0	$0	$0
Upgrades to AV WRP	$100,000	$0	$0	$0	$0
R4A North Lower Narrows MH 3-1 to MH 3-3	$0	$51,555	$106,315	$54,810	$1,895,502
R7 Old Town VV MH 4-24 to MH 4-25A	$0	$0	$0	$109,621	$113,029
R5 Cemex MH 4-7 to 4-14	$0	$0	$53,158	$109,621	$113,029
R4B South Lower Narrows	$0	$0	$0	$0	$0
Solids Dewatering and Side Stream Study	$50,000	$0	$0	$0	$0
Capitalized Pump Expenses	$288,000	$123,731	$127,578	$131,545	$135,635
Total	**$2,628,000**	**$2,236,441**	**$3,768,876**	**$3,694,225**	**$2,257,196**

Figure 4-1 and Figure 4-2 show total CIP by funding source for the Authority's R&R Fund and Capital Fund respectively. R&R Fund CIP includes projects required to maintain the existing wastewater system, while Capital Fund CIP includes CIP projects required to serve future new connections to the wastewater system.

Figure 4-1: FY 2020-2024 O&M/R&R Fund Capital Financing Plan

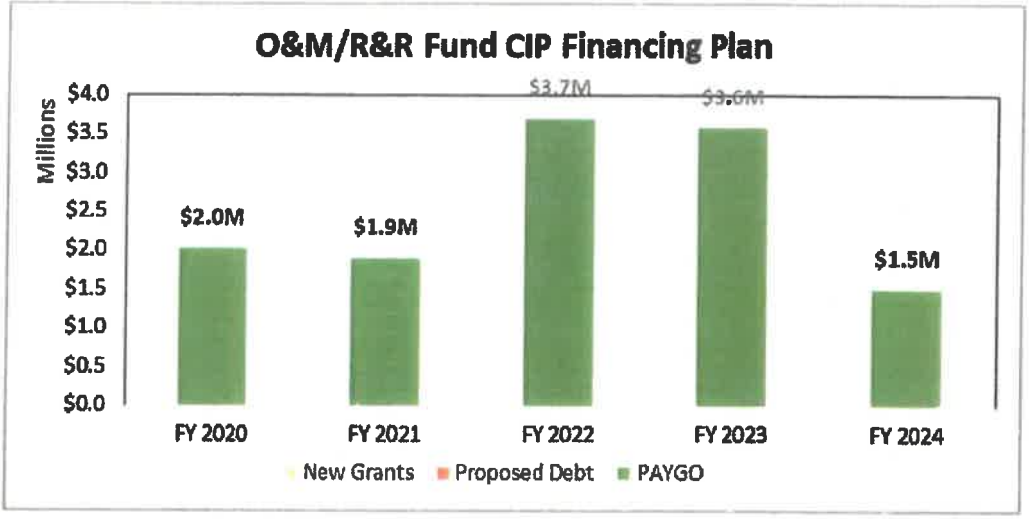
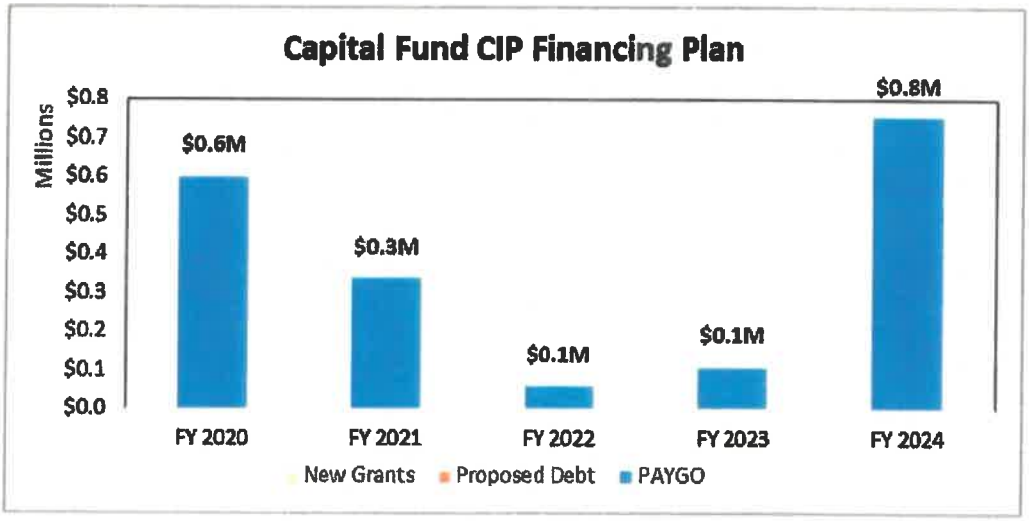


Figure 4-2: FY 2020-2024 CIP Fund Capital Financing Plan



4.4. Financial Planning Scenarios

For this Study, Raftelis and the Authority examined three different financial planning scenarios. The Status Quo Scenario provided the Authority an understanding of the adequacy of current User Charges and Connection Fees in funding the Authority's expenses and debt obligations. Scenario 1, which is not recommended by Raftelis but approved by the Authority's Board of Commissioners, is an alternative revenue adjustment schedule that neither meets the Authority's revenue requirements nor its debt coverage requirements. Note that it incorporates the proposed Connection Fees discussed in Section 5. Scenario 2 presents Raftelis' recommended financial plan and required revenue adjustments in order to adequately meet the Authority's O&M, capital, and debt service expenses as well as meeting its required debt coverage ratio. As with Scenario 1, Scenario 2 incorporates the proposed Connection Fees rather than the current fees. Table 4-4 summarizes the different scenarios examined for this study.

Table 4-4: FY 2020-2024 Scenario Revenue Adjustment Comparison

Description	Connection Fees	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Cumulative Increase
Date Effective		Oct. 2019	July 2020	July 2021	July 2022	July 2023	
Status Quo	Current	0%	0%	0%	0%	0%	0%
Scenario 1 (Approved)	Proposed	8%	8%	8%	8%	8%	46.9%
Scenario 2 (Raftelis Recommended)	Proposed	25%	2.5%	2.5%	2.5%	2.5%	38.0%

4.4.1. STATUS QUO FINANCIAL PLAN (NO REVENUE INCREASE)

The Status Quo financial plan projects the Authority's ability to meet its expenses under current User Charges, which have not been increased since FY 2018. In this section, we calculate revenue under the current User Charges and examine how well it meets the Authority's revenue requirement.

4.4.1.1. Projected Revenues Under Current Rates

The current user charge has been in place since FY 2018, with the previous study conducted in calendar year 2014. Currently, all member agencies pay a flat user charge of $3,503 per MG of flow into the system. Revenues from the User Charge are calculated by multiplying this charge by the total projected wastewater flows shown in Line 4 of Table 3-2.

Table 4-5: FY 2020-2024 Projected Revenues from Current User Charge

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
User Charge	$3,503	$3,503	$3,503	$3,503	$3,503
Total Billed Wastewater Flows (MG)	3,900	3,931	3,963	3,994	4,026
Total User Charge Revenue	**$13,661,700**	**$13,770,994**	**$13,881,162**	**$13,992,211**	**$14,104,149**

As mentioned in Section 3, the Authority expects that 500 additional units will be added each year between the four member agencies. The Authority charges a Connection Fee for each added EDU. When a wastewater treatment system is developed, it requires significant infrastructure investment to build the system. The initial EDUs served pay for the construction of this infrastructure through their wastewater charges. New EDUs would not have made that investment. Therefore, the Authority charges a uniform Connection Fee per EDU, which can recoup some of the costs of the initial investment and/or expansion of the system. For this Study, Raftelis has also updated the Connection Fees, which are discussed in detail in Section 5. Table 4-6 shows the calculation of the projected Connection Fee revenue under the current fees.

Table 4-6: FY 2020-2024 Projected Revenues from Current Connection Fees

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Connection Fee	$4,000	$4,000	$4,000	$4,000	$4,000
Additional EDUs per Year	500	500	500	500	500
Total Connection Fee Revenue	**$2,000,000**	**$2,000,000**	**$2,000,000**	**$2,000,000**	**$2,000,000**

Table 4-7 shows the projected total revenues for the Study period. In addition to the User Charge and Connection Fee revenue calculated above, the Authority also earns other revenue from services such as fats, oils, and grease (FOG) tipping fees and processing high strength waste in addition to earning interest.

Table 4-7: Status Quo Scenario FY 2020-2024 Projected Total Revenues

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
User Charge Revenues	$13,661,700	$13,770,994	$13,881,162	$13,992,211	$14,104,149
Connection Fee Revenues	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Other Operating Revenues	$1,066,200	$1,063,700	$1,063,700	$1,063,700	$1,063,700
Interest	$50,000	$75,273	$68,387	$65,321	$61,485
Total	**$16,777,900**	**$16,909,967**	**$17,013,248**	**$17,121,232**	**$17,229,334**

4.4.1.2. Resulting Status Quo Financial Plan

Table 4-8 displays the pro forma of the Authority's combined funds (O&M/R&R Funds and Capital Fund) under current rates over the Study period without any revenue adjustment. The pro forma examines how well the projected revenues in Table 4-7 meet the O&M expenses defined in Table 4-1, debt service obligations in Table 4-2, and the CIP detailed in Table 4-3. Line 16 shows the net cash flow resulting from subtracting these expenses (Line 14) from the projected revenues under current rates (Line 6). The net cash flow for the Study period indicates that the current rates significantly underfund the Authority's financial obligations. Figure 4-3 illustrates the impact of maintaining current rates on the O&M and R&R combined funds as the Capital Fund is designated for expansion capital improvements and separately funded through Connection Fees. Note that, even when narrowing the focus to only the O&M/R&R Fund, current revenues are unable to meet these obligations.

As a result of insufficient revenues, the Authority must supplement revenues with reserve funds, shown in Table 4-8 by subtracting the net cash flow (Line 16) from the beginning cash balance (Line 20). While this solution funds expenses for FY 2020 and FY 2021, beginning in FY 2022, the Authority would be unable to fully fund its expenses. The Authority is unable to meet its combined reserve target, set by Authority policy, or its SRF loan reserve requirement (Figure 4-4) under current rates. In addition, the Authority is unable to meet its required debt coverage ratio during the entire Study period (Lines 23 and 24). The insufficiency of the current rates to meet this debt coverage obligation is also shown in Figure 4-5.

Table 4-8: Status Quo Financial Plan

Line No.	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
1	**Source of Funds**					
2	User Charge Revenues	$13,661,700	$13,770,994	$13,881,162	$13,992,211	$14,104,149
3	Connection Fee Revenues	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
4	Other Operating Revenues	$1,066,200	$1,063,700	$1,063,700	$1,063,700	$1,063,700
5	Interest	$50,000	$75,273	$68,387	$65,321	$61,485
6	**Total - Source of Funds**	**$16,777,900**	**$16,909,967**	**$17,013,248**	**$17,121,232**	**$17,229,334**
7						
8	**Use of Funds**					
9	Operating Expenses	$13,106,467	$13,877,222	$14,354,605	$14,839,707	$15,341,837
10	R&R Fund CIP	$2,028,000	$1,898,758	$3,709,340	$3,586,249	$1,502,217
11	Capital Fund CIP	$600,000	$337,683	$59,537	$107,977	$754,980
12	Existing Debt Service	$5,147,861	$4,882,810	$4,882,810	$4,302,940	$4,302,940
13	Proposed Debt Service	$0	$0	$0	$0	$0
14	**Total - Use of Funds**	**$20,882,328**	**$20,996,473**	**$23,006,291**	**$22,836,872**	**$21,901,974**
15						
16	**Net Cash Flow**	**($4,104,428)**	**($4,086,506)**	**($5,993,043)**	**($5,715,640)**	**($4,672,640)**
17						
18	Beginning Cash Balance	$9,427,089	$5,322,661	$1,236,155	($4,756,888)	($10,472,528)
19						
20	**Ending Cash Balance**	$5,322,661	$1,236,155	($4,756,888)	($10,472,528)	($15,145,168)
21	Total Reserves Target	$7,703,034	$7,716,936	$7,173,072	$7,196,147	$6,961,462
22						
23	Debt Coverage	71%	62%	54%	53%	44%
24	Target Coverage	120%	120%	120%	120%	120%

Figure 4-3: Status Quo O&M/R&R Fund Financial Plan

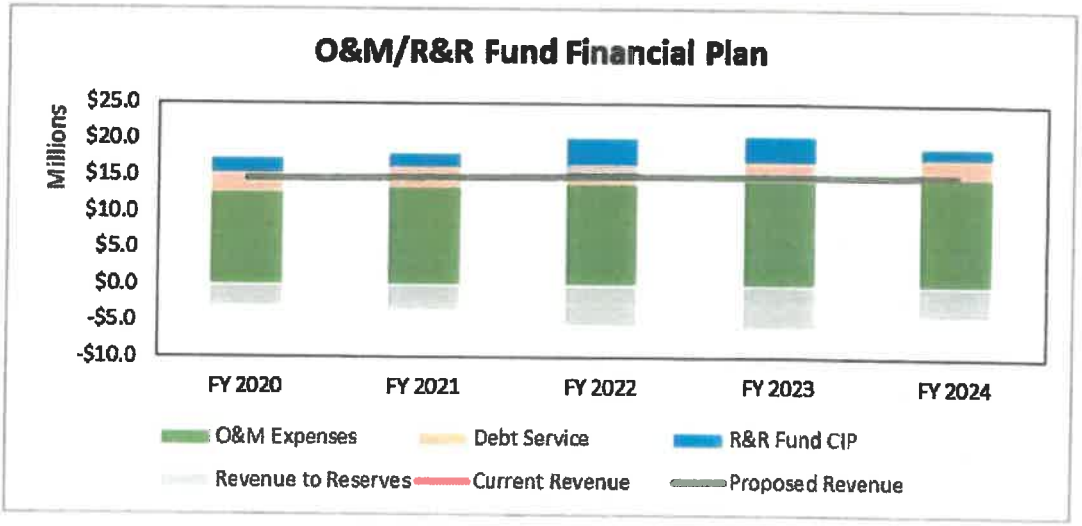


Figure 4-4: Status Quo Total Fund Balance

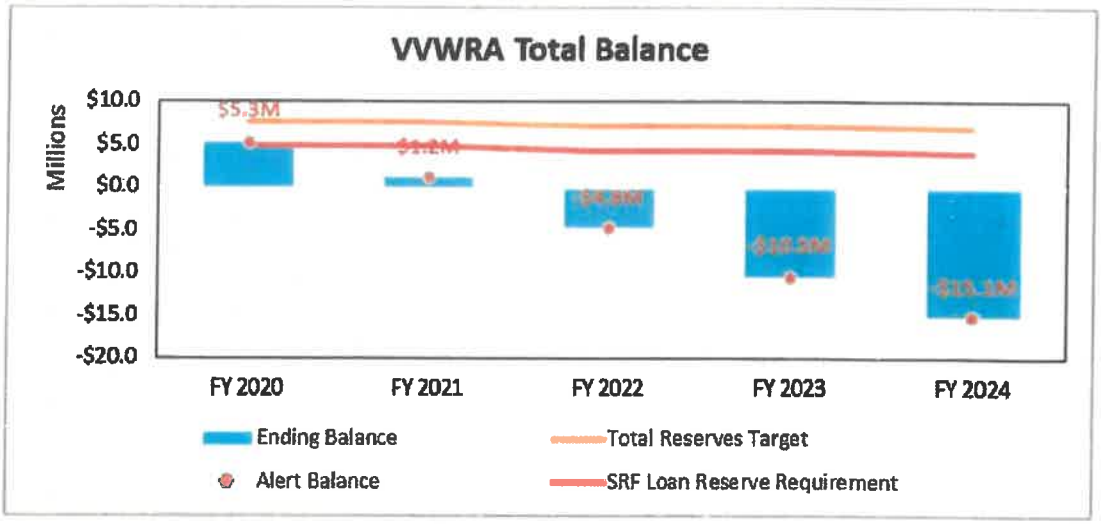
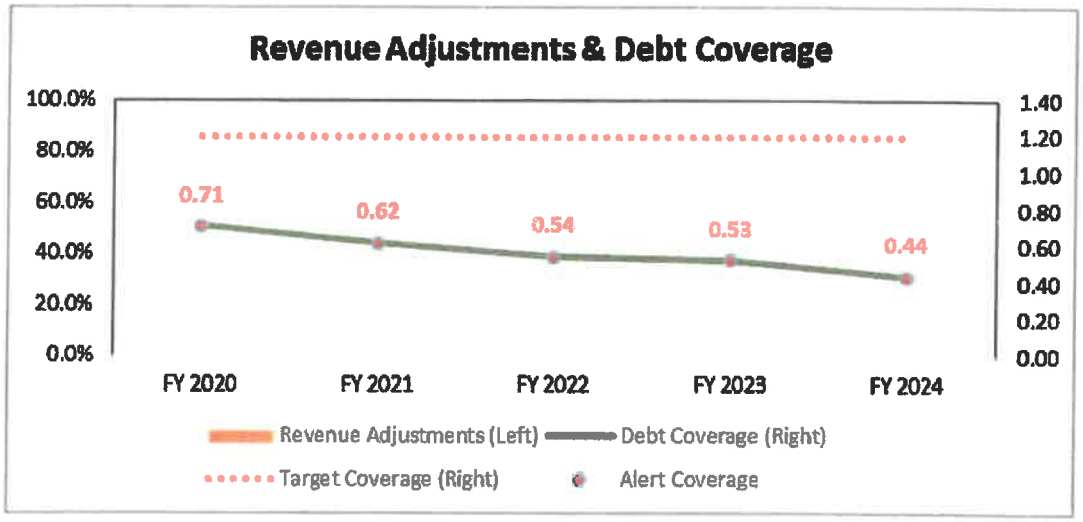


Figure 4-5: Status Quo Debt Coverage



4.4.2. SCENARIO 1 FINANCIAL PLAN (APPROVED BY BOARD)

The Scenario 1 financial plan projects the Authority's ability to meet its expenses under the Board-approved revenue adjustment schedule, shown below in Table 4-9. This schedule will increase the current User Charge of $3503/MG by 8-percent annually for the Study period, resulting in a cumulative increase of 46.9-percent. In this section, we calculate revenue under the resulting Scenario 1 User Charges and examine how well it meets the Authority's revenue requirement. Note, this Board-approved scenario does not meet required debt coverage in all years within the Study period. Therefore, under our fiduciary responsibility as a municipal advisor, Raftelis cannot recommend proceeding with this scenario.

Table 4-9: Scenario 1 FY 2020-2024 Revenue Adjustment Schedule

Description	Connection Fees	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Cumulative Increase
Date Effective		Oct. 2019	July 2020	July 2021	July 2022	July 2023	
Scenario 1 Percent Increases (Approved)	Proposed	8%	8%	8%	8%	8%	46.9%
Scenario 1 User Charges (Approved)		$3,784	$4,087	$4,414	$4,768	$5,150	

4.4.2.1. Projected Revenues Under Scenario 1 Charges

Revenues from the Scenario 1 User Charges are calculated by first escalating the current User Charge by the schedule in Table 4-9. The resulting charge for each year is then multiplied by the projected billed wastewater flows (Line 4 of Table 3-2) to arrive at the total User Charge Revenues under the approved Scenario 1 User Charges. Note that the FY 2020 increase will not be implemented until October 2019.

Table 4-10: FY 2020-2024 Projected Revenues from Approved Scenario 1 User Charge

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Scenario 1 User Charge	$3,503	$3,784	$4,087	$4,414	$4,768	$5,150
Total Billed Wastewater Flows (MG)		3,900	3,931	3,963	3,994	4,026
Total Scenario 1 User Charge Revenue		**$14,481,402**	**$16,062,487**	**$17,486,266**	**$19,036,248**	**$20,723,621**

Under this scenario, the Authority also expects that 500 additional units (as in the Status Quo Scenario) will be added each year between the four member agencies. Scenario 1 incorporates the proposed Connection Fees, detailed in Section 5. As noted in the previous section, Connection Fee revenues are allocated entirely to Capital Fund costs to pay for construction related to new development. The fee will continue to be a uniform fee per added EDU with only an initial increase in FY 2020 and no further adjustments over the Study period. Table 4-11 shows the projected revenues from the proposed Connection Fees. The Authority expects to incorporate the new Connection Fees in October 2019. Therefore, FY 2020 shows less total revenue from the Connection Fees as it will continue to use the current Connection Fee for the first three months of the fiscal year.

Table 4-11: FY 2020-2024 Projected Revenues from Proposed Connection Fees

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Connection Fee	$4,000	$4,679	$4,679	$4,679	$4,679	$4,679
Additional EDUs per Year		500	500	500	500	500
Total Connection Fee Revenue		**$2,254,625**	**$2,339,500**	**$2,339,500**	**$2,339,500**	**$2,339,500**

Table 4-12 shows the projected total revenues for the Study period under Scenario 1. This combines the revenue calculated in Table 4-10 and Table 4-11 with the Other Operating Revenues and Interest originally projected in Table 4-7.

Table 4-12: Scenario 1 FY 2020-2024 Projected Total Revenues

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
User Charge Revenues	$14,481,402	$16,062,487	$17,486,266	$19,036,248	$20,723,621
Connection Fee Revenues	$2,254,625	$2,339,500	$2,339,500	$2,339,500	$2,339,500
Other Operating Revenues	$1,066,200	$1,063,700	$1,063,700	$1,063,700	$1,063,700
Interest	$50,000	$79,517	$76,068	$76,474	$76,145
Total	$17,852,227	$19,545,204	$20,965,534	$22,515,922	$24,202,966

4.4.2.2. Resulting Scenario 1 Financial Plan

Table 4-13 displays the pro forma of the Authority's combined funds (O&M Fund, R&R Fund, and Capital Fund) under Scenario 1 approved User Charges and Connection Fees over the Study period. The pro forma examines how well the projected revenues in Table 4-12 meet the O&M expenses defined in Table 4-1, debt service obligations in Table 4-2, and the CIP detailed in Table 4-3. Line 16 shows the net cash flow resulting from subtracting these expenses (Line 14) from the projected revenues under Scenario 1 charges (Line 6). The net cash flow improves somewhat under Scenario 1, but still significantly underfunds the Authority's financial obligations until FY 2024, where it begins to show a positive net cash flow. Figure 4-6 illustrates the impact of Scenario 1 on the O&M and R&R Funds. Under this scenario, the Authority begins to meet its debt coverage obligation in FY 2022 (also shown in Table 4-13, Line 23) due to the revenue adjustments combined with the remaining balance in the combined reserves. However, the Authority must make up the entire shortfall (Line 16) in FY 2020 and FY 2021 through reserve funding. As noted before, since the Authority is unable to meet its required debt coverage ratio under this scenario in FY 2020 and FY 2021 (Table 4-13, Line 23 and Figure 4-8),Raftelis cannot recommend that the Authority implement this scenario.

Since this scenario still results in insufficient revenues for FY 2020 through FY 2023, the Authority must supplement revenues with reserve funds, shown in Table 4-13 by subtracting the net cash flow (Line 16) from the beginning cash balance (Line 20). While this scenario avoids fully depleting reserves, it still reduces combined reserves to insufficient levels for its combined reserve target. It also does not meet the Authority's SRF loan reserve requirement (Figure 4-4) in FY 2022 and FY 2023.

Table 4-13: Scenario 1 Financial Plan

Line No.	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
1	**Source of Funds**					
2	User Charge Revenues	$14,481,402	$16,062,487	$17,486,266	$19,036,248	$20,723,621
3	Connection Fee Revenues	$2,254,625	$2,339,500	$2,339,500	$2,339,500	$2,339,500
4	Other Operating Revenues	$1,066,200	$1,063,700	$1,063,700	$1,063,700	$1,063,700
5	Interest	$50,000	$79,517	$76,068	$76,474	$76,145
6	**Total - Source of Funds**	**$17,852,227**	**$19,545,204**	**$20,965,534**	**$22,515,922**	**$24,202,966**
7						
8	**Use of Funds**					
9	Operating Expenses	$13,106,467	$13,877,222	$14,354,605	$14,839,707	$15,341,837
10	R&R Fund CIP	$2,028,000	$1,898,758	$3,709,340	$3,586,249	$1,502,217
11	Capital Fund CIP	$600,000	$337,683	$59,537	$107,977	$754,980
12	Existing Debt Service	$5,147,861	$4,882,810	$4,882,810	$4,302,940	$4,302,940
13	Proposed Debt Service	$0	$0	$0	$0	$0
14	**Total - Use of Funds**	**$20,882,328**	**$20,996,473**	**$23,006,291**	**$22,836,872**	**$21,901,974**
15						
16	**Net Cash Flow**	**($3,030,101)**	**($1,451,269)**	**($2,040,757)**	**($320,950)**	**$2,300,992**
17						
18	Beginning Cash Balance	$9,427,089	$6,396,988	$4,945,719	$2,904,962	$2,584,012
19						
20	**Ending Cash Balance**	**$6,396,988**	**$4,945,719**	**$2,904,962**	**$2,584,012**	**$4,885,005**
21	Total Reserves Target	$7,703,034	$7,716,936	$7,173,072	$7,196,147	$6,961,462
22						
23	Debt Coverage	92%	116%	135%	178%	206%
24	Target Coverage	120%	120%	120%	120%	120%

Figure 4-6: Scenario 1 O&M/R&R Fund Financial Plan

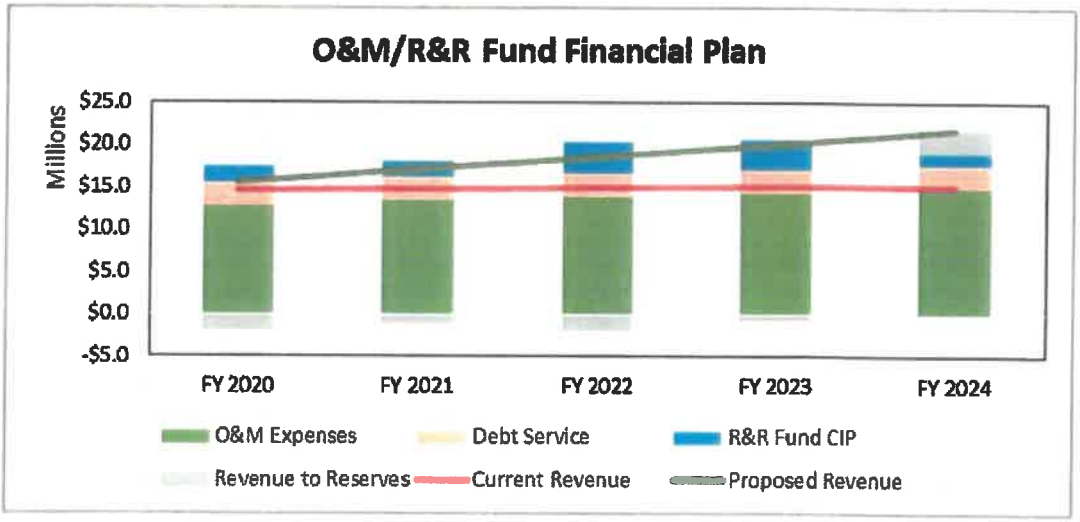


Figure 4-7: Scenario 1 Total Fund Balance

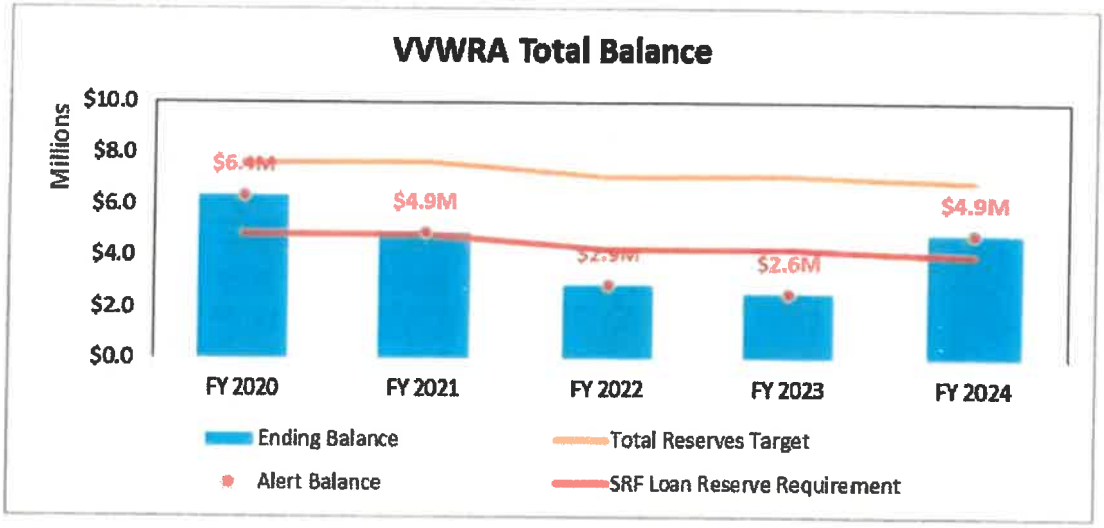
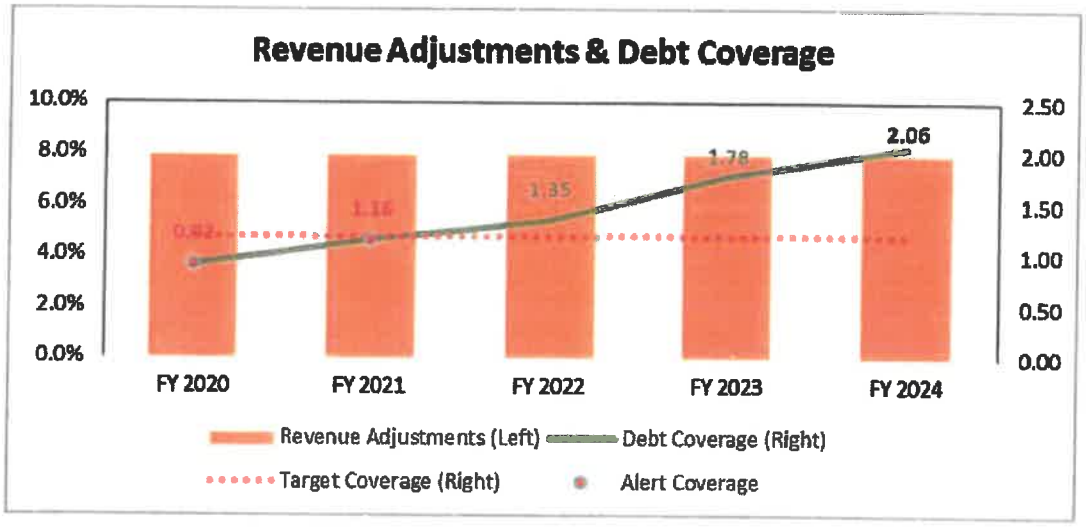


Figure 4-8: Scenario 1 Debt Coverage



4.4.3. SCENARIO 2 FINANCIAL PLAN (RAFTELIS RECOMMENDED)

Raftelis recommends the Scenario 2 Financial Plan, which projects the Authority funding its expenses while also meeting its debt coverage and reserve requirements for the entire Study period. The Scenario 2 revenue adjustments are shown below in Table 4-14. This scenario also incorporates the proposed Connection Fees effective October 2019. This schedule will increase the current User Charge of $3,503/MG by 25-percent in October 2019 so that the Authority can begin meeting its debt coverage and reserve obligations. Raftelis then recommends an annual adjustment of 2.5-percent for the remaining years in the Study period, resulting in a cumulative increase of 38.0% for the 5-year Study period. In this section, we calculate revenue under the Scenario 2 User Charges resulting from this rate adjustment schedule and discuss how it meets the Authority's expenses in addition to its debt coverage and SRF reserve requirements.

Table 4-14: Scenario 2 FY 2020-2024 Revenue Adjustment Schedule

Description	Connection Fees	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Cumulative Increase
Date Effective		Oct. 2019	July 2020	July 2021	July 2022	July 2023	
Scenario 2 (Raftelis-Recommended)	Proposed	25%	2.5%	2.5%	2.5%	2.5%	38.0%
Scenario 2 User Charges		$4,379	$4,489	$4,602	$4,718	$4,836	

4.4.3.1. Projected Revenues Under Scenario 2 Rates

As in the previous two scenarios, revenues from the Scenario 2 User Charge are calculated by first escalating the current User Charge by the schedule in Table 4-14. The resulting charge for each year is then multiplied by the projected billed wastewater flows (Line 4 of Table 3-2) to arrive at the total User Charge Revenues under the recommended Scenario 2 User Charges. Note that the FY 2020 increase will not be implemented until October 2019, thus the current rate is applied to the first three months' usage of the fiscal year.

Table 4-15: FY 2020-2024 Projected Revenues from Raftelis-Recommended Scenario 2 User Charge

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Scenario 2 User Charge	$3,503	$4,379	$4,489	$4,602	$4,718	$4,836
Total Billed Wastewater Flows (MG)		3,900	3,931	3,963	3,994	4,026
Total Scenario 2 User Charge Revenue		**$16,223,269**	**$17,644,086**	**$18,229,869**	**$18,835,101**	**$19,460,426**

Under this scenario, the Authority also expects that 500 additional units (as in the Status Quo Scenario) will be added each year between the four member agencies. Like Scenario 1, Scenario 2 incorporates the proposed Connection Fees, detailed in Section 5. Again, Connection Fee revenues are allocated entirely to Capital Fund costs to pay for construction related to new development. The fee will continue to be a uniform fee per added EDU with only an initial increase in FY 2020 and no further adjustments over the Study period. Table 4-16 repeats the projected revenues from the proposed Connection Fees first calculated in Table 4-11. Note again that FY 2020 shows less total revenue from the Connection Fees as it will continue to use the current Connection Fee for the first three months of the fiscal year.

Table 4-16: FY 2020-2024 Projected Revenues from Proposed Connection Fees

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Connection Fee	$4,000	$4,679	$4,679	$4,679	$4,679	$4,679
Additional EDUs per Year		500	500	500	500	500
Total User Charge Revenue		**$2,254,625**	**$2,339,500**	**$2,339,500**	**$2,339,500**	**$2,339,500**

Table 4-17 shows the projected total revenues for the Study period under Scenario 2. This combines the revenue calculated in Table 4-15 and Table 4-16 with the Other Operating Revenues originally projected in Table 4-7 and updated Interest revenue. Note that the Interest Revenue increases because the O&M/R&R Fund sees a positive

fund balance, which then gets added to the Interest earned through the CIP Fund's positive balance (note that this is the total Interest Revenue shown both in Table 4-7 and Table 4-12).

Table 4-17: Scenario 2 FY 2020-2024 Projected Total Revenues

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
User Charge Revenues	$16,223,269	$17,644,086	$18,229,869	$18,835,101	$19,460,426
Connection Fee Revenues	$2,254,625	$2,339,500	$2,339,500	$2,339,500	$2,339,500
Other Operating Revenues	$1,066,200	$1,063,700	$1,063,700	$1,063,700	$1,063,700
Interest	$50,000	$81,643	$76,068	$76,474	$76,145
Total	**$19,594,094**	**$21,128,928**	**$21,709,137**	**$22,314,775**	**$22,939,771**

4.4.3.2. Resulting Scenario 2 Financial Plan

Table 4-18 displays the pro forma of the Authority's combined funds (O&M Fund, R&R Fund, and Capital Fund) under Scenario 2 Raftelis-recommended User Charges and proposed Connection Fees over the Study period. The pro forma examines how well the projected revenues in Table 4-17 meet the O&M expenses defined in Table 4-1, debt service obligations in Table 4-2, and the CIP detailed in Table 4-3. Line 16 shows the net cash flow resulting from subtracting these expenses (Line 14) from the projected revenues under Scenario 2 charges (Line 6). The net cash flow, while only positive in FY 2021 and FY 2024 (Line 16), results in a significantly lower burden on reserves during the Study period. Note that, in order to result in a consistently positive cash flow, the Authority would have to implement higher rate adjustments than proposed in either Scenario 1 or Scenario 2. Figure 4-9 illustrates the impact of Scenario 1 on the O&M Fund and R&R Fund combined. In Scenario 2, the Authority's reserves are high enough for the entirety of the Study period to exceed the SRF Loan Reserve Requirement and meet the Authority's target reserves for all years except FY 2022 and FY 2023 (Figure 4-10). Importantly, this scenario also enables the Authority to meet its debt coverage requirements in all years of the Study period (Figure 4-11 and Table 4-18, Line 23).

Table 4-18: Scenario 2 Financial Plan

Line No.	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
1	**Source of Funds**					
2	User Charge Revenues	$16,223,269	$17,644,086	$18,229,869	$18,835,101	$19,460,426
3	Connection Fee Revenues	$2,254,625	$2,339,500	$2,339,500	$2,339,500	$2,339,500
4	Other Operating Revenues	$1,066,200	$1,063,700	$1,063,700	$1,063,700	$1,063,700
5	Interest	$50,000	$81,643	$76,068	$76,474	$76,145
6	**Total - Source of Funds**	**$19,594,094**	**$21,128,928**	**$21,709,137**	**$22,314,775**	**$22,939,771**
7						
8	**Use of Funds**					
9	Operating Expenses	$13,106,467	$13,877,222	$14,354,605	$14,839,707	$15,341,837
10	R&R Fund CIP	$2,028,000	$1,898,758	$3,709,340	$3,586,249	$1,502,217
11	Capital Fund CIP	$600,000	$337,683	$59,537	$107,977	$754,980
12	Existing Debt Service	$5,147,861	$4,882,810	$4,882,810	$4,302,940	$4,302,940
13	Proposed Debt Service	$0	$0	$0	$0	$0
14	**Total - Use of Funds**	**$20,882,328**	**$20,996,473**	**$23,006,291**	**$22,836,872**	**$21,901,974**
15						
16	**Net Cash Flow**	**($1,288,234)**	**$132,455**	**($1,297,154)**	**($522,097)**	**$1,037,797**
17						
18	Beginning Cash Balance	$9,427,089	$8,138,855	$8,271,310	$6,974,156	$6,452,059
19						
20	**Ending Cash Balance**	**$8,138,855**	**$8,271,310**	**$6,974,156**	**$6,452,059**	**$7,489,856**
21	Total Reserves Target	$7,703,034	$7,716,936	$7,173,072	$7,196,147	$6,961,462
22						
23	Debt Coverage	126%	149%	151%	174%	177%
24	Target Coverage	120%	120%	120%	120%	120%

Figure 4-9: Scenario 2 O&M/R&R Fund Financial Plan

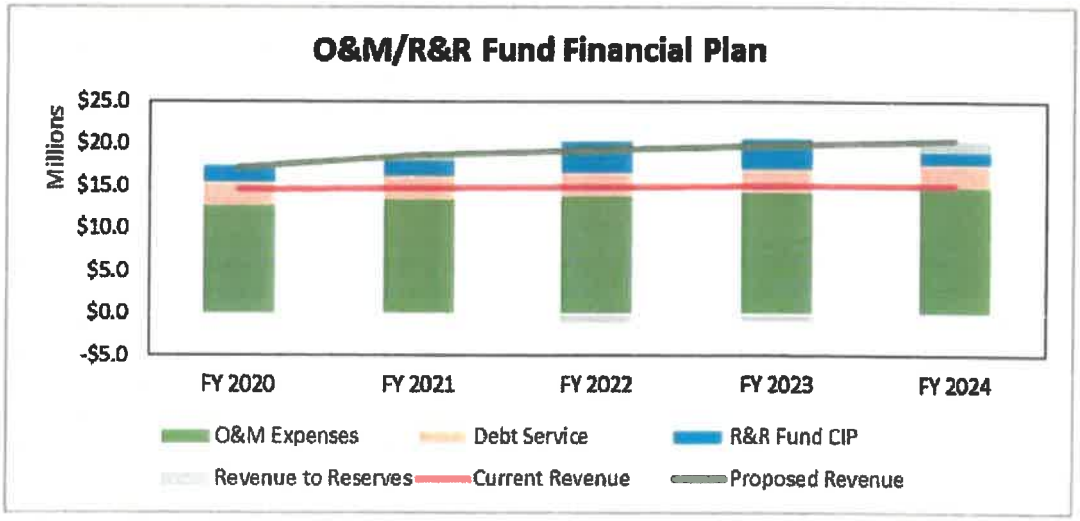


Figure 4-10: Scenario 2 Total Fund Balance

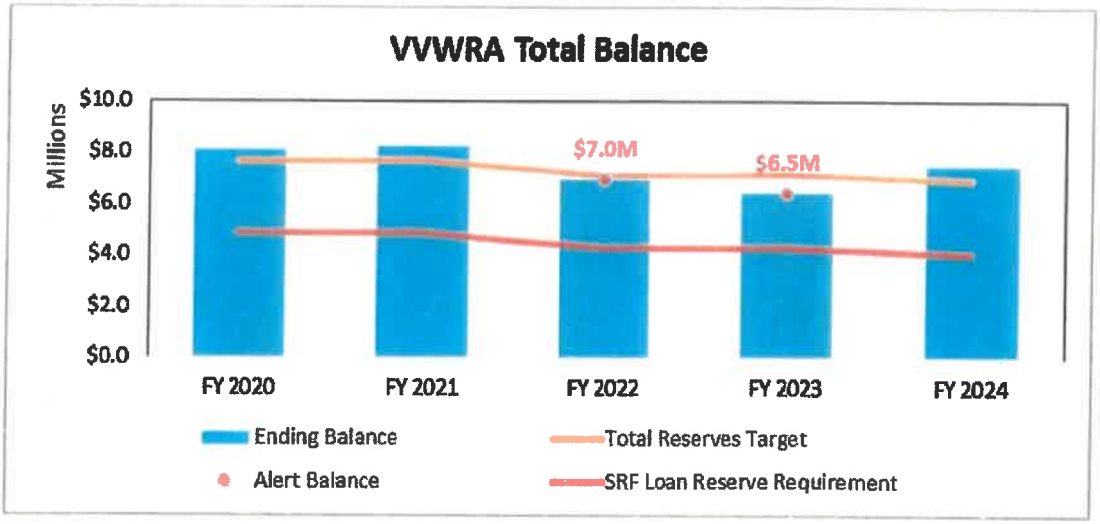
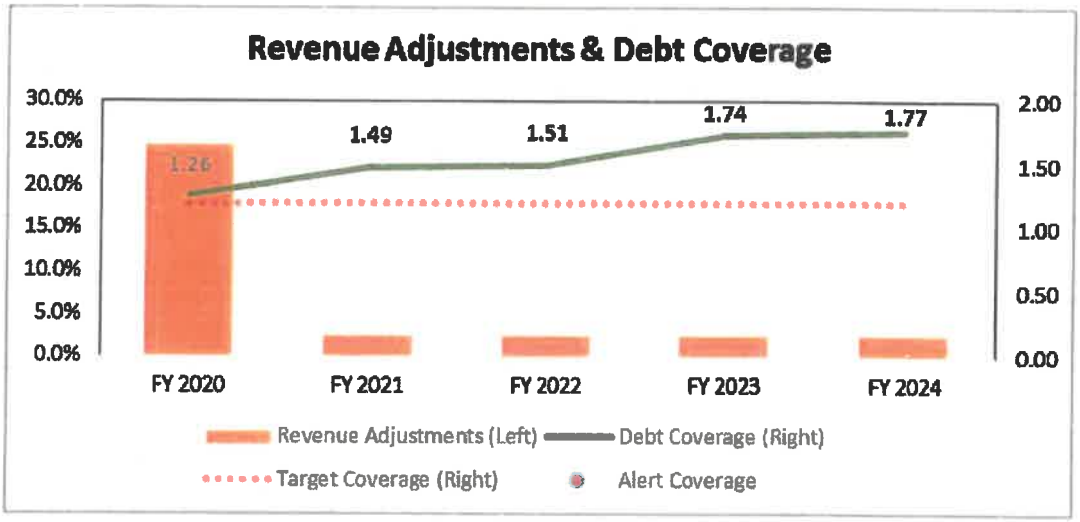


Figure 4-11: Scenario 2 Debt Coverage



4.5. Proposed User Charges

Table 4-19 shows the proposed User Charge rates under Scenario 1 and Scenario 2 over the five-year Study period. The User Charge rates shown below were previously derived in Table 4-9 for Scenario 1 and Table 4-14 for Scenario 2.

Table 4-19: Proposed User Charges (per MG)

Description	Current FY 2019	Proposed FY 2020	Proposed FY 2021	Proposed FY 2022	Proposed FY 2023	Proposed FY 2024
Date Effective		Oct. 2019	July 2020	July 2021	July 2022	July 2023
Scenario 1 (Approved)	$3,503	$3,784	$4,087	$4,414	$4,768	$5,150
Scenario 2 (Raftelis Recommended)	$3,503	$4,379	$4,489	$4,602	$4,718	$4,836

5. Connection Fee Update

5.1. Economic and Legal Framework

For publicly owned wastewater systems, most of the assets are typically paid for by the contributions of existing customers through rates, charges, and taxes. In service areas that incorporate new customers, the infrastructure developed by previous customers is generally extended toward the service of new customers. Existing customers' investment in the existing system capacity allows newly connecting customers to take advantage of unused surplus capacity. To further economic equality among new and existing customers, in turn, new connectors will typically buy into the existing and pre-funded facilities based on the percentage of remaining available system capacity, effectively putting them on par with existing customers. In other words, the new users are buying into the existing system through a payment for the portion of facilities that has already been constructed in advance of new development. In addition, new customers will be responsible for funding new assets that will need to be built to expand the system to meet the increased demand.

5.1.1. ECONOMIC FRAMEWORK

The basic economic philosophy behind connection fees (also known as capacity fees) is that the costs of providing wastewater service should be paid for by those that receive utility from the product. In order to effect fair distribution of the value of the system, the fee should reflect a reasonable estimate of the cost of providing capacity to new users, and not unduly burden existing users. Accordingly, many utilities make this philosophy one of their primary guiding principles when developing their connection fee structure.

The philosophy that service should be paid for by those that receive utility from the product is often referred to as "growth-should-pay-for-growth." The principal is summarized in the American Water Works Association (AWWA) Manual M26, Water Rates and Related Charges:

> *The purpose of designing customer-contributed-[connection fees] is to prevent or reduce the inequity to existing customers that results when these customers must pay the increase in water rates that are needed to pay for added plant costs for new customers. Contributed capital reduces the need for new outside sources of capital, which ordinarily has been serviced from the revenue stream. Under a system of contributed capital, many water utilities are able to finance required facilities by use of a 'growth-pays-for-growth' policy.*

5.1.2. LEGAL FRAMEWORK

The Authority reserves broad authority over the pricing of wastewater connection fees. The most salient limitation on this authority is the requirement that recovery costs on new development bear a reasonable relationship to the needs and benefits brought about by the development. Courts have long used a standard of reasonableness to evaluate the legality of connection fees. The basic statutory standards governing wastewater connection fees are embodied by Government Code Sections 66013, 66016, 66022 and 66023. Government Code Section 66013, in particular, contains requirements specific to pricing wastewater connection fees:

> *"Capacity charge" means a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged, including supply or capacity contracts for rights or entitlements, real property interests, and entitlements and other rights of the local agency involving capital expense relating to its use of existing or new public facilities. A "capacity charge" does not include a commodity charge.*

Section 66013 also requires that:

» Local agencies must follow a process set forth in the law, making certain determinations regarding the purpose and use of the fee; they must establish a nexus or relationship between a development project and the public improvement being financed with the fee.

5.1.3. METHODOLOGIES

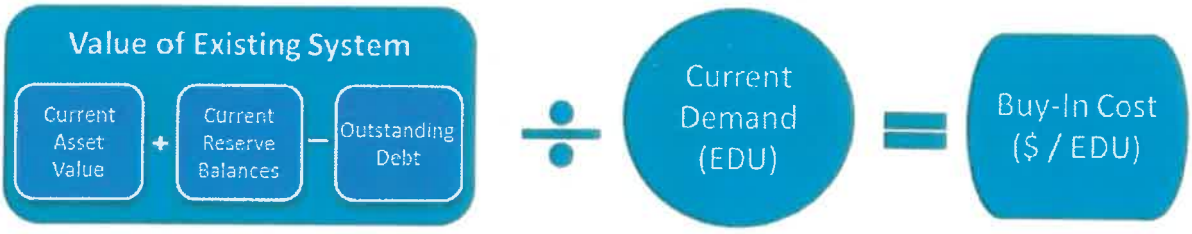
There are two primary steps in calculating connection fees: (1) determining the cost of capital related to new service connections, and (2) allocating those costs equitably to each connection. There are several available methodologies for calculating connection fees. The various approaches have evolved largely around the basis of changing public policy, legal requirements, and the unique and special circumstances of every local agency. However, there are four general approaches that are widely accepted and appropriate for wastewater connection fees. They are the "system buy-in", "capacity buy-in", "incremental-cost" and "hybrid" method.

5.1.3.1. System Buy-in Approach

The system buy-in approach rests on the premise that new customers are entitled to service at the same price as existing customers. However, existing customers have already developed the facilities that will serve new customers. Under this approach, new customers pay only an amount equal to the current system value, either using the original cost or replacement cost as the valuation basis and either netting the value of depreciation or not. This net investment, or value of the system, is then divided by the current demand of the system – number of customers (or equivalent units) – to determine the buy-in cost per EDU.

For example, if the existing system has 100 units of average usage and the new connector uses an equivalent unit, then the new customer would pay 1/100 of the total value of the existing system. By contributing this Connection Fee, the new connector has bought into the existing system. The user has effectively acquired a financial position on par with existing customers and will face future capital challenges on equal financial footing with those customers. This approach is suited for agencies that have capacity in their system and are essentially close to build-out. Figure 5-1 shows the framework for calculating the equity buy-in capacity fee.

Figure 5-1: Formula for Equity Buy-In Approach



5.1.3.1.1. Asset Valuation Approaches

As stated earlier, the first step is to determine the asset value of the capital improvements required to provide services to new users. However, under the system buy-in approach, the facilities have already been constructed, therefore the goal is to determine the value of the existing system/facilities. To estimate the asset value of the existing facilities required to furnish services to new users, various methods are employed. The principal methods commonly used to value a utility's existing assets are original cost and replacement cost.

1. **Original Cost (OC):** The principal advantages of the original cost method lie in its relative simplicity and stability, since the recorded costs of tangible property are held constant. The major criticism levied against original cost valuation pertains to the disregard of changes in the value of money, which are attributable to inflation and other factors. As evidenced by history, prices tend to increase rather than to remain constant. Because the value of money varies inversely with changes in price, monetary values in

most recent years have exhibited a definite decline; a fact not recognized by the original cost approach. This situation causes further problems when it is realized that most utility systems are developed over time on a piecemeal basis as demanded by service area growth. Consequently, each property addition was paid for with dollars of different purchasing power. When these outlays are added together to obtain a plant value the result can be misleading.

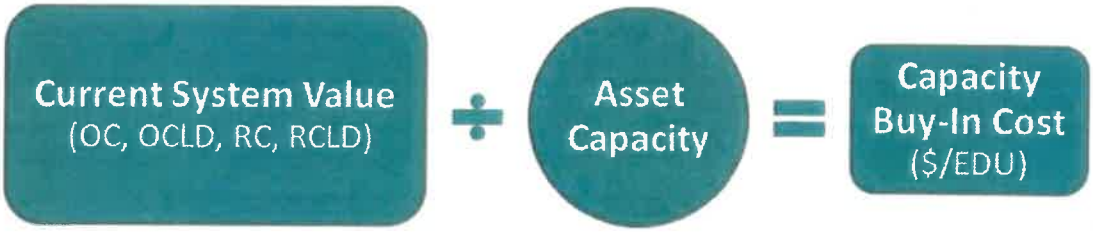
2. **Replacement Cost (RC):** Changes in the value of the dollar over time, at least as considered by the impacts of inflation, can be recognized by replacement cost asset valuation. The replacement cost represents the cost of duplicating the existing utility facilities (or duplicating its function) at current prices. Unlike the original cost approach, the replacement cost method recognizes price level changes that may have occurred since plant construction. The most accurate replacement cost valuation would involve a physical inventory and appraisal of plant components in terms of their replacement costs at the time of valuation. However, with original cost records available, a reasonable approximation of replacement cost plant value can most easily be ascertained by trending historical original costs. This approach employs the use of cost indices to express actual capital costs experienced by the utility in terms of current dollars. An obvious advantage of the replacement cost approach is that it gives consideration to changes in the value of money over time.

3. **Original Cost Less Depreciation (OCLD) or Replacement Cost Less Depreciation (RCLD):** Considerations of the current value of utility facilities may also be materially affected by the effects of age and depreciation. Depreciation takes into account the anticipated losses in plant value caused by wear and tear, decay, inadequacy, and obsolescence. To provide appropriate recognition of the effects of depreciation on existing utility facilities, both the original cost and replacement cost valuation measures can also be expressed on an OCLD and RCLD basis. These measures are identical to the aforementioned valuation methods, with the exception that accumulated depreciation is computed for each asset account based upon its age or condition, and deducted from the respective total original cost or replacement cost to determine the OCLD or RCLD measures of plant value.

5.1.3.2. Capacity Buy-In Approach

The capacity buy-in approach is based on the same premise as that for the system buy-in approach – that new customers are entitled to service at the same rates as existing customers. The difference between the two approaches is that for the capacity buy-in approach, for each major asset, the value is divided by its capacity. This approach presents a major challenge as determining the capacity of each major asset may be problematic or not available. The system is designed for peak use and customer behavior fluctuates based on economic and weather conditions. Figure 5-2 shows the framework for calculating a fee based on the Capacity Buy-In Approach.

Figure 5-2: Formula for Capacity Buy-In Approach

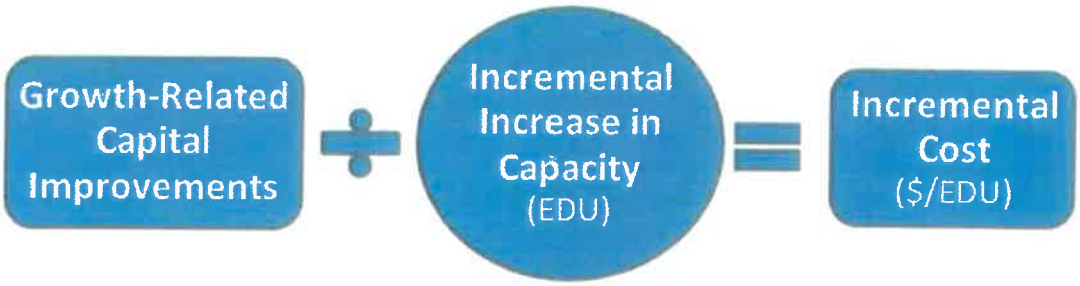


5.1.3.3. Incremental Cost Approach

The incremental method is based on the premise that new development (new users) should pay for the additional capacity and expansions necessary to serve the new development. This method is typically used where there is little or no capacity available to accommodate growth and expansion is needed to service the new development. Under the incremental method, growth-related capital improvements are allocated to new development based on their estimated usage or capacity requirements, irrespective of the value of past investments made by existing customers.

For instance, if it costs X dollars ($X) to provide 100 additional equivalent units of capacity for average usage and a new connector uses one of those equivalent units, then the new user would pay $X/100 to connect to the system. In other words, new customers pay the incremental cost of capacity. As with the buy-in approach, new connectors will effectively acquire a financial position that is on par with existing customers. Use of this method is generally considered to be most appropriate when a significant portion of the capacity required to serve new customers must be provided by the construction of new facilities. Figure 5-3 shows the framework for calculating the incremental cost capacity fee.

Figure 5-3: Formula for the Incremental Cost Approach



5.1.3.4. Hybrid Approach

The hybrid approach is typically used where some capacity is available to serve new growth but additional expansion is still necessary to accommodate new development. Under the hybrid approach the Connection Fee is based on the summation of the existing capacity and any necessary expansions.

In utilizing this methodology, it is important that system capacity costs are not double-counted when combining costs of the existing system with future costs from the Capital Improvement Program (CIP). CIP costs associated with repair and replacement of the existing system should not be included in the calculation, unless specific existing facilities which will be replaced through the CIP can be isolated and removed from the existing asset inventory and cost basis. In this case, the rehabilitative costs of the CIP essentially replace the cost of the relevant existing assets in the existing cost basis. Capital improvements that expand system capacity to serve future customers may be included in proportion to the percentage of the cost specifically required for expansion of the system. Figure 5-4 summarizes the framework for calculating the hybrid Connection Fee.

Figure 5-4: Formula for the Hybrid Approach

5.2. Current Connection Fee

The Authority has not updated its Connection Fees since 2014. Therefore, they are no longer reflective of new development's share of the facilities. The Authority utilizes a uniform per EDU Connection Fee that is based on expected demand of one single family residential customer (the equivalent dwelling unit). This translates other customer types to an equivalent number of single-family residential customers. The assumed gallons per day of wastewater flow contributed by one EDU is 200 gallons.

Table 5-1: Current Connection Fee

Description	Connection Fee
1 EDU	**$4,000**

5.3. Proposed Connection Fee

The Authority's wastewater system has capacity within the existing system to serve future growth; however, there are also specific growth-related capital projects necessary accommodate new equivalent dwelling units. Therefore, we utilized the hybrid approach.

5.3.1. BUY-IN COMPONENT

The first step in determining the buy-in component of the hybrid connection fee is to determine the value of the existing system. As mentioned above, there are several methods of determining the current value of assets, but, for the purposes of this Study, Replacement Cost was used to account for today's replacement cost for system improvements. This also reflects the approach utilized in the last Connection Fee Study in 2014.

To accomplish this, the Authority provided fixed asset records on the original cost of the system. Replacement cost was then estimated by adjusting original costs to reflect what might be expected if a similar facility were constructed today. This is achieved by escalating the original construction costs by a construction cost index. Engineering News-Record's average Construction Cost Index for 20-cities (ENR CCI) is commonly used for this purpose. It reflects the average costs of a particular basket of construction goods over time. Raftelis used the list year 2018 with an index of 10,985 to inflate the replacement cost of each asset, except land, which was inflated by 2.0-percent.

Table 5-2: System Asset Valuation

Functional Category	Original Cost	Replacement Cost
Land	$779,136	$1,383,704
Pipelines	$67,544,011	$103,654,409
Buildings	$146,214,124	$162,095,292
Buildings and Equipment	$56,279,649	$124,331,898
Plant Equipment	$15,669,080	$19,191,513
Office Equipment	$547,438	$993,462
Vehicles	$841,568	$1,204,719
Land Improvements	$9,738,125	$12,300,188
Computer Software	$228,174	$253,773
Total	**$297,841,305**	**$425,408,957**

The total system replacement cost represents the estimated cost of replacing the entire system in 2018 dollars. Next, new users will pay their share of any outstanding debt through wastewater rates after joining the system. Therefore, the value of the system in Figure 5-2 should be reduced by the amount of the outstanding principal so that new users are not double-charged for this debt. Table 5-3 shows the resulting net value of the existing system in Line 3 (Line 1 – Line 2). This net value is then divided by the estimated total system capacity of 19.00 MGD, shown in Line Four. This results in the buy-in component per MGD shown in Line Five.

Table 5-3: Buy-In Component ($/MGD) Calculation

Line No.	Description	Value
1	Total Asset Value (Replacement Cost)	$425,408,957
2	Less Total Outstanding Debt Principal	$91,273,216
3	**Value of Existing System**	**$334,135,741**
4	Total System Capacity (MGD)	19.00
5	**Buy-in Component ($/MGD)**	**$17,586,092**

5.3.2. INCREMENTAL COMPONENT

The incremental component is intended to address the additional capacity and expansions necessary to serve the new development. Table 5-4 indicates the total debt service (principal and interest) allocated to the Capital Fund for the exclusively growth-related portion of capital projects that serve both current and projected expansion customers. In addition, this component includes the exclusively growth-related clarifier upgrades (Line 2). These result in the total capital costs allocated to growth listed in Line 3. This total cost is then divided by the incremental available system capacity of 7.66 million gallons per day (Line 4) to arrive at the Incremental Component (Line 5) of the Connection Fee.

Table 5-4: Incremental Component ($/MGD) Calculation

Line No.	Description	Value
1	Growth-Related Debt Service	$39,975,456
2	Additional Growth-Related CIP (Clarifier Upgrades)	$4,500,000
3	**Capital Costs Allocated to Growth**	**$44,475,456**
4	Incremental System Capacity (MGD)	7.66
5	**Incremental Component ($/MGD)**	**$5,806,195**

5.3.3. PROPOSED TOTAL CONNECTION FEE

To arrive at the total proposed connection fee, we combine the Buy-in and Incremental Components per MGD derived in Table 5-3 and Table 5-4. This is then converted from $/MGD to $/EDU using the assumed 200 GPD for each EDU, resulting in the Proposed Connection Fee in Line 5. The Proposed Connection Fee will remain constant with no adjustments for the entire Study period.

Table 5-5: Proposed FY 2020-2024 per EDU Connection Fee

Line No.	Description	Value
1	Buy-In Component ($/MGD)	$17,586,092
2	Incremental Component ($/MGD)	$5,806,195
3	**Proposed Connection Fee ($/MGD)**	**$23,392,287**
4	Assumed GPD per EDU	200
5	**Proposed Connection Fee ($/EDU)**	**$4,679**

Table 5-6 provides an impact analysis of the proposed Connection Fee over the current Connection fee. The updated fee results in an increase of $679 per EDU.

Table 5-6: Proposed Connection Fee Impact

Description	Impact
Proposed Connection Fee ($/EDU)	$4,679
Current Connection Fee ($/EDU)	$4,000
Difference ($)	$679
Difference (%)	17.0%