Final Report - Accepted by the TTSA Board of Directors
May 15, 2024

Tahoe-Truckee Sanitation Agency

Sewer Connection Fee Study

May 2024

May 9, 2024

Mr. Richard Pallante
General Manager
Tahoe-Truckee Sanitation Agency
13720 Butterfield Drive
Truckee, CA 96161

Subject: Sewer Connection Fees - Draft Report

Dear Mr. Pallante:

HDR Engineering, Inc. (HDR) is pleased to present the draft report regarding the sewer connection fees for the Tahoe-Truckee Sanitation Agency (TTSA). The development of this report provides the basis to establish cost-based sewer connection fees.

This report has been prepared using generally accepted financial and engineering principles. TTSA's financial, budgeting, planning, and engineering data were the primary sources for the analysis and recommendations contained in this report. HDR would recommend that prior to implementing the fees, the fees be reviewed by TTSA legal counsel for compliance with California State law.

HDR appreciates the opportunity to assist TTSA in this matter. We would also like to thank you and your staff for the assistance provided to us. We look forward to future opportunities to work with the TTSA.

Sincerely yours,
HDR Engineering, Inc.

Shawn Koorn
Associate Vice President

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Executive Summary

Introduction

HDR Engineering, Inc. (HDR) was retained by the Tahoe Truckee Sanitation Agency (TTSA) to review and update TTSA's sewer connection fees. The purpose of connection fees is to recover the costs of public facilities in existence at the time the fee is imposed, and for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged. These fees are charged to new customers connecting to the system, or are the incremental charge to existing customers increasing their demands compared to the value of their existing (pre-expansion) capacity.

TTSA's current connection fees were last formally reviewed and adopted in 2019. General industry practice recommends adjusting these charges annually for changes in the costs of construction, and to update the charges every three to five years, or whenever comprehensive system planning documents are updated. By establishing cost-based connection fees, TTSA is being proactive and taking an important step in providing adequate infrastructure to meet growth-related needs, and more importantly, providing this required infrastructure to new customers in a cost-based and equitable manner.

Study Overview

The District implements the sewer connection fees based on type of connection and equivalent dwelling units (EDUs). An EDU is calculated to reflect the capacity of a residential home to provide sewer service, rather than meter size, which may not reflect the sewer demands placed on the system. In this way, the number of EDU's reflects the capacity impacts the customer has placed on the sewer system.

The adopted 2019 sewer connection fee was based on a residential minimum charge of $1,500, plus a per square foot charge of $1.75 per square foot of building size. This reflects a connection fee calculated on an EDU, but implemented based on a minimum charge and then a square footage charge to further reflect the demands that can be placed on the system by a larger residence. For the average residential unit calculated at 2,000 sq. ft.), this would be $5,000 per unit ($1,500 + ($1.75 X 2,000 sq. ft.) = $5,000). Additions (not an ADU) greater than 500 square feet are charged a per square foot charge of $1.75. An accessory dwelling unit (ADU) is subject to a minimum charge of $1,500, plus a per square foot charge of $1.75 per square foot, if not exempt. Additions and accessory dwelling units 500 square feet or less are exempt from a connection fee.

The connection fee analysis resulted in the sewer connection fee for a residential customer increasing from $5,000, the existing connection fee, to a maximum of $8,961, or an increase of $3,961. As a point of reference, the 2019 connection fee calculation was based on only the existing system (buy-in component). There was no future or incremental component included and the study resulted in a calculation of $6,222 per EDU. Given the Board's decision to move forward with a system master plan, it was determined that the connection fee would be held at

the then current $5,000. Table ES – 1 below shows the existing and calculated sewer connection fees for residential customers.

Table ES – 1
Present and Calculated Residential Sewer Connection Fees

Type of Connection	Units	Present Connection Fee[1]	Proposed Connection Fee[2]
All Residential			
Minimum	Per living unit	$1,500	$2,690
Plus: Square footage	Per square footage	$1.75	$3.14
Additions (Not an ADU)			
Greater than 500 square feet	Per square footage	$1.75	$3.14
500 square feet or less		Exempt	Exempt
Accessory Dwelling Unit			
Minimum	Per living unit	$1,500	$2,690
Plus: Square footage	Per square footage	$1.75	$3.14
500 square feet or less		Exempt	Exempt

[1] $5,000 per unit ($1,500 + ($1.75 X 2,000 sq. ft.) = $5,000), Ordinance 1-2019.

[2] $8,961 per unit ($2,690 + ($3.14 X 2,000 sq. ft.) = $8,961)

The non-residential connection fee is based on the type of connection and equivalency factor of the corresponding residential unit. Table ES – 2 below shows the existing and calculated sewer connection fees for non-residential customers.

Table ES – 2
Present and Calculated Non-Residential Sewer Connection Fees

TTSA Code	Type of Connection	Units	Present Connection Fee	Proposed Connection Fee
A	Beauty/Barber Shop	# of service chairs	$2,500.00	$4,481.00
B	Commercial Establishments (1) (unless otherwise noted)	# of fixture units	500.00	896.00
D	Dump Station	# of stations	5,000.00	8,961.00
F	Restaurant or Bar	# of seats inside	500.00	896.00
Z		# of seats outside	175.00	314.00
Z		# of seats banquet	175.00	314.00
G	Grocery	# of fixture units	750.00	1,344.00
I	Industrial User	as calculated pursuant to Table A-2	5,000.00	8,961.00
J	Car Washes	# of bays, Automatic	7,500.00	13,442.00
		# of bays, Automatic - Recycled	6,000.00	10,754.00
		# of bays, Self-Serve	5,000.00	8,961.00
		# of bays, Self-Serve - Recycled	4,000.00	7,169.00
K	Campsite w/ Sewer Connection	# of sites	2,500.00	4,481.00
L	Laundromat	# of washing machines	5,000.00	8,961.00
M	Motel or Hotel Unit	# of units	2,500.00	4,481.00
N	Motel or Hotel Unit with Kitchen	# of units	3,300.00	5,914.00
P	Swimming Pool or Spa	# of P units, see table A-1	100.00	179.00
Q	Campsite w/o Sewer Connection	# of sites	1,875.00	3,360.00
S	Other	As determined by General Manager	TBD	TBD
T	Assembly Hall	# of seats	50.00	90.00

[1] Industrial formula see below

Flow:	Maximum Daily Flow (gallons per day) / 200 gallons per day	=	EDU_{Flow}			
COD:	Composite Sample COD Concentration (milligrams per liter) / 805 milligrams per liter	X	EDU_{Flow}	=	EDU_{COD}	
TSS:	Composite Sample TSS Concentration (milligrams per liter) / 362 milligrams per liter	X	EDU_{Flow}	=	EDU_{TSS}	
TDS:	Composite Sample TDS Concentration (milligrams per liter) / 428 milligrams per liter	X	EDU_{Flow}	=	EDU_{TDS}	
TN:	Composite Sample TN Concentration (milligrams per liter as N) / 78 milligrams per liter	X	EDU_{Flow}	=	EDU_{TN}	
TP:	Composite Sample TP Concentration (milligrams per liter as P) / 8.4 milligrams per liter	X	EDU_{Flow}	=	EDU_{TP}	

Consultant's Recommendation

Based on our review and analysis of TTSA's sewer connection fees, HDR makes the following recommendations:

1. TTSA should adopt the sewer connection fees for new connections which are no greater than the net allowable sewer connection fees as set forth in this report.
2. TTSA should annually update the sewer connection fees by a local construction cost index such as the Engineering News Record Construction Cost Index (ENR-CCI) for no more than five years. Industry best practice of annual inflationary adjustment can keep the charges (infrastructure investment) relatively current with construction pricing.
3. TTSA should update the actual calculations for the sewer connection fees at such time when a new capital improvement plan, public facilities plan, comprehensive system plan, or a comparable plan is approved or updated by TTSA, or every three to five years.

Disclaimer

HDR, in its calculation of the sewer connection fees presented in this report, has used generally accepted engineering and ratemaking principles. This should not be construed as a legal opinion with respect to California law. HDR recommends that TTSA have its legal counsel review the sewer connection fees as set forth in this report to ensure compliance with California law.

Summary

The sewer connection fees presented in this report are based on the planning and engineering design criteria of TTSA's sewer system, the value of the existing assets, past financing of system infrastructure, and generally accepted principles. The calculated connection fees will provide multiple benefits to TTSA and will continue the practice of establishing equitable and cost-based sewer connection fees for new customers connecting to TTSA's sewer system.

1.0 Overview of Connection Fees

1.1 Introduction

An important starting point in establishing connection fees is to have a basic understanding of the purpose of these fees along with the criteria and general methodologies that are used to establish cost-based fees. This section of the report presents an overview of the connection fee methodology that was used to develop cost-based and equitable sewer connection fees for TTSA.

1.2 Defining Connection Fees

The first step in establishing cost-based connection fees, or sometimes referred to as system development charges (SDC), is to gain a better understanding of the definition. For the purposes of this report, a connection fee[1], or SDC, as it is referred to below, is defined as follows:

> *"System development charges are one-time charges paid by new development to finance construction of public facilities needed to serve them."*[2]

Connection fees are generally imposed as a condition of service. The objective of connection fees is not to generate operating revenue for the utility, but to create a fiscal balance between existing and new customers. In this way, all customers seeking to connect to the utility's system bear a proportional share of the cost of capacity invested in the existing system along with necessary future capacity expansion related needs. Through the implementation of proportional and cost-based connection fees, existing customers will not be burdened with the cost of new development (e.g., system expansion). If cost-based connection fees are not implemented, then existing utility customers will bear (i.e., pay for) a proportion of the costs associated with new development. Ultimately, the adoption of the final connection fees is a policy decision to be made by the TTSA Board regarding the sharing of costs between new development and existing customers. The adoption of cost-based connection fees move towards a proportional balance of growth pays for growth approach.

1.3 Requirements Under California State Law

In establishing connection fees, an important requirement is that they be developed and implemented in conformance with State and local laws. California law provides the basis for the determination of connection fees through a uniform framework for the imposition of connection fees by local governments. Specifically, the requirements for the calculation of connection fees in California are found in the California Government Code sections 66013, 66016, and 66022, which are interspersed within the 'Mitigation Fee Act'.

[1] System development charges and connection fees are used interchangeably in this section of the report. System development charges are also a common term for these types of charges.

[2] Arthur C. Nelson, System Development Charges for Water, Sewer, and Stormwater Facilities, Lewis Publishers, New York, 1995, p.1,

A summary of the relevant statutes required in the calculation of connection fees under California law is as follows:

> "66013 (a) Notwithstanding any other provision of law, when a local agency imposes charges for water connections or sewer connections, or imposes connection fees, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount of the fee or charge imposed in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue."
>
> "66013 (b) (3) '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 "connection fee" does not include a commodity charge."
>
> "66022 (a) Any judicial action or proceeding to attack, review, set aside, void, or annul an ordinance, resolution, or motion adopting a new fee or service charge, or modifying or amending an existing fee or service charge, adopted by a local agency, as defined in Section 66000, shall be commenced within 120 days of the effective date of the ordinance, resolution, or motion."

In addition to the determination of "the estimated reasonable cost of providing the service for which the fee is imposed," California law also requires the following:

- That notice (of the time and place of the meeting, including a general explanation of the matter to be considered) and a statement that certain data is available be mailed to those who filed a written request for such notice,
- That certain data (the estimated cost to provide the service and anticipated revenue sources) be made available to the public,
- An opportunity for public input at an open and public meeting to adopt or modify the fee, and
- That revenue in excess of actual cost be used to reduce the fee creating the excess.

In 1996, the voters of California approved Proposition 218, which required that the imposition of certain charges and assessments by municipal governments require a vote of the people to change or increase the fee or assessment. In Richmond v. Shasta Community Services Dist., 32 Cal.4th 409 (2004), the California Supreme Court held that connection fees are not "assessments" under Proposition 218 because they are imposed only on those who are voluntarily seeking water and wastewater service, rather than being charged to particular identified parcels, and therefore such charges are not subject to the procedural or substantive requirements of Proposition 218. The court also held that such charges can properly be enacted by either ordinance or resolution.

In November 2010, the voters of California passed Proposition 26, an initiative-based state constitutional amendment that provided a new definition of the term "tax" in the California Constitution. Under Proposition 26, a fee or charge imposed by a public agency is a tax unless it meets one of the seven exceptions. Appropriately designed "connection fees" would be included within exceptions 1 and/or 2. These two exceptions note that the connection fee or charge is:

(1) "A charge imposed for a specific benefit conferred… directly to the payor that is not provided to those not charged, and which does not exceed the reasonable cost to the local government of conferring the benefit…,"

(2) "A charge imposed for a specific government service… directly to the payor that is not provided to those not charged, and which does not exceed the reasonable cost to the local government of providing the service or product."

In the case of TTSA's connection fee, the District does not charge one fee payer more in order to charge another fee payer less (i.e., a cross-subsidy), and it does not exceed the reasonable costs to the local government of providing the service. Given this, the fee is not a tax within the meaning of Proposition 26.

In simplified terms, the basic principle that needs to be followed under California law is that the connection fee be based on a proportionate share of the costs of the system required to provide service and that the requirements for adoptions and accounting be followed in compliance with California law.

1.4 Methodology for Development of Connection Fees

There are various approaches that can be used to establish connection fees which ultimately depend on the available capacity in the utility (i.e., ability to meet future customer demands). The WEF MOP #27 discusses three generally accepted connection fee methods:

- "The ***buy-in approach*** is based on the value of the existing system capacity. This method is typically used when the existing system has sufficient capacity to serve new development now and into the future.
- The planned facility/growth approach is based on the value or cost to expand the existing system capacity. This method is typically used when the existing system has limited or no capacity to serve new development now and into the future.
- The ***combined approach*** is based on a blended value of both the existing and expanded system capacity. This method is typically used where some capacity is available in parts of the existing system (e.g., wastewater treatment), but new or incremental capacity will need to be built in other parts (e.g., wastewater lift station) to serve new development at some point in the future."[3]

The combined approach was used for the calculation of TTSA's sewer connection fee analysis. The sewer system has available capacity to accommodate growth, but additional future projects are needed to accommodate new growth (demand/capacity). Therefore, the combined approach is the approach that best fits TTSA's facilities given the impacts of growth on the system.

[3] Water Environment Federation Manual of Practice No. 27, 4th Edition, p. 206-211

Therefore, the existing and future component cost per EDU is determined and each existing and future component is added together for a combined total.

Within the generally accepted connection fee methodologies[4], there are a number of different steps used to establish cost-based and proportional connection fees. These steps are as follows:

Step 1 - Determination of system planning criteria

Step 2 - Determination of equivalent dwelling units (EDUs)

Step 3 – Valuation of system component costs

Step 4 - Determination of any credits

Step 1 – Determination of System Planning Criteria

The first step in establishing connection fees is the determination of the system planning criteria. This implies calculating the amount of capacity required by a residential customer. The use of an adopted facility plan or master plan for the utility provides the basis for the connection fee system planning criteria. These planning documents provide the rational planning basis and criteria for the facilities and investment needed to operate and maintain the system properly and adequately. Generally, for a sewer system, the planning criterion is the average usage per EDU. TTSA's standard is based on 200 gallons per EDU.

Step 2 – Determination of Equivalent Dwelling Units

The next step is the determination of the EDUs. An EDU provides a "common denominator" for assessing impact on a utility system. The determination of the total system EDUs is an important calculation in that it provides the linkage between the amount of infrastructure necessary to provide service to a set number of customers. This implies that if the system is designed to provide service for demands up to the year 2046, then the infrastructure costs are divided by the total EDUs projected to be connected by 2046 to determine the proportionate cost per EDU.

Step 3 – Valuation of System Component Costs

Once the number of EDUs, or the capacity components for each system are determined, a component by component analysis is undertaken to determine the portion of the connection fee attributable to each component in dollars per EDU. In this process, the existing assets must be valued. Existing assets may be valued in a number of different ways. These methods may include the following:

- Original Cost (OC) is cost of construction
- Original Cost Less Depreciation (OCLD)
- Replacement Cost New (RCN) is current day dollars of replacing existing assets
- Replacement Cost New Less Depreciation (RCNLD)

[4] Methodologies established in industry documents referenced as System Development Charges for Water, Wastewater, and Stormwater Facilities, by Arthur C. Nelson; AWWA M-1 Manual, 7th Edition and WEF Manual of Practice No. 27, Financing and Charges for Wastewater Systems, Fourth Edition.

Given these four different methods for valuing the assets, the selection of the valuation method arises. The American Water Works Association M-1 manual notes the following concerning these various generally accepted valuation methods:

> "Using the OC and OCLD valuations, the SDC [connection fee] reflects the original investment in the existing capacity. The new customer "buys in" to the capacity at the OC or the net book value cost (OCLD) for the facilities and as a result, pays an amount similar to what the existing customers paid for the capacity (OC) or the remaining value of the original investment (OCLD).
>
> Using the RCN and the RCNLD valuations, the SDC [connection fee] reasonably reflects the cost of providing new expansion capacity to customers as if the capacity was added at the time the new customers connected to the sewer system. It may be also thought of as a valuation method to fairly compensate the existing customers for the carrying costs of the excess capacity built into the system in advance of when the new customers connect to the system. This is because, up to the point of the new customer connecting to the system, the existing customers have been financially responsible for carrying the costs of that excess capacity that is available for development."[5]

As a point of reference for this study, the TTSA analysis will use an RCN methodology for all assets. The RCN methodology is utilized in keeping with TTSA's historical methodology for connection fees as shown in TTSA Resolution 11-2008, which adopted the asset replacement approach for the calculation of connection fees. TTSA's existing assets are escalated to current dollars using a cost index (e.g. Engineering News Record Construction Cost Index; ENR—CCI).

The next step in the analysis is to determine the valuation of the system infrastructure. The combined approach is based on the existing infrastructure plus future expansion-related capital projects, based on an adopted capital plan or master plan and valued at today's cost, regardless of the timing of when the facility will be built. The future component is related only to future capital projects which accommodate future growth.

After the existing infrastructure is analyzed, the existing and future equivalent dwelling units are divided into the cost to determine the gross existing or buy-in fee. Then the connection fee-eligible future expansion projects are divided by the future equivalent dwelling units to determine the gross future connection fee. Both the gross existing and future fees are added together for a total gross connection fee.

Given a value for capacity and the number of EDU capacity units, the basic formula for calculating the connection fee is relatively straight-forward, and is as follows:

$$\frac{\text{Existing System (RCN*) (\$)}}{\text{Existing and Future EDUs}} + \frac{\text{Growth Future CIP (\$)}}{\text{Future EDUs}} = \text{Maximum Allowable Connection Fee \$ per EDU}$$

*RCN = Replacement Cost New

[5] AWWA M-1 Manual, 7th Edition, p. 332.

In the determination of the connection fee, the cost per EDU as shown above is the "gross connection fee". The gross connection fee is calculated before any credits.

Step 4 – Determination of Any Credits

The last step in the calculation of the connection fee is the determination of any credits. A credit considers the method used to finance infrastructure on the system so that customers are not paying twice for infrastructure. The double payment can come in through the imposition of a connection fee and then the requirement to pay debt service within a customer's sewer rates for the same infrastructure.

This component accounts for the outstanding debt principal on existing assets. By segregating the debt service, the applicable costs can be clearly identified and calculated appropriately. To avoid double-counting the assets financed with debt, the future principal associated with funding existing assets is deducted from the existing infrastructure value.

1.5 Summary

This section of the report has defined connection fees, provided an overview of the requirements under California state law, established the connection fee approach between new development and the new or expanded facilities required to accommodate new development, and developed the appropriate apportionment of the costs of the new development in relation to benefits reasonably received. The next section of the report will provide a discussion of the calculation of TTSA's sewer connection fees.

2.0 Development of the Sewer Connection Fees

2.1 Introduction

This section of the report presents the key assumptions and details used in calculating TTSA's sewer connection fees. The calculation of the sewer connection fees is based on TTSA specific accounting and system planning information. Specifically, the fees are based on TTSA's fixed asset records, capital improvement plan, existing EDUs, and the projection of future EDUs. As was noted in Section 1 of this report, these planning documents and projections of future EDUs provide the required support for a rationally based public policy to support the imposition of cost-based connection fees.

To the extent that the cost and timing of future capital improvements change, then the connection fees presented in this section of the report should be updated to reflect those changes.

2.2 Overview of TTSA's Sewer System

TTSA owns, operates and maintains the Truckee River Interceptor (TRI) and Water Reclamation Plant (WRP). The TRI conveys wastewater from Tahoe City to the WRP in Martis Valley, east of the town of Truckee, California. The TRI collects flows from the five member districts that comprise TTSA. The five member entities involved are the North Tahoe Public Utility District, Tahoe City Public Utility District, Alpine Springs County Water District, Olympic Valley Public Service District, and Truckee Sanitary District. The Northstar Community Services District is also served by TTSA facilities through an agreement with the Truckee Sanitary District.

Wastewater treatment occurs at the WRP. The regional facility was designed to treat the sewage of its five member districts that are located in the Tahoe and Truckee River Basins. Through a series of biological, chemical and physical processes, the wastewater is purified to a degree where surface and ground water integrity is protected. An important requirement for a connection fee study is the connection between the anticipated future growth on the system and the needed facilities required to accommodate that growth.

2.3 Present Sewer Connection Fee

TTSA implements sewer connection fees based on the type of connection on a per EDU basis. An EDU is calculated to reflect the capacity of a residential home to provide sewer service, rather than meter size, which may not reflect the sewer demands placed on the system. In this way, the number of EDU's reflect the capacity impacts the customer has placed upon the sewer system.

TTSA's existing residential sewer connection fee is based on a scalable methodology. This was outlined and discussed in the 2019 connection fee study and the Mountain Housing Council of Tahoe Truckee, "Lowering Barriers for Private Investment: How Fee Incentives Can Help Achievable Local Housing Projects" report dated October 2018.

The residential fee is based on a minimum fee plus a per square foot charge of building size. The accessory dwelling unit connection fees are also based on a minimum fee plus a per square foot

charge with an exemption for units that are less than 500 square feet. For an average residential unit, this would be $5,000 per unit ($1,500 + ($1.75 X 2,000 sq. ft.) = $5,000). The setting of a minimum fee attempts to represent the capacity cost differences associated with both existing and future infrastructure needed to serve future development and offers the greatest protection to the sewer ratepayer. Table 2–1 below shows the present sewer connection fees for a single family customers.

Table 2-1
Present Residential Sewer Connection Fees

Type of Connection	Units	Connection Fee
All Residential		
Minimum	Per living unit	$1,500
Plus: Square footage	Per square footage	$1.75
Additions (Not an ADU)		
Greater than 500 square feet	Per square footage	$1.75
500 square feet or less		Exempt
Accessory Dwelling Unit		
Minimum	Per living unit	$1,500
Plus: Square footage	Per square footage	$1.75
500 square feet or less		Exempt

The existing non-residential sewer connection fee is based on the type of connection and service units. Table 2-2 below shows the present connection fees for non-residential.

Table 2-2
Present Non-Residential Sewer Connection Fees

Type of Connection	Units	Present Connection Fee
Beauty/Barber Shop	# of service chairs	$2,500.00
Commercial Establishments (1) (unless otherwise noted)	# of fixture units	500.00
Dump Station	# of stations	5,000.00
Restaurant or Bar	# of seats inside	500.00
	# of seats outside	175.00
	# of seats banquet	175.00
Grocery	# of fixture units	750.00
Industrial User	as calculated pursuant to Table A-2	5,000.00
Car Washes	# of bays, Automatic	7,500.00
	# of bays, Automatic - Recycled	6,000.00
	# of bays, Self-Serve	5,000.00
	# of bays, Self-Serve - Recycled	4,000.00
Campsite w/ Sewer Connection	# of sites	2,500.00
Laundromat	# of washing machines	5,000.00
Motel or Hotel Unit	# of units	2,500.00
Motel or Hotel Unit with Kitchen	# of units	3,300.00
Swimming Pool or Spa	# of P units, see table A-1	100.00
Campsite w/o Sewer Connection	# of sites	1,875.00
Other	As determined by General Manager	TBD
Assembly Hall	# of seats	50.00

[1] Industrial customers are charged based on a specific formula outlined later in this report.

2.4 Calculation of the Sewer Connection Fee

As discussed in Section 1, the process of calculating connection fees is based on a four-step process. In summary form, these steps are as follows:

- Determination of system planning criteria
- Determination of equivalent dwelling units (EDUs)
- Calculation of the connection fee by system component costs
- Determination of connection fee charge credits

Each of these steps is discussed in more detail below.

2.4.1 Sewer System Planning Criteria

In the development of connection fees, an equivalent dwelling unit (EDU) is a common planning criterion. Essentially, an equivalent dwelling unit is the "common denominator" for assessing customers and placing their demands into a common unit of measurement. Within this sewer connection fee study, the total costs are divided by the total EDUs to determine the cost per EDU

for sewer capacity. The definition of an EDU carries through in the calculation of the connection fee, but also in the administration and assessment of that fee.

The Agency currently defines an equivalent dwelling unit (EDU) as 200 gallons per day per EDU, which is based on an Agency analysis in 2017 on EDU daily flow rate determination. The Agency's analysis was based on both the recommended household flow rates from Metcalf & Eddy, Inc., 4th Edition, Wastewater Engineering Treatment and Reuse, and TTSA's analysis of the 10-year average of the maximum annual dry weather daily flow. Metcalf & Eddy shows typical flow rates for three and four person households of 66 and 53 gallons per capita per day or 198 and 212 gallons per household per day. As a point of reference, the Agency's service area is mostly residential.

A summary of the system criteria is presented in Table 2-3. Details of the system planning criteria are shown in Exhibit 6 in the Technical Appendix.

Table 2-3
Sewer Connection Fee – Planning Criteria

Description	Total
Average daily flow in gallons per day per sewer unit [1]	200.0
Existing Average Day Flow in MGD	6.13 MGD
Total System Capacity[2]	9.60 MGD

[1] Average daily flow, based on TTSA criteria
[2] TTSA total Permitted flow

2.4.2 Sewer Equivalent Dwelling Units

The planning horizon of this analysis was based on the build out expansion plant capacity of 9.60 million gallons per day (MGD). TTSA's total number of existing EDUs, based on flow, was determined to be 30,650 EDUs, by dividing the average daily flow at plant of 6.13 MGD by 200 gallons per EDU (6.13 MGD / 200 gallons per EDU = 30,650 EDUs). A summary of the current sewer EDUs and the buildout EDUs are presented below in Table 2-4. Details of the determination of EDUs are provided in Exhibit 6 of the Technical Appendix.

Table 2-4
Sewer Connection Fee – EDUs

Description	Capacity in MGD	Average Daily Flow per EDU	Total EDUs
Existing Flow	6.13	200	30,650
Future Flow	3.47	200	17,350
Permit Total Flow	**9.60**		**48,000**

As can be seen in Table 2-4, the total number of existing sewer service EDUs is 30,650. Projected ultimate build out EDUs are estimated to be 48,000 with 17,350 remaining EDUs for expansion.

Given the development of the total sewer EDUs, the focus can shift to the calculation of the connection fee for each plant component. This aspect of the analysis is discussed below.

2.4.3 Calculation of the Sewer Connection Fee

The next step of the analysis is to review the major functional system infrastructure to determine the connection fee for the system. As discussed previously, TTSA's sewer system has available capacity. New development would rely on existing infrastructure and main extensions specific to serving the new development. TTSA's future capital improvement plan contains repair and replacement projects which are required whether development occurs or not on the system, and regulatory and expansion projects which benefit both existing and future customers. The existing assets are divided by the total build out EDUs (existing plus future EDUs) and the future assets are divided by only the future EDUs, with an exception for the regulatory required improvements which include a capacity/growth component. The combined approach used for calculating TTSA's connection fees is discussed in more detail below.

EXISTING OR BUY-IN COMPONENT **–** To calculate the value of the existing assets for the buy-in component, TTSA's methodology considered the original cost of each asset. The original cost of the asset was then adjusted to the replacement cost value. TTSA provided an asset listing for the various existing components and their installation dates. As was noted in Section 1, there are different methods for valuing existing assets. In this case, the replacement cost new method was used. To accomplish this, the original cost of each asset was escalated to August 2023 dollars, based on the Engineering News Record Construction Cost Index (ENR—CCI) for the 20-City average.

Given the value of the assets, the next step was to determine the portion of the project costs that were deemed eligible to be included in the calculation of the connection fee. The term "connection fee eligible" simply describes the amount of the asset to be included within the calculation of the fee. Within this study, vehicles and general plant assets were not considered capacity related and were not included in the connection fee calculation. All remaining assets were considered to be 100% eligible. Total existing assets at RCN was $363.0 million. The $11.6 million Department of Water Resources grant for the TTSA wastewater treatment facility at RCN is $19.6 million, and was subtracted from the RCN plant for a total net existing plant, on an RCN basis, of $343.4 million. In addition to the assets, $3.5 million in work in progress was also included. A summary of the existing assets valuation can be seen in Exhibit 1 of the Technical Appendix.

DEBT SERVICE COMPONENT **-** In addition to the buy-in component, a debt service component was also developed. This component accounts for the principal on existing assets. The remaining principal portion of the debt associated with the assets was deducted from the total eligible asset value prior to calculating the connection fee. This inclusion of a "debt service credit" avoids double charging the customer for the asset value in the existing or buy-in component of the connection fee, and also in the debt service component of the rates. The principal portion of the debt service balance on existing assets is removed from the value prior to calculating the buy-in portion of the fee. By segregating the debt service, the costs can be clearly identified and calculated appropriately. TTSA has one outstanding issue for the sewer system with an outstanding principal total of $13.4 million as of June 2022, which is 26.8% rate funded. The debt credit portion of the

charge is $3.6 million. Details of the debt service are shown in Exhibit 3 of the Sewer Technical Appendix.

OTHER COMPONENTS - In addition to the buy-in and debt service components, the capital fund reserves were determined to be connection fee related. The inclusion of capital fund reserves can be viewed from two perspectives. First, existing customers created this reserve for the construction of assets and a new customer should pay a proportional share of the value of these reserves. Alternatively, these reserves represent the value of total assets and plant to be constructed in the future. The total connection fee eligible capital fund reserves are $17.9 million and are deducted from the buy-in component. Further detail can be seen in Exhibit 4 of the Technical Appendix.

FUTURE COMPONENTS – An important requirement for a connection fee study is the connection between the anticipated future growth on the system and the facilities required to accommodate that growth. For purposes of this study, TTSA's most current capital improvement plan (CIP) was provided. The CIP was split between future plant for TRI projects, WRP projects that are for existing infrastructure and WRP projects for new facilities, which would benefit all customers. TTSA staff reviewed the existing capital improvement plan and provided a projection of the percentage of capacity eligible projects. The total sewer CIP projects which are connection fee eligible are $61.8 million. The TRI and WRP projects that are oversizing for existing infrastructure were divided by the number of future EDUs, or 17,350 EDUs. The WRP projects for new facilities were divided by total EDUs, or 48,000 EDUs. The future component of the charge is then calculated at $2,182 per EDU. Exhibit 5 of the Technical Appendix contains the details of this portion of the fee.

2.4.4 Allowable Sewer Connection Fee

Based on the sum of the cost components calculated above, the allowable sewer connection fee was determined. "Allowable" refers to the concept that as a matter of policy, the TTSA Board may adopt any amount up to the allowable connection fee, but not over that amount. Charging an amount greater than the allowable connection fee would not meet the legal and practical bases of a cost-based connection fee. Table 2-5 details TTSA's cost-based sewer connection fee. Details are provided in Exhibit 1 of the Technical Appendix.

Table 2-5
Summary of Maximum Allowable Sewer Connection Fee

	Total "Allowable" Connection Fee
Total Eligible Plant (Replacement Cost New)	$363,008,326
Less: Contributed Capital	(19,615,513)
Total Existing Plant Cost Basis	**$343,392,813**
Plus: Work in Progress	3,507,039
Less: Outstanding Principal on Debt	(3,599,240)
Less: Capital Fund Reserves	(17,903,043)
Total Net Existing Plant	**$325,397,569**
Number of Existing and Future Dwelling Units	48,000
Total Existing Sewer Connection Fee per EDU	**$6,779**
Future Plant (TRI & WRP)	$24,315,800
Number of Future Dwelling Units	17,350
Total Future Plant (TRI & WRP) per EDU	$1,401
Future Plant WRP New Facilities	$37,500,000
Number of Future Dwelling Units	48,000
Total Future WRP New Facilities per EDU	$781
Total Future Sewer Connection Fee per EDU	**$2,182**
Maximum Allowable Sewer Connection Fee	**$8,961**
Existing Sewer Connection Fee	**$5,000**

Table 2-5 shows the maximum allowable sewer connection fee of $8,961 per EDU. This is more than the current sewer connection fee of $5,000. It should be noted that during the 2019 sewer connection fee study, the sewer connection fee was calculated at $6,222. However, the 2019 study was based only on the buy-in component as no future capital improvements had been identified. At that time, TTSA was also starting the comprehensive sewer system planning process, which is the basis for the CIP in this study. Given this, the TTSA Board maintained the then current $5,000 connection fee.

Table 2-6 provides a better understanding of the relationship of the buy-in or replacement-related portion of the fee to the expansion related portion of the fee. Approximately seventy-six percent of the calculated allowable fee is related to the existing facilities.

Table 2-6
Maximum Allowable Sewer Connection Fee Summarized by Existing and Expansion Components ($/EDU)

	Total Maximum Allowable Sewer Connection Fee	% of Total
Existing Plant Related	$6,779	75.6%
Expansion Plant Related	2,182	24.4%
Maximum Allowable Connection Fee ($/EDU)	**$8,961**	**100.0%**

As can be seen in Table 2-6, the calculated sewer connection fee was determined to be $8,961 for one equivalent dwelling unit.

2.4.5 Implementation of Sewer Connection Fee

The adopted 2019 sewer connection fee was based on an EDU definition of an average residential customer. The fee is developed, and when adopted, on a per EDU basis. However, the implementation of the connection fee is based on a residential minimum (fixed) charge of $1,500, plus a per square foot charge of $1.75 per square foot. In this way, each new residential customer, would be charged for their proportion of the EDU based on the total square footage of the residence. This implementation approach further reflects, and refines the calculation of the connection fee, based on the demands each customer places on the system as a larger residence would have a higher potential demand (e.g., more bedrooms and bathrooms). For an average residential unit, of approximately 2,000 sq. ft., this would be $5,000 per unit ($1,500 + ($1.75 X 2,000 sq. ft.) = $5,000). Additions (not an ADU) greater than 500 square feet are charged a per square foot charge of $1.75. An accessory dwelling unit (ADU) is charged a minimum charge of $1,500, plus a per square foot charge of $1.75 per square foot, if not exempt. Additions and accessory dwelling units 500 square feet or less are exempt from a connection fee.

Table 2-7 provides a summary of the residential present and calculated sewer connection fees per EDU. The average residential connection fee would be $8,961 per unit ($2,690 + ($3.14 X 2,000 sq. ft.) = $8,961)

Table 2-7
Present and Calculated Residential Sewer Connection Fees

Type of Connection	Units	Present Connection Fee	Proposed Connection Fee
All Residential			
Minimum	Per living unit	$1,500	$2,690
Plus: Square footage	Per square footage	$1.75	$3.14
Additions (Not an ADU)			
Greater than 500 square feet	Per square footage	$1.75	$3.14
500 square feet or less		Exempt	Exempt
Accessory Dwelling Unit			
Minimum	Per living unit	$1,500	$2,690
Plus: Square footage	Per square footage	$1.75	$3.14
500 square feet or less		Exempt	Exempt

Table 2-8 provides a summary of the present and calculated non-residential sewer connection fees per EDU.

Table ES – 2
Present and Calculated Non-Residential Sewer Connection Fees

TTSA Code	Type of Connection	Units	Present Connection Fee	Proposed Connection Fee
A	Beauty/Barber Shop	# of service chairs	$2,500.00	$4,481.00
B	Commercial Establishments (1) (unless otherwise noted)	# of fixture units	500.00	896.00
D	Dump Station	# of stations	5,000.00	8,961.00
F	Restaurant or Bar	# of seats inside	500.00	896.00
Z		# of seats outside	175.00	314.00
Z		# of seats banquet	175.00	314.00
G	Grocery	# of fixture units	750.00	1,344.00
I	Industrial User	as calculated pursuant to Table A-2	5,000.00	8,961.00
J	Car Washes	# of bays, Automatic	7,500.00	13,442.00
		# of bays, Automatic - Recycled	6,000.00	10,754.00
		# of bays, Self-Serve	5,000.00	8,961.00
		# of bays, Self-Serve - Recycled	4,000.00	7,169.00
K	Campsite w/ Sewer Connection	# of sites	2,500.00	4,481.00
L	Laundromat	# of washing machines	5,000.00	8,961.00
M	Motel or Hotel Unit	# of units	2,500.00	4,481.00
N	Motel or Hotel Unit with Kitchen	# of units	3,300.00	5,914.00
P	Swimming Pool or Spa	# of P units, see table A-1	100.00	179.00
Q	Campsite w/o Sewer Connection	# of sites	1,875.00	3,360.00
S	Other	As determined by General Manager	TBD	TBD
T	Assembly Hall	# of seats	50.00	90.00

[1] Industrial formula see below:

Flow:	Maximum Daily Flow (gallons per day) / 200 gallons per day	=	EDU_{Flow}			
COD:	Composite Sample COD Concentration (milligrams per liter) / 805 milligrams per liter	X	EDU_{Flow}	=	EDU_{COD}	
TSS:	Composite Sample TSS Concentration (milligrams per liter) / 362 milligrams per liter	X	EDU_{Flow}	=	EDU_{TSS}	
TDS:	Composite Sample TDS Concentration (milligrams per liter) / 428 milligrams per liter	X	EDU_{Flow}	=	EDU_{TDS}	
TN:	Composite Sample TN Concentration (milligrams per liter as N) / 78 milligrams per liter	X	EDU_{Flow}	=	EDU_{TN}	
TP:	Composite Sample TP Concentration (milligrams per liter as P) / 8.4 milligrams per liter	X	EDU_{Flow}	=	EDU_{TP}	

2.5 Key Assumptions

In developing the connection fees for TTSA's sewer system, a number of key assumptions were utilized. These are as follows:

- TTSA's connection fees were developed on the basis of planning documents, anticipated future connections, and the necessary capital improvements to serve those future connections
- TTSA's asset records were used to determine the existing infrastructure assets
- TTSA provided the most recent CIP for future expansion improvements
- TTSA determined the portion of future improvements that were growth-related
- The calculation of the debt credit component included current outstanding principal on existing assets
- The implementation of the residential sewer connection fees were based on an average house size of 2,000 square feet

2.6 Consultant's Recommendations

Based on our review and analysis of TTSA's sewer connection fees, HDR makes the following recommendations:

1. TTSA should adopt the sewer connection fees for new connections which are no greater than the net allowable sewer connection fees as set forth in this report.
2. TTSA should annually update the sewer connection fees by a local construction cost index such as the Engineering News Record Construction Cost Index (ENR—CCI) for no more than five years. Industry best practice of annual inflationary adjustment can keep the charges (infrastructure investment) relatively current with construction pricing practices.
3. TTSA should update the actual calculations for the sewer connection fees at such time when a new capital improvement plan, public facilities plan, comprehensive system plan, or a comparable plan is approved or updated by TTSA, or every three to five years.

2.7 Summary

The sewer connection fees presented in this report are based on the planning and engineering design criteria of TTSA's sewer system, the value of the existing assets, past financing of system infrastructure, and generally accepted principles. The calculated connection fees will provide multiple benefits to TTSA and will continue the practice of establishing equitable and cost-based sewer connection fees for new customers connecting to TTSA's sewer system.

Technical Appendix

Tahoe-Truckee Sanitation Agency
Exhibit 1
Development of the Sewer Connection Fee Per EDU

Eligible Infrastructure Description	Original Cost (1) OC	Replacement Cost (2)(3) RCN
Existing Plant		
Sewer Asset Listing	$147,212,478	$363,008,326
Total	$147,212,478	$363,008,326
Less: Contributed Capital (4)	($11,600,000)	($19,615,513)
Total Existing Plant	**$135,612,478**	**$343,392,813**
Plus: Work in Progress (5)	$3,507,039	$3,507,039
Less: Outstanding Debt Principal (6)	($3,599,240)	($3,599,240)
Less: Reserves (7)	($17,903,043)	($17,903,043)
Total Net Existing Plant	**$117,617,234**	**$325,397,569**
Total Existing and Future Equivalent Dwelling Units (8)	48,000	48,000
Existing Sewer Connection Fee per EDU (9)	**$2,450**	**$6,779**
Future Plant (10)		
TRI	$6,919,200	$6,919,200
WRP	17,396,600	17,396,600
Total Future Plant	$24,315,800	$24,315,800
Future Equivalent Dwelling Units (11)	17,350	17,350
Future Sewer Connection Fee per EDU	$1,401	$1,401
WRP New Facilities	$37,500,000	$37,500,000
Total Existing and Future Equivalent Dwelling Units (8)	48,000	48,000
Future Sewer Connection Fee per EDU	$781	$781
Total Future Plant	**$61,815,800**	**$61,815,800**
Future Sewer Connection Fee per EDU	**$2,182**	**$2,182**
Total Sewer Connection Fee per EDU	**$4,632**	**$8,961**
2019 Study Sewer Connection Fee per EDU	$6,222	$6,222
$ Difference	($1,590)	$2,739
2019 Adopted Sewer Connection Fee per EDU	$5,000	$5,000
$ Difference	($368)	$3,961

NOTES:

(1) Asset list based on June 30, 2021.

(2) Net of assets that are not connection fee eligible. Vehicles and General Plant were not included.

(3) Based on specific "in service" date of asset and Aug, 2023 Engineering News Record, 20 City construction cost index.

(4) Department of Water Resources grant for TTSA wastewater treatment facility 11-30-01. See Exhibit 8.

(5) Work in progress as of 2020/2021. See Exhibit 2.

(6) Principal balance as of June 30, 2023 for Fund 2 funded debt service. See Exhibit 3.

(7) Cash reserves as of March 2022 which are connection fee eligible. See Exhibit 4.

(8) Existing and projected equivalent dwelling units. See Exhibit 6.

(9) Combined methodology established in Water Environment Federation Manual of Practice No. 27, 4th Edition, p. 206-211.

(10) Based on CIP plan. See Exhibit 5.

(11) Based on projected equivalent dwelling units. See Exhibit 6.

(12) RCN from TTSA Resolution 11-2008, which adopted the asset replacement approach for the calculation of connection fees.

Tahoe-Truckee Sanitation Agency
Exhibit 2
Development of Work in Progress

	Total (1)
Barscreens, Washers, Compactors	$3,089,622
Digester & Plant Heating	217,009
Security Improvements	159,926
Control Room Upgrades	1,943
Plant Improvement Project	693
Maintenance/IT Shop Improvement	2,729
Influent Flowmeter Install	35,119
Total	**$3,507,039**

NOTES:

(1) Based on Fund 2 WIP for FY 21 and FY 22

Tahoe-Truckee Sanitation Agency
Exhibit 3
Development of Outstanding Debt Principal

Debt Name	2020 WWTP Revenue Ref. Principal (1)
Outstanding Principal Payments:	
7/1/2023	$2,425,000
7/1/2024	2,550,000
7/1/2025	2,680,000
7/1/2026	2,815,000
7/1/2027	2,960,000
7/1/2028	0
7/1/2029	0
7/1/2030	0
7/1/2031	0
7/1/2032	0
7/1/2033	0
7/1/2034	0
7/1/2035	0
7/1/2036	0
7/1/2037	0
7/1/2038	0
7/1/2039	0
7/1/2040	0
7/1/2041	0
7/1/2042	0
7/1/2043	0
7/1/2044	0
Total	**$13,430,000**
% of Rate Funded (2)	26.8%
$ Funded from Rates	**$3,599,240**

NOTES:
(1) Based on payments as of 2022.
(2) Based on percentage of rate funding of existing debt service pay

Tahoe-Truckee Sanitation Agency
Exhibit 4
Development of Cash Reserves

Reserve Fund Balance (1)				
	Fund	**Total**	**% Eligible**	**$ Eligible**
Allocation to General Fund	10	$13,344,326	0%	$0
Repair and Replacement & Upgrade	06	3,525,289	0%	0
Wastewater Capital Reserve	02	17,903,043	100%	17,903,043
Emergency & Contingency	07	4,060,480	0%	0
Total		**$38,833,138**		**$17,903,043**

NOTES:
(1) Based on June 30, 2023 balances.

Tahoe-Truckee Sanitation Agency
Exhibit 5
Development of Future Capital Improvements

Proj. #	Project Listing (1)	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
TRI													
TRI-C-01	Gravity Main between MH 57 and MH 62	0	0	0	0	0	0	0	0	0	0	718,000	718,000
TRI-C-02	Gravity Main between MH 71 and MH 72	0	0	0	0	0	0	0	0	0	0	0	0
TRI-RR-01	River Crossing, Gravity Main between MH 33 and MH 35	0	27,720	49,940	199,540	0	0	0	0	0	0	0	0
TRI-RR-02	River Crossing, Gravity Main between MH 65 and MH 66	0	0	0	6,000	10,800	8,640	8,640	8,640	8,640	8,640	0	0
TRI-RR-03	River Crossing, Gravity Main between MH 88 and MH 89	0	0	0	20,000	36,000	28,800	28,800	28,800	28,800	28,800	0	0
TRI-RR-04	TRI Renewal Program	0	0	0	0	0	98,100	98,100	98,100	98,100	98,100	98,100	98,100
	Total TRI	**$0**	**$27,720**	**$49,940**	**$225,540**	**$46,800**	**$135,540**	**$135,540**	**$135,540**	**$135,540**	**$135,540**	**$816,100**	**$816,100**
WRP													
CIPR-03	Equipment/Vehicle Warehouse	$0	$0	$525,000	$1,575,000	$0	$0	$0	$0	$0	$0	$0	$0
CIP-01	Plant Coating Improvements	57,600	0	72,000	0	0	0	0	0	0	0	0	0
CIP-03	Lime Systems Improvements	0	48,000	0	0	0	0	0	0	0	0	0	0
CIPR-04	Maintenance/E&I Shop Improvements	0	0	0	0	94,800	0	0	0	0	0	0	0
WRP-01	Primary and Secondary Treatment Repairs	0	0	6,120	27,540	27,540	0	0	0	0	0	0	0
WRP-02	Phosphorus Removal and Recarb Rehabilitation	0	0	42,720	192,240	192,240	0	0	0	0	0	0	0
WRP-03	Plant Wide Electrical Improvements (Phase 1)	0	10,800	30,000	30,000	0	0	0	0	0	0	0	0
WRP-04	WASSTRIP Implementation	0	0	0	0	0	790,000	790,000	790,000	790,000	790,000	0	0
WRP-06	Nitrified Effluent Recycle Pilot	0	0	42,000	378,000	0	0	0	0	0	0	0	0
WRP-07	Plant Wide Electrical Improvements (Phase 2)	0	0	0	0	0	112,080	112,080	112,080	112,080	112,080	0	0
WRP-09	Plant Wide Electrical Improvements Project (Phase 3)	0	0	0	0	0	0	0	0	0	0	31,920	31,920
WRP-10	Digestion Improvements Project	0	79,200	240,000	840,000	1,680,000	0	0	0	0	0	0	0
WRP-11	Effluent Disposal Field Expansion Project	0	0	0	0	0	0	0	0	0	0	1,260,000	1,260,000
WRP-12	Plant Wide Electrical Improvements (Phase 4)	0	0	0	0	0	0	0	0	0	0	0	0
WRP-13	Plant Wide Electrical Improvements (Phase 5)	0	0	0	0	0	0	0	0	0	0	0	0
WRP-15	Grit System Improvements	0	0	0	0	0	42,240	54,240	54,240	54,240	54,240	0	0
WRP-17	Primary & Secondary Treatment Rehabilitation Project	0	0	121,800	548,100	548,100	0	0	0	0	0	0	0
WRP-18	WAS Thickening Improvements Project	0	0	0	0	0	0	0	0	0	0	41,040	41,040
WRP-19	Recarbonation Improvements	0	0	0	0	0	12,960	12,960	12,960	12,960	12,960	0	0
WRP-20	Flow Equalization Improvements Project	0	0	0	0	0	0	0	0	0	0	318,000	318,000
WRP-21	Biogas Storage Project	0	0	0	0	0	0	0	0	0	0	0	0
WRP-22	TWAS Pump Replacement Project	0	6,600	0	0	0	0	0	0	0	0	0	0
WRP-23	Solids Dewatering Improvements	0	0	0	0	0	12,240	12,240	12,240	12,240	12,240	0	0
WRP-24	BNR Structural Retrofit and Nitrified Effluent Recycle Project	0	0	0	0	0	230,000	230,000	230,000	230,000	230,000	0	0
WRP-25	Filtration Rehabilitation Project	0	0	0	0	0	29,520	29,520	29,520	29,520	29,520	0	0
WRP-26	AWT Improvements	0	0	0	0	0	40,080	40,080	40,080	40,080	40,080	0	0
WRP-28	Odorous Air Treatment Improvements Project	0	0	0	0	0	0	0	0	0	0	0	0
WRP-29	Disinfection Process Modernization	0	500,000	0	0	400,000	2,926,000	3,326,000	3,326,000	3,326,000	3,326,000	0	0
WRP-31	Offsite Flow Equalization Improvements Project	0	0	0	0	0	0	0	0	0	0	0	0
WRP-32	MPPS Improvements Project	0	0	0	0	0	0	0	0	0	0	61,440	61,440
WRP-33	Misc Plant Rehab Project	0	0	0	0	0	0	0	0	0	0	98,160	98,160
WRP-34	Plant Air System Upgrades	0	0	102,600	102,600	0	0	0	0	0	0	0	0
	Flowmeter Improvements*	75,000	0	0	0	0	0	0	0	0	0	0	0
	Manlift*	60,000	0	0	0	0	0	0	0	0	0	0	0
	Develop Standards	32,787	208,213	0	0	0	0	0	0	0	0	50,000	0
	Upgrade Reports	0	0	0	96,000	0	0	0	0	0	0	0	0
	Improve Physical Security	0	147,000	0	0	147,000	0	0	0	0	0	0	0
	Total WRP	**$225,387**	**$999,813**	**$1,182,240**	**$3,789,480**	**$3,089,680**	**$4,195,120**	**$4,607,120**	**$4,607,120**	**$4,607,120**	**$4,607,120**	**$1,860,560**	**$1,810,560**
	Total Capital Projects	**$225,387**	**$1,027,533**	**$1,232,180**	**$4,015,020**	**$3,136,480**	**$4,330,660**	**$4,742,660**	**$4,742,660**	**$4,742,660**	**$4,742,660**	**$2,676,660**	**$2,626,660**

NOTES:
(1) The costs are based on T-TSA CIP plan, 20122-2023 to 2042-2046.
(2) Connection fee eligible based on T-TSA input. Maintenance projects are not eligible.

FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047	FY 2048	Total	% Eligible (2)	$ Growth Related	
718,000	718,000	718,000	0	0	0	0	0	0	0	0	0	0	0	$3,590,000	100.0%	$3,590,000	RRU
0	0	0	166,000	166,000	166,000	166,000	166,000	0	0	0	0	0	0	830,000	100.0%	830,000	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	277,200	100.0%	277,200	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	60,000	100.0%	60,000	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	200,000	100.0%	200,000	RRU
98,100	98,100	98,100	98,100	98,100	98,100	98,100	98,100	98,100	98,100	98,100	98,100	98,100	0	1,962,000	100.0%	1,962,000	RRU
$816,100	**$816,100**	**$816,100**	**$264,100**	**$264,100**	**$264,100**	**$264,100**	**$264,100**	**$98,100**	**$98,100**	**$98,100**	**$98,100**	**$98,100**	**$0**	**$6,919,200**		**$6,919,200**	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,100,000	100.0%	$2,100,000	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	129,600	100.0%	129,600	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	48,000	100.0%	48,000	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	94,800	100.0%	94,800	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	61,200	100.0%	61,200	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	427,200	100.0%	427,200	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	70,800	100.0%	70,800	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,950,000	100.0%	3,950,000	New
0	0	0	0	0	0	0	0	0	0	0	0	0	0	420,000	100.0%	420,000	New
0	0	0	0	0	0	0	0	0	0	0	0	0	0	560,400	100.0%	560,400	RRU
31,920	31,920	31,920	0	0	0	0	0	0	0	0	0	0	0	159,600	100.0%	159,600	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,839,200	100.0%	2,839,200	RRU
1,260,000	1,260,000	1,260,000	0	0	0	0	0	0	0	0	0	0	0	6,300,000	100.0%	6,300,000	RRU
0	0	0	6,000	6,000	6,000	6,000	6,000	0	0	0	0	0	0	30,000	100.0%	30,000	RRU
0	0	0	0	0	0	0	0	69,360	69,360	69,360	69,360	69,360	0	346,800	100.0%	346,800	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	259,200	100.0%	259,200	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,218,000	100.0%	1,218,000	RRU
41,040	41,040	41,040	0	0	0	0	0	0	0	0	0	0	0	205,200	100.0%	205,200	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	64,800	100.0%	64,800	RRU
318,000	318,000	318,000	0	0	0	0	0	0	0	0	0	0	0	1,590,000	100.0%	1,590,000	New
0	0	0	554,000	554,000	554,000	554,000	554,000	0	0	0	0	0	0	2,770,000	100.0%	2,770,000	New
0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,600	100.0%	6,600	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	61,200	100.0%	61,200	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,150,000	100.0%	1,150,000	New
0	0	0	0	0	0	0	0	0	0	0	0	0	0	147,600	100.0%	147,600	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	200,400	100.0%	200,400	RRU
0	0	0	0	0	0	0	0	9,360	9,360	9,360	9,360	9,360	0	46,800	100.0%	46,800	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	17,130,000	100.0%	17,130,000	New
0	0	0	2,098,000	2,098,000	2,098,000	2,098,000	2,098,000	0	0	0	0	0	0	10,490,000	100.0%	10,490,000	New
61,440	61,440	61,440	0	0	0	0	0	0	0	0	0	0	0	307,200	100.0%	307,200	RRU
98,160	98,160	98,160	0	0	0	0	0	0	0	0	0	0	0	490,800	100.0%	490,800	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	205,200	100.0%	205,200	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	75,000	100.0%	75,000	RRU
0	0	0	0	0	0	0	0	0	0	0	0	0	0	60,000	100.0%	60,000	RRU
0	0	0	0	0	0	0	0	50,000	0	0	0	0	0	341,000	100.0%	341,000	RRU
25,000	0	0	0	0	0	0	0	0	0	25,000	0	0	0	146,000	100.0%	146,000	RRU
0	0	0	0	0	0	100,000	0	0	0	0	0	0	0	394,000	100.0%	394,000	RRU
$1,835,560	**$1,810,560**	**$1,810,560**	**$2,658,000**	**$2,658,000**	**$2,658,000**	**$2,758,000**	**$2,658,000**	**$128,720**	**$78,720**	**$103,720**	**$78,720**	**$78,720**	**$0**	**$54,896,600**		**$54,896,600**	
$2,651,660	**$2,626,660**	**$2,626,660**	**$2,922,100**	**$2,922,100**	**$2,922,100**	**$3,022,100**	**$2,922,100**	**$226,820**	**$176,820**	**$201,820**	**$176,820**	**$176,820**	**$0**	**$61,815,800**		**$61,815,800**	

RRU	$24,315,800	$24,315,800
New	37,500,000	37,500,000
Total	**$61,815,800**	**$61,815,800**

Tahoe-Truckee Sanitation Agency
Exhibit 6
Development of Equivalent Dwelling Units

Average Daily Flow, gallons per EDU (1) 200.0

WDR Permit (2)	Yearly Max Flow	Max Flow Jun 21 to Sept 21
Existing Flow (MGD)	13.00	7.40
Existing EDUs	65,000	37,000
Expansion Flow (MGD)	2.40	2.20
Expansion EDUs	12,000	11,000
Total Flow (MGD)	**15.40**	**9.60**
Buildout EDU's	**77,000**	**48,000**

Year	Total Gallons (MGD)	Total EDUs (3)	Additional EDUs	% Growth
2022	6.13	30,650		
Permit	9.60	48,000	17,350	
Total Change	3.47		17,350	36.1%

NOTES:

(1) From T-TSA definition of one equivalent Dwelling Unit as 200 gallons per unit. This is based on 189 gallons per EDU rounded up to 200.

(2) Based on Waste Discharge Requirements as of May 2002.

(3) EDUs calculated by maximum 87-day average flow at plant divided by gallons per EDU.

Tahoe-Truckee Sanitation Agency
Exhibit 7
Calculated Sewer Connection Fee

Item	Calculated Connection Fee
Existing Plant Sewer Connection Fee per EDU	$6,779
Future Plant Sewer Connection Fee per EDU	2,182
Total Sewer Connection Fee per EDU	**$8,961**
Existing Sewer Connection Fee	**$5,000**

Type of Connection	Units	Equivalent EDU Ratio	Existing Connection Fee [1]	Calculated Connection Fee [2]
Residential				
Single-Family, Multi-Family, Mobile Home				
Minimum	Per living unit		$1,500	$2,690
Plus: Square footage	Per square footage		$1.75	$3.14
Additions (Not an ADU)				
Greater than 500 square feet	Per square footage		$1.75	$3.14
500 square feet or less			Exempt	Exempt
Accessory Dwelling Unit				
Minimum	Per living unit		$1,500	$2,690
Plus: Square footage	Per square footage		$1.75	$3.14
500 square feet or less			Exempt	Exempt

[1] $5,000 per unit ($1,500 + ($1.75 X 2,000 sq. ft.) = $5,000); Ordinance 1-2019

[1] $8,961 per unit ($2,690 + ($3.14 X 2,000 sq. ft.) = $8,961)

Connection Type	TTSA Code	Units	Equivalent EDU Ratio	Existing Per Unit Charge ($)	Calculated Per Unit Charge ($)
Beauty/Barber Shop	A	# of service chairs	0.50	2,500.00	4,481.00
Commercial Establishments (1) (unless otherwise noted)	B	# of fixture units	0.10	500.00	896.00
Dump Station	D	# of stations	1.00	5,000.00	8,961.00
Restaurant or Bar	F	# of seats inside	0.10	500.00	896.00
	Z	# of seats outside	0.04	175.00	314.00
	Z	# of seats banquet	0.04	175.00	314.00
Grocery	G	# of fixture units	0.15	750.00	1,344.00
Industrial User	I	as calculated pursuant to Table A-2		5,000.00	8,961.00
Car Washes	J	# of bays, Automatic	1.50	7,500.00	13,442.00
		# of bays, Automatic - Recycled	1.20	6,000.00	10,754.00
		# of bays, Self-Serve	1.00	5,000.00	8,961.00
		# of bays, Self-Serve - Recycled	0.80	4,000.00	7,169.00
Campsite with Sewer Connection	K	# of sites	0.50	2,500.00	4,481.00
Laundromat	L	# of washing machines	1.00	5,000.00	8,961.00
Motel or Hotel Unit	M	# of units	0.50	2,500.00	4,481.00
Motel or Hotel Unit with Kitchen	N	# of units	0.66	3,300.00	5,914.00
Swimming Pool or Spa	P	# of P units, see table A-1		100.00	179.00
Campsite without Sewer Connection	Q	# of sites	0.38	1,875.00	3,360.00
Residential Unit (2)	R	# of units		1,500.00	2,690.00
		plus # square feet of living area		1.75	3.14
Other	S	As Determined by General Manager		TBD	TBD
Assembly Hall	T	# of seats	0.01	50.00	90.00

(1) Refer to Appendix A-1

(2) Connection Fees for Residential living space additions greater than 500 sq.ft. where sewer connection is already established will be charged $3.08/sq.ft.

Exhibit A - 1

Plumbing Fixture Units

Exhibit A - 1 Plumbing Fixture Units

Description	Fixture Units Private	Fixture Units Public
Bathtub or combination bath/shower	2	2
Clothes washer, domestic	3	3
Dental unit, cuspidor	-	1
Dishwasher, domestic, independent drain	2	2
Drinking fountain (each head)	0.5	0.5
Food waste disposer, commercial	-	3
Floor drains, emergency	-	0
Floor drains (each)	2	2
Shower, single-head trap	2	2
Multi-head, each additional	1	1
Lavatory	1	1
Lavatory in sets	2	2
Sink (bar)	1	2
Sink (commercial with food waste)	-	3
Sink (exam room)	-	1
Sink (domestic, with or w/out food waste disposer, dishwasher, or both)	2	2
Sink (laundry)	2	2
Sink (service or mop basin)	3	3
Sink (washup, flushing rim)	-	6
Sink (washup, each set faucets)	-	2
Urinal	2	2
Toilet (1.6 gpf, any type)	3	4
Toilet (>1.6 gpf, any type)	4	6
Swimming Pool "P" Units		
0 - 25,000 gallons	-	23
25,001 - 50,000 gallons	-	46
50,001 - 75,000 gallons	-	69
75,000 - 100,000 gallons	-	92
100,000 gallons and over	-	115
Spa "P" Units		
0 - 1,000 gallons	-	16
1,001 - 2,500 gallons	-	39
2,501 - 5,000 gallons	-	78
5,001 gallons and over	-	116

Multiple Use Credit		
(Applies to Multiple Use Fixtures Only)		
# of Restaurant Seats	# Fixture Unit Credits	
0-50	12*	
51-100	15	
101-200	21	
201-300	27	
301-400	33	
401-500	39	
501-600	45	
601-700	51	
701-800	57	
801-900	63	
901-1000	69	
1001-1100	75	
1101-1200	81	
Over 1201	Individually Reviewed and Rated	

*The above listed table represents the minimum business fixture units for each incremental seat count.

Tahoe-Truckee Sanitation Agency
Exhibit 8
Fixed Asset Listing as of June 2021

Asset #	Contr.	Description	Date Acquired	Original Cost	Accumulated Depreciation	Net Book Value	ENR-CCI 8/1/2023 13,473 ENR Factor	Repl. Cost	% Depr.	% Eligible	Net Original Cost	Replacement Cost New	Replacement Cost New Less Depreciation
Land		Land Shift from Collection & Treatment	6/30/1988	$2,174,726	$0	$2,174,726	1.00	$2,174,726	0.0%	100%	$2,174,726	$2,174,726	$2,174,726
Collection		Collection System	1/1/1979	7,114,905.40	6,047,669.59	1,067,236	4.49	31,920,077	85.0%	100%	7,114,905	31,920,077	4,788,011
Collection		Addition	1/1/1980	1,131.28	938.96	192	4.16	4,708	83.0%	100%	1,131	4,708	800
Collection		Addition	1/1/1981	7,600.00	6,156.00	1,444	3.81	28,965	81.0%	100%	7,600	28,965	5,503
Collection		Addition	1/1/1982	34,854.00	27,534.66	7,319	3.52	122,764	79.0%	100%	34,854	122,764	25,780
Collection		Addition	1/1/1983	5,082.00	3,913.14	1,169	3.31	16,839	77.0%	100%	5,082	16,839	3,873
Collection		Addition	1/1/1990	75,640.56	47,653.55	27,987	2.85	215,358	63.0%	100%	75,641	215,358	79,682
Collection		Addition	1/1/1992	2,579,531.72	1,521,923.71	1,057,608	2.70	6,971,494	59.0%	100%	2,579,532	6,971,494	2,858,312
Collection		Addition	1/1/1994	210,745.88	115,910.23	94,836	2.49	525,016	55.0%	100%	210,746	525,016	236,257
Collection		Addition	1/1/1995	320.95	170.10	151	2.46	790	53.0%	100%	321	790	371
Collection		Addition	1/1/2003	3,240.00	1,198.80	2,041	2.01	6,521	37.0%	100%	3,240	6,521	4,108
Collection		Vactor Pad Construction	1/1/2004	47,814.20	16,734.97	31,079	1.89	90,538	35.0%	100%	47,814	90,538	58,850
Collection		TRI Improvements	1/1/2010	76,221.67	17,530.98	58,691	1.53	116,662	23.0%	100%	76,222	116,662	89,829
Collection		TRI Improvements TV Inspection	1/1/2011	19,559.28	4,107.45	15,452	1.48	29,040	21.0%	100%	19,559	29,040	22,942
Collection		Bypass pump system, insulate, tv inspect	1/1/2012	331,685.88	63,020.32	268,666	1.45	480,080	19.0%	100%	331,686	480,080	388,865
Collection		TRI TV, Emerg. Bypass sys, piping insulation	1/1/2013	89,482.77	15,212.07	74,271	1.41	126,282	17.0%	100%	89,483	126,282	104,814
Collection		TRI Scan, TRI rehab	1/1/2014	191,382.97	28,707.45	162,676	1.37	262,928	15.0%	100%	191,383	262,928	223,489
Collection		TRI Scan, TRI rehab, pipe locator, insulation, TRI imp	1/1/2015	2,724,373.56	354,168.56	2,370,205	1.34	3,657,484	13.0%	100%	2,724,374	3,657,484	3,182,011
Collection		TRI Improvements, TRI rehab	1/1/2016	381,566.68	41,972.33	339,594	1.30	497,223	11.0%	100%	381,567	497,223	442,528
Collection			1/1/2017	273,291.63	24,596.25	248,695	1.25	342,934	9.0%	100%	273,292	342,934	312,070
Collection		TRI improvements, TRI Rehab, Telemetry	1/1/2018	250,263.16	17,518.42	248,695	1.22	284,659	9.0%	100%	250,263	284,659	259,039
Collection		TRI Improvements (archaeology, engineering, TRI Relay, Contac	1/1/2019	1,331,128.07	66,556.40	248,695	1.19	284,659	9.0%	100%	1,331,128	284,659	259,039
Collection		TRI Improvements (archaeology, engineering, TRI Relay, Contac	1/1/2019	1,351,436.80	67,571.84	248,695	1.19	284,659	9.0%	100%	1,351,437	284,659	259,039
General Plant		Additions	1/1/1990	16,354.21	16,354.21	0	2.85	46,562	100.0%	0%	0	0	0
General Plant		Office Equip, Motorola Intral 2000 Sys, & General	1/1/1991	138,354.81	138,354.81	0	2.79	385,521	100.0%	0%	0	0	0
General Plant		General Equipment	1/1/1992	81,047.16	81,047.16	0	2.70	219,040	100.0%	0%	0	0	0
General Plant		Pump Truck, Lab Equip, & General	1/1/1993	135,626.16	135,626.16	0	2.59	350,716	100.0%	0%	0	0	0
General Plant		Additions	1/1/1994	53,751.97	53,751.97	0	2.49	133,908	100.0%	0%	0	0	0
General Plant		Additions	1/1/1995	32,285.19	32,285.19	0	2.46	79,504	100.0%	0%	0	0	0
General Plant		Equip, Crackfill, Upgrades	1/1/1996	124,031.64	124,031.64	0	2.40	297,335	100.0%	0%	0	0	0
General Plant		Additions	1/1/1996	69,146.85	69,146.85	0	2.40	165,762	100.0%	0%	0	0	0
General Plant		Additions	1/1/1997	222,170.67	222,170.67	0	2.31	513,767	100.0%	0%	0	0	0
General Plant		Lab Equip, Addl Office Heat/Cool, & General	1/1/1998	98,989.00	98,989.00	0	2.28	225,276	100.0%	0%	0	0	0
General Plant		Additions	1/1/1999	40,889.00	40,889.00	0	2.22	90,919	100.0%	0%	0	0	0
General Plant		Additions	1/1/2000	33,900.00	33,900.00	0	2.17	73,416	100.0%	0%	0	0	0
General Plant		Capital Outlay Proj, Equipment	1/1/2001	83,776.63	83,776.63	0	2.13	178,195	100.0%	0%	0	0	0
General Plant		Misc Projects, & Lab Equip.	1/1/2002	129,124.95	129,124.95	0	2.06	266,082	100.0%	0%	0	0	0
General Plant		Additions	1/1/2003	103,108.00	103,108.00	0	2.01	207,518	100.0%	0%	0	0	0
General Plant		Lab Equip, Stationary Equip, Misc Proj	1/1/2004	115,779.92	115,779.92	0	1.89	219,234	100.0%	0%	0	0	0
General Plant		Additions	1/1/2005	156,568.42	156,568.42	0	1.81	283,291	100.0%	0%	0	0	0
General Plant		Additions	1/1/2006	282,473.16	282,473.16	0	1.74	490,974	100.0%	0%	0	0	0
General Plant		Additions	1/1/2007	595,048.76	595,048.76	0	1.69	1,006,223	100.0%	0%	0	0	0
General Plant		Translucent Panels,AS 400 Upgrade, Elect Test Equip, Misc.	1/1/2008	134,358.56	134,358.56	0	1.62	217,799	100.0%	0%	0	0	0
General Plant		Lab Meters,Chopper Pump,Computers,Test Eq.,Pipe	1/1/2009	65,219.55	65,219.55	0	1.57	102,471	100.0%	0%	0	0	0
General Plant		Fuel Tank,Windows,LabEq,snowblow,Site Imp,Furn.	1/1/2010	207,614.65	207,614.65	0	1.53	317,766	100.0%	0%	0	0	0
General Plant		Doors,Lab Eq,Phone,Computers,Asphalt	1/1/2011	184,113.34	184,113.34	0	1.48	273,359	100.0%	0%	0	0	0
General Plant		Equip, Computers, doors, Chem Trench	1/1/2012	180,622.94	191,911.87	(11,289)	1.45	261,433	106.2%	0%	0	0	0
General Plant		Lighting, Instruments, scada, hvac, doors, equip, computers	1/1/2013	132,151.76	132,151.76	0	1.41	186,498	100.0%	0%	0	0	0
General Plant		Lighting, Instruments, scada, hvac, doors, equip, computers	1/1/2014	164,164.80	153,904.50	10,260	1.37	225,535	93.8%	0%	0	0	0
General Plant		Lighting, Instruments, sump pumps, lab equip, computers	1/1/2015	205,625.57	167,070.78	38,555	1.34	276,053	81.3%	0%	0	0	0
General Plant		Doors,Lab Eq,Comp supply, circuit breaker, pis sftwr	1/1/2016	80,190.61	55,131.04	25,060	1.30	104,497	68.8%	0%	0	0	0
General Plant		Doors, furniture, computers, radios	1/1/2017	98,603.69	61,627.31	36,976	1.25	123,731	62.5%	0%	0	0	0
General Plant		Lab Equip, Comp Equ,Furniture,Roof Repair, Asphalt	1/1/2018	218,214.74	109,107.37	109,107	1.22	265,769	50.0%	0%	0	0	0
General Plant		Lab Equip (Purification System, TOC Analyzer, Lab Oven Replace	1/1/2019	35,560.93	11,112.79	24,448	1.19	42,468	31.3%	0%	0	0	0
General Plant		Admin Office Improvement (Furniture)	1/1/2019	31,291.25	9,778.52	21,513	1.19	37,369	31.3%	0%	0	0	0
General Plant		Accounting Software (50% Deposit)	1/1/2019	44,313.00	13,847.81	30,465	1.19	52,920	31.3%	0%	0	0	0

Tahoe-Truckee Sanitation Agency
Exhibit 8
Fixed Asset Listing as of June 2021

Asset #	Contr.	Description	Date Acquired	Original Cost	Accumulated Depreciation	Net Book Value	ENR-CCI 8/1/2023 13,473 ENR Factor	Repl. Cost	% Depr.	% Eligible	Net Original Cost	Replacement Cost New	Replacement Cost New Less Depreciation
General Plant		EDPM Roof Replacement	1/1/2019	126,907.00	39,658.44	87,249	1.19	151,557	31.3%	0%	0	0	0
General Plant		Translucent Panel Rehab	1/1/2019	16,476.92	4,119.24	12,358	1.19	19,677	25.0%	0%	0	0	0
General Plant		Joerger Drive Reconstruction	1/1/2019	92,252.72	23,063.18	69,190	1.19	110,171	25.0%	0%	0	0	0
General Plant		Job #06-09-1500-002 (Lab Equipment Replacement) Moisture Analyze	1/1/2020	5,285.39	991.01	4,294	1.18	6,211	18.8%	0%	0	0	0
General Plant		Job #06-09-1500-002 (Lab Equipment Replacement) Analytical Balanc	1/1/2020	2,983.69	559.44	2,424	1.18	3,506	18.8%	0%	0	0	0
General Plant		Job #06-09-1500-003 (Admin Office Improvement) ADH Sinks, ADA U	1/1/2020	90,424.51	16,954.60	73,470	1.18	106,252	18.8%	0%	0	0	0
General Plant		Job #06-09-1500-004 (Accounting Software Upgrade) Caselle Account	1/1/2020	24,313.00	4,558.69	19,754	1.18	28,569	18.8%	0%	0	0	0
General Plant		Job #06-09-1500-006 (EPDM Roof Replacement)	1/1/2020	302,236.85	56,669.41	245,567	1.18	355,140	18.8%	0%	0	0	0
General Plant		Job #06-09-1500-029 (Corten/Fascia Installation Pro)	1/1/2020	1,070.00	200.63	869	1.18	1,257	18.8%	0%	0	0	0
General Plant		Job #02-10-1700-008 (Portable Emergency Pump System)	1/1/2020	120,952.26	22,678.55	98,274	1.18	142,123	18.8%	0%	0	0	0
General Plant		Deletions (06/30/19)	1/1/2019	(94,631.53)	(94,631.53)	0	1.19	(113,012)	100.0%	0%	0	0	0
General Plant		Job #06-09-1500-006 (EPDM Roof Replacement)	1/1/2020	183,457.35	34,398.25	149,059	1.18	215,569	18.8%	0%	0	0	0
General Plant		Office Depot, Western Nevada Supply, Grainger, Titan Wire, HAL, Diamc	1/1/2021	317,183.11	19,823.94	297,359	1.11	352,192	6.3%	0%	0	0	0
General Plant		Caselle Job #06-09-1500-004 (Accounting Software Upgrade)	1/1/2021	10,870.00	679.38	10,191	1.11	12,070	6.3%	0%	0	0	0
General Plant		Centimark Job #06-09-1500-006 (EPDM Roof Replacement)	1/1/2021	439,330.09	27,458.13	411,872	1.11	487,822	6.3%	0%	0	0	0
General Plant		Johnson Controls Job #06-09-1500-038 (Chiller Replacement)	1/1/2021	77,323.28	4,832.71	72,491	1.11	85,858	6.3%	0%	0	0	0
General Plant		Valley Power Systems Job #02-10-1700-009 (Plant Air Compressor)	1/1/2021	24,519.22	1,532.45	22,987	1.11	27,226	6.3%	0%	0	0	0
General Plant		Dell OptiPlex 7040 Minitower	2/11/2016	(822.55)	(822.55)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell OptiPlex 7040 Minitower	2/23/2016	(822.55)	(822.55)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell OptiPlex 7040 Minitower	2/23/2016	(822.56)	(822.56)	0	0.00	0	100.0%	0%	0	0	0
General Plant		File Cabinet Hon 4 Drawer	9/1/1977	(125.95)	(125.95)	0	0.00	0	100.0%	0%	0	0	0
General Plant		File Cabinet Hon with Lock	10/31/1977	(104.29)	(104.29)	0	0.00	0	100.0%	0%	0	0	0
General Plant		File Cabinet Hon with Lock	10/31/1977	(104.29)	(104.29)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Bookcase, 3 Shelf Hon	6/1/1978	(109.90)	(109.90)	0	0.00	0	100.0%	0%	0	0	0
General Plant		File Cabinet, 4 Drawer with Lock Hon	2/1/1984	(176.00)	(176.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		File Cabinet, 4 Drawer with Lock Hon	10/24/1984	(227.50)	(227.50)	0	0.00	0	100.0%	0%	0	0	0
General Plant		File Cabinet, Hon 4 Drawer	5/1/1985	(109.00)	(109.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		File Cabinet, Hon 4 Drawer	6/1/1985	(115.00)	(115.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Exhaust Fan Explosion Proof 24"	8/15/1985	(342.68)	(342.68)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Air Jack 2 1/2 ton	3/20/1986	(859.85)	(859.85)	0	0.00	0	100.0%	0%	0	0	0
General Plant		4 Drawer File Cabinet	10/10/1986	(159.00)	(159.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		FILE CABINET, FOUR DRAWER	1/14/1987	(139.00)	(139.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		FILE CABINET, FOUR DRAWER	1/14/1987	(139.00)	(139.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		PAYMASTER RIBBON WRITER	8/19/1987	(323.50)	(323.50)	0	0.00	0	100.0%	0%	0	0	0
General Plant		PIPE LOCATOR, GOLDAK #5600 SI W/ TAPE-ON TRANS. #3330	11/20/1991	(1,276.00)	(1,276.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		OKIDATA 591 PRINTER W/SHEET FEEDER	7/28/1994	(798.00)	(798.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		OFFICE CHAIR	8/8/1995	(633.33)	(633.33)	0	0.00	0	100.0%	0%	0	0	0
General Plant		SECRETARIAL DESK W/RETURN, OAK	9/27/1995	(1,864.20)	(1,864.20)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DESK, DBL PEDESTAL, MED. OAK	12/31/1996	(1,384.93)	(1,384.93)	0	0.00	0	100.0%	0%	0	0	0
General Plant		CREDENZA, MED. OAK	12/31/1996	(1,642.16)	(1,642.16)	0	0.00	0	100.0%	0%	0	0	0
General Plant		LAPTOP COMPUTER ASCENTIAS A70	9/10/1997	(3,096.31)	(3,096.31)	0	0.00	0	100.0%	0%	0	0	0
General Plant		FILE CABINET, TWO DRAWER LATERAL	10/8/1997	(1,272.84)	(1,272.84)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DESK	12/31/1997	(1,201.20)	(1,201.20)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP DESIGNJET PLOTTER PRINTER 500	9/25/2001	(2,985.00)	(2,985.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTI PLEX GX240 COMPUTER, FLOWCOMPUTER	6/16/2002	(1,483.85)	(1,483.85)	0	0.00	0	100.0%	0%	0	0	0
General Plant		MICROFILM STORAGE CABINET	7/29/2002	(592.45)	(592.45)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL COMPUTER PKG., 4500 SERIES, SCADADEV	8/1/2002	(1,647.00)	(1,647.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		LAPTOP COMPUTER, GATEWAY 400SP, PUBLICLAPTOP	2/12/2003	(1,720.00)	(1,720.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		COMPUTER PKG. DIMENSION 2350 SERIES	4/7/2003	(1,316.00)	(1,316.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		COMPUTER PKG. #GX270T	10/9/2003	(2,016.00)	(2,016.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP LASERJET 2300DT PRINTER	12/18/2003	(1,299.00)	(1,299.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		D.O. METER YSI 85	3/29/2004	(1,325.25)	(1,325.25)	0	0.00	0	100.0%	0%	0	0	0
General Plant		COMPUTER PKG. DELL DIMENSION 4600	9/14/2004	(1,886.14)	(1,886.14)	0	0.00	0	100.0%	0%	0	0	0
General Plant		COMPUTER PKG., DIMENSION 4600	9/14/2004	(1,886.14)	(1,886.14)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DESK, DBL PEDESTAL	9/28/2004	(1,966.25)	(1,966.25)	0	0.00	0	100.0%	0%	0	0	0
General Plant		CREDENZA,	9/28/2004	(1,789.15)	(1,789.15)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX GX280	1/27/2005	(1,566.24)	(1,566.24)	0	0.00	0	100.0%	0%	0	0	0
General Plant		MULTI-GAS METER, SCOUT	2/1/2005	(1,953.00)	(1,953.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		BURSTER, DUPLO 760	2/14/2005	(7,300.00)	(7,300.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP LASERJET PRINTER, #1320 TN	2/16/2005	(1,779.97)	(1,779.97)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP LASERJET, #1320 TN	2/16/2005	(1,779.97)	(1,779.97)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP LASERJET, #1320 TN	2/16/2005	(1,779.97)	(1,779.97)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DVD CAMCORDER, SONY	4/14/2005	(600.00)	(600.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DOT MATRIX PRINTER, EPSON	6/3/2005	(469.99)	(469.99)	0	0.00	0	100.0%	0%	0	0	0
General Plant		SCOUT MULTI-GAS SENSOR	7/25/2005	(2,392.12)	(2,392.12)	0	0.00	0	100.0%	0%	0	0	0
General Plant		COMPUTER PKG., DELL	10/27/2005	(1,291.53)	(1,291.53)	0	0.00	0	100.0%	0%	0	0	0
General Plant		COMPUTER PKG., DELL 630	2/1/2006	(2,501.00)	(2,501.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		COMPUTER SYSTEM, DELL	6/2/2006	(1,731.37)	(1,731.37)	0	0.00	0	100.0%	0%	0	0	0
General Plant		IBM PRINTER, MODEL #6500-V20	6/30/2006	(18,190.00)	(18,190.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		IBM LASER PRINTER MODEL #1572	9/1/2006	(2,065.05)	(2,065.05)	0	0.00	0	100.0%	0%	0	0	0
General Plant		COMPUTER SYSTEM, DELL OPTIPLEX 745	10/18/2006	(1,139.00)	(1,139.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		FRP PIPING ASSEMBLY FOR CL2 SCRUBBER	11/21/2006	(5,966.00)	(5,966.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		TAB FILING CABINET- 7 DRAWER IVORY	12/27/2006	(1,098.24)	(1,098.24)	0	0.00	0	100.0%	0%	0	0	0
General Plant		TAB FILING CABINET- 7 DRAWER IVORY	12/27/2006	(1,098.24)	(1,098.24)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 745 MINITOWER COMPUTER 1.86GHz	1/31/2007	(1,093.43)	(1,093.43)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 745 MINITOWER COMPUTER 1.86GHz	1/31/2007	(1,093.43)	(1,093.43)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 745 MINITOWER COMPUTER 1.86GHz	1/31/2007	(1,093.43)	(1,093.43)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 745 MINITOWER COMPUTER 2.40GHz W/ 20" FLAT PA	2/1/2007	(1,942.87)	(1,942.87)	0	0.00	0	100.0%	0%	0	0	0
General Plant		STEELCASE CRITERION CHAIR - NAVY	2/12/2007	(799.00)	(799.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		FILE CABINET, HON FOUR DRAWER	3/12/2007	(229.49)	(229.49)	0	0.00	0	100.0%	0%	0	0	0
General Plant		FILE CABINET, HON FOUR DRAWER	3/12/2007	(229.49)	(229.49)	0	0.00	0	100.0%	0%	0	0	0
General Plant		FILE CABINET, HON FOUR DRAWER	3/12/2007	(229.49)	(229.49)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 745 MINITOWER COMPUTER 1.86GHz	4/18/2007	(1,084.50)	(1,084.50)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 745 W/MONITOR	10/4/2007	(1,183.00)	(1,183.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Optiplex 755 Minitower w/MS Office 2007 Pro; UltraSharp 19" Monitc	3/25/2008	(1,459.00)	(1,459.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell OptiPlex 755 Minitower w/MS office 2007 Pro; UltraSharp 19" Mc	3/25/2008	(1,459.00)	(1,459.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 755 Mini-Tower	7/24/2008	(1,125.06)	(1,125.06)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 755 Workstation	9/3/2008	(1,262.83)	(1,262.83)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 755 Workstation W/ Monitor	9/3/2008	(1,534.11)	(1,534.11)	0	0.00	0	100.0%	0%	0	0	0
General Plant		RKI GX-2009 Portable Gas Meter	12/10/2008	(695.00)	(695.00)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 360 MINITOWER W/ 19" MONITOR	4/29/2009	(733.80)	(733.80)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 380 MINITOWER W/22" MONITOR	9/17/2009	(1,100.43)	(1,100.43)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Precision T7500,Video Monitoring Computer	2/25/2010	(2,264.78)	(2,264.78)	0	0.00	0	100.0%	0%	0	0	0
General Plant		DELL OPTIPLEX 380 MINITOWER W/22" WS	4/14/2010	(1,477.76)	(1,477.76)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 380 w/ 22" widescreen Monitor	8/4/2010	(1,166.36)	(1,166.36)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Latitude E6510 Notebook	9/28/2010	(1,749.61)	(1,749.61)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 380 Minitower w/ 22" Monitor	10/4/2010	(1,345.03)	(1,345.03)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 380	11/3/2010	(1,353.06)	(1,353.06)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 980 Desktop	2/3/2011	(1,406.07)	(1,406.07)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell OptiPlex 580 Mini-Tower Workstation	2/1/2012	(795.10)	(795.10)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell OptiPlex 990 Workstation	2/9/2012	(2,254.36)	(2,254.36)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell OptiPlex 990 Workstation	2/13/2012	(2,254.36)	(2,254.36)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP LaserJet M601N Printer w/ additional sheet tray	8/1/2012	(986.56)	(986.56)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP LaserJet 600 w/additional sheet tray and envelope feeder	8/1/2012	(1,216.56)	(1,216.56)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP LaserJet 600 Printer w/ Additional Sheet Tray and Envelope Feeder	8/1/2012	(1,216.56)	(1,216.56)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Xerox Color Cube 9309 Copier	11/1/2012	(18,140.26)	(18,140.26)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP LaserJet Pro 400 Printer/Scanner/Copier	12/19/2012	(574.54)	(574.54)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell OptiPlex 3020	3/13/2015	(550.22)	(550.22)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 7020	3/31/2015	(1,205.19)	(1,205.19)	0	0.00	0	100.0%	0%	0	0	0
General Plant		HP Envy 15t Laptop	12/1/2015	(898.02)	(898.02)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 7040	7/19/2016	(822.56)	(822.56)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Dell Optiplex 7040	7/19/2016	(822.56)	(822.56)	0	0.00	0	100.0%	0%	0	0	0
General Plant		Correction to FY18 Accumulated Depreciation	7/19/2018	(13,233.18)	(13,233.18)	0	0.00	0	100.0%	0%	0	0	0
Plant Fencing		Plant Fencing	1/1/2005	180,679.93	149,060.94	31,619	1.81	326,918	82.5%	100%	180,680	326,918	57,211
Plant Fencing		Gate/Security	1/1/2008	7,775.39	5,248.39	2,527	1.62	12,604	67.5%	100%	7,775	12,604	4,096
Plant Fencing		Gate Electronics Improvements	1/1/2010	4,920.84	2,829.48	2,091	1.53	7,532	57.5%	100%	4,921	7,532	3,201
Plant Fencing		Plant Fencing	1/1/2012	4,979.95	2,365.48	2,614	1.45	7,208	47.5%	100%	4,980	7,208	3,784
Plant Fencing		Camera/Security Equip	1/1/2013	37,262.77	15,836.68	21,426	1.41	52,587	42.5%	100%	37,263	52,587	30,237
Plant Fencing		Camera/Security Equip	1/1/2014	781.52	293.07	488	1.37	1,074	37.5%	100%	782	1,074	671
Plant Fencing		Gates/Security Equip	1/1/2015	8,331.71	2,707.81	5,624	1.34	11,185	32.5%	100%	8,332	11,185	7,550
Treatment		Treatment Facility Built	1/1/1979	26,029,700.41	22,125,245.35	3,904,455	4.49	116,778,788	85.0%	100%	26,029,700	116,778,788	17,516,818
Treatment		Addition	1/1/1980	42,348.38	35,149.16	7,199	4.16	176,256	83.0%	100%	42,348	176,256	29,964
Treatment		Addition	1/1/1981	1,957.00	1,585.17	372	3.81	7,459	81.0%	100%	1,957	7,459	1,417
Treatment		Addition	1/1/1982	615,207.75	486,014.12	129,194	3.52	2,166,908	79.0%	100%	615,208	2,166,908	455,051
Treatment		Addition	1/1/1984	10,887,244.16	8,165,433.12	2,721,811	3.25	35,378,449	75.0%	100%	10,887,244	35,378,449	8,844,612
Treatment		Treatment, Transformers, 25 Flowmeters	1/1/1985	149,802.37	109,355.73	40,447	3.21	481,102	73.0%	100%	149,802	481,102	129,897
Treatment		Treatment, Addition	1/1/1986	208,223.68	147,838.81	60,385	3.14	653,156	71.0%	100%	208,224	653,156	189,415
Treatment		Treatment	1/1/1987	76,907.80	53,066.38	23,841	3.06	235,167	69.0%	100%	76,908	235,167	72,902
Treatment		Capitalize CIP	1/1/1987	88,015.35	60,730.59	27,285	3.06	269,131	69.0%	100%	88,015	269,131	83,431
Treatment		Addition	1/1/1988	13,587.77	9,103.81	4,484	2.98	40,509	67.0%	100%	13,588	40,509	13,368
Treatment		Roofing,Elect.Building,Effl. Pumps,Engineering	1/1/1989	1,003,921.58	652,549.03	351,373	2.92	2,930,746	65.0%	100%	1,003,922	2,930,746	1,025,761
Treatment		Asphalt, Eval. Building, Acid Storg.	1/1/1990	297,114.63	187,182.22	109,932	2.85	845,920	63.0%	100%	297,115	845,920	312,990
Treatment		Disposal Facility - Green Acres	1/1/1990	25,000.00	15,750.00	9,250	2.85	71,178	63.0%	100%	25,000	71,178	26,336
Treatment		Addition, Roof Rehab	1/1/1991	281,114.62	171,479.92	109,635	2.79	783,316	61.0%	100%	281,115	783,316	305,493
Treatment		Disposal Facility - Phos. Movement Eval.	1/1/1991	25,620.00	15,628.20	9,992	2.79	71,389	61.0%	100%	25,620	71,389	27,842
Treatment		Plant Expansion Construction	1/1/1992	2,238,913.72	1,320,959.09	917,955	2.70	6,050,933	59.0%	100%	2,238,914	6,050,933	2,480,882
Treatment		Disposal Facility - Gen. & Phos Eval	1/1/1992	6,899.00	4,070.41	2,829	2.70	18,645	59.0%	100%	6,899	18,645	7,645
Treatment		TRI Imprv., Asphalt, Addition	1/1/1993	89,190.50	50,838.59	38,352	2.59	230,638	57.0%	100%	89,191	230,638	99,174
Treatment		Addition	1/1/1994	297,607.44	163,684.09	133,923	2.49	741,408	55.0%	100%	297,607	741,408	333,634
Treatment		Disposal Facility - Redistribute CIP	1/1/1994	50,431.00	27,737.05	22,694	2.49	125,635	55.0%	100%	50,431	125,635	56,536
Treatment		Border Modifications	1/1/1995	115,540.19	61,236.30	54,304	2.46	284,522	53.0%	100%	115,540	284,522	133,726
Treatment		Addition	1/1/1996	1,565,617.33	798,464.84	767,152	2.40	3,753,180	51.0%	100%	1,565,617	3,753,180	1,839,058
Treatment		Addition	1/1/1997	1,882,777.38	922,560.92	960,216	2.31	4,353,902	49.0%	100%	1,882,777	4,353,902	2,220,490
Treatment		Addition question 397,625.	1/1/1998	1,260,038.81	592,218.24	667,821	2.28	2,867,559	47.0%	100%	1,260,039	2,867,559	1,519,806
Treatment		Clino Rebld., Concrete, Addition	1/1/2000	604,789.00	260,059.27	344,730	2.17	1,309,766	43.0%	100%	604,789	1,309,766	746,567
Treatment		Addition	1/1/2001	646,097.24	264,899.87	381,197	2.13	1,374,263	41.0%	100%	646,097	1,374,263	810,815
Treatment		Concrete/Basins, Digester Gas Mix, Addition	1/1/2002	465,416.66	181,512.50	283,904	2.06	959,063	39.0%	100%	465,417	959,063	585,028
Treatment		SCADA, PLC, Addition	1/1/2003	66,343.00	24,546.91	41,796	2.01	133,524	37.0%	100%	66,343	133,524	84,120
Treatment		TRI Flowmeter, SCADA, PLC, Addition	1/1/2004	157,507.28	55,127.55	102,380	1.89	298,247	35.0%	100%	157,507	298,247	193,860
Treatment		PLC, TRI, Addition	1/1/2005	71,672.74	23,652.00	48,021	1.81	129,683	33.0%	100%	71,673	129,683	86,887
Treatment		Addition	1/1/2006	24,602.26	7,626.70	16,976	1.74	42,762	31.0%	100%	24,602	42,762	29,506
Treatment		10 MGD Expansion Construction Capitalized	1/1/2007	60,356,081.29	17,503,263.57	42,852,818	1.69	102,061,681	29.0%	100%	60,356,081	102,061,681	72,463,793
Treatment	Grant	10 MGD Expansion Construction Capitalized	1/1/2007	11,600,000.00	3,364,000.00	8,236,000	1.69	19,615,513	29.0%	100%	11,600,000	19,615,513	13,927,014
Treatment		Capitalize Imprvmnts to Electrical, MPPS, CL2	1/1/2008	589,412.31	159,141.32	430,271	1.62	955,454	27.0%	100%	589,412	955,454	697,482
Treatment		10 MGD Expansion Construction Capitalized	1/1/2008	1,312,946.26	354,495.49	958,451	1.62	2,128,324	27.0%	100%	1,312,946	2,128,324	1,553,676
Treatment		10 MGD Expansion Construction Capitalized	1/1/2009	162,317.02	40,579.26	121,738	1.57	255,028	25.0%	100%	162,317	255,028	191,271
Treatment		Addition: Scada,Filtration Imp.,BNR Pilot sys.	1/1/2010	383,579.22	88,223.22	295,356	1.53	587,089	23.0%	100%	383,579	587,089	452,059
Treatment		Lime sys, Chem pumpstn,Blower, SCADA, PLC mods	1/1/2011	64,681.36	13,583.09	51,098	1.48	96,034	21.0%	100%	64,681	96,034	75,867
Treatment		Filter rehab, Chem pumps	1/1/2012	258,963.87	49,203.14	209,761	1.45	374,823	19.0%	100%	258,964	374,823	303,607
Treatment		Chem pumpstn, PLC upgr, Thickner rm/BW tank	1/1/2013	391,368.71	66,532.68	324,836	1.41	552,315	17.0%	100%	391,369	552,315	458,422
Treatment		Chem pump, SCADA Imp, PLC upg, Basin wrk, Dig Imp,	1/1/2014	56,085.16	8,412.77	47,672	1.37	77,052	15.0%	100%	56,085	77,052	65,494
Treatment		Chem pumps, grit pumps, SCADA imp, PLC upgr	1/1/2015	126,280.95	16,416.52	109,864	1.34	169,533	13.0%	100%	126,281	169,533	147,493
Treatment		Chem & grit pmps, clarifier repair, digester, scada, plc	1/1/2016	231,511.08	25,466.22	206,045	1.30	301,684	11.0%	100%	231,511	301,684	268,499
Treatment		Clarifier Repairs, CIPP Project, Centrifuge, Modules	1/1/2017	271,123.65	27,112.37	244,011	1.25	340,213	10.0%	100%	271,124	340,213	306,192
Treatment		Clarifier Repairs, Analyzers, Scada, BNR Blower,	1/1/2018	353,446.66	31,810.20	321,636	1.22	430,471	9.0%	100%	353,447	430,471	391,729
Treatment		Clarifer Coating Improvement	1/1/2019	189,472.70	9,473.64	179,999	1.19	226,275	5.0%	100%	189,473	226,275	214,961
Treatment		Bldg # 27 Switchgear Improvement	1/1/2019	554,665.05	27,733.25	526,932	1.19	662,400	5.0%	100%	554,665	662,400	629,280
Treatment		RAS and Upgrade (Pay Frame mold case, pump replacement)	1/1/2019	15,291.24	764.56	14,527	1.19	18,261	5.0%	100%	15,291	18,261	17,348
Treatment		Plant Coating Improvements Job #06-09-1500-001 (Plant Coating Imp	1/1/2020	37.14	1.11	36	1.18	44	3.0%	100%	37	44	42
Treatment		FD Thomas Job #06-09-1500-001 (Plant Coating Improvements) Diges	1/1/2020	79,710.00	2,391.30	77,319	1.18	93,662	3.0%	100%	79,710	93,662	90,852
Treatment		FD Thomas Job #06-09-1500-001 (Plant Coating Improvements) Diges	1/1/2020	136,900.00	4,107.00	132,793	1.18	160,863	3.0%	100%	136,900	160,863	156,037
Treatment		Rexel Job #06-09-1500-008 (VFD Replacement) Air Cooled AC Driv	1/1/2020	22,706.52	681.20	22,025	1.18	26,681	3.0%	100%	22,707	26,681	25,881
Treatment		Rexel Job #06-09-1500-008 (VFD Replacement) P-Flex 750	1/1/2020	866.00	25.98	840	1.18	1,018	3.0%	100%	866	1,018	987
Treatment		Rexel Job #06-09-1500-008 (VFD Replacement) P-Flex 20	1/1/2020	328.65	9.86	319	1.18	386	3.0%	100%	329	386	375
Treatment		Rexel Job #06-09-1500-008 (VFD Replacement) AB Service	1/1/2020	2,912.50	87.38	2,825	1.18	3,422	3.0%	100%	2,913	3,422	3,320
Treatment		Centrisys Job #06-09-1500-011 (Centrifuge Rebuild) CSI Inspection	1/1/2020	4,995.00	149.85	4,845	1.18	5,869	3.0%	100%	4,995	5,869	5,693
Treatment		Q & D Construction Job #06-09-1500-023 (Plant Concrete Repair) Sec	1/1/2020	478,291.55	14,348.75	463,943	1.18	562,011	3.0%	100%	478,292	562,011	545,150
Treatment		CH2M Hill Job #02-10-1700-001 (Barscreens, Washers and Compactc	1/1/2020	366,465.24	10,993.96	355,471	1.18	430,610	3.0%	100%	366,465	430,610	417,692
Treatment		CH2M Hill Job #02-10-1700-001 (Barscreens, Washers and Compactc	1/1/2020	60,000.00	1,800.00	58,200	1.18	70,502	3.0%	100%	60,000	70,502	68,387
Treatment		FD Thomas Job #06-09-1500-001 (Plant Coating Improvements) Diges	1/1/2020	86,909.00	2,607.27	84,302	1.18	102,121	3.0%	100%	86,909	102,121	99,058
Treatment		Rexel Job #06-09-1500-008 (VFD Replacements)	1/1/2021	98,836.98	988.37	97,849	1.11	109,746	1.0%	100%	98,837	109,746	108,649
Treatment		CentriTek Job #06-09-1500-011 (Centrifuge Rebuild)	1/1/2021	55,100.00	551.00	54,549	1.11	61,182	1.0%	100%	55,100	61,182	60,570
Treatment		Pac Machine Co. Job #02-10-1700-008 (Portable Emergency Pump Sys	1/1/2021	19,132.80	191.33	18,941	1.11	21,245	1.0%	100%	19,133	21,245	21,032
Treatment		Pac Machine Co Job#02-10-1700-014 (Hydraulic Pump and Power Pa	1/1/2021	72,134.03	721.34	71,413	1.11	80,096	1.0%	100%	72,134	80,096	79,295
Vehicles		1996 Chevy Pick-Up4x4	1/1/1996	13,078.40	13,078.40	0	2.40	31,352	100.0%	0%	0	0	0
Vehicles		3/4 ton Chevy Pick Up	1/1/1995	22,421.00	22,421.00	0	2.46	55,213	100.0%	0%	0	0	0
Vehicles		Cat 950F Wheel Loader	1/1/1995	194,058.00	194,058.00	0	2.46	477,876	100.0%	0%	0	0	0
Vehicles		Oasis Golf Cars	1/1/1998	6,968.00	6,968.00	0	2.28	15,858	100.0%	0%	0	0	0

Tahoe-Truckee Sanitation Agency
Exhibit 8
Fixed Asset Listing as of June 2021

Asset #	Contr.	Description	Date Acquired	Original Cost	Accumulated Depreciation	Net Book Value	ENR-CCI 8/1/2023 13,473 ENR Factor	Repl. Cost	% Depr.	% Eligible	Net Original Cost	Replacement Cost New	Replacement Cost New Less Depreciation
Vehicles		1998 Mack Dump Truck	1/1/1999	91,994.00	91,994.00	0	2.22	204,554	100.0%	0%	0	0	0
Vehicles		1998 Backhoe Loader	1/1/1999	86,690.00	86,690.00	0	2.22	192,761	100.0%	0%	0	0	0
Vehicles		Dodge Durango 2001	1/1/2000	28,290.00	28,290.00	0	2.17	61,266	100.0%	0%	0	0	0
Vehicles		2001 Ford F150 Pick Up / cell & radio	1/1/2001	4,006.85	4,006.85	0	2.13	8,523	100.0%	0%	0	0	0
Vehicles		2002 Ford F250 Ext Cab Truck	1/1/2002	24,196.00	24,196.00	0	2.06	49,860	100.0%	0%	0	0	0
Vehicles		Replace skid loader	1/1/2002	37,800.00	37,800.00	0	2.06	77,893	100.0%	0%	0	0	0
Vehicles		Dodge Durango	1/1/2004	25,920.00	25,920.00	0	1.89	49,081	100.0%	0%	0	0	0
Vehicles		Dodge Durango	1/1/2004	25,920.00	25,920.00	0	1.89	49,081	100.0%	0%	0	0	0
Vehicles		Chevy-Plow & Dump Truck	1/1/2005	25,805.00	25,805.00	0	1.81	46,691	100.0%	0%	0	0	0
Vehicles		Dump Bed vehicle 7 Snow Plow	1/1/2006	13,846.00	13,846.00	0	1.74	24,066	100.0%	0%	0	0	0
Vehicles		2006 Ford Expedition	1/1/2006	26,048.00	26,048.00	0	1.74	45,275	100.0%	0%	0	0	0
Vehicles		2007 Ford F150 4x4	1/1/2007	20,653.00	20,653.00	0	1.69	34,924	100.0%	0%	0	0	0
Vehicles		2007 Ford F150 4x4	1/1/2007	20,653.00	20,653.00	0	1.69	34,924	100.0%	0%	0	0	0
Vehicles		2009 Chev. Traverse	1/1/2009	27,574.25	27,574.25	0	1.57	43,324	100.0%	0%	0	0	0
Vehicles		2009 Chev. Trailblazer	1/1/2009	25,437.25	25,437.25	0	1.57	39,966	100.0%	0%	0	0	0
Vehicles		Golf Cart	1/1/2010	9,265.19	9,265.19	0	1.53	14,181	100.0%	0%	0	0	0
Vehicles		Vactor Truck	1/1/2010	323,793.00	323,793.00	0	1.53	495,583	100.0%	0%	0	0	0
Vehicles		2012 Ford F250 4 X 4, 2012 Chevy, Snow Plow	1/1/2012	80,806.44	80,806.44	0	1.45	116,959	100.0%	0%	0	0	0
Vehicles		Lite Trax; lab vehicle	1/1/2013	18,210.35	18,210.35	0	1.41	25,699	100.0%	0%	0	0	0
Vehicles		2014 Jeep Grand Cherokee 4x4, registration	1/1/2014	29,139.00	29,139.00	0	1.37	40,032	100.0%	0%	0	0	0
Vehicles		2014 Ford F-150	1/1/2014	23,714.22	23,714.22	0	1.37	32,579	100.0%	0%	0	0	0
Vehicles		Lite Trax; lab vehicle (retention)	1/1/2015	3,659.26	3,659.26	0	1.34	4,913	100.0%	0%	0	0	0
Vehicles		Polaris Ranger XP 1000	1/1/2020	31,408.94	11,778.35	19,631	1.18	36,907	37.5%	0%	0	0	0
Vehicles		Operation and Maintenance Cart	1/1/2020	21,058.82	7,897.06	13,162	1.18	24,745	37.5%	0%	0	0	0
Vehicles		Holt of CA Job #06-09-1500-037 (Warehouse Forklift)	1/1/2021	32,734.90	4,091.86	28,643	1.11	36,348	12.5%	0%	0	0	0
				$154,373,687	**$72,727,551**	**$79,611,040**		**$375,091,857**			**$147,212,478**	**$363,008,326**	**$149,996,932**

	ORIGINAL COST (NET)	RCN	RCNLD
Land	$2,174,726	$2,174,726	$2,174,726
Plant Fencing	244,732	419,107	106,751
Treatment	127,691,761	314,144,815	134,110,240
Collection	17,101,258	46,269,678	13,605,216
Vehicles	0	0	0
General Plant	0	0	0
Total	**$147,212,478**	**$363,008,326**	**$149,996,932**
Land	$0	$0	$0
Plant Fencing	0	0	0
Treatment	11,600,000	19,615,513	13,927,014
Collection	0	0	0
Vehicles	0	0	0
General Plant	0	0	0
Total	**$11,600,000**	**$19,615,513**	**$13,927,014**