FINAL REPORT

Florin Resource Conservation District/Elk Grove Water District

Connection Fee Study

May 2018

May 23, 2018

Mr. Mark Madison, P.E.
General Manager
Florin Resource Conservation District/ Elk Grove Water District
9257 Elk Grove Blvd.
Elk Grove, CA 95624

Subject: Water Connection Fee Final Report

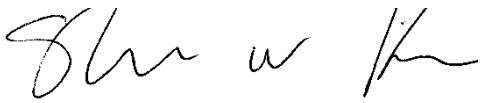
Dear Mr. Madison:

HDR Engineering, Inc. (HDR) was retained by the Florin Resource Conservation District (FRCD) to update the water connection fees for its water enterprise the Elk Grove Water District (District). Enclosed please find HDR's final report on this topic. The conclusions and recommendations contained within this report should enable the District to implement cost-based water connection fees that meet the District's objectives for their water system.

This report has been prepared using "generally accepted" financial and engineering principles. The District's financial, budgeting and engineering data were the primary sources for much of the data contained in this report. This report was developed with significant participation and input by District management and staff. Prior to adoption of the proposed water connection fees, HDR recommends that the District have its legal counsel review the report to ensure compliance with California law.

HDR appreciates the opportunity to assist the District in this matter. We also would like to thank you and your staff for the assistance provided to us. If you have any questions, please call.

Sincerely,
HDR Engineering, Inc.



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1 Introduction

1.1 Introduction

HDR Engineering, Inc. (HDR) was retained by the Florin Resource Conservation District to conduct a connection fee study for its water enterprise the Elk Grove Water District (District). The purpose of connection fees is to recover the costs of public facilities in existence at the time the fee is imposed or 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 to existing customers increasing their demands (i.e., capacity use).

"The purpose of connection fees is to recover the costs of public facilities in existence at the time the fee is imposed or for new public facilities to be acquired or constructed in the future … to new customers connecting to the system, or to existing customers increasing their demands."

Water connection fees provide the means of balancing the cost requirements for new utility infrastructure between existing customers and new customers. The portion of existing infrastructure and future capital improvements that will provide service (capacity) to new customers is included in the connection fees. In contrast to this, the District has future capital improvement projects that are related to renewal and replacement of existing infrastructure in service. These future renewal and replacement project costs are included within the rates charged to the District's customers, and are not included within the calculation of the connection fee.

The District has invested significant funds to build the majority of the system, therefore many of the future connections will benefit from assets already in place. For purposes of this study, the component of the connection fee associated with existing infrastructure is referred to as the "buy-in component" and the component of the connection fee associated with future capital costs is referred to as the "expansion component". District debt which was used to finance the purchase and construction of District facilities is referred to as the "debt service component". By establishing cost-based water connection fees, the District will take a position of having "growth pays for growth" and existing utility customers should, for the most part, be sheltered from the financial impacts of growth.

"By establishing cost-based connection fees, the District will take a position of having "growth pay for growth" and existing utility customers should, for the most part, be sheltered from the financial impacts of growth."

1.2 Organization of Report

This report documents the methodology, approach and technical analysis undertaken by HDR and the District to develop the District's water connection fees. The report is divided into four sections: Section 1 provides a brief introduction and overview of the study; given this brief introduction, Section 2 provides an overview of connection fees and the criteria and general methodology that should

be used to calculate and establish cost-based connection fees; Section 3 provides an overview of the requirements under California law for determining connection fees; and Section 4 reviews the District specific calculations of the cost-based water connection fees and provides a summary of the analyses and the "allowable" connection fees.

1.3 Disclaimer

HDR, in its calculation of the water 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 the District have its legal counsel review the connection fees as set forth in this report to ensure compliance with California law.

2 Overview of Connection Fees

2.1 Introduction

An important starting point in establishing water connection fees is to have a basic understanding of the purpose of these fees, along with the criteria and general methodology that is used to establish cost-based connection fees. Presented in this section of the report is an overview of water connection fees and the criteria and general methodology that is used to develop cost-based water connection fees.

2.2 Defining Connection Fees

The first step in establishing cost-based water connection fees is to gain a better understanding of the definition of a system development charge (SDC) or connection fee. For the purposes of this report, a connection fee is defined as follows:

> *"System development charges (connection fees) are one-time charges paid by new development to finance construction of public facilities needed to serve them."*[1]

Simply stated, connection fees are a contribution of capital to either reimburse current customers for the available capacity in the existing system, or help finance planned future growth-related capacity improvements necessary to provide service to new customers connecting to the District's system. At some utilities, connection fees may be referred to as system development charges, impact fees, infrastructure investment fees, capacity reserve fees, etc. Regardless of the label used to identify them, their objective is the same. That is, these charges are intended to provide funds to the utility to finance all or a part of the capital improvements needed to serve and accommodate new customer growth. Absent those fees, many utilities would likely be unwilling to build growth-related facilities (i.e., burden existing rate payers with the entire cost of growth-related capacity expansion).

2.3 Economic Theory and Connection Fees

Connection fees are generally imposed as a condition of service. The objective of a connection fee is not merely to generate funds for a utility, but to ensure that all customers seeking to connect to the utility's system bear an equitable share of the cost of excess capacity that current customers have invested in the existing system and any future growth-related expansions. Through the implementation of fair and equitable connection fees, current customers will not be unduly burdened with the cost of new development.

By establishing cost-based connection fees, the District will be 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, fair, and equitable manner.

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

2.4 Connection Fee Criteria

In the determination and establishment of the water connection fees, a number of different criteria are often utilized. The criteria often used by utilities to establish connection fees are as follows:

- Customer understanding
- System planning criteria
- Financing criteria, and
- State/local laws

The component of customer understanding implies that the fee is easy to understand. This criterion has implications on the way that the fee is implemented and assessed to the customer. For water systems, the fee is generally based on the customer meter size providing service, or specific customer usage for meter sizes over 2-inches given the flow variability in these larger meter sizes. The other implication of this criterion is that the methodology is clear and concise in its calculation of the amount of infrastructure necessary to provide service.

"The use of system planning criteria is one of the more important aspects in the determination of the connection fees. System planning criteria provide a "rational nexus" between the amount of infrastructure necessary to provide service and the fee to the customer."

The use of system planning criteria is one of the more important aspects in the determination of the connection fees. System planning criteria provides a "rational nexus" between the amount of infrastructure necessary to provide service and the fees charged to the customer. The terms rational nexus and essential nexus are used interchangeably in this report. Industry manuals on connection fees generally use the term rational nexus while laws and court cases use the term essential nexus. In general terms, the rational nexus test requires that there be a connection (nexus) established between new development and the new or expanded facilities required to accommodate new development, and appropriate apportionment of the cost to the new development in relation to benefits reasonably to be received.

The rational nexus test contemplates the following:

1. "A connection be established between new development and the new or expanded facilities required to accommodate such development. This establishes the rational basis of public policy.
2. Identification of the cost of these new or expanded facilities needed to accommodate new development. This establishes the burden to the public of providing new facilities to new development and the rational basis on which to hold new development accountable for such costs. This may be determined using the so-called Banberry factors. [Banberry Development Company v. South Jordan City (631 P.2d 899, Utah 1981)].
3. Appropriate apportionment of that cost to new development in relation to benefits it reasonably receives. This establishes the nexus between the fees being paid to finance

new facilities that accommodate new development and benefit new development receives from such new facilities."[2]

The first element of the rational nexus test contemplates the establishment of a rational basis for the policy being implemented through the fees. This implies that planning and capital improvement studies are used to establish the need for new facilities to accommodate anticipated growth. Adopted capital improvement plans, asset records, and financial reports satisfy this first element since these plans and reports assess existing facilities and capacity, projected future capacity requirements, and determine the future capital infrastructure and new facilities needed to accommodate anticipated growth.

"Adopted capital improvement plans, asset records, and financial reports satisfy this first element since these plans assess existing facilities and capacity, projected future capacity requirements and determine the future capital infrastructure and new facilities" needed to accommodate growth."

The second element of the rational nexus test examines the seven Banberry factors the court used "…to determine the proportionate share of costs to be borne by new development:

- The cost of existing facilities
- The means by which existing facilities have been financed
- The extent to which new development has already contributed to the cost of providing existing excess capacity
- The extent to which existing development will, in the future, contribute to the cost of providing existing facilities used community wide or nonoccupants of new development
- The extent to which new development should receive credit for providing at its cost facilities the community has provided in the past without charge to other development in the service area
- Extraordinary costs incurred in serving new development
- The time-price differential inherent in fair comparisons of amount of the money paid at different times."[3]

The final element of the rational nexus test is the reasonable apportionment of the cost to new development in relation to benefits it will reasonably receive. This is accomplished in the basic methodology to establish the connection fees, which is generally discussed within this section.

One of the driving forces behind establishing cost-based connection fees is that "growth pays for growth." Therefore, connection fees are typically established as a means of having new customers pay an equitable share of the cost of their required infrastructure. The financing criteria for establishing connection fees relates to the method used to finance infrastructure on the system and assures that customers are not paying twice for infrastructure – once through connection fees and again through rates. The financing criteria used in the calculation of the

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[2] Ibid, p. 16 and 17. From a legal perspective, of course, the water connection fees are governed by Government Code section 66013 and California case law, not the *Banberry* case, which was decided in Utah.

[3] Ibid, P. 18 and 19.

water connection fees assures that the customer is not charged for infrastructure that was provided (contributed) by developers.

Many state and local communities have enacted laws which govern the calculation and imposition of connection fees. These laws must be followed in the development of the connection fees. Most statutes require a "reasonable relationship" between the fee charged and the cost associated with providing service capacity to the customer. The fees do not need to be mathematically exact, but must bear a reasonable relationship, or be roughly proportional to the cost burden imposed. As discussed above, the utilization of the planning criteria and the actual costs of construction and the planned costs of construction establish compliance with the reasonable relationship requirement.

2.5 Overview of the Connection Fee Methodology

There are "generally-accepted" methodologies that are used to establish connection fees. The AWWA M-1 Manual discusses three generally accepted SDC methods;

- ✓ "The *buy-in method* is based on the value of the existing system's capacity. This method is typically used when the existing system has sufficient capacity to serve new development now and into the future.
- ✓ The *incremental cost method* is based on the value or cost to expand the existing system's 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's capacity. This method is typically used where some capacity is available in parts of the existing system (e.g. source of supply), but new or incremental capacity will need to be built in other parts (e.g., treatment plant) to serve new development at some point in the future."[4]

For the development and calculation of the District's connection fees the "combined approach" was used since there is available capacity in the existing system, but there is a need for future (capacity) expansion to meet future customer growth on the system. Accordingly, the value of the District's assets and future projects related to providing service to new customers will be determined and then be divided by the determination of an equivalent dwelling unit (EDU). The result will be the maximum allowed total connection fee for an EDU (1-inch meter). The connection fee for larger meter sizes will be based on the capacity of the meter multiplied by the EDU (1-inch) charge.

Regardless of the overall methodology selected, a common denominator of the technical analysis is the various steps undertaken. Within the "generally accepted" connection fee methodologies, there are a number of different steps undertaken. These steps are as follows:

- Determination of system planning criteria

[4] AWWA M-1 Manual, 6th Edition, p. 265-266.

- Determination of equivalent dwelling unit (EDUs)
- Calculation of system component costs
- Determination of any credits

The first step in establishing the water connection fees is the determination of the system planning criteria. This implies calculating the amount of water required by a single-family residential customer. For water systems, water demand per EDU is most often used, since this represents the basis for system design. For the District's existing EDUs, an EDU is defined as a 1-inch meter equivalent. A 1-inch meter is typically used for residential connections. The American Water Works Association (AWWA) has a standardized method for determining meter equivalency for larger meter sizes.

Once the system planning criteria is determined, the number of future equivalent dwelling units or EDUs can be determined. For a water system, one reasonable and rational method to determine the number of EDUs is to divide the future land use based water demand by the average day usage per EDU. The land use based water demand is based on future land uses as defined in the local General Plans and historical and current water demands per land use type. This provides the linkage between the amounts of infrastructure necessary to provide service to a set number of customers.

Once the number of EDUs has been determined, a component by component analysis is undertaken to determine the portion of the connection fee attributable to each component in dollars per EDU. The calculation of the component connection fee includes existing assets, planned future assets, and the debt issued to pay for historical assets. The District provided asset replacement costs for their assets and then depreciation applied assuming a straight-line method based on the useful life of each historical asset, respectively. Once the total costs of the existing and future infrastructure and debt service are determined, they are divided by the respective number of EDUs the infrastructure will serve to develop the cost per EDU for the specific infrastructure component.

After each infrastructure component is analyzed and a cost per EDU is determined, the cost per EDU for each of the infrastructure components is added together to determine the "gross connection fee." The last step in the calculation of the connection fee is the determination of any credits. This is generally a calculation to assure that customers are not paying twice – once through connection fees and again within the water rates. Additional discussion of the debt component and incorporation into the fee calculation is included later in this report.

2.6 Summary

This section of the report has provided an overview of water connection fees; the basis for establishing the fees, considerations in establishing water connection fees, the burden development places on the system, and the steps typically taken in the development of the technical analyses.

In the development of the District's water connection fee study, the issues identified in this section of the report have been addressed and will be discussed in more detail in later sections of the report. The next section of the report provides a brief overview of the legal considerations in establishing connection fees, particularly as they relate to California law.

3 Legal Considerations for Connection Fees

3.1 Introduction

An important consideration in establishing connection fees is any legal requirements at the Federal, state or local level. The legal requirements often establish the methodology around which the connection fees must be calculated or how the funds must be used. Given that, it is important for the District to understand these legal requirements and develop and adopt their connection fees in compliance with those legal requirements. This section of the report provides an overview of the Court Cases relevant to connection fees and legal requirements for establishing capacity charges, or connection fees, under California law. A discussion of the applicability of Proposition 218 and Proposition 26, as it relates to connection fees, is also provided.

The discussion within this section of the report is intended to be a summary of the relevant Court cases and California law as it relates to establishing connection fees and in no way constitutes a legal interpretation of California law by HDR.

3.2 Court Cases

Court decisions have shaped what may be considered a legal connection fee. Nollan v. California Coastal Commission held that there must be an "essential nexus" between the extraction (of real property) and the impact created by the development. In a later U.S. Supreme court decision Dolan v. City of Tigard upheld the Nollan decision relating to the "essential nexus" standard and also stipulated that the extraction be "roughly proportional" to the project or development's impacts. The California appellate court case of Ehrlich v. City of Culver City decision ruled impact fees or other similar monetary fees are subject to the Nollan/Dolan standards of "essential nexus" and "roughly proportional" which makes these standards apply to fees such as the District's connection fee.

The results of the court decisions for connection fees are that there be a logical connection between the fee charged and the benefit received to meet the "essential nexus" test. The roughly proportional" test however means that the fee not be mathematically precise but instead approximate the impact of the development.

3.3 Requirements under California Law

In establishing connection fees, an important requirement is that they be developed and implemented in conformance with state and local laws. In particular, many states have established specific laws regarding the establishment, calculation and implementation of connection fees. The main objective of most state laws is to assure that these fees are established in such a manner that they are fair, equitable and cost-based. In other cases, state legislation may have been needed to provide the legislative powers to the utility to establish the fees.

"The laws for the enactment of connection fees in California are found in California Government Code sections 66013, 66016, and 66022 within the 'Mitigation Fee Act.'"

The laws for the enactment of connection fees in California are codified in California Government Code sections 66013, 66016, and 66022, which are interspersed within the 'Mitigation Fee Act.' The Mitigation Fee Act is comprehensive legislation dealing mainly with development impact fees, although the above sections set forth the various requirements for imposition of connection fees in California: calculation of the fees, noticing, accounting and reporting requirements, and processes for judicial review.

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

> *"66013 (a) Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, 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 "capacity charge" does not include a commodity charge."*

The District's proposed water connection fees are "capacity charges" as defined in the preceding provision. 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 to 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.

The basic principle that needs to be followed under California law is that the charge 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.

3.4 Proposition 218 and 26 and Connection Fees

In 1996, the voters of California approved Proposition 218, which required that the imposition of certain fees and assessments by municipal governments require a vote of the people to change or increase the fee or assessment. Of interest in this particular study is the applicability of Proposition 218 to the establishment of connection fees for the District.

In Richmond v. Shasta Community Services Dist., 32 Cal.4th 409 (2004), the California Supreme Court held that water connection fees and capacity charges are not "assessments" under Proposition 218 because they are imposed only on those who are voluntarily seeking water service, rather than being charged to particular identified parcels, and therefore such fees are not subject to the procedural or substantive requirements of Proposition 218. The court also held that such fees 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 seven exceptions. "Capacity fees" fall within exception 2 – i.e., it is a charge imposed for a specific government service. Provided that a capacity fee 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, the fee is not a tax within the meaning of Proposition 26. Under Proposition 26, the local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payer bear a fair or reasonable relationship to the payer's burdens on, or benefits received from, the governmental activity.

3.5 Summary

This section of the report has provided an overview of the legal requirements under California law and relevant court decisions for the establishment of connection fees. As was noted above, an important legal requirement is that the fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed. The next section of the report provides the District's calculation of the fees, which provides the basis for the establishment of a reasonable cost (i.e. connection fee).

4 Determination of the Connection Fee

4.1 Introduction

This section of the report presents the details and key assumptions in the calculation of the District's water connection fee. The calculation of the District's water connection fees is based upon District specific accounting and planning information. Specifically, the connection fees are based upon the District's fixed asset records; capital improvement plan, Urban Water Management Plan and other planning documents. As was noted in Section 2 of this report, these planning documents and projections of future EDUs provide the required "*rationally based public policy"* support for the imposition of connection fees.

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

4.2 Overview of the District's Water System

The Elk Grove Water District (EGWD) is a Department of the Florin Resource Conservation District (FRCD). The FRCD acquired the Elk Grove Water Works in 1999 from a local family who had owned and operated the water utility as a private water company for 103 years. This acquisition changed the governance of the water utility from private ownership to a publicly owned and operated agency. The FRCD also structured this agency as an enterprise-funded department of the FRCD thereby keeping all financial activities of the water utility separate from other activities of the FRCD. In the early 2000's the Elk Grove Water Works was renamed as the Elk Grove Water District and is classified as a medium sized water purveyor serving approximately 45,000 people.

The District serves two service areas, in service area one (1), the District owns and operates a water supply, transmission, and distribution system, while in service area two (2) the district owns the distribution system while the transmission and supply system is owned and operated by Sacramento County Water Agency (SCWA). Since service area 2 does not utilize treatment facilities owned by the district and transmission assets in service area 2 are owned and maintained by the SCWA, the connection fee developed here in only applies to service area 1. It should be noted that new development within service area 2 pay a connection charge to SCWA while Service area 1 does not.

The District's methodology for calculating the water connection fee takes into consideration both the existing available capacity (existing infrastructure) and needed future capacity (expansion infrastructure) using the previously discussed "combined method."[5]

Future capital projects are defined in the adopted Capital Improvement Program (CIP) prepared annually by the District. In general, the District adopts a new CIP when the budget is adopted. In the CIP, capital projects are scheduled to meet the needs of future development based upon

[5] See Section 2.5 for overview discussion

updated growth projections. The cost of future projects are updated in the CIP. The facility size is also updated in the CIP if there are any major changes.

4.3 Present Water Connection Fees

The District's present connection fees as of 2013 are shown below in Table 4 - 1.

Table 4 - 1
Present Water Connection Fee by Meter Size

Meter Size	1" Meter Equivalent (EDU)	Meter Charge	Present Connection Fee (CF; &/EDU)	Total Meter Charge and Connection Fee
1"	1.0	$926	$3,206	$4,132
1-1/2"	2.0	T&M*	6,413	6,413 + T&M*
2"	3.2	T&M*	10,260	10,260 + T&M*
3"	6.0	T&M*	19,238	19,238 + T&M*
4"	10.0	T&M*	32,063	32,063 + T&M*
6"	20.0	T&M*	64,125	64,125 + T&M*

*Cost of Time and Materials to Install Meter

As shown, the District's current charge is based on the safe operating capacity of a 1-inch meter (or 1 EDU) as compared with the respective safe operating capacities of other meter sizes.

4.4 Calculation of the District's Water Connection Fee

As was discussed in Section 2, the process of calculating connection fees is based upon a four-step process. These steps were as follows:

- Determination of system planning criteria
- Determination of equivalent dwelling unit(EDUs)
- Calculation of the connection fee for system component costs
- Determination of any connection fee credits

Each of these areas is discussed in more detail below.

4.5 System Planning Criteria

System planning criteria typically involves establishing the amount of existing and future capacity which is usually measured as an EDU. There are different ways to determine the EDU basis, some involve establishing a level of consumption that reflects a typical single-family home or to consider the predominant meter size as the basis of the EDU. For the District's analysis, a 1" meter is considered to be one EDU. AWWA meter equivalencies were used to establish the number of EDUs for meters larger than 1". As an example, a 1-1/2" meter is equal to 2 EDUs under this method.

4.6 Equivalent Dwelling Units

The current and projected number of dwelling units is important for the study in that certain costs may be proportionally assigned to existing or future EDUs. The planning period utilized in the District's 2015 Urban Water Management Plan extended through 2045, which is expected to be the year in which development anticipated within the District's service area 1 would be completed (commonly referred to as "build out"). Therefore, the planning horizon of this water connection fee study is also through 2045.

As described above, to support this study, a projection of the number of new EDUs through 2045 for service area 1 was based on the District 2015 Urban Water Management Plan (UWMP) and adjusted for anticipated changes in projected land use. A summary of the projected total EDUs used in the development of the study are presented in Table 4 - 2. Details of the projected EDUs, by year, are provided on Exhibit 5 of the Technical Appendix.

Table 4 - 2
Service Area 1, Equivalent Dwelling Units (EDUs)

Description	Equivalent Dwelling Units (EDUs)
Existing EDUs	8,482
Future EDUs	270
Projected 2045 Total EDUs (build out)	**8,752**

As will be seen later in the connection fee analysis, the various EDU figures in Table 4 - 2 are key time frames for determining the appropriate number of EDUs to be applied to establish a reasonable and proportional allocation of costs per EDU. As an example, future CIP projects that provide expansion capacity will be divided by the future EDUs for 2016 – 2045 to determine a fee per EDU. The facilities to be built during that time frame benefit those specific customers. Another way to think about it is, absent the projected future customer growth from 2016 – 2045, the portion of the future facilities attributed to growth would not need to be built.

4.7 Calculation of the Connection Fee

The next step of the analysis is to review each major functional infrastructure component in service and determine the connection fee for that component. In calculating the connection fees for the District, existing components, debt service for existing facilities, and planned future capital projects were included. The major components of the District's water system that were reviewed for purposes of calculating connection fees were as follows:

- Buildings and associated components
- Water Treatment
- Electrical
- Water Production
- Water Distribution

- SCADA
- General Plant

For purposes of this study, the component of the connection fee associated with existing infrastructure is referred to as the "buy-in component," the component of the connection fee associated with future capital projects is referred to as the "expansion component," and the component of the connection fee associated with the debt service for existing facilities is referred to as the "debt service component."

4.7.1 Buy-in Component

To calculate the value of the existing assets for the buy-in component, the District's methodology considered the replacement cost of each asset. The replacement cost of each asset was then depreciated for the remaining useful life (i.e. replacement cost less depreciation). A replacement cost method "is appropriate when the system has been completely built out, or possesses substantial excess capacity to accommodate new development on a fill-in basis..."[6]

The District provided service area one asset listing for the various existing components and their corresponding installation date. Then, based on the installation date and an estimated useful life provided by the District for each asset, the escalated cost for each asset was depreciated.

Given the value of the service area one 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, contributed assets were not included in the connection fee calculation. It was concluded that water mains with diameter less than eight inch be excluded since they would not provide capacity to new connections. Eight inch mains serving cul-de-sacs or dead end were also excluded from the calculation because it would provide no benefit for new connections. In contrast to this, non-contributed assets were included as 100 percent (%) eligible. Given the value of the "connection fee eligible" assets, they were summed for each system component and divided by the appropriate number of EDUs.

A common practice for determining the buy-in component is to include unrestricted reserve balance into the fee. The argument for including reserves in the fee calculation is that those reserves may be used to maintain the existing service level and reduce the need for future rate increases to the benefit of new customers connecting to the system. Conversely, if a utility had low or no unrestricted reserves the utility would be more likely to increase rates in the future to maintain the existing service level. The District has approximately $12 million dollars in reserves which some proportion, close to 60%, would be allocable to service area 1. However, the District's reserves were left out of the buy-in calculation so that the fee would be a conservative estimate of the maximum fee allowable.

[6] Arthur C. Nelson, System Development Charges for Water, Wastewater, and Stormwater Facilities, Lewis Publishers, New York, 1995, P. 77

4.7.2 Expansion Component

To determine the expansion component, the District's future capital improvement needs were reviewed to determine what portion of planned future projects is required to serve future growth. The growth related portion of each project was summed to determine the total eligible future project value, which was then divided by projected EDUs through build out (270) [2015 – 2045]. This approach is equitable and proportional in that these facilities will be built to serve the customers connecting during this time. As noted previously, the District closely examined their CIP in order to identify the percent (%) growth related in order to calculate the expansion component.

4.7.3 Debt Service Component

In addition to the buy-in and expansion fee components, a third fee component, debt service, was also determined. This component accounts for the principal and interest on outstanding debt on existing assets that were built to accommodate future expansion. By segregating the debt service out, the cost can be clearly identified and calculated appropriately. To avoid double-counting of the assets financed with debt, the future principal associated with those assets was deducted from the existing infrastructure calculation before the buy-in component was calculated. Refer to Exhibits 1 and 2 in the Technical Appendix for additional information.

The District's outstanding debt service is a refunding of debt issued to purchase the water utility and build the Railroad Water Treatment Facility Plant. Since the outstanding debt is for the entire system including Service area 2, 63% of the debt was deemed eligible for the service area 1 connection fee.

4.8 Allowable Water Connection Fees

Based on the sum of the component costs calculated above, the allowable water connection fee can be determined. "Allowable" refers to the concept that the calculated connection fee shown on Table 4 - 3 is the District's cost-based water connection fees. The District, as a matter of policy, may charge 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 nexus test of a cost-based connection fee. Details are provided in Exhibit 6 of the Technical Appendix.

Table 4 - 3 Service Area 1, Equivalent Dwelling Units (EDUs)	
Component	**Per EDU**
Existing System	
Buildings and Associated Components	$263
Water Treatment	520
Electrical	206
Water Production	637
Water Distribution	6,899
SCADA	22
General Plant	0
Total Existing Fee per EDU	**$8,549**
Less Contributed Capital	($1,262)
Net Existing Component	**$7,287**
Less Debt Service Credit (60% of outstanding principal)	**($3,324)**
Future Water Projects	**$517**
Total Existing and Future Connection Fee per EDU	**$4,479**

*Totals may not foot due to rounding.

As can be seen in Table 4 - 3, the maximum allowable water connection fee is $4,479 per EDU. From the calculated allowable connection fee, the fee is then placed in the context of the size and type of meter. The connection fee varies based upon the safe operating capacity of the customer's meter.

The connection fee for the larger meter sizes are determined by multiplying the connection fee for a 1" meter by the meter capacity weighting factors. The weighting factors are determined based on the American Water Works Association (AWWA) safe operating capacities for the type and size of meter. The safe operating capacity of each meter is divided by the safe operating capacity for a 1" displacement type meter to determine the weighting factor for each meter. For example, the safe operating flow capacity of a 2" displacement meter is 3.2 times the safe operating flow capacity of a 1" meter. Stated another way, the capacity of a customer with a 2" displacement meter has the equivalent capacity of 3.2 single-family homes (i.e. a 1" customer).

Table 4 - 4 provides a summary of the calculated and allowable connection fee by meter type and size.

Table 4 - 4 Proposed Water Connection Fee by Meter Size				
Meter Size	1" Meter Equivalent (EDU)	Meter Charge	Connection Fee (CF; $/EDU)	Total Meter Charge and Connection Fee
1"	1.0	$926	$4,479	$5,405
1-1/2"	2.0	T&M*	8,958	8,598 + T&M*
2"	3.2	T&M*	14,333	14,333 + T&M*
3"	6.0	T&M*	26,874	26,874 + T&M*
4"	10.0	T&M*	44,790	44,790 + T&M*
6"	20.0	T&M*	89,580	89,580 + T&M*

*Cost of Time and Materials to Install Meter

4.9 Key Assumptions

In the development of the water connection fees for the District's water system, a number of key assumptions were utilized. These are as follows:

- The District's water system is a pressurized, integrated system with many redundancies for system reliability. Given that, the District has viewed its connection fee from a unified system perspective.
- The District's connection fees were developed on the basis of planning documents, anticipated future connections (stated in terms of EDUs) and the needed capital improvements to serve those future connections.
- District staff developed their projections of future EDUs based upon a detailed analysis of available land area and type of development.
- The District's asset records were used to determine the existing infrastructure assets.
- The District provided the most recent CIP for future expansion improvements.
- The District determined the portion of future improvements that were growth-related.
- The District's most recent Urban Water Management plan was completed in late 2015.
- The calculation of the debt service component included only current outstanding expansion related debt service.

4.10 Implementation of the Water Connection Fees

The methodology used to calculate the water connection fees takes into account the cost of money or interest charges and inflation. Therefore, HDR recommends that the District adjust the water connection fees each year by an escalation factor to reflect the cost of interest and inflation. The most frequently used source to escalate connection fees is the Engineering News Record Construction Cost Index (ENR CCI) which tracks changes in construction costs for municipal utility projects. This method of escalating the District's water connection fees should be used for no more than a four-year to five-year period. After this time period, it is recommended that the District update the charges based on the actual cost of infrastructure and any new planned facilities that would be contained in an updated master plan, capital improvement plan, or rate study.

4.11 Compliance with the Rational Nexus Test

In calculating the District's water connection fees, significant thought and consideration was given developing a fair and reasonable methodology that would meet the critical legal elements for connection fees. These critical elements were previously discussed in Section 2. In summary form, the three tests to comply with the rational (essential) nexus test for the calculated fees require the following:

1. ***A connection should be established between new development and the new or expanded facilities required to accommodate such development. This establishes the rational basis of the public policy being implemented through the fees.***

   In the development of this study, the District's connection fees were based upon District specific accounting and planning information. Specifically, the connection fees are based upon the District's fixed asset records; water system capital improvement plan and planning data from the 2015 Urban Water Management Plan in development of projection of future EDUs. The use of this data and information was the "best available" and "reasonable" information and provides the required evidentiary support for a "*rationally based public policy"* to support the imposition of connection fees.

2. ***Identification of the cost of these new or expanded facilities needed to accommodate new development. This establishes the burden to the public of providing new facilities to new development and the rational basis on which to hold new development accountable for such costs. This may be evaluated using the so-called Banberry factors, which are among the factors that help inform such decisions. Banberry states that under Utah law, "consideration must be given to seven factors to determine the proportionate share of costs to be borne by new development:***

   - ***The cost of existing facilities.*** *The* District's analysis considers the existing assets with a buy-in component. The assets are valued using a depreciated replacement cost value.
   - ***The means by which existing facilities have been financed.*** The District's analysis considered the debt service component related to the expansion fund. The methodology provided a debt service credit for the principal related portion of the debt service.
   - ***The extent to which new development has already contributed to the cost of providing existing excess capacity.*** The District's methodology excluded contributed capital from the calculation of the buy-in component of the connection fee.
   - ***The extent to which existing development will, in the future, contribute to the cost of providing existing facilities used community wide or non-occupants of new development.*** The District considers all future projects for the benefit of future expansion, for absent growth, the District's existing facilities are sufficient to serve existing District customers.
   - ***The extent to which new development should receive credit for providing at its cost facilities the community has provided in the past without charge to other***

development in the service area. The District is not aware of any situation or condition to which this factor would apply. Accordingly, no credits have been included within the calculation of the District's connection fee for new development providing at its cost facilities the community has provided in the past without charge to other development in the service area.

- ***Extraordinary costs incurred in serving new development.*** No extraordinary costs are assumed to have been incurred in the past, nor are any extraordinary costs assumed to be incurred in the future and included within the calculation of the District's connection fee.
- ***The time-price differential inherent in fair comparisons of amount of money paid at different times.*** By using a depreciated replacement cost methodology for the buy-in component, the District has fully accounted for the age and remaining useful life of the facilities. The adjustment for the Engineering News Record appropriately takes into consideration the time-price differential as a customer connects to the system."

3. ***Appropriate apportionment of that cost to new development in relation to benefits it reasonably receives. This establishes the nexus between the fees being paid to finance new facilities that accommodate new development and benefit new development receives from such new facilities.***

The District's methodology considered the value of existing and future assets to determine the fee. The value of those assets were divided by the number of EDUs that would be served by those assets. For example, expansion projects to be built between 2015 and 2045 were divided by the projected service area one EDUs for 2015 – 2045.

Based upon the above, HDR is of the opinion that the District's calculated connection fee meets the rational nexus test. While different parties may agree or disagree on certain assumptions or approaches, the overall test is a reasonableness relationship between the fee imposed and the benefit derived.

The other perspective to consider is the following finding by the Florida Supreme Court. The court ruled the fees were valid when they:

- "Do not exceed that which is reasonably required to fund expansion to benefit future capacity reserves
- Are needed to finance expansion that accommodates new development
- Are earmarked for expansion"[7]

For the District, the answer to each of these tests is "yes." As calculated, the proposed fees will be no greater than the calculated fees. The District's calculated connection fees are needed to not only pay for existing debt on past expansion projects needed to serve growth, but also needed to fund future planned expansion projects. Finally, as this report has noted, the District

[7] Florida Supreme Court, Contractors and Builders Association of Pinellas County v. City of Dunedin [329 So. 2nd 314 (Fla. 1976)]. From a legal perspective, of course, the water connection fees are governed by Government Code section 66013 and California case law, not the above case.

has a separate and segregated expansion fund and all connection fees collected will remain in the expansion fund and be used to fund existing expansion related debt and future expansions.

Finally, and more to the point, put in terms of California law, the water connection fees recommended in this report do "not exceed the estimated reasonable cost of providing the service for which the fee is imposed."

4.12 Consultant Recommendations

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

- The District should revise and update the water connection fees for new customers, or those customers looking to expand current capacity on the water system, that are no greater than the connection fees as set forth in this report.
- The District should include within its resolution, the provision for periodic (annual) adjustments to the connection fees based on changes in the Engineering News Record Construction Cost Index (ENR CCI).
- The District should update the actual calculations for the water connection fees based on the methodology as approved by the resolution or ordinance setting forth the methodology for connection fees at such time when a new capital improvement plan, public facilities plan, master plan or a comparable plan is approved or updated by the District.

4.13 Summary

The water connection fee developed and presented in this section of the report is based on the engineering design criteria of the District's water system, the value of the existing assets, future capital improvements, current debt service on existing assets and "generally accepted" ratemaking principles. Adoption of the proposed connection fees will provide multiple benefits to the District and create equitable and cost-based charges for new customers connecting to the District's water system.

5 Technical Appendix

Elk Grove Water District
Exhibit W-1
Development of the Water Connection Fee Per EDU
2018 CONNECTION FEE CALCULATION - ASSETS AT REPLACEMENT

Plant Description	Debt Replacement Cost Less Depreciation (3)
EXISTING WATER PLANT (1)	
Buildings	$1,832,750
HVAC	54,000
Security	216,599
Grounds	201,100
Water Treatment	4,552,812
Electrical	1,806,366
Water Production	5,578,132
Water Distribution	60,379,997
SCADA	196,333
Vehicles & Mobile Equipment	0
Total Existing Water Plant	$74,818,089
Less: Contributed Capital (4)	($11,044,557)
Total Existing Water Plant After Contributed Capital	$63,773,532
Less: Outstanding Debt Principal, 63% of Total Based on Distribution lines(6)	($29,095,468)
Plus: Reserves (7)	$0
Total Existing Water Plant	**$34,678,064**

Elk Grove Water District
Exhibit W-1
Development of the Water Connection Fee Per EDU
2018 CONNECTION FEE CALCULATION - ASSETS AT REPLACEMENT

Plant Description	Debt Replacement Cost Less Depreciation (3)
Equivalent Dwelling Units, service area 1 (8)	8,752
Existing Water Connection Fee per EDU (9)	**$3,962**
FUTURE PLANT (10)	
Water Projects	
Meter Replacement	$0
Supply/Distribution	139,648
Treatment	0
Building & Site Improvements	0
Unforseen Capital	0
Total Future Water Plant	**$139,648**
Future Equivalent Dwelling Units (8)	270
Future Water Connnection Fee per EDU (9)	**$517**
Total Existing and Future Connection Fee per EDU	**$4,479**

NOTES:

(1) Asset list based on Elk Grove Water District asset reports at replacement cost.
(2) Net of assets that are not capacity fee eligible. Vehicles and equipment eliminated as eligible.
(3) Depreciation based on asset reports shown useful life and remaining life.
(4) Includes all assets labeled as Contributed plus all Distribution lines less than 8" and Dead end 8" mains
(5) No current CWIP detailed.
(6) Outstanding principal balance as of current date. See Exhibit 2.
(7) Cash reserves as of current date which are capacity fee eligible. See Exhibit 3.
(8) Existing and future equivalent dwelling units, see Exhibit 5.
(9) Based on "buy in" and "incremental" methodology established in AWWA M1, Sixth Edition, Table VI.2-4, page 269 & 270.
(10) Based on existing capital improvement plan. See Exhibit 4.

Elk Grove Water District
Exhibit W-2
Development of Outstanding Debt Principal

Debt Name	2014 Series A Bonds Principal	2016 Series A Bonds Principal	Total Outstanding Principal
I. Debt Status:			
Original Debt	$32,325,000	$14,875,000	**$47,200,000**
Water Capacity Fee Eligible (2)	63.1%	63.1%	
II. Outstanding Principal Payments:			
2017 (1)	$31,610,000	$14,525,000	$46,135,000
Total Allocable	**$19,935,141**	**$9,160,327**	**$29,095,468**

NOTES:
(1) Original Debt from District CAFR page 44 ,Outstanding principal balance, page 42.
(2) See Table Below

	SA 1 Allocation	Service Area 1	Service Area 1&2
Water Treatment	100.0%	4,552,812	4,552,812
Water Production	100.0%	5,578,132	5,578,132
Distribution	60.1%	60,379,997	100,506,982
Less Mains less than 8"	97.7%	(5,751,188)	(5,889,203)
Less Dead End 8"	48.3%	(4,245,442)	(8,794,682)
	63.1%	60,514,311	95,954,041
Allocable Outstanding Debt Principal			63.1%

Elk Grove Water District
Exhibit W-3
Development of Cash Reserves

Reserve Fund Balance (1)			
	June 1, 2017	**% Eligible**	**Total $ Eligible**
Water			
Cash & Equivalents	$12,871,285	0%	$0
Total	**$12,871,285**		**$0**

Notes:
(1) Based on District 2017 CAFR, page 15.

Elk Grove Water District
Exhibit W-4
Development of Future Capital Improvements - Water Projects

	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	Total	% Eligible
Meter Replacement Program							
2 Water Meter Replacement Program pg. 10	$0	$0	$0	$0	$300,000	$300,000	0.0%
Supply/Distribution Improvements							
3 Truman St./Adams St. Water Main pg. 12	0	0	0	0	240,000	240,000	3.2%
3 School/Locust/Summit Alley Water Main pg. 14	0	0	495,000	0	0	495,000	3.2%
3 Elk Grove Blvd Grove St. Alley Water Main pg. 16	0	0	0	290,000	0	290,000	3.2%
3 Locust St.-Elk Grove Blvd Alley/Derr St. Water Main pg. 18	0	0	210,000	0	0	210,000	3.2%
4 Elk Grove Blvd Water Main pg. 20	0	0	0	500,000	0	500,000	3.2%
2 Lark St. Water Main pg. 22	0	0	225,000	0	0	225,000	3.2%
3 Grove St. Water Main pg. 24	0	0	0	0	275,000	275,000	3.2%
1 Well Rehabilitation Program pg. 26	0	98,000	0	103,000	0	201,000	0.0%
2 Railroad Corridor Water Line pg. 28	0	0	0	0	75,000	75,000	3.2%
3 Backyard Water Mains/Services Replacement pg. 30	734,000	950,000	0	0	0	1,684,000	3.2%
3 Cadura Circle Water Main Looping pg. 32	0	0	0	0	30,000	30,000	3.2%
3 Mormon Church Water Main Looping pg. 34	0	0	0	0	70,000	70,000	3.2%
3 Kilkenny Ct. Water Main pg. 36	0	0	0	135,000	0	135,000	3.2%
3 Leo Virgo Ct. Water Main pg. 38	0	0	0	0	135,000	135,000	3.2%
Treatement Improvements							
1 RRWTF Generator PLC / SCADA Upgrade pg. 40	35,000	0	0	0	0	35,000	0.0%
1 Well 3 Pump Replacement /VFD pg. 42	180,000	0	0	0	0	180,000	0.0%
5 Hampton WTP Generator Removal pg. 44	25,000	0	0	0	0	25,000	0.0%
Building & Site Improvements/vehicles							
3 Truck Replacements pg. 46	115,000	160,000	160,000	120,000	145,000	700,000	0.0%
4 HVWTP Roof Replacement pg. 48	0	0	20,000	0	0	20,000	0.0%
2 RRWTF Parking Lot Repaving pg. 50	90,000	0	0	0	0	90,000	0.0%
2 Vacuum Excavator pg. 52	0	0	0	75,000	0	75,000	0.0%
2 Directional Drilling Machine pg. 54	0	0	150,000	0	0	150,000	0.0%
1 I.T. Servers pg. 56	35,000	30,000	0	0	0	65,000	0.0%
Unforseen Capital Projects							
Unforeseen Capital Projects pg. 58	100,000	100,000	100,000	100,000	100,000	500,000	0.0%
	$1,314,000	$1,338,000	$1,360,000	$1,323,000	$1,370,000	$6,705,000	$139,648
Meter Replacement	0	0	0	0	0	0	
Supply/Distribution	23,488	30,400	29,760	29,600	26,400	139,648	
Treatment	0	0	0	0	0	0	
Building & Site Improvements	0	0	0	0	0	0	
Unforseen Capital	0	0	0	0	0	0	
	23,488	30,400	29,760	29,600	26,400	139,648	

Notes:

Elk Grove Water District
Exhibit W-5
Development of Equivalent Dwelling Units For Year Ended June 30, 2015

Size of Meter	**1"**	**1 1/2"**	**2"**	**3"**	**4"**	**6"**	**8"**	**10"**	**Total**	**% of**
Equivalency Factor [1]	*1.00*	*2.00*	*3.20*	*6.00*	*10.00*	*20.00*	*32.00*	*46.00*		**Total**
Number of Existing EDUs (2)										
					Number of Meters [2]					
Residential	11,759	3	3	0	0	0	0	0	11,765	
Commercial	202	79	242	19	13	3	1	0	559	
Irrigation	2	4	9	0	1	1	0	0	17	
Total Meters	11,963	86	254	19	14	4	1	0	12,341	
					Equivalent Meters					
Residential	11,759	6	10	0	0	0	0	0	11,774	
Commercial	202	158	774	114	130	60	32	0	1,470	
Irrigation	2	8	29	0	10	20	0	0	69	
Total Equivalent Meters	11,963	172	813	114	140	80	32	0	13,314	
Total Existing Equivalent Meters or EDUs									**13,314**	
Service Area 1 Proportion of EDUs (4) (64.9%)									**8,482**	96.9%
Total Future Equivalent Meters or EDUs for Service Area 1 (4)									**270**	3.1%
Total Existing and Future Equivalent Meters or EDUs for Service Area 1									**8,752**	100.0%

Notes:
(1) - Based on District equivalencies based on safe operating conditions from the AWWA M1 Manual.
(2) - Number of meters based as of June 2017 and the current water rate study.
(3) - Number of future EDUs based on 2013 Connection Report, page 5, which is based on land use data and District input.
(4) - The Split of EDUs between service area 1 and 2 of is based on customer demand characteristics using the 2015 UWMP table 4-4 Existing Customers multiplying customer number by current demand.
(5) - Future EDUs based 2015 Urban Water Management Plan adjusted by the District for known potential connections.

Elk Grove Water District
Exhibit W-6
Current and Proposed Water Connection Fee

Item	Current Connection Fee $/EDU	Calculated Connection Fee $/EDU	Difference
	2013	**2018**	
EDU Capacity			
Existing EDUs	12,947	13,314	367
Future EDUs **	672	270	(402)
Total Existing and Future EDUs	13,619	13,584	(35)
***Existing EDUs for the 2013 Study were recaclulated based on equivelent Meters to be consistant with the method used in this study.*			
Water Capacity Fee (1)			
Existing	$2,934	$3,962	$1,028
Future			
Meter Replacement	0	0	0
Supply/Distribution	272	517	245
Treatment	0	0	0
Building & Site Improvements	0	0	0
Unforseen Capital	0	0	0
Total Water Capacity Fee per EDU (3)	$3,206	**$4,479**	$1,273

Meter Size (1)	Meter Ratio (2)	Current Connection Fee	Calculated Connection Fee (3)
1"	1.00	$3,206	$4,479
1 1/2"	2.00	6,413	8,958
2"	3.20	10,260	14,333
3"	6.00	19,238	26,874
4"	10.00	32,063	44,790
6"	20.00	64,125	89,580

Notes:
(1) Recommended for meter sizes larger than 2-inch should be based on projected usage.
(2) Based on AWWA meter equivalency from AWWA M1 Manual, Sixth Edition, Table VI.2-5, page 326.
(3) Based on "Combined" methodology established in AWWA M1, Sixth Edition, Table VI.2-1, page 273.