



**Beverly Hills City Council /Public Works Commission Liaison Committee
will conduct a Special Meeting, at the following time and place, and will
address the agenda listed below:**

**CITY HALL
455 North Rexford Drive
4th Floor Conference Room A
Beverly Hills, CA 90210**

**Monday, March 4, 2019
4:00 PM**

AGENDA

1. Public Comment
 - a. Members of the public will be given the opportunity to directly address the Committee on any item listed on the agenda.
2. Anti-Litter Campaign
3. Water Supply Fee Update
4. Water Treatment Plant Resources
5. Update with Metropolitan Water District
6. Interface between Information Technology and Public Works for Fiber To The Premise
7. Adjournment

A handwritten signature in black ink, appearing to read "Lourdes Sy-Rodriguez".

Lourdes Sy-Rodriguez, Assistant City Clerk

Posted: March 1, 2019

***A DETAILED LIAISON AGENDA PACKET IS AVAILABLE FOR REVIEW IN
THE LIBRARY AND CITY CLERK'S OFFICE.***



In accordance with the Americans with Disabilities Act, Conference Room A is wheelchair accessible. If you need special assistance to attend this meeting, please call the City Manager's Office at (310) 285-1014 or TTY (310) 285-6881. Please notify the City Manager's Office at least twenty-four (24) hours prior to the meeting if you require captioning service so that reasonable arrangements can be made.



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT

MEMORANDUM

TO: Mayor Julian A. Gold, M.D and Councilmember Robert Wunderlich, Ph.D.

FROM: Tania Schwartz, Senior Management Analyst

DATE: March 4, 2019

SUBJECT: Anti-Litter Campaign

ATTACHMENT: 1. Anti-Litter Campaign Art Work

RECOMMENDATION

Staff is seeking the Liaison's recommendation to move forward with City's anti-litter campaign.

INTRODUCTION

Over the past few months, staff has been diligently working on a citywide anti-litter campaign with the goal of reducing litter throughout the City of Beverly Hills.

The program will include:

- Social media postings
- Yard signs available for use in residential areas
- Working with the Beverly Hills Chamber of Commerce and distributing window clings
- Signage displayed on the side of trash trucks
- Outreach via various City media, including *Backbone* newsletter, Earth Day and utility billing messaging.

In summary, the program is trying to raise the consciousness towards achieving a cleaner, more beautiful Beverly Hills for all to enjoy.

DISCUSSION

On a regular basis the department receives two to three calls per month for litter removal on City sidewalks. During high traffic times in the business areas this number may go up slightly. The Department developed a strategy to further its commitment to a spotless Beverly Hills in the form of an anti-litter campaign. Attached are the anti-litter campaign artwork samples. The images are intended to promote proper trash disposal practices and discourage the prevalence of shopping carts and cigarette butts in the City.

If approved, the anti-litter campaign will be presented on the March 5, 2019 City Council Study Session as an informational item (C item). It is anticipated that the City-wide rollout of the anti-litter campaign will begin the third week of March to coincide with the peak tourism season of Spring Break throughout the City.

FISCAL IMPACT

Funding for this program will come from the Solid Waste Conservation fund.

ATTACHMENT 1

ANTI-LITTER CAMPAIGN



Keep Beverly Hills *spotless*.



#CleanBH



Keep Beverly Hills *spotless*.



#CleanBH

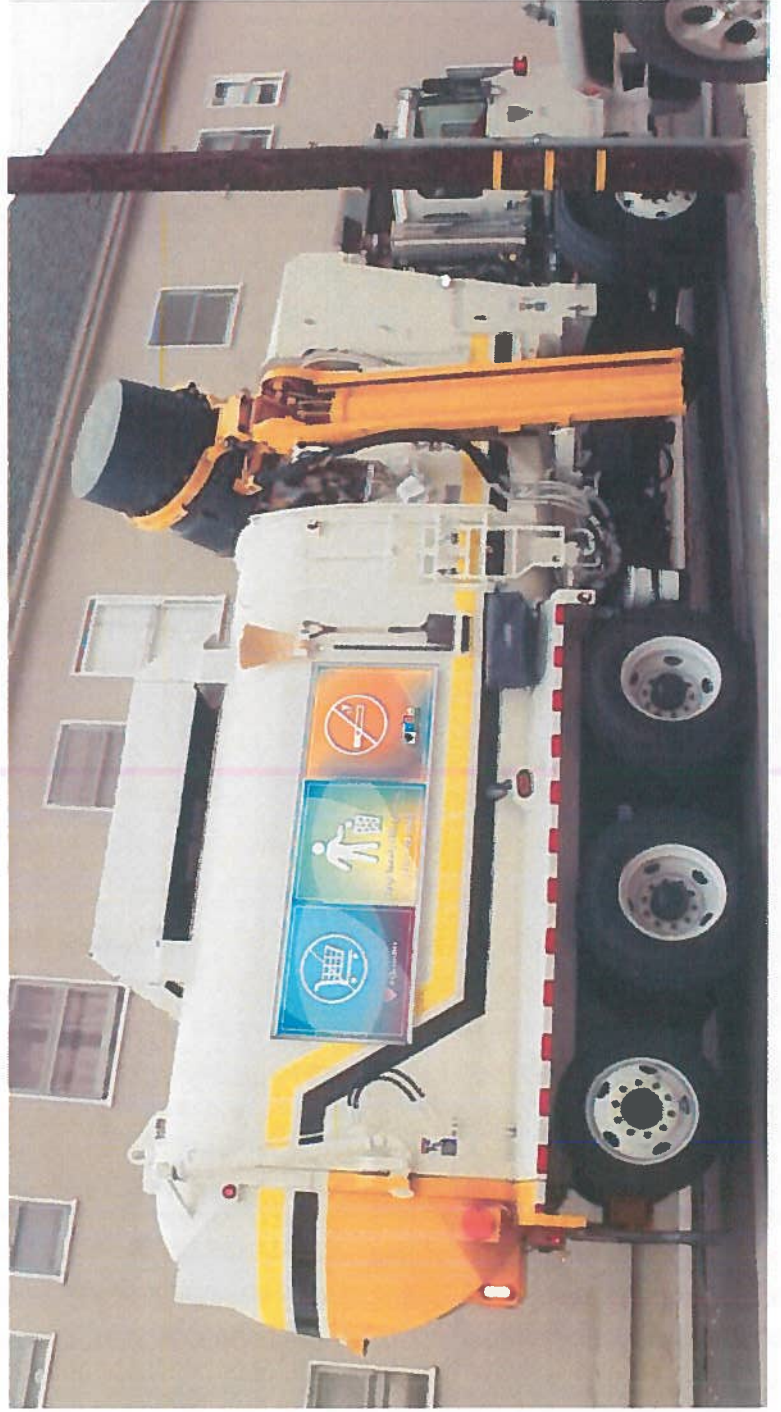


Keep Beverly Hills *spotless*.



#CleanBH


Sanitation Waste Vehicle Signage



Window Clings



**Keep
Beverly Hills
*spotless.***

 #CleanBH
(310) 285-2467

Lawn Signs





CITY OF BEVERLY HILLS
PUBLIC WORKS SERVICES DEPARTMENT
MEMORANDUM

TO: Mayor Julian Gold, M.D., and Councilmember Robert Wunderlich, Ph. D.

FROM: Gil Borboa, P.E., Assistant Director of Public Works/Utilities

DATE: March 4, 2019

SUBJECT: Water Supply Fee Update

ATTACHMENT:

1. January 29, 2019 report to the City Council Liaison to the Public Works Commission
2. Water Supply Fee Update Report dated October 24, 2018 by Bucknam & Associates

RECOMMENDATION

Staff recommends the City Council Liaison to the Public Works Commission support the following actions:

1. Update the Water Supply Fee through the regular fee update process as detailed in this report, and
2. Amend Article 2.7 of Title 6, Chapter 1 of the Beverly Hills Municipal Code to exempt irrigation meters from being subject to the Water Supply Fee when no increase in demand.

BACKGROUND

In 2016, a Water Supply Fee was established to pay for the cost of new facilities to provide additional local water supplies needed as new connections are established or redevelopment occurs. On January 29, 2019, staff presented a recommendation to the City Council Liaison to the Public Works Commission with the recommendations as presented above. The January 29, 2019 staff report is included herewith as Attachment 1. The updated 2018 fee report, including proposed revised fees, has been developed and presented in Attachment 2 herewith. Full details on the methodology and calculation for the revised fees can be found in the report.

Staff was requested to elaborate on, and provide further detail of, the differences between the 2016 adopted fees and the 2018 proposed fees.

DISCUSSION – EXISTING AND PROPOSED WATER SUPPLY FEES

For a residential or commercial project, which requires a new connection to the City's water system, the water supply fee is calculated based on the total estimated cost to

develop additional water supplies, and apportioned to the demand for a Single Family Residential customer with a one-inch meter, as follows. In 2016, the additional water supply to meet the demands of new development were estimated as a high capacity well in the La Brea subarea, transmission main, treatment plant improvements, and the proposed development of Cabrillo reservoir as a non-potable water supply for irrigation. The total project cost was estimated at \$14,123,469 for development of 963 Acre Feet per Year (AFY) of additional water, for a cost per AFY of \$14,666/AFY. At the time, water demand for a 1-inch meter to serve a Single Family Residential customer was 1.0 AFY. Therefore, the 2016 Water Supply Fee for a new single family residential 1-inch meter was $(\$14,666/AFY) \times (1.0 AFY) = \$14,666$ per AFY

For the 2018 update, total project costs were update to comprise three high capacity wells, property acquisition, a transmission main, and treatment plant improvements (the Cabrillo reservoir project has been deferred). The total project cost was estimated at \$44,914,599 for development of 1700 Acre Feet per Year (AFY) of additional water, for a cost per AFY of \$26,420/AFY. For the 2018 study, water demand has dropped from the 2016 assumptions, which ultimately results in a lowering of the the Water Supply Fees from the 2016 study. Currently, indoor water demand for a 1-inch meter to serve a Single Family Residential customer, consistent with values utilized in the recent water cost of service study, is .33 AFY. Therefore, the 2018 Water Supply Fee for a new single family residential 1-inch meter is calculated as $(\$26,420/AFY) \times (0.33 AFY) = \$8,719$ per AFY.

Meter capacity factors are used to determine the Water Supply Fee for different size meters.

Meter Size	Maximum Flow Gallons per Minute	Meter Capacity Factor	2016 Water Supply Fee	2018 Water Supply Fee
5/8 x 3/4 "	20	0.4	n/a	\$3,488
3/4"	30	0.6	\$8,800	\$5,231
1"	50	1.0	\$14,666	\$8,719
1-1/2"	100	2.0	\$29,332	\$17,438
2"	160	3.2	\$46,932	\$27,901
3"	320	6.4	\$87,997	\$55,802
4"	500	10	\$146,661	\$87,190
6"	1,000	20	\$293,322	\$174,380
8" (1)	1,600	32	n/a	\$279,008
10" (1)	4,200	84	n/a	\$732,396
12" (1)	5,300	106	n/a	\$924,214

(1) For meters larger than 6", applicant will submit calculations estimating annual water demand for review and approval and determination of the Water Supply Fee

For an existing residential or commercial property which requires the size of the water meter to be increased, the water supply fee will be the amount of water supply fee for the size of the new meter less the amount of the water supply fee for the size of the existing meter, as such amounts are indicated in the table above.

For a residential project, which does not require the size of the water meter to be increased but results in a net new floor area greater than 1,000 square feet, the water supply fee will be an amount which is \$1.74 per square foot of net new floor area greater than 1,000 square feet. (Existing for this situation is \$1.47 per square foot)

2016 Fees

Indoor Use AFY (50% of Average)	Cost per AFY	Fee 2016
0.5	\$14,666	\$7,333
Average Single-Family Residence Size (square feet)		5,000
Fee for Redevelopment or Expansion per Square Foot		\$1.47

2018 Fees

Indoor Use AFY (50% of Average)	Cost per AFY	Fee 2018
0.33	\$26,420	\$8,719
Average Single-Family Residence Size (square feet)		5,000
Fee for Redevelopment or Expansion per Square Foot		\$1.74

For non-residential projects without meter upgrades, the cost per gallon per day is used to calculate the Water Supply Fee for Non-Residential projects without meter upgrades using the standard demand factors.

To calculate the Water Supply Fee for Commercial Redevelopment projects, the annual cost per acre foot per year is converted to an equivalent cost per gallons per day. For the 2016 Water Supply Fees, \$14,666 per acre-foot per year equals an equivalent fee of \$16.43 per gallons per day. In the 2018 update, the \$26,420 per acre-foot per year equals an equivalent fee of \$29.60 per gallons per day.

For example, in 2016 the Water Supply Fee for an Auditorium, which requires 4.4 gallons per day per seat, would be **\$72 per seat** (4.4 x \$16.43). Similarly, in 2018 the Water Supply Fee for an Auditorium, which requires 4.4 gallons per day per seat, would be **\$130 per seat** (4.4 x \$29.60). A summary of commercial user class water Supply Fees is provided below.

Customer Class	Estimated Gallons Per Day	Service Unit	2016 Water Supply Fee	2018 Water Supply Fee
Auditorium or Community Center	4.4	per seat	\$72	\$130
Bank	167	per 1,000 sq. ft.	\$2,744	\$4,943
Gymnasium	278	per 1,000 sq. ft.	\$4,567	\$8,229
Health Spa	667	per 1,000 sq. ft.	\$10,598	\$19,743
Hotel, per room	144	per room	\$2,366	\$4,262
Medical Office	278	per 1,000 sq. ft.	\$4,567	\$8,229
Office Building	167	per 1,000 sq. ft.	\$2,744	\$4,943
Shopping Center	167	per 1,000 sq. ft.	\$2,744	\$4,943
Coffee House	333	per 1,000 sq. ft.	\$5,471	\$9,857
Restaurant—Full Service	33	per seat	\$542	\$977
Retail Store	89	per 1,000 sq. ft.	\$1,462	\$2,634
School – Private	222	per 1,000 sq. ft.	\$3,647	\$6,571
Supermarket	167	per 1,000 sq. ft.	\$2,744	\$4,943

Sample Calculations, 2018 Fees

(1) Remodel or Redevelopment of More than 1,000 Square Feet that does not require an upgrade in the existing meter

For Redevelopment or Additions of more than 1,000 square feet, the Water Supply Fee of \$1.74 per square foot is used to calculate the fee. For example, a new addition of 1,500 square feet is charged a Water Supply Fee of **\$2,610**. (Existing City regulations exempt residential additions or redevelopment of less than 1,000 square feet of additional space.)

(2) Commercial Account with Service Unit Increase Not Requiring a Meter Upgrade

In cases where a project's expansion changes its total number of Service Units and does not require a meter upgrade, the project pays for the resulting additional water demand. For example, a Restaurant that adds 30 seats would pay **\$29,310** (\$977 multiplied by 30 seats).

(3) Commercial Change in Use

Changes in Commercial Use of a property are the difference between estimated usage per day between the previous usage and the current usage. For example, a 1,000 square foot Retail Store converted to a 1,000 square foot Coffee House would be **\$7,223** (\$9,857 minus \$2,634).

Proposed Ordinance Amendment

The existing fee structure and ordinance already provide an exemption from the water service fee for fire service meters. This will remain unchanged. An exemption for outdoor (irrigation-only) meters is recommended because an irrigation meter does not present additional water demand.

This exemption will require an amendment to the existing ordinance to codify. Staff will prepare a code amendment and present to City Council in the near future.

Commission Action

The Public Works Commission approved the updated Water Supply Fees at its January 10, 2019 meeting, including the exemption for irrigation meters as detailed herein.

ATTACHMENT 1



CITY OF BEVERLY HILLS
PUBLIC WORKS SERVICES DEPARTMENT
MEMORANDUM

TO: Mayor Julian Gold, M.D., and Councilmember Robert Wunderlich, Ph. D.

FROM: Gil Borboa, P.E., Assistant Director of Public Works/Utilities

DATE: January 29, 2019

SUBJECT: Water Supply Fee Update

ATTACHMENT: 1. Water Supply Fee Update Report dated October 24, 2018 by Bucknam & Associates

RECOMMENDATION

Staff recommends the City Council Liaison to the Public Works Commission support the following actions:

1. Update the Water Supply Fee through the regular fee update process as detailed in this report, and
2. Amend Article 2.7 of Title 6, Chapter 1 of the Beverly Hills Municipal Code to exempt irrigation meters from being subject to the Water Supply Fee.

BACKGROUND

In 2016 a Water Supply Fee was established to pay for the cost of new facilities to provide additional local water supplies needed as new connections are established or redevelopment occurs. An updated report, including proposed revised fees, has been developed and presented in Attachment 1. Full details on the methodology and calculation for the revised fees can be found in the report.

In 2015, the Water Enterprise Plan (WEP) reported that the City relied primarily on the purchase of imported water from Metropolitan Water District of Southern California (MWD) for 90% of its water supply and received only 10% from local water supply sources from the Hollywood Groundwater Basin. The WEP analysis recommended that the City undertake capital improvements to decrease the City's reliance on the purchase of imported water from MWD and develop local groundwater sources. This portfolio was accepted to be the most feasible and cost effective suite of projects at the time to increase the City's overall water supply reliability.

The City is currently implementing portions of the Capital Improvement Program based upon the WEP. Implementation includes siting and construction of additional wells, transmission pipelines and treatment plant capacity.

Additionally, the City has adopted a Water Capacity Charge (WCC) that allocates to new connections a proportionate share of the cost of existing facilities and planned capital improvements needed to achieve the City's current local water supply goals.

As new connections are established or redevelopment occurs, the increased water demand will decrease the percentage share of the water supply from local water sources, will increase dependence on MWD, reduce local control and reduce the reliability of the City's water supply unless additional local water sources are developed. In order to maintain the reliability of the City's water supply and reduce dependence on MWD, it will be necessary for additional local water production to be developed beyond that identified in the WEP.

DISCUSSION – EXISTING AND PROPOSED WATER SUPPLY FEES

For a residential or commercial project which requires a new connection to the City's water system, the water supply fee will be based on the size of the water meter connection, as follows:

Meter Size in inches	Water Supply Fee (Existing)	Water Supply Fee (Proposed)
5/8 x 3/4	n/a	\$3,488
3/4	\$8,800	\$5,231
1	\$14,666	\$8,719
1-1/2	\$29,332	\$17,438
2	\$46,932	\$27,901
3	\$87,997	\$55,802
4	\$146,661	\$87,190
6	\$293,222	\$174,380
8	n/a	\$279,008 ¹
10	n/a	\$732,396 ¹
12	n/a	\$924,214 ¹

1. For meters larger than 6", applicant will submit calculations estimating annual water demand for review and approval and determination of the Water Supply Fee

The existing fee structure and ordinance already provide an exemption from the water service fee for fire service meters. This will remain unchanged.

For a residential or commercial property which requires the size of the water meter to be increased, the water supply fee will be the amount of water supply fee for the size of the new meter less the amount of the water supply fee for the size of the existing meter, as such amounts are indicated in the table above.

For a residential project, which does not require the size of the water meter to be increased but results in a net new floor area greater than 1,000 square feet, the water supply fee will be an amount which is \$1.74 per square foot of net new floor area greater than 1,000 square feet. (Existing for this situation is \$1.47 per square foot)

For a commercial project which does not require the size of the water meter to be increased, or if the project does not require the size of the meter to be increased, but results in

a change of commercial use, the water supply fee shall be based on the net increase in service units as follows:

Commercial Use	Service Unit	Water Supply Per Service Unit (Existing)	Water Supply Per Service Unit (Proposed)
Auditorium/Community Center	per seat	\$72	\$130
Bank	per 1000 sq. ft.	\$2,744	\$4,943
Gymnasium	per 1000 sq. ft.	\$4,567	\$8,229
Health Spa	per 1000 sq. ft.	\$10,598	\$19,743
Hotel	Per room	\$2,366	\$4,262
Medical Office	per 1000 sq. ft.	\$4,567	\$8,229
Office Building	per 1000 sq. ft.	\$2,744	\$4,943
Shopping Center	per 1000 sq. ft.	\$2,744	\$4,943
Coffee House	per 1000 sq. ft.	\$5,471	\$9,856
Restaurant – Full Service	Per seat	\$542	\$977
Retail Store	per 1000 sq. ft.	\$1,462	\$2,634
School- Private	per 1000 sq. ft.	\$3,647	\$6,571
Supermarket	per 1000 sq. ft.	\$2,744	\$4,943

Proposed Ordinance Amendment

The Water Supply Fee will not apply to irrigation meters (meters installed at residential or commercial properties intended for use solely for outdoor landscape irrigation) – this exemption will require an amendment to the existing ordinance to codify. Staff will prepare a code amendment and present to City Council in the near future.

Commission Action

The Public Works Commission approved the updated Water Supply Fees at its January 10, 2019 meeting, including the exemption for irrigation meters as detailed herein.

ATTACHMENT 2



City of Beverly Hills

Water Supply Fee Update Report

FINAL

October 24, 2018

Prepared by:

Bucknam & Associates, Inc.



TABLE OF CONTENTS

DESCRIPTION	PAGE
I. EXECUTIVE SUMMARY	2
II. SUMMARY OF CHARACTERISTICS OF THE CITY'S WATER SYSTEM	6
III. WATER ENTERPRISE PLAN	7
IV. EXISTING WATER CAPACITY CHARGES	7
V. ORDINANCE TO ESTABLISH WATER CAPACITY CHARGE	8
VI. WATER SUPPLY FEES	8
VII. METHODOLOGY FOR THE WATER SUPPLY FEE	10
VIII. CONCLUSIONS AND RECOMMENDATIONS	15
REFERENCES	19

APPENDIX A-1 City's Water Efficient Landscape and Metering Requirements for New and Rehabilitated Landscapes for Residential and Non-Residential Projects

APPENDIX A-2 Water Efficient Landscape Worksheet

APPENDIX A-3 Water Budget Worksheet for New and Rehabilitated Residential Landscapes

APPENDIX A-4 Water Budget Worksheet for New and Rehabilitated Non-Residential Landscapes



I. EXECUTIVE SUMMARY

The purpose of this report is to update the 2016 Water Supply Fee Report, which evaluated options for developing additional water supplies in the City in order to meet water supply demands of new development and established a "Water Supply Fee Structure for New Development."

The City Council held a public hearing November 15, 2016 to consider the adoption of a Water Supply Fee and adopted an ordinance amending the Municipal Code to establish the Water Supply Fee on December 6, 2016, which became effective January 6, 2017.

The following list of items make up the scope of services for the Updated Water Supply Fee Report:

- Compile data on the amount of the Water Supply Fees the City has collected and costs incurred, and amounts expended for the development of water supply facilities, if appropriate.
- Identify and analyze how additional water supply options impact the Water Supply Fee.
- Compile data on the production capacity of water supply facilities.
- Prepare revised cost estimates based on actual costs incurred and modified estimated costs to complete planned water supply facilities, based upon updated reports and analyses completed since the completion of the initial Water Supply Fee Report.
- Revise calculation of the Water Supply Fee based on current actual and estimated costs of water supply facilities and projected capacity of water supply facilities.
- Include findings in the Report an analysis of water supply requirements for meters ranging in size from less than 1-inch through 8-inch, 10-inch and up to 12-inch water meters and determine the appropriate Water Supply Fees.
- Determine the appropriate revised Water Supply Fee for development projects or remodels on a cost per sq. ft. basis for projects that do not require a meter upgrade.
- Research and recommend any potential credits to the Water Supply Fee based upon extraordinary efforts by the developer or owner to integrate water savings best management practices into their project.
- Assist the City with developing policy recommendations for implementing the Water Supply Fee credits.
- Upon request, meet with City staff and members of the City Council of West Hollywood and if appropriate; meet with developers and property owners to discuss revisions to Water Supply Fee.



- Prepare Information Fact Sheet summarizing revisions to Water Supply Fee for distribution to property owners and developers.
- Prepare Draft Water Supply Fee Report (Report) recommending a revised Water Supply Fee.
- Discuss Draft Report with Public Works management, staff and City Attorney.
- Prepare Updated Report based on comments from Public Works management, staff and City Attorney.
- Prepare PowerPoint presentation summarizing report.
- Attend Public Works Commission meeting and present revised Report.
- Attend City Manager's Project Review Meeting and present revised report.
- Attend City Council Liaison meeting and present Report.
- Attend City Council Study Session and Regular City Council meetings to present Updated Report.
- Attend Public Hearing for consideration of adoption of the Updated Report.
- Assess comments from the above noted meetings and prepare a Final Updated Report.

The Water Enterprise Plan reported that the City had relied primarily on the purchase of water from the Metropolitan Water District of Southern California for its water supply and received only 10% from local water supply sources from the Hollywood Groundwater Basin. The City desires to develop additional local groundwater sources to reduce its reliance on imported water from Metropolitan Water District.

In addition to evaluating optional projects to increase local water supplies, the City has initiated a water conservation program to encourage its water customers to adopt practices that will reduce water use and use water more efficiently.

The City has implemented a Capital Improvement Program to construct additional wells, transmission pipelines and treatment plant capacity to reduce dependence on Metropolitan Water District, increase reliability and achieve local control of water supplies.

The City has also adopted a Water Capacity Charge that allocates to new connections a proportionate share of the value of existing facilities and the cost of development of additional local water sources and modernization of the City's water treatment plant. The Water Supply Fee recommended in this report is in addition to the City's current Water Capacity Charge and will fund facilities that are not included in the determination of the current Water Capacity Charge but are required to meet the additional water demands of new development.

On November 17, 2009 the Beverly Hills City Council adopted the Water Conservation Plumbing Fixture Standards Water Efficient Landscaping Ordinance. The ordinance became effective beginning January 1, 2010. All projects applying for a Building Permit after



January 1, 2010 or remodeling landscape projects beginning January 1, 2010 are required to comply with the Water Efficient Landscape Ordinance.

On April 1, 2015 California's Governor Issued Executive Order No. B-29-15 amending the Water Efficient Landscape Ordinance and became effective on December 1, 2016.

On October 13, 2016 the Public Works Commission reviewed and approved a report entitled "*Update on Will Serve Policy Guidelines*". The City's Will Serve Policy recognizes that some new development projects will need a Water Service Feasibility Analysis. The Will Serve Policy requires that a Professional Engineer prepare a Project Water Demand estimate at project buildout including proposed Average Day Demand, Maximum Day Demand, and Peak Hour Demand. Demands shall also include all irrigation and fire flow demands. The estimated Average Day Demand and estimated irrigation demand can be used to determine the Water Supply Demand expressed in acre-feet per year. The type of projects that are subject to a Water Service Feasibility Analysis are:

- Commercial developments.
- Industrial developments.
- Mixed Use developments.
- Multi-Family residential developments.
- Institutional developments.
- Tenant Improvements that require fire suppression systems and/or increased fire flow due to expansion.
- Residential applicants requesting meters 2-inches or larger.
- Developments requiring irrigation meters.

The City retained Michael Baker International to prepare a preliminary design report for projects and related costs of proposed improvements to produce additional local water supplies. The report entitled "La Brea Subarea Wells, Water Treatment and Transmission Main Project" dated May 2017 identified the projects and updated costs estimated for improvements and the projected water production to provide additional local water supplies

The City retained HF&H Consultants to prepare a report analyzing costs and characteristics of the water utility to establish proposed water rates. On July 12, 2018 HF&H Consultants made a presentation entitled "Water Rates: Technical Memorandum to the Public Works Commission."

The City adopted Ordinance 16-O-2719, which became effective January 20, 2017 to incorporate provisions of the 2016 Edition of the California Green Building Standards Code, including the appendices thereto, into the City's Municipal Code, and shall be known and may be cited as the Green Building Standards Code of the City of Beverly Hills. Section 4.304.2 of the California Green Building Standards Code was added to read as follows:



- **Metering Outdoor Water Use.** A landscape water meter provided by the City of Beverly Hills shall be installed for landscape irrigation for the following:
 - New construction projects with aggregate landscape area over 500 square feet.
 - Any construction project for which a new water meter is being requested.
 - When required by the California Department of Water Resources Model Water Efficient Landscape Ordinance.

As new connections are established or redevelopment occurs, the increased water demand will decrease the percentage share of the water supply from local water sources, will increase dependence on Metropolitan Water District, reduce local control, and reduce reliability of the City's water supply unless additional local water sources are developed. To maintain the reliability of the City's water supply and reduce dependence on Metropolitan Water District, it will be necessary for additional local water production to be developed beyond that identified in the Water Enterprise Plan.

The City's water efficient landscape and metering requirements are listed on the City's website. Appendix A to this report contains:

- A copy of the information on the City's website explaining the City's water efficient landscape and metering requirements;
- The City's Water Efficient Landscape Worksheet which property owners or developers are required to complete and submit to the City;
- An Excel file to calculate water demand for new or rehabilitated landscape for residential developments; and
- An Excel file to calculate water demand for new or rehabilitated landscape for non-residential developments.

A key objective of this analysis is to establish a Water Supply Fee that will pay for the cost of facilities to provide additional local water supplies needed as new connections are established or redevelopment occurs. The proposed facilities include three High Capacity Wells to supply additional groundwater to serve new development to increase the supply of potable water to serve new development.

Three High Capacity Wells are proposed in the La Brea Subarea with a combined capacity to produce an estimated 1,700 acre-feet per year (equivalent to 1,517,600 gallons per day; water supply capacity is expressed in acre feet per year). These wells will provide additional water supply to serve the water needs of new development.



The estimated total projected cost to develop the three High Capacity Wells is \$44,914,599 or \$26,420 per acre-foot per year (\$44,914,599 divided by 1,700 acre-feet per year).

According to the 2018 Water Rate Study, the average amount of water used by a single-family residence in the City is 48 hundred cubic feet during a bimonthly period, which equals 0.66 acre-feet per year (48 hundred cubic feet per bimonthly bill times 6 bimonthly bills per year divided by 435.6 acre-feet per hundred cubic feet per acre-foot). Water use is converted from hundred cubic feet per bimonthly bill to acre-feet year because the convention is to express aggregate water demand and water supply in acre-feet per year.

A typical single-family residence has an area of 5,000 square feet, is supplied water through a one-inch meter and uses approximately 590 gallons per day (48 hundred cubic feet per bimonthly bill times 6 bimonthly bills times 748 gallons per hundred cubic feet divided by 365 days per year).

The indoor water usage for a single-family residence is assumed at 50% of the total usage or 295 gallons per day, which is approximately equal to 0.33 acre-foot per year. The outdoor water usage for a single-family residence is assumed at 50% of the total usage or 0.33 acre-foot per year.

The Water Supply Fees for a new Single-Family Residence with a one-inch meter for indoor water service and a separate one-inch meter for outdoor water service is determined to be **\$8,719 for each meter** based on estimated annual water demand of 0.33 acre-foot per year for both indoor and outdoor uses (\$26,420 per acre-feet per year x 0.33 acre-feet per year).

The Water Supply Fee for redevelopment of **Residential Projects** that do not require a water meter upgrade is based on square footage added to the residence. The indoor water usage for a single-family residence is assumed at 50% of the total usage or 295 gallons per day, which is approximately equal to 0.33 acre-foot per year. Using this assumption, the proposed Water Supply Fee for expansions that do not require a meter upgrade is **\$1.74 / square foot** (0.33 acre-foot per year for water supply x \$26,420 acre-foot per year / 5,000 square feet).

For **Commercial Development or Redevelopment** projects that do not require a meter upgrade, square footage or an assigned service unit factor is used. For each building use classification, the projected capacity demand is determined based on the gallons per day calculated using the service unit factor assigned to a customer class. To calculate the Water Supply Fee for indoor water use for commercial development or redevelopment projects, the \$26,420 per acre-foot per year is converted to an equivalent fee of **\$29.60 per gallon per day** (\$26,420 per acre-foot per year x 365 days per year / 325,829 gallons per day per acre-foot).

It is important to note that the calculations presented in this report for the proposed Water Supply Fee will change if the actual water production and facility costs vary from the



projections and estimates used in this report or if other variables change, such as usage of 295 gallons per day for an existing 5,000 square foot single-family residence with a one-inch meter. The adequacy of the Water Supply Fee will need to be reviewed when City staff re-evaluates the cost and water production for the new wells during their periodic review of planned capital improvements.

Changes in the commercial use of a property can result in an increase in its water supply requirement based on the difference between estimated usage per day between the previous usage and the current usage. For example, a 1,000 square foot retail store converted to a 1,000 square foot coffee house would be **\$7,222.40** (\$9,856.80 minus \$2,634.40). A coffee house requires 333 gallons per day per 1,000 square feet and a retail store requires 89 gallons per day per 1,000 square feet. The Water Supply Fee for a coffee house is \$9,856.80 per 1,000 square feet and for a retail store it is \$2,634.40 per 1,000 square feet. The methodology to calculate these fees are shown in this report and summarized in **Table 5**.

II. SUMMARY OF CHARACTERISTICS OF THE CITY'S WATER SYSTEM

According to the 2015 Water Enterprise Plan, the City's water system characteristics are as follows:

- The service area of the City's water enterprise includes the City and a portion of the City of West Hollywood.
- In general, the City relied on Metropolitan Water District for approximately 90% of its water supplies and groundwater from the Hollywood Groundwater Basin for 10% of its water supplies.
- From 1996 through 2002, one hundred percent (100%) of the City's water supply was imported from Metropolitan Water District.
- Metropolitan Water District water has supplied an average of 94.9% of the City's total demand since 1996 and, since 2003 (the year the treatment plant was placed into service), the City has purchased an average of 91.5% of its water from Metropolitan Water District, with the remaining 8.5% coming from its own groundwater production (average between 2004 and 2014).
- As of 2014, the City imported 11,632 acre-feet of water from Metropolitan Water District (94.8%) and pumped 637 acre-feet of groundwater (5.2%) for a total of 12,269 acre-feet of water delivered to customers.
- Groundwater is treated at the City's Reverse Osmosis Treatment Plant.
- The City has six (6) groundwater wells in the Hollywood Groundwater Basin that each pump to the Reverse Osmosis Treatment Plant.
- Hollywood Groundwater Basin is Unadjudicated and managed by the City through municipal ordinances.
- Since the water treatment plant became operational in 2003, the average groundwater production between 2004 and 2014 was 1,032 acre-feet per year.



However, groundwater production has decreased since 2010, with only 637 acre-feet of groundwater pumped in 2014.

- The City has the potential to develop additional groundwater supplies within the Hollywood Groundwater Basin and the Unadjudicated Central Basin.
- The City has no artificial groundwater recharge capacity, because it lacks injection wells or spreading basins.

III. WATER ENTERPRISE PLAN

The **2015 Water Enterprise Plan** identified potential alternative water supply sources to increase the overall reliability of the City's water system. The **Water Enterprise Plan** observed that Metropolitan Water District has always been a reliable source of supply for the City; however, given the experience of the recent drought and cutbacks in imported water allocations by Metropolitan Water District during the drought, and the potential for even higher future cutbacks (according to the Water Enterprise Plan, the City's Senate Bill SBx7-7 mandated water goal by the year 2025 is 11,313 acre-foot per year), the Water Enterprise Plan recommended that the City seek alternative water supplies to reduce the amount of water purchased from Metropolitan Water District.

The Water Enterprise Plan reported that the City purchased an average of 90% of its water supply from Metropolitan Water District. To increase the City's supply reliability, the Water Enterprise Plan recommended reducing dependence on imported water.

To further increase its independence from Metropolitan Water District, the Water Enterprise Plan recommended:

- Development of three (3) new groundwater wells in the Unadjudicated Central Basin;
- Construction of related Transmission Mains, and;
- Improvements to the Reverse Osmosis Treatment Plant.

For the City to maintain a water supply goal of 11,313 acre-foot per year with the prospect of Metropolitan Water District supply reductions, the Water Enterprise Plan recommended the construction of 3 new wells that would provide the City with approximately 1,700 acre-foot per year in new groundwater supplies. This new supply along with the 1,120 acre-foot per year of potential groundwater production from existing and planned shallow groundwater wells in the Hollywood Basin, were projected to supply approximately 25% of the City's total water demand by 2025 (1,708 acre-foot per year + 1,120 acre-foot per year = 2,828 acre-foot per year; $2,828 \text{ acre-foot per year} / 11,313 \text{ acre-foot per year} = 0.25$, or 25% groundwater).

IV. EXISTING WATER CAPACITY CHARGES

The City retained a consultant in 2014 to develop water capacity charges for the City's water



system. The 2014 Water Capacity Charge Report used a combination of an equity buy-in approach and the incremental cost approach to determine the Water Capacity Charge.

The consultant allocated a portion of the value of the existing water system facilities and the cost of improvements identified in the Water Enterprise Plan to new customers to determine the water capacity charge.

As new connections are established, and redevelopment occurs, the increased water supply demands will decrease the share of the water supply from local water sources unless local water supplies beyond those anticipated in the Water Enterprise Plan are developed. To meet the water demand needed to serve new development, it will be necessary for additional local water production to be developed.

The Water Supply Fee recommended in this report is in addition to the City's current Water Capacity Charge and will fund facilities that are not included in the determination of the Water Capacity Charge but are required to meet the additional water demands of new development.

V. ORDINANCE TO ESTABLISH WATER CAPACITY CHARGE

On February 17, 2015, the City Council adopted Ordinance No. 15-O-2674 ("Water Capacity Charge Ordinance"), which amended the City's municipal code to establish a water capacity charge. Section 6-1-251 of the Water Capacity Charge Ordinance states:

"The user of city water service shall pay a water capacity charge in an amount established by resolution of the city council. The water capacity charge is due upon the occurrence of one of the following events, as deemed appropriate by the Director of Public Works Services, or his or her designee: (1) installation of a new water meter, (2) change in the size of a water meter, or (3) the final inspection of a project."

The Water Capacity Charge Ordinance provides that the City may collect the Water Capacity Charge from the water user with a bill for water service charges, or by delivering a separate bill for the Water Capacity Charge. The water user may pay the Water Capacity Charge in two or more installments and City Council, by resolution, may allow for an alternative procedure for the collection of the Water Capacity Charge.

VI. WATER SUPPLY FEES

Capacity fees or charges are governed by **Government Code Section 66013, 66016, 66022 and 66023**. The Government Code defines a capacity charge as a charge for existing public facilities or charges for new public facilities to be acquired or constructed in the future, which benefit the person or property being charged. In 2007, the definition of capacity charge was expanded to include supply or capacity charges for rights, entitlements, or property interests involving capital expenses of local public facilities.



Government Code Section 66013 provides that the revenues produced by the capacity charge are kept in a separate fund so as to avoid co-mingling with other City funds, and that the City provides an accounting after the end of each fiscal year, which reveals the total amount of capacity charge revenue collected and interest earned thereon, expenses from that fund during the previous fiscal year, and the balance remaining in the fund at the end of the fiscal year.

Accounting and Reporting Requirements

In setting up the Water Supply Fee, the City will need to separately account for all revenue collected in a fund to be established and maintained by the City titled **“Water Supply Fee Fund.”** to avoid co-mingling with other City revenues. Pursuant to Government Code Section 66013, the local agency collecting the fee is required to make available to the public the following within 180 days after the end of each fiscal year:

- A description of the charges deposited in the fund;
- The beginning and ending balance of the fund and the interest earned from the investment of moneys in the fund;
- The amount of charges collected in that fiscal year;
- An identification of the following:
 - Each public improvement on which charges were expended and the amount of the expenditure for each improvement, including the percentage of the total cost of the public improvement that was funded with those charges if more than one source of funding was used.
 - Each public improvement on which charges were expended that was completed during that fiscal year.
 - Each public improvement that is anticipated to be undertaken in the following fiscal year.
- A description of each interfund transfer or loan made from the capital facilities fund. The information provided, in the case of an interfund transfer, shall identify the public improvements on which the transferred moneys are, or will be, expended. The information, in the case of an interfund loan, shall include the date on which the loan will be repaid, and the rate of interest that the fund will receive on the loan.

The report detailing the above may be part of the annual audit prepared for the City each year.

Water Supply Fee collections from January 2017 through June 2018 are summarized in Table 1.



**Table 1. Water Supply Fee Collections
January 2017 to June 2018**

Irrigation Fees Collected	\$ 149,594.00
Domestic Fees Collected	\$ 645,308.00
No Water Meter	\$ 47,026.77
Processing Fee	\$ 175.00
Irrigation Fees Pending Collection	\$ 167,564.54
Domestic Fees Pending Collection	\$ 369,585.00
Processing Fees Pending Collection	\$ 560.00
Total	\$ 1,379,813.31

Source: City of Beverly Hills, reported as of July 20, 2018

VII. METHODOLOGY FOR THE WATER SUPPLY FEE

The proposed Water Supply Fee was determined by allocating the cost to develop new water supplies required to meet the water supply needs of new development.

The City has implemented a **Capital Improvement Program** to construct additional wells, transmission pipelines and treatment plant capacity to achieve a water supply goal that reduces reliance on Metropolitan Water District and increases local water sources to meet its water supply needs for existing development, based upon the finding of its Water Enterprise Plan.

The City has also adopted a Water Capacity Charge that allocates to new connections a proportionate share of the cost of existing facilities and planned capital improvements. The Water Supply Fee recommended in this report is in addition to the City's current Water Capacity Charge and will fund facilities not included in the determination of the current Water Capacity Charge.

As new connections are established, or redevelopment occurs, the increased water supply demand will decrease the percentage share of the water supply from local water sources unless additional local water supplies are developed beyond those planned in the Water Enterprise Plan.

A key objective of our analysis is to establish a Water Supply Fee that will pay for the cost of additional water supply needed to serve new development as new connections are established or redevelopment occurs.



A. Additional Water Supply to Meet Demands of New Development

High Capacity Wells, Transmission Main and Treatment

Three additional High Capacity Wells, planned in the Water Enterprise Plan, with an estimated combined capacity to produce **1,700** acre-foot per year from the La Brea Subarea of the Unadjudicated Central Basin and a connecting Transmission Main to convey the groundwater to the City’s Treatment plant, are recommended. The estimated total project cost to develop the proposed high capacity wells is **\$44,914,599**. The one-time cost to provide a local water supply to meet the water demand of new development is **\$26,420 per acre-foot per year**.

Table 2 below lists the projected costs to develop the High Capacity Wells, Transmission Main and Treatment Project.

**Table 2. Project Cost Projection
Three High Capacity Wells, Transmission Main, & Treatment Project Cost**

Description	Cost
Preliminary Design Report	\$773,008
Pilot Well at Wellsite 1	\$424,625
Land Acquisition (Land Value)	\$7,500,000
Final Design	\$3,839,231
Well Drilling Contracts	\$3,082,950
Transmission Main Contract	\$9,767,160
Water Treatment Construction	\$6,025,000
Environmental Documentation – CEQA	\$300,000
System Permitting and Testing	\$1,073,890
Construction Management and Inspection	\$3,145,815
Subtotal Project Cost	\$35,931,679
Contingency (25%)	\$8,982,920
Total Projected Cost with Land	\$44,914,599
Estimated Production of New Wells (acre-foot per year)	1,700
Cost per Acre-Foot of Water Produced (per acre-foot per year)	\$26,420

B. Meter Fee Calculation

The amount of water to supply water for indoor and outdoor uses to a single-family residence that is approximately 5,000 square feet in size and with a 1-inch meter connection is 590 gallons per day, which is approximately 0.66 acre-foot per year. The indoor water usage for a single-family residence is assumed at 50% of the total usage or 295 gallons per day, which is approximately equal to 0.33 acre-foot per year. The outdoor water usage for a single-family



residence is assumed at 50% of the total usage or 0.33 acre-foot per year.

The Green Building Standards Code of the City requires the installation of a separate meter for landscape irrigation for:

- New construction projects with aggregate landscape area over 500 square feet;
- Any construction project for which a new water meter is being requested;
- When required by the California Department of Water Resources Model Water Efficient Landscape Ordinance.

The Water Supply Fee for a new Single-Family Residence with a one-inch meter for indoor water uses and a separate one-inch meter for outdoor water service is determined to be **\$8,719 for each meter** based on estimated annual water demand of 0.33 acre-foot per year for both indoor and outdoor uses (\$26,420 per acre-feet per year x 0.33 acre-feet per year).

Meter capacity factors are used to determine the Water Supply Fee for different meter sizes. **Table 3** below summarizes graduated Water Supply Fees based on meter size for the meter for indoor water uses and the separate meter for outdoor water uses. The City standard is a one-inch meter and is the minimum meter size to be installed for both indoor uses and outdoor uses. There are existing meters smaller than a one-inch that will upgrade to at least a one-inch meter.

Table 3. Water Supply Fee by Meter Size

Meter Size	Maximum Flow Gallons per Minute (1)	Meter Capacity Factor	Water Supply Acre-Feet per Year	Water Supply Fee
5/8 x 3/4 "	20	0.4	0.132	\$3,488
3/4"	30	0.6	0.198	\$5,231
1"	50	1.0	0.33	\$8,719
1-1/2"	100	2.0	0.66	\$17,438
2"	160	3.2	1.056	\$27,901
3"	320	6.4	2.112	\$55,802
4"	500	10	0.699	\$87,190
6"	1,000	20	6.60	\$174,380
8" (2)	1,600	32	10.56	\$279,008
10" (2)	4,200	84	27.72	\$732,396
12" (2)	5,300	106	34.98	\$924,214

(1) Source: Table VI.2.5 Meter equivalents based on meter capacity
 "Principals of Water Rates, Fees and Charges" Manual M1, Sixth



Edition, American Water Works Association

- (2) For Meters larger than 2-inches, owner/developer's engineer will submit calculations estimating annual water demand to the Public Works Department, Bureau of Water Planning, Water Resources Manager for review and approval, which may be used to determine of Water Supply Fee.

Calculation examples shown below for various scenarios for new connections or expansions differ from the methodology for determining the City's Water Capacity Charge, and the examples in the 2014 Water Capacity Charge Report and the 2016 Water Supply Fee Report and conform to the City's requirement that a separate meter for outdoor uses be installed for:

- New construction projects with aggregate landscape area over 500 square feet;
- Any construction project for which a new water meter is being requested; or,
- When required by the California Department of Water Resources Model Water Efficient Landscape Ordinance.

The Water Supply Fee does not apply to irrigation meters or fire meters.

(1) Water Supply Fee Calculation Example 1: Residential Account Requiring a Meter Upgrade

For new single-family construction projects with aggregate landscape area over 500 square feet, a one-inch meter will be required for indoor water service and a separate one-inch meter for outdoor water service. The water supply Fee is \$8,719 for the indoor meter.

For modifications to an existing single-family residence that require a meter upgrade to provide indoor water service where the landscape modifications will *not* increase annual outdoor water demand, the Water Supply Fee is determined as follows:

- If the existing meter is a one-inch meter that will continue to provide water exclusively for indoor use, and a separate one-inch meter will be required for outdoor water use, the Water Supply Fee will be calculated based on the increase in the square footage of home at \$1.74 per square foot. The Water Supply Fee will not be applied to new meter for outdoor use since the water supply for the existing outdoor use is assumed to be included with the existing one-inch meter.
- If the existing meter will be upgraded to a 1-1/2-inch meter from a 1-inch meter for indoor water use and a separate one-inch meter will be installed for outdoor water



use, the Water Supply Fee is \$8,719 (difference between \$17,438 for the new 1-1/2-inch meter and \$8,719 for the existing 1-inch meter for indoor uses); there will be no charge because of installation of the new meter for outdoor use since the water supply for the existing outdoor use is assumed to be included with the existing one-inch meter.

For modifications to an existing single-family residence that do not require a meter upgrade to provide indoor water service and landscape modifications will increase annual outdoor water demand, the Water Supply Fee is determined as follows:

- If the existing meter is a one-inch meter that will continue to provide water exclusively for indoor use, and a separate one-inch meter will be required for outdoor water use, the Water Supply Fee will be calculated based on the increase in the square footage of home at \$1.74 per square foot. The Water Supply Fee for the increase in annual water demand for outdoor use will be determined based on the annual water demand less 0.33 acre foot per year times \$26,420; The additional water demand for landscaping will be calculated in accordance with the procedure for calculating water demand for landscaping.
- If the existing meter will be upgraded to a 1-1/2-inch meter from a 1-inch meter for indoor water uses and a separate one-inch meter will be installed for outdoor water uses, the Water Supply Fee is \$8,719 (difference between \$17,438 for the new 1-1/2-inch meter and \$8,719 for the existing 1-inch meter for indoor uses). The Water Supply Fee for the increase in annual water demand for outdoor water use will be determined based on the annual water demand less 0.33 acre foot per year times \$26,420; the additional water demand for landscaping will be calculated in accordance with the procedure for calculating water demand for landscaping.

A Water Supply Fee is also associated with Building Expansion, Redevelopment, or Renovation, when a meter upgrade is not required. To maintain uniformity in the calculation of the City's water fees, the Water Supply Fee for redevelopment uses 5,000 square feet as the average house size in the City. The typical single-family residence uses approximately 50% of total water use for indoor use. The resulting cost for redevelopment or expansion is **\$1.74 per square foot** as noted below in **Table 4**.



Table 4. Water Supply Fee for Redevelopment or Expansion

Indoor Use AFY (50% of Average)	Cost per AFY	Fee
0.33	\$26,420	\$8,719
Average Single-Family Residence Size (square feet)		5,000
Fee for Redevelopment or Expansion per Square Foot		\$1.74

Please note that this report adheres to the existing practice of the City to exempt residential additions or redevelopment of less than 1,000 square feet of additional space.

(2) Water Supply Fee Calculation Example 2: Remodel or Redevelopment of less than 1,000 Square Feet

The Water Supply Fee in this case is not charged because the project is less than 1,000 Square Feet.

(3) Water Supply Fee Calculation Example 3: Remodel or Redevelopment of More than 1,000 Square Feet that do not require an upgrade in the existing meter

For Redevelopment or Additions of more than 1,000 square feet, the Water Supply Fee of \$1.74 per square foot is used to calculate the fee. For example, a new addition of 1,500 square feet is charged a Water Supply Fee of **\$2,610**.

C. Non-Residential Fee Calculation

This cost per gallon per day is used to calculate the Water Supply Fee for Non-Residential projects without meter upgrades using the standard convention to calculate the 2016 Water Supply Fee.

To calculate the Water Supply Fee for Commercial Redevelopment projects, the \$26,420 per acre-foot per year equals an equivalent fee of \$29.60 per gallons per day. The cost of the Water Supply Fee for non-residential projects is added to the City’s established Water Capacity Charge for Non-Residential uses.

For example, the Water Supply Fee for an Auditorium, which requires 4.4 gallons per day per seat, would be **\$130 per seat**. The additional fee of \$130 per seat is added to the existing Water Capacity Charge shown in **Table 5** below.

(1) Water Supply Fee Calculation Example 4: Commercial Account with Service Unit Increase Not Requiring a Meter Upgrade



In cases where a project’s expansion changes its total number of Service Units and does not require a meter upgrade, the project pays for the resulting additional water demand. For example, a Restaurant that adds 30 seats would pay **\$29,310** (\$977 multiplied by 30 seats).

(2) Calculation Example 5: Commercial Change in Use

Changes in Commercial Use of a property are the difference between estimated usage per day between the previous usage and the current usage. For example, a 1,000 square foot Retail Store converted to a 1,000 square foot Coffee House would be **\$7,223** (\$9,857 minus \$2,634).

Table 5. Water Supply Fees for Non-Residential Customers

Customer Class	Estimated Gallons Per Day	Service Unit	Proposed Water Supply Fee	Existing Water Capacity Charge	Total Fees
Auditorium or Community Center	4.4	per seat	\$130	\$90	\$220
Bank	167	per 1,000 sq. ft.	\$4,943	\$3,380	\$8,323
Gymnasium	278	per 1,000 sq. ft.	\$8,229	\$5,633	\$13,862
Health Spa	667	per 1,000 sq. ft.	\$19,743	\$13,519	\$33,262
Hotel, per room	144	per room	\$4,262	\$2,929	\$7,191
Medical Office	278	per 1,000 sq. ft.	\$8,229	\$5,633	\$13,862
Office Building	167	per 1,000 sq. ft.	\$4,943	\$3,380	\$8,923
Shopping Center	167	per 1,000 sq. ft.	\$4,943	\$3,380	\$8,923
Coffee House	333	per 1,000 sq. ft.	\$9,857	\$6,759	\$16,615
Restaurant–Full Service	33	per seat	\$977	\$676	\$10,447
Retail Store	89	per 1,000 sq. ft.	\$2,634	\$1,803	\$4,437
School – Private	222	per 1,000 sq. ft.	\$6,571	\$4,506	\$11,077
Supermarket	167	per 1,000 sq. ft.	\$4,943	\$3,380	\$8,923

For developments that do not fit into one or a combination of the customer classes listed in Table 5, the owner/developer’s engineer may submit calculations estimating annual water demand for review and approval for determination of the Water Supply Fee.

VIII. CONCLUSIONS AND RECOMMENDATIONS

The City is required to **Separately Account for All Revenue** collected in a segregated fund to be established and maintained by the City titled **“Water Supply Fee Fund,”** to avoid co-mingling with other City revenues.



Within 180 days after the end of each fiscal year, City staff is required to prepare an **Annual Water Supply Fee Report** showing:

- A description of the charges deposited in the fund;
- The beginning and ending balance of the fund and the interest earned from the investment of moneys in the fund;
- The amount of charges collected in that fiscal year;
- An identification of the following:
 1. Each public improvement on which charges were expended and the amount of the expenditure for each improvement, including the percentage of the total cost of the public improvement that was funded with those charges if more than one source of funding was used.
 2. Each public improvement on which charges were expended that was completed during that fiscal year.
 3. Each public improvement that is anticipated to be undertaken in the following fiscal year.
- A description of each interfund transfer or loan made from the capital facilities fund. The information provided, in the case of an interfund transfer, shall identify the public improvements on which the transferred moneys are, or will be, expended. The information, in the case of an interfund loan, shall include the date on which the loan will be repaid, and the rate of interest that the fund will receive on the loan.

The report detailing the above may be part of the annual audit prepared for the City.

Ordinance No. 15-O-2674 adopted in 2015 established the Water Capacity Charge and provides that the Water Capacity Charge is due upon occurrence of the following:

- 1) Installation of a New Water Meter;
- 2) Change in the Size of a Water Meter; or,
- 3) The Final Inspection of a Project.

The **Water Supply Fee Annual Report** should be due at the same time and in the same manner as the Water Capacity Charge Annual Report. It is also recommended that the adequacy of the Water Supply Fee be reviewed when City staff conduct their periodic reviews of capital expenses. Modifications to be included in future Water Supply Fee analysis should include the costs of any Auxiliary Projects¹; which could provide additional local groundwater supplies.

¹ **Note:** Future Auxiliary Projects may include: Springwater Capture for potable use, Stormwater Capture for Groundwater Replenishment.



Additionally, changes to modify projected costs for the High-Capacity Well, Transmission Main and Water Treatment Project would need to be incorporated into future Water Supply Fee analysis updates.

The Community Development Departments of the City should continue to follow **Procedures** requiring, upon receipt of an Application for a New Development or Redevelopment that may require a new meter or change in meter size, would go through a plan check process as part of a will serve procedure.

The **California Environmental Quality Act** requires cities to evaluate the impacts of developments that request approvals and provide a notice to affected jurisdictions of the determination made relative to the project. Upon receipt of **Notices of Determination** under **California Environmental Quality Act** from the City of West Hollywood, the Community Development Department should continue to distribute a copy of the **Notices of Determination** to the **Water Department** for determination of the impact on the City's water system and the corresponding meter size requirements for the New Development or Redevelopment projects in the City of West Hollywood, within the City of Beverly Hills' water service area.

The City should coordinate with the City of West Hollywood, to establish a **Process for the City of West Hollywood** to notify owners of property in West Hollywood that are within the City of Beverly Hills' Water Service Area requiring them to contact the City's **Public Works Department** regarding the details of the new connection or redevelopment project's water system demands.

Recommendations Regarding Potential Water Supply Fees Credits

The scope of services for the Updated Water Supply Fee includes research and recommends potential credits to the Water Supply Fee based upon extraordinary efforts by the developer or owner to integrate water savings best management practices into their project. The credit should be based on the reduction in the amount of water demand resulting from extraordinary efforts of the developer or owner.

As user rates and connection fees for water and sewer services have increased and State policies, regulations and laws have placed greater financial obligations on developers and property owners to reduce water use and wastewater discharges to optimize the efficient use of water, developers and property owners have invested in alternative methods to reduce water use and wastewater discharges, including the following:

Gray Water Systems

- Installation of dual plumbing systems to separate wastewater from sinks, showers,



dish washer and clothes washer from toilets and urinals. Treat and store wastewater from sinks, showers, dish washer and clothes washer (herein defined as “gray water”). Distribute the gray water through the separate plumbing system to toilets and urinals and to irrigate landscape.

Rain Harvesting

- Installation of rain harvesting systems such as rain barrels and underground cisterns are used to collect rain water. In addition to the storage of well water, underground cisterns are widely used for the collection and storage of air conditioning condensate, cooling tower make-up, fire protection reserves and manufacturing process water systems. The Bernalillo County Water Utility Authority in Albuquerque, New Mexico provides incentive programs for residents to install rain barrels. All new developments in Santa Fe County, New Mexico are required to include rain harvesting into their development plan.
 - All non-residential structures are required to collect all roof drainage into cisterns to be reused for landscape irrigation.
 - All residential structures are required to collect roof drainage from a minimum of 85% of roofed area to be reused for landscape irrigation.
 - Residential structures of 2,500 square feet of roof area or greater must submit a roof drainage plan and install a cistern that can hold 1.15 gallons per square foot of roofed area. A home with a roof area of 2,500 square feet needs a cistern sized to hold at least 2 444 gallons (2,500 square feet times 0.85 times 1.15).
 - Residential structures of less than 2,500 square feet and accessory structures with a roof area of 500 square feet or greater must submit a rain capture plan, and install rain barrels, cisterns or other water catchment systems including passive water harvesting and infiltration techniques, berms, swales and tree wells to capture rainwater from a minimum of 85% of roofed area.

The amount of rain that can be collected from roof drains from a roof of 2,500 square feet during a rain of 1 inch is 1,558 gallons (1-inch divided by 12 inches per foot times 2,500 square feet times by 7.48 gallons per cubic foot). The average annual rainfall in the City is about 18 inches with almost all rain between November and April. The average annual amount of rain that could be collected is 28,050 gallons per year (18-inches per year times 1,558 gallons per inch), which equals 0.086 acre-feet per year (28,050 gallons per year divided by 325,829 gallons per acre-foot). Assuming 70% of



the rainfall can be captured in a cistern, then the annual rain water available for irrigation is 19,635 gallons. which equals 0.06 acre-feet per year. The recommended size of the cistern is one quarter of the annual total or 5,000 gallons. If a property owner or developer were to construct a 5,000-gallon cistern to collect rain water, then the credit for the Water Supply Fee would be \$1,592 (19,635 gallons per year divided by 325,829 gallons per acre-foot times \$26,420 per acre-foot per year).

California Native Plants and Water Efficient Landscapes

Landscaping can be designed to include swales and meandering depressions that decrease runoff and increase water absorption in the soil. Plants native to Southern California can be specified in landscape plans. California native plants evolved in a climate and environment where average rainfall is less than 15-inches per year; with one or two wet years and eight or nine dry years every decade, with most rainfall during the winter months and little or no rain in the summer months. Once established California native plants need little or no water during the summer. The use of California native plants or other plants that evolved in a climate that is winter wet and summer dry could substantially reduce irrigation water demand. Many water utilities in Southern California including the City have implemented programs to educate residents, property owners, property managers, gardeners and landscape maintenance companies of the variety of California native plants that are available and of the proper watering techniques for these plants. Property owners and developers that replace turf lawns with California native plants and other water efficient landscapes can substantially reduce irrigation water demand, particularly during the summer months. The annual water demand for Water Efficient Landscapes can be determined using the procedure in Appendix A.

- Prior to issuance of a building permit for any project that involves landscaped areas or altered landscaped areas, the project applicant must submit a landscape documentation package for review and approval by the community development department.
- Two sets of landscape design plans; water budget worksheet and water budget calculations shall be submitted for water efficient landscaping plan review and permit.

Sales Force Tower

The October 2018 edition of *Civil Engineering* magazine reported that the Salesforce Tower in San Francisco incorporated all the latest technologies to maximize water efficiency, including:

- State-of-the-art low-flow fixtures to achieve a reduction of more than 40 percent in plumbing fixture water use versus a traditional building.



- Native, low water-use plants watered with a moisture-sensing irrigation system that supplies water only when needed. To further reduce potable water use, a 50,000-gallon cistern in the parking garage collects and treats rainwater from the building's roof. The system recycles 225,000 gallons of water per year (0.69 acre-feet per year) that can be used to irrigate the landscaping, as well as to flush toilets and urinals. Combined, these strategies allow the project to meet 100 percent of its irrigation demand with harvested rainwater.
- The most extraordinary feature of Salesforce Tower, however, is its blackwater recycling system, which will be the largest on-site water recycling system in a commercial high-rise building in the United States.
- The system turns wastewater into a resource rather than a liability. It collects water from the sinks, showers, toilets, urinals, and dishwashers throughout the building, as well as wastewater from the cooling towers on the roof, and stores it in large concrete tanks located in the underground parking garage. A membrane bioreactor technology then treats it to meet the tertiary standards established in Title 22 of California's Code of Regulations, producing upward of 30,000 gallons of usable recycled water per day.
- Not only does the black-water system significantly reduce the demand for potable water by reusing water on-site, it also significantly reduces the volume of wastewater that would otherwise be sent to the heavily burdened San Francisco sewer system.
- Another distinguishing aspect of a black-water system, in comparison with the more common gray-water water recycling system, is that all drainage water in the building can be collected in one set of tanks. A graywater system, on the other hand, requires sinks and shower drains carrying gray water to be separated from urinal and toilet drains carrying black water. By choosing a black-water system over a gray-water system, buildings can avoid adding an additional set of plumbing lines, which reduces the embodied carbon impact and cost associated with them.
- Overall, the black-water system reduces the potable water usage of the tower by 7.8 million gallons per year (23.94 acre-feet per year). Coupled with the rainwater collection and reuse system, the tower's total potable water use reduction is more than 8 million gallons per year (24.63 acre-feet per year).

If a building like the Sales Force Tower were developed in Beverly Hills, the Water Supply Fee could be reduced by \$650,625 (\$26,420 per acre-foot per year times 24.63 acre-feet per year).

Similar reductions might occur with the Water Capacity Fee and capacity fees for wastewater collection, transportation and disposal. The bi-monthly user charges for water and wastewater



would also reduce as the amount of water used and the volume of water discharged to the sewer system would be reduced.



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Appendix A

Appendix A-1

City's Water Efficient Landscape and Metering Requirements for New and Rehabilitated Landscapes for Residential and Non-Residential Projects

Appendix A-2

Water Efficient Landscape Worksheet

Appendix A-3

Water Budget Worksheet for New and Rehabilitated Residential Landscapes

Appendix A-4

Water Budget Worksheet for New and Rehabilitated Non-Residential Landscapes