

Cedar Hills, Utah



DRAFT Water Impact Fee Analysis





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EXECUTIVE SUMMARY

An impact fee is a one-time fee imposed on new development activity to mitigate the impact of new development on capital facilities. In conjunction with this Impact Fee Analysis, Hansen Allen Luce, Inc. Engineers (HAL) prepared Cedar Hills *Drinking Water Impact Fee Facilities Plan* (IFFP) dated August 2022. The IFFP forms the basis for this impact fee analysis.

The recommended impact fee structure presented in this analysis has been prepared to satisfy the Impact Fees Act, Utah Code Ann. § 11-36a-101 et. seq., and represents the maximum impact fees Cedar Hills (“City”) Corporation (“City”) may assess. The City will be required to use revenue sources other than impact fees to fund any projects that constitute repair and replacement, cure any existing deficiencies, or increase the level of service for existing users.

Water Service Levels

Level of service (LOS) defines the water capital facility demands that a typical Equivalent Residential Connection (ERC), will require and should pay for with impact fees. The IFFP defines existing and proposed service levels as follows:

- Indoor Source Capacity: 300 gpd/ERC (Peak Day)
- Indoor Source Volume: 0.280 ac-ft/ERC (Annual Demand)
- Indoor Storage Capacity: 250 gallons/ERC (Equalization), and 350 gallons/ERC (fire flow), or 600 gallons/ERC total
- Distribution Capacity: 40 psi minimum during peak day demand conditions, 30 psi minimum during peak instantaneous conditions, and availability of a redundant source
- Source Redundancy: The demand on the drinking water system must be able to be met by the drinking water system with any source out of service.

Fire Suppression

- Minimum Fire Flow: 1,000 gpm for 2 hours
- Maximum Fire Flow: 3,500 gpm for 3 hours
- Fire Storage: 1,260,000 gallons
- Minimum Pressure: 20 psi residual during peak day + fire flow event¹

Water Service Area

There is one service area for culinary water that encompasses the boundaries of Cedar Hills.

Excess Capacity

There is excess capacity in the portion of the public works facility that houses water operations, in water sources, storage and distribution facilities.

TABLE 1: EXCESS CAPACITY IN EXISTING SYSTEM

	Actual Cost	Capacity Consumed over 10 Yrs	Cost Consumed
Public Works Facility	\$195,512.69	7.6%	\$14,955.77

¹ Source: Cedar Hills Drinking Water Impact Fee Facilities Plan, August 2022, p. 2-2

	Actual Cost	Capacity Consumed over 10 Yrs	Cost Consumed
Source	\$2,130,986.92	2.7%	\$56,785.02
Storage	\$1,566,829.86	6.6%	\$103,410.77
Distribution	\$841,845.76	7.6%	\$64,397.10

Source: Cedar Hills City; Hansen Allen Luce Drinking Water Impact Fee Facilities Plan; ZPFI

Construction of New Facilities

The IFFP does not identify the construction of any new water facilities necessitated by new development within the timeframe of this analysis.

Water System Impact Fee Calculation

The gross impact fee, before credits, is \$911.01 per ERC.

TABLE 2: GROSS IMPACT FEE PER ERC

SUMMARY	
Facilities	\$54.38
Source	\$206.49
Pumps	\$0.00
Storage	\$376.04
Distribution	\$234.17
Interest Cost per ERC	\$1.74
Consultant Costs	\$38.18
TOTAL GROSS FEE	\$911.01

Credits for Outstanding Bond

The City has a Series 2022 Utility Revenue Refunding Bond outstanding that was used to pay for the City's Public Works Facility. The water department only uses about 10 percent of the space and is therefore responsible for only 10 percent of the cost of the building and the accompanying bond payments. Credits need to be made for the future payments on the bond that benefit existing development (water department portion of the facility only) so that new development does not pay twice – once through an impact fee and then again through higher rates to cover bond payments over time.²

TABLE 3: CREDITS FOR OUTSTANDING BOND - UTILITY REVENUE REFUNDING BOND, SERIES 2022

Date	Total P+I	Amt to Water	Amount to Existing Water Users	ERCs	Pmt per ERC	NPV*	Max Fee by Yr
2023	\$199,320.09	\$19,932.01	\$17,520.21	3,186	\$5.50	\$36.02	\$874.99
2024	\$199,759.98	\$19,976.00	\$17,558.87	3,213	\$5.46	\$32.32	\$878.69
2025	\$200,708.36	\$20,070.84	\$17,642.24	3,240	\$5.45	\$28.48	\$882.53
2026	\$199,546.04	\$19,954.60	\$17,540.07	3,267	\$5.37	\$24.45	\$886.56

²Existing development is responsible for 87.9 percent of the bond payments as the 3,160 existing ERCs represent 87.9 percent of the total capacity of the building (3,595 ERCs).

Date	Total P+I	Amt to Water	Amount to Existing Water Users	ERCs	Pmt per ERC	NPV*	Max Fee by Yr
2027	\$199,317.30	\$19,931.73	\$17,519.96	3,295	\$5.32	\$5.06	\$905.95
2028 and later years	\$0	\$0	\$0	\$0	\$0	\$0	\$911.01

*NPV = net present value discounted at a rate of 5 percent

Impact fees are calculated by multiplying the maximum fee per year, as shown in Table 3, by the AWWA ratios. Maximum impact fees per year are shown in the following table.

TABLE 4: MAXIMUM IMPACT FEES BY YEAR

	AWWA Ratios	2023	2024	2025	2026	2027	2028*
3/4" water meter	1	\$887.53	\$891.85	\$896.36	\$901.07	\$905.95	\$911.01
1" water meter	1.67	\$1,482.17	\$1,489.40	\$1,496.92	\$1,504.79	\$1,512.93	\$1,521.39
1 1/2" water meter	3.33	\$2,955.47	\$2,969.88	\$2,984.89	\$3,000.58	\$3,016.80	\$3,033.67
2" water meter	5.33	\$4,730.53	\$4,753.59	\$4,777.61	\$4,802.73	\$4,828.70	\$4,855.69
3" water meter	10	\$8,875.30	\$8,918.55	\$8,963.62	\$9,010.75	\$9,059.47	\$9,110.11
4" water meter	16.67	\$14,795.12	\$14,867.22	\$14,942.35	\$15,020.91	\$15,102.13	\$15,186.55

*Because the bond expires in 2027, the impact fee will stay constant from 2028 and thereafter

CHAPTER 1: OVERVIEW OF THE WATER IMPACT FEES

Summary

An impact fee is intended to recover the City's costs of building water system capacity to serve new residential and non-residential development rather than passing these growth-related costs on to existing users through rates. The Utah Impact Fees Act allows only certain costs to be included in an impact fee so that only the fair cost of expansionary projects or existing unused capacity paid for by the City is assessed through an impact fee.

Costs to be Included in the Impact Fee

The impact fees proposed in this analysis are calculated based upon:

- Excess capacity in the City's water system;
- New capital infrastructure that will serve new development; and
- Professional and planning expenses related to the construction of system improvements that will serve new development.

The costs that cannot be included in the impact fee are as follows:

- Costs for projects that cure system deficiencies;
- Costs for projects that increase the LOS above that which is currently provided;
- Operations and maintenance costs;
- Costs of facilities funded by grants or other funds that the City does not have to repay; and
- Costs of reconstruction of facilities that do not have capacity to serve new growth.

Utah Code Legal Requirements

Utah law requires that communities and special districts prepare an Impact Fee Analysis (IFA) before enacting an impact fee. Utah law also requires that communities/districts give notice of their intent to prepare and adopt an IFA. This IFA follows all legal requirements as outlined below. The City has retained Zions Public Finance, Inc. (ZPFI) to prepare this Impact Fee Analysis in accordance with legal requirements.

Notice of Intent to Prepare Impact Fee Analysis

A local political subdivision must provide written notice of its intent to prepare an IFA before preparing the Plan (Utah Code §11-36a-503). This notice must be posted on the Utah Public Notice website. The City has complied with this noticing requirement for the IFA by posting notice.

Preparation of Impact Fee Analysis

Utah Code requires that each local political subdivision, before imposing an impact fee, prepare an impact fee analysis. (Utah Code 11-36a-304).

Section 11-36a-304 of the Utah Code outlines the requirements of an impact fee analysis which is required to:

- (1) An impact fee analysis shall:
 - (a) identify the anticipated impact on or consumption of any existing capacity of a public facility by the anticipated development activity;

- (b) identify the anticipated impact on system improvements required by the anticipated development activity to maintain the established level of service for each public facility;
 - (c) demonstrate how the anticipated impacts described in Subsections (1)(a) and (b) are reasonably related to the anticipated development activity;
 - (d) estimate the proportionate share of:
 - (i) the costs for existing capacity that will be recouped; and
 - (ii) the costs of impacts on system improvements that are reasonably related to the new development activity; and
 - (e) identify how the impact fee was calculated.
- (2) In analyzing whether or not the proportionate share of the costs of public facilities are reasonably related to the new development activity, the local political subdivision or private entity, as the case may be, shall identify, if applicable:
- (a) the cost of each existing public facility that has excess capacity to serve the anticipated development resulting from the new development activity;
 - (b) the cost of system improvements for each public facility;
 - (c) other than impact fees, the manner of financing for each public facility, such as user charges, special assessments, bonded indebtedness, general taxes, or federal grants;
 - (d) the relative extent to which development activity will contribute to financing the excess capacity of and system improvements for each existing public facility, by such means as user charges, special assessments, or payment from the proceeds of general taxes;
 - (e) the relative extent to which development activity will contribute to the cost of existing public facilities and system improvements in the future;
 - (f) the extent to which the development activity is entitled to a credit against impact fees because the development activity will dedicate system improvements or public facilities that will offset the demand for system improvements, inside or outside the proposed development;
 - (g) extraordinary costs, if any, in servicing the newly-developed properties; and
 - (h) the time-price differential inherent in fair comparisons of amounts paid at different times.

Certification of Impact Fee Analysis

Utah Code states that an Impact Fee Analysis shall include a written certification from the person or entity that prepares the Impact Fee Analysis. This certification is included at the conclusion of this analysis.

CHAPTER 2: IMPACT FROM GROWTH UPON THE CITY'S FACILITIES AND LEVEL OF SERVICE

Utah Code 11-36a-304(1)(a)

Projected Water Demands

The table below shows ERC growth projections which will place additional demand on the City's water system. The City's water system currently (year 2022) serves 3,160 equivalent residential connections (ERCs) which will grow to an estimated 3,435 ERCs by 2032. The growth between 2022 and 2032 is expected to be 275 ERCs.

Water Service Area

ERCs within Cedar Hills are projected to grow as follows:

TABLE 5: GROWTH IN DEMAND

ERCs 2022	3,160
ERCs 2032	3,435
Buildout ERCs	3,595
Growth in ERCs, 2022-2032	275

Source: Hansen Allen Luce, Cedar Hills Drinking Water Impact Fee Facilities Plan, August 2022

Existing and Proposed LOS Analysis

Level of service (LOS) defines the water capital facility demands that a typical Equivalent Residential Connection (ERC) will require and should pay for with impact fees. The IFFP defines existing and proposed service levels as follows per ERC:

- Indoor Source Capacity: 300 gpd/ERC (Peak Day)
- Indoor Source Volume: 0.280 ac-ft/ERC (Annual Demand)
- Indoor Storage Capacity: 250 gallons/ERC (Equalization), and 350 gallons/ERC (fire flow), or 600 gallons/ERC total
- Distribution Capacity: 40 psi minimum during peak day demand conditions, 30 psi minimum during peak instantaneous conditions, and availability of a redundant source
- Source Redundancy: The demand on the drinking water system must be able to be met by the drinking water system with any source out of service.

Fire Suppression

- Minimum Fire Flow: 1,000 gpm for 2 hours
- Maximum Fire Flow: 3,500 gpm for 3 hours
- Fire Storage: 1,260,000 gallons
- Minimum Pressure: 20 psi residual during peak day + fire flow event³

³ Source: Cedar Hills Drinking Water Impact Fee Facilities Plan, August 2022, p. 2-2

CHAPTER 3: IMPACT ON CAPACITY FROM DEVELOPMENT ACTIVITY

Utah Code 11-36a-304(1)(b)(c)

Excess Capacity and Deficiency

There is excess capacity in the City's existing water system. Excess capacity exists in the public works facility, water sources, water storage and the distribution system.

TABLE 6: CONSUMPTION OF EXCESS CAPACITY

	Actual Cost	Capacity Consumed over 10 Years	Proportionate Cost Consumed
Facilities	\$195,512.69	7.6%	\$14,955.77
Source	\$2,130,986.92	2.7%	\$56,785.02
Storage	\$1,566,829.86	6.6%	\$103,410.77
Distribution	\$841,845.76	7.6%	\$64,397.10

Source: Hansen Allen Luce, Cedar Hills Drinking Water Impact Fee Facilities Plan, August 2022

CHAPTER 4: SYSTEM IMPROVEMENTS REQUIRED FROM DEVELOPMENT ACTIVITY

Utah Code 11-36a-304(1)(b)(c)

With great foresight, the City has planned for future development activity and its impacts on the City's water system. Therefore, new development will be required to buy in to existing, excess capacity in the water system. No new improvements are planned or required.

CHAPTER 5: PROPORTIONATE SHARE ANALYSIS

Maximum Legal Water Impact Fee per ERC

The Impact Fees Act requires the Impact Fee Analysis to estimate the proportionate share of the actual cost of existing system improvements that benefit new growth that can be recouped through impact fees. The maximum impact fee is based on the combination of costs for the public works facility, water source, storage and distribution.

The maximum impact fee is calculated entirely on buy-in to existing, excess capacity. Therefore, actual costs have been researched and used in the calculation of impact fees.

Buy-In to Existing, Excess Capacity

Buy-in to the public works facility is based on a capacity that is intended to serve the community at buildout (3,595 ERCs). Approximately ten percent of building space is used for culinary water purposes; therefore, ten percent of the total cost of the building has been used in the calculation of impact fees.

TABLE 7: PROPORTIONATE SHARE ANALYSIS, PUBLIC WORKS FACILITY

Facilities	Amount
Actual Cost of Public Works Bldg	\$1,955,126.89
% of Use of Bldg by Culinary Water	10%
Actual Cost of Culinary Water Portion of Bldg	\$195,512.69
Cost per ERC	\$54.38

In addition to the actual cost of the public works building, there are interest costs as this building was funded through bonding. Of the remaining \$62,651.77 owing on the bond, 10 percent (\$6,265.18) can be allocated to water. New development will be responsible for 7.6 percent of the allocation to water.⁴

TABLE 8: PROPORTIONATE SHARE ANALYSIS, PUBLIC WORKS FACILITY INTEREST COSTS

Interest Cost - PW Facility	
Remaining Interest Costs - 2022 Bond	\$62,651.77
Water Portion of Bond	10%
Interest Cost Allocable to Water	\$6,265.18
Amt to New Development in 10 Yrs	7.6%
Interest Cost to New Development	\$479.26
Growth in ERCs, 2022-2030	275
Interest Cost per ERC	\$1.74

New development will also need to buy into the existing excess capacity of the City's water sources which were obtained at an actual cost of \$2,130,986.92. With total capacity of 3,096,000 gallons, the cost per gallon is \$0.69. With average usage of 300 gpd, the cost per ERC is \$206.49.

TABLE 9: PROPORTIONATE SHARE ANALYSIS, WATER SOURCE

Source	Amount
Total Capacity - gpd	3,096,000
Existing Usage - gpd	948,000
Existing Excess Capacity - gpd	2,148,000
Existing LOS per ERC - gpd	300
Remaining Capacity in ERCs - gpd	7,160
Capacity Consumed, 2022-2032	82,500
Actual Cost Cottonwood Well	\$2,022,117.85
Actual Cost Harvey Well	\$0.00

⁴ Calculated as the growth in ERCs in the next 10 years (275 ERCs) divided by the total capacity (3,575 ERCs).

Source	Amount
Actual Cost American Fork Pump Station	\$108,869.07
Total Source Costs	\$2,130,986.92
Cost per Gallon	\$0.69
Buy-In Cost of New Development, 2022-2032	\$56,785.02
Cost per ERC	\$206.49

The City has existing, excess capacity in its water storage system. The total actual cost of the system is \$1,566,829.86. Total capacity is 2.5 million gallons, with current excess capacity of 450,000 gallons. The LOS per ERC is 600 gallons. Therefore, growth within the next 10 years will consume 165,000 gallons (275 ERCs multiplied by 600 gallons). This represents 6.6 percent of total capacity or \$103,410.77 of total cost.

TABLE 10: PROPORTIONATE SHARE ANALYSIS, WATER STORAGE

Storage	Amount
Volume	2,500,000
Fire Storage	1,260,000
Equalization	790,000
Remaining Capacity	450,000
LOS per ERC - gallons	600
Cost of Lower Tank (1995)	\$609,329.86
Cost of Upper Tank (2005)	\$957,500.00
Total Actual Cost of 2 Tanks	\$1,566,829.86
Capacity consumed GALS - 2022-2032	165,000
Cost per gal	\$0.63
Cost of Capacity Consumed, 2022-2032	\$103,410.77
Cost per ERC	\$376.04

Finally, there is excess capacity in the City's water distribution system. Total actual cost of the system is \$841,845.76 which can be shared equally among the total capacity of the system (3,595 ERCs).

TABLE 11: PROPORTIONATE SHARE ANALYSIS, WATER DISTRIBUTION

Distribution	Amount
Distribution Pipe Capacity - ERCs	3,595
Existing ERCS	3,160
Remaining Capacity	435
Water System at Incorporation	\$80,000.00
1992 Water Lines	\$12,463.83
East Cove Water Line	\$11,501.50
1995 Water Lines	\$12,561.67
1997 Water Lines	\$267,827.24
1998 Water Lines	\$30,139.14
1999 Water Lines	\$36,070.66

Distribution	Amount
2000 Water Lines	\$78,400.22
2004 Water Lines	\$107,376.00
4800 W Water Line	\$69,076.00
Canyon Road Water Line	\$136,429.50
Total Actual Cost of Distribution Lines	\$841,845.76
Cost per ERC	\$234.17

The Impact Fees Act allows for fees charged to include the reimbursement of consultant costs incurred in the preparation of the IFFP and IFA.

TABLE 12: PROPORTIONATE SHARE ANALYSIS, CONSULTANT COSTS

Consultant Costs	
HAL	\$5,500.00
ZPFI	\$5,000.00
Total Consultant Fees	\$10,500.00
Cost per ERC	\$38.18

The gross impact fee, before credits, is \$911.01 per ERC.

TABLE 13: GROSS IMPACT FEE PER ERC

SUMMARY	
Facilities	\$54.38
Source	\$206.49
Pumps	\$0.00
Storage	\$376.04
Distribution	\$234.17
Interest Cost per ERC	\$1.74
Consultant Costs	\$38.18
TOTAL GROSS FEE	\$911.01

Credits Against Impact Fees

A credit must be made for the City's outstanding Utility Revenue Refunding Bond, Series 2022. This bond was issued to fund the City's public works facility. Approximately 10 percent of the building is used to provide water utility services. Of this 10 percent of building costs, a credit needs to be made against the portion of bond payments that benefit existing development. This credit needs to be made so that new development does not pay twice – once in the payment of impact fees and then again, over time, in increased rates to cover the bond payments that benefit existing development.

TABLE 14: CREDITS ON THE UTILITY REVENUE REFUNDING BOND, SERIES 2022

Date	Total P+I	Amt to Water	Amount to Existing Water Users	ERCs	Pmt per ERC	NPV*	Max Fee by Yr
2023	\$199,320.09	\$19,932.01	\$17,520.21	3,186	\$5.50	\$36.02	\$874.99
2024	\$199,759.98	\$19,976.00	\$17,558.87	3,213	\$5.46	\$32.32	\$878.69
2025	\$200,708.36	\$20,070.84	\$17,642.24	3,240	\$5.45	\$28.48	\$882.53
2026	\$199,546.04	\$19,954.60	\$17,540.07	3,267	\$5.37	\$24.45	\$886.56
2027	\$199,317.30	\$19,931.73	\$17,519.96	3,295	\$5.32	\$5.06	\$905.95
2028 and later years	\$0	\$0	\$0	\$0	\$0	\$0	\$911.01

*NPV = net present value discounted at a rate of 5 percent

Summary of Maximum Impact Fees

Impact fees are calculated by multiplying the maximum fee per year, as shown in Table 14, by the AWWA ratios. Maximum impact fees per year are shown in the following table.

TABLE 15: MAXIMUM IMPACT FEES BY YEAR

	AWWA Ratios	2023	2024	2025	2026	2027	2028*
3/4" water meter	1	\$887.53	\$891.85	\$896.36	\$901.07	\$905.95	\$911.01
1" water meter	1.67	\$1,482.17	\$1,489.40	\$1,496.92	\$1,504.79	\$1,512.93	\$1,521.39
1 1/2" water meter	3.33	\$2,955.47	\$2,969.88	\$2,984.89	\$3,000.58	\$3,016.80	\$3,033.67
2" water meter	5.33	\$4,730.53	\$4,753.59	\$4,777.61	\$4,802.73	\$4,828.70	\$4,855.69
3" water meter	10	\$8,875.30	\$8,918.55	\$8,963.62	\$9,010.75	\$9,059.47	\$9,110.11
4" water meter	16.67	\$14,795.12	\$14,867.22	\$14,942.35	\$15,020.91	\$15,102.13	\$15,186.55

*Because the bond expires in 2027, the impact fee will stay constant from 2028 and thereafter

CERTIFICATION

Zions Public Finance, Inc. certifies that the attached impact fee analysis:

1. includes only the cost of public facilities that are:
 - a. allowed under the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
 - a. costs of operation and maintenance of public facilities; or
 - b. cost for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;

3. offset costs with grants or other alternate sources of payment; and
4. complies in each and every relevant respect with the Impact Fees Act.

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