

**Water Resources Report  
For  
Stratmoor Hills Water District**

**February 2025**

**By:**

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District Manager**

Based on the original Water Resources Report completed by Gary Steen, P.E., December 2007,  
and the expanded Water Resources Report completed by Gary Barber, December 2018.

## **Background:**

Stratmoor Hills Water District (Stratmoor) is generally located at the southern edge of the City of Colorado Springs and presently provides service to approximately 2,200 customers. Stratmoor provides water to property on both sides of Interstate 25, primarily south of Cheyenne Meadows Road, north of Fort Carson and west of Highway 85/87. The District services primarily single family residential customers with some multi-family and commercial customer users as well.

## **Water Sources:**

Groundwater - In the mid-1950's, J.W. Abrahamson and Associates contracted to purchase the land of the Sinton Dairy Farm Company. The land was irrigated by the Laughlin Ditch, an historic ditch with two priorities in the original water rights adjudication of El Paso County (Civil Action 751). In the case of the Laughlin Ditch, the first diversion was December 31, 1862 (designated the #10 priority) and an extension to the ditch was diverted a year later, December 31 1863 (designated the #17 Priority). Abrahamson and his partners converted the water rights to alluvial wells for real estate development, and new appropriations were initiated in 1959.

Stratmoor obtained a Plan of Augmentation for its municipal water rights on December 12, 1975. The approval of augmentation has two (2) existing augmentation plans/decrees filed with the State of Colorado. One decree is referenced as Consolidated Case No. W-3935 and W-4237 dated December 9, 1975 and the other decree is referenced as Case No. 91CW24 dated March 20, 1995. Both of these decrees identify by number and legal description eleven (11) wells that could be pumped or drilled by the District as direct sources of potable water. The decrees also identify augmentation sources that will be discussed in greater detail later in this letter report that will be provided to offset depletions to the Widefield aquifer when these wells are pumped by Stratmoor.

The initial Plan of Augmentation included "dry-up" of 298 acres of irrigated land, resulting in **529 historic consumptive use acre-feet (HCU)** of water to replace out-of-priority depletions to Fountain Creek. (Consolidated Cases Nos. W-3935 and W-4237)

**Surface Water** – The City of Colorado Springs, the City of Fountain, Seccurity Water District, Widefield Water and Sanitation District, and the Stratmoor Hills Water District represent the member governments and customers of the Fountain Valley Authority (Authority). The Authority was formed to finance, construct and operate a water treatment plant for the purpose of treating raw water received through the Fountain Valley Conduit pursuant to the Conveyance Service Subcontract with the Southeastern Colorado Water Conservancy District. The water is stored in Pueblo Reservoir, and delivered to the customers by means of the “Conduit” primarily pursuant to a contract dated July 10, 1979 between the United States Department of the Interior, Bureau of Reclamation and the District for conveyance service from the Conduit. Most of the water delivered to the water treatment plant on behalf of the customers is Frying Pan Arkansas (Fry-Ark) water.

As a member government, Stratmoor owns 2.99% of the water delivery and water treatment plant capacity. **Stratmoor’s share equates to 601 acre-feet of water per year.** The amount of water available each year to the FVA members is dependant on the amount of snowpack and spring runoff into the upper Arkansas River. The Fry-Ark water is fully consumable.

**Sewered Return Flows** - The third source of water for Stratmoor are the sewered return flow credits attributable to a portion of the “Project” water purchased and used by Stratmoor, then tracked by Colorado Springs Utilities (CSU) through their wastewater treatment facility, and finally tracked down Fountain Creek back into Pueblo Reservoir by means of the Fountain Creek Transit Loss Model. CSU treats the wastewater generated by Stratmoor and is the recipient of the Fry-Ark water generated by the District. These credits are stored in Pueblo Reservoir in an “If and When” account administered by the Bureau of Reclamation, and then transferred over to the “Project” water account for use by Stratmoor when the “If and When” account becomes full. This third source of water enables Stratmoor to maximize this “Project” water to its fullest extent at minimal cost. These sewered return flow credits are available to Stratmoor from March 16 through November 14 of each year.

**If and When Storage** – A fourth source of water available to Stratmoor on a yearly basis is excess “If and When Storage.” This storage in Pueblo Reservoir is available to store return

flows into Stratmoor's "If and When" account when called for by Stratmoor and once again administered by the Bureau of Reclamation. The Pueblo Water Board often offers to lease some of their surplus water each year which could be used to supplement Stratmoor's own Project storage account in Pueblo Reservoir. This water has been purchased fairly inexpensively by Stratmoor in the past.

### **Colorado Springs Utilities Interconnect**

The district is currently working to re-construct an interconnect with the Colorado Springs Utilities to serve the district when the FVA plant is shut down. In addition, the agreement signed by both parties in 2024, allows Stratmoor to request, and purchase an additional 175 acre-feet of water per year to meet its needs for any reason. This additional water will allow the district to serve its customers even if the wells are down.

### **Augmentation Sources:**

As previously stated, Stratmoor has two (2) existing augmentation plans/decrees filed with the State of Colorado. Both decrees list the augmentation water owned, or available to Stratmoor to be used to replace water withdrawn from the Widefield aquifer to offset pumping of the decreed wells.

Augmentation water owned by Stratmoor is as follows and as stated in the decrees:

Laughlin Ditch No. 10 – 5.616 cfs (total decree is for 9.35 cfs)

Laughlin Ditch No. 17 – 1.736 cfs (total decree is for 6.42 cfs)

70 shares of Fountain Mutual Irrigation Co. (FMIC) were sold in 2009

A carriage agreement with FMIC is used to augment up to 413 acre-feet per year

40 AF per year of CSU Transmountain Return Flow Water (Jan 1-Mar 15)

The Laughlin Ditch rights, per the above referenced decrees, are presently left in Fountain Creek, using a FMIC carriage agreement and run no risk of abandonment based on language in these decrees. Stratmoor owns 38.7961% of both the Number 10 and 17 Laughlin Ditch rights as stated above. In addition to the identified wells, these Laughlin Ditch rights were transferred, by

the referenced decrees, to the FMIC headgate as an alternate point of diversion. These rights remain in Fountain Creek as long as the priority system makes them available.

If the FMIC carriage agreement were eliminated, the Laughlin Ditch decrees identify several of the existing Stratmoor well sites as suitable for augmentation purposes. Well pumping equipment would need to be installed at one of these sites, most likely Well 1, to return water directly into Fountain Creek.

The 40 acre feet (AF) annually purchased from CSU from their transmountain return flows is available only from January 1 through March 15 of each year. This water is administered by CSU on a daily basis and is tracked in the Fountain Creek Transit Loss Model, likewise on a daily basis. Stratmoor is then provided with credit for this augmentation water to offset its well-pumping operations.

#### **Summary of Total Water Resources Available:**

The Stratmoor water resources described previously can exceed the water demands projected at ultimate buildout. The total water resources available are identified in the table below:

#### **Stratmoor Hills Total Resources Available**

<b>Water Resources</b>	<b>Annual AF</b>	<b>Comments</b>
FVA (Fry-Ark) Project	601	Fully consumable – Net depletions only
Well 4, 5R and 10 (pumping wells)	700	WAMP Fully consumable “base level” does not require recharge - Net depletions only.
CSU Interconnect	175	Does not need augmented.

**Total Resources 1,476 AF**

#### **Stratmoor Hills Augmentation Sources Available (AF)**

FMIC Carriage Agreement	413	Fountain Mutual Irrigation Company (FMIC)
Laughlin Ditch	205	
Colorado Spring Utilities	40	
Wells Nos. 0,1,1A,2,3&6	NA	Could be used in lieu of FMIC Carriage Agreement

**Total Augmentation 658 AF**

Sewered Return Flows more than make up for the difference between Water Resources and Augmentation Sources, which will be apparent in the Net Depletions table to follow. Some surplus FMIC deliveries are leased to AGRA.

### **Water Usage:**

Stratmoor has been pumping primarily three (3) wells over the past several years, Well's No. 4, No. 5R, and No. 10 respectively. Based on previous year's records, these three (3) wells have averaged approximately 100 AF – 400 AF annually. This pumping would then require the same estimated amount of approximately 100 AF – 400 AF of augmentation water to replace these depletions to the aquifer. As previously discussed in this report, the 40 AF from CSU is available from January 1 through March 15 of every year. The Laughlin Ditch rights, in a letter from Gary Thompson with W.W. Wheeler dated March 19, 1996, stated that this water right had a consumptive use value of 529 AF per year. Combined, these augmentation sources for Stratmoor would equal **569 AF** (40 AF + 529 AF) to offset a maximum of 400 AF of depletions.

### **Stratmoor's Total Water Usage Over the Last Twenty Years: (Acre-Feet)**

<b>Year</b>	<b>FVA</b>	<b>Wells</b>	<b>Total</b>
<b>2004</b>	<b>496</b>	<b>256</b>	<b>752</b>
<b>2005</b>	<b>449</b>	<b>289</b>	<b>738</b>
<b>2006</b>	<b>466</b>	<b>259</b>	<b>726</b>
<b>2007</b>	<b>591</b>	<b>128</b>	<b>719</b>
<b>2008</b>	<b>568</b>	<b>157</b>	<b>725</b>
<b>2009</b>	<b>560</b>	<b>78</b>	<b>638</b>
<b>2010</b>	<b>513</b>	<b>422</b>	<b>935</b>
<b>2011</b>	<b>517</b>	<b>225</b>	<b>742</b>
<b>2012</b>	<b>540</b>	<b>173</b>	<b>713</b>
<b>2013</b>	<b>535</b>	<b>127</b>	<b>662</b>
<b>2014</b>	<b>458</b>	<b>250</b>	<b>708</b>

<b>Year</b>	<b>FVA</b>	<b>Wells</b>	<b>Total</b>
<b>2015</b>	<b>505</b>	<b>85</b>	<b>590</b>
<b>2016</b>	<b>571</b>	<b>69</b>	<b>641</b>
<b>2017</b>	<b>486</b>	<b>94</b>	<b>579</b>
<b>2018</b>	<b>610</b>	<b>103</b>	<b>713</b>
<b>2019</b>	<b>438</b>	<b>183</b>	<b>621</b>
<b>2020</b>	<b>437</b>	<b>256</b>	<b>693</b>
<b>2021</b>	<b>508</b>	<b>246</b>	<b>754</b>
<b>2022</b>	<b>275</b>	<b>392</b>	<b>667</b>
<b>2023</b>	<b>146</b>	<b>517</b>	<b>663</b>
<b>2024</b>	<b>419</b>	<b>343</b>	<b>761</b>

Overall, the district's population has grown slightly, but total water usage has not increased over the last twenty years. Much of this can be attributed to increased efficiency and conservation.

In 2023, the FVA was shut down for repairs for several months causing the district to rely much more heavily on its groundwater source. The district has primarily used Well No. 10 over the last several years, with Well No. 4 and Wells No. 5R as backups. Since the construction of the water treatment plant in 2021, the district has relied more on its groundwater source than it had previously.

There are pumping limitations within the decrees, namely 1,270 AF maximum within any given year. Also, there is the Widefield Aquifer Stipulation that has put a maximum cap of 700 AF per year of pumping on Stratmoor without recharging the aquifer. Obviously, Stratmoor has not exceeded this maximum pumping allowance based on its historical pumping records over the past few years. There is sufficient groundwater available with ample augmentation sources to replace the depletions created by the pumping of several decreed wells if Stratmoor should ever need them.

## Stratmoor Hills Net Depletions:

The Stratmoor Hills Daily Flow report (IY2024 Stratmoor\_Hills\_V1) provides the following information to track the total net depletions of the district.

### Stratmoor Hills Total Net Depletions – 2024

Month	Well Pumping (AF)	Well Depletions Minus Return Flows (AF)	CSU Augmentation Deliveries (AF)	Laughlin Augmentation Deliveries Minus Transit Loss (AF)	Net Depletions (AF)
Nov-23	31.4438	9.7198	0.0000	0	-9.7198
Dec-23	32.0116	9.7563	0.0000	0	-9.7563
Jan-24	32.2018	9.1628	0.0000	0	-9.1628
Feb-24	29.0347	8.4551	0.0000	0	-8.4551
Mar-24	29.7007	9.7702	0.0000	0	-9.7702
Apr-24	28.4026	8.7581	0.0000	0	-8.7581
May-24	32.5670	8.1077	0.0000	0	-8.1077
Jun-24	33.6780	6.7117	6.5800	0	-0.1317
Jul-24	20.5922	3.3707	6.5000	0	3.1293
Aug-24	31.9778	6.6353	6.7900	59.77	59.9247
Sep-24	31.4806	6.9566	0.0000	13.92	6.9634
Oct-24	31.3763	6.8665	0.0000	14.11	7.2435
SUM	364.4672	94.2709	19.8700	73.6900	13.3991

In 2024, the Stratmoor return flows and augmentation deliveries exceeded the total amount of water depleted. An additional 10AF of augmentation water is donated and made available for use by Mulehaven Hassler Bates Well No. 2 as defined in an agreement considered for renewal every 5 years.

## Future Growth:

The following projects have been completed or will be completed within the next several years. Without an expansion of the district's boundaries, these will likely be the last large projects to be constructed within the district.

**Eldorado Estates Apartments** - The construction of the Eldorado Estates Apartments (330 units) was completed in 2024, and only a portion of the units are now occupied. The majority of their water usage occurred in August and September with the planting of new turf. Overall, the project used 15.25 acre-feet of water in 2024. The district will continue to monitor their water usage to gain a better understanding of their demands when fully occupied.

**Academy Highlands** - The undeveloped land that lies on the west side of Interstate 25, south of “B” Street, and north of South Academy Blvd. (Academy Highlands) is now about 50% complete. The development will ultimately consist of commercial, residential, multi-family, a school site, and open space area. The district has provided water to this development for approximately 10 years and demands have consistently increased. The commercial site comprises of approximately 54.6 acres in size with two large box stores plus smaller retail stores. The single and multi-family sites will comprise of approximately 52.4 acres in size for a total of approximately 711 dwelling units. The proposed school site is approximately 8.1 acres in size and the open space comprises approximately 39.4 acres for parks and drainage facilities.

The daily maximum flows were estimated as follows:

**Commercial Site:**

- Large Box Stores – 188,640 gals/day (max)
- Smaller Retail Stores – 12,000 gals/day (max)

**Multi-Family/Townhome Site:**

- 711 Units – 106,500 gals/day (max)

**School Site (Elementary/Middle School)**

- 600 Students/Staff - 9,500 gals/day (max)

The actual water usage of the two existing large commercial box stores in 2024 combined to be less than 24 acre-feet, which is much less than the daily maximum flows calculated and estimated above. With much of the commercial development completed (including Wal Mart and Sam’s), the total Academy Highlands project water usage was 28.27 acre-feet in 2024.

The multi-family development “Ventures at Venetucci” is currently under design and it will increase water demands once constructed. It is expected that the entire Academy Highlands project will be completed in the next several years. The South Academy Pump Station that was constructed in 2015 has more than enough capacity to meet maximum daily and hourly demands for the development.

## **Summary:**

Stratmoor clearly has an abundance of water resources available to meet today’s water demands. It also has adequate water resources to meet the future demands, at ultimate buildout, without ever needing to purchase additional water resources.

The Fry-Ark water supply has been a dependable source of supplemental water every year, as long as the central Colorado Mountains continue to receive an average winter snowpack. With the District utilizing its Fry-Ark return flow credits, it is fully capturing and utilizing this water source. Likewise, the purchase of excess “If and When” water storage from the Bureau of Reclamation during times when the District can increase its own Project Storage account, only strengthens the water resource for years to come.

Stratmoor’s wells will continue to serve as a reliable, fully consumable source of water for the district with several augmentation options available to replace the depletions caused by the pumping of these wells. In 2016, CCDPHE categorized Well 4 as being under the direct influence of surface water (GWUDI) since it was located within 500 feet of Fountain Creek. Later in 2016, Perfluorinated Compounds (PFAS) were discovered in the Widefield Aquifer, the District’s groundwater source. For these reasons, a water treatment plant was constructed to remove these contaminants from the groundwater. The new Water Treatment Plant was placed in operation in May of 2022, and will allow the district to utilize its groundwater source for many years to come.

Overall, the District has enough water resources to adequately serve its customers indefinitely.