ENGINEERING STUDY FOR VILLAS AT ASPEN TRAILS PRELIMINARY PLAN WASTEWATER DISPOSAL REPORT

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Figure 3 1-Mile Radius Map
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SECTION 1 - EXECUTIVE SUMMARY

This report presents the results of the engineering study for Water Resources serving the Villas at Aspen Trails development. A portion of an existing development located south and east of the Colorado Springs Airport in El Paso County, Colorado, known as Waterview

The Waterview development originally consisted of approximately 740 acres which was reduced to approximately 681 acres after dedication of Powers Boulevard r.o.w. The development is a mixture of residential, commercial, industrial, and open space uses and is located due south of the City of Colorado Springs Airport, south of the east-west stretch of Powers Boulevard and east of the north-south stretch of Powers Boulevard on both sides of East Bradley Road within Township 15 South, Range 65 West, Sections 6,7,8,9 and 17 and a portion of Section 12, Township 15 South, Range 66 West. In 2014, the El Paso County Land Use Department approved the Sketch Plan for Waterview. In 2020, the El Paso County Land Use Department approved the Waterview Sketch Plan Amendment modifying the proposed land use in Villas at Aspen Trails (Sketch Plan Parcel P-21) from Commercial use only, to a Multifamily Residential land use. The Sketch plan generally consists of 2 general parcels. For the purposes of this report the western parcel will be described as Waterview Phase 1 and the eastern parcels will include Waterview Phase 2, 3 & 4.

Existing development, within Waterview Phase 1, includes Painted Sky at Waterview Filings 1 through 7; these developments consist of 710 single family residential lots on 166.30 acres. Planned development for the remaining 515.12 acres includes 210.11 acres of single-family residential development, 74.59 acres of multifamily development, 118.02 acres of commercial/industrial development, and 112.40 acres of open space. Waterview Phase 2 (includes The Trails at Aspen Ridge) is part of this planned development and includes currently active projects that consist of 713 single family lots on 169.3 acres and 26.1 acres of commercial development.

Waterview Phase 1 currently has a Metropolitan District in place (Waterview I Metropolitan District) to provide and coordinate services including water, wastewater, drainage, and open space maintenance among other services. Waterview Phase 2 and 4 currently has a Metropolitan District in place (Waterview II Metropolitan District) to provide and coordinate services including water, wastewater, drainage, and open space maintenance among other services. Waterview III Metropolitan District is being established to provide and coordinate services to Waterview phase 3. Waterview Phase 1 Development currently receives water service from Security Water District, Wastewater Service from Security Sanitation District, and electric and gas service from Colorado Springs Utilities. Waterview Phase 2, 3 and 4 will receive water and wastewater services from Widefield Water and Sanitation District, gas service from CSU and electric service from MVEA.

Villas at Aspen Trails is located in Phase 2 of the amended Waterview Sketch Plan. A Sketch Plan Amendment for Waterview to modify the proposed Phase 2 land uses has been approved; The Villas at Aspen Trails proposed Land Uses now consist of 41 attached single family residential lots on 4.25 acres.

The average annual water demand for Villas at Aspen Trails is estimated to be 15.85 acre-feet of water per year (14,150 gallons per day). Widefield Water and Sanitation District will be the service provider through an extension of the existing distribution system in Waterview East (Trails at Aspen Ridge).

Wastewater demands were calculated by Widefield Water and Sanitation District. The Villas at Aspen Trails wastewater flow is estimated to be 8,405 gallons per day (gpd). Widefield Water and

Sanitation District will collect and treat the wastewater prior to discharge to Fountain Creek.

SECTION 2 – INTRODUCTION

2.1 Purpose

The purpose of this report is to present wastewater system improvements recommended to serve Villas at Aspen Trails; a land development project located in El Paso County. It is also intended to serve as a guideline for the ensuing design of recommended improvements.

2.2 Scope

The scope of this report includes:

- 1. The definition of the service areas as well as identification of significant physical and environmental characteristics and constraints;
- 2. An analysis of available data to determine existing and to project future water supplies, demands and quality;
- 3. A description of legal, institutional and managerial arrangements that ensure adequate control of the proposed improvements; and,
- 4. A preliminary recommendation for a selected supply, treatment, pumping and transmission alternatives.

SECTION 3 - EXISTING CONDITIONS

3.1 Description of the Service Area

The Villas at Aspen Trails Preliminary Plan development is approximately 4.25 acres consisting of multifamily residential and open space uses. Located approximately \(^{1}\)4 of a mile southeast of the Bradley Road and South Powers Boulevard intersection and is within Section 19, Township 15 South, Range 65 West of the 6th P.M. (Parcel No. 55092-00-003).

Waterview Phase 1, the western portion of Waterview is currently being served by the Security Water District. Waterview Phases 2, 3 & 4, the eastern portion of Waterview, will receive water service from the Widefield Water and Sanitation District; Villas at Aspen Trails is in Phase 2.

3.2 Land Use

The Waterview development is located in El Paso County on the eastern edge of City of Colorado Springs and El Paso County urban development. Vacant land can be found north within the Colorado Springs Airport and east in the Bluestem Prairie Open Space and east of Powers Boulevard. Some farming and ranching uses can still be found in these areas. Most of the vacant land has been through City or County planning processes for development.

3.3 Topography and Floodplains

The topography of the service area is typical of a high desert, short grass prairie and is generally gradually to moderately sloping to the south. The subject property drains generally from north to south through the eastern portion of the site and is located in the El Paso County designated basin; Big Johnson/Crews Gulch.

The Federal Emergency Management Agency (FEMA) has established a floodplain for the Wind Mill Gulch drainage as shown on Figure 2. It is anticipated that the Waterview development would not do any drainage improvements affecting the floodplain. There is no Federal Emergency Management Agency (FEMA) established floodplain on the subject property.

3.4 Geology

The site is comprised of several different soil types. From the Soil Survey of El Paso County, the subject property falls into the following soil types:

- 1."52" Manzanst clay loam, 0 to 3 percent slopes; Type C Soil
- 2."56" Nelson Tassel fine sandy loam, 3 to 18 percent slopes; Type B and D Soil
- 3."86" Stoneham sandy loam, 3 to 8 percent slopes; Type B Soil

Note: "#" indicates Soil Conservation Survey soil classification number.

3.5 Groundwater

The Waterview development service area has little to no shallow groundwater except near the Windmill Gulch drainage; the groundwater is very shallow in the planned open space area west of the FMIC irrigation ditch. The Waterview service area is on the extreme southern reaches of the Denver Basin aquifers and these aquifers are generally considered not feasible for potable water production. Soil borings in the Waterview Phase 2 development areas have indicated no shallow groundwater.

Figure 1: Vicinity Map

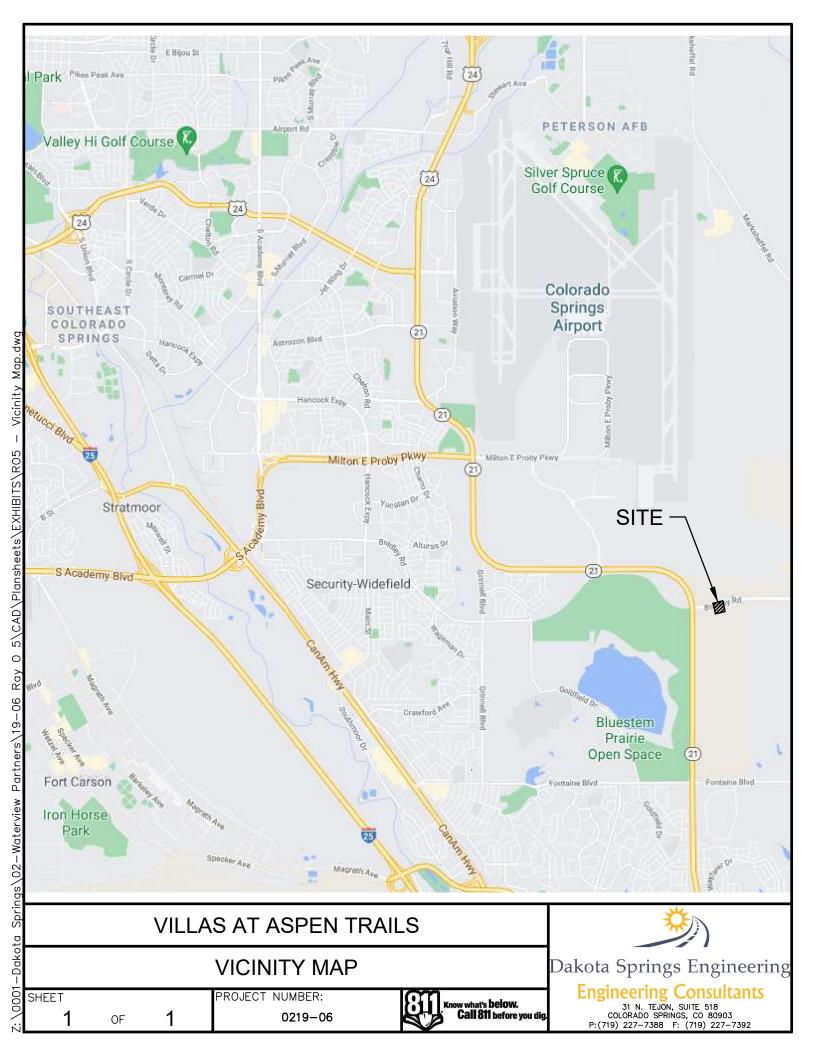
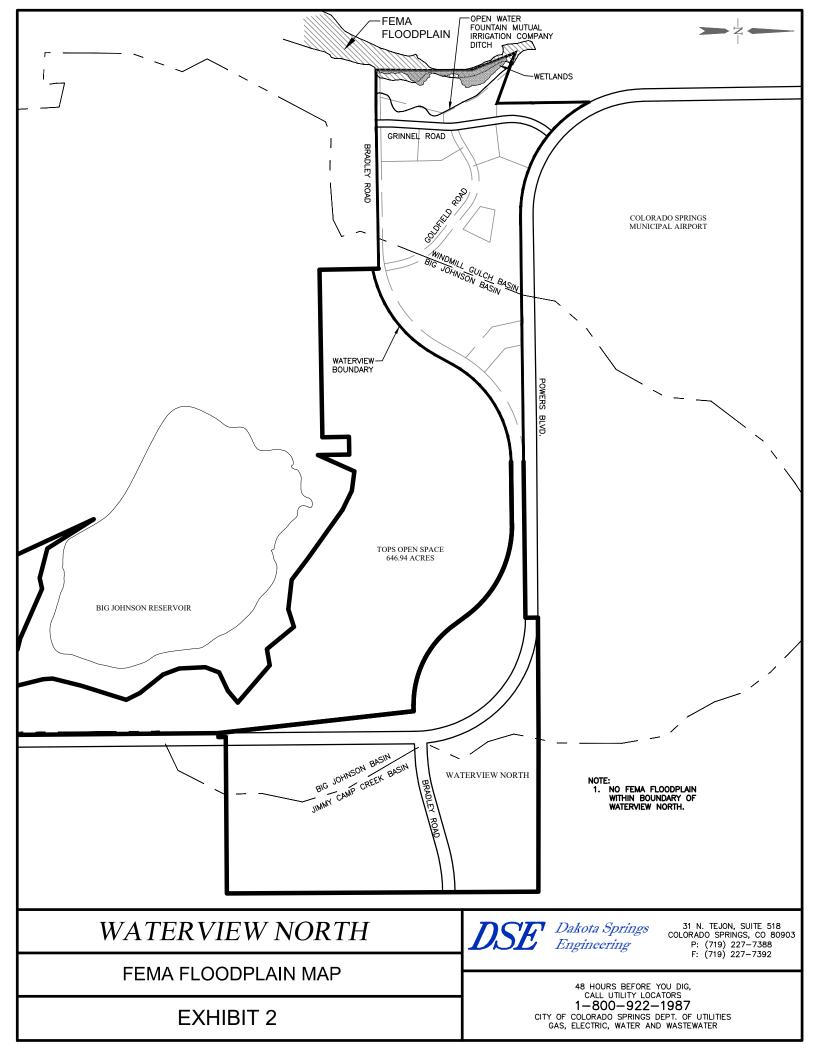


Figure 2: FEMA Floodplain Map



3.6 Climate

The climate of the study area is characterized by mild summers and winters, light precipitation, high evaporation and moderately high wind velocities.

The average annual monthly temperature is 48.4 F with an average monthly low of 30.3 F in the winter and an average monthly high of 68.1 F in the summer. Two years in ten will have a maximum temperature higher than 98 F and a minimum temperature lower than -16 F.

Precipitation averages 15.73 inches annually, with 80% of this occurring during the months of April through September. The average annual Class A pan evaporation is 45 inches.

3.7 Natural Hazards Analysis

Natural hazards analysis indicates that no unusual surface or subsurface hazards are in the service area. However, because the soils are described to have collapsible and expansive characteristics, proper mitigation will need to be performed as stated in the Soil, Geology, and Geologic Hazard report prepared by Entech Engineering, INC.

The soils within the subject property are cohesionless. Therefore, sloughing of steep banks during drilling and/or excavation could occur. By siting improvements in a manner that provides an opportunity to lay the banks of excavations back at a 1:1 slope during construction, the problems associated with sloughing soils can be minimized.

3.8 Organizational Context

Waterview is situated within three El Paso County identified Drainage Basins; Windmill Gulch, Big Johnson/Crews Gulch and Jimmy Camp Creek. There are five water and sanitation utility providers near to or adjacent to the development. At the time of the original Sketch Plan approval there had been no legal actions to claim service rights for the service area by any of the adjacent service providers.

Waterview Phase 1 currently has a Metropolitan District in place (Waterview I Metropolitan District) to provide and coordinate services including water, wastewater, drainage and open space maintenance among other services. The Waterview II Metropolitan District has been established for Waterview Phase 2 to provide similar services.

Widefield Water and Sanitation District have negotiated a service agreement for Waterview Phase 2. The adjacent service providers considered include:

- 1. Colorado Springs Utilities; located north of the development-current gas and electricity provider.
- 2. Colorado Centre; located east of the development.
- 3. Widefield Water and Sanitation District; located south and east of the development.
- 4. City of Fountain (Water); located south (+/- 1 mile) of the development.
- 5. Security Water District

The water service provider for Waterview Phases 2 is Widefield Water and Sanitation District and has been annexed into the Widefield Water and Sanitation District service area. The service provider for Villas at Aspen Trails is Widefield Water and Sanitation District and will be the entity responsible to finance construction and ensure the continuing operation and maintenance of improvements.

3.9 Wastewater Facilities

The Widefield Water and Sanitation District have been providing potable water service for a long period of time in accordance with the Colorado Department of Health and Environment. The district will provide wastewater collection and wastewater treatment for the development in exchange for fees and recurring periodic charges.

Appendix A contains the current Widefield Water and Sanitation District Water Report.

3.10 Relationship to Neighboring Water and Wastewater Facilities

The location of other major water and wastewater facilities, relative to the Waterview Development, are shown on Figure 3.

Figure 3 identifies water wells and habitable buildings within a 1-mile radius of the center of Waterview Phase 1 and to the center of Waterview Phases 2, 3 & 4. No known wells are within the 1-mile radius.

3.11 Wastewater Demand

The Villas at Aspen Trails development will be serviced by Widefield Water and Sanitation District. The average district wide water demands for the district are indicated below:

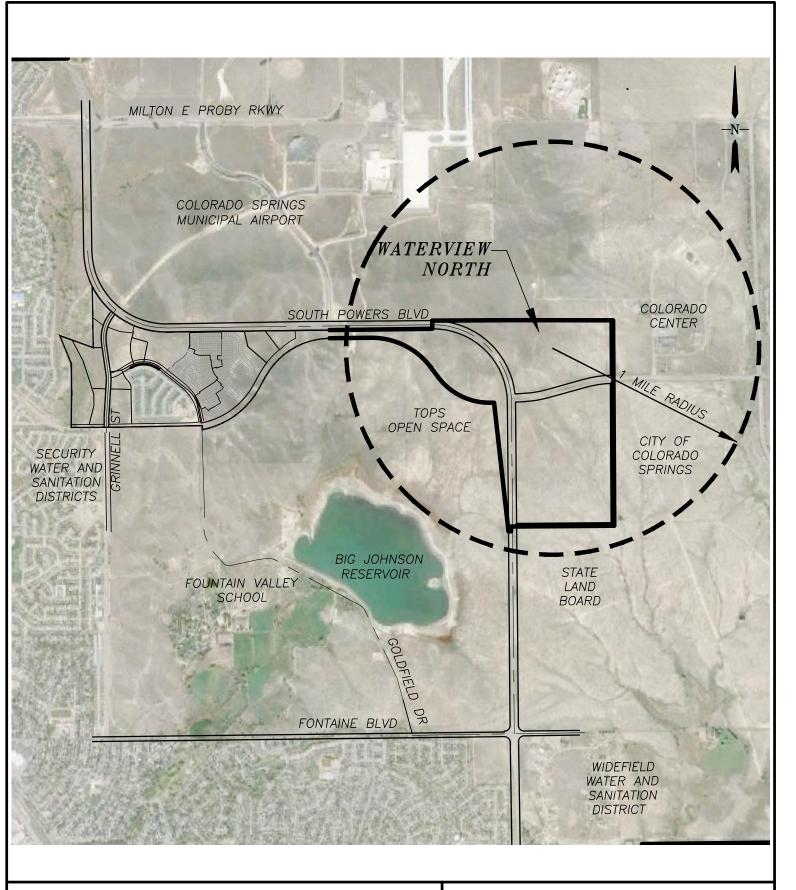
Widefield Water and Sanitation District: 0.39 ac-ft./year per Single Family Equivalent (SFE)

Security Water & Sanitation District: 0.05 ac-ft./year per Single Family Equivalent (SFE)

These demands have been developed from actual usage records and are recognized by the State Engineers Office. These water demands include irrigation; no separate meters are provided for irrigation.

These water demands have been used to project the wastewater demands for the Villas at Aspen Trails Development, Sketch Plan Phase 2. Wastewater production is estimated to be 80% of the projected water demand.

Figure 3: 1-Mile Radius Map



WATERVIEW NORTH

1 MILE RADIUS

EXHIBIT 3



31 N. TEJON, SUITE 518 COLORADO SPRINGS, CO 80903 P: (719) 227-7388 F: (719) 227-7392

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
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CITY OF COLORADO SPRINGS DEPT. OF UTILITIES
GAS, ELECTRIC, WATER AND WASTEWATER

SECTION 4 - DEVELOPED CONDITIONS

4.1 Land Use

In 2001, the El Paso County Land Use Department approved the Sketch Plan for Waterview. This report addresses the Waterview Sketch Plan Amendment which was recently approved by El Paso County July 15, 2021.

The Waterview Sketch Plan Amendment consists of approximately 681 acres with a mixture of residential, commercial, light industrial and open space uses and is located due south of the City of Colorado Springs Airport, south of the east-west stretch of Powers Boulevard and east of the north-south stretch of Powers Boulevard on both sides of East Bradley Road within Township 15 South, Range 65 West, Sections 6,7,8,9 and 17 and a portion of Section 12, Township 15 South, Range 66 West.

The Amended Sketch Plan area generally consists of 2 general parcels. For the purposes of this report the western parcel will be described as Waterview Phase 1 and the eastern parcel will be described as Waterview Phases 2, 3 & 4. Existing development, within Waterview Phase 1, includes Painted Sky at Waterview Filings 1 through 7; these developments consist of 710 single family residential lots on 166.30 acres. Planned development for the remaining 515.12 acres includes 210.11 acres of single-family residential development, 74.59 acres of multifamily development, 118.02 acres of commercial/industrial development, and 112.40 acres of open space.

The following tabulates land use for the Villas at Aspen Trails development.

Table 1 – Land Use Plan Preliminary Plan – Villas at Aspen Trails

Land Use	Land Area (AC)			Units			Population Phase			Population Equivalents						
		Pha	ise			Pha	se			1 11450				Pl	nase	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Single Family Residential																
Current Development (PS F1-F7)	166.30				710				2059				2059			
Proposed Development (5DU/Ac)	15.70	166.90	27.51		100	865	114		290	2509	331		290	2509	331	
Multi Family																
12 Units / acre	28.50	4.25	40.89		342	41	575		855	103	1438		855	103	1438	
Commercial	16.80	23.10	22.07	30.00					183	252	240	327	37	50	48	65
Light Industrial			26.05								284				57	
School	0	0	0	0												
Parks, Open Space	33.50			78.90												
TOTAL (All Phases)					2747							8868				7840

Bold numbers identify Villas at Aspen Trails proposed multifamily residential development

Assumptions: Single family units at 2.9 persons/unit

Multi family units at 2.5 persons/unit

Commercial/Industrial building area = 15% of total area

Commercial units at 600 square feet/employee Employees are considered to be 0.2 SFE

4.2 Population

By using the land use information noted above and applying standard unit densities of 2.9 persons per dwelling for single family residential uses, 2.5 persons per dwelling for multifamily residential uses and 600 square feet per employee for commercial/industrial uses, permanent resident and employment forecasts for Waterview are shown in the above table.

4.3 Wastewater Demand

Water demand was determined by applying Widefield Water and Sanitation District unit water demand factors to the above land use forecasts. Water demands have been developed for Villas at Aspen Trails as shown in the following table:

WATER DEMAND

WATER DEMIAND								
Land Use	SKETCH PLAN							
	AFY	ADD	MDD	PHD				
Potable		(gpm)	(gpm)	(gpm)				
SF Residential (include irr.)								
Phase 1	405.00	251.10	627.75	1004.40				
Phase 2	337.35	209.16	522.89	836.63				
Phase 3	44.46	27.57	68.91	110.26				
Phase 4	0.00	0.00	0.00	0.00				
	Multifa	amily						
Phase 1	171.00	106.02	265.05	424.08				
Phase 2	15.99	9.91	24.78	39.66				
Phase 3	224.25	139.04	347.59	556.14				
Phase 4	0.00	0.00	0.00	0.00				
	Comm	ercial						
Phase 1	26.21	16.25	40.62	65.00				
Phase 2	36.04	22.34	55.86	89.37				
Phase 3	34.43	21.35	53.37	85.38				
Phase 4	46.80	29.02	72.54	116.06				
	Light Inc	lustrial						
Phase 1	0.00	0.00	0.00	0.00				
Phase 2	0.00	0.00	0.00	0.00				
Phase 3	40.64	25.20	62.99	100.78				
Phase 4	0.00	0.00	0.00	0.00				
Park/Open Space	0.00	0.00	0.00	0.00				
Subtotal	1381.38	856.46	2141.14	3425.83				

Irrigation								
Multifamily								
Phase 1	7.03	4.36	10.89	17.43				
Phase 2	1.05	0.65	1.62	2.60				
Phase 3	10.08	6.25	15.63	25.00				
Phase 4	0.00	0.00	0.00	0.00				
	Comm	ercial						
Phase 1	4.14	2.57	6.42	10.27				
Phase 2	5.70	3.53	8.83	14.12				
Phase 3	5.44	3.37	8.43	13.49				
Phase 4	7.40	4.59	11.46	18.34				
	Light Industrial							
Phase 1	0.00	0.00	0.00	0.00				
Phase 2	0.00	0.00	0.00	0.00				
Phase 3	6.42	3.98	9.96	15.93				
Phase 4	0.00	0.00	0.00	0.00				
Park/Open Space	0.00	0.00	0.00	0.00				
Subtotal	47.49	29.44	73.61	117.77				
TOTAL	1428.87	885.90	2214.75	3543.60				
Waterview Phase	Waterview Phase							
Demands								
Phase 1	613.38							
Phase 2	396.12							
Phase 3	365.72							
Phase 4	7.40							

^{*}Bold numbers identify Villas at Aspen Trails proposed multifamily residential development*

Wastewater is estimated to be 80% of water demand. The Villas at Aspen Trails wastewater flow is estimated to be 13.63 acre-feet (17.04×0.8) or 12,168.50 gallons per day (gpd). Widefield Water and Sanitation District will provide wastewater treatment for Villas at Aspen Trails.

4.4 Wastewater Capacity

The Widefield Water and Sanitation District and the Security Sanitation District have capacity to serve the proposed development.

4.5 Wastewater Discharge Permit

The Widefield Water and Sanitation District has been providing potable water in accordance with El Paso County Health Department and Colorado Department of Health and Environment standards and reporting requirements for several decades. The Widefield Water and Sanitation District provides treatment and disinfection of their raw water sources prior to distribution. Water Quality is summarized in Appendix A.

SECTION 5 - WATER SYSTEM IMPROVEMENTS

5.1 General

The wastewater system operated by Widefield Water and Sanitation District is classified as a "community water system" and meets the applicable requirements of the Colorado Department of Health and Environment (CDHE). The wastewater system operated by Widefield Water and Sanitation District has been providing wastewater treatment services for many decades.

Villas at Aspen Trails will be served by Widefield Water and Sanitation District. The lower (southern) portions of Waterview East (Phase II) will be served by an existing gravity pressure zone. The upper portions of Waterview East (Phase II) will require construction of a potable water booster pump station to create a pumped pressure zone to serve the northern portion of Waterview East (Phase II). Service will be extended to the property through extension of the system piping from the vicinity of Powers Boulevard and Fontaine Boulevard.

5.2 Wastewater Treatment

Wastewater will be conveyed to a State Permitted wastewater treatment facility for treatment per the discharge permit prior to be discharged to the stream system

5.3 Collection

The wastewater collection system will collect waste flow from each customer and convey the waste to the treatment facility via a series of collection pipes and interceptors. All pipe and appurtenances will be designed to meet or exceed AWWA standards.

5.4 Other Costs and Gains

Estimated Costs

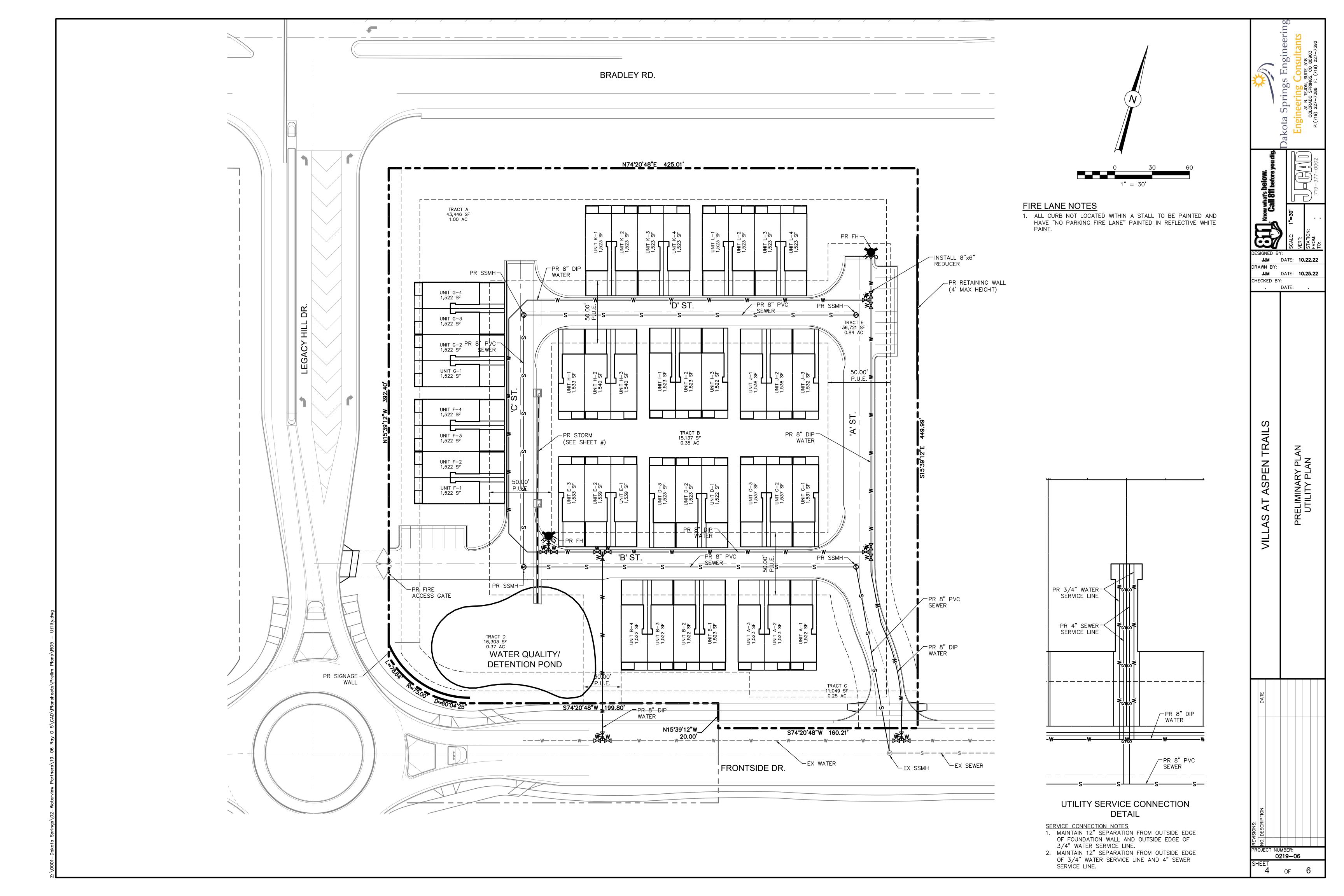
Item	Units	Quantity	Unit Price	Extension
Waterview Phase 1				
Wastewater Lift Station	LS	1	Complete	Complete
Waterview Phase 2, 3 & 4				
Sanitary Sewer Extension	LF	0	\$60	\$0
Treatment Capacity	gal	0	\$0.85	\$0
Total Estimated Cost				\$0

The costs included above only include capital costs for wastewater system improvements required to serve Waterview and are estimated from best available data. These costs do not include other costs or gains that may be incurred in the acquisition of land, financing, investing, local distribution, the salvage value of equipment or other necessary infrastructure, among others, unless specifically noted.

5.5 Rates and Charges

The Widefield Water and Sanitation District will impose one-time charges to recoup the cost of constructing water system improvements as well as regular periodic billings to recoup continuing costs for operations, maintenance and equipment replacement. This system of rates and charts is published by each district annually.

Figure 4: Water and Sewer System Improvements Map



Appendix A

Widefield Water and Sanitation District Report

Appendix B

100 Year Flood Plain Certification

Appendix C

District Letters of Commitment



8495 Fontaine Boulevard, Colorado Springs, Colorado 80925

February 7, 2023

Charles K. Cothern, P.E. Dakota Springs Engineering, LLC 31 N. Tejon Street, Suite 518 Colorado Springs, CO 80903

Cole Emmons County Attorney's Office 27 East Vermijo Avenue Colorado Springs, Colorado 80903

Re: Commitment Letter for Villas at Aspen Trails

Dear Charles and Cole:

Widefield Water and Sanitation District commits to and will serve water and sewer to the above-named PUD subdivision which includes approximately 41 townhomes and .2 acres of landscaping. The water commitment is based on the recently revised Widefield standard of 0.35 AF/SFE and is 15.85 AF-year. The expected wastewater loads are 8,405 gallons/day on an average daily-maximum monthly basis.

Sincerely,

Robert Bannister, District Engineer

C: Travis Jones, Director of Operations

Appendix D

Water Supply Summary

WATER SUPPLY INFORMATION SUMMARY

Section 30-28-133,(d), C.R.S. requires that the applicant submit to the County,"Adequate evidence that a water supply that is sufficient in terms of quantity, quality and dependability will be available to ensure an adequate supply of water.

1. NAME OF DEVELOPMENT AS PROPOSED Villas at Aspen Trails									
2. LAND USE ACTION Resi	2. LAND USE ACTION Residential Multi-family Townhomes								
3. NAME OF EXISTING PARCEL AS I	RECORDED Waterview SI	ketch Plan (Parcel P	-21)						
SUBDIVISION FILING BLOCK LOT									
4. TOTAL ACREAGE 4.25	4. TOTAL ACREAGE 4.25 5. NUMBER OF LOTS PROPOSED 41 PLAT MAP ENCLOSED ■ YES								
6. PARCEL HISTORY - Please attach	copies of deeds, plats or other evidenc	e or documentation.	***************************************						
A. Was parcel recorded with county p B. Has the parcel ever been part of a If yes, describe the previous action	prior to June 1, 1972? YES NO division of land action since June 1, 1	0 1972?							
7. LOCATION OF PARCEL - Include a	map deliniating the project area and ti	e to a section corner.	***************************************						
1/4 OF 1/4	SECTION 9 TOWNSHIP	15 □ n ■ s range <u>6</u> 5	E W						
PRINCIPAL MERIDIAN:	H 🗆 N.M. 🗆 UTE 🗆 COSTILLA	·							
8. PLAT - Location of all wells on pro Surveyors plat Yes	operty must be plotted and permit num No If not, scaled h	bers provided. and drawn sketch 🔲 Yes 💷 No							
9. ESTIMATED WATER REQUIREMEN	TS - Gallons per Day or Acre Feet per Year	10. WATER SUPPLY SOURCE							
	13,704 GPD 15.35 AF	☐ EXISTING ☐ DEVELOPED WELLS SPRING WELL PERMIT NUMBERS	PROPOSED AQUIFERS - (CHECK ONE) ALLUVIAL UPPER ARAPAHOE UPPER DAWSON LOWER ARAPAHOE LOWER DAWSON LARAMIE FOX HILLS						
COMMERCIAL USE # of S.F IRRIGATION #_0.2 of acres			O DENYER O DAKOTA OTHER						
STOCK WATERING # of head	GPD AF	- CI DIOTOIOT	WATER COURT DECREE CASE NO.'S						
TOTAL	14,150 GPD 15.85 AF	NAME LETTER OF COMMITMENT FOR SERVICE YES NO							
11. ENGINEER'S WATER SUPPLY REPORT 🔲 YES 🗍 NO 🏻 IF YES, PLEASE FORWARD WITH THIS FORM. (This may be required before our review is completed.)									
12. TYPE OF SEWAGE DISPOSAL SYSTEM									
SEPTIC TANK/LEACH FIELD CENTRAL SYSTEM - DISTRICT NAME Widefield Water & Sanitation District									
☐ LAGOON ☐ YAULT - LOCATION SEWAGE HAULED TO									
ENGINEERED SYSTEM (Attach a cop	ny of engineering design) 🔲 OTHER								