

**WASTEWATER DISPOSAL REPORT**

**For**

**Trails at Aspen Ridge  
PUDSP Amendment**

Prepared for:

**El Paso County Planning & Community Development**  
2880 International Circle, Suite 110  
Colorado Springs, CO 80910

On Behalf of:

**COLA, LLC**  
555 Middle Creek Pkwy, Suite 500  
Colorado Springs, CO 80920

Prepared by:



**Matrix**

2435 Research Parkway, Suite 300  
Colorado Springs, CO 80920  
(719) 575-0100  
fax (719) 572-0208

February 2021

Project No. 20.886.028

### Introduction and Purpose

The purpose of this report is to present the results of the engineering study of the wastewater system required to serve the Trails at Aspen Ridge PUDSP Amendment. This report includes an estimate of ultimate population, anticipated quantity of effluent to be treated, and location of existing system connections.

The Trails at Aspen Ridge development is a mixed-use development located on approximately 175 acres. The Trails at Aspen Ridge PUDSP Amendment is a portion (118 acres) of this site comprised of 680 single-family residential lots. The property is located south and east of the intersection of Bradley Road and Powers Boulevard, specifically in Section 9 of Township 15 South, Range 65 West. The site was rezoned from RS-5000 to PUD with the previously approved Trails at Aspen Ridge PUDSP (PUDSP-191) approved by El Paso County in December 2019 and is a part of the larger Waterview Sketch Plan.

Springs at Waterview East 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. The Trails at Aspen Ridge PUDSP Amendment will continue to be part of the Waterview II Metropolitan District.

### Ultimate Population & Effluent

The average annual water demand for the Trails at Aspen Ridge PUDSP Amendment is estimated to be 238 acre-feet of water per year. Widefield Water and Sanitation District will be the service provider for water and wastewater through an extension of the existing distribution and collection system. Wastewater is estimated to be 205 gpd per single family residence. Based on this, the projected wastewater collection would be 139,400 gpd.

### Existing Infrastructure

Widefield Water and Sanitation District has previously agreed to service the Trails at Aspen Ridge Filing No. 1 (SF-192) development. This previously approved wastewater system is comprised of 8" diameter PVC sanitary mains aligned generally along street centerlines draining south and east. At the southeast corner of Trails at Aspen Ridge Filing No. 1, the system transitions to 12" diameter PVC pipe and connects to an existing manhole. From here, the existing 12" main continues south to Fontaine Boulevard. Eventually, the flows reach the State Permitted (CO-0021067) wastewater treatment facility where it is treated per the permit requirements and then discharged into the stream system. This existing infrastructure has been sized in anticipation of flows from the overall Trails at Aspen Ridge development.

The Widefield Water and Sanitation District has capacity to serve the proposed development, refer to commitment letter provided in Appendix A. The District operates a 2.5 MGD facility just north of the City of Fountain, near Fountain Creek. According to the District's commitment letter, the facility currently has an excess capacity of 1.18 MGD.

The Widefield Water and Sanitation District and the Security Sanitation District have both been providing wastewater treatment in accordance with El Paso County Health Department and Colorado Department of Health and Environment standards and reporting requirements for several decades under the Operating Permit No. CO-0021067.

### Proposed Infrastructure

All infrastructure in the development is to be publicly owned and maintained by the Widefield Water and Sanitation District. In compliance with the Widefield Water and Sanitation District, the proposed site will provide sanitary mains along the street centerline, wherever possible. The anticipated flows from the 680 single-family lots require 8" diameter PVC pipes. The wastewater will be conveyed in a general south and east pattern until connecting with the existing infrastructure installed with the Trails Filing No. 1 development.

### Wastewater Serviceability:

As previously mentioned, wastewater is estimated to be 205 GPD for each single-family residence. The site consists of 680 single-family dwelling units which results in approximately 139,400 GPD. Widefield Water and Sanitation District will collect and treat the wastewater prior to its ultimate discharge into Fountain Creek in accordance with the Trails at Aspen Ridge Filing No. 1 report. The table below summarized the expected flow by street.

### Filing 2:

Street Name	Contributing Lots (F2)	Filing 2 GPD	Pipe Size Req'd (PVC)
Moose Meadow	0	0	8"
Roundhouse	42	8,610	8"
Bear Track	10	2,050	8"
Nutterbutter	8	1,640	8"
Turtle Lake	14	2,870	8"
Big Johnson	16	3,280	8"
Wagon Hammer	8	1,640	8"
<b>Total Contribution to F1:</b>		<b>20,090</b>	8"

### Filing 3:

Street Name	Contributing Lots (F3)	Filing 3 GPD	Pipe Size Req'd (PVC)
Moose Meadow	8	1,640	8"
Sidewinder	49	10,045	8"
Falling Rock	16	3,280	8"
Lazy Ridge	56	11,480	8"
Natural Bridge	10	2,050	8"
Rainy Creek	34	6,970	8"
Buffalo Horn	7	1,435	8"
Turkey Flat	18	3,690	8"
<b>Total Contribution to F1:</b>		<b>40,590</b>	8"

Filing 4:

Street Name	Contributing Lots (F4)	Filing 4 GPD	Pipe Size Req'd (PVC)
Moose Meadow	4	820	8"
Blue Miner	34	6,970	8"
Golden Route	38	7,790	8"
Herd Hollow	6	1,230	8"
Sidewinder	4	820	8"
Little Boulder	14	2,870	8"
Drinking Horse	29	5,945	8"
Little Elk	7	1,435	8"
Total Contribution to F1:		27,880	8"

Filing 5:

Street Name	Contributing Lots (F5)	Filing 5 GPD	Pipe Size Req'd (PVC)
Roundhouse	29	5,945	8"
Schoonover	18	3,690	8"
Big Johnson	10	2,050	8"
Hazelton	26	5,330	8"
Lowline	41	8,405	8"
Total Contribution to F1:		25,420	8"

Filing 6:

Street Name	Contributing Lots (F6)	Filing 6 GPD	Pipe Size Req'd (PVC)
Winner Creek	18	3,690	8"
Schoonover	15	3,075	8"
Big Johnson	30	6,150	8"
Fish Hook	25	5,125	8"
Keyhole	24	4,920	8"
Bull Run	12	2,460	8"
Total Contribution to F1:		25,420	8"

Trails at Aspen Ridge PUDSP Amendment:

<b>Filing</b>	<b>Contributing Lots</b>	<b>Total GPD</b>	<b>Pipe Size Req'd (PVC)</b>
2	98	20,090	8"
3	198	40,590	8"
4	136	27,880	8"
5	124	25,420	8"
6	124	25,420	8"
Total	680		
<b>Total Contribution to F1:</b>		<b>139,400</b>	<b>8"</b>

Wastewater Opinion of Probable Costs:

Since the engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor's method of determining prices, or over the competitive bidding or market conditions, the opinion of probable construction costs provided herein are made on the basis of the engineer's experience and qualifications and represents the best judgement as an experienced and qualified professional familiar with the construction industry. The engineer cannot, and does not, guarantee that proposals, bids, or actual construction costs will not vary from the opinion of probable costs. The estimated costs have been broken down by filing below.

Filing 2:

<b>Street Name</b>	<b>8" PVC Sanitary Main (LF)</b>	<b>Cost (per LF)</b>	<b>Manhole (EA)</b>	<b>Cost (EA)</b>	<b>Total Cost</b>
Moose Meadow Street	79.86	\$83	0	\$4,386	\$6,628.38
Beartrack Point	567.42	\$83	3	\$4,386	\$60,253.86
Roundhouse Drive	1145.87	\$83	4	\$4,386	\$112,651.21
Turtle Lake Way	298.84	\$83	1	\$4,386	\$29,189.72
Big Johnson Drive	744.34	\$83	2	\$4,386	\$70,552.22
Nutterbutter Point	297.96	\$83	1	\$4,386	\$29,116.68
Bird Ridge Drive	146.05	\$83	0	\$4,386	\$12,122.15
<b>Totals</b>	<b>3280.34</b>		<b>11</b>		<b>\$320,514.22</b>

Filing 3:

<b>Street Name</b>	<b>8" PVC Sanitary Main (LF)</b>	<b>Cost (per LF)</b>	<b>Manhole (EA)</b>	<b>Cost (EA)</b>	<b>Total Cost</b>
Moose Meadow Street	480.06	\$83	3	\$4,386	\$53,002.98
Sidewinder Drive	1,623.05	\$83	7	\$4,386	\$165,415.15
Falling Rock Drive	715.47	\$83	4	\$4,386	\$76,928.01
Lazy Ridge Drive	1,240.91	\$83	4	\$4,386	\$120,539.53
Natural Bridge Trail	537.46	\$83	3	\$4,386	\$57,767.18

Rainy Creek Trail	878.93	\$83	4	\$4,386	\$90,495.19
Buffalo Horn Drive	0	\$83	0	\$4,386	\$0.00
Turkey Flat Lane	391.23	\$83	1	\$4,386	\$36,858.09
Totals	5,867.11		26		\$601,006.13

Filing 4:

Street Name	8" PVC Sanitary Main (LF)	Cost (per LF)	Manhole (EA)	Cost (EA)	Total Cost
Blue Miner Street	713.10	\$83	2	\$4,386	\$67,959.30
Golden Route Street	869.09	\$83	2	\$4,386	\$80,906.47
Herd Hollow Path	240.00	\$83	1	\$4,386	\$24,306.00
Sidewinder Drive	237.35	\$83	1	\$4,386	\$24,086.05
Little Boulder Loop	330.70	\$83	1	\$4,386	\$31,834.10
Drinking Horse Court	512.02	\$83	1	\$4,386	\$46,883.66
Little Elk Lane	259.89	\$83	1	\$4,386	\$25,956.87
Totals	3,162.15		9		\$301,932.45

Filing 5:

Street Name	8" PVC Sanitary Main (LF)	Cost (per LF)	Manhole (EA)	Cost (EA)	Total Cost
Roundhouse Drive	565	\$83	2	\$4,386	\$55,699.37
Schoonover Drive	406	\$83	1	\$4,386	\$38,062.42
Big Johnson Drive	440	\$83	2	\$4,386	\$45,326.86
Hazelton Drive	722	\$83	2	\$4,386	\$68,697.17
Lowline Drive	1027	\$83	2	\$4,386	\$94,051.18
Totals	3,161.00		9		\$301,837.00

Filing 6:

Street Name	8" PVC Sanitary Main (LF)	Cost (per LF)	Manhole (EA)	Cost (EA)	Total Cost
Winner Creek Drive	588.53	\$83	4	\$4,386	\$66,391.99
Schoonover Drive	687.32	\$83	3	\$4,386	\$70,205.56
Big Johnson Drive	659.23	\$83	3	\$4,386	\$67,874.09
Fish Hook Drive	544.09	\$83	1	\$4,386	\$49,545.47
Keyhole Drive	452.89	\$83	2	\$4,386	\$46,361.87
Bull Run Drive	499.86	\$83	1	\$4,386	\$45,874.38
Totals	3,162.15		14		\$346,253.36

## **Appendix A**

### **Legal Description Maps**

LEGAL DESCRIPTION: REMAINDER TRAILS AT ASPEN RIDGE

A TRACT OF LAND LOCATED IN A PORTION OF THE WEST 1/2 OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 9; THENCE N00°19'32"W ON THE NORTH-SOUTH 1/4 LINE OF SAID SECTION 9, A DISTANCE OF 1,600.02 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION;

- 1) THENCE N90°00'00"W A DISTANCE OF 511.94 FEET TO A POINT OF CURVE TO THE RIGHT;
- 2) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 690.00 FEET, A DELTA ANGLE OF 14°33'21", AN ARC LENGTH OF 175.29 FEET, WHOSE LONG CHORD BEARS N82°43'20"W A DISTANCE OF 174.82 FEET;
- 3) THENCE S14°33'21"W A DISTANCE OF 123.85 FEET;
- 4) THENCE S12°47'44"W A DISTANCE OF 80.40 FEET TO A POINT OF CURVE TO THE RIGHT;
- 5) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 20.00 FEET, A DELTA ANGLE OF 92°52'44", AN ARC LENGTH OF 32.42 FEET, WHOSE LONG CHORD BEARS S59°14'18"W A DISTANCE OF 28.99 FEET TO A POINT OF COMPOUND CURVE TO THE RIGHT;
- 6) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 915.00 FEET, A DELTA ANGLE OF 00°20'29", AN ARC LENGTH OF 5.45 FEET, WHOSE LONG CHORD BEARS N74°09'06"W A DISTANCE OF 5.45 FEET;
- 7) THENCE S15°57'58"W A DISTANCE OF 50.00 FEET TO A NON-TANGENT CURVE TO THE RIGHT;
- 8) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 965.00 FEET, A DELTA ANGLE OF 06°15'56", AN ARC LENGTH OF 105.53 FEET, WHOSE LONG CHORD BEARS N70°51'04"W A DISTANCE OF 105.47 FEET;
- 9) THENCE S00°00'00"W A DISTANCE OF 214.74 FEET;
- 10) THENCE S88°42'27"W A DISTANCE OF 110.10 FEET;
- 11) THENCE N01°25'17"W A DISTANCE OF 4.78 FEET;
- 12) THENCE S88°27'00"W A DISTANCE OF 160.00 FEET;
- 13) THENCE S00°08'37"W A DISTANCE OF 44.57 FEET;
- 14) THENCE S02°52'08"W A DISTANCE OF 44.56 FEET;
- 15) THENCE S05°32'45"W A DISTANCE OF 44.55 FEET;
- 16) THENCE S08°16'16"W A DISTANCE OF 44.55 FEET;
- 17) THENCE S10°58'49"W A DISTANCE OF 44.56 FEET;
- 18) THENCE S13°41'29"W A DISTANCE OF 44.57 FEET;
- 19) THENCE S17°04'35"W A DISTANCE OF 44.59 FEET;
- 20) THENCE S19°47'14"W A DISTANCE OF 44.56 FEET;
- 21) THENCE S22°29'47"W A DISTANCE OF 44.55 FEET;
- 22) THENCE S25°12'20"W A DISTANCE OF 44.55 FEET;
- 23) THENCE S27°14'20"W A DISTANCE OF 22.28 FEET;
- 24) THENCE S29°42'04"W A DISTANCE OF 49.02 FEET;
- 25) THENCE S35°26'44"W A DISTANCE OF 49.01 FEET;
- 26) THENCE S36°30'56"W A DISTANCE OF 116.64 FEET;
- 27) THENCE S32°43'04"W A DISTANCE OF 66.86 FEET;
- 28) THENCE S14°55'16"W A DISTANCE OF 66.77 FEET;
- 29) THENCE S00°26'25"E A DISTANCE OF 193.86 FEET;
- 30) THENCE S90°00'00"W A DISTANCE OF 159.90 FEET;
- 31) THENCE S00°00'00"E A DISTANCE OF 13.82 FEET;
- 32) THENCE S89°33'35"W A DISTANCE OF 110.00 FEET;
- 33) THENCE N00°26'25"W A DISTANCE OF 12.59 FEET;

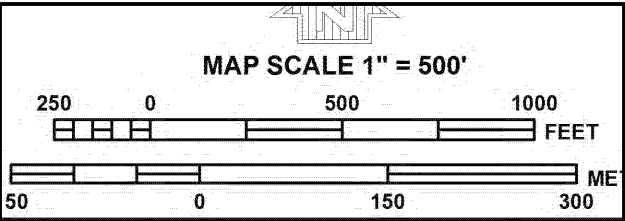
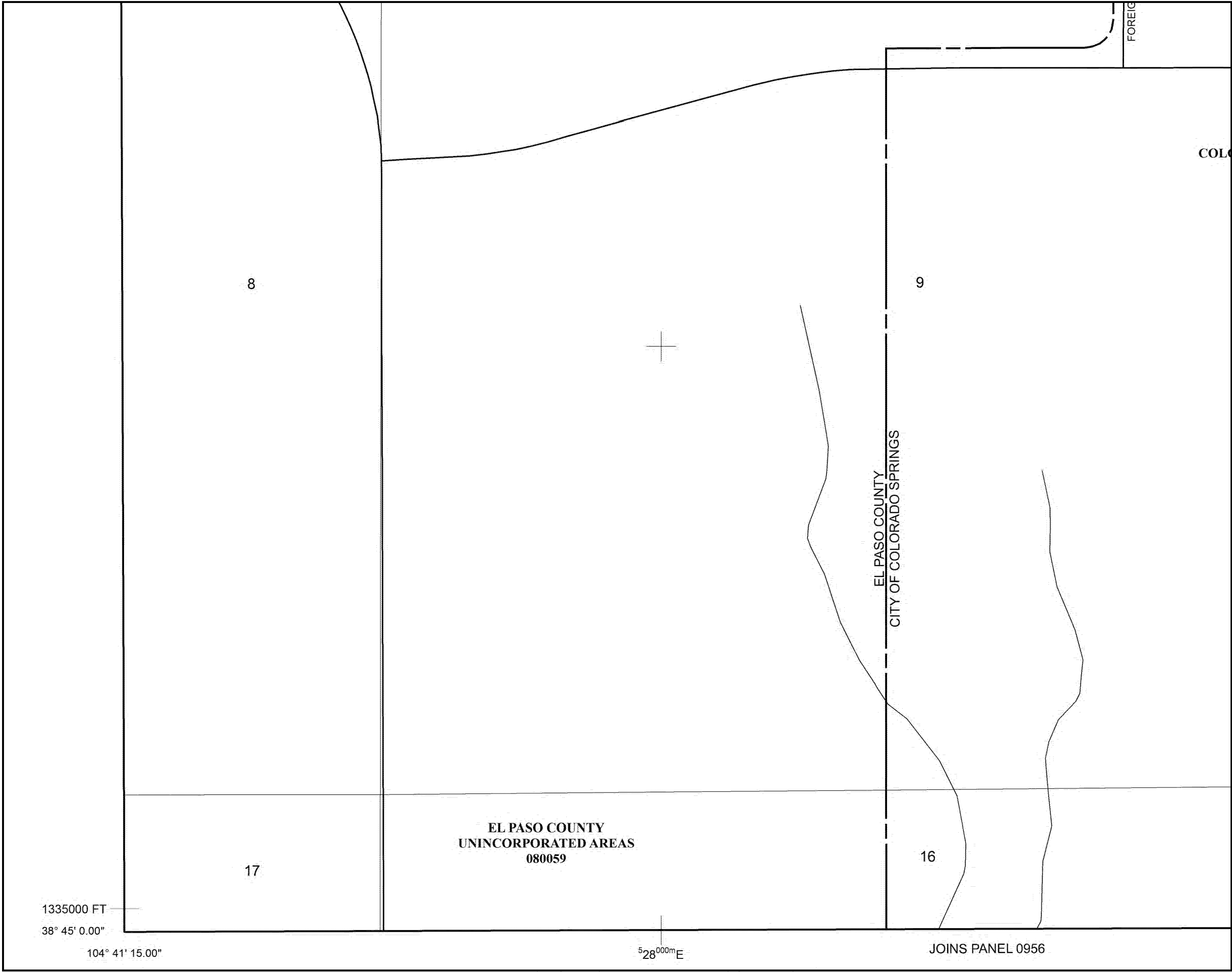



- 34) THENCE S89°33'35"W A DISTANCE OF 160.00 FEET;
- 35) THENCE S00°26'25"E A DISTANCE OF 55.00 FEET TO A POINT OF CURVE TO THE RIGHT;
- 36) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 20.00 FEET, A DELTA ANGLE OF 90°00'00", AN ARC LENGTH OF 31.42 FEET, WHOSE LONG CHORD BEARS S44°33'35"W A DISTANCE OF 28.28 FEET;
- 37) THENCE S89°33'35"W A DISTANCE OF 358.00 FEET TO A POINT OF CURVE TO THE RIGHT;
- 38) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 27.00 FEET, A DELTA ANGLE OF 89°57'15", AN ARC LENGTH OF 42.39 FEET, WHOSE LONG CHORD BEARS N45°27'48"W A DISTANCE OF 38.17 FEET;
- 39) THENCE N00°29'10"W A DISTANCE OF 20.98 FEET;
- 40) THENCE S89°30'50"W A DISTANCE OF 224.98 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF HIGHWAY 21, AS RECORDED IN BOOK 5307 AT PAGE 1472 OF THE RECORDS OF SAID EL PASO COUNTY;
- 41) THENCE N00°29'10"W ON SAID RIGHT-OF-WAY LINE, A DISTANCE OF 1,691.70 FEET;
- 42) THENCE S90°00'00"E A DISTANCE OF 515.00 FEET;
- 43) THENCE N00°00'00"E A DISTANCE OF 148.75 FEET TO A NON-TANGENT CURVE TO THE LEFT;
- 44) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 260.00 FEET, A DELTA ANGLE OF 13°32'37", AN ARC LENGTH OF 61.46 FEET, WHOSE LONG CHORD BEARS N28°47'53"E A DISTANCE OF 61.32 FEET;
- 45) THENCE N22°01'36"E A DISTANCE OF 538.12 FEET TO A POINT OF CURVE TO THE RIGHT;
- 46) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 410.00 FEET, A DELTA ANGLE OF 52°19'12", AN ARC LENGTH OF 374.39 FEET, WHOSE LONG CHORD BEARS N48°11'12"E A DISTANCE OF 361.52 FEET;
- 47) THENCE N74°20'48"E A DISTANCE OF 525.87 FEET;
- 48) THENCE N15°39'12"W A DISTANCE OF 470.00 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF BRADLEY ROAD AS RECORDED IN BOOK 5307 AT PAGE 1472 OF THE RECORDS OF SAID EL PASO COUNTY;

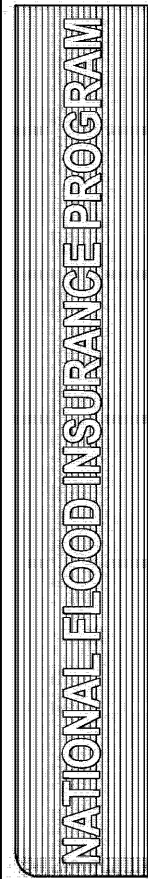
THE FOLLOWING THREE (3) COURSES FOLLOW SAID SOUTHERLY RIGHT-OF-WAY LINE:

- 49) THENCE N74°20'48"E A DISTANCE OF 385.15 FEET TO A POINT OF CURVE TO THE RIGHT;
- 50) THENCE ON THE ARC OF SAID CURVE, HAVING A RADIUS OF 2,759.79 FEET, A DELTA ANGLE OF 15°09'41", AN ARC LENGTH OF 730.29 FEET, WHOSE LONG CHORD BEARS N81°55'39"E A DISTANCE OF 728.16 FEET;
- 51) THENCE N89°30'29"E A DISTANCE OF 3.77 FEET TO A POINT ON THE NORTH-SOUTH 1/4 LINE OF SAID SECTION 9;
- 52) THENCE S00°19'32"E A DISTANCE OF 2,038.35 FEET TO THE POINT OF BEGINNING.


THE ABOVE TRACT OF LAND CONTAINS 5,139,369 SQUARE FEET OR 117.984 ACRES, MORE OR LESS.



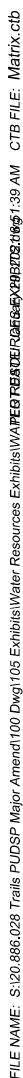
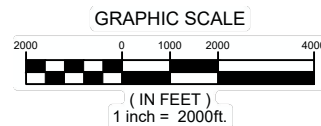
**PANEL 0768G**

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**EL PASO COUNTY,**  
**COLORADO**  
**AND INCORPORATED AREAS**  
  
**PANEL 768 OF 1300**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)  
**CONTAINS**  

COMMUNITY	NUMBER	PANEL	SUFFIX
COLORADO SPRINGS, CITY OF	080060	0768	G
EL PASO COUNTY	080059	0768	G

  
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.  
**MAP NUMBER**  
**08041C0768G**  
  
**MAP REVISED**  
**DECEMBER 7, 2018**  
**Federal Emergency Management Agency**

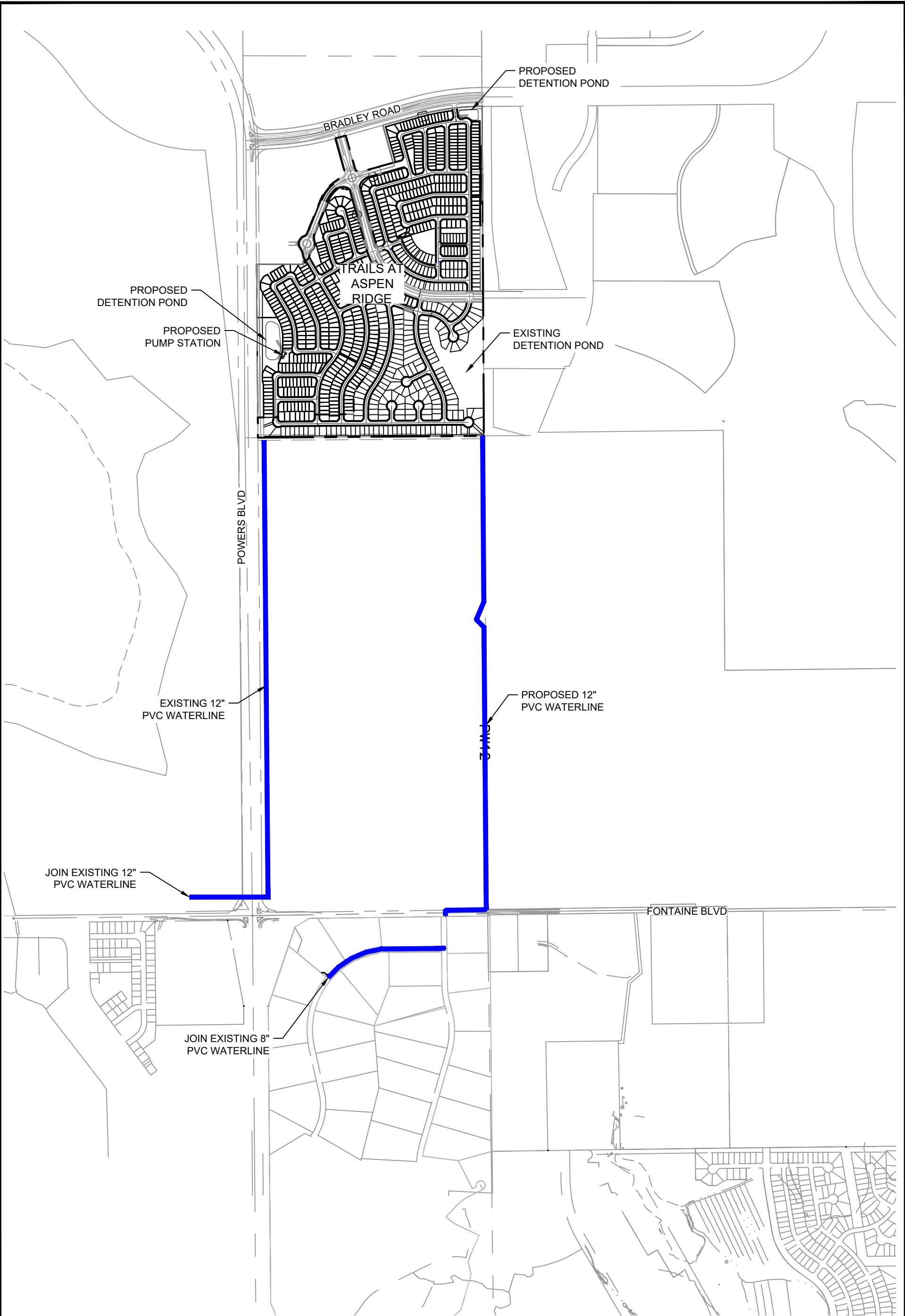
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



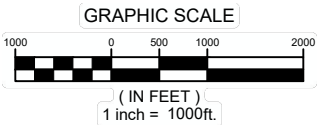
Matrix

DESIGNED BY:	NMS	SCALE	DATE ISSUED:	FEB 2021	DRAWING No. <b>WR01</b>
DRAWN BY:	LCB	HORIZ. 1" = 2000'			
CHECKED BY:	NMS	VERT. N/A	SHEET	1 OF 1	

FILE NAME: S:\20.886.028 Trails PUDSP Major Amend\100 Dwg\105 Exhibits\Water Resources Exhibits\WATER RESOURCES EXHIBITS.dwg PLOT DATE: January 29, 2021 10:30:21 AM CTB FILE: Matrix.ctb



PREPARED BY:



TRAILS AT ASPEN RIDGE  
WATER SYSTEMS IMPROVEMENT PLAN

DESIGNED BY: NMS  
DRAWN BY: LCB  
CHECKED BY: NMS

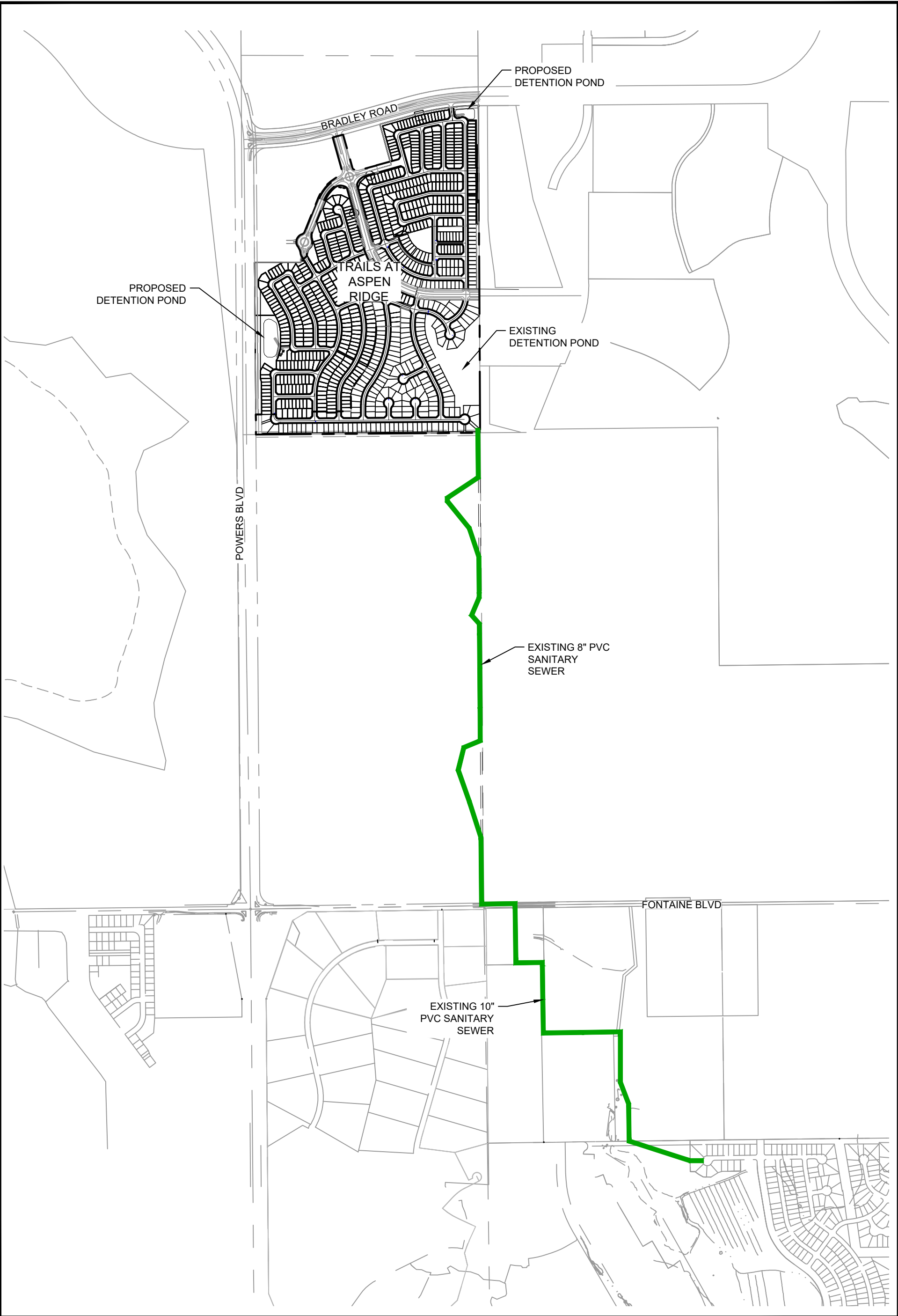
SCALE	
HORIZ.	1" = 1000'
VERT.	N/A

DATE ISSUED:	FEB 2021
SHEET	1 OF 1

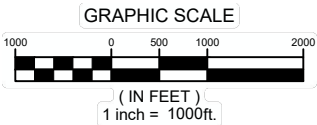
DRAWING No.
WR02



FILE NAME: S:\20.886.028 Trails PLUDSP Major Amend\100 Dwg\105 Exhibits\Water Resources Exhibits\WATER RESOURCES EXHIBITS.dwg PLOT DATE: January 29, 2021 10:30:41 AM CTB FILE: Matrix.ctb



PREPARED BY:



TRAILS AT ASPEN RIDGE  
SANITARY SYSTEMS IMPROVEMENT PLAN

DESIGNED BY:	NMS	SCALE	DATE ISSUED:	FEB 2021	DRAWING No.
DRAWN BY:	LCB	HORIZ. 1" = 1000'	SHEET	1 OF 1	WR02
CHECKED BY:	NMS	VERT. N/A			



February 5, 2021

Tim Buschar  
COLA, LLC  
555 Middle Creek Pkwy, Suite 500  
Colorado Springs, Colorado 80921

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

**Re: Commitment Letter for Preliminary Plan of Trails at Aspen Ridge, Revised from Commitment Letter for Trails at Aspen Ridge dated November 19, 2019, Revised from Commitment Letter for Waterview East, Dated October 19, 2017, and Revised June 13, 2019.**

Dear Dan and Cole:

The Widefield Water and Sanitation District commits to providing water and sewer service to the above-mentioned subdivision per this letter. This letter is a revision of the original Commitment Letter dated October 19, 2017 and was previously named Waterview East. This revision reflects the change in density to the subdivision previously committed to on November 19, 2019. This revised commitment letter is a recommitment for the Trails at Aspen Ridge, less Filing 1.

**The water commitment is for Trails at Aspen Ridge is for 680 Residential Lots with an annual water requirement of 238.00 acre-feet. The District has existing legal and physical water supply to meet the expected demand. The estimated wastewater load is 139,400 gallons per day.**

Sincerely,

A handwritten signature in blue ink that reads "Robert K. Bannister".

Robert Bannister, PE, District Engineer

C: Brandon Bernard, Water Department Manager  
Travis Jones, Wastewater Department Manager