

# **WASTEWATER REPORT**

for  
**WINDERMERE**

El Paso County, Colorado

**February 2021**

Prepared for:

**Windsor Ridge Homes**

4164 Austin Bluffs Pkwy #361  
Colorado Springs, CO 80918  
Contact: James Todd Stephens  
(719) 200-9594

Prepared by:

**Drexel, Barrell & Co.**

3 South 7th Street  
Colorado Springs, CO 80905  
Contact: Tim McConnell, P.E.  
(719) 260-0887

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# **WASTEWATER REPORT**

for

## **WINDERMERE**

El Paso County, Colorado

### **1.0 PURPOSE**

This report is prepared by Drexel, Barrel & Co in support of the Windermere project. This report is used to confirm that the sanitary sewer lines are sized to carry the peak wastewater discharge.

### **2.0 GENERAL LOCATION AND DESCRIPTION**

The site is located at the northwest corner of N. Carefree Cir. and Marksheffel Rd. - the E 1/2 of Section 29, Township 13 S, Range 65 W of the 6th P.M., El Paso County, Colorado.

The site is approximately 55.58 acres in size and slopes in all directions with a large hill in the southern half of the site and an existing temporary detention facility located at the northern end. The site is bound on the west by Antelope Ridge Dr., on the north by the Chateau at Antelope Ridge subdivision, on the east by Marksheffel Road, and on the south by N. Carefree Cir.

The current owner of the property is Windsor Ridge Homes.

The proposed concept plan will provide 203 single-family residences to be developed in two filings, residential roadways and two on-site water quality/detention ponds.

### **3.0 WASTEWATER SERVICE**

The owner/developer has already filed and been approved for inclusion within the Cherokee Metropolitan District. See appendix for the District commitment letter.

Proposed sanitary lines for the project will include onsite 8" mains that are proposed to connect to the existing 10" stub to the east of the site which connects to the existing 10" main that flows to the south along Marksheffel Rd.

See the Preliminary Utility Plan in the appendix for proposed wastewater system layout.

### **4.0 OPINION OF PROBABLE POPULATION AND QUALITY OF EFFLUENT**

The proposed development includes 203 single-family residential units. The opinion of probable population and quantity of effluent is as follows:

Population: Single-family Residences: 203 units x 2.5 persons/unit = 507.5 persons

Quantity of Effluent: Single-family Residents: 507.5 persons x 65 GPD/person = 32,988 GPD

The projected quantity of effluent is based upon industry standards as well as methodology used by other utility providers in the area. The actual population and flow could vary from these calculations.

## **5.0 WASTEWATER DISPOSAL**

Effluent from the subdivision will be collected by standard 4 inch service lines and 8 inch mainlines. The proposed internal 8 inch mainlines will outfall the subdivision at a single location on the east side of the subdivision near Marksheffel Road where an existing 10" gravity mainline stub is provided. A connection will be made to this stub for transport to the Cherokee Metropolitan District treatment facility via other gravity mains and lift stations.

## **6.0 WASTEWATER TREATMENT**

Cherokee Metropolitan District's wastewater treatment facility went into operation in June 2010 and sits on a 160-acre parcel, which is located approximately 20 miles east of Cimarron Hills. The plants actual footprint is roughly 26 of the 160-acre total.

The plants design rate capacity is 4.8 million gallons per day (MGD), at the present time the plant receives 1.5 MGD. The wastewater that the plant takes in daily is a combination from three contributors. The largest of these three is Cherokee Metropolitan District with an average flow of 1.2 MGD, Meridian Service Metropolitan District is next with 0.18 MGD and lastly is Schriever Air Force Base with their flow of 0.13 MGD.

The treatment plant consists of an 'Influent' building, four 'Sequential Batch Reactors' (SBR's), three 'Aerobic Digesters' (AD's), 'Blower' and 'Operations' building,' Solids Handling' building (i.e. Biosolids), two 'Equalization Basins' (EQ) and a 'Effluent' building that contains the 'Ultraviolet Light Disinfection' (UV) unit. The treated effluent then leaves the plant and continues five miles to the 'Rapid Infiltration Basins'. This is an overall general description of the plant with explanations of the individual components that make up the wastewater treatment to come in the future.

## **7.0 PHASING/CONSTRUCTION/PERMITTING**

Grading is anticipated to begin in Spring/Summer 2021. The residential roadways, utility mains and stormwater detention facilities will be installed at this time.

## **8.0 SUMMARY**

The Windermere development contains 52.07 acres, and is anticipated to generate a wastewater load of 32,988 gallons per day. Cherokee Metropolitan District has confirmed that the existing sanitary sewer main stubbed to the property and along Marksheffel Road is able to accommodate the additional flows.

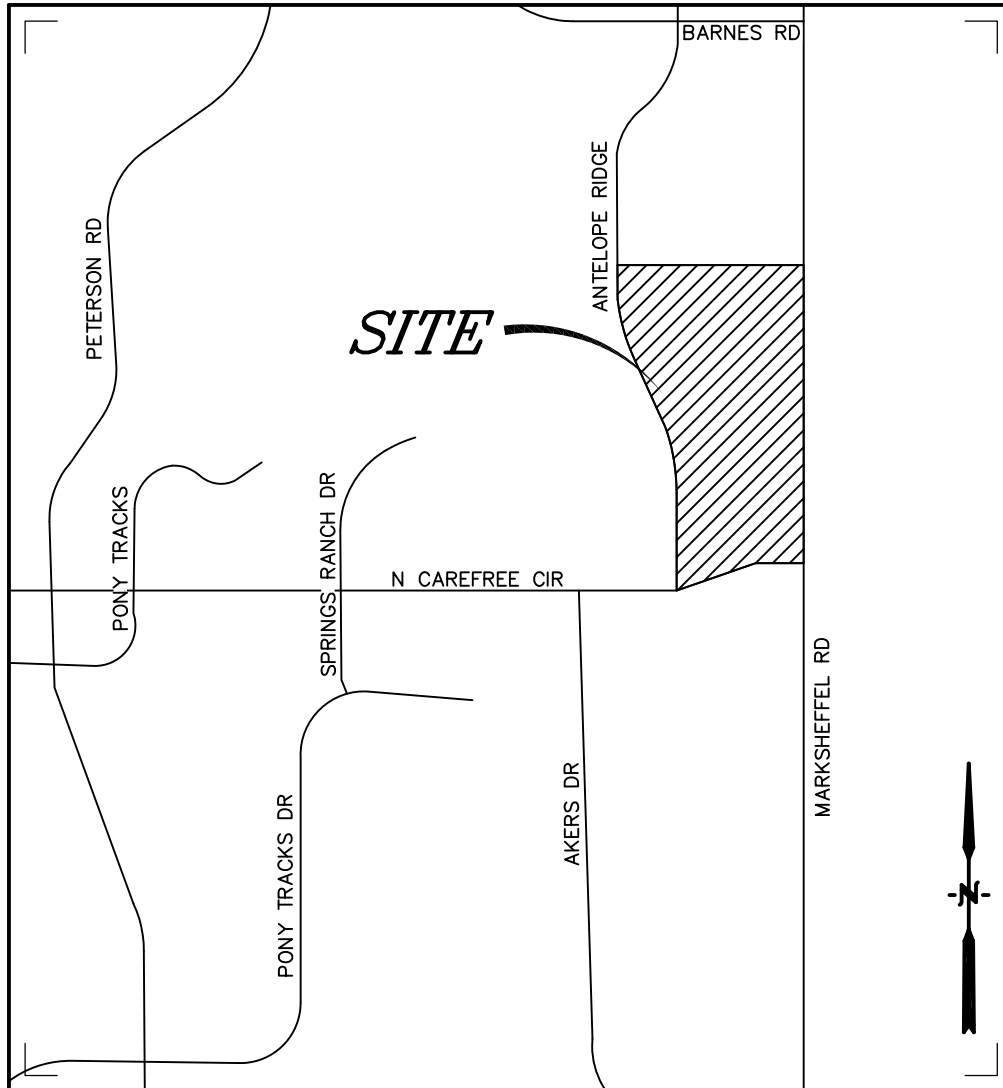
This report represents a preliminary analysis of the wastewater collection system for the Windermere project. The system will be analyzed in further detail during the design process, and is subject to change due to final design considerations.

## **9.0 UTILITY CONTACT INFORMATION**

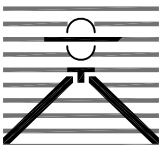
Cherokee Metropolitan District  
Attn: Amy Lathen, General Manager  
6250 Palmer Park Blvd.  
Colorado Springs, CO 80915  
Phone: (719) 597-5080  
Fax: (719) 597-5145

Drexel, Barrell & Co.  
Attn: Tim McConnell, P.E.  
3 South 7<sup>th</sup> Street  
Colorado Springs, CO 80905  
Phone: (719) 260-0887pl

## Appendix



*Vicinity Map*  
Not to scale



**WINDERMERE  
COLORADO SPRINGS, CO  
VICINITY MAP**

**Drexel, Barrell & Co.**  
Engineers • Surveyors

DATE:

DWG. NO.

JOB NO:

**21187-00CSCV**

**VMAP**

SHEET 1 OF 1

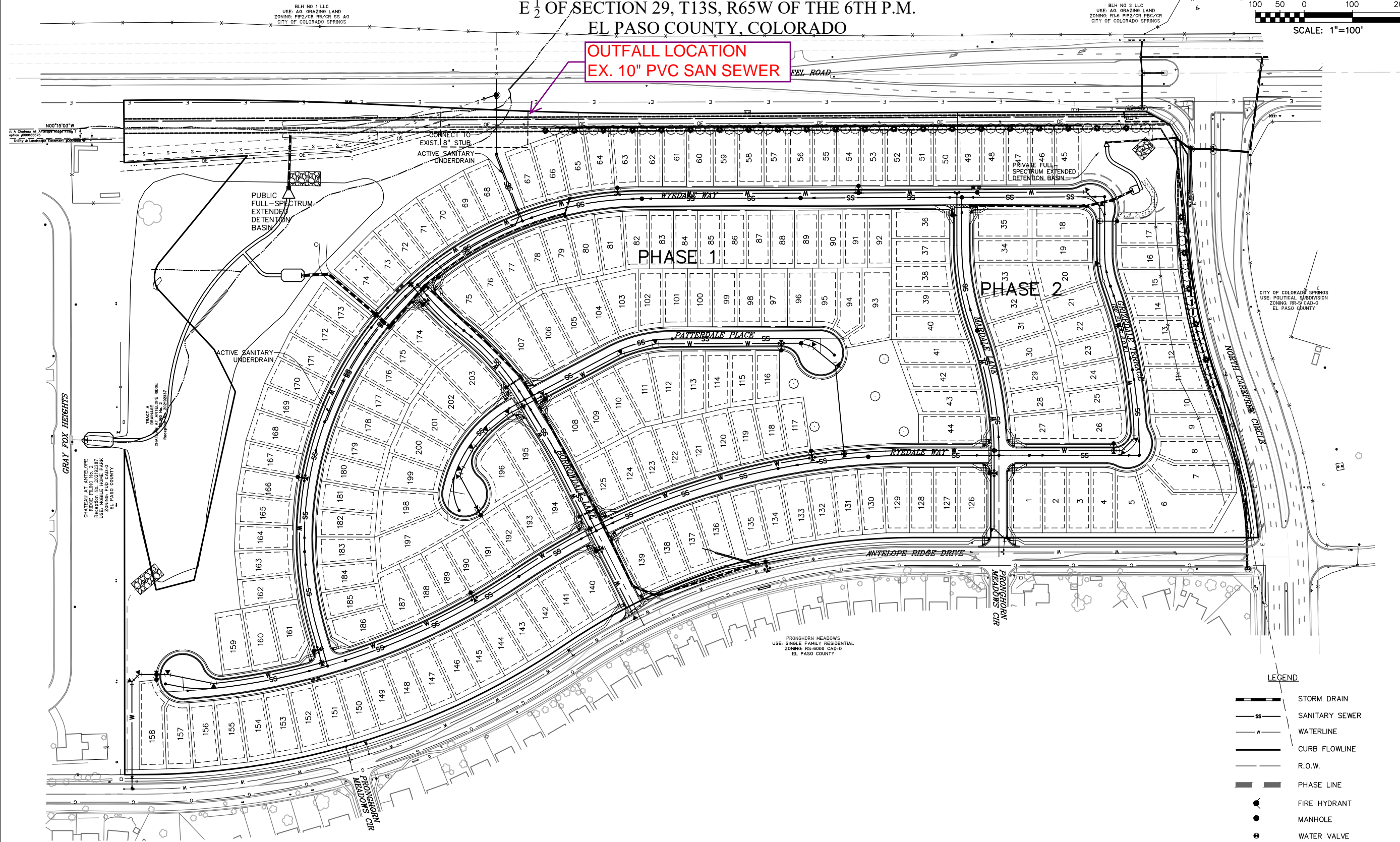
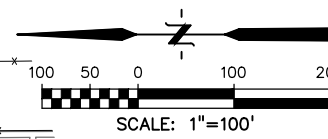
# WINDERMERE

PRELIMINARY PLAN

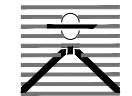
E 1/2 OF SECTION 29, T13S, R65W OF THE 6TH P.M.

EL PASO COUNTY, COLORADO

OUTFALL LOCATION  
EX. 10" PVC SAN SEWER



PREPARED BY:



DREXEL, BARRELL & CO.  
Engineers • Surveyors  
3 SOUTH 7TH STREET  
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CONTACT: JAMES TODD STEVENS

WINDERMERE  
PRELIMINARY PLAN

N. MARKSHEFFEL ROAD  
EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	2/21/19
LATEST ISSUE	1/14/21
DESIGNED BY:	GES
DRAWN BY:	GES
CHECKED BY:	TDM
FILE NAME:	21187-01UT1
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.	
DRAWING SCALE: HORIZONTAL: 1" = 100' VERTICAL: N/A	
PRELIMINARY UTILITY & PUBLIC FACILITY PLAN	
PROJECT NO. 21187-01CSCV DRAWING NO.	
PP06	

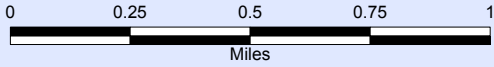
COUNTY FILE NO.: SP-19-003

SHEET: 6 OF 10



# CHEROKEE METROPOLITAN DISTRICT

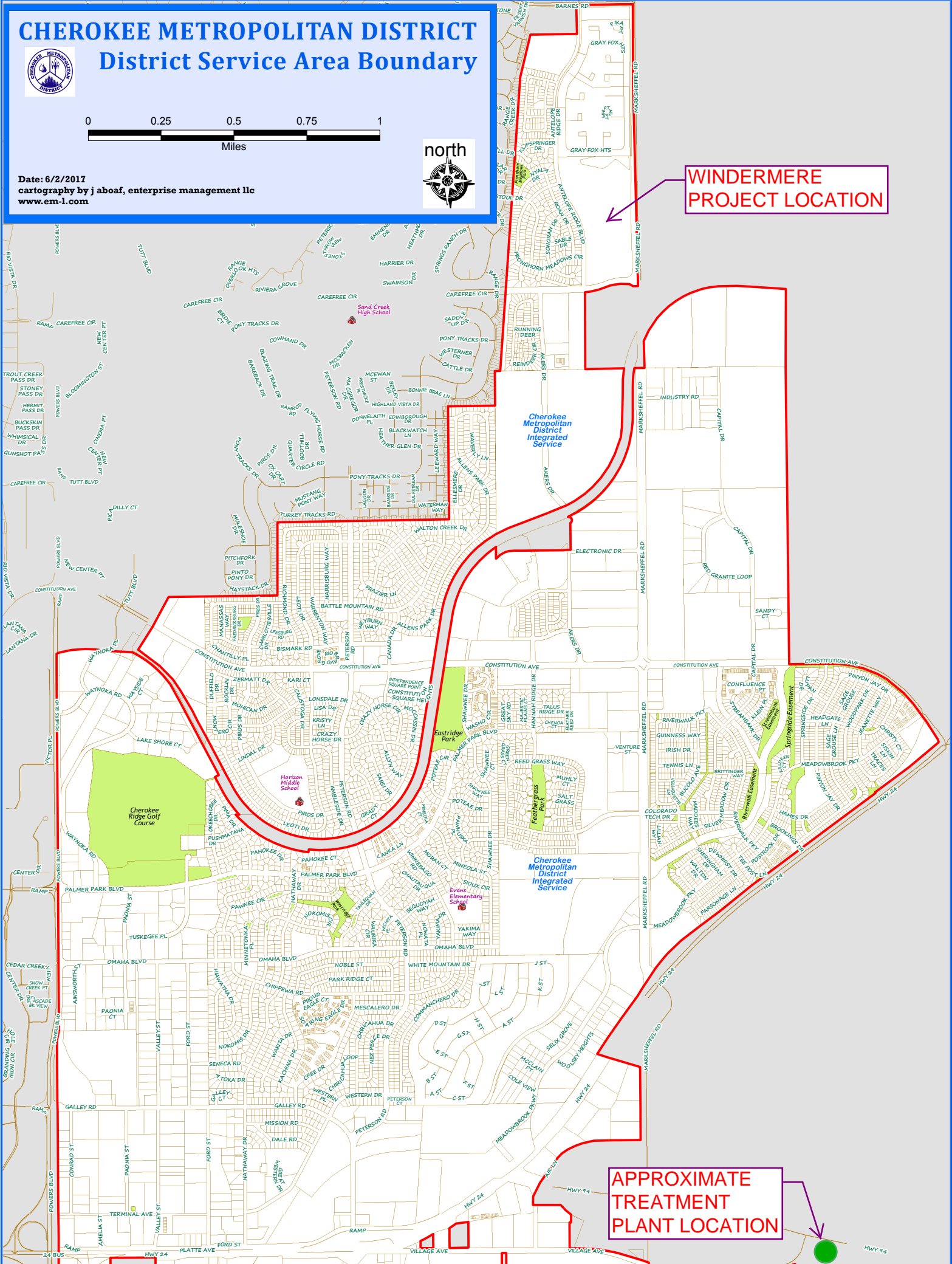
## District Service Area Boundary



Date: 6/2/2017  
cartography by j aboaf, enterprise management llc  
www.em-1.com

WINDERMERE  
PROJECT LOCATION

APPROXIMATE  
TREATMENT  
PLANT LOCATION





## CHEROKEE METROPOLITAN DISTRICT

6250 Palmer Park Blvd., Colorado Springs, CO 80915-2842

Telephone: (719) 597-5080 Fax: (719) 597-5145

June 15<sup>th</sup>, 2020

Tim D. McConnell

Drexel, Barrell, & Co

3 S 7<sup>th</sup> St

Colorado Springs, CO 80905

*Sent via email: [tmccconnell@drexelbarrell.com](mailto:tmccconnell@drexelbarrell.com)*

*Original to follow by US Mail*

Re: Water and Sewer Service to **Windermere Subdivision**  
Commitment Letter No. **2020-09 (Revision of commitment 2018-06)**

Dear Tim McConnell,

As requested, this document will serve as a formal Letter of Commitment from the Cherokee Metropolitan District to provide municipal water and sewer services for Windermere Subdivision located at the northeast corner of N Carefree Circle and Antelope Ridge Drive. The proposed location for this development is located within the District's established boundaries and therefore is eligible for service connections from the District.

Cherokee Metropolitan District staff, along with the developer, have determined that the following will be the total water demand required by this occupancy:

Type of Use	Demand (AF/yr)
Single Family Homes	62.6
Irrigated Common Areas	6.2
<b>Total</b>	<b>68.8</b>

This water commitment is hereby made exclusively for this specific development project at this site within the District. To confirm this commitment you must provide the District with a copy of the final plat approval from El Paso County Development Services within 12 months of the date of this letter. Otherwise, the District may use this allocation for other developments requesting a water commitment. If the subject project is re-platted, you must submit a new commitment request prior to submitting the re-plat to El Paso County, which may result in a recalculation of the water demand for the project.

If I may be of further assistance please contact me at your convenience.

Sincerely,

A handwritten signature in cursive script, appearing to read "Amy Lathen", with a long horizontal line extending from the end of the signature.

Amy Lathen  
General Manager

Cc: Peter Johnson; Water Counsel w/ encl: sent via email  
Steve Hasbrouck; Board President w/ encl: sent via email  
Kevin Brown; Jr. Engineer