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**WINDERMERE**

**WASTEWATER DISPOSAL AND TREATMENT REPORT**

**January 30, 2019**

Prepared For:

**Windsor Ridge Homes**  
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**Project Number: 21187-01CSCV**  
**(H:\21187-01CSCV\Plans\Submittals\201806xx Preliminary plan Amendment)**

## **GENERAL LOCATION & DESCRIPTION**

Windermere is a proposed 52.07 acre subdivision located within the east half of Section 29, Township 13 South, Range 65 West of the 6<sup>th</sup> Principle Meridian in El Paso County, Colorado. The site is located on the east side of Antelope Ridge Drive and west of Marksheffel Road, just north of North Carefree Circle.

The site lies within the Cherokee Metropolitan District Service area. Water and wastewater services will be provided by Cherokee Metropolitan District. See the attached commitment letter.

The proposed Windermere development includes 202 single-family residences. The project will be developed in four phases.

## **OPINION OF PROBABLE POPULATION AND QUANTITY OF EFFLUENT**

The proposed development includes 202 single-family residential units. The opinion of probable population and quantity of effluent is as follows:

Population: Single-family Residences: 202 units x 2.5 persons/unit = 505 persons

Quantity of Effluent: Single-family Residents: 505 persons x 65 GPD/person = 32,825 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.

## **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.

## **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 foot print 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.