

P.O. Box 3901  
Eagle, Colorado 81631

**YARNELL CONSULTING &  
CIVIL DESIGN, LLC**  
(970) 323-7008 • 6/7/2023

229 Midland Ave.  
Basalt, Colorado 81621

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Jessica Lake, Planner  
Town of Eagle  
200 Broadway  
P.O. Box 509  
Eagle, Colorado 81631  
Jessica.Lake@TownOfEagle.org

Subject: 263 Sawatch Road (Lot 2, 700 Chambers Avenue Subdivision)  
Public Facilities Impact Report and Water Demand Analysis

Jessica:

Sawatch 263 Rd, LLC has contracted Yarnell Consulting & Civil Design, LLC (YCCD) to serve as the civil engineer-of-record responsible for the grading, drainage, and utility designs of the proposed 18 live/work units spread over three (3) buildings on Lot 2, with associated landscaping, sidewalks, patios, parking, and utilities. This letter is intended to address the requirement of a "Public Facilities Impact Report" and "Water Demand Report" for the proposed Development Permit.

### **Sanitary Sewer**

The proposed project will receive sanitary sewer service from an existing, public, 8-inch sanitary sewer main which exists in an easement along the easterly limits of the parcel. Each building will be equipped with a 6-inch private sanitary sewer service that connects to the existing main. From there, it will be conveyed south toward Sawatch Road and then west.

Downstream system limitations have not been disclosed to Sawatch 263 Rd; therefore, it is assumed that these three (3) buildings will not adversely impact the existing system beyond its designed capacity.

### **Potable Water System**

The proposed project will receive potable water service from an existing, public, 8-inch water main located in the Sawatch Road right-of-way along the southerly limits of the parcel. It is proposed to construct a dead-end, public, 8-inch water main extension north – between the existing sewer main and the three (3) proposed buildings. A public fire hydrant will be constructed near the southeast corner of the northern-most building. This will indicate the end of the public water main. From this point, a private 4-inch water service will serve the north building. Farther south, along the public water main, tees will be constructed with one (1) private 4-inch water service to each of the remaining two (2) buildings. Available pressures and volumes within the system are unknown but assumed to be adequate for providing domestic and fire suppression water service to the proposed buildings as well as the on-site fire hydrant.

YCCD assumed irrigation requirements for this project to be 24 inches of water on landscaped areas per irrigation season (April to October). That translates to an average daily demand of approximately 0.15 inches. The total demand is listed in Table 1.

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*Table 1: Irrigation Demand*

<b>Irrigated Area (square feet)</b>	<b>Application Rate (inches / day)</b>	<b>Average Daily Irrigation Demand*</b> (gallons / day)
38,390	0.15	3,589

\*Average daily irrigation demand assumes irrigating three days per week – not daily.

The fixture unit count for this project has been tabulated by SRD Plumbing. The calculations are attached to this letter.

*Table 2: Domestic Water Demand*

<b>Fixture Unit Total* (gallons / minute)</b>	<b>Peaking Factor</b>	<b>Peak Day Demand (gallons / minute)</b>	<b>Length of Workday (hours)</b>	<b>Peak Day Volume (gallons / day)</b>
193	0.10	19.3	12	13,896

\*Fixture unit total is assumed to be equivalent to the peak hour demand.

When combining irrigation and domestic demands, the resulting peak day water volume required for this project is estimated to be 17,485 gallons per day. Again, system limitations have not been disclosed to Sawatch 263 Rd; therefore, it is assumed that this building will not adversely impact the existing system beyond its designed capacity.

## Streets

Please refer to the letter from the traffic consultant regarding the project's proposed impacts to the adjacent street system.

## Schools

According to Sawatch 263 Rd, LLC, this project will have minimal impact on the school system.

## Emergency Service

According to Sawatch 263 Rd, LLC, the Ambulance facility is less than ½ mile away.

## Fire

According to Sawatch 263 Rd, LLC, the fire department is less than ½ mile away.

## Summary

In summary, the proposed development of Lot 2 within the 700 Chambers Subdivision will have minimal impact on the existing public infrastructure and schools, while adequate emergency and fire service appears to be available to serve the project.

Please let know if you have any further questions regarding this letter.

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Sincerely,



Justin J. Yarnell, PE  
Colorado PE Number 47241

Attachment(s):

1. Plumbing fixture counts

263 Swatch Development

	Qty	GPM	TOTAL
<u>Commercial Area (per building)</u>			
<u>Lower Level</u>			
Toilets	3	1.28	3.84
Lavatories	3	1.2	3.6
Utility Sink	3	2.0	6
<u>Main Level</u>			
<u>Apartments (per building)</u>			
<u>Second Level</u>			
Toilets	6	1.28	7.68
Lavatories	6	1.2	7.2
Showers - Tub/Shower	6	2.0	12
Kitchen Sink	3	2.0	6
Washer Box	3	3	9
Dishwasher	3	3	9
<b>TOTAL GALLONS PER MINUTE (GPM)</b>			<b>64.32</b>