

## Public Facilities Impact Report

# 301 Broadway Mixed Use

301 Broadway Street  
Eagle, Colorado

### Prepared for:

NEO Studio  
3560 Walnut St. Unit A  
Denver, Colorado 80205

This report has been prepared by the staff of DCI Engineers under the direction of the undersigned professional engineer whose stamp and signature appears hereon.

### Prepared by:



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DCI Job No.: #25042-0034  
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*The methods, descriptions, and design calculations shown in this design report conform to the Town of Eagle Design Criteria unless noted otherwise and are under the jurisdiction of the Town of Eagle.*

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**TECHNICAL MEMO**  
**301 Broadway Development**  
**Public Facilities Impact Report**

**Project Overview**

The proposed Project at 301 Broadway in the Town of Eagle is a mixed-use development which consists of high density residential and first floor commercial. The Project is located on an existing commercial lot at the corner of Broadway and 3<sup>rd</sup> Street Street in the downtown core of Eagle, CO. The proposed density is for 17,907 sq ft of Residential (including (9) 2 bedroom units), 5,000 sq ft of Retail and 2,500 sq ft of a Common Area.

**Sanitary Sewer System:**

The project as proposed can be served by an existing 8" sewer main in the western alley. Existing sewer services extend into the lot; however these services will most likely be a 4" PVC, and not large enough, and will be abandoned at the sewer main. The plumbing calculations indicate a 5" minimum service is recommended for the building. A new commercial sized 6" PVC sewer service will be installed to the alley sewer main. Plumbing calculations are attached. The sewer service extension will be designed in compliance with Town Design Standards.

Projected sewer effluent volumes are shown in the Table below.

**Retail Use**

Density Type	Square Footage	Sewage GPD/1000 SF Gross Building	Average Daily Volume (Gallons)	Peaking Factor	Peak Day Volume (Gallons)
Retail/Office	5000	200*	1000	2.0	2000

\* Flowrate taken from City of Denver Public Works

**Residential Use**

Density Type	Unit Count	Persons per Unit	Sewage Volume Per Capita Daily (Gallons)	Average Daily Volume (Gallons)	Peaking Factor	Peak Day Volume (Gallons)
2 bedroom	9	3.0	75*	2025	2.0	4050

\* Flowrate taken from Eagle County Public Health Agency On-site Wastewater Treatment System Regulations

### **Treated Water System:**

The proposed treated water distribution system for the Project will connect to the town's existing water main line infrastructure in Broadway (12" DIP main). There is an existing 4" water service to the commercial building. A new 4" service will be connected to the existing 4" service to serve the building. The proper size will be confirmed by the fire protection consultant. The attached plumbing calculation indicates a 2" service will adequately provide domestic water portion to the building.

All water services will be designed in compliance with Town Design Standards.

Projected water demand volumes are shown in the Table below.

#### **Retail Use**

Density Type	Square Footage	Water GPD/1000 SF Gross Building	Average Daily Volume (Gallons)	Peaking Factor	Peak Day Volume (Gallons)
Retail/Office	5000	200*	1000	2.0	2000

\* Flowrates taken from City of Denver Public Works

#### **Residential Use**

Density Type	Unit Count	Persons per Unit	Water Volume Per Capita Daily (Gallons)	Average Daily Volume (Gallons)	Peaking Factor	Peak Day Volume (Gallons)
2 bedroom	2	3.0	75*	2025	2.0	4050

\* Flowrate taken from Eagle County Public Health Agency On-site Wastewater Treatment System Regulations

Thank you,



Brady Ott  
**DCI Engineers**  
Phone: (720) 439-4176

## DOMESTIC WATER MAIN SERVICE SIZING

Project: 301 Broadway Eagle, CO  
 Building: 17,907 SF Residential, 5,000 SF Retail, 2,500 SF COMMON  
 User: (9) Two Bedroom units/5,000 s.f. of Retail  
 (2) Retail: 1 bath each  
 Print Date: 7/15/25 6:49 PM

= User inputs  
 = Calculated values  
 = Estimated FU or DFU, due to IPC only dictating Drainage or Supply FU's for the given fixture type, not both.

All fixture unit values and fixture types taken directly from 2015 IPC, chapter 6 and appendix E. Waste data taken from 2015 IPC, chapter 7.

Any fixtures not used in a specific project may be deleted.

Fixture Type	QTY	Total		Cold		Hot		Drainage	
		FU/ea	FU total	FU/ea	FU total	FU/ea	FU total	DFU/ea	DFU total
Bar Sink, Private	5	1	5.0	0.75	3.75	0.75	3.8	2	10.0
Bathroom Group, Private, Flush Tank	27	3.6	97.2	2.7	72.90	1.5	40.5	5	135.0
Bathroom Group, Private, Flush Valve		8	0.0	6	0.00	3	0.0	5	0.0
Bathtub, Private (w or w/o shower or jet attachments)		1.4	0.0	1	0.00	1	0.0	2	0.0
Bathtub, Public (w or w/o shower or jet attachments)		4	0.0	3	0.00	3	0.0	4	0.0
Bidet, Private		2	0.0	1.5	0.00	1.5	0.0	1	0.0
Clothes Washer (15 lb), Public, Automatic		4	0.0	3	0.00	3	0.0	3	0.0
Clothes Washer (8 lb), Private, Automatic	9	1.4	12.6	1	9.00	1	9.0	2	18.0
Clothes Washer (8 lb), Public, Automatic		3	0.0	2.25	0.00	2.25	0.0	3	0.0
Combination Sink & Tray		3	0.0	2.25	0.00	2.25	0.0	2	0.0
Dental Lavatory		1	0.0	0.75	0.00	0.75	0.0	1	0.0
Dental Unit or Cuspidor		1	0.0	0.75	0.00	0.75	0.0	1	0.0
Dishwashing Machine, Private, Automatic	9	1.4	12.6	-	-	1.4	12.6	2	18.0
Drinking Fountain, Offices, etc.	1	0.25	0.3	0.25	0.25	-	-	0.5	0.5
Emergency Floor Drain		-	-	-	-	-	-	0	0.0
Floor Drains (RE: 2015 IPC 709.4 for DFU Req'ts)		-	-	-	-	-	-	0	0.0
Floor Sinks (RE: 2015 IPC 709.4 for DFU Req'ts)		-	-	-	-	-	-	0	0.0
Kitchen Sink, Hotel/Restaurant, Faucet		4	0.0	3	0.00	3	0.0	4	0.0
Kitchen Sink, Private, Faucet (w or w/o Disposal and/or DW)	9	1.4	12.6	1	9.00	1	9.0	2	18.0
Laundry Tray (1 to 3 Compartments), Private, Faucet		1.4	0.0	1	0.00	1	0.0	2	0.0
Lavatory, Private, Faucet	9	0.7	6.3	0.5	4.50	0.5	4.5	1	9.0
Lavatory, Public, Faucet		2	0.0	1.5	0.00	1.5	0.0	1	0.0
Service Sink, Offices, etc., Faucet	1	3	3.0	2.25	2.25	2.25	2.3	2	2.0
Shower Head, Private, Mixing Valve		1.4	0.0	1	0.00	1	0.0	2	0.0
Shower Head, Public, Mixing Valve		4	0.0	3	0.00	3	0.0	2	0.0
Shower, 12.3 < Total Combined Flow Rate < 25.8 GPM		8	0.0	5	0.00	5	0.0	5	0.0
Shower, 25.8 < Total Combined Flow Rate < 55.6 GPM		10	0.0	6	0.00	6	0.0	6	0.0
Shower, 5.7 < Total Combined Flow Rate < 12.3 GPM		6	0.0	4	0.00	4	0.0	3	0.0
Urinal, Nonwater Supplied		-	-	-	-	-	-	0.5	0.0
Urinal, Public, 1" Flush Valve		10	0.0	10	0.00	-	-	4	0.0
Urinal, Public, 3/4" Flush Valve, 1 GPF or Less	2	5	10.0	5	10.00	-	-	2	4.0
Urinal, Public, Flush Tank		3	0.0	3	0.00	-	-	2	0.0
Wash Sink (Circular or Multiple), Each Set of Faucets		2	0.0	1.5	0.00	1.5	0.0	2	0.0
Water Closet, Private, Flush Tank	0	2.2	0.0	2.2	0.00	-	-	3	0.0
Water Closet, Private, Flushometer Valve		6	0.0	6	0.00	-	-	4	0.0
Water Closet, Public (1.6 GPF), Flush Tank	3	5	15.0	5	15.00	-	-	4	12.0
Water Closet, Public (1.6 GPF), Flush Valve		10	0.0	10	0.00	-	-	4	0.0
Water Closet, Public (Flushing >1.6 GPF), Flush Tank		5	0.0	5	0.00	-	-	6	0.0
Water Closet, Public (Flushing >1.6 GPF), Flush Valve		10	0.0	10	0.00	-	-	6	0.0
Water Closet, Public or Private, Flushometer Tank		2	0.0	2	0.00	-	-	4	0.0
Water Closet, Public, Flush Tank		5	0.0	5	0.00	-	-	4	0.0
Water Closet, Public, Flushometer Valve		10	0.0	10	0.00	-	-	6	0.0

BUILDING TOTALS: 174.6 126.7 81.6 226.5

Enter primary fixture flush type (type "Tank" or "Valve"):

Tank

	Flow (gpm)	Pipe Size (in)
Total Domestic Water:	60	2
Peak flow cold water:	50	2
Peak flow hot water:	40	1.5

Additional domestic water uses (irrigation, pools, etc.) may affect main sizing and has not been accounted for in these calcs.

Building Waste Main:	5
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**2015 IPC Section 202; Bathroom Group:** A group of fixtures consisting of a water closet, lavatory, bathtub or shower, including or excluding a bidet, an emergency floor drain or both. Such fixtures are located together on the same floor level.