

MEMORANDUM



Date: October 15, 2021

Project Number: 18512 and 18437

To: Ryan O'Keefe

From: Allison Wathen

Subject: Sierra View, WB-31, and WB-41 Water and Sewer Demands

Message:

MacKay and Somps is processing a specific plan amendment and general plan amendment for Sierra View, Parcel WB-41 and Parcel WB-31 within the City of Roseville. Sierra View is located south of Diamond Oaks Road and north of Shasta Street. Parcel WB-41 is located south of Pleasant Grove Boulevard, west of Daylight Drive, and east of Santucci Boulevard. Parcel WB-31 is located north of Pleasant Grove Boulevard and east of Santucci Boulevard.

Sierra View is currently designated as a residential land use in the medium density residential (MDR) category and allocates 168 units. Parcel WB-41 is approximately 10.11 acres and is currently designated as commercial (CC) land use. Parcel WB-31 is approximately 11.1 acres and is currently designated as high density residential (HDR) land use with a current allocation of 263 units. This condition is referred to in the tables below as the "Approved Project"

The applicant is proposing to change the land uses for these projects as follows:

- Sierra View: 75 low density residential (LDR) units
- Parcel WB-41: 63 (MDR) units
- Parcel WB-31: 293 HDR units

This proposed condition is referred to in the tables below as the "Proposed Project".

MacKay and Somps has analyzed the changes in sanitary sewer flow and potable water demand based on the proposed land use designations and unit allocations. Table 1 below calculates and compares the sewer flow for the Approved Project and Proposed Project conditions. It has been determined that the proposed changes to the land use designations and unit allocations results in approximately 0.07 MDG less flow.

Table 2 below calculates and compares the total surface water required for the Approved Project and Proposed Project conditions. It has been determined that the proposed changes to the land use designations and unit allocations results in a reduced need for surface water, approximately 2.0 AFY less. These calculations have been confirmed with the City of Roseville in an email exchange dated June 23, 2021.

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Table 1 - Sewer								
APPROVED PROJECT	ZONING	ACRES	TOTAL UNITS	FLOW FACTOR	Q(ADWF)	FACTORED FLOW	PEAK FACTOR	Q(PWWF)
			EDU	GPD/EDU	MG/D	MG/D	MG/D	MG/D
PARCEL WB-41	CC	10.11		850	0.009	0.017	3.5	0.06
PARCEL WB-31	HDR	11.1	263	130	0.034	0.068	3.5	0.24
SIERRA VIEW	MDR	23.1	168	190	0.032	0.064	3.5	0.22
								0.52
PROPOSED PROJECT	ZONING	ACRES	TOTAL UNITS	FLOW FACTOR	Q(ADWF)	FACTORED FLOW	PEAK FACTOR	Q(PWWF)
			EDU	GPD/EDU	MG/D	MG/D	MG/D	MG/D
PARCEL WB-41	MDR	10.11	63	190	0.012	0.024	3.5	0.0838
PARCEL WB-31	HDR	11.1	293	130	0.038	0.076	3.5	0.2666
SIERRA VIEW	LDR	23.1	75	190	0.014	0.029	3.5	0.10
								0.45
LESS FLOW								0.07

Table 2 - Water											
APPROVED PROJECT	ZONING	ACRES	UNITS	DENSITY	DEMAND FACTOR	PROJECTED DEMAND (MGD)	TOTAL AFY	ANNUAL IRRIGATION DEMAND	% SITE IRRIGATED	RW AFY	TOTAL SURFACE WATER
PARCEL WB-41	CC	10.11			2598	0.03	29.42	3.60	0.30	10.92	18.50
PARCEL WB-31	HDR	11.1	263	23.7	177	0.05	52.14	3.60	0.40	15.98	36.15
SIERRA VIEW	MDR	23.1	168	7.3	430	0.07	80.91			0.00	80.91
											135.56
PROPOSED PROJECT	ZONING	ACRES	UNITS	DENSITY	DEMAND FACTOR	PROJECTED DEMAND (MGD)	TOTAL AFY	ANNUAL IRRIGATION DEMAND	% SITE IRRIGATED	RW AFY	TOTAL SURFACE WATER
PARCEL WB-41	MDR	10.11	63	6.2	430	0.0271	30.3			0.00	30.34
PARCEL WB-31	HDR	11.1	293	26.4	177	0.052	58.1	3.60	0.4	15.98	42.10
SIERRA VIEW	LDR	23.1	75	3.2	728	0.055	61.2			0.00	61.15
											133.59
ADDITIONAL WATER REQUIRED											-2.0

Best Regards,

MacKay & Soms Civil Engineers, Inc.

BY: Allison Wathen

cc: Eric Crow

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