

Appendix H

Wastewater and Sewer Analysis Memo

Russell Ranch Lots 24 thru 32

Folsom, California

Tech Memo

Waste Water and Sewer Transmission Analysis

The New Home Company filed an application, Russell Ranch Lots 24 thru 32 to modify the land use on a portion of the Russell Ranch. The project includes a component of both Active Adult dwelling units for residents 55 years and older as well as a component of market rate traditional dwelling units. The attached table compares the waste water generation and sewer flow estimates for both the existing approved entitlements and the proposed land use changes.

The Average Dry Weather generation and flow rate the City uses is of 400 gallons per day (gpd) per dwelling unit for single family units and 300 gallons per day per dwelling unit for multi-family units. There numerous studies that demonstrate the average population per dwelling unit for an Active Adult project is smaller than a traditional residential project. Numerous jurisdictions across the Sacramento Region has accepted these studies in formulating a population projection for Active Adult communities and used a range of 1.8 – 2.0 persons per household in calculating demand for various services including wastewater and sewer generation. The City of Folsom uses a person per household size of 2.92 for single family units and 1.94 persons per household for multi-family units.

The ratio of population of an Active Adult unit and a single family unit is a range of 0.62 – 0.68 and for a multi-family unit is 0.93. Applying these to the wastewater generation and sewer flow rated, an Active Adult unit would generate between 247 gpd and 279 gpd. wastewater and sewer flow depend on the number of residents. We have chosen 275 gpd to analyze the single family lots within the proposed project.

The attached table compares the existing entitlement and the proposed amendments. The analysis shows that the proposed project generates 0.1165 million gallons a day (mgd) Average Dry Weather Flow of effluent compared to the existing entitlements of 0.1060 mgd. The minor difference of 0.0105 mgd is considered insignificant.

A Sewer Master Plan (Water Works September 2014) was prepared for the entire Folsom Plan Area Specific Plan which assumed the 1,119 units originally allocated to the Russell Ranch development that includes Lots 24 thru 32. It shows at the Regional Folsom South Lift Station located just east of Prairie City Road and south of Highway 50 where the flow is pumped across Highway50 into the Sacramento Regional County Sanitation District (SRCSD) system the flow is 6.23 mgd (an increase of only 0.2%) for the Average Dry Weather condition. This corresponds to Peak Wet Weather Flow of 11.1 mgd (using

the SRCSD methodology). The SRCSD Interceptor Master Plan prepared in 2000 provided for a flow excess of this demand.

All the pipelines conveying the flow from the site to the regional Folsom South Lift Station have been planned and constructed to date at a capacity (maximum depth of flow to diameter of pipe) of not to exceed 0.7 full. The Master Plan analyzes all the pipelines within the Plan Area and determines that flow in all pipelines is substantially less than 0.7 full. Thus, the minor increase can be accommodated from the project site to the connection with SRCSD.

**Folsom Plan Area
Russell Ranch
Specific Plan Amendment
Sanitary Sewer
Demand Comparison**

27107.PH2
Date: January 17, 2018

Currently Approved Russell Ranch Phase II Sewer Demands - Approved Specific Plan Land Uses				
Land Use Summary				
Land Use	Gross Area (Acres)	Number of Allocated Dwelling Units/Assigned ESD's	Average Daily Sewer Demand (gal./day) or (gal/ac.)	Average Daily Sewer Flow (Million gal./day)
•SF	33.9	92	400	0.0368
• SFHD	38.2	173	400	0.0692
PQP - Sewer	0.1	0		
•OS / Landscape Slopes	52.2	0		
•ROW	10.7	0		
Total	135.1	265		0.1060

Russell Ranch Phase II Sewer Demands - Specific Plan Amendment Land Uses				
Land Use Summary				
Land Use	Gross Area (Acres)	Number of Allocated Dwelling Units/Assigned ESD's	Average Daily Sewer Demand (gal./day) or (gal/ac.)	Average Daily Sewer Flow (Million gal./day)
SFHD	17.5	63	400	0.0252
SFHD (Active Adult) ⁽²⁾	41.6	208	275	0.0572
MLD	12.4	118	275	0.0325
Rec Center ⁽¹⁾	2.2	4	400	0.0016
PQP-Sewer	0.1	0		
•OS (Dry / Landscape Slopes)	44.8	0		
ROW	16.4	0		
Total	135.0	393		0.1165

Notes:

(1) Rec Center is allocated 4 ESD.

(2) SFHD (Active Adult) allocated 275 GPD to account for reduced population range of 1.8 to 2.0 pph.