

Relationship of Groundwater Management to Measure P

WHAT IS MEASURE P?

Measure P is a City of Livermore ballot initiative that would allow for the extension of City of Livermore sewer services outside the Urban Growth Boundary, into an area currently served by septic systems.

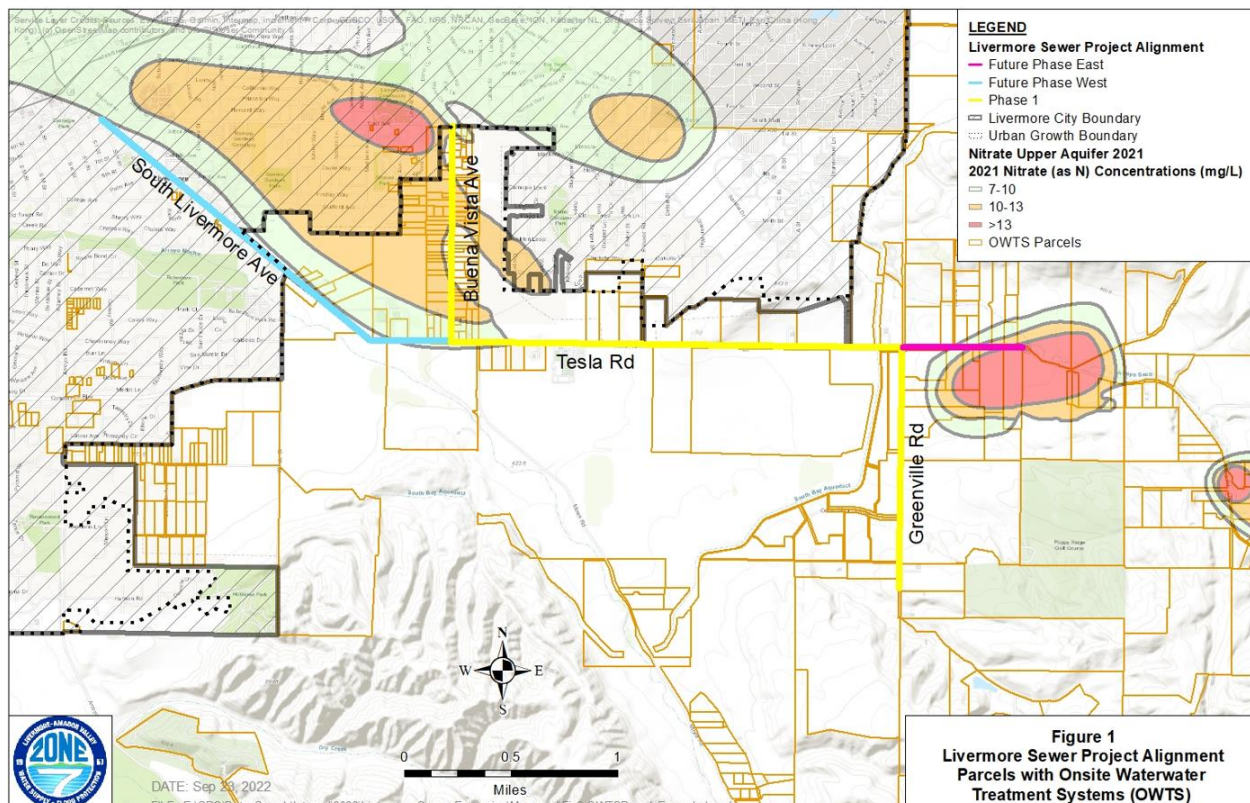


Water Quality

Measure P's language is as follows:

"Shall the ordinance amending the South Livermore Urban Growth Boundary policies in the City of Livermore's General Plan to allow the City to extend sewer service to permitted uses within the South Livermore Valley Area Plan Planning Area be adopted?"

The proposed alignment is shown in Figure 1. The sewer extension would be installed in phases on South Livermore Avenue from approximately 520 feet northwest of Concannon Boulevard to Tesla Road, Tesla Road from South Livermore Avenue to approximately 3,000 feet east of Greenville Road, Buena Vista Avenue between East Avenue and Tesla Road, and Greenville Road from Tesla Road to approximately 5,900 feet south of Tesla Road.



According to the City's staff report from July 11, 2022, the purpose of Measure P would be to:

"...modify South Livermore Urban Growth Boundary policies enabling the city to extend sewer service and property owners to receive municipal services. The sewer project would be constructed in phases and within existing rights-of-way. The initiative would not require connection and would not commit City funding. Connection would be at the request of individual property owners and subject to an Out-of-Area service agreement or annexation into the city. The purpose of the project is to improve groundwater quality and enhance the economic viability of agriculture and viticulture in the South Livermore Valley area."

Reductions or increases in septic system use in the groundwater basin have the potential to impact local groundwater conditions, in particular nitrate levels in the basin. Zone 7's interest in Measure P stems from its role as the Groundwater Sustainability Agency responsible for ensuring the continued sustainable management of the underlying groundwater basin.

How is wastewater currently handled in this area?

The area proposed for an extension of sewer service under Measure P is currently served predominantly by onsite wastewater treatment systems (OWTS), also referred to "septic systems." Zone 7's Resolution No. 1165: *Use of Septic Tanks in Commercial Areas* (August 28, 1985) governs the review and permitting of commercial and industrial uses of these systems. If Measure P is approved, permits for OWTS/septic systems for new construction or modified use would presumably continue until buildout of a sewer connection, or until a sewer connection became available for the subject property.

What is nitrate and how does it get into groundwater?

Nitrogen is abundant in organic sources and nitrate is a natural part of the nitrogen cycle. Waste from humans, animals, and plants all act as a source for nitrogen that gets converted to nitrates in groundwater and can be taken up in the roots of plants and crops as food. It is a key component of fertilizers. Humans regularly ingest nitrates in their food; however, too much nitrate can cause health issues – particularly reducing the ability of red blood cells to carry oxygen to tissues. Historic agricultural practices and leach fields from septic systems are common sources of higher nitrate concentrations in groundwater. The collection of wastewater in sewer pipes removes one source of nitrate from groundwater and provides centralized treatment.



WHY IS NITRATE A CONCERN FOR THE LIVERMORE VALLEY GROUNDWATER BASIN?



Historic agricultural practices and a rural land-use designation in this portion of Alameda County, outside the City of Livermore's Urban Growth Boundary, has resulted in the use of OWTS/septic systems as a means of disposing of wastewater and has caused the accumulation of nitrates in groundwater. In some locations, nitrates have accumulated in groundwater to levels above what is considered safe for drinking water consumption.

The proposed Livermore sewer extension project area would include several commercial parcels along Tesla Road and the Buena Vista residential neighborhood, both of which have been identified as having nitrate contamination in groundwater. The proposed connections are intended to reduce nitrate discharge into the groundwater basin and prevent further degradation of groundwater quality.

How would extending the sewer services impact the groundwater basin in this area?

In reviewing information regarding nutrient management for this area, staff have determined the following:

- Rural residential and agricultural uses in South Livermore require the use of OWTS/septic systems. These systems release nitrogen into the shallow groundwater in the area as a part of the wastewater treatment process through field lines that drain the septic systems. Nitrogen converts to nitrate in groundwater and represents a continuous source of nitrate contamination.
- Approximately 160 parcels either use existing OWTS/septic systems or are zoned such that any use would need a wastewater system.
- Conversion to a municipal sewer system would remove the input of nitrogen and nitrate contamination contributed from OWTS/Septic systems in the area served by the sewer extension project.
- With the removal of a constant source, nitrate will naturally break down in groundwater and water quality will improve over an extended time without further treatment.

