

FOXEN CANYON / 154

CALTRANS DISTRICT 5

MEETING NEXT TUESDAY 12/12 – 6PM
ST. MARK'S CHURCH





STATE OF THE DISTRICT

Guy Savage
General Manager



AGENDA

- What do you want to know?
- LOCSD overview
- What's happened and what's next
- More Q & A



WHAT DO YOU
WANT TO KNOW?



LOS OLIVOS COMMUNITY SERVICES DISTRICT

- Special Problems Area designation 1974
- District formed in January 2018 by voters
 - 73% of voters in favor of formation
 - Ensures local control
- If we didn't form, the County could build a sewer or require connection to another facility
 - ➡ Doing nothing is not a long-term option



THE DISTRICT

378 Parcels

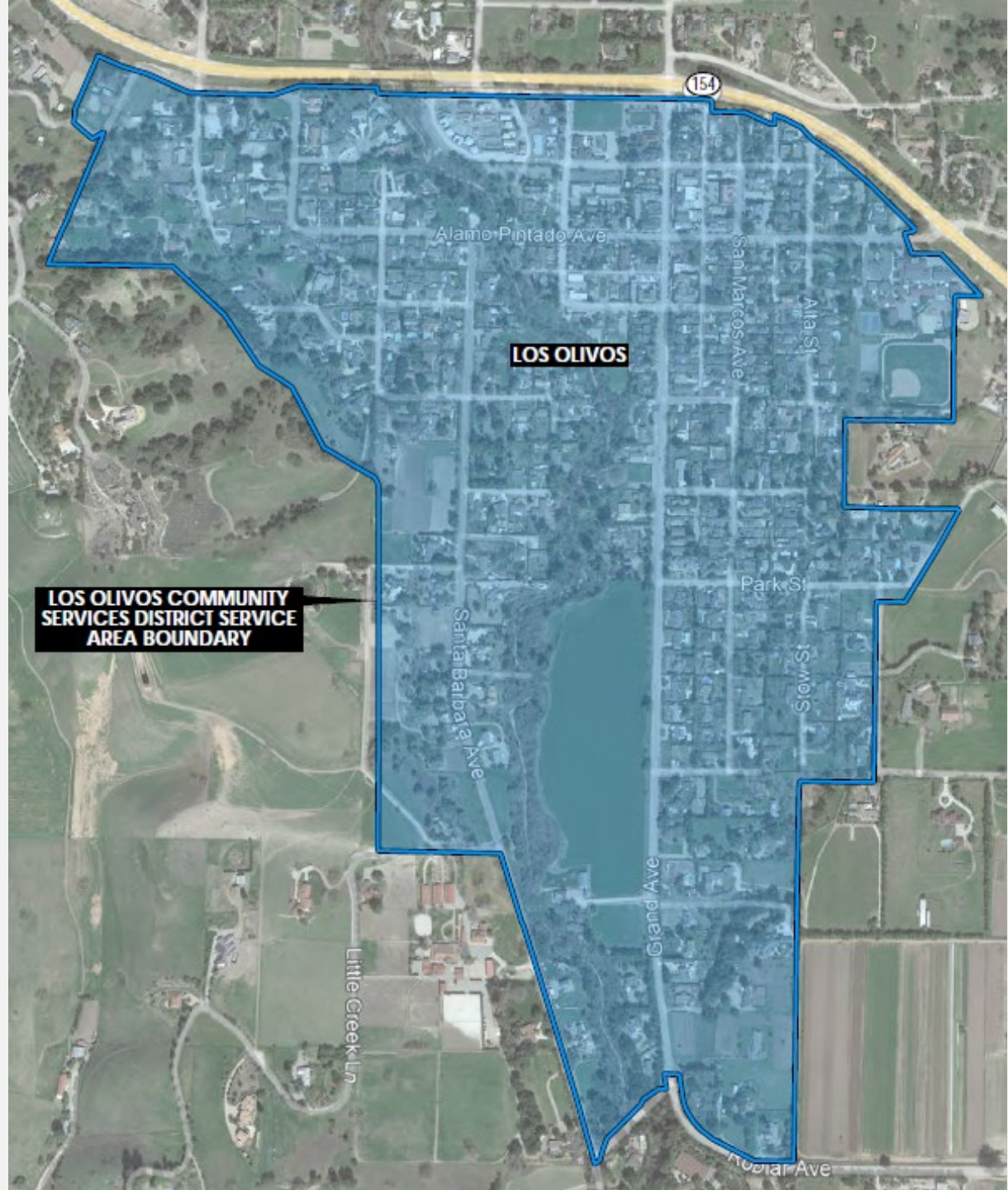
~44 Commercial

~334 Residential

Annual Budget

(FY 2023-24)

\$227,650



THE WASTEWATER PROCESS SIMPLIFIED

Collection – takes effluent from your home and moves it to where it will be treated

Treatment – a series of physical and biological processes that separate contaminants in the waste stream

Disposal – reintroduces treated effluent into water cycle (percolation, purple pipe reuse, injection, others)



2023 KEY ACTIVITIES COMPLETED OR STARTED

✓ Workshops

1. Community
2. County of Santa Barbara - Environmental Health Services (EHS) and Central Coast Regional Water Quality Control Board (CCRWQCB)

✓ REGEN – technical review

✓ LAFCO extension through April 5, 2025

REGEN – 30% hybrid system engineering and design

Groundwater monitoring wells

Not an exhaustive list of activities this year!



2023 COMMUNITY WORKSHOP RESULTS

1. Construction (capital) cost
2. Operations and maintenance cost
3. Ownership / maintenance responsibility
4. Treatment plant location
5. Growth inducement
6. Odors
7. Treatment plant footprint / size
8. Viewshed impact
9. Innovation
10. Other



MORE 2023 COMMUNITY WORKSHOP RESULTS

Disposal

1. Percolation Chambers
 2. Percolation Ponds
 3. Injection wells
 4. Creek disposal
- Reuse with above





EHS / CCRWQCB WORKSHOP



1. Residential Onsite Wastewater Treatment Systems (OWTS) – aka advanced onsite systems

- Capital / Construction = \$30,000 - \$70,000
 - Depending on site conditions and the components required, some estimates over \$100,000
- Annual Maintenance = \$1,505 - \$1,905
 - Permits, pumping, service contract, testing
 - Not including electrical/communication costs, or repairs to treatment system

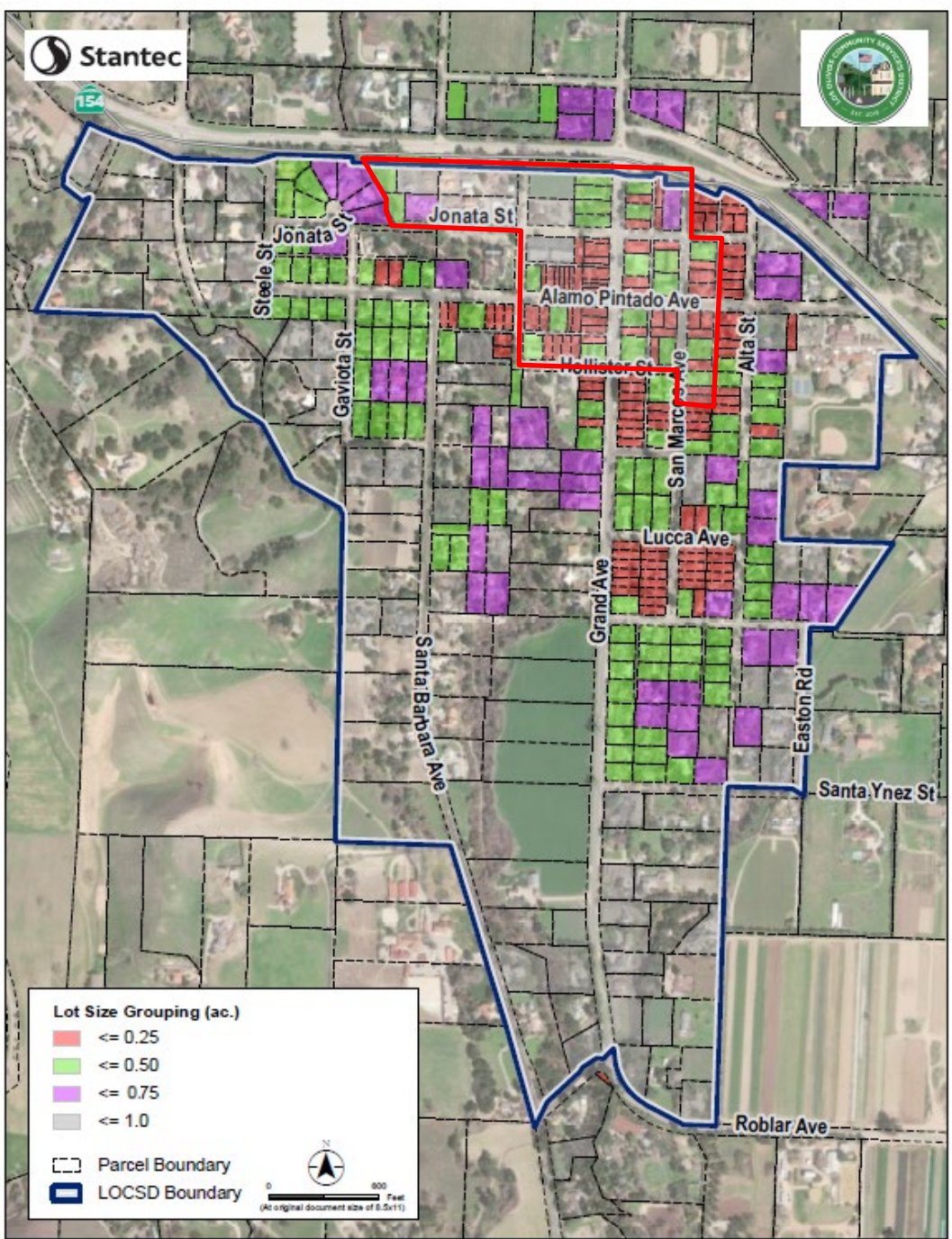
2. Public water main setback for tanks = 25 feet



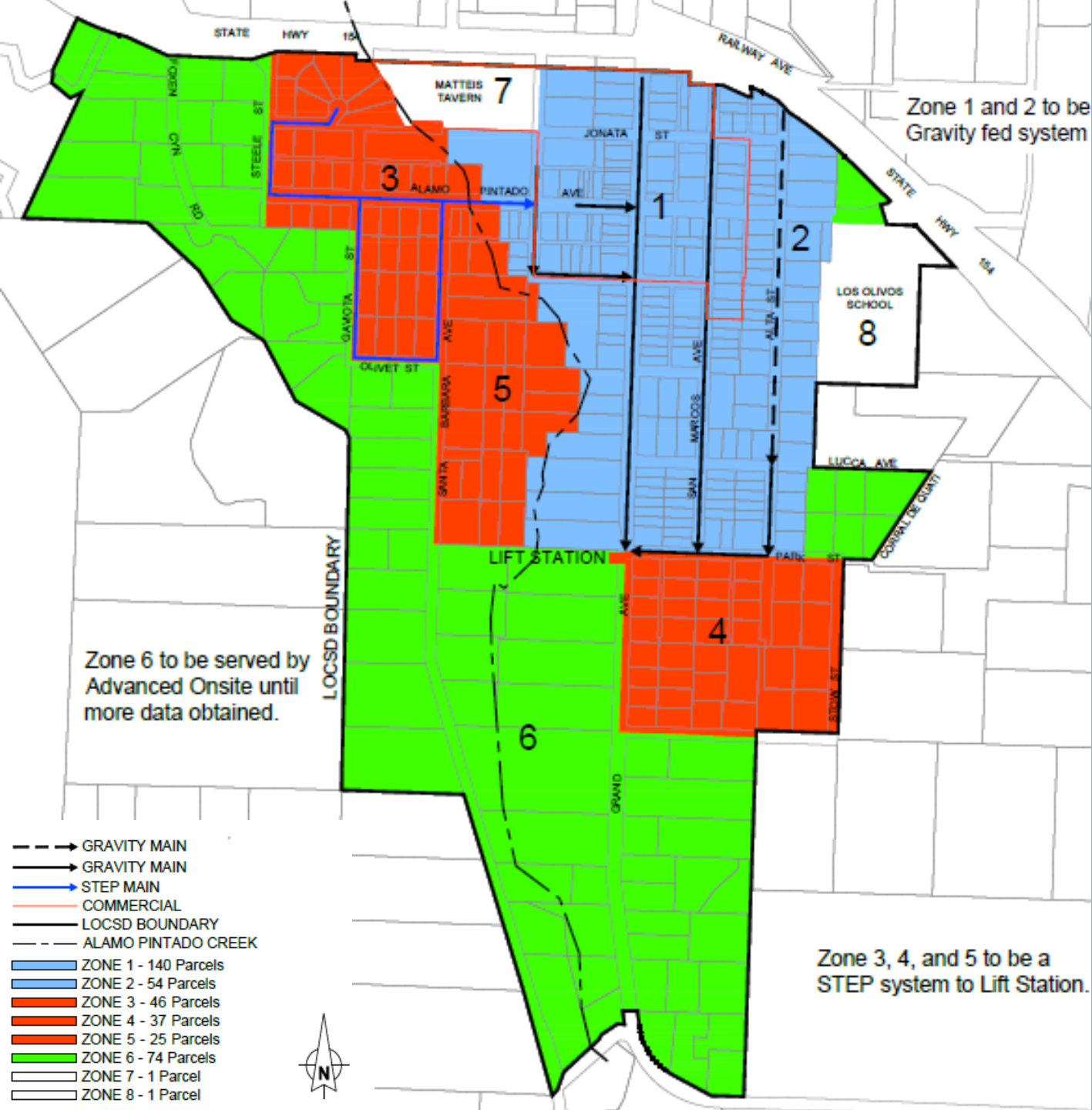
2023 REGEN TECHNICAL REVIEW AND RUBRIC

Centralized Secondary Treatment to Percolation Chambers	68.4%
Distributed Secondary Treatment to Percolation Chambers	68.0%
Hybrid Distributed / Advanced Onsite	66.4%
Membrane BioReactor (MBR) Treatment to Percolation Chambers	65.2%
Membrane BioReactor (MBR) Treatment to Immediate Implementation of Reuse	60.4%
Advanced Onsite Treatment and Onsite Dispersal Systems	55.2%





Los Olivos Community Services District Lot Sizes



TECHNICAL
COMMITTEE
-
HYBRID
APPROACH



UNDERWAY REGEN – 30% DESIGN CONTRACT

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SUMMARY - COLLECTION AND TREATMENT APPROACHES

- Collection
 - Gravity fed
 - Effluent (STEP)
- Treatment
 - Centralized
 - Distributed
- Advanced onsite (OWTS)



LOCSD GROUNDWATER MONITORING WELLS

- Two District wells installed in November 2022
- First solid data in 20+ years
- Grant to install three new wells

- Maximum Contaminate Level (MCL), Nitrates = 10 mg/l
 - Well #1 = 2.6 mg/l
 - Well #2 = 10 mg/l

*Well #1 and #2 – results from November 2022 sampling



OLD WELL DATA

WELL DEPTHS & NITRATE LEVELS

Deep Wells (> 100 ft.)

- < 10 mg/l
- 10-20 mg/l
- 20-30 mg/l
- 30 mg/l +

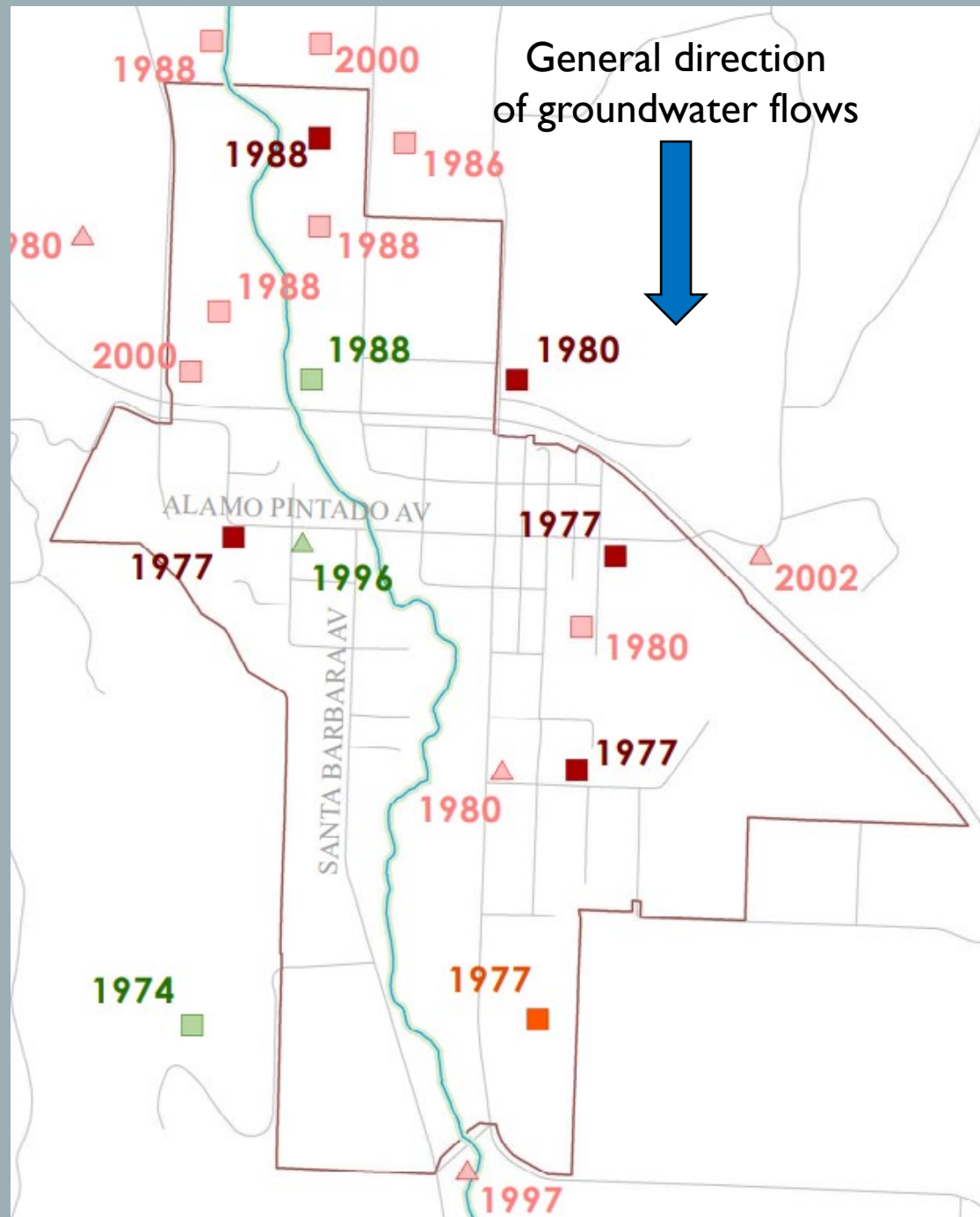
Shallow Wells (< 100 ft.)

- < 10 mg/l
- 30 mg/l +

Other Wells (Depth Unknown)

- ▲ < 10 mg/l
- ▲ 10-20 mg/l
- ▲ 20-30 mg/l
- ▲ 30 mg/l +

The label next to each well represents the most recent year samples were taken.



NEW WELLS

WELL DEPTHS & NITRATE LEVELS

Deep Wells (> 100 ft.)

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- 10-20 mg/l
- 20-30 mg/l
- 30 mg/l +

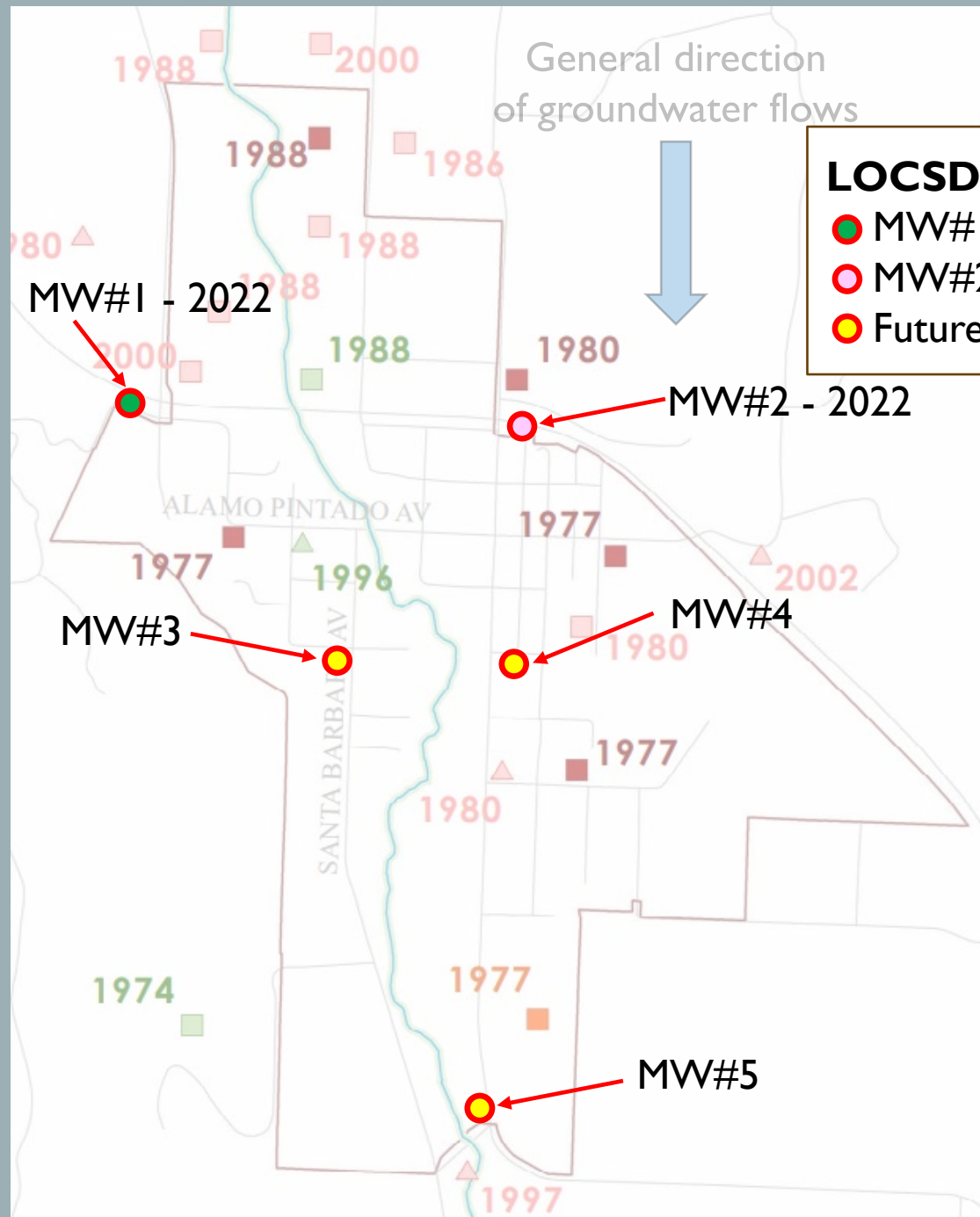
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The label next to each well represents the most recent year samples were taken.



LOCS D Wells

- MW#1 2.6 mg/l
- MW#2 10 mg/l
- Future Wells



RECAP AND HOW DOES THIS ALL FIT TOGETHER?

- Engineering - allows for technical and financial comparisons
- Wells - data on what is happening underground
- Basis for further community workshop(s)
- Review by regulators
- 60% design and environmental
- Proposition 218 vote by property owners



FINANCIAL COMPARISON

	Costs	
	Capital	Annual Operations & Maintenance (O&M)
Collection		
Gravity Fed	\$ 22,600,000	\$ 100,000
Effluent (STEP)		
Treatment		
Centralized Secondary		
Distributed Secondary		
Centralized Tertiary (MBR)	\$ 25,200,000	\$200,000-300,000
Disposal		
Percolation Chambers	\$ 1,154,635	minimal
Percolation Ponds	\$ 700,000	minimal
Solvang Collection		
Solvang Treatment and Disposal		
Advanced On-site per parcel	\$30,000-70,000	\$1,500-\$1,900



THE YEAR AHEAD

-- SUBJECT TO CHANGE --

Initial Engineering Studies
and Cost Estimates

December - March

Workshops, Discussions
and Decisions

April - June

Environmental Review,
60% Engineering Design

June – 2024?

Proposition 218 Vote

2024 – 2025?



WANT MORE???

- Visit us at:
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www.losolivoscscsd.com/subscribe
- Contact me:
Guy Savage
gm.locsd@gmail.com
(805) 500-4098



**QUESTIONS,
ANSWERS,
AND
DISCUSSION**

**U S POST OFFICE
LOS OLIVOS CAL
Ca93441**



Q&A SLIDES



BASICS



WASTEWATER PROCESS SIMPLIFIED

Collection – takes effluent from your home and moves it to where it will be treated

Treatment – a series of physical and biological processes to separate contaminants in the waste stream

Disposal – reintroduces treated effluent into water cycle (percolation, purple pipe reuse, other uses)

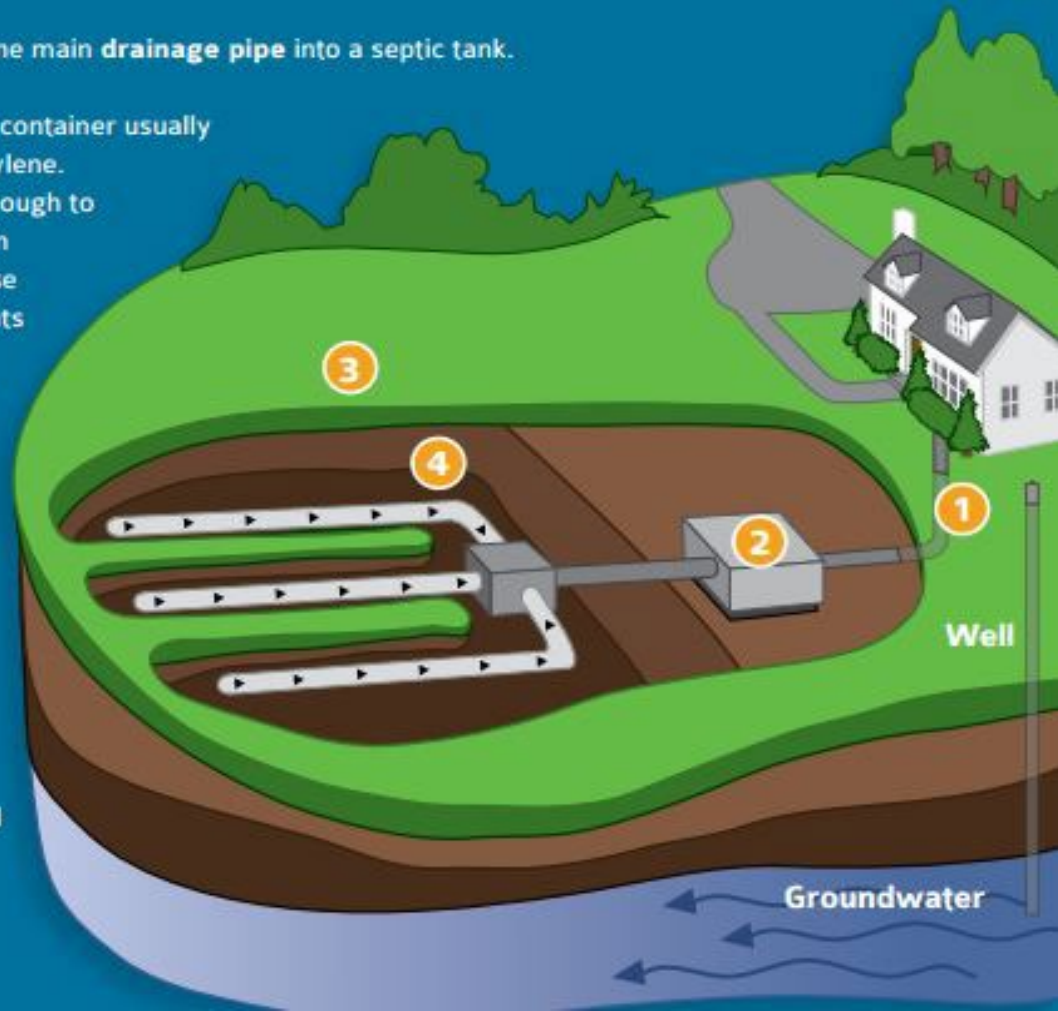


SEPTIC TANK SYSTEM

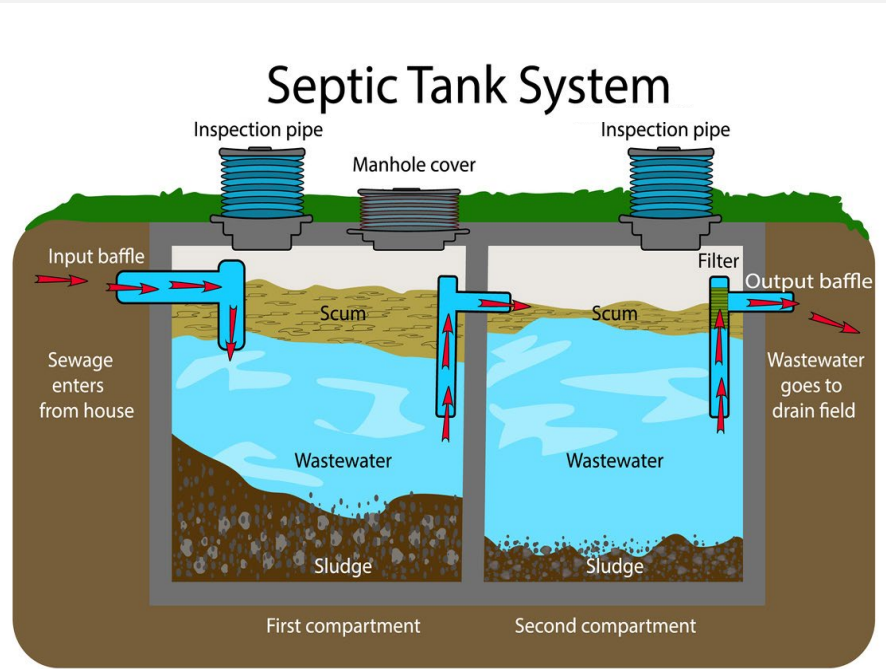
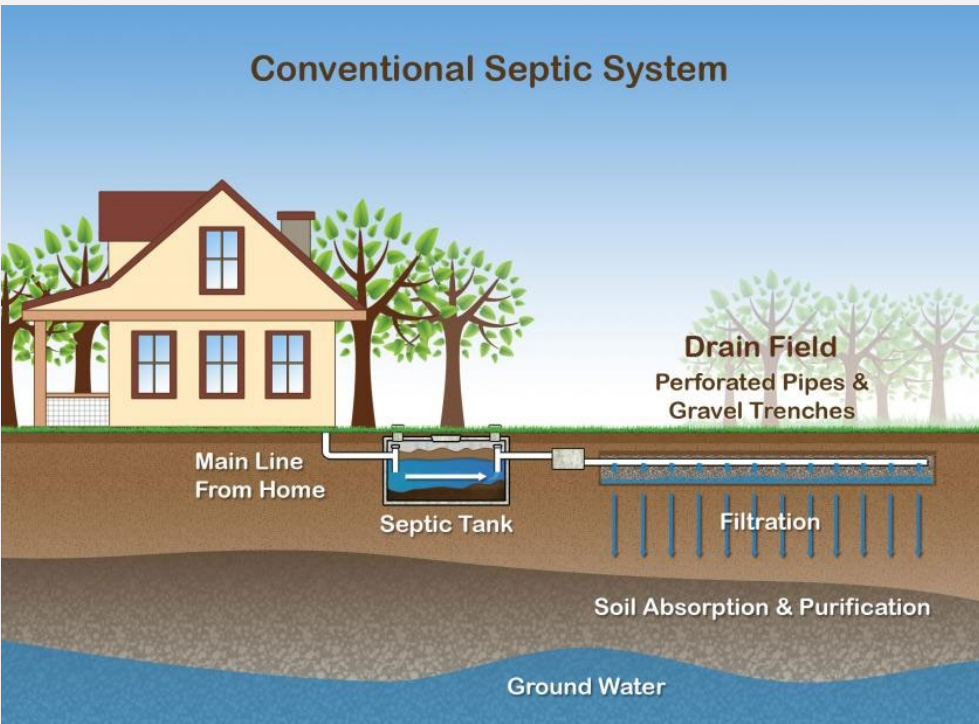
How does a septic system work?

This is a simplified overview of how a septic system works.

- 1** All water runs out of your house from one main **drainage pipe** into a septic tank.
- 2** The **septic tank** is a buried, water-tight container usually made of concrete, fiberglass or polyethylene. Its job is to hold the wastewater long enough to allow solids to settle down to the bottom (forming sludge), while the oil and grease floats to the top (as scum). Compartments and a T-shaped outlet prevent the sludge and scum from leaving the tank and traveling into the drainfield area.
- 3** The liquid wastewater then exits the tank into the **drainfield**. If the drainfield is overloaded with too much liquid, it will flood, causing sewage to flow to the ground surface or create backups in toilets and sinks.
- 4** Finally, the wastewater percolates into the **soil**, naturally removing harmful bacteria, viruses, and nutrients.



SEPTIC TANK SYSTEM



ALTERNATIVES TO SEPTIC SYSTEMS

Advanced On-Site systems
(aka full treatment on-site)

Gravity collection

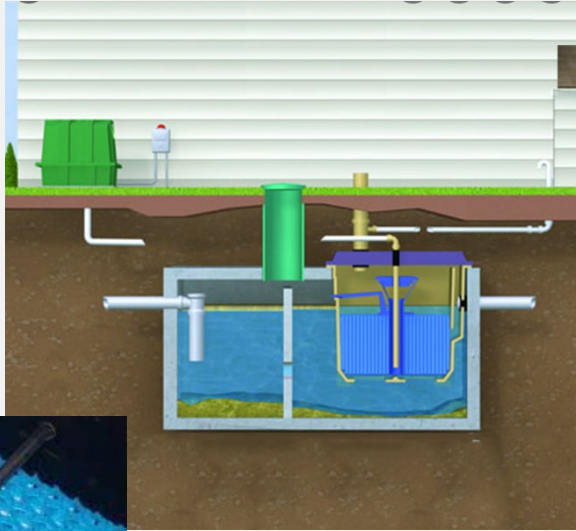
Septic Tank Effluent Pumping
(STEP) collection / treatment

Treatment

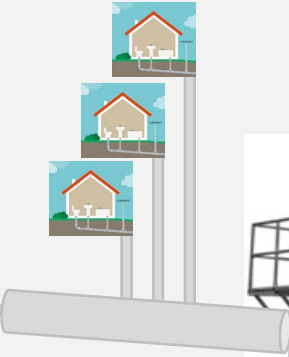
Disposal



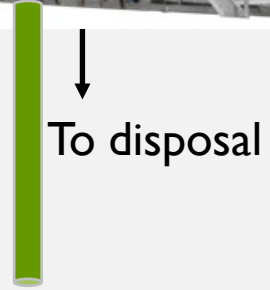
ADVANCED ON-SITE SYSTEM (EVERYTHING ON-SITE / OWTS)



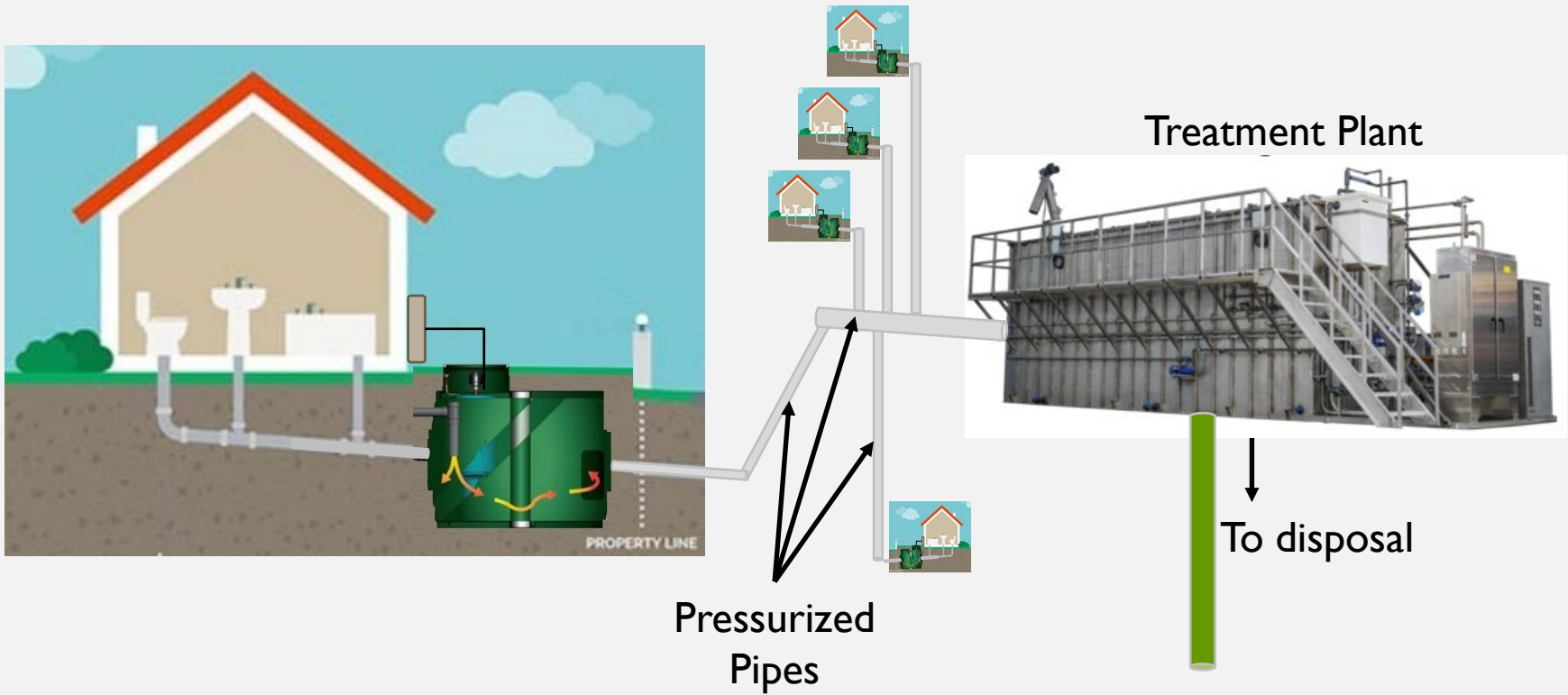
GRAVITY FED COLLECTION



Treatment Plant



EFFLUENT COLLECTION SEPTIC TANK EFFLUENT PUMPING (STEP)



WHAT
DOES IT
MEAN TO
YOU?



IMPACT TO YOU AND YOUR PROPERTY

Gravity Collection – pipes only (deep enough for gravity)
- lowest

Effluent Collection – mixed responsibility for pipes, tank, electrical, pumping access
- medium

Advanced On-Site – you are 100% responsible for permits, tank, electrical, treatment, filters, disposal field or method, pumping
- highest



COMMUNITY IMPACT

Gravity – pipes (deep enough for gravity), optional lift station, treatment, disposal

- highest

Effluent – smaller pipes (3-4' underground), treatment, disposal

- medium

Advanced On-Site – No direct community impact (individual property owners only)

- lowest



30% DESIGN GRAVITY COLLECTION WITH MBR TREATMENT

	North Option	South Option
Zone 1	\$30,300,000	\$28,700,000
Zone 2	\$ 1,700,000	\$ 1,700,000
Zone 3	\$15,800,000	\$15,800,000
Total	\$47,800,000	\$46,200,000

Operations and Maintenance: \$300-400k per year



10 - 15% DESIGN STEP COLLECTION WITH MBR TREATMENT

Construction	
Zone 1	\$ 22,035,500
Zone 2	\$ 1,516,500
Zone 3	\$ 13,507,000
Total	\$37,059,000

Operations and Maintenance: \$350-500k per year, plus electrical

* Initial vendor estimates, being reexamined as part of the REGEN 30% Design contract



ADVANCED ON-SITE (EVERYTHING ON YOUR PARCEL)

Construction	
Per Residential parcel	\$30,000-70,000
Per Commercial parcel	Case-by-case

Operations and Maintenance: \$1,500-1,900 per year,
including permits and pumping, excluding electrical

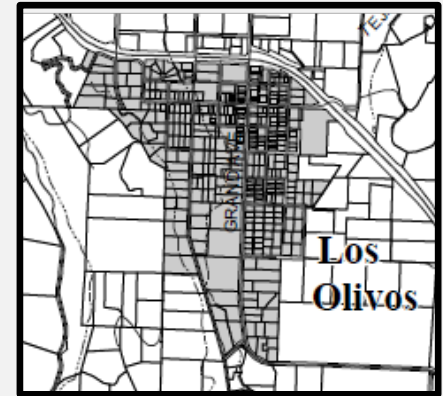


DOCUMENTS WORTH LOOKING AT



2009 SANTA YNEZ VALLEY COMMUNITY PLAN [WEBSITE LINK](#)

- Established “urban” planning boundaries
- Set specific goals for land use and infrastructure
- Wastewater discussion begins on page 109



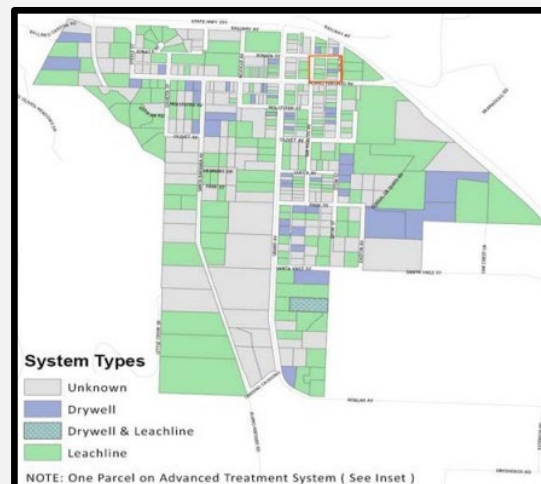
Policy WW - SYV - 3:

Annexation of inner - rural and rural area(s) to a sanitary district or extensions of sewer lines into inner - rural and rural area(s) as defined on the land use plan maps shall not be permitted unless required to prevent adverse impacts on an environmentally sensitive habitat or to protect public health



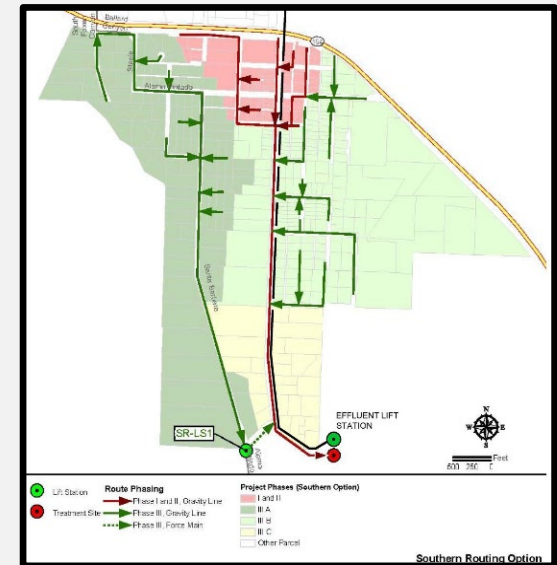
2010 LOS OLIVOS WASTEWATER MANAGEMENT PLAN [WEBSITE LINK](#)

- Discussion about gravity versus septic tank effluent pumping (STEP) collection, membrane bioreactor (MBR) treatment, and advanced on-site systems
- Provides details on systems, types, percolation
- Groundwater quality issue discussion begins on page 28



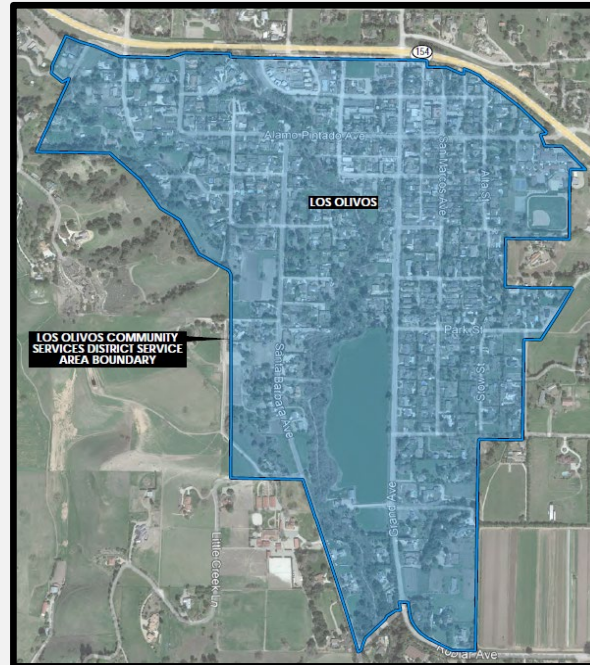
2016 UPDATED PRELIMINARY ENGINEERING REPORT [WEBSITE LINK](#)

- Detailed discussion about collection, treatment, disposal, and advanced on-site approaches
- Provided early design and associated costs
- Rather than following the tiered approach, analyzed a system that serves the entire SPA
- Focused on MBR treatment
- Evaluated two effluent disposal methods: infiltration and nonpotable reuse
- Analyzed “no action alternative”



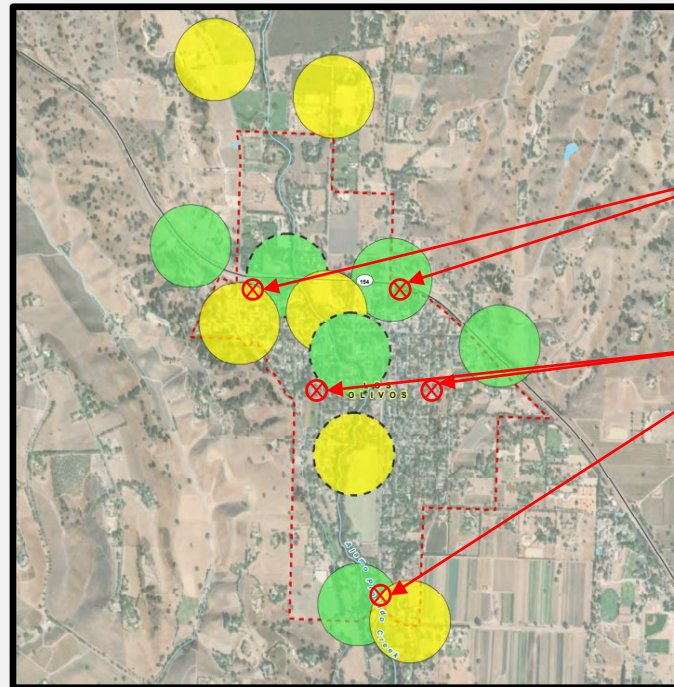
2018 FORMATION

The District shall be authorized to collect, treat, and dispose of sewage, wastewater, recycled water, and storm water, in the same manner as a sanitary district, formed pursuant to the Sanitary District Act of 1923, Division 6 (commencing with Section 6400) of the Health and Safety Code. (Reference: Government Code sections 61011(a)(1), 61100(b))



2021 LOS OLIVOS GROUNDWATER MONITORING PLAN [WEBSITE LINK](#)

- Identified 12 shallow groundwater monitoring areas
- Prioritized into two groups



November 2022
Groundwater Monitoring Wells

Future Groundwater Monitoring Wells

LEGEND

Proposed New Monitoring Well Zone

- Phase 1 (Green circle)
- Phase 2 (Yellow circle)

Nested Monitoring Well (Dashed green circle)

All Other Features

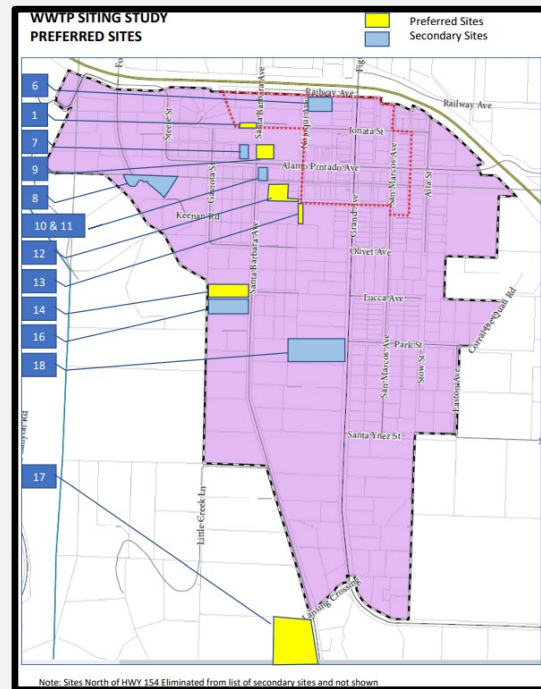
- Los Olivos Special Problem Area (Red dashed outline)



2021 SITING STUDY

[WEBSITE LINK](#)

- Examined 18 potential sites
- 3 groupings: preferred, secondary, north of I 54



HOW MUCH EFFLUENT (SEWAGE)?

[WEBSITE LINK](#)

Design Flows

	Existing Flows (Calculated)	Proposed 20 -Year Buildout Design Flows	ADUs	Proposed 20 -Year Buildout Design Flows with ADUs
	Average Daily Flows - gal (Maximum Daily Flows - gal)	Average Daily Flows - gal (Maximum Daily Flows - gal)	Average Daily Flows - gal (Maximum Daily Flows - gal)	Average Daily Flows - gal (Maximum Daily Flows - gal)
Zone 1 – Commercial & Residential Lots	27,800 (89,000)	43,800 (140,000)		43,800 (140,000)
Zone 2 – Near to Downtown Residential	10,500 (33,700)	10,800 (34,400)		10,800 (34,400)
Zone 3 – Remaining Residential	58,000 (185,800)	63,300 (202,400)	2,600 (8,300)	65,800 (210,700)
Total	96,400 (308,500)	117,800 (376,800)	2,600 (8,300)	120,300 (385,000)

Note: Flows from the Basis of Design Report by Stantec dated January 7, 2022



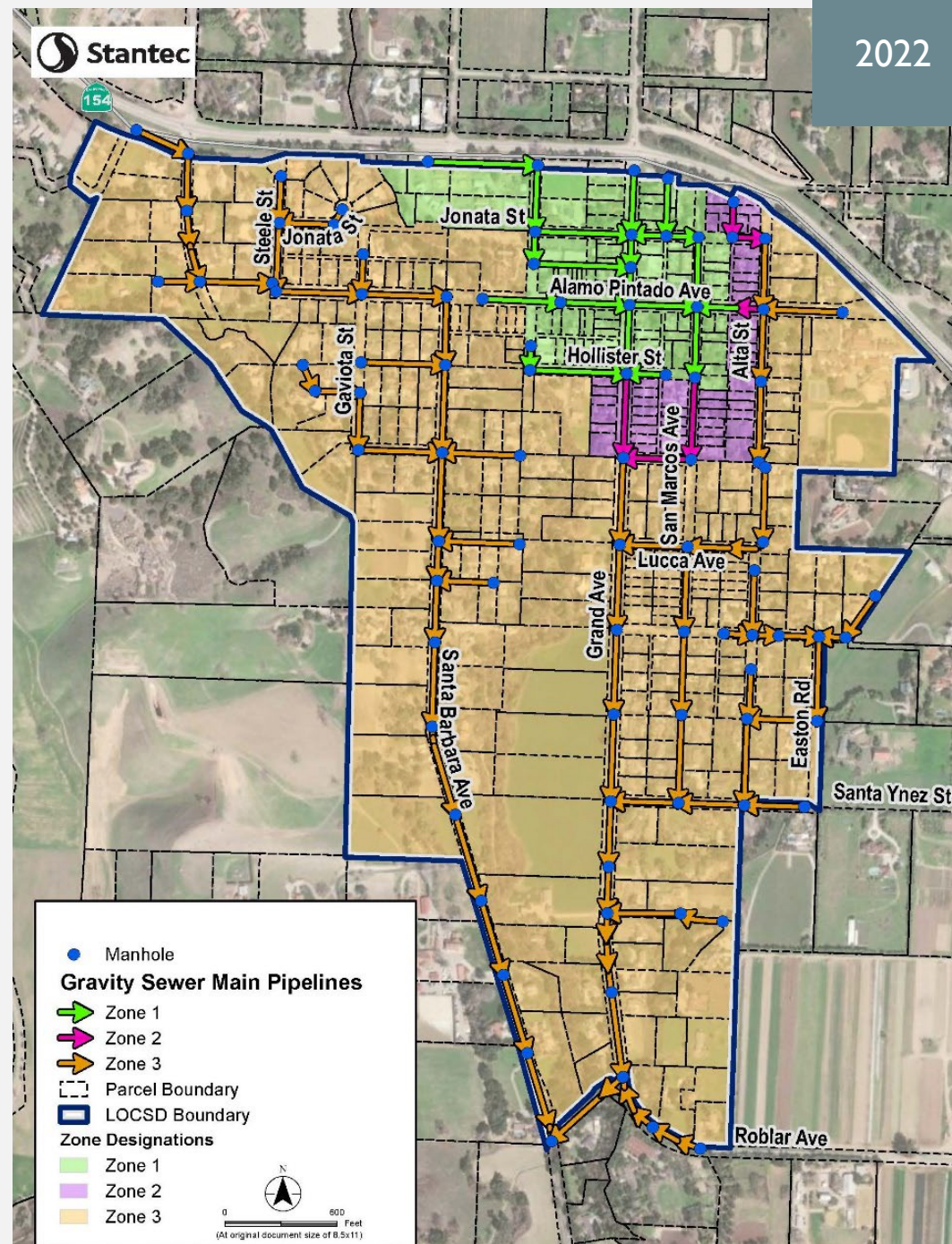
30% DESIGN

[WEBSITE LINK](#)

Gravity Collection, MBR Treatment



Zones 1 and 2



SEPTIC TANK EFFLUENT PUMPING (STEP)

[WEBSITE LINK](#)

- STEP collection, coupled with membrane bioreactor (MBR) treatment



COMMUNITY ADVANCED TREATMENT

[WEBSITE LINK](#)

AdvanTex Treatment

- Likely in the range of 20% to 50% more expensive than MBR
- Can be decentralized to more than one location
- Quicker to design and construct
- Larger footprint

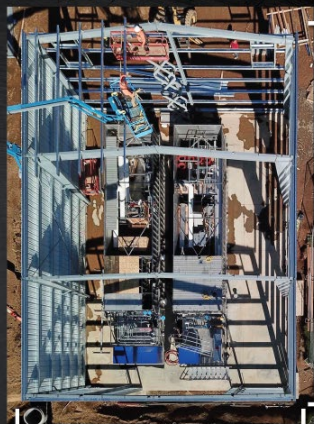


MEMBRANE BIOREACTOR (MBR) TREATMENT

[WEBSITE LINK](#)



PARKDALE SANITARY DISTRICT



65 FEET

45 FEET

Images from



For more information, visit:

<https://www.cloacina.com/>



EFFLUENT DISPOSAL STUDY

[WEBSITE LINK](#)

- Examine five options and make a recommendation
 1. Percolation chambers
 2. Percolation ponds
 3. Shallow aquifer injection well(s)
 4. Alamo Pintado Creek outfall
 5. Disposal by sale for reclaimed water use



REGEN TECHNICAL STUDY

[WEBSITE LINK](#)

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