

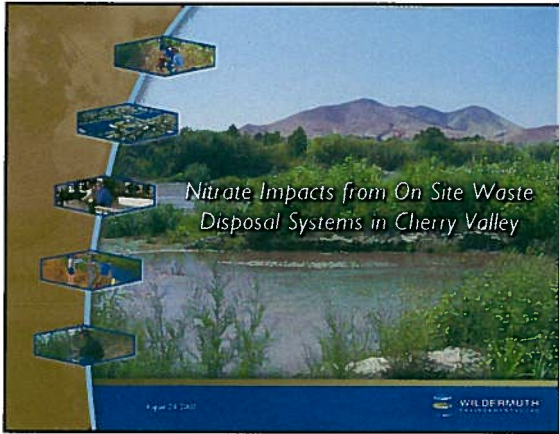


BEAUMONT CHERRY VALLEY WATER DISTRICT
Town Hall Meeting Concerning Special Election Measure B Concerning Water Quality Issues
in Beaumont Cherry Valley
Thursday, August 30th, 2007 – 7:00PM
10478 Beaumont Avenue, Cherry Valley

Assistance for the Disabled: If you are disabled in any way and need accommodation to participate in the meeting, please call Blanca Marin Administrative Assistant, at (951) 845-9581 Ext.23 for assistance so the necessary arrangements can be made.

1. Opening Remarks by Moderator (C.J. Butcher, General Manager)
2. Verbal Presentation by Legal Counsel of Redwine and Sherrill, Gil Granito Regarding the Legal Process Regarding Activation of Sanitation Powers—Measure B.
3. Presentation by Mark Wildermuth of Wildermuth Environmental Inc. Regarding Water Quality Impacts from On – Site Waste Disposal Systems in the Cherry Valley Community of Interest.
4. Presentation by Joe Reichenberger, PE, District Engineer Concerning Alternatives for Groundwater Pollution Control in the Beaumont Cherry Valley Area.
5. Presentation by Sudhir Pardiwala of Raftelis Financial Consultants Inc. Regarding Cost to Sewer Cherry Valley.
6. Verbal Presentation by Lisa Kegarice-Tollstrup of Tom Dodson and Associates Regarding the Environmental Work.
7. Questions and Answers.

**Water Quality Impacts from On-Site Waste
Disposal Systems in the Cherry Valley
Community of Interest
Item 3**

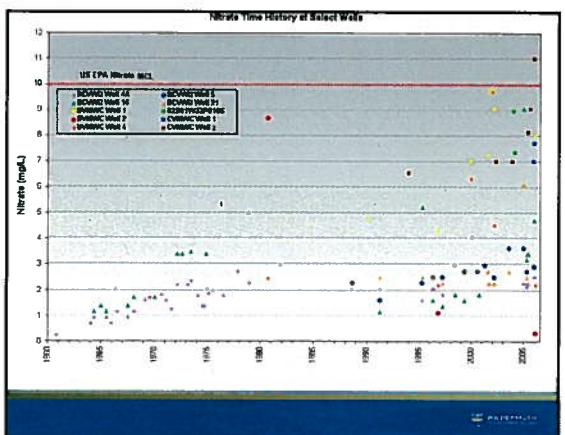
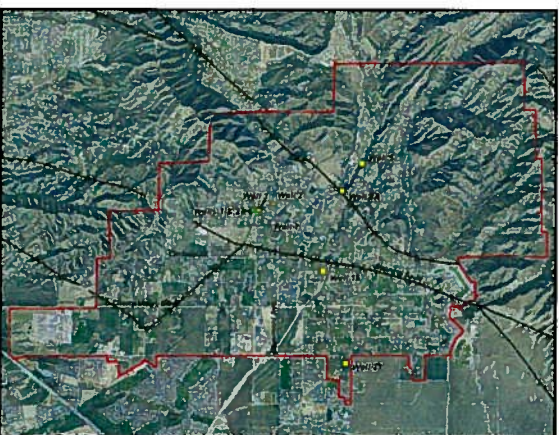
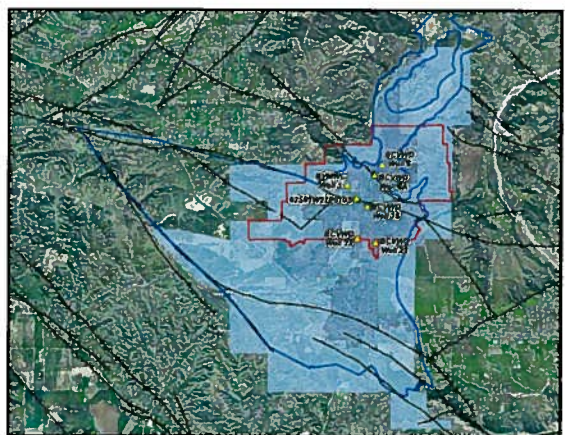


Problem Statement

- High nitrate levels found at Beaumont Cherry Valley Water District wells 16 and 21 in 2005
- These wells are located in the Cherry Valley Community of Interest (CVCOI)
- The CVCOI relies exclusively on on-site waste disposal systems (OSWDS) to dispose their wastewater
- The San Timoteo Watershed Management Authority Project Committee No. 1 initiated a study to determine the source of the high nitrate levels

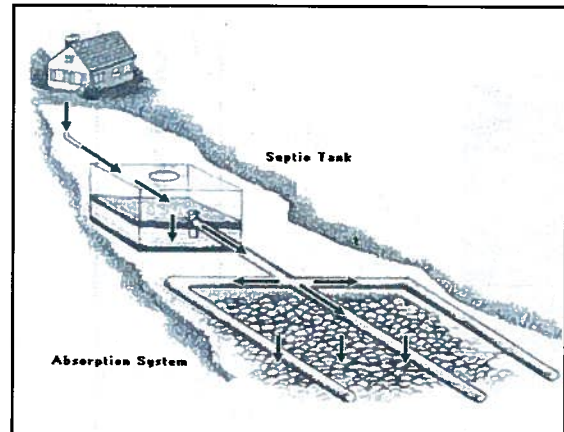
Problem Statement

- The drinking water standard for nitrate is:
 - 10 mg/L when expressed as elemental nitrogen (N)
 - 45 mg/L when expressed as nitrate (NO₃)
- In this presentation we will use 10 mg/L standard
- The nitrate standard has been established to protect infants from "blue baby syndrome" which can lead to death.



Nitrate Source Study

- Reviewed the literature regarding groundwater nitrate contamination from OSWDS
- Analyzed the density of OSWDS in the CVCOI
- Conducted a tracer study to precisely identify sources of nitrate in groundwater

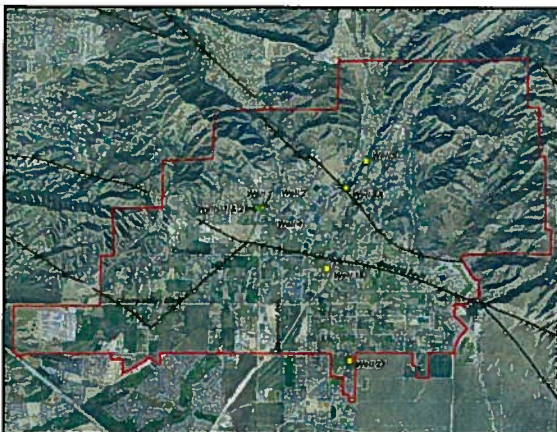


Review of Literature Regarding Nitrate Contamination by OSWDS

- OSWDS are frequently sources of nitrate contamination of groundwater.
- The average nitrate concentration found in the soil below a leach field from 34 study sites across North America was 43 mg/L (NO₃-N) – *four times greater than the drinking water standard*

Tracer Study

- Sampled nine wells with elevated nitrates in CVCOI
- Blind samples sent to laboratories
- Analyzed for nitrogen isotopes and pharmaceuticals and personal care products (PPCPs)
- Nitrogen isotope samples analyzed by:
 - Lawrence Livermore National Laboratory
 - University of California at Davis
 - Woods Hole Oceanographic Institute
- PPCPs analyzed by MWH Laboratories



Study Results

- Nitrogen isotope results indicate nitrate from OSWDS has reached groundwater
- Pharmaceuticals detected:
 - Sulfamethoxazole – antibiotic registered for human and veterinary uses (three wells)
 - Acetaminophen – Tylenol (one well)
 - Ibuprofen – Advil/Motrin (three wells)
 - Hormones – estradiol, progesterone, testosterone – naturally produced in mammals, contraceptives, hormone replacement therapy drugs (four wells)

Conclusion of Study

- Tracer study (nitrogen isotopes and pharmaceuticals) indicated discharge from septic systems is contaminating groundwater
- Onsite waste disposal systems are the source of elevated nitrate levels in the Cherry Valley Community of Interest
- Conclusion has been accepted by the Regional Water Quality Control Board
 - RWQCB made the sewerage of CVCOI its highest priority funding recommendation for SRF due to threat to human health
 - RWQCB is rethinking its policies on OSWDS due to the results of this investigation

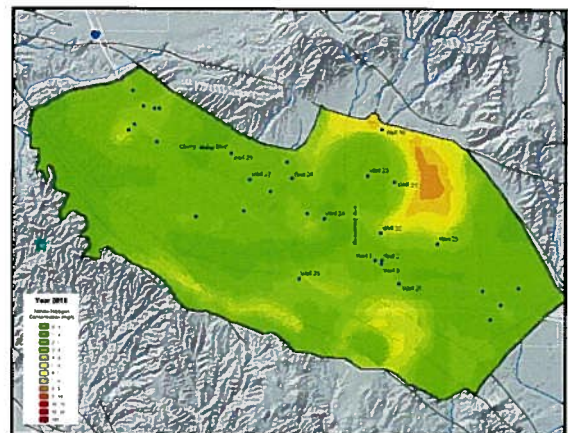
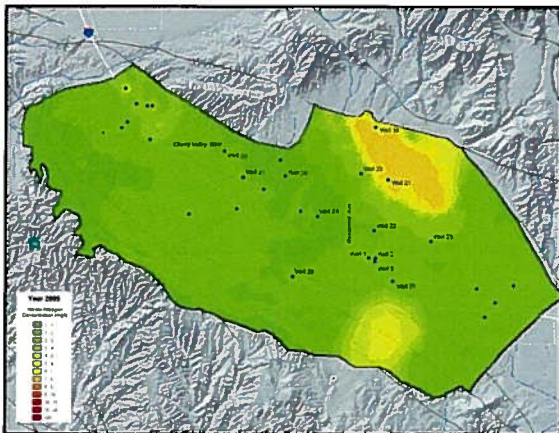
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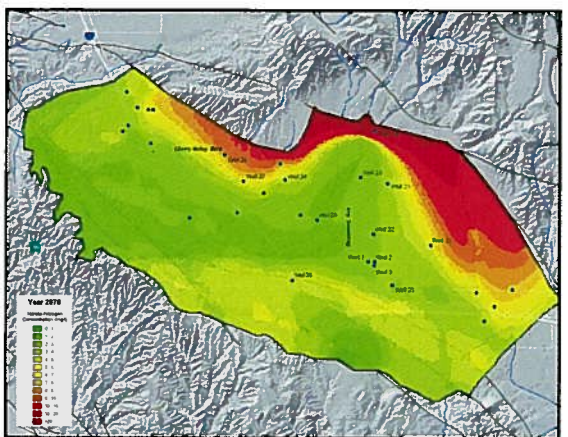
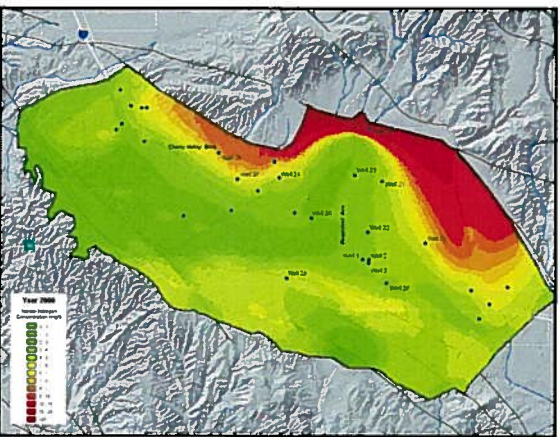
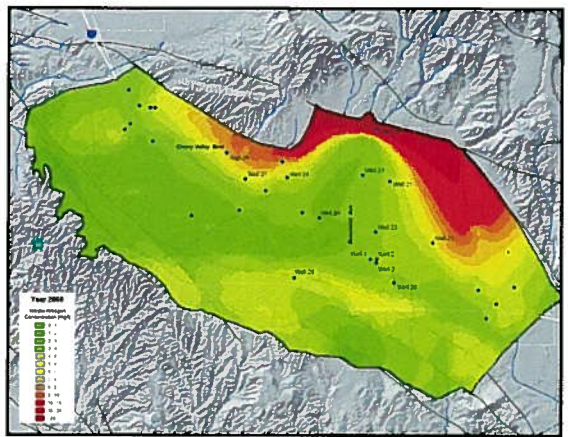
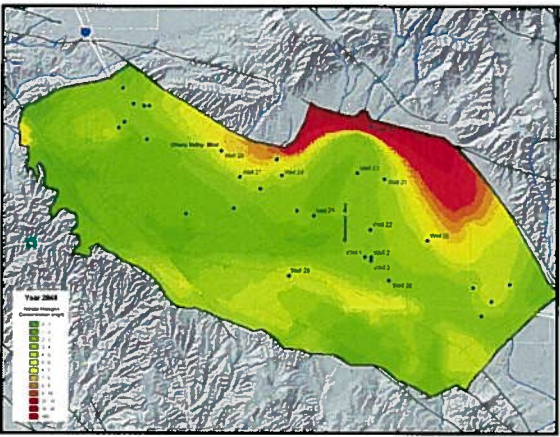
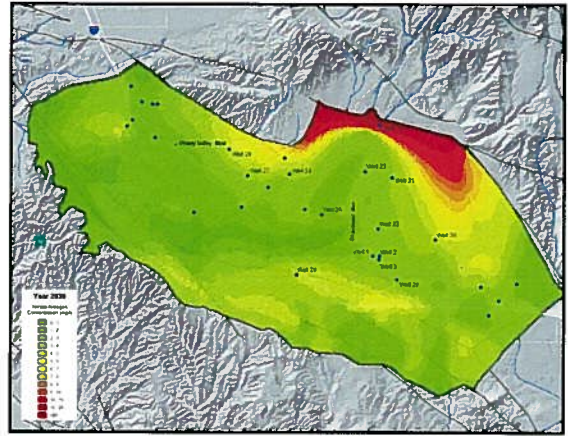
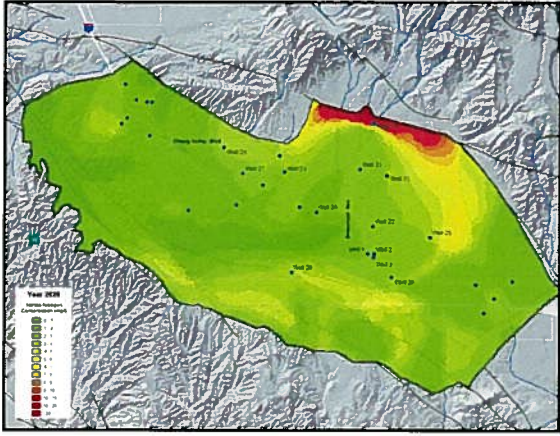
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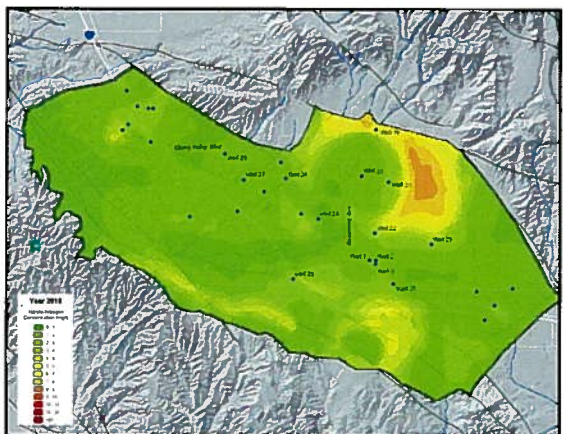
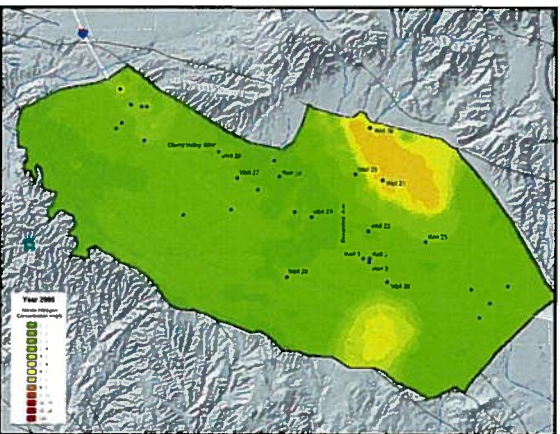
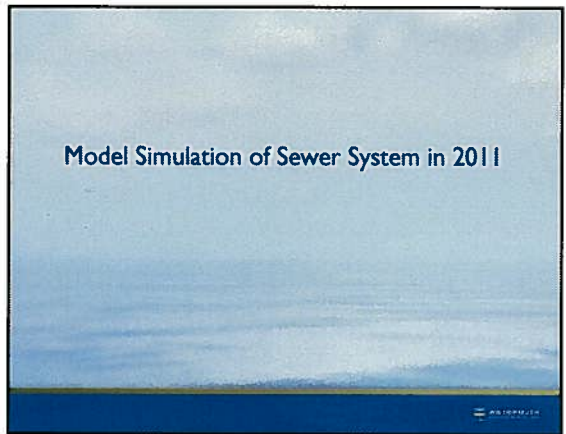
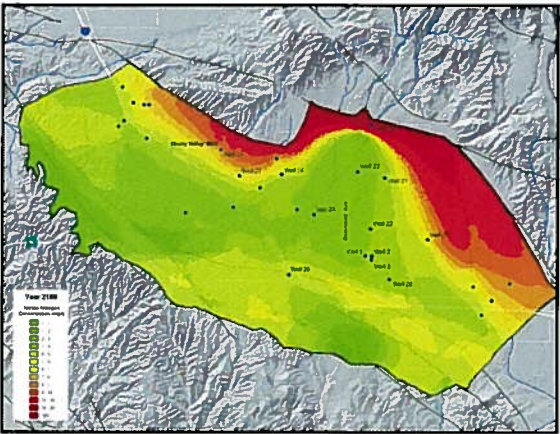
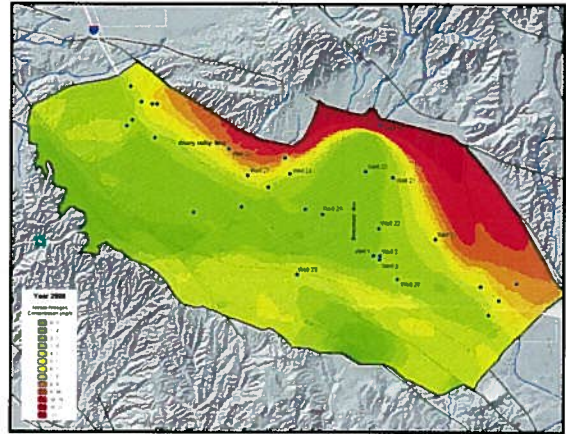
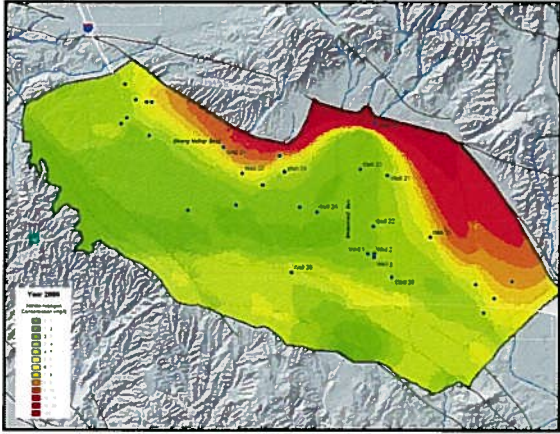
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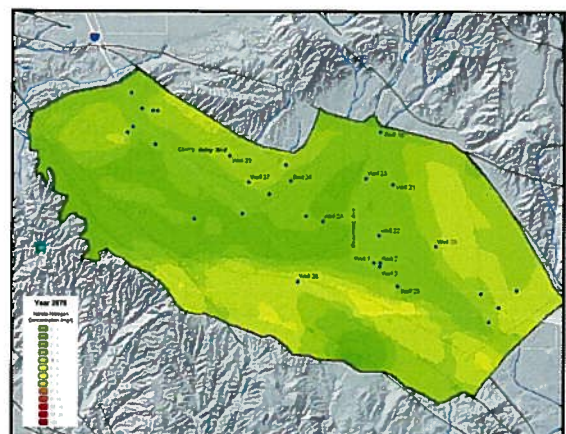
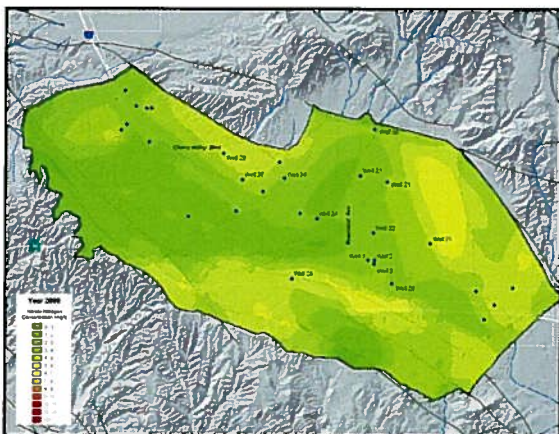
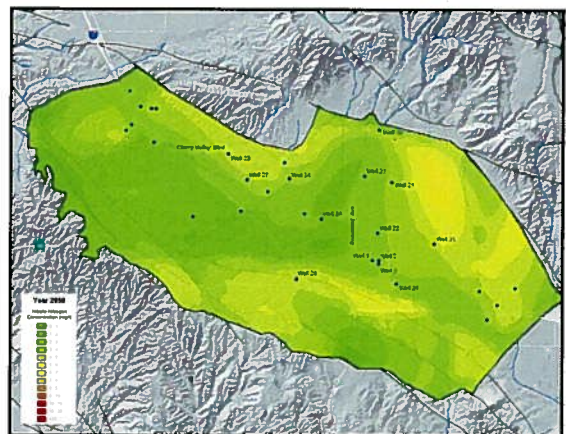
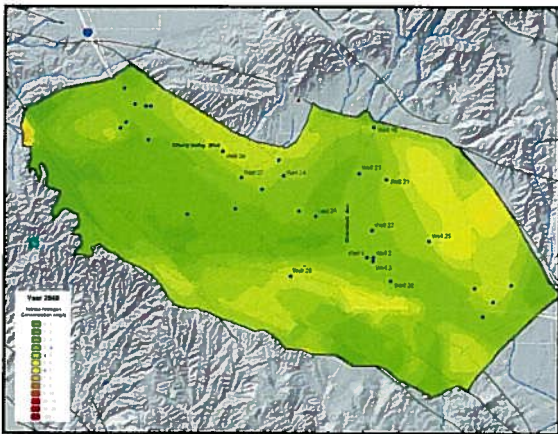
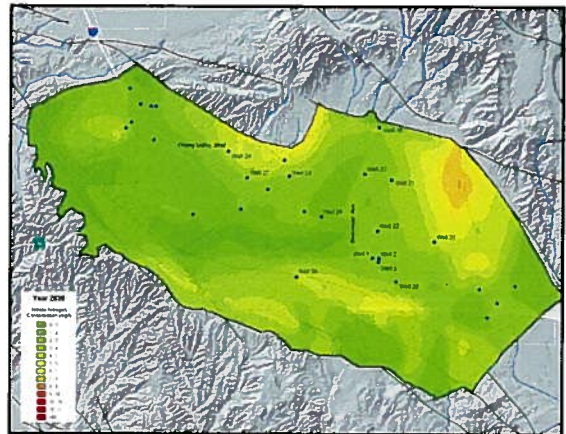
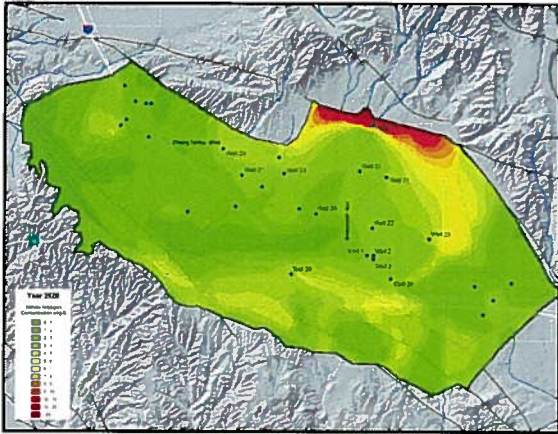
- The CVCOI OSWDS are situated in the forebay of the Beaumont Basin – **left unmitigated, they have the potential to contaminate the entire Beaumont Basin**

Model Simulation of the No Sewer System Alternative in the Cherry Valley Community of Interest









**Alternatives for Groundwater Pollution
Control in the Beaumont-Cherry Valley Area
Item 4**

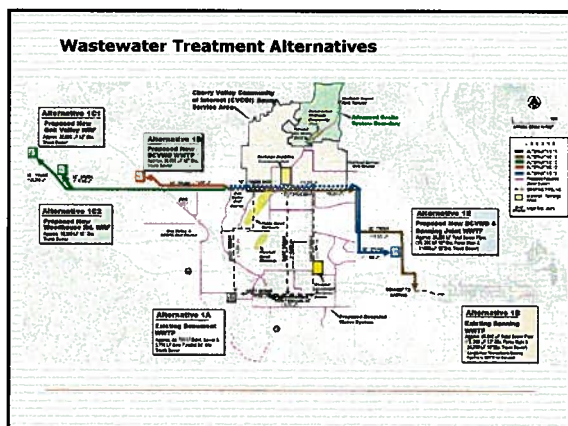
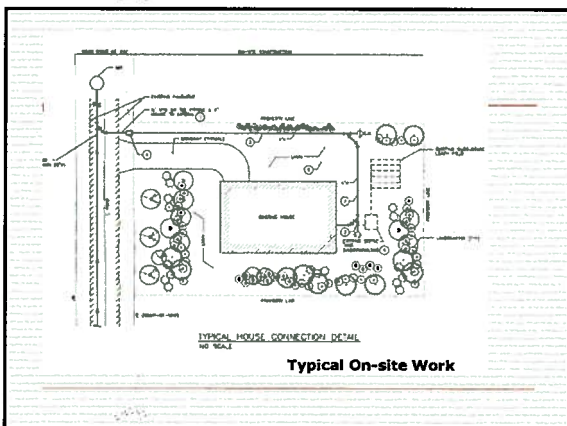
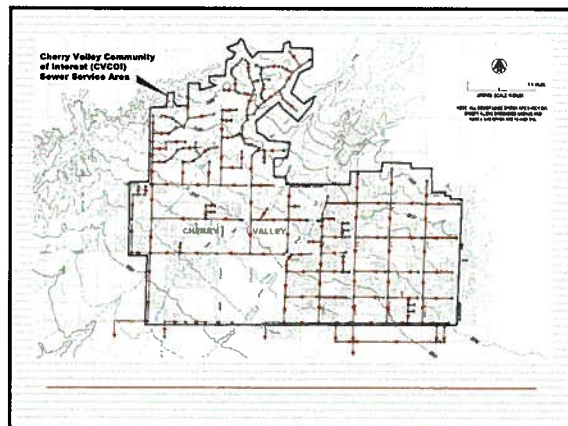
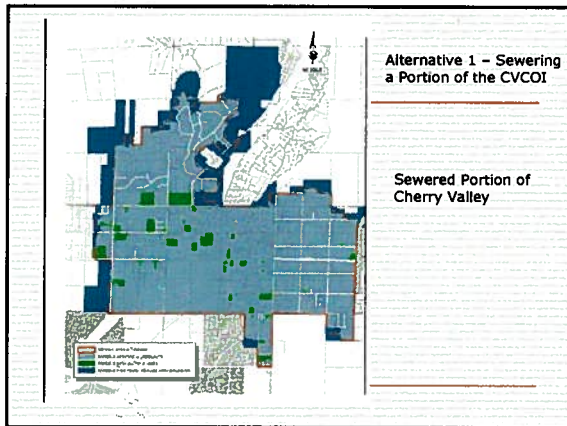
Beaumont Management Zone Water Quality Improvement Program

Presentation of Alternatives

Town Hall Meetings
City of Beaumont 8/23/07
Cherry Valley Grange 8/30/07

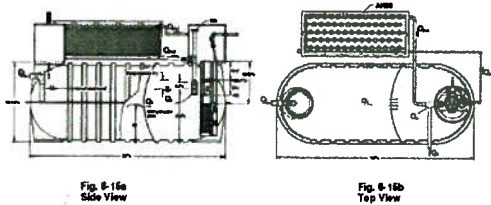
4 Basic Alternatives

1. Sewer the Cherry Valley Community of Interest and convey wastewater to various locations for treatment and reuse
2. Install Advance On-site or STEP/STEG system
3. Provide Wellhead Nitrate Treatment with brine disposal in the SARI line
4. Do Nothing – allow continued pollution of the Beaumont Basin



Alternative 2A- Advanced Septic Tank and Reuse System

Figure 6-15
Process Flow Diagram
AdvanTex® Treatment System



This system reduces the nitrogen in the effluent

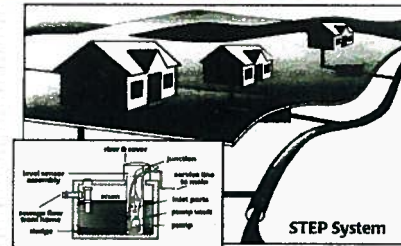
Alternative 2A- Advanced Septic Tank and Reuse System

- Each septic tank would be converted to an advanced system with drip irrigation reuse system
- Would require formation of an on-site wastewater management district
 - Public Agency (County or BCVWD)
- Costs, etc.
 - Annual operating permits (fee)
 - Annual inspections
 - On-site monitoring contract
 - Pump out (5-years)
 - Electrical power costs
 - Pump replacement (5-yr intervals)

Alternative 2B – STEP/STEG System

- STEP – Septic Tank Effluent Pump System
 - Owner replaces septic tank (probably leaking if old) with new tank
 - Pump is installed to pump effluent to a public sewer
 - Can be pressure or gravity flow or both
 - Smaller diameter and possibly shallower sewers
- Would require formation of an on-site wastewater management district
 - Public Agency (County or BCVWD)
- Costs, etc.
 - Annual operating permits (fee)
 - Annual inspections
 - On-site monitoring contract
 - Pump out (5-years)
 - Electrical power costs
 - Pump replacement (5-yr intervals)

Alternative 2B-- STEP System



Alternative Grinder Pump System



- Would require formation of an on-site wastewater management district
 - Public Agency (County or BCVWD)
- Costs, etc.
 - Annual operating permits (fee)
 - Annual inspections
 - On-site monitoring contract
 - Electrical power costs
 - Pump replacement (5-yr intervals)

Not evaluated in Report. Vendor stated not competitive with sewers

Alternative 3 -- Wellhead Nitrate Treatment

- Each of the wells which become contaminated will need ion exchange nitrate removal treatment
- Works like your water softener (uses salt) and removes nitrate instead of hardness (Calcium & Magnesium)
- Requires regeneration and disposal of the reject water (brine) with nitrates
- Inland Wastewater treatment plants will not accept this brine
- Must discharge to a brine line (SARI line)
 - Extend from Colton current terminus
 - Buy capacity in the pipeline
- Very high operating costs
- **Will be paid by everyone in District**

Alternative 3 -- Wellhead Nitrate Treatment



Typical at each well

Alternative 4 – Do Nothing

- ❑ Would not be allowed by Regional Board as Basin Water Quality Objectives would be violated
- ❑ Regional Board would put a Cease and Desist on existing on-site systems and preclude use of such systems*
 - Sewer it
 - Advance septic tank system possible
 - Truck it away each day (maybe)
- ❑ Impact on Property Values??

* This was done at Los Osos and other communities

Alternative 4 – Do Nothing (Cont'd)

- ❑ Beaumont Basin could not be used for water supply
 - Affects Yucaipa, Banning, Calimesa too
- ❑ Recharge of imported water would be fruitless – don't put good water on top of bad
 - Force construction of a water treatment plant
- ❑ Could never retrieve it unless wellhead treatment provided
 - See Alternative 3 for impacts
- ❑ Just postponing the inevitable

Cost Comparison

| Alternative | Description | Un-Inflated Capital Cost (Millions) | Annual Operation and Maintenance Cost (Millions) | 20-year Present Value of Life Cycle Cost* (Millions) |
|-------------|---|-------------------------------------|--|--|
| 1A | To Beaumont WWTP | \$33,350,000 | \$750,000 | \$44,930,000 |
| 1B | To Banning WWTP | \$36,900,000 | \$750,000 | \$48,480,000 |
| 1C1 | To Yosemite Oak Valley WWTP | \$33,650,000 | \$1,000,000 | \$48,990,000 |
| 1C2 | To New Woodhouse Rd. WWTP | \$33,640,000 | \$400,000 | \$41,950,000 |
| 1D | To New BCYWD WWTP near Cherry Valley | \$36,340,000 | \$400,000 | \$43,730,000 |
| 1E | New BCYWD-Banning Sealed-WWTP | \$36,120,000 | \$400,000 | \$43,630,000 |
| 2A | Advanced Onsite Systems | \$41,390,000 | \$2,140,000 | \$94,440,000 |
| 2B | STEP System & Small Diameter Sewer System | \$43,800,000 | \$2,000,000 | \$105,340,000 |
| 3 | Wellhead Treatment for Nitrate Removal | \$22,000,000 | \$4,410,000 | \$50,900,000 |

Present Value is based on 20 years at 2.6% interest
Wellhead treatment assumes only 4 wells 14, 21, 22, 23

**Cost to Sewer Cherry Valley
Item 5**

Costs to Consumers for Alternative 1C2: Woodhouse Road



August 23, 2007

RFC

For the Preferred Woodhouse Road Alternative

- Capital Costs: \$33.6 million
- Funding of this cost under the State Revolving Fund Loan Program:
 - Repayment Term: 20 years
 - Interest Rate: 2.6%
 - Annual Debt Payment: \$2.16 million

RFC

For the Preferred Woodhouse Road Alternative

Annual Operating Cost: \$473,000

This pays for collection, transportation, treatment and discharge of the wastewater

RFC

Users In the Cherry Valley Service Area

| Year | No. of Developed Parcels | Population |
|------|--------------------------|------------|
| 2006 | 1,968 | 7,964 |
| 2008 | 1,988 | 7,944 |
| 2010 | 2,008 | 8,024 |
| 2015 | 2,058 | 8,224 |
| 2020 | 2,108 | 8,424 |
| 2025 | 2,158 | 8,624 |
| 2028 | 2,188 | 8,744 |
| 2030 | 2,208 | 8,824 |

Assumes a very small growth rate consistent with historic growth.

RFC

CVCOI Service Fee Components

Monthly fee has two cost components:

- Operations & Maintenance for sewer system
- Capital through Loan Repayment (amortized)

There are

- no other connection fees
- no other assessments, and
- no liens on property

RFC

Service Fee Components

- O&M - approximately \$20/month for:
 - Collecting, treating and discharging sewage
 - Maintaining the system
 - > Will vary over time due to changes in costs of labor, chemicals, power and number of users
- This compares favorably to the current service charge of \$21.25 in the City of Beaumont

RFC

Service Fee Components

- **Loan Repayment** – approximately \$92/month for **20** years for:
 - Sewer mains, treatment plant
 - On-site work for construction of:
 - » Lateral in the street
 - » Pump-out of septic tank
 - » Abandonment of septic tank
 - » Connection to the sewer system

Will remain constant over 20-year period or reduce as new customers come on line

RFC

Payment Options

- O&M will be paid monthly
- Capital cost can either be paid:
 - Up-front in the amount of **\$15,390**
 - Or, monthly in the amount of approximately \$92 for 20 years

RFC

Payment Options

- **Option 1: Total O&M and Capital in Monthly Payments of approximately \$112**
- **Option 2: Upfront payment of \$15,390 and then O&M monthly payments of approximately \$20**

RFC

Effect on Other Customers

- Customers in the Beaumont Cherry Valley Water District receiving sewer service from a public agency will **NOT** pay for any part of this project

RFC

Effect on Various Consumers

- Potential customers who own a parcel of land within the sewer service area but with no building on the land will pay **nothing** now.
- When vacant property is developed, customer will pay the full sewer connection fee in effect at the time and the monthly O&M service charge in effect

RFC

Effect on Various Consumers

- All other customers will be charged on the basis of how much sewage is generated in comparison to a single-family residence subject to a minimum fee of the single family residence *

* Subject to Board rules and regulations

RFC