

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. 91-191

WASTE DISCHARGE REQUIREMENTS  
FOR  
CARUTHERS COMMUNITY SERVICES DISTRICT  
WASTEWATER TREATMENT FACILITY  
FRESNO COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. Caruthers Community Services District (hereafter Discharger) submitted a technical report, dated 24 April 1991, regarding capacity and performance of the wastewater treatment plant. Caruthers is about 12 miles south of the City of Fresno.
2. The Board, on 27 September 1985, adopted Order No. 85-251, which prescribes requirements for the District's discharge of domestic wastewater to land.
3. Order No. 85-251 is neither adequate nor consistent with current plans and policies of the Board.
4. The wastewater treatment facility consists of a wet well, two aerated lagoons, and two stabilization ponds, with disposal to a seven-acre evaporation-percolation pond (designated disposal area). According to the 24 April 1991 technical report, the design treatment capacity is .240 million gallons per day (mgd), the disposal capacity is .274 mgd gpd, and the estimated capacity of the influent lift station is .160 mgd gpd. Flow is currently estimated at .100 mgd. The facility is in Section 13, T16S, R19E, MDB&M, with surface water drainage to the valley floor, as shown in Attachment A, which is attached hereto as part of this Order. The site lies within the Tulare Lake hydrologic area (No. 551.70), as defined in hydrologic maps prepared by the Department of Water Resources in August 1986.
5. The Discharger's 24 April 1991 technical report indicates that the WWTF is capable of accommodating design flows plus 100-year frequency seasonal precipitation.
6. The Board, on 21 August 1975, adopted the *Water Quality Control Plan, Tulare Lake Basin (5D)*. These requirements are consistent with that plan.
7. The beneficial uses of Valley Floor Waters are industrial and agricultural supply; recreation; aesthetic enjoyment; ground water recharge; and preservation and enhancement of fish, wildlife, and other aquatic resources.

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8. Depth to first ground water is about 130 feet. The local quality of this aquifer is good (EC about 200  $\mu$ hos/cm), except that nitrates have been reported in ground water in the Caruthers area in excess of drinking water standards. The beneficial uses of the ground water underlying this area are municipal, agricultural, and industrial supply.
9. The Basin Plan encourages reclamation. The Basin Plan requires that each Report of Waste Discharge for a land disposal operation justify why reclamation is not practiced or proposed.
10. No wastewater is being reclaimed by the Discharger at this facility. If reclamation is initiated, it must comply with statewide criteria established by the California Department of Health Services in Title 22, California Code of Regulations (CCR), Section 60301, et seq. (hereafter Title 22).
11. The action to update waste discharge requirements for this facility is exempt from the provisions of the California Environmental Quality Act in accordance with Title 14, CCR, Section 15301.
12. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that Order No. 85-251 is rescinded and Caruthers Community Services District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following at the above-described facility:

**A. Discharge Prohibitions:**

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated or partially treated waste is prohibited.
3. Discharge of waste classified as 'hazardous' or 'designated', as defined in Sections 2521(a) and 2522(a) of Chapter 15 (Title 23, CCR, Section 2510, et seq.), is prohibited.

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**B. Discharge Specifications:**

1. Subject to satisfaction of Provision E.11, the monthly average daily dry weather discharge flow shall not exceed .240 million gallons.
2. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.
3. As a means of discerning compliance with Discharge Specification No. B.2, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/l.
4. The treatment and disposal facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
5. The effluent from the treatment facility shall not contain constituents in excess of the following:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD <sub>5</sub> <sup>1</sup>	mg/l	40	80
Settleable Solids	ml/l	0.2	0.5

<sup>1</sup> Five-day, 20° Celsius biochemical oxygen demand.

6. The maximum specific electrical conductivity (EC) of the discharge shall not exceed the average EC of the source water plus 500  $\mu$ mhos/cm, or a maximum of 900  $\mu$ mhos/cm, whichever is less.
7. The discharge from the ponds shall not have a pH less than 6.5 or greater than 9.5.
8. Ponds shall be managed to prevent breeding of mosquitos. In particular,
  - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

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9. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
10. The evaporation-percolation ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the nonirrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
11. Freeboard shall never be less than two feet (measured vertically), unless a registered civil engineer certifies in writing that a specific lesser freeboard will still assure structural integrity of the ponds and compliance with other terms of this Order.
12. On or about 1 October of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specification B.10.

**C. Sludge Disposal:**

1. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner that is consistent with Chapter 15, and approved by the Executive Officer.
2. Any proposed change in sludge use or disposal practice shall be reported to the Executive Officer at least 60 days in advance of the change.
3. Use and disposal of sewage sludge shall comply with existing federal and state laws and regulations, and with Clean Water Act (CWA) Section 405(d) technical standards when promulgated. If an applicable management practice or numerical limitation for pollutants in sewage sludge is promulgated under Section 405(d) of the CWA that is more stringent than the sludge pollutant limit or management practice specified in existing federal or state laws or regulations, the Discharger shall comply no later than the compliance deadline specified in the applicable regulations.

**D. RECEIVING WATER LIMITATIONS**

**The Discharge, in combination with other sources, shall not cause underlying ground water to:**

1. Contain waste constituents in concentrations statistically greater than receiving water limits, where specified below, or background water quality where not specified. (For purposes of comparison,

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background water quality shall be determined when background monitoring provides sufficient data. Quality determined in this manner establishes "water quality protection standards.")

2. Exceed an annual average incremental increase in specific electrical conductivity greater than 4  $\mu\text{mhos/cm}$ , based on the most recent five-year period, or a maximum of 900  $\mu\text{mhos/cm}$ .
3. Contain chemicals, heavy metals, or trace elements in concentrations that adversely affect beneficial uses or exceed maximum contaminant levels specified in Title 22, CCR, Division 4, Chapter 15.
4. Exceed a most probable number of total coliform organisms of 2.2/100 ml over any seven-day period.
5. Exceed concentrations of radionuclides specified in Title 22, CCR, Division 4, Chapter 15.
6. Contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
7. Contain concentrations of chemical constituents in amounts that adversely affect agricultural use.

**E. Provisions:**

1. The Discharger shall comply with the attached Monitoring and Reporting Program No. 91-191, and any revisions thereto as order by the Executive Officer.
2. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
3. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.
4. The Discharger shall use the best practicable cost-effective control technique currently available to comply with salinity limits specified in this Order.

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5. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
6. By **15 December 1991**, the Discharger shall submit a report concerning the feasibility of reclaiming wastewater from this facility.
7. Prior to initiating wastewater reclamation, the Discharger shall submit a written report demonstrating, to the satisfaction of the Executive Officer, that management of reclaimed water and irrigated properties will assure compliance with the terms of this Order and Title 22.
8. Use of reclaimed water for construction purposes shall comply with the most current edition of "Guidelines for Use of Reclaimed Water for Construction Purposes". Other uses for reclaimed water shall be subject to the approval of the Executive Officer and shall comply with Title 22.
9. In addition to modification of this Order under circumstances described in Standard Provision A.3, this Order may be modified if sludge use or disposal practices change, if applicable management practices or numerical limitations for pollutants in sewage sludge necessitate it, if there is endangerment to human health or the environment, or if the Board elects to review and revise the Order on its own motion.
10. By **15 March 1992**, the Discharger shall submit the technical reports described in Standard Provision B.2 and a copy of the operation and maintenance manual for the facility.
11. Until the capacity of the influent lift station is expanded to accommodate at least .240 mgd average flow, allowable flow is limited to an average dry weather flow of .160 mgd. This condition shall be satisfied when a registered civil engineer certifies in writing that the complete headworks has the capacity necessary to accommodate the specified dry weather flow and associated daily peak and wet weather flows.
12. The Discharger must comply with all conditions of this Order. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of this Order.
13. The Board will review this Order periodically and will revise requirements when necessary.

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I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 6 September 1991.

  
WILLIAM H. CROOKS, Executive Officer

RA:ra/cjs:9/6/91

AMENDED

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 91-191

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Specific sample station locations shall be established under direction of the Board's staff and a description of the stations shall be attached to this Order.

**EFFLUENT MONITORING**

Effluent samples shall be collected just prior to discharge to the evaporation-percolation pond. Effluent samples should be representative of the volume and nature of the discharge. Samples collected from the outlet structure of treatment ponds will be considered adequately composited. Time of collection of a grab sample shall be recorded. The following shall constitute the effluent monitoring program:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency<sup>1</sup></u>
Flow	gpd	Measured	Daily
Settleable Matter	ml/l	Grab	Daily
pH	pH Units	Grab	Daily
Specific Conductivity	$\mu$ mhos/cm	Grab	Weekly
Dissolved Oxygen <sup>2</sup>	mg/l	Grab	Weekly
BOD <sub>5</sub> <sup>3</sup>	mg/l	Grab	Weekly

<sup>1</sup> If results of monitoring a pollutant appear to violate effluent limitations, but monitoring frequency is not sufficient to validate violation (e.g., the monthly mean for BOD), or indicate a violation and potential upset of the treatment process (e.g., less than minimum D.O.), the frequency of sampling shall be increased to confirm the magnitude and duration of violation, if any, and aid in identification and resolution of the problem.

<sup>2</sup> Samples shall be collected at a depth of one foot from each pond, opposite the inlet, and analyzed for dissolved oxygen. Samples shall be collected between 0800 and 0900 hours.

<sup>3</sup> Five-day, 20° Celsius biochemical oxygen demand.

### WATER SUPPLY MONITORING

A sampling station shall be established at each supply well where representative samples of the water supply can be obtained. The following shall constitute the water supply monitoring program:

<u>Constituents</u> <sup>1</sup>	<u>Units</u>	<u>Sampling Frequency</u>
Specific Conductivity	µmhos/cm	Quarterly

<sup>1</sup> Since the source water is from more than one well, constituents shall be reported as a weighted average (include copies of supporting calculations).

### GROUND WATER MONITORING

By **15 November 1991**, the Discharger shall submit a work plan for a ground water monitoring network consisting of one or more background monitoring wells and three or more downgradient wells. All well locations and construction features are subject to the prior approval of the Executive Officer and must be sufficient to monitor potential impacts of the disposal operation on the uppermost groundwater aquifer.

Samples shall be taken quarterly from approved background monitoring well(s) for one year and analyzed for the parameters specified below. Data from these analyses shall be reported to the Board by **20 December 1991** for use in determining water quality protection standards.

If subsequent sampling of background monitoring wells indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste disposal activities, the Discharger may request modification of the water quality protection standards.

The downgradient wells shall constitute "points of compliance (POCs)". In conjunction with background monitoring, monitoring of POCs will enable one to determine compliance with water quality protection standards. The ground water surface elevation (in feet and hundredths, M.S.L.) in all wells shall be measured on a quarterly basis and used to determine the gradient and direction of ground water flow. This information shall be displayed on a water flow net diagram for the site. Water samples shall be collected from wells in the approved monitoring network and analyzed as follows:

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<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Specific Electrical Conductance	µmhos/cm	Grab	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly
Nitrate (as N)	mg/l	Grab	Quarterly
Sulfate	mg/l	Grab	Quarterly
Chloride	mg/l	Grab	Quarterly
pH	pH Units	Grab	Quarterly

Following each sampling event, the discharger shall determine whether there is a statistically significant increase over water quality protection standards for each parameter and constituent analyzed. If the Discharger or the Board finds there is a statistically significant increase in indicator parameters or waste constituents over the water quality protection standards at the POCs, the Discharger shall notify the Board, or acknowledge the Board's findings, and submit, within 90 days, either a technical report with a plan and time schedule for implementing a verification monitoring program or a report demonstrating water quality protection standards were not exceeded. The verification Monitoring Program must be designed to verify whether water quality protection standards have been exceeded and the horizontal and vertical extent of elevated concentration.

If the Discharger, through a verification monitoring program, or the Board verifies that water quality protection standards have been exceeded at or beyond the POCs, the Discharger shall notify the Board, or acknowledge the Board's findings, and submit a technical report within 90 days. The report must contain a plan and time schedule for implementing a corrective action program designed to achieve compliance with water quality protection standards.

**SLUDGE MONITORING**

A composite sample of sludge shall be collected annually in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the following metals:

Cadmium	Lead	Copper
Chromium	Nickel	Zinc

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Analytical results shall be submitted to the Executive Officer. Analysis of soluble concentrations of these specific metals shall also be included as needed. If final disposal is proposed to go to land, a technical report analyzing application rates and producers relative to Department of Health services' *Manual of Good Practices for Landspreading of Sewage Sludge and EPA's Process Design Manual for Land Application of Municipal Sludges* and Title 23, CCR, Section 2511(f), shall be completed and submitted to the Executive Officer for approval.

Sampling records shall be retained for a minimum of five years. A log shall be kept of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report.

#### POND MONITORING

The freeboard shall be monitored on the evaporation/percolation ponds in use to the nearest tenth foot. The following shall constitute the freeboard monitoring program.

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Frequency</u>
Freeboard	feet	Observation	Weekly

Permanent markers shall be placed in the pond with calibrations indicating the water level at design capacity and available operational freeboard.

In addition, the Discharger shall inspect the condition of the ponds once per week and write visual observations in a bound log book. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether dead algae, vegetation, scum, or debris are accumulating on the pond surface and their location; whether burrowing animals or insects are present; and the color of the pond (e.g., dark sparkling green, dull green, yellow, grey, tan, brown, etc.). A copy of the entries made in the log during each month shall be submitted along with the monitoring report the following month. Where the O&M manual indicates remedial action is necessary, the Discharger shall briefly explain in the transmittal what action has been taken or is scheduled to be taken.

#### REPORTING

Monthly monitoring reports shall be submitted to the Regional Board by the 20th day of the following month.

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In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in a manner that illustrates clearly whether the Discharger complies with waste discharge requirements, including calculation of all averages, etc.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the discharge monitoring report.

The Discharger may also be requested to submit an annual report to the Board with tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

By 31 January of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

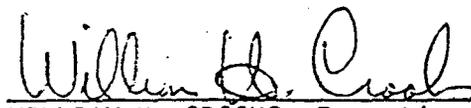
- a. The names, titles, certificate grade and general responsibilities of persons operating and maintaining the wastewater treatment plant (Standard Provision E.1).
- b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
- c. A certified statement of when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who did the calibration (Standard Provision C.4).
- d. A statement whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.
- e. The total quantity of sludge disposed of during the previous year and ultimate disposal site(s).

All reports submitted in response to this Order shall comply with the signatory requirements in Standard Provision B.3.

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The Discharger shall implement this monitoring program on the first day of the month following adoption of this Order.

  
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WILLIAM H. CROOKS, Executive Officer

6 September 1991  
(Date)

RA:ra/cjs:9/6/91

AMENDED

## INFORMATION SHEET

CARUTHERS COMMUNITY SERVICES DISTRICT  
WASTEWATER TREATMENT FACILITY  
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Caruthers CSD provides public utilities, including sewerage service, to the community of Caruthers. Caruthers is about 16 miles south of Fresno. Surface from the facility drain to the valley floor within the consolidated hydrologic unit.

The wastewater facility consists of a wet well, two aerated lagoons, two stabilization ponds, and an evaporation/percolation pond. Design treatment flow is about .240 mgd, disposal capacity is .274 mgd, and the capacity of the influent station is .160 mgd. Current flows are about at .100 mgd. The proposed Order limits flow to .160 mgd until the Discharger corrects constraints posed by the influent pump.

Soils on site consist of Delhi loamy sand. Depth to first ground water is about 130 feet. Local quality is good (EC is about 200  $\mu$ mhos/cm), except that nitrates have been reported in ground water in the area in excess of drinking water standards. The beneficial uses of the ground water underlying this area are municipal, agricultural, and industrial supply.

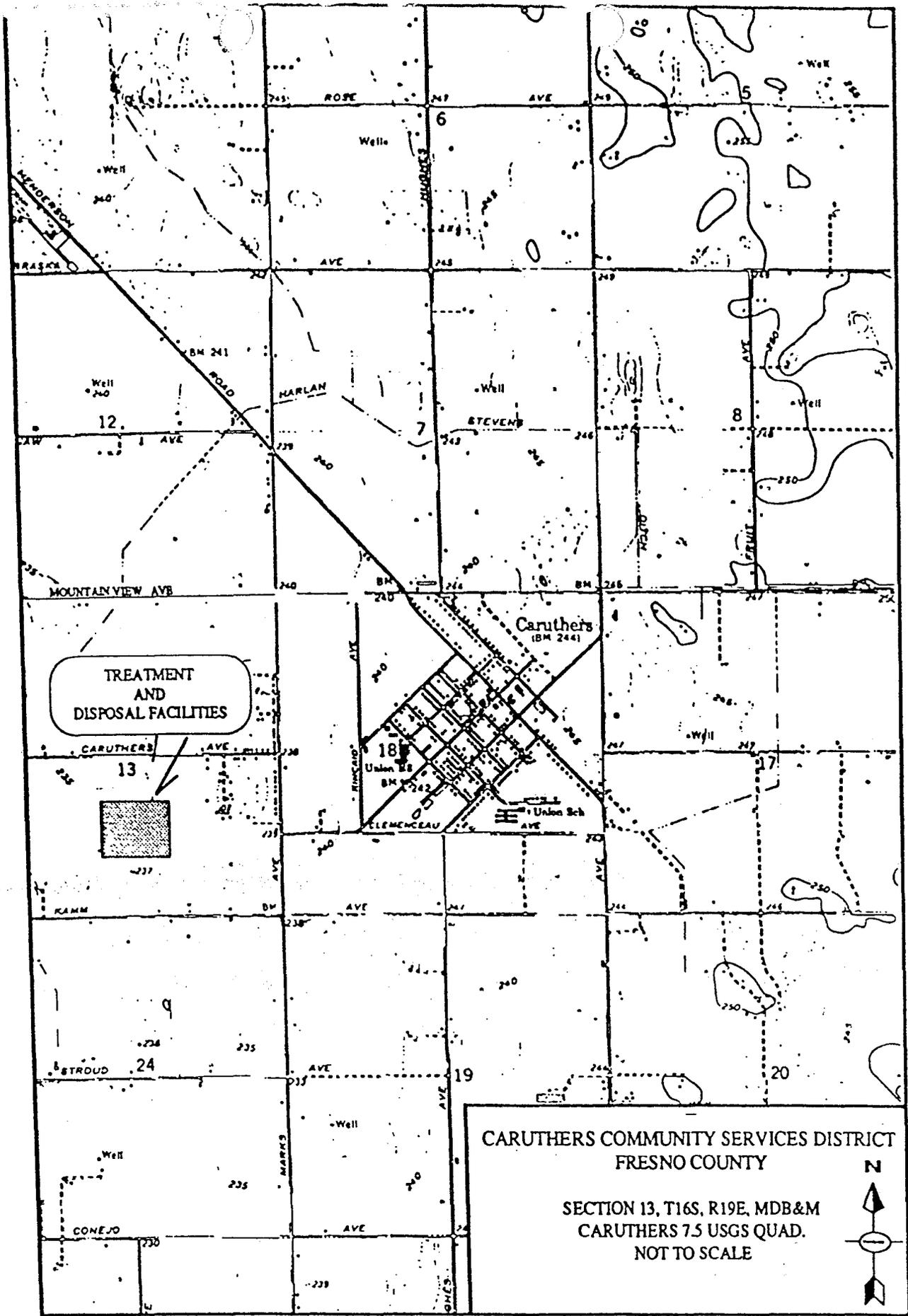
According to the submitted monitoring reports, effluent BOD exceeded the monthly average effluent limit of 40 mg/l more than half the time during 1987-1990. However, the Discharger submitted a technical report on 24 April 1991 indicating that the wastewater samples were not collected from the discharge from the final treatment units, which are the stabilization ponds. Samples have been collected from pond effluent since January 1990, and show an average BOD concentration of 26 mg/l.

This discharge is a potential source of nitrates in an area where ground water has been contaminated by nitrates. The discharge is also relatively large. Therefore, ground water monitoring is required by this Order. Also, the Discharger could reduce its potential impact by reclaiming effluent as the Basin Plan recommends. The proposed Order requires a feasibility report on reclamation.

This Order contains provisions intended to preclude nuisance conditions, prevent degradation of underlying ground waters, and prevent inundation and flooding of the disposal facilities.

Monitoring of the effluent includes parameters that will indicate compliance with the Basin Plan and these requirements. Annual reports are also required updating information on contact persons, sludge disposal, and equipment calibration.

The action to update waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act in accordance with Title 14, CCR, Section 15301.



TREATMENT  
AND  
DISPOSAL  
FACILITIES



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SECTION 13, T16S, R19E, MDB&M  
CARUTHERS 7.5 USGS QUAD.  
NOT TO SCALE

