

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 97-104

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF BAKERSFIELD
WASTEWATER TREATMENT PLANT NO. 2
KERN COUNTY

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

1. The City of Bakersfield (hereafter Discharger) submitted a Report of Waste Discharge dated 2 May 1996 and a technical report dated 19 August 1996 for an increase in the volume of waste discharged from its Wastewater Treatment Plant No. 2 (WWTP). The WWTP serves incorporated and unincorporated areas of central, east, northeast, and southeast Bakersfield. It is operated by the Discharger, and is on property (Assessor's Parcel No. 170-270-03) owned by the Discharger.
2. Waste Discharge Requirements Order No. 82-050, adopted by the Board on 23 April 1982, prescribes requirements for a monthly average dry weather discharge flow (ADWF) of 19 million gallons per day (mgd) of treated wastewater to farm land. Wastewater is recycled by Gary Garone Farms (hereafter Farmer) under Wastewater Reclamation Permit Order No. 82-049 on farm land owned by the Discharger and shown on Attachments A and B. Attachments A and B are attached hereto and made part of this Order by reference.
3. Order No. 82-050 is neither adequate to describe proposed operations nor consistent with current plans and policies of the Board.
4. The existing WWTP consists of a headworks, two primary clarifiers, four aerated lagoons, two sludge digesters, and storage reservoirs. The Discharger presently discharges monthly average flows of up to 19 mgd of treated wastewater via a pipeline distribution system to the farm, with higher flow in the summer than the winter. Water is recycled on cropped land and pasture.
5. The Discharger proposes to expand its WWTP and increase the volume of waste discharged from the facility from 19 to 25 mgd to handle projected flows through the year 2010. The expanded WWTP will consist of three primary clarifiers, three trickling filters, three secondary clarifiers, and four sludge digesters. Construction of the additional primary clarifier, three new trickling filters, three new secondary clarifiers, two new sludge digesters with methane recovery and cogeneration systems, and associated pumping equipment, is scheduled to begin upon authorization of the State Water Resources Control Board expected in the summer 1997. Project completion of the plant expansion is scheduled for September 1999.

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6. During periods of low irrigation demand, treated wastewater is impounded in storage reservoirs adjacent to the WWTP. The storage area of 400 acres, shown on Attachment A, has a capacity of 5,830 acre-feet (greater than 90 days at 19 mgd) with four feet of freeboard. The Discharger submitted an irrigation water balance and storage requirements analysis dated 28 April 1997. The Discharger will need 7,200 acre-feet of storage, an additional 1370 acre-feet, at 25 mgd. The additional storage reservoir will be constructed at the location of the existing aeration lagoons. The storage reservoirs are within the following parcels in the east half of Section 9 and west half of Section 10, T30S, R28E, MDB&M:

<u>Section</u>	<u>Assessor's Parcel Number</u>	<u># Acres</u>
9	170-250-08	180
9	170-270-03	160
10	173-210-01	160
10	173-210-02	157

7. The disposal area of 5,146 acres is currently planted with crops which are processed or not used for human consumption, including: sugar beets, cotton, wheat, oats, silage corn, barley, alfalfa, and pasture on the following parcels:

<u>Section</u> <u>T30S, R28E</u>	<u>Assessor's Parcel Number</u>	<u># Acres</u>	<u>Section</u> <u>T31S, R28E</u>	<u>Assessor's Parcel Number</u>	<u># Acres</u>
3	173-200-09	113	3	185-010-04	629
10	173-210-01	19	4	185-010-07	131
10	173-210-02	67	9	185-240-05	421
11	173-230-01	318	15	185-270-09	632
11	173-240-15	140	23	185-300-01	318
15	174-100-04	319	27	185-350-01	632
16	172-010-01	321			
21	414-220-01	318			
22	174-100-03	622			
28	176-020-06	140			

(Shown on Attachment A)

(Shown on Attachment B)

8. The Discharger reports that the farmer recycling the water will continue existing cropping patterns and recycle the wastewater by flood-furrow irrigation. At current flow rates, the recycled water contributes about four acre-feet per year. With only 5,830 acre-feet of storage capacity, the Farmer must apply recycled water greater than crop requirements during the winter. However, during the summer the available wastewater is not sufficient for the crop demand and the Farmer must meet crop needs with other irrigation water. The recycled water does supply 100% of the crops' annual nitrogen-fertilizer needs. For added flow, additional disposal area will need to be acquired by the Discharger in order to

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efficiently recycle wastewater and limit deep percolation caused by over-application. The existing acreage is not sufficient for the proposed flow of 25 mgd. The Discharger has completed an analysis of farmland requirements, dated 28 April 1997, and intends to lease or purchase an additional 1,120 acres of land; 130 acres for storage ponds and 990 acres for farming, within one year of completion of the expansion.

9. By letter dated 25 January 1989, the Board requested that the Discharger submit sludge disposal plans for City of Bakersfield Plant Nos. 2 and 3. On 31 May 1994, the Discharger submitted a Biosolids Management Plan for Plant No. 3 (December 1993, by John Corollo Engineers). According to the Biosolids Management Plan, treated sludge or "biosolids" from Plant No. 3 exhibit "exceptional quality" metals constituent characteristics [Biosolids are "exceptional quality" only when they meet the pollutant concentration limits in Title 40 Code of Federal Regulations (CFR) §503.13, table 3; satisfy one of the Class A pathogen reduction alternatives described in §503.32 (a); and meet one of the vector attraction reduction criteria listed in §503.33(b)]. The Biosolids Management Plan proposes continuing use of the farm area described in Finding No. 7, above, for land application of dewatered biosolids from Plant No. 3.
10. Some of the biosolids from Plant No. 2 have exceeded the Title 22, §66261.24, soluble threshold limit concentration (STLC) of 5 mg/l of soluble lead and are, therefore, subject to regulation as a hazardous waste. The Discharger is pursuing a variance from the Department of Toxic Substances Control (DTSC) from having to manage the material as a hazardous waste and is seeking approval from DTSC to land-dispose biosolids on its farm. DTSC may grant variances from Title 22 requirements, but not the Resource Conservation and Recovery Act (RCRA) should constituents exceed RCRA threshold criteria. If DTSC authorization cannot be obtained, the Discharger must dispose of the material in a manner consistent with Title 23, California Code of Regulations (CCR), Section 2510, et seq (hereafter Chapter 15) (e.g., disposal to a "Class 1" waste management facility).
11. Until additional acreage is available, the combination of wastewater plus sludge from Plant Nos. 2 and 3 will result in more applied nitrogen than the crop demand.
12. The WWTP is in Section 9, T30S, R28E, MDB&M. Historically the surface water drainage from the area was to the south and west toward Kern Lake. The WWTP and disposal areas are on the floor of the valley and the surface water drainage is now towards nearby surface depressions and roadside swales and ditches. Westerly movement of surface drainage is blocked by the Kern Island Canal (Central Branch) levee.
13. The Federal Emergency Management Agency (FEMA) flood map, Panel No. 060075-1275B, indicates the disposal areas in T31S (2,763 acres total) are within a Zone A0 100-year shallow flood area. However, because of berms and tailwater control ditches, the

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disposal areas are “islands” which are not part of the 100-year flood zone. The WWTP and disposal sites are within the South Valley Floor Hydrologic Area, Kern Delta Subarea (No. 557.10), as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.

14. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition*, (hereafter Basin Plan), designates beneficial uses and contains water quality objectives for waters of the Basin. These requirements implement the Basin Plan.
15. The Basin Plan does not designate beneficial uses for roadside ditches, swales and small depressions. However, the WWTP and disposal areas are on the valley floor and the basin plan does group the natural water bodies in the valley floor as Valley Floor Waters. The beneficial uses of Valley Floor Waters are industrial and agricultural supply; water contact and noncontact water recreation; wildlife and warm water habitat; groundwater recharge; and preservation and enhancement of rare and endangered aquatic species. Lacking any information about beneficial uses specific to the ditches and depressions, these surface drainage areas are considered to have all these same uses.
16. The beneficial uses of underlying groundwater are domestic, industrial, and agricultural supply.
17. Effluent discharged from the WWTP continuously exceeds the Biochemical Oxygen Demand (BOD₅) monthly average effluent limit of 40 mg/l and daily maximum BOD₅ limit of 80 mg/l of Order No. 82-050.
18. On 2 May 1996, the Discharger requested that it be allowed to demonstrate adequate wastewater treatment by meeting five-day Carbonaceous Biochemical Oxygen Demand (CBOD₅) limits of 40/80 mg/l (monthly average/daily maximum). The CBOD₅ laboratory method inhibits nitrogenous oxygen demand and is, therefore, always less than BOD₅. Such limits would be considerably less stringent than current BOD₅ limits and inconsistent with Basin Plan objectives.
19. The potential for nuisance from storage or irrigation of the recycled water is high. The treatment plant and storage ponds are within a mile of residential areas of southern Bakersfield. Further, some of the farm land to which the water is reclaimed is within two miles of the western edge of the community of Lamont or within six miles of the western edge of the community of Arvin. With prevailing wind from the northwest, if odors are generated in the farmed areas it would potentially affect these two communities.
20. The California Department of Health Services has established state-wide water recycling criteria in Title 22, CCR, Section 60301, et seq., (hereafter Title 22) that are applicable to the WWTF.

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21. The U.S. Environmental Protection Agency (USEPA) has promulgated biosolids and septage reuse regulations in 40 CFR 503, *Standards for the Use or Disposal of Sludge*, which establish management criteria for the protection of ground and surface waters, set application and cumulative loading rates for heavy metals, and establish stabilization and disinfection criteria.
22. The Board is using the standards in 40 CFR 503 as guidelines in establishing requirements in this Order relative to biosolids disposal, but the Board is not the implementing agency for 40 CFR 503. The Discharger may have permitting, reporting, and other compliance responsibilities with the USEPA. Compliance with this Order does not necessarily constitute full compliance with 40 CFR 503.
23. The USEPA promulgated *General Pretreatment Regulations for Existing and New Sources of Pollution*, codified in 40 CFR 403. On 25 September 1989, the Board received approval authority from the USEPA to administer the Pretreatment Regulations.
24. On 27 September 1985, the Board adopted special Waste Discharge Requirements Order No. 85-244 to amend the pretreatment provisions of the requirements for the City of Bakersfield, Plant Nos. 2 and 3, and four other publicly owned wastewater treatment facilities. The Discharger's Pretreatment Program was approved by the USEPA on 15 October 1985. A subsequent modification to the Pretreatment Program, in the form of a revised Sewer Ordinance, was approved by the Board on 23 February 1996 by Board Resolution No. 96-041. Order No. 85-244 remains in effect, but this Order will supersede the requirements of Order No. 85-244 for the City of Bakersfield, Plant No. 2.
25. According to the U.S. Department of Agriculture, Soil Conservation Service Soil (now the Natural Resources Conservation Service), *Soil Survey of Kern County, Northwestern Part*, the upper soils in the "northern" (Attachment A) disposal areas consist of alluvial Panoche Clay Loam and Kimberlina Fine Sandy Loam, which have moderate percolation or permeability rates. Information from the USDA Soil Conservation Service Southwest Kern County Soil Survey (unpublished) indicates that soils in the "southern" (Attachment B) disposal areas consist of Bakersfield sandy loam, Cajon sandy loam, Garces loam, Kimberlina fine sandy loam, Panoche loam, and Weedpatch clay loam. These soil types have slow, moderate, and rapid permeabilities and, with the exception of the Cajon sandy loam, moderate to high water holding capacity.
26. Since 1982, the Discharger has maintained water quality data from a network of 20 nearby domestic and agricultural supply wells for monitoring changes in conductivity (specific electrical conductance of 25°C, also 'EC'), chloride, nitrate, and pH; and a network of 41, 20 or 30-foot deep piezometers for evaluating EC and changes in depth to perched groundwater (18 piezometers are typically dry, leaving 23 piezometers for perched water quality sampling). Available data indicates water quality varies considerably, both seasonally and by location. Water quality data for the deeper domestic and agricultural wells show EC between 500 and 6,000 µmhos/cm. Chloride data varies from 20 to

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1100 mg/l. Water quality data from the piezometers are similarly variable, although two piezometers in the northwest quarter of Section 9, T31S, R28E, MDB&M, show elevated ECs of roughly 20,000 and 30,000 $\mu\text{mhos/cm}$, respectively. Uppermost perched groundwater beneath the site fluctuates by location and seasonally from 7 feet to 30 feet or more below ground surface. Conventional monitoring wells adjacent to the area and owned by the Kern Sanitation Authority Wastewater Treatment Plant indicate piezometric groundwater surface depths of the first true unconfined aquifer of approximately 100 to 160 feet.

27. The Board has insufficient data regarding construction features of the water supply wells used for monitoring groundwater. The limited information available indicates that these wells are quite deep, some as much as 400 to 500 feet below ground surface. Therefore, the wells are inadequate for evaluating potential impacts caused by the discharge on the uppermost unconfined aquifer.
28. The permitted discharge is consistent with the antidegradation provisions of State Water Resources Control Board Resolution 68-16. The increased treatment capacity is needed to treat existing, as well as anticipated future flows. This Order is conditional, and the Discharger must monitor to assure Basin Plan objectives are met. The Order limits flow to a monthly average of 19 mgd even though the treatment capacity will be 25 mgd because that is the flow which can be safely disposed on the farmed area currently available.
29. The City of Bakersfield adopted a Negative Declaration for the plant expansion project on 19 September 1990 in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000, et seq.) and the State CEQA Guidelines. The Negative Declaration recognizes that 2,500 acres of disposal area would need to be purchased or leased for an expanded flow of 28.5 mgd. The Discharger is planning expansion to 25 mgd and will perform an environmental assessment for additional acreage once a location has been identified. The Board, as a responsible permitting agency, cannot act to approve an increase in flow until the lead agency (Discharger) completes its CEQA determination.
30. 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.
31. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

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IT IS HEREBY ORDERED that Order No. 82-050 is rescinded and that the City of Bakersfield, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

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. Grazing of milking animals within the area irrigated with recycled water is prohibited.
4. Discharge of waste classified as ‘hazardous’ or ‘designated’, as defined in Sections 2521(a) and 2522(a) of Chapter 15 is prohibited, except biosolids allowed pursuant to Biosolids Disposal Specification D.4.
5. Discharge of biosolids with pollutant concentrations greater than those shown below is prohibited:

Constituent	Ceiling Concentration (mg/kg; dry weight basis)
Arsenic	75 ²
Cadmium	85 ²
Copper	4,300 ^{1,2}
Lead	840 ²
Mercury	57 ^{1,2}
Molybdenum	75
Nickel	420 ²
Selenium	100 ²
Zinc	7,500 ^{1,2}

*See footnotes next page

¹ Total Threshold Limit Concentrations (TTLC) prescribed in Section 66261.24, Title 22, California Code of Regulations (CCR), are as follows: Copper 2500 mg/kg, Mercury 20 mg/kg, and Zinc 5000 mg/kg on a wet weight basis. [Note: this is only a partial listing of TTLC values] Biosolids which contain metals at or above the TTLC wet weight concentrations are defined as “hazardous” and may not be discharged under this Order, unless a variance is granted by the DTSC. If any biosolids sample contains copper, mercury, or zinc in dry weight concentrations exceeding the TTLC wet weight concentrations, the sample concentration must be recalculated on a wet weight basis and compared to the TTLC values to verify whether the biosolids are “hazardous”. Waste with constituent concentrations above RCRA threshold values are hazardous and may not be granted a variance.

² Soluble Threshold Limit Concentrations (STLC) prescribed in Section 66261.24, Title 22, CCR, are as follows. Note that this is a partial listing of STLC values:

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<u>Constituent</u>	<u>STLC</u>	<u>10 x STLC</u>
Arsenic	5	50
Cadmium	1.0	10
Copper	25	250
Lead	5	50
Mercury	0.2	2
Nickel	20	200
Selenium	1.0	10
Zinc	250	2500

STLCs are based on “as is” waste, that is, solids plus any diluting water. The extraction test used to determine the soluble concentrations results in a ten times dilution of the waste, therefore, if the total metals concentration of the waste on either a dry weight or wet weight basis is less than the listed “10 x STLC” value in the above chart, the waste cannot be hazardous for that constituent, and further consideration of that constituent is not necessary. If the dry weight concentration (mg/kg) of any constituent exceeds the “10 x STLC” value, the wet weight concentration (mg/kg) of that constituent should be calculated. If the wet weight concentration still exceeds the “10 x STLC” value, a representative sample of the biosolids should be analyzed by the Waste Extraction Test (WET) procedure. If the results of the WET procedure exceed the STLC values, the waste is “hazardous” unless granted a variance by DTSC. Biosolids granted a variance by DTSC, may be discharged under this Order only after receipt of prior approval of the Executive Officer in accordance with Biosolids Disposal Specification D.4.

B. Discharge Specifications

1. The monthly average discharge flow shall not exceed 19 mgd.
2. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and storage 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 storage reservoirs shall not be less than 1.0 mg/l.
4. The discharge shall not exceed the following limits:

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

¹ Five-day, 20°C Biochemical Oxygen Demand

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5. The EC of the discharge shall not exceed the average EC of the source water plus 500 $\mu\text{mhos/cm}$, or a maximum of 900 $\mu\text{mhos/cm}$, whichever is less.
6. The treatment, storage, and disposal facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
7. The annual nitrogen loading from all sources (wastewater, biosolids, or any other sources) to the disposal area shall not exceed the crop requirements, balanced for the types of crops on the different fields.
8. Storage reservoirs shall not have a pH less than 6.5 or greater than 9.5.
9. Storage reservoirs 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.
10. Public contact with wastewater at the wastewater treatment plant and storage reservoirs shall be precluded through such means as fences and signs, or acceptable alternatives.
11. Storage reservoirs shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the nonirrigation season, excluding wastewater discharged as authorized by valid wastewater reclamation requirements. 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. Freeboard shall never be less than two feet (measured vertically).
12. On or about **1 October of each year**, available reservoir storage capacity shall at least equal the volume necessary to comply with Discharge Specification B.11.

C. Recycled Water Specifications

1. Water recycled for irrigation of the farm area shall remain within the designated recycling area, as described in Finding No. 7, above, at all times.

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2. The use of recycled water shall be limited to flood irrigation of fodder, fiber, and seed crops not used for human consumption or processed food crops which undergo a process to remove pathogenic organisms.
3. The total volume of recycled water applied by the Farmer shall be in accordance with its annual irrigation management plan and shall not exceed the amount reasonable using accepted crop management practices.
4. The Discharger shall maintain the following setback distances from areas irrigated with recycled water:

Setback Distance <u>(feet)</u>	<u>To</u>
25	Property Line
30	Public Roads
50	Irrigation wells
100	Domestic wells
50	Drainage courses

5. The perimeter of the area irrigated with recycled water shall be graded to prevent ponding along public roads or other public areas.
6. Areas irrigated with recycled water shall be managed to prevent breeding of mosquitos. More specifically:
 - a. All applied irrigation water must infiltrate completely within a 48-hour period.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitos shall not be used to store recycled water.
7. All areas where recycled water is to be used shall be posted with conspicuous signs that present the following wording in size that can be clearly read by the public: "RECYCLED WATER--DO NOT DRINK--WASH THOROUGHLY WITH SOAP AND DRINKING WATER IF CONTACT OCCURS."
8. No physical connection shall exist between recycled water piping and any domestic water supply or domestic well, or between recycled water piping and any irrigation well that does not have an air gap or reduced pressure principle device.
9. Recycled water shall be managed to minimize contact with workers.

D. Biosolids Disposal Specifications

1. Collected screenings, sludges, and other solids (collectively called “biosolids”) removed from liquid wastes shall be disposed of in a manner that is consistent with Chapter 15 and approved by the Executive Officer.
2. By **1 August 1997**, the Discharger shall submit a biosolids management plan subject to the approval by the Executive Officer.
3. Biosolids shall be disposed of in a manner consistent with a biosolids management plan approved by the Executive Officer. Any proposed change in biosolids use or disposal practice shall be reported to the Executive Officer **at least 90 days in advance** of the change.
4. Biosolids which exceed the Title 22, §66261.24, total threshold limit concentration (TTLC) or soluble threshold limit concentration (STLC) for a constituent may, at the Executive Officer’s discretion, be discharged in accordance with an approved biosolids management plan provided a variance is obtained from the Department of Toxic Substances Control for its land application. The variance to proceed shall be included as part of the Biosolids Management Plan required in Biosolids Disposal Specification D.2., above and submitted for approval by the Executive Officer.
5. Biosolids shall not be stockpiled for more than one year.
6. Biosolids shall comply at the time of application with either Class A or Class B pathogen reduction standards as listed in 40 CFR 503.
7. Biosolids shall comply with one of the vector attraction reduction standards as listed in 40 CFR 503.33.
8. Biosolids shall not be applied to land in amounts which cause the following cumulative loadings to be exceeded:

<u>Constituent</u>	<u>kilograms per hectare</u>	<u>Cumulative Loadings</u>	<u>pounds per acre</u>
Arsenic	41		37
Cadmium	39		35
Copper	1500		1338
Lead	300		267
Mercury	17		15
Nickel	420		374
Selenium	100		89
Zinc	2800		2498

9. Biosolids shall not be applied during periods of heavy rainfall or when the ground is saturated.
10. If applied to land, biosolids shall be fully incorporated into the soil and tillage practices shall minimize the erosion of soil from the application site by wind, stormwater, recycled water, or irrigation water.
11. Neither the distribution, application, nor storage of biosolids shall cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.
12. The Discharger shall be responsible for informing any contracted biosolids hauler of the conditions contained in this Order.
13. If the State Water Resources Control Board and the regional water quality control boards accept responsibility to implement regulations contained in 40 CFR 503, this Order may be reopened to incorporate appropriate time schedules and additional technical standards as specified therein.

E. Groundwater Limitations

The discharge, in combination with other sources, shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than background water quality, except for EC. For EC, the incremental increase over any five-year period shall not exceed 25 $\mu\text{mhos/cm}$. (For purposes of comparison, background water quality shall be determined when background monitoring provides sufficient data. Quality determined in this manner establishes “water quality protection standards.”)

F. Provisions

1. The Discharger shall comply with Monitoring and Reporting Program No. 97-104, which is part of this Order, and any revisions thereto as ordered 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. The Discharger shall perform the pretreatment functions as provided in 40 CFR 403, including, but not limited to:
 - a. Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;
 - b. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and

- c. Provide the requisite funding and personnel to implement the Pretreatment Program as provided in 40 CFR 403.8 (f)(3).
4. By **1 May 1998**, the Discharger shall complete an Industrial User Survey and submit a report that identifies Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs) of the City's sewer system identified as needing to be permitted under the City's Pretreatment Program and that includes a time schedule for permitting identified SIUs and CIUs.
5. In the event of any change in control or ownership of land or waste discharge facilities described herein, 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.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3. and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved by the Executive Officer.

6. The Discharger shall use the best practicable control techniques currently available to comply with the terms of this Order.
7. Annually, **by 31 March** of each year, the Discharger shall submit a report prepared by a certified crop advisor evaluating cropping patterns and nutrient loading for the previous calendar year and recommending cropping patterns and loading rates for the new calendar year. The projected crop needs for nitrogen shall be the means for determining compliance with the mass limits of Discharge Specification B.7.
8. Special WDRs Order No. 85-244 is no longer applicable to this discharge, as the pretreatment terms of this Order supersede the requirements of Order No. 85-244.
9. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

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10. The Discharger shall submit to the Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Board by letter when it returns to compliance.
11. A copy of this Order shall be kept at the WWTF for reference by operating personnel. Key operating personnel shall be familiar with its contents.
12. If water is recycled for construction purposes, it shall comply with the most current edition of "Guidelines for Use of Reclaimed Water for Construction Purposes." Other uses of recycled water not specifically authorized are subject to Title 22, California Code of Regulations, Section 60301, et seq, and the Discharger must file a new Report of Waste Discharge.
13. The Board will review this Order periodically and will revise requirements when necessary.

I, GARY M. CARLTON, 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 20 June 1997.

Original signed by _____
GARY M. CARLTON, Executive Officer

KDL:kdl/fmc:6/20/97

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MONITORING AND REPORTING PROGRAM NO. 97-104

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Specific sample station locations shall be established and a description of the stations shall be submitted to the Board and attached to this Order.

INFLUENT MONITORING

Influent samples shall be collected at the inlet of the headworks and at approximately the same time as effluent samples. Influent monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
20°C BOD ₅	mg/l	24-hr Composite	Weekly
Total Suspended Solids	mg/l	24-hr Composite	Weekly

EFFLUENT MONITORING

Except for flow, which may also be measured at the headworks, effluent samples shall be collected downstream of the last treatment unit but prior to discharge to the storage ponds. Time of collection of a grab sample shall be recorded. Effluent monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency¹</u>
Total Daily Flow	mgd	Continuous	Daily
Settleable Solids	ml/l	Grab	Daily
20°C BOD ₅	mg/l	24-hr Composite	Weekly
Total Suspended Solids	mg/l	24-hr Composite	Weekly
Standard Minerals ²	mg/l	24-hr Composite	Monthly
Conductivity (EC) ³	µmhos/cm	24-hr Composite	Monthly
Total Dissolved Solids	mg/l	24-hr Composite	Quarterly
Arsenic	µg/l	24-hr Composite	Quarterly
Cadmium µg/l	24-hr Composite		Quarterly
Copper	µg/l	24-hr Composite	Quarterly

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<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency¹</u>
Lead	µg/l	24-hr Composite	Quarterly
Mercury	µg/l	24-hr Composite	Quarterly
Nickel	µg/l	24-hr Composite	Quarterly
Selenium	µg/l	24-hr Composite	Quarterly
Zinc	µg/l	24-hr Composite	Quarterly

¹ If results of monitoring a pollutant appear to violate effluent limitations, but monitoring frequency is not sufficient to validate violation (e.g., the monthly average 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.

² Standard minerals as used in this program shall include all major cations and anions and include a verification that the analysis is complete (i.e., cation/anion balance).

³ Specific Electrical Conductance at 25°C

RESERVOIR MONITORING

The freeboard shall be monitored on the storage reservoirs to the nearest tenth of a foot. Reservoir monitoring shall include the following :

<u>Constituent</u>	<u>Unit</u>	<u>Measurement</u>	<u>Frequency¹</u>
Freeboard	feet	Observation	Daily ²
pH	pH units	Grab	Daily
Dissolved Oxygen	mg/l	Grab	Daily

¹ Samples shall be collected at a depth of one foot from each storage reservoir, opposite the inlet, and analyzed for dissolved oxygen. Samples shall be collected between 0800 and 0900 hours.

² Daily when freeboard is less than six feet, weekly otherwise.

Permanent markers (e.g., staff gages) shall be placed in the storage reservoirs with calibration indicating the water level at design capacity and available operational freeboard. In addition, the Discharger shall inspect the conditions of the ponds once per week and write visual observation in a bound log book. Notations shall include observations of whether weeds are developing in the water or along the bank, and their locations; 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.

WATER SUPPLY MONITORING

Sampling stations shall be established where a representative sample of the water supply can be obtained. Water supply monitoring shall include at least the following:

<u>Constituent</u>	<u>Units</u>	<u>Sampling Frequency</u>
EC	µmhos/cm	Quarterly ¹

¹ The EC shall be reported as a flow-weighted average of all sources and include copies of supporting calculations.

GROUNDWATER MONITORING

By **1 August 1997**, the Discharger shall evaluate the existing groundwater monitoring network and submit a workplan and time schedule for a revised groundwater monitoring network which includes existing as well as anticipated new wastewater storage and disposal areas. Wells and piezometers that have been used for groundwater monitoring in the past may be used, but the revised groundwater monitoring network shall include a minimum of four monitoring wells specifically for monitoring groundwater quality in the uppermost, unconfined aquifer. The work plan should describe well construction features (screened interval depths; depth of surface seal, etc.) of all wells used in the groundwater monitoring network and include a sampling and evaluation protocol for ongoing evaluation of the uppermost groundwater aquifer. All well locations and construction features are subject to the prior approval of the Executive Officer.

After one year of monthly sampling of the monitoring wells, data from these analyses shall be reported to the Board **by the 20th day of the following month** along with a proposal for establishing 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 near the facility property boundaries 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 groundwater surface elevation (in feet and tenths, M.S.L.) and depth to groundwater (in feet and tenths below ground surface) in all wells shall be measured on a bi-annual basis and used to determine the gradient and direction of groundwater flow. Water samples shall be collected from the wells and analyzed as follows:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Conductivity (EC)	µmhos/cm	Grab	2/year
Total Dissolved Solids	mg/l	Grab	2/year
Standard Minerals ¹	mg/l	Grab	2/year
Total Nitrogen	mg/l	Grab	2/year

¹ Standard minerals as used in this program shall include nitrate and all major cations and anions and include a verification that the analysis is complete (i.e., cation/anion balance).

Annual groundwater monitoring reports shall be submitted to the Board by **1 September of each year**. In addition to groundwater data collected under this monitoring program, the Discharger must include in its evaluation groundwater quality and elevation data collected by the Kern Sanitation Authority (KSA). The Discharger shall coordinate with KSA to ensure that sample collection and well sounding occur at approximately the same time of year. The report 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 POC's, the Discharger shall notify the Board immediately and increase the monitoring frequency to monthly, pending additional directions from Board staff.

BIOSOLIDS MONITORING

A sample of sludge shall be collected quarterly in accordance with EPA's *POTW Sludge Sampling and Analysis Guidance Document, August 1989*, and tested for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury Nickel, Selenium, and Zinc. Analytical results shall be submitted to the Board. 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. **By 28 February of each year**, the Discharger shall submit a description of present and proposed disposal methods. If more than one method is used, include the percentage of annual sludge production disposed by each method:

1. For **landfill disposal**, include (a) the order number of the WDRs that regulate the landfill(s) used, (b) the present classifications of the landfill(s) used, and (c) the names and locations of the facilities receiving sludge.

2. For **land application**, include (a) the location of the site(s), (b) the Regional Board's WDR numbers that regulate the site(s), and (c) a technical report analyzing application rates and procedures 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, California Code of Regulations, Section 2511 (f), and (d) subsequent uses of the land.
3. For **composting**, include (a) the location of the site(s), and (b) the Order No. of the WDRs that regulate the site(s).

REPORTING

Daily, monthly, and quarterly sampling results shall be submitted to the Board by the **20th of the month following the period the samples are collected**. Noncompliance with waste discharge requirements shall be reported as soon as discovered.

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 such 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 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 facility.
- 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).

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- 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.

The Discharger shall implement the above monitoring program on the **first day of the month following the effective date of this Order.**

Ordered by: _____ Original signed by _____
GARY M. CARLTON, Executive Officer

_____ 20 June 1997 _____
(Date)

KDL:kdl/fmc:6/20/97