Working Copy

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 5-00-231

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF AVENAL
WASTEWATER TREATMENT FACILITY
KINGS COUNTY

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

1. The City of Avenal owns and operates a Wastewater Treatment Facility (WWTF) and discharges undisinfected secondary-treated wastewater to a nearby effluent storage reservoir on land owned by the California Department of Corrections (CDC). Pursuant to a Joint Powers Agreement (Agreement) with CDC, the City must discharge WWTF effluent to the effluent storage reservoir. The Agreement is of indefinite term. The WWTF is on property owned by the City. The CDC operates the Avenal State Prison (Prison) near the effluent storage reservoir. The WWTF and effluent storage reservoir are in Section 34, T22S, R17E, MDB&M, as shown in Attachment A, a part of this Order.

2. Waste Discharge Requirements Order No. 87-073, adopted by the Board on 24 April 1987 for the City, prescribes requirements for a discharge of 1.63 million gallons per day (mgd) of WWTF effluent to the effluent storage reservoir.

3. William J. Mouren Farming Company, Inc. (MFC) submitted a Report of Water Reclamation (RWR) on 17 August 1988 and began reclaiming water from the effluent storage reservoir shortly thereafter. Due to limited resources, tentative water reclamation requirements were not prepared for Board consideration until 1998. The Board adopted Water Reclamation Requirements (WRRs) Order No. 98-096 for MFC and CDC on 17 April 1998. The terms and conditions of Order No. 98-096 were updated as WRRs Order No. 5-00-224 for MFC on 27 October 2000. The reclamation fields are on property owned or leased by MFC in Sections 27, 28, 33 and 34 in T22S, R17E, and Sections 2, 3 and 4 in T23S, R17E, MDB&M.

4. The City of Avenal submitted a RWD, dated 5 May 1998, requesting that the WWTF's permitted 30-day average daily dry weather flow be increased to its actual capacity of 1.7 mgd and that the City's WDRs list CDC as Co-Discharger. California Water Code Section 13263 precludes issuance of requirements for discharges into community sewer systems such as the City's. As an owner of the land on which the effluent storage reservoir is situated, and as the effluent contains waste constituents (e.g., bacteria, pathogens, nutrients, dissolved solids, etc.), CDC permits a discharge of waste thereon that could affect the quality of waters of the State. Requirements for CDC's operation of the effluent storage reservoir are prescribed in Waste Discharge Requirements Order No. 5-00-228, adopted by the Board on 27 October 2000.

5. Currently, the WWTF consists of a headworks grinder, an oxidation ditch, two clarifiers, six sludge-drying beds, and pumps and piping to transfer treated wastewater to the effluent storage reservoir. A flow schematic of the treatment process is illustrated in Attachment B, a part of this Order.

6. Self-monitoring data from November 1998 through October 1999 indicate that influent to the WWTF exhibits the following characteristics:

Constituent/Parameter	Units	Average	Daily Maximum
Total Daily Flow	mgd	1.11	1.49
BOD_5[1]	mg/L	170	520
Total Suspended Solids (TSS)	mg/L	210	408
Settleable Solids	ml/L	16	29

[1] Five-day biochemical oxygen demand at 20°C

Self-monitoring data from November 1998 through October 1999 also indicate that discharge effluent from the WWTF exhibits the following characteristics:

Constituent/Parameter	Units	Average	Daily Maximum
BOD_5	mg/L	ND[1]	70
TSS	mg/L	6	67
Settleable Solids	ml/L	ND[1]	ND[1]
EC[1]	µmhos/cm	775	1,423

[1] Nondetect
[2] Conductivity at 25°C

7. The Agreement between the City of Avenal and CDC stipulated that discharges by the City and Prison are not to exceed 0.76 and 0.87 mgd, respectively. A 5 November 1998 amendment to the Agreement stipulates that discharges from the City and Prison are not to exceed 0.53 and 1.11 mgd, respectively.

8. Self-monitoring reports for 1998 and 1999 show that winter flows are not higher than summer flows, indicating there is no significant inflow and infiltration to the collections system during winter months.

9. In addition to domestic wastewater, the Prison generates industrial wastewater from its "Prison Industries" operations. Prison Industries consist of poultry packaging (i.e., poultry is no longer slaughtered onsite), laying hens, an industrial laundry facility, metal fabrication, and furniture finishing. The metal fabrication and furniture finishing operations reportedly do not produce industrial wastewater. The Prison used to operate a Joint Venture Program that consisted of a swine farm.

10. The City has received notice of violations for exceeding its daily maximum effluent limitations for TSS, BOD_5, and EC. The City reported that waste slugs from the swine farm caused the violations. By 31 August 1999 correspondence, the City prohibited the discharge of swine waste to its WWTF. The Joint Venture Program terminated the swine farm operation in April 2000.

11. Self-monitoring data indicates that the City violated its permitted discharge flow limit of 1.63 mgd. Past flow violations were subsequently found to be the result of erroneous flow measurements due to problems with the bar screen mechanism of the WWTF's headworks. New headworks have since been installed that indicate the City to be in compliance with its permitted discharge flow limit. The CDC recently installed a flow meter to measure the Prison's wastewater flow rate. The City has a flow meter to measure the City's wastewater flow rate and another flow meter to measure the combined flow from Prison and the City to the WWTF. As such, the City uses the Prison's wastewater flow measurement data to confirm the accuracy of its other two flow meters.

12. The City routinely stockpiles sludge onsite. According to the City, past sludge was analyzed for metals and classified as Class B sludge prior to disposal by San Joaquin Composting, Inc. Current stockpiles have not been characterized and are between about six months and two years old. The City is reportedly in the process of producing a sludge management report. The City recently installed two additional sludge-drying beds to reduce the need to stockpile sludge onsite. The City has indicated that it may be able to remove sludge directly from sludge-drying beds to its ultimate disposal location.

13. During a routine inspection on 7 December 1999, it was noted that storm water runoff at the WWTF is not contained on site. During periods of heavy rainfall, storm water drains off site to an adjacent agricultural field. The City indicates that it has never received any complaints about the runoff.

14. The City recently installed an emergency backup diesel generator at the WWTF to increase the reliability of its operation.

15. Due to embankment failures in the effluent storage reservoir, CDC submitted two reports in support of the reduction in storage capacity and use of recycled water. Boyle Engineering Corporation, Consulting Engineers, prepared both reports. The reports were submitted on 8 August 1996 and 13 June 1997 and were titled *CSP Avenal Effluent Disposal Management Plan* (hereafter Management Report) and *CSP Avenal Effluent Storage Reservoir Modification Technical Specifications-50 Percent Submittal* (hereafter Specifications Report), respectively. The Management Report indicates that, due to embankment failures, the California Bureau of Dam Safety deemed the effluent storage reservoir levees unsafe and limited the depth of the effluent in the reservoir to no more than 5.5 feet. While this condition reduces the amount of storage capacity, the Management Report demonstrates that the effluent storage reservoir will still have adequate storage capacity, provided there is sufficient coordination between MFC and CDC in the allocation of recycled water.

16. The CDC is reportedly in the process of reducing the storage capacity of the effluent storage reservoir. The CDC indicates that it expects to complete this project in the fall of 2000, with the goal of reducing the storage capacity from 624 acre-feet to approximately 200 acre-feet. Upon completion of this project, the maximum water depth at which levees are considered safe will remain at 5.5 feet. For clarification, the water depth benchmark of 5.5 feet is measured from the toe of the slope in front of the reservoir (715.0 feet, which is at grade level). Accordingly, the water elevation in the effluent storage reservoir shall never be greater than 720.5 feet above mean sea level.

17. However, within the reservoir there are no water depth restrictions and therefore, water depths may exceed 5.5 feet.

18. The WWTF lies within the Consolidated Hydrologic Area (No. 558.50), as depicted on interagency hydrologic maps prepared by the California Department of Water Resources in 1986. Areal topography indicates a slope of about 1 foot per 140 feet toward the southeast. The nearest surface waterway is Big Tar Creek about 2 miles south. There appear to be no surface waterways within 15 miles of the natural drainage path from the WWTF.

19. Areal groundwater is approximately 400 to 500 feet below ground surface, flows southwesterly, and is of poor mineral quality with total dissolved solids of 2,000 mg/L, chloride of 400 mg/L, nitrate-nitrogen of 1 mg/L, and sulfate of 900 mg/L, respectively, according to the 1999 summer/fall Semiannual Groundwater Monitoring Report, submitted by the City of Avenal for its landfill, about three miles north of the WWTF.

20. The Board adopted a *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for waters of the Basin. These requirements implement the Basin Plan.

21. The high sulfate and chloride concentrations in areal groundwater preclude its use as a domestic and municipal supply. As such, the beneficial uses of groundwater are limited to agricultural and industrial supply.

22. Source water for the City of Avenal and the Prison is from the California Aqueduct and has an average EC concentration of about 370 µmhos/cm, according to self-monitoring data provided by the City from November 1998 through October 1999.

23. The conditional discharge as permitted herein is consistent with the antidegradation provisions of State Water Resources Control Board Resolution No. 68-16. Some degradation of groundwater immediately beneath the WWTF-Site is appropriate and consistent with the maximum benefit to the people of the State. Increased social and economic development, including an increase in the housing available in the WWTF service-area, is an important service to the people of California. As described in Finding No. 18, areal groundwater is of poor mineral quality and not used for domestic and municipal purposes. Assimilative capacity is available in the soil profile and underlying

groundwater to allow for some degradation and will not unreasonably affect beneficial uses of such water for agricultural or industrial supply.

24. The WWTF described in Finding No. 5 provides best practicable treatment and control for the subject wastewater, and will assure that the discharge does not create a condition of pollution exceeding an appropriate level of degradation, as defined in Finding No. 22. The treatment process incorporates secondary treatment of municipal wastewater, reclamation of treated wastewater on cropped properties at agronomic rates, and biosolids disposal. The only significant industrial user discharging to the WWTF is the Prison.

25. The City is required to obtain coverage under an NPDES general industrial storm water permit for the WWTF, because storm water is not contained on site. A notice of intent (NOI) regarding the offsite drainage of storm water has yet to be filed.

26. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Title 14, California Code of Regulations (CCR), Section 15301.

27. The Board has notified the City 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.

28. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Waste Discharge Requirements Order No. 87-073 is rescinded and the City of Avenal, 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. The direct discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. The bypass or overflow of untreated or partially treated waste is prohibited, except as allowed in Provision E.2 of Standard Provisions and Reporting Requirements.

3. Discharge of waste classified as 'hazardous' as defined in Section 2521(a) of Title 23, CCR, Section 2510 et seq., or 'designated' as defined in Section 13173 of the California Water Code, is prohibited.

B. Discharge Specifications

B. Discharge Specifications

1. The monthly average discharge to the effluent storage reservoir shall not exceed 1.7 mgd.

2. Objectionable odors originating at the WWTF shall not be perceivable beyond the limits of the WWTF.

3. The maximum EC of the discharge shall not exceed the average EC of the source water plus 500 µmhos/cm.

4. The WWTF shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

5. Reclaimed wastewater shall meet the criteria contained in Title 22, California Code of Regulations, Section 60301 et seq.

6. The City shall preclude public access to the WWTF through methods such as fences and signs, or other acceptable means.

7. The discharge to the effluent storage reservoir shall not exceed the following limits:

Constituent	Units	Monthly Average	Daily Maximum
BOD_5	mg/L	30	60
Total Suspended Solids	mg/L	30	60
Settleable Solids	ml/L	0.1	0.5

8. The City shall not cause or contribute to cause objectionable odors to originate from the effluent storage reservoir that are perceivable beyond the limits of the effluent storage reservoir.

C. Groundwater Limitations

1. The WWTF operation, in combination with other sources, natural and otherwise, shall not cause degradation of area groundwater.

2. The WWTF operation, in combination with other sources, natural and otherwise, shall not cause groundwater underlying the WWTF to exceed the following limits:

   a. Concentrations of total coliform organisms exceed a 7-day median most probable number (MPN) of 1.1/100 mL.

   b. Taste- or odor-producing substances in concentrations that adversely affect beneficial uses.

D. Sludge Specifications

1. Collected screenings, sludge and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005 et seq.

2. Use and disposal of sewage sludge shall comply with state laws and regulations. If the State Water Resources Control Board and the regional water quality control boards assume primacy to implement regulations contained in 40 CFR 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. In the interim, the City should comply with the standards and time schedules contained in 40 CFR 503, which shall be enforced by the United States Environmental Protection Agency (EPA).

3. Sludge shall not be stockpiled on site for more than two years.

4. The City shall be responsible for informing any contracted biosolids hauler of the conditions contained in this Order.

5. Any proposed change in sludge use or disposal practice shall be reported to the Executive Officer and EPA Regional Administrator **at least 90 days in advance** of the change.

E. Provisions

1. The City shall comply with Monitoring and Reporting Program No. 5-00-231, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

2. The City 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 City shall implement, as more completely set forth in 40 CFR 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:

   a. Flow through the system and cause a violation of discharge specifications of this Order.

   b. Inhibits or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.

4. The City shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that without treatment are essentially free of pollutants.

5. The City shall ensure that the following incompatible wastes are not introduced to the City's wastewater collection and treatment systems, where incompatible wastes are:

   a. Wastes that create a fire or explosion hazard in the treatment works;

   b. Wastes that will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;

   c. Solid or viscous wastes in amounts that cause obstruction to flow in sewers, or that cause other interference with proper operation of treatment works;

   d. Any waste, including oxygen demanding pollutants (BOD, etc.) released in such volume or strength as to cause inhibition or disruption in the treatment works and subsequent treatment process upset and loss of treatment efficiency;

   e. Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C, unless the treatment works is designed to accommodate such heat;

   f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

   g. Pollutants that result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and

   h. Any trucked or hauled pollutants, except at points predesigned by the City.

6. By **25 January 2001**, the City shall submit a Contingency Plan to prevent inadequately treated wastewater from being delivered to the effluent storage reservoir. The Contingency Plan shall include:

   (a) A list of conditions that would require an immediate diversion to take place;

   (b) A description of the diversion procedures;

   (c) A description of the diversion area including capacity, holding time and return capabilities;

(d) A description of plans for activation of supplemental supplies (if applicable);

(e) A plan for the disposal or treatment of any inadequatley treated effluent; and

(f) A plan for notifying the reclaimed water user, CDC (and Avenal State Prison), the Board, State and local health departments, and other agencies as appropriate of any treatment failures that could result in the delivery of inadequately treated reclaimed water to the use area.

By **1 February 2001,** the City shall submit a Sludge Management Plan. The plan shall include, at a minimum, a description of how (1) sludge production will be measured, (2) sludge quality will be characterized, (3) sludge will be stored prior to disposal, and (4) sludge will be ultimately disposed of (e.g., as a soil amendment). A California registered civil engineer or registered environmental assessor experienced in sludge disposal must prepare and certify the Sludge Management Plan.

7. By **1 February 2001**, the City shall submit a NOI regarding the offsite drainage of storm water and shall, at the same time, supply a copy of the NOI to the Prison.

8. The City shall not cause or contribute to cause any violation of Waste Discharge Requirements Order No. 5-00-228 issued to the CDC for its operation of the effluent storage reservoir.

9. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the City, the City 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 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 in writing by the Executive Officer.

10. The City must comply with all conditions of this Order at all times. Violations may result in enforcement action, including Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

11. A copy of this Order shall be kept for reference by personnel responsible for compliance with this Order. Key operating personnel shall be familiar with its contents.

12. 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 27 October 2000 .

GARY M. CARLTON, Executive Officer

RAS:jlk:10/27/00 AMENDED

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 5-00-231
FOR
CITY OF AVENAL
WASTEWATER TREATMENT FACILITY
KINGS COUNTY

Specific sample station locations shall be established with concurrence of Board's staff, and a description of the stations shall be submitted to the Board and attached to this Order.

INFLUENT MONITORING

The City shall collect influent samples at the headworks of the treatment facility prior to any treatment of waste. Time of a grab sample shall be recorded. Influent monitoring shall include at least the following:

Constituent/Parameter	Units	Type of Sample	Frequency
Flow	mgd	Metered	Continuous
BOD_5[1]	mg/L	8-hr Composite[2]	Weekly
TSS	mg/L	8-hr Composite[2]	Weekly
Settleable Solids	ml/L	Grab	Daily

[1] Five-day, 20° Celsius biochemical oxygen demand.

[2] A representative composite sample may be obtained by collecting four samples at uniform intervals over an eight-hour period.

EFFLUENT MONITORING

The City shall collect effluent samples at a point in the system following treatment and before discharge into the effluent storage reservoir. Effluent samples shall be representative of the volume and nature of the discharge. Time of collection of a grab sample shall be recorded. Effluent monitoring shall include the following:

Constituent	Units	Type of Sample	Frequency
BOD_5	mg/L	8-hr Composite	Weekly
TSS	mg/L	8-hr Composite	Weekly
Settleable Solids	ml/L	Grab	Daily
EC[1]	µmhos/cm	Grab	Weekly
pH	pH units	Grab	Weekly
Total Dissolved Solids	mg/L	Grab	Quarterly[2]
Total Kjeldahl Nitrogen	mg/L	8-hr Composite	Quarterly[2]
Nitrate-Nitrogen	mg/L	8-hr Composite	Quarterly[2]
Total Nitrogen	mg/L	Calculated	Quarterly[2]

[1] Conductivity at 25°C.

[2] January, April, July, and October; concurrent with EC sampling.

SOURCE WATER MONITORING

The City shall establish a source sample station where a representative sample of the water supply can be obtained. Source water supply monitoring shall include at least the following:

Constituent	Units	Type of Sample	Frequency
EC	µmhos/cm	Grab	Quarterly[1]
Total Dissolved Solids (TDS)	mg/L	Grab	Semiannually[2]

[1] January, April, July and October the first year, semiannually thereafter (April and October)
[2] April and October, concurrent with EC sampling.

SLUDGE MONITORING

The City shall collect a composite sample of sludge at least annually in accordance with EPA's *POTW SLUDGE SAMPLING AND ANALYSIS GUIDANCE DOCUMENT, AUGUST 1989,* and test for the following metals:

Arsenic	Copper	Nickel
Cadmium	Lead	Selenium
Molybdenum	Mercury	Zinc

The City shall maintain sludge sampling records for a minimum of five years. A log shall be kept of sludge quantities generated, and handling and disposal activities.

The City shall submit annual reports by 1 **February** of each year containing the following:

a. Annual sludge production in dry tons and percent solids.

b. A schematic diagram showing sludge handling facilities and solids flow diagram.

c. Depth of application and drying times for sludge-drying beds.

d. A description of disposal methods, including the following information related to the disposal methods used at the WWTF. If more than one method is used, include the percentage of annual sludge production disposed of by each method.

(1) For **landfill disposal**, include: (a) the Order numbers of 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 locations of the site(s), (b) the Order numbers of any WDRs that regulate the site(s), (c) the application rate in lbs/acre/year (specify wet or dry), and (d) subsequent uses of the land.

(3) For **incineration**, include: (a) the names and location of the site(s) where sludge incineration occurs, (b) the Order numbers of WDRs that regulate the site(s), (c) the disposal method of ash, and (d) the names and locations of facilities receiving ash (if applicable).

(4) For **composting**, include: (a) the location of the site(s), and (b) the Order numbers of any WDRs that regulate the site(s).

Prior to any disposal or land application of sewage sludge, or removal of sewage sludge from the WWTF site, the monitoring and record keeping requirements of 40 CFR 503 shall be met.

REPORTING

The City shall report monitoring data and information as required in this Monitoring Reporting Program and as required in the Standard Provisions and Reporting Requirements. Monthly monitoring reports shall be submitted to the Board by the **1st day of the second month** following sample collection, and include, at a minimum, monitoring data collected during the month (e.g., effluent pH and TSS). Samples taken annually shall be submitted with the monthly monitoring report following sample collection.

In reporting the monitoring data, the City shall arrange the data in tabular form so that the date, the constituents or parameters, and the concentrations or measurements are readily discernible. The data shall be summarized in a manner that clearly illustrates whether the discharge complies with waste discharge requirements. If any pollutant is monitored at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

By **1 February of each year**, the City 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 (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. Annual sludge monitoring report as specified in Sludge Monitoring and Reporting.

f. The results of an annual evaluation conducted pursuant to Standard Provision E.4.

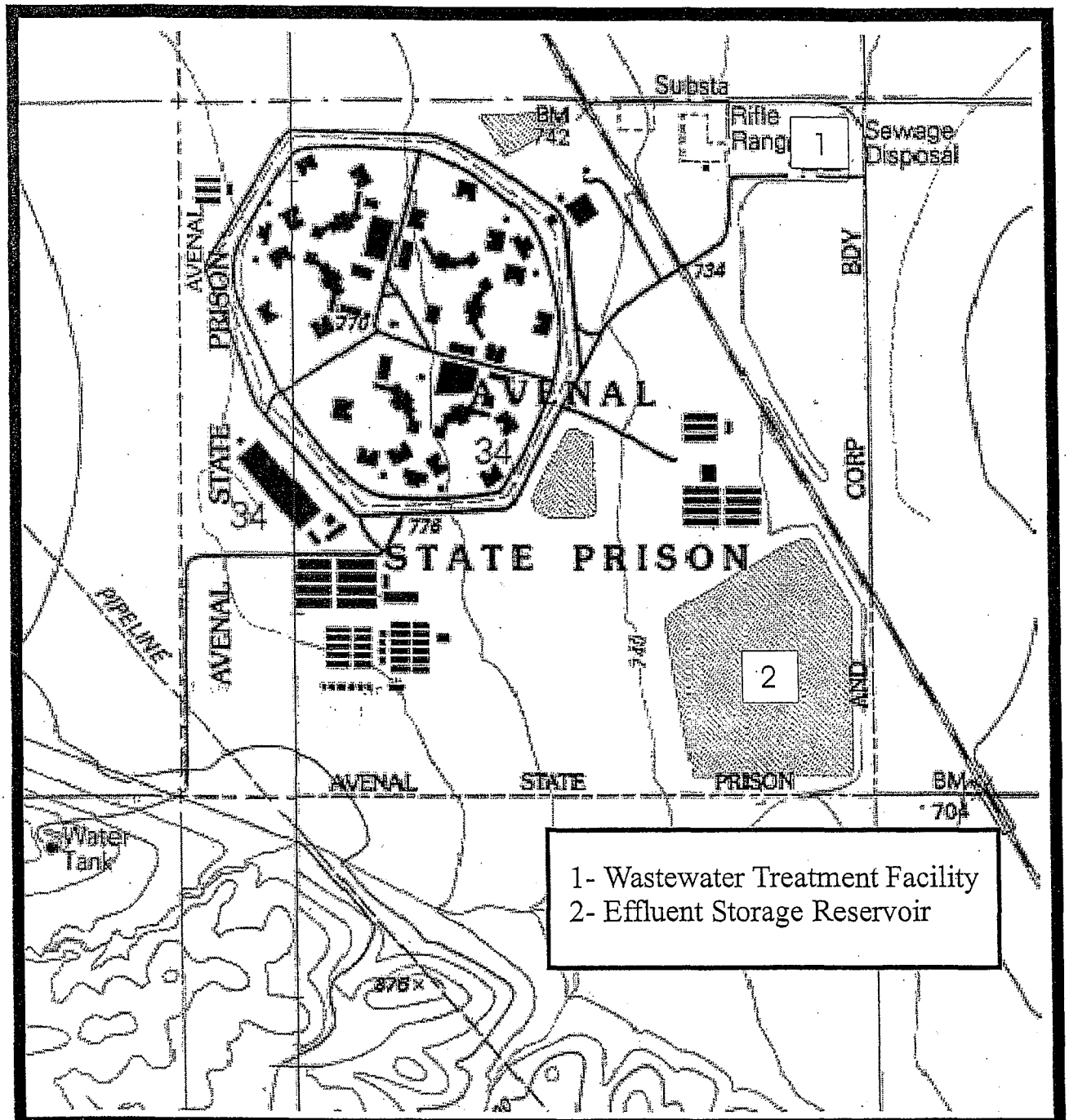
The report shall discuss the compliance record for the reporting period. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with this Order. All reports submitted in response to this Order shall comply with the signatory requirements in Standard Provision B.3.

The City shall implement the above monitoring program as of the date of this Order:

Ordered By: _____
GARY M. CARLTON, Executive Officer

27 October 2000
(Date)

RAS/jlk:10/27/00 AMENDED



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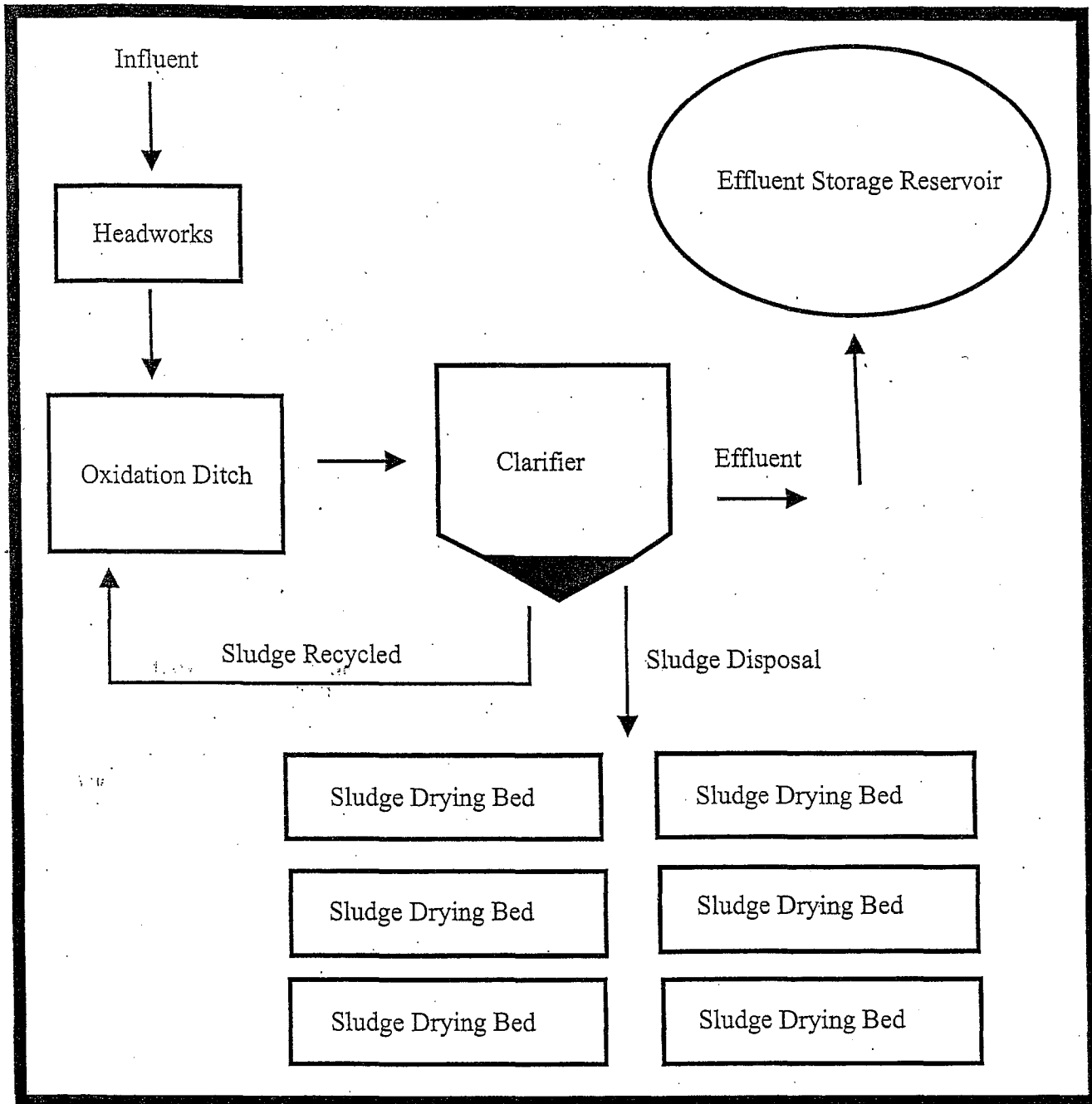
ATTACHMENT A
WASTE DISCHARGE REQUIREMENTS ORDER NO. 5-00-231
LOCATION MAP

CITY OF AVENAL
WASTEWATER TREATMENT FACILITY
KINGS COUNTY

Section 34, T22S, R17E, MDB&M
Kettleman Plain 7.5 Min Quad Map



ATTACHMENT B
WASTE DISCHARGE REQUIREMENTS ORDER NO. 5-00-231

FLOW SCHEMATIC

CITY OF AVENAL
WASTEWATER TREATMENT FACILITY
KINGS COUNTY

INFORMATION SHEET

ORDER NO. 5-00-231
CITY OF AVENAL
WASTEWATER TREATMENT FACILITY
KINGS COUNTY

The City of Avenal owns and operates a wastewater treatment facility (WWTF), which treats wastewater generated from the City of Avenal and the Avenal State Prison. The California Department of Corrections (CDC) owns and operates the Avenal State Prison. There is an effluent storage reservoir on CDC's property to which the WWTF's effluent is discharged. The Prison's population is about 6,400, while the City's is about 6,700. The City requested the Board list CDC as Co-Discharger on the WDRs for the Avenal WWTF. California Water Code Section 13263 precludes issuance of requirements for discharges into community sewer systems such as the City's. As the owner of the land on which the effluent storage reservoir is situated, CDC permits a discharge of waste thereon that could affect the quality of waters of the State. Requirements for CDC's operation of the effluent storage reservoir are prescribed in separate waste discharge requirements.

The WWTF consists of a headworks grinder, an oxidation ditch, two clarifiers, six sludge-drying beds, and pumps and piping to transfer treated wastewater to the effluent storage reservoir. Discharge to the effluent storage reservoir is treated to Title 22 standards for crops intended for nonhuman consumption. The CDC sells reclaimed water to William J. Mouren Farming Company (MFC). Reclaimed water is applied via flood and sprinkler irrigation to agricultural fields planted in cotton and barley under the terms of Board-adopted water reclamation requirements.

Avenal State Prison industrial operations are under the title Prison Industries, which consist of poultry packaging (i.e., frozen poultry is cut up and packaged at the Prison), laying hens, an industrial laundry facility, and a metal fabrication and furniture finishing facility. The metal fabrication and furniture finishing facility does not produce industrial wastewater (i.e., it is a 'dry' point operation). The Prison used to operate a Joint Venture Program that consisted of a swine farm.

Pursuant to a Joint Powers Agreement (Agreement), which was amended on 5 November 1998, the City and CDC are reportedly not to discharge wastewater flows in excess of 0.53 and 1.11 mgd, respectively. Further, CDC has agreed to accept wastewater effluent to its effluent storage reservoir. Wastewater discharged to the WWTF includes both industrial and domestic components. Almost all of the wastewater discharged from the City of Avenal and a majority of the wastewater discharged by CDC is from domestic usage. Industrial sources from CDC include an industrial laundry facility, and a poultry packaging facility. This Order increases the permitted average daily discharge from 1.63 million gallons per day (mgd) to 1.7 mgd, which is the design capacity of the WWTF.

In the past, the City has received a number of notices of violations for exceeding its permitted flow capacity and effluent limitations. Past flow violations were found to be the result of erroneous flow measurements due to problems with the WWTF's headworks. The City modified the WWTF headworks and now it is in compliance with its permitted discharge flow limit. According to the City, the swine farm had occasionally discharged waste slugs to the WWTF, which had caused them to be out of compliance with its effluent limitations for BOD_5, total suspended solids (TSS) and EC. The swine farm

disposal area used to consist of two ponds in series. Wastewater was discharged to one pond from which it was transferred to a second pond prior to discharge to the WWTF. Water from the second pond was also recycled to the swine farm for reuse in washdown processes. In the past, pipes became clogged causing both ponds to fill near capacity. Upon clean out, wastewater rapidly discharged to the City's WWTF, thereby causing an upset in the treatment process and pass-through of BOD_5, TSS and EC. By a 31 August 1999 correspondence, the City prohibited the discharge of swine farm waste to its WWTF. The Joint Venture Program terminated the swine farm operation in April 2000.

The City routinely stockpiles sludge onsite. Currently, stockpiled sludge has not been characterized, is stored outside and is between about six months and two years old. The City has recently installed a headworks grinder, two additional sludge-drying beds and an emergency backup diesel generator. The addition of two sludge-drying beds may enable the City to have sludge removed directly from sludge-drying beds for disposal. Further, the addition of a headworks grinder and an emergency backup generator should provide the WWTF with better treatment and greater reliability. The City needs to submit a sludge management report regarding its ultimate intentions regarding sludge disposal.

The Prison, WWTF, and irrigation area are all on the Kettleman Plain, just south of Avenal, which is bisected by State Highway 33 in Kings County. The area is bound on the east by Kettleman Hills and on the west by Kreyenhagen Hills of the Coast Range. The general surface gradient is to the southeast with elevations ranging from 670 to 900 feet. Site soils are on alluvial fans and residual upland areas. The alluvial fan soils consist of the Panoche and Wasco series, and the upland soils are the Kettleman series, as described in the Kings County USDA Soil Conservation Service Soil Survey. The soils are well drained and have moderate to rapid percolation rates.

The depth to groundwater levels beneath the site ranges from 400 to 500 feet. There are localized areas where groundwater levels have been lowered by pumping near irrigation wells. The Board adopted a *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for waters of the Basin. These requirements implement the Basin Plan. The high sulfate and chloride concentrations in area groundwater preclude its use as a domestic and municipal supply. As such, the beneficial uses of groundwater are limited to agricultural and industrial supply. Source water for the City of Avenal and the Prison is from the California Aqueduct and has an average EC concentration of about 370 µmhos/cm, according to self-monitoring data provided by the City from November 1998 through October 1999.

Discharge Specifications and Monitoring Requirements

The effluent limits for BOD_5, TSS, settleable solids, and EC are based on the Basin Plan, and conform to the limitations prescribed in similar permits in the Tulare Lake Basin. This Order contains influent and effluent monitoring of all constituents that required monitoring in the previous permit (Order No. 87-073) with the addition of effluent monitoring for pH, TDS, total Kjeldahl nitrogen (TKN), and nitrate-nitrogen. The addition of effluent pH and TDS monitoring is to develop a more accurate characterization of the discharge, while the addition of TKN and nitrate-nitrogen monitoring is to ensure

that MFC can quantify the amount of nitrogen it applies to its farmlands. To determine its compliance with Discharge Specification B.4, the City is required to monitor its source water quarterly for EC and semiannually for total dissolved solids. To determine the efficiency of the City's operation, the City is required to monitor influent daily for settleable solids, and weekly for BOD_5 and TSS. In order to adequately characterize its wastewater effluent, the City is required to monitor daily for settleable solids; weekly for TSS, EC, pH, and BOD_5; and quarterly for TDS, TKN, and nitrate-nitrogen. In accordance with EPA recommendations, the City is required to monitor its sludge at least annually for arsenic, cadmium, molybdenum, copper, lead, mercury, nickel, selenium, and zinc.

Antidegradation and CEQA Considerations

The conditional discharge as permitted herein is consistent with the antidegradation provisions of State Water Resources Control Board Resolution No. 68-16. Some degradation of groundwater immediately beneath the WWTF-Site is appropriate and consistent with the maximum benefit to the people of the State. Increased social and economic development, including an increase in the housing available in the WWTF service-area, is an important service to the people of California. Areal groundwater is of poor mineral quality and not used for domestic and municipal purposes. Assimilative capacity is available in the soil profile and underlying groundwater to allow for some degradation and will not unreasonably affect beneficial uses of such water for agricultural or industrial supply. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Title 14, California Code of Regulations (CCR), Section 15301.

RAS:jlk:10/27/00 AMENDED