CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 5-01-146

MASTER RECLAMATION PERMIT
FOR
EL DORADO IRRIGATION DISTRICT
EL DORADO HILLS AND DEER CREEK
WASTEWATER TREATMENT PLANTS
EL DORADO COUNTY

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

1. The El Dorado Irrigation District (hereafter Discharger) owns and operates the El Dorado Hills and Deer Creek wastewater treatment plants. The Discharger currently supplies and distributes reclaimed water from the wastewater treatment plants under separate Waste Discharge Requirements Order No. 96-153 and Order No. 94-090. The Discharger submitted a request, dated 13 February 1998, that the reclamation Orders be combined into a single master reclamation permit to allow for the use of reclaimed water within both service areas. The wastewater treatment plants also discharge to surface waters. The surface water discharges from the WWTPs are regulated under separate NPDES permits.

2. Both wastewater treatment plants owned and operated by the Discharger are capable of producing high quality tertiary effluent to comply with reclamation criteria. The new and expanded El Dorado Hills wastewater treatment system consists of a headworks with flow measurement, screening and grit removal, two primary clarifiers, two activated sludge basins, two secondary clarifiers, two tertiary filters, two chlorine contact basins, dechlorination, one dissolved air floatation basin for activated sludge thickening, one dissolved air flotation basin for algae removal prior to filtration, an anaerobic digester, a belt filter press and two sludge drying beds. The Deer Creek wastewater treatment system consists of a rotary screen with integral compactor, one primary clarifier, three aeration basins with fine bubble diffusers, three secondary clarifiers, tertiary filtration, chlorination and dechlorination.

3. The California Department of Health Services (DHS) has established statewide reclamation criteria in Chapter 3, Division 4, Title 22, California Code of Regulations (CCR), Section 60301, et seq. (Hereafter Title 22) for the use of reclaimed water for food crop, fodder, fiber, seed crop and landscape irrigation and impoundment supply. The Discharger shall comply with these and other applicable regulations that apply to the production and use of reclaimed water.

4. The Discharger currently uses or distributes reclaimed water for golf course, landscape median, school, playground, soccer field, park, commercial landscape and residential irrigation, construction (dust control, soil compaction, and general construction uses), log deck irrigation, and industrial process water. Some reclamation uses, such as dust control, have lesser standards prescribed in Title 22 than uses such as playground irrigation. However, the Discharger owns and operates only one reclamation storage and distribution system. Therefore, the uses of

reclaimed water with the most stringent treatment standards, non-restricted recreational impoundments and irrigation of public access facilities, are protective of all of the proposed reclamation uses and the treatment requirements of Title 22 to protect this use have been applied in this permit. The Discharger also uses reclaimed water to irrigate fodder crops near the El Dorado Hills wastewater treatment plant site. The reclaimed water used to irrigate fodder crops does not enter the principal reclamation water storage or distribution system and the specified treatment standards and limitations comply with Title 22 requirements for this use.

5. This Order is adopted pursuant to Section 13523.1, Chapter 7, Article 2 of the California Water Code (CWC), which authorizes issuance of a Master Reclamation Permit to suppliers or distributors, or both, of reclaimed water in lieu of issuing individual water reclamation requirements to each Reclaimed Water User (hereafter User(s)).

6. Uses of reclaimed water other than those identified in Title 22 are not regulated by this Order. Any other uses of reclaimed water will be regulated under individual Waste Discharge Requirements.

7. The Board adopted a Water Quality Control Plan, Fourth Edition, for the Sacramento River and San Joaquin River Basins (hereafter Basin Plan) that contains water quality objectives for waters of the Basin. These requirements implement the Basin Plan.

8. The beneficial uses of the underlying ground water include municipal, domestic, agricultural and industrial supply.

9. The Discharger has reported numerous bypasses and overflows from the reclamation water distribution system. In 1996 approximately 700,000 gallons of reclaimed water were overflowed to surface waters or surface water drainage courses. The number and volume of reclaimed water discharges to surface waters was greatly reduced in 1997. Bypasses and overflows of partially treated and untreated wastewater are prohibited under this Order. The discharge of reclaimed water to surface waters is also prohibited. All necessary measures must be taken to eliminate discharges to surface waters and assure compliance with Waste Discharge Requirements.

10. Reclaimed water is a waste and, as such, any discharge to surface water must be regulated under the National Discharge Elimination System (NPDES). The discharge of wastes may not cause degradation of groundwater in accordance with the State Board's antidegradation policy. Reclaimed Water Prohibitions have been included in this Order to assure that: reclaimed water is not discharged to surface waters; the by-pass or overflow of untreated or partially treated reclamation water is prohibited; excessive irrigation does not result in excessive runoff; over spray or runoff is minimized; and, reclaimed water is not used or stored within 50 feet of any

well used for domestic water supply. Groundwater Limitations have been included in this Order to assure that the use of reclaimed water does not degrade groundwater quality.

11. On 6 January 1977, the State Water Resources Control Board (State Board) adopted Resolution No. 77-1, which resolved to encourage water reclamation projects.

12. In 1996, the State Board and the DHS set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of reclaimed water in California, in a document titled *Memorandum of Agreement Between the Department of Health Services and The State Water Resources Control Board On The Use of Reclaimed Water* (MOA). This Order is consistent with the MOA.

13. Reclaimed Water Limitations have been included in this Order to assure compliance with requirements contained in Title 22 and the DHS - State Board MOA.

14. The Discharger certified a mitigated negative declaration in accordance with the California Environmental Quality Act (CEQA)(Public Resources Code Section 21100, et seq.) for the El Dorado Hills wastewater treatment facility prior to adoption of Order No. 96-153. The Discharger certified an EIR in 1988 to comply with CEQA that discussed reclaimed water usage from the Deer Creek wastewater treatment plant. The Board reviewed the CEQA documents and concurred that there were no significant impacts on water quality. Adoption of this Order combines the two existing Waste Discharge Requirements and does not allow new reclaimed water uses which were not discussed in the previous CEQA documents. The action to combine waste discharge requirements for these existing facilities and reclamation discharges is exempt from the provisions of the California Environmental Quality Act (CEQA), in accordance with Title 14, California Code of Regulations (CCR), Section 15301.

15. The DHS has approved, site specific User Reclamation Plans and Engineer's Reports for dual plumbed recycled water systems of full yard irrigation in residential lots. Currently the Discharger has not completed a Title 22 Engineer's Report that reflects the operation of the reclamation system as it presently exists. The Discharger is required to complete a comprehensive Title 22 Engineer's Report for the existing and future reclamation system uses, in accordance with DHS guidelines.

16. This use of reclaimed water is exempt from the requirements of Title 23, CCR, section 2510, et seq. (hereafter Chapter 15) and Title 27, CCR, pursuant to Section 2511(b) based on the following:

    a. The Board is issuing a Master Reclamation permit, and

b. The reclamation complies with the Basin Plan, and

c. The reclaimed water does not need to be managed according to 22 CCR, Division 4.5, Chapter 11, as a hazardous waste.

17. The Board consulted with the DHS, the El Dorado County Health Department, and the local Mosquito Abatement District and considered any recommendations regarding public health aspects for this use of reclaimed water.

18. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe reclamation requirements and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

19. The Board, in a public meeting, heard and considered all comments pertaining to the proposed reclamation permit.

20. Any person adversely affected by this action of the Board may petition the State Board to review the action. The petition must be received by the State Water Resources Control Board, Office of the Chief Counsel, P.O. Box 100, Sacramento, CA, 95812-0100, within 30 days of the date on which this action was taken. Copies of the law and regulations applicable to filing petitions will be provided on request.

IT IS HEREBY ORDERED that Orders No. 94-090 and No. 96-153 are hereby rescinded and the El Dorado Irrigation District, 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. Reclaimed Water Prohibitions

1. The discharge of reclaimed water to surface waters is prohibited.

2. By-pass or overflow of untreated or partially treated reclamation water from the wastewater treatment plant, any intermediate unit processes, or the reclamation distribution system to the point of use is prohibited.

3. Excessive irrigation with reclaimed water that results in excessive runoff of reclaimed water, or continued irrigation of reclaimed water during periods of rain is prohibited. Overspray or runoff associated with normal sprinkler use shall be minimized.

4. Application or impoundment of reclaimed water within 50 feet of any well used for domestic water supply is prohibited, unless approved by the Department of Health Services Drinking Water Branch.

5. Use of reclaimed water, such as washing streets, that would result in either direct or indirect discharges to surface waters or surface water drainage course is prohibited.

6. The use of reclaimed water shall not cause the degradation of groundwater.

B. Reclaimed Water Limitations

1. The tertiary reclaimed water shall, at a minimum, be adequately oxidized, coagulated, filtered, and disinfected. The 30-day average BOD and total suspended solids shall not exceed 10 mg/l. The 7-day average BOD and total suspended solids shall not exceed 15 mg/l. The daily maximum BOD and total suspended solids shall not exceed 20 mg/l.

2. The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

3. Disinfection of tertiary treated wastewater shall be accomplished by a chlorine disinfection process that provides a CT (chlorine concentration times modal contact time) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak daily design flow.

4. The coagulation system shall be used whenever the plant is producing tertiary treated wastewater for unrestricted use. For the purpose of maintenance and repair of the system, the Discharger is allowed to have the coagulation system off-line for short periods of time (up to 30 minutes for each occurrence), when the turbidity of the influent to the tertiary treatment plant is less than 5 NTU.

5. Disinfected tertiary treated wastewater for unrestricted use shall be continuously sampled for turbidity using a continuous turbidity meter and recorder at a point prior to filtration and again following filtration. Turbidity measurements shall be based on a reading and recording of the turbidity strip charts or computer records at four-hour intervals at least

once per day. Compliance with the daily average operating turbidity shall be determined by averaging the results of all four-hour turbidity samples read during the day. The results of the daily average turbidity determinations shall be reported quarterly to the Board.

The turbidity of the filter effluent shall not exceed 2 NTU as a daily average, nor 5 NTU at any time. Reclaimed water in excess of the turbidity limits shall not enter the reclamation distribution system. An automated reclaimed water distribution system bypass is required to assure that water in excess of the turbidity limit does not enter the system.

6. Water in the surface layer of any pond or earthen reservoir containing reclaimed water shall meet the following limitations at all times:

   a. Dissolved oxygen shall not be less than 1.0 mg/l.

   b. pH shall not be less than 6.0 or greater than 9.0.

   c. Except for decorative ponds, the freeboard shall not be less than 2-feet.

C. Ground Water Limitations

1. The discharge and use of reclaimed water shall not degrade groundwater quality.

2. The use of reclaimed water shall not cause a statistically significant increase of nitrate or salt concentrations in underlying ground water.

3. The use of reclaimed water shall not cause concentrations of chemicals and radionuclides in ground water to exceed limits set forth in Title 22, Chapter 15, Articles 4 and 5, of the California Code of Regulations.

D. Fodder, Fiber and Seed Crop Irrigation Reclaimed Water Limitations:

1. Reclaimed water used for the surface or spray irrigation of fodder, fiber and seed crops shall have a level of quality no less than secondary disinfected effluent.

2. Direct or windblown spray and mist shall be confined to the area designated for reclamation.

3. Public contact with reclaimed water shall be minimized by fences, setbacks and signs warning of the use of reclaimed water.

E. Reclaimed Water Specifications

1. Neither the treatment nor the use of reclaimed water shall cause a pollution or nuisance as defined by Section 13050 of the CWC.

2. The use of reclaimed water shall not cause degradation of any water supply.

3. Reclaimed water shall be managed in conformance with the regulations contained in Title 22, Division 4, Chapter 3, CCR.

4. All reclamation equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities. All reclamation distribution system piping shall be purple or adequately wrapped with purple tape.

5. Perimeter warning signs indicating that reclaimed water is in use shall be posted as prescribed in the User's Reclamation Plan that is subject to approval by the Board and the DHS.

6. Reclaimed water shall not be allowed to escape from the authorized use areas by airborne spray or by surface flow except in minor amounts such as that associated with good irrigation practices.

7. A minimum freeboard of two (2) feet shall be maintained at all times in any reservoir or pond containing reclaimed water, except with prior written authorization by the Board's Executive Officer.

8. All reservoirs and ponds shall be adequately protected from erosion, washout and flooding from a rainfall event having a predicted frequency of once in 100 years.

9. There shall be at least a ten foot horizontal and one foot vertical separation at crossings between all pipelines transporting reclaimed water and those transporting domestic supply, with the domestic supply above the reclaimed water pipeline, unless approved by the DHS.

10. There shall be no cross-connection between potable water supply and piping containing reclaimed water. Supplementing reclaimed water with potable water shall not be allowed except through an air-gap separation, or if approved by the DHS, a reduced pressure principle backflow device.

11. Areas irrigated with reclaimed water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of a public nuisance or health hazard. The following practices shall be implemented, at a minimum:

    a. Irrigation water must infiltrate completely within a 48-hour period.

    b. Ditches receiving irrigation runoff, not serving as wildlife habitat, shall be maintained free of emergent, marginal, and floating vegetation.

    c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.

12. The reclaimed water piping system shall not include any hose bibs, except at the treatment plant. Treatment Plant hose bibs shall have appropriate signage.

F. Provisions

1. Due to the significant amount of improvements to the reclamation treatment and distribution system, the existing Title 22 Engineer's reports no longer reflect the existing system. Pursuant to Title 22, Section 60323, the Discharger shall prepare an updated Title 22 Engineer's Report that reflects the exiting and proposed reclamation uses and operation. The report shall be prepared in accordance with DHS guidelines. The report shall be submitted to DHS and the Regional Board for review and approval. The report shall be completed in conformance with the following schedule.

Task	Compliance Date
Submit Workplan and Time Schedule	**15 September 2001**
Submit Draft Report	**15 June 2002**
Submit Final Report	**15 November 2002**

Existing rules and/or regulations established by the Discharger shall continue to be enforced until DHS and the Regional Board approve the revised Title 22 Engineer's Report. The design and construction of reclaimed water use facilities and the use of reclaimed water by Users shall be in accordance with the criteria established in Title 22 and this Order.

2. The California Health and Safety Code, Division 104 Environmental Health, Section 116815, requires that "all pipes installed above or below the ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape. There are indications that the Discharger has not utilized purple pipe or has not used the alternative method of distinctly wrapping with purple tape as required in Reclamation Discharge Specification No. 4, throughout the reclamation distribution system. The Discharger shall prepare a workplan to identify any and all pipe which is either non-purple or is not wrapped with purple tape in the reclamation distribution system installed after 1 June 1993 in contradiction of the provisions of the California Health and Safety Code, Division 104, Environmental Health, Section 116815. The workplan shall be submitted within 120 days of the adoption of this permit, with full compliance with Reclamation Discharge Specification No. 4 by 1 June 2004. Black pipe commonly used to deliver reclaimed water to individual plants via a drip irrigation system may be used in lieu of purple pipe or pipe wrapped with purple tape pipe.

3. The Discharger shall develop administrative procedures and User Agreements requiring compliance with Title 22 criteria and this Order. Upon approval of the Discharger's procedures and Agreements, the Discharger may authorize specific additional reclamation projects on a case-by-case basis in accordance with the approved program and Agreements.

4. The Discharger shall be responsible for ensuring that reclaimed water meets the quality standards of this Order and for the operation and maintenance of transport facilities and associated appurtenances. The Discharger shall hold the Users responsible for the application and use of reclaimed water on their designated use areas and associated operations and maintenance in accordance with all applicable Title 22 requirements and this Order.

5. The Discharger shall conduct periodic inspections of the User's facilities and operations to monitor and assure compliance with conditions of the Discharger's permit and this Order. The Discharger shall take whatever actions are necessary, including termination of delivery of reclaimed water to the User, to correct any User violations. The Discharger shall maintain a right-of-entry for all properties where reclaimed water is used and shall conduct regular inspections to assure cross connection are not made with potable water systems and air-gap devices are installed and operable. The Discharger shall produce, maintain and comply with Engineer's Reports, in accordance with Title 22, Sections 60323 and 60314, which must be approved by the DHS.

6. The Discharger shall submit a notice to the Board in anticipation of reclaiming water at a new location, prior to the commencement of reclamation activities at the new location. The

notice shall include the following; the site location, the County Assessor Parcel Number(s), the name of the property owner, the name of the User, and a User Reclamation Plan. The User Reclamation Plan shall estimate the anticipated volume of reclaimed water to be used, identify the on-site supervisor who is knowledgeable of the User Reclamation Plan, describe the reclaimed water management facilities and operations plan, reflect consultation with state and local health departments, and explain in detail how compliance with the User Reclamation Plan, Title 22 criteria, and the requirements of this Order will be achieved.

7. If, in the opinion of the Executive Officer, reclamation at proposed new locations cannot be adequately regulated under this Order, a Report of Waste Discharge may be requested and individual Water Reclamation Requirements may be issued.

8. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, limitation, specification or receiving water limitation the Discharger shall notify the Board by telephone within 12 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, limitation, specification or receiving water limitation the Discharger shall notify all reclaimed water users as soon as is reasonably possible. In the event the reclaimed water users violate or cause violation of any prohibition, limitation, specification or receiving water limitation the Discharger, upon learning of such violation, shall notify the Board by telephone within 12 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Board waives confirmation.

9. The Discharger shall comply with the Monitoring and Reporting Program No. 5-01-146, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

10. The Discharger shall comply with all applicable requirements for Dischargers in 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)."

11. 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.

12. The Discharger shall comply with the criteria established in Title 22. Uses of reclaimed water other than those identified in Title 22 are not regulated by this Order, are to be considered on a case-by-case basis and will be regulated under a separate Order.

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 14 June 2001.

GARY M. CARLTON, Executive Officer

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 5-01-146

FOR
EL DORADO IRRIGATION DISTRICT
MASTER RECLAMATION PERMIT
EL DORADO HILLS AND DEER CREEK WASTEWATER TREATMENT PLANTS
EL DORADO COUNTY

This Monitoring and Reporting Program is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this Program unless and until the Regional Board or Executive Officer issues a revised Monitoring and Reporting Program. 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.

RECLAMATION WATER SUPPLY MONITORING
Deer Creek Wastewater Treatment Plant

Samples shall be collected after the final wastewater treatment processes prior to entering the reclamation distribution system. Reclamation Water Supply monitoring shall include at least the following:

Constituents	Units	Type of Sample	Sampling Frequency
20°C BOD_5	mg/l, lbs/day	24-hr. Composite	Daily
Suspended Solids	mg/l, lbs/day	24-hr. Composite	Daily
Flow	mgd	Meter	Continuous
Turbidity[1]	NTU	Meter	Continuous
Total Residual Chlorine[2]	mg/l	Meter	Continuous
Total coliform organisms[3]	MPN/100 ml	Grab	Daily
pH	pH units	Grab	Daily
Specific Conductivity	umhos/cm	Grab	Daily
Ammonia	mg/l	Grab	Daily
Nitrate (N)	mg/l	Grab	Daily

Footnotes – next page

1 The turbidity shall be continuously recorded. The recorded charts shall be maintained by the Discharger for at least five years. Disinfected tertiary treated wastewater for unrestricted use shall be continuously sampled for turbidity using a continuous turbidity meter and recorder at a point prior to filtration and again following filtration. Turbidity measurements shall be based on a reading and recording of the turbidity strip charts or computer records at four-hour intervals at least once per day. Compliance with the daily average operating turbidity shall be determined by averaging the results of all four-hour turbidity samples read during the day. The maximum daily peak and daily average turbidity shall be reported on the monthly monitoring reports.

2 The total residual chlorine shall be continuously recorded. The recorded charts shall be maintained by the Discharger for at least five years. The maximum daily peak, minimum daily peak and daily average total residual chlorine shall be reported on the monthly monitoring reports.

3 The total coliform organisms shall be sampled daily, the results shall be reported on the monthly monitoring report as daily maximum, 7-day median and 30-day maximum.

RECLAMATION WATER SUPPLY MONITORING
El Dorado Hills Wastewater Treatment Plant

Samples shall be collected after the final wastewater treatment processes prior to entering the reclamation distribution system. Reclamation Water Supply monitoring shall include at least the following:

Constituents	Units	Type of Sample	Sampling Frequency
20°C BOD_5	mg/l, lbs/day	24-hr. Composite	Daily
Suspended Solids	mg/l, lbs/day	24-hr. Composite	Daily
Flow	mgd	Meter	Continuous
Turbidity[1]	NTU	Meter	Continuous
Total Residual Chlorine[2]	mg/l	Meter	Continuous
Total coliform organisms[3]	MPN/100 ml	Grab	Daily
pH	pH units	Grab	Daily
Specific Conductivity	umhos/cm	Grab	Daily
Ammonia	mg/l	Grab	Daily
Nitrate (N)	mg/l	Grab	Daily

Footnotes – next page

[1] The turbidity shall be continuously recorded. The recorded charts shall be maintained by the Discharger for at least five years. Disinfected tertiary treated wastewater for unrestricted use shall be continuously sampled for turbidity using a continuous turbidity meter and recorder at a point prior to filtration and again following filtration. Turbidity measurements shall be based on a reading and recording of the turbidity strip charts or computer records at four-hour intervals at least once per day. Compliance with the daily average operating turbidity shall be determined by averaging the results of all four-hour turbidity samples read during the day. The maximum daily peak and daily average turbidity shall be reported on the monthly monitoring reports.

[2] The total residual chlorine shall be continuously recorded. The recorded charts shall be maintained by the Discharger for at least five years. The maximum daily peak, minimum daily peak and daily average total residual chlorine shall be reported on the monthly monitoring reports.

[3] The total coliform organisms shall be sampled daily, the results shall be reported on the monthly monitoring report as daily maximum, 7-day median and 30-day maximum.

RECLAMATION SYSTEM MONITORING

The Discharger shall monitor the reclamation storage, distribution and use systems and report the results of the monitoring monthly. The storage ponds shall be monitored monthly for pH, specific conductivity, dissolved oxygen and freeboard. The monthly monitoring report shall contain a complete listing of all reclamation distribution system overflows, bypasses and discharges other than as allowed by Waste Discharge Requirements. The monthly monitoring report shall contain a list of user inspections conducted by the Discharger and shall include, the number and location of cross connections, the number and location of improper air gaps, the location and estimated volume of any reclaimed water discharges off-site of the use area and all observations of misuse of reclaimed water. Any discharges of reclaimed water to surface waters, or surface water drainage courses must be reported by telephone within 12-hours to the Regional Board and reported in writing within two weeks.

REPORTING

Monitoring results shall be submitted to the Regional Board by the **first day** of the second month following sample collection.

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 to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians should be determined and recorded.

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

a. The names, certificate grades, and general responsibilities of all persons employed at the WWTP (Standard Provision A.5).

b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

c. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.6).

d. A statement certifying 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 revised and last reviewed for adequacy.

The Discharger may also be requested to submit an annual report to the Board with both 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 compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

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

Ordered by:
GARY M. CARLTON, Executive Officer

14 June 2001
(Date)

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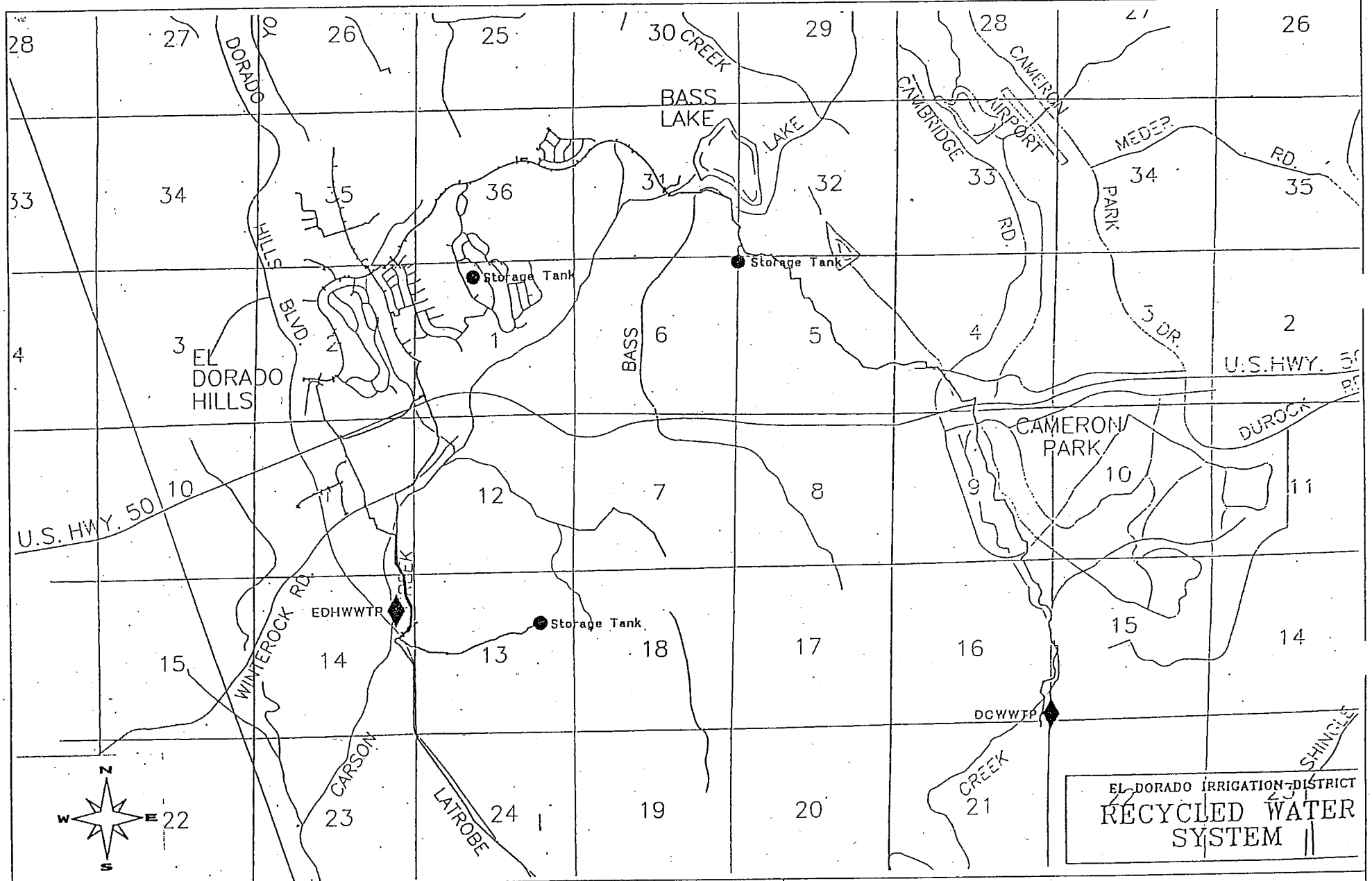
ATTACHMENT A



Not to Scale	Drawing Reference: El Dorado Irrigation District Recycled Water System	**VICINITY MAP** RECYCLED WATER DISTRIBUTION SYSTEM EL DORADO IRRIGATION DISTRICT EL DORADO COUNTY

INFORMATION SHEET

ORDER NO. 5-01-146
MASTER RECLAMATION PERMIT
EL DORADO IRRIGATION DISTRICT
EL DORADO HILLS AND DEER CREEK WASTEWATER TREATMENT PLANTS
EL DORADO COUNTY

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Both wastewater treatment plants owned and operated by the EID are capable of producing high quality tertiary effluent to comply with reclamation criteria. The new and expanded El Dorado Hills wastewater treatment system consists of a headworks with flow measurement, screening and grit removal, 2 primary clarifiers, 2 activated sludge basins, 2 secondary clarifiers, 2 tertiary filters, 2 chlorine contact basins, 1 dissolved air floatation basins for activated sludge thickening, 1 dissolved air flotation basin for algae removal prior to filtration, an anaerobic digester, a belt filter press and 2 sludge drying beds. The Deer Creek wastewater treatment system consists of a rotary screen with integral compactor, one primary clarifier, three aeration basins with fine bubble diffusers, two secondary clarifiers, tertiary filtration, chlorination and dechlorination.

The California Department of Health Services (DHS) has established statewide reclamation criteria in Chapter 3, Division 4, Title 22, California Code of Regulations (CCR), Section 60301, et seq. (Hereafter Title 22) for the use of reclaimed water for food crop, fodder, fiber, seed crop and landscape irrigation and impoundment supply. The permit implements the reclamation criteria in Title 22.

EID currently uses or distributes reclaimed water for golf course, landscape median, school, playground, soccer field, park, commercial landscape and residential irrigation wetlands maintenance, construction (dust control, soil compation and general construction use), log deck irrigation and industrial process water. Some reclamation uses, such as dust control, have lesser standards prescribed in Title 22 than uses such as playground irrigation. However, EID owns and operates one reclamation storage and distribution system. Therefore, the uses of reclaimed water with the most stringent treatment standards, nonrestricted recreational impoundments and irrigation of public access facilities, are protective of all of the proposed reclamation uses and the treatment requirements of Title 22 have been applied in this permit. EID may also use reclaimed water to irrigate fodder crops near the El Dorado Hills wastewater treatment plant site. The reclaimed water used to irrigate fodder crops does not enter the principal reclamation water storage or distribution system and the specified treatment standards and limitations comply with Title 22 requirements for this use.

The permit contains significant treatment requirements in order to assure protection of the public's health and compliance with Title 22 requirements. The tertiary reclaimed water shall, at a minimum, be adequately oxidized, coagulated, filtered, and disinfected. The 30-day average BOD and total suspended solids shall not exceed 10 mg/l. The 7-day average BOD and total suspended solids shall not exceed 15 mg/l. The daily maximum BOD and total suspended solids shall not exceed 20 mg/l. The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

Disinfection of tertiary treated wastewater shall be accomplished by a chlorine disinfection process that provides a CT (chlorine concentration times modal contact time) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak daily design flow. The coagulation system shall be used whenever the plant is producing tertiary treated wastewater for unrestricted use. For the purpose of maintenance and repair of the system, EID is allowed to have the coagulation system off-line for short periods of time (up to 30 minutes for each occurrence), when the turbidity of the influent to the tertiary treatment plant is less than 5 NTU. Disinfected tertiary treated wastewater for unrestricted use shall be continuously sampled for turbidity using a continuous turbidity meter and recorder at a point prior to filtration and again following filtration. Turbidity measurements shall be based on a reading and recording of the turbidity strip charts or computer records at four-hour intervals at least once per day. Compliance with the daily average operating turbidity shall be determined by averaging the results of all four-hour turbidity samples read during the day. The results of the daily average turbidity determinations shall be reported quarterly to the Board. The turbidity of the filter effluent shall not exceed 2 NTU as a daily average, nor 5 NTU at any time. Reclaimed water in excess of the turbidity limits shall not enter the reclamation distribution system. An automated reclaimed water distribution system bypass is required to assure that water in excess of the turbidity limit does not enter the system.

The permit requires that water in the surface layer of any pond or earthen reservoir containing reclaimed water shall contain dissolved oxygen concentrations not be less than 1.0 mg/l, pH shall not be less than 6.0 or greater than 9.0 and the pond freeboard shall not be less than 2-feet.

The permit is adopted pursuant to Section 13523.1, Chapter 7, Article 2 of the California Water Code, which authorizes issuance of a Master Reclamation Permit to suppliers or distributors, or both, of reclaimed water in lieu of issuing individual water reclamation requirements to each reclaimed water user. The permit does not allow uses of reclaimed water other than those identified in Title 22 and any other uses of reclaimed water will be regulated under individual Waste Discharge Requirements.

The beneficial uses of the underlying ground water include municipal, domestic, agricultural and industrial supply. Groundwater Limitations have been included in the permit to assure that the use of reclaimed water does not degrade groundwater quality.

EID has reported numerous bypasses and overflows from the reclamation water distribution system. In 1996 approximately 700,000 gallons of reclaimed water were overflowed to surface waters or surface water drainage courses. The number and volume of reclaimed water discharges to surface waters was greatly reduced in 1997. Bypasses and overflows of partially treated and untreated wastewater are prohibited under this Order. The discharge of reclaimed water to surface waters is also prohibited. All necessary measures must be taken to eliminate discharges to surface waters and assure compliance with the permit.

Reclaimed water is a waste and, as such, any discharge to surface water must be regulated under the National Discharge Elimination System (NPDES). The discharge of wastes may not cause degradation of groundwater in accordance with the State Board's antidegradation policy. Reclaimed Water Prohibitions have been included in this Order to assure that: reclaimed water is not discharged to surface waters; the by-pass or overflow of untreated or partially treated reclamation water is prohibited; excessive irrigation does not result in excessive runoff; overspray or runoff is minimized; and, reclaimed water is not used or stored within 50 feet of any well used for domestic water supply. In the event the reclaimed water users violate or cause violation of any prohibition, limitation, specification or receiving water limitation, EID is required to notify the Board by telephone within 12 hours and confirm the notification in writing within five days.

On 6 January 1977, the State Water Resources Control Board (State Board) adopted Resolution No. 77-1 which resolved to encourage water reclamation projects. In 1996, the State Board and the DHS set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of reclaimed water in California, in a document titled *Memorandum of Agreement Between the Department of Health Services and The State Water Resources Control Board On The Use of Reclaimed Water* (MOA). The permit is consistent with the MOA. Reclaimed Water Limitations have been included in the permit to assure compliance with requirements contained in Title 22 and the DHS - State Board MOA.

The permit requires that EID establish and enforce rules and/or regulations for Users governing the design and construction of reclaimed water use facilities and the use of reclaimed water in accordance with the criteria established in Title 22 and the permit. The Discharger shall develop administrative procedures and User Agreements requiring compliance with Title 22 criteria and this Order. Upon approval of EID's procedures and Agreements, EID may authorize specific additional reclamation projects on a case-by-case basis in accordance with the approved program and Agreements. EID must conduct periodic inspections of the Users facilities and operations to monitor and assure compliance with conditions of the permit. EID is required to take whatever

actions are necessary, including termination of delivery of reclaimed water to the User, to correct any User violations. EID is required to maintain a right-of-entry for all properties where reclaimed water is used and shall conduct regular inspections to assure cross connection are not made with potable water systems and air-gap devices are installed and operable.

EID is required to produce, maintain and comply with an "Engineer's Report", in accordance with Title 22, Sections 60323 and 60314, which must be approved by the California Department of Health Services. EID has developed, and the Department of Health Services (DHS) has approved, various Engineer's Report for the use of reclaimed water. Due to significant improvements to the reclamation treatment and distribution systems, the existing Title 22 Engineer's Reports no longer reflect the existing system. EID shall prepare an undated Title 22 Engineer's that reflects the existing and proposed reclamation uses and operation.

The California Health and Safety Code, Division 104 Environmental Health, Section 116815, requires that "all pipes installed above or below the ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape. There are indications that EID and the Users in the reclamation area have not utilized purple pipe, or has not used the alternative method of distinctly wrapping with purple tape, as required in Reclamation Discharge Specification No. 4 of the permit throughout the reclamation distribution system. The permit requires that EID prepare a workplan to identify any and all pipe which is either non-purple or is not wrapped with purple tape in the reclamation distribution system installed after 1 June 1993 in contradiction of the provisions of the California Health and Safety Code, Division 104, Environmental Health, Section 116815. The workplan must be submitted within 120 days of the adoption of this permit, with full compliance with Reclamation Discharge Specification No. 4 by 1 June 2004. . Black pipe commonly used to deliver reclaimed water to individual plants via a drip irrigation system may be used in lieu of purple pipe or pipe wrapped with purple tape pipe.

EID is responsible for ensuring that reclaimed water meets the quality standards of the permit and for the operation and maintenance of transport facilities and associated appurtenances. EID must hold the Users responsible for the application and use of reclaimed water on their designated use areas and associated operations and maintenance in accordance with all applicable Title 22 requirements and this Order.

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