

CLEAN TRANSMITTAL/DELIVERABLE RECEIPT

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TO: Southwest Division
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Head, Environmental ACO I Branch
Naval Facilities Engineering Command
Contracts Department, Building 131
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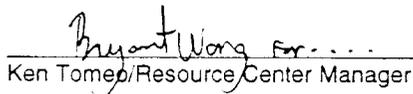
DATE: 28 April 1995

CTO#: 145

LOCATION: MCAS El Toro

TASK/WORK ELEMENT: _____


John Dolegowski/Project Manager


Ken Tomeo/Resource Center Manager

DESCRIPTION: Project Note No. PN-0145-179, Contract Task Order (CTO) No. 145, Summary of Public Workshop

Presented by RWQCB

TYPE: Contract Deliverable CTO Deliverable Request for Change/Project Note

REVISION: _____
(e.g., Draft, Draft Final, Final, etc.)

REVISION #: _____

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Copies To:	<u>J. Rogers - Code 18C1 w/attach</u>	<u>M. Huddleston - CH2M HILL w/attach</u>
	<u>A. Piszkin - Code 1831.AP w/attach</u>	<u>Mike Bitner - CH2M HILL/ABQ w/attach</u>
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	<u>V. Parpiani - MCAS El Toro w/attach</u>	<u>File - CH2M HILL w/attach</u>
	<u>K. Tomeo - CH2M HILL w/attach</u>	

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PROJECT NOTE NO.

PROJECT NO.

PN-0145-179
CLE-C01-01F145-I3-0145

01-F145-H6

CONFIRMATION OF:	CONFERENCE	DATE HELD	07 April 1995
	TELECOM	DATE ISSUED	28 April 1995
	OTHER	RECORDED BY	Kimo Look/CH2M HILL
	X	PLACE	Loma Linda, CA

SUBJECT

Contract Task Order (CTO) No. 0145
Summary of Public Workshop Presented by RWQCB
Marine Corps Air Station (MCAS) El Toro RI/FS

PARTICIPANTS: (* DENOTES PART-TIME ATTENDANCE)

Kimo Look/CH2M HILL

**ACTION
REQ'D. BY**

ITEM

On 07 April 1995, Kimo Look/CH2M HILL attended a public workshop presented by the Regional Water Quality Control Board, Santa Ana Region (RWQCB) for review of the Basin Plan revisions regarding regulation of reclaimed water for agricultural irrigation. The issue relevant to the Marine Corps Air Station (MCAS) El Toro project that was discussed was regulation of total dissolved solids (TDS) in reclaimed and agricultural irrigation water. The notice of public workshop (Attachment 1) and a handout provided by the RWQCB at the meeting (Attachment 2) are attached.

A summary of salient points of the workshop are as follows:

The current language of the Water Quality Control Plan for the Santa Ana Basin (Basin Plan) reads as follows: "If there is assimilative capacity in the receiving waters for TDS, nitrogen, or other constituents, the allowed waste discharge may be of lower quality than the objective for those constituents for the receiving waters as long as the discharge does not cause violation of the objectives. However if there is no assimilative capacity in the receiving waters, such as the subbasins identified above, numerical limits in the discharge requirements cannot exceed the receiving water objectives or the degradation process would be accelerated. This rule was expressed clearly by the State Water Resources Control Board in a decision regarding the appropriate TDS discharge limitations for the Rancho Caballero mobile home park located in the Santa Ana region. *However, this rule is not meant to restrict overlying agricultural irrigation, or similar activities such as landscape irrigation. Even in subbasins without assimilative capacity, groundwater may be pumped and used for agricultural irrigation.*"

The RWQCB agreed that this language did not accurately reflect their intent. Their concern was that uncontrolled agricultural or irrigation use could lead to degradation of the groundwater. As a result, they decided to revise the language to indicate that purveyors of agricultural water would be allowed to extract and irrigate within a single

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subbasin. However, if agricultural water purveyors conveyed irrigation water across basin or subbasin boundaries, irrigation water quality should comply with Basin Plan objectives. Furthermore, for reclaimed water irrigation, if subbasins were to have no assimilative capacity, the reclaimed water quality should meet the basin objectives for TDS or at a minimum, the TDS level of the source water.

These rulings do not impact the MCAS El Toro project because the practices currently used by The Irvine Company (TIC) and the Irvine Ranch Water District (IRWD) are in compliance with the RWQCB's intent. TIC extracts and irrigates within the same subbasin or extracts from cleaner basins and irrigates over subbasins with higher TDS objectives. IRWD reclaimed water effluent matches or exceeds the Basin Plan TDS objectives for all subbasins in its service area.

Attachments

Attachment 1
Notice of Public Workshop

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

1000 AVENUE, SUITE 100

TEL: (949) 925-0724

FAX: (949) 782-4130

X: (909) 781-8288

NOTICE OF PUBLIC WORKSHOP
for a
REVIEW OF THE SANTA ANA RIVER BASIN WATER QUALITY CONTROL PLAN
(BASIN PLAN) PROVISIONS REGARDING

REGULATION OF RECLAIMED WATER USE FOR AGRICULTURAL IRRIGATION

The California Regional Water Quality Control Board, Santa Ana Region (Regional Board) will hold a public workshop to consider the matter of regulation of total dissolved solids (TDS) in reclaimed water used for agricultural irrigation. An amendment to the Basin Plan clarifying the Regional Board regulatory approach may be considered. The public workshop will be held at the regularly scheduled Regional Board Meeting on April 7, 1995 at the following time and location:

DATE: April 7, 1995
TIME: 9:00
LOCATION: City Council Chambers, Newport Beach
3300 Newport Blvd., Newport Beach

Discussion

The 1995 Water Quality Control Plan (Basin Plan) identifies a number of groundwater subbasins which are violating, or are projected to violate their total dissolved solids (TDS) water quality objectives, and which, therefore, lack TDS assimilative capacity. The California Water Code requires that Waste Discharge Requirements (WDR's) must implement the Basin Plan; WDR's issued by the Board for discharges to subbasins without assimilative capacity must include TDS limits which are at (or below) the subbasin water quality objective (specified in the Basin Plan) to prevent further degradation of water quality. This rule was clearly expressed by the State Water Resources Control Board in its "Rancho Caballero" decision. However, the 1995 Basin Plan states:

"...this rule (the Rancho Caballero decision) is not meant to restrict overlying agricultural irrigation, or similar activities such as landscape irrigation. Even in subbasins without assimilative capacity, groundwater may be pumped and used for agricultural purposes in the area."

Related to this is Water Code Section 13523.5, which provides that Water Reclamation Requirements may not be denied solely on the basis of a basin plan salinity standard. This Section does not apply to Waste Discharge Requirements which, as stated above, must implement the Basin Plan. Waste Discharge Requirements can be issued by the Board for reclamation projects where it is found appropriate in order to protect water quality and beneficial uses.

NOTICE OF PUBLIC WORKSHOP

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The concern is the intent of the Basin Plan language shown above and its broader implications. Is it the Board's intent to place limits on the TDS quality of reclaimed water (or other waters) used for agricultural purposes and if so, how should those limits be developed? Should WDR's (which implement the Basin Plan and its TDS objectives), rather than water reclamation requirements (which need not implement TDS objectives) be employed if the discharges are to areas without TDS assimilative capacity?

The Regional Boards' consideration of this matter at the workshop on April 7, 1995 may lead to a Basin Plan amendment. Board staff expects to present recommended revised Basin Plan language at the workshop. The Regional Board welcomes your interest and input in this matter and invites your participation at the workshop.

A staff report will be available on March 24, 1995. Please contact Joanne Schneider at (909)782-3287 or Hope Smythe at (909)782-4493 if you wish to obtain a copy or if you have any questions.

Sincerely,



Gerard J. Thibeault
Executive Officer

FILE:HAS:AGWKSP.BPU

Attachment 2
Regional Water Quality Control Board
Basin Plan Workshop Handout

California Regional Water Quality Control Board
Santa Ana Region

ITEM: 9

SUBJECT: BASIN PLAN WORKSHOP -- REGIONAL BOARD REGULATION OF RECLAIMED WATER USE FOR AGRICULTURAL OR LANDSCAPE IRRIGATION

Discussion

The 1975, 1983 and 1995 Basin Plans for the Santa Ana River Basin report that the most serious water quality problem in the basin is the buildup of dissolved minerals, or salts, in the Region's waters. Sampling and computer modeling of groundwaters show that the levels of dissolved minerals, generally expressed as total dissolved solids (TDS) or total filterable residue (TFR), are exceeding water quality objectives or would do so in the future unless appropriate controls were implemented. High levels of TDS adversely affect the municipal, industrial and agricultural supply beneficial uses.

Each use of water, whether for municipal, industrial and agricultural purposes, adds an increment of dissolved minerals. One of the principal causes of the mineralization problem in the Region is historic irrigated agriculture, particularly citrus, which in the past required large applications of water to land, causing large losses by evaporation. TDS (and nitrate) concentrations are increased both by this reduction in the total volume of return water and by the direct application of these salts in fertilizers. Dairy operations, which began in the Region about forty years ago and continue today, also contribute large amounts of salts to the basin. Significant increments of salts have been added by municipal and industrial wastewaters and the reuse (reclamation) and recycling of these waters as they move from the higher areas of the basin towards the ocean. In some cases, the municipal and industrial wastewaters were discharged to the same groundwater subbasins from which the source waters were derived. These subbasins were then pumped and the water used again, adding even more salts.

The 1975, 1983 and 1995 Basin Plans specify salt management plans to address the significant mineralization problem. These salt management plans were developed using a complex set of groundwater computer models and programs, known collectively as the Basin Planning Procedure (BPP) and a surface water quality model -- QUALII or the updated QUAL2E version. The salt management plans specified in the 1975, 1983 and 1995 Basin Plans use a total watershed approach to salt source management by specifying controls on salt loadings from all water uses - residential, commercial, industrial, and agricultural.

Considerable thought and analysis has gone into the development of the salt management plan, however, far greater commitments of time, money, and effort have gone and continue to go into the implementation of the salt control measures identified in that plan. These measures include:

- A TDS wasteload allocation for discharges to the Santa Ana River system.

This wasteload allocation (shown in Table 5-4 of the 1995 Basin Plan) was established to ensure that the TDS objectives for the Santa Ana River are achieved and that the groundwaters recharged by the River, including the Orange County groundwater basin, are protected.

The wasteload allocation is implemented through TDS limits in waste discharge requirements. In some cases, compliance with these TDS limits has required or will require extensive efforts on the part of the dischargers to acquire new, better TDS quality water supplies, to limit TDS additions by contributors to the sewer system (e.g., the control of on-site regeneration water softeners), and other measures. As described in greater detail below, where the discharges would affect groundwaters without assimilative capacity, the dischargers can implement salt offset programs in lieu of strict compliance with the numeric limits. Significant costs are likely to be associated with such offset programs.

- Construction and operation of pipelines to transport highly saline wastes from the basin for treatment and disposal to the ocean. These brine lines include the Chino Basin Non-reclaimable line and the Santa Ana Regional Interceptor (SARI line). More than \$30 million dollars have been spent to construct the SARI line.
- Construction and operation of groundwater desalters to improve groundwater quality and/or to prevent the movement of poor quality groundwater into the Santa Ana River. A desalter is already in place in the Arlington subbasin (at a capital cost of about \$15 million); other desalters are being planned for the Chino Basin, the Menifee subbasin, and in Orange County. Each of these desalters will be implemented and operated at considerable cost.
- Carefully planned and limited reclamation projects. The Basin Plan recognizes the potential benefits of wastewater reclamation in reducing demand for potable supplies and/or reducing wastewater treatment costs. However, the Plan also recognizes that reclamation activities tend to increase the salt balance problem: salts are added as wastewater is reused.

A major factor in the development of the salt management plan is the identification of groundwater subbasins without assimilative capacity. Some groundwater subbasins have assimilative capacity for additions of TDS: that is, wastewaters with higher TDS concentrations than the receiving waters are diluted sufficiently by natural processes, including rainfall or recharge, such that the TDS objectives of the receiving waters are met. The amount of assimilative capacity varies widely, depending on the individual characteristics of the water body in question. Subbasins which lack TDS assimilative capacity have been identified in both the 1975 and 1983 Basin Plans. Based on the results from extensive studies conducted in 1989-1991, the list of subbasins without assimilative capacity has been updated in the 1995 Basin Plan.

These assimilative capacity findings are significant from a regulatory perspective. The Water Code requires that Waste Discharge Requirements (WDRs) must implement the Basin Plan, therefore WDRs issued by the Board for discharges to subbasins without assimilative capacity must include TDS limits which are at (or below) the subbasin objective to prevent further degradation of water quality. This rule was clearly expressed by the State Water Resources Control Board in its "Rancho Caballero" decision (State Board Order No. 73-4). In many cases, this means extremely stringent TDS limits which are likely to be very difficult to achieve. The Board has addressed this problem by incorporating provision in WDRs which allow the discharger to implement a program (such as a desalter) to offset the impacts of TDS discharges in excess of numeric limits, in lieu of strict compliance with these limits.

Clearly, very significant efforts have been and are being made to address TDS water quality problems in the Region. However, the 1995 Basin Plan (and the 1983 Basin Plan) includes language which may be interpreted to mean that the Regional Board cannot or has chosen not to regulate TDS in waters used for agricultural purposes. The Basin Plan states:

If there is assimilative capacity in the receiving waters for TDS, nitrogen or other constituents, the allowed waste discharge may be of lower quality than the objectives for those constituents for the receiving waters as long as the discharge does not cause violation of the objectives. However, if there is no assimilative capacity in the receiving waters, such as the subbasins identified above, the numerical limits in the discharge requirements cannot exceed the receiving water objectives or the degradation process would be accelerated. This rule was expressed clearly by the State Water Resources Control Board in a decision regarding the appropriate TDS discharge limitations for the Rancho Caballero Mobilehome park located in the Santa Ana Region (Order

No. 73-4, the so called "Rancho Caballero decision") [6]. *However, this rule is not meant to restrict overlying agricultural irrigation, or similar activities such as landscape irrigation. Even in subbasins without assimilative capacity, groundwater may be pumped and used for agricultural purposes in the area.*

The question is whether this language is meant to excuse agricultural irrigation (whether with reclaimed water or with other supply sources which may be of poor TDS quality) from the need to comply with the Basin Plan. Or is it intended only to excuse the use of poor quality groundwater when it is pumped from and used for agricultural irrigation in the same subbasin?

Given the significant efforts which have been and are being made by the Board, the dischargers, and other interested parties to control TDS in the Region's surface and ground waters, staff believes that it is not the Board's intent to excuse agricultural irrigation with reclaimed water from TDS regulation. Nor is that the Board's current regulatory approach. Producer/user water reclamation requirements are included in waste discharge requirements (both NPDES permits and Waste Discharge Requirements) issued to waste dischargers when reclamation activities are ongoing or contemplated. To implement the Basin Plan, these waste discharge requirements set numeric limits on TDS which must be met in the effluent. Part of this effluent may be used for reclamation purposes. The TDS in the wastewater used for reclamation is therefore effectively regulated by the waste discharge requirements.

We believe that the Basin Plan language shown above is intended to allow the use of poor quality groundwaters for agricultural irrigation when it is pumped from and returned to the same subbasin. Accordingly, staff recommends that this language be revised to read as follows (the Basin Plan text preceding the language in question is shown, in part, below. The revised language would form a new, subsequent paragraph):

"This rule was expressed clearly by the State Water Resources Control Board in a decision regarding the appropriate TDS discharge limitations for the Rancho Caballero Mobilehome park located in the Santa Ana Region (Order No. 73-4, the so-called "Rancho Caballero decision") [6].

The Rancho Caballero rule is not meant to restrict the use of groundwater for overlying agricultural irrigation. even in subbasins without assimilative capacity, groundwater may be pumped and used for agricultural purposes in the overlying area."

Related to this matter is Water Code Section 13523.5, which provides that Water Reclamation Requirements may not be denied solely on the basis of a basin plan salinity standard. This Section does not apply to Waste Discharge Requirements, which, as discussed above, must implement the Basin Plan. Waste Discharge Requirements can be issued by the Board for reclamation projects where it is found appropriate in order to protect water quality and beneficial uses.

A question which may follow is whether the Board's current regulatory approach is appropriate. Staff recently reviewed an Initial Study and proposed Negative Declaration for a proposal to use reclaimed water for agricultural irrigation (citrus and fodder crops) in an area which overlies a groundwater subbasin without TDS assimilative capacity. We were thus confronted with the matter of the TDS quality impacts of the proposal and the appropriate regulatory response. Should the TDS in the reclaimed water be held to the subbasin objective? Or should Water Reclamation Requirements (with less restrictive TDS limits (or without TDS limits of any sort)) be considered for this use?

Staff believes that the answer to this question, which is expected to arise with increasing frequency (due to the large number of subbasins without TDS assimilative capacity and the increasing amount of reclamation being sought), depends to a significant extent on the nature of the reclamation proposal:

Where reclamation is clearly being proposed by a discharger as a means of wastewater disposal and avoidance of the costs of treatment which might otherwise be required prior to discharge, staff believes that the Basin Plan must be implemented. That is, a groundwater subbasin without TDS assimilative capacity would be affected by the reclamation activity, TDS limits should be set no higher than the subbasin TDS objective.

Where the use of reclaimed water for agricultural irrigation is being proposed as an alternative water supply source to reduce the demand on potable supplies, some additional consideration may be appropriate. The Basin Plan recognizes the benefits of wastewater reclamation from a water supply standpoint and a certain amount of reclamation is included in the wastewater management plan. State policy (State Water Resources Control Board Resolution No. 77-1) strongly supports reclamation, again recognizing its utility in conserving potable supplies. When considering TDS regulation for these proposals, it may be appropriate to consider the TDS quality of both the reclaimed water and the water which is or would be used instead. If the quality is similar, it may be appropriate to allow the use of the reclaimed water,

even if the TDS is higher than the TDS objective of the receiving waters (again, our discussion focuses on waters without TDS assimilative capacity). If the TDS quality of the reclaimed water is better than the alternative water supply source, but does still does not meet TDS objectives, it again may be appropriate to allow the use of the reclaimed water. If the TDS quality of the reclaimed water is poorer than that of the alternative water supply source, it may be appropriate to discourage the use of the reclaimed water through restrictive TDS limits in Waste Discharge Requirements. The State Board has addressed these issues in considering appeals regarding the San Diego Regional Board's regulatory strategy for certain reclamation projects in that Region. The approach just described, that is, considering the relative quality of the reclaimed water and alternative water supply when determining TDS limits, is consistent with the State Board's determinations in these cases. (Two things are noteworthy concerning the State Board's deliberations. First, the State Board did not find that it was inappropriate to place TDS limits on the reclaimed water use for these projects. Second, the State Board acknowledged that its analysis was without the benefit of the groundwater modeling capability which the Santa Ana Region possesses. It is possible, though not made clear in its orders, that the State Board would have ruled differently had groundwater models been available for more scientific analysis of the impacts of the projects.)

Clearly, the matter of TDS regulation of reclaimed water is complex. It is also likely to be of considerable interest to a variety of interested parties, including water supply agencies, waste dischargers, those working in agriculture, etc. As described in another item in this month's Board agenda (Item No. 16), the TIN/TDS studies which are being planned right now are intended to address reclamation issues, as well as other questions related to TDS and nitrogen management. Staff believes that these studies should be allowed to proceed, and encouraged to address the issues discussed in this report, before any formal recommendations are presented to the Board regarding a revised TDS regulatory approach for the use of reclaimed water.

However, staff does recommend that revisions be made to the Basin Plan language discussed above. We do not believe that the revisions proposed need await the completion of the TIN/TDS studies and request the Board's direction to prepare an appropriate Basin Plan amendment for the Board's consideration in the near future.