



COUNTY of NAPA

ROBERT J. PETERSON, P.E.
Director of Public Works
County Surveyor-County-Engineer
Road Commissioner

DONALD G. RIDENHOUR, P.E.
Assistant Director of Public Works

March 30, 2005

Mr. Thomas R. Pinkos
California Regional Water Quality Control Board
Central Valley
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

RE: Administrative Civil Liability Complaint No. R5-2005-0507,
Lake Berryessa Resort Improvement District, Napa County

Dear Sir:

The Administrative Civil Liability Complaint (ACL) imposed by the Central Valley Regional Water Quality Control Board (Board) on the Lake Berryessa Resort Improvement District (District) is of paramount concern to the District's management because it ignores the District's efforts over the time period cited to achieve the District's main objective of full and permanent compliance, efforts which have exhausted the District's revenues even though not yet fully successful, and because the proposed penalty not only cannot be paid but any attempt to do so will further impair the District's compliance program. While the District is fully aware of the seriousness of the specific events noted in the ACL, the record must be set straight to fairly judge the District regarding its compliance program. This letter will serve to provide factual evidence that the District is attempting to fully comply with all regulations.

To generally state that the District has not complied with Cease and Desist Order No. 96-233 issued on September 27, 1996 (C&D) is factually wrong. The facts presented below show that the District has complied with a majority of the directives required in the C&D and is still in the process of attempting to fully comply with the C&D as well as their Waste Discharge Requirements (WDR).

Cease and Desist Order No. 96-233

The C&D issued to the District (see attached copy) ordered the following tasks to be completed within specified compliance dates:

<u>Task</u>	<u>Compliance Date</u>
<i>Begin Inflow/Infiltration Study</i>	<i>15 November 1996</i>
<i>Establish financial plan¹</i>	<i>15 May 1997</i>
<i>Select project</i>	<i>1 June 1998</i>
<i>Complete project design</i>	<i>1 November 1998</i>
<i>Commence expansion construction</i>	<i>1 July 1999</i>
<i>Complete construction and achieve full compliance</i>	<i>15 September 2001</i>

¹ *Financial Plan shall include a comparison of current sewer rates with those of other similar areas.*

Begin Inflow/Infiltration Study

The directive to begin an Inflow/Infiltration Study was complied with on November 13, 1996 with submittal of the proposed Inflow/Infiltration Study to the Board (see attached study and transmittal letter). The proposed study outlined a three phase analysis of the District and also identified an objective of reducing Inflow/Infiltration by 33%. The District has attempted to quantify the inflow/infiltration problem through cost effective engineering methods used prior to today's technology. The attached correspondence shows that the Board was fully aware of the District's attempts and methods.

While the methods employed by the District identified several locations that required repairs, it has been realized that an evaluation of the entire sewer collection system involving video may be the most effective method to develop a fully effective replacement and repair program for the sewer collection system. For example, even though repairs were made to the system at the identified locations, the system still experiences significant amounts of infiltration/inflow during storm events, which is the main factor in all the discharges that the District experienced.

Additionally, during intense storm events the ponds' capacity is further reduced by the collection of rain into the ponds. For example, the ponds received approximately 1.7 million gallons of rain water in December 2004 falling into the pond system. The volume from rain is a significant contributor to the depletion of the ponds' capacity and ultimately the emergency need for bypass. The facts show that the District, through previous evaluation methods, tests and the resulting repairs, has and is still sincerely attempting to satisfy the inflow/infiltration directive; the problem is simply growing faster than could have been foreseen or been planned for when the C&D was issued.

Establish Financial Plan and Select Project

The District, in accordance with the C&D directives, collaborated and established a financial plan known as Ordinance No. T-2000. Although, the financial plan was completed after the

original compliance date, it was not delayed without the knowledge or approval of the Board and the delays were due in part to the voter-approval requirements of Proposition 218.

The financial plan identified the projects it would fund to bring the District into compliance with the C&D as well as the District's Waste Discharge Requirements (WDR). The financial plan was approved by vote of the served community in August 2000 and identified the following projects:

- a) Repair of 1995 storm related damage;
- b) Replacement of wastewater tank;
- c) Replacement of clarifier;
- d) Repair and replacement of sewer lines;
- e) Enlargement of wastewater pond capacity;
- f) Installation of pump motor regulators; and
- g) Additions to designated reserve fund.

The projects listed above were chosen specifically to address the issues identified in the C&D, with the main projects being replacement of the wastewater tank, repair and replacement of sewer lines, and enlargement of wastewater pond capacity (see attached Ordinance No. T-2000 (LBRID)).

Complete Project Design, Commence Expansion Construction, and Complete Construction and Achieve Full Compliance

The District replaced the aged 40K gallon sewer collection tank with a new 91K gallon sewer tank in March 2003. Additionally, the District permanently installed a 21K gallon baker tank to serve as an overflow for the 91K gallon sewer collection tank. The replacement of the wastewater collection tank and addition of the overflow baker tank improved the disposal system by adding capacity, as required by the C&D directives and the WDR.

The status of the ongoing repair and replacement of the District's sewer collection system is discussed above.

Furthermore, the District has conducted capacity enlargement improvements to their pond system in conformity with C&D directives. In October 2000, the District put out to bid a pond capacity enlargement project entitled "L.B.R.I.D. Sewage Pond Improvements, PW 00-15" (see attached 'Notice to Contractors' approved by the Board of Directors for the District). The District informed the Board in a letter dated September 29, 2000 that the project estimated an increase in the capacity of pond 5 from just over 5 acre-feet to just under 10 acre-feet (see attached letter). The project accomplished raising the outboard levee of pond 5 three feet and excavated the pond bottom to a consistent depth that required the removal of up to four feet of soil. Additionally, the shared levee between pond 4 and pond 5 was raised one foot. A copy of the Notice of Completion is enclosed for your records. While the exact resulting volume of pond 5 could not be calculated due to the immediate need to use pond 5, the fact remains that the District did increase its capacity as directed by the C&D. To further exemplify the effort which the District exerted to increase capacity and reduce the possibility of a bypass, the

District designed and constructed two additional treatment ponds. While the recently constructed pond 6 and pond 7 are not regulated under the District's current WDR (an issue that the District is attempting to rectify) the District constructed them with the Board's full knowledge and what could be interpreted as approval through silence following full notification in advance (see attached correspondence dated December 17, 2001).

As you can see, the District has complied with nearly all of the C&D and is still working on the inflow/infiltration portion, which the District indicated in its plan could not be completed until the year 2009. While I cannot fully predict that the District will reach full compliance by that date due to the possibility of further unexpected factors along the lines of the problems encountered to date, I can assure you that it will endeavor to fully comply with the C&D and their WDR.

Administrative Civil Liability Order (draft)

The factors that the Board considered in their Administrative Civil Liability Order (ACLO) draft are not consistent with the actual facts that surrounded the discharge incidents experienced by the District. The District fully understands their discharge obligations, has always followed the notification requirements outlined in the District's WDR and has persistently requested guidance from the Board prior to discharge events.

The first point of clarification is that nearly all of the described discharges occurred solely due to significant storm events and the associated inflow/infiltration. The ability of the District to treat the actual effluent during these incidents continued to exist but the inundation of storm runoff and direct rainfall on the uncovered ponds exceeded the design capacity of the District's treatment facilities even though that same infiltration in fact resulted in significant dilution of the actual effluent. As a result, the District is experiencing bypasses during storm events.

Nature and Circumstances

The ACLO states that the District has failed to make necessary improvements to the wastewater system to prevent the spills, is in violation of the C&D, and that the District elected not to complete the work to increase the number or size of its ponds or seriously investigated alternative disposal methods. I refer you to the above section 'Cease and Desist Order No. 96-233', which fully explains the significant effort the District has put forth to comply with the C&D. This statement in the ACL is totally contrary to the actual history that has occurred since the C&D was issued. I will address the issue of alternative methods later in this response.

Ability to Pay/Continue in Business

The imposed ACL of \$400,000 will place the District in a state of bankruptcy and eliminate any possibility of the District to complete its ongoing efforts to comply with the directives required in the C&D and to fully comply with their WDR. The Board shall receive a Statement of Financial Condition on or before March 31, 2005, clearly demonstrating the District's inability to bear such a financial punitive action.

Voluntary Cleanup Efforts Undertaken and Degree of Culpability

The District is prepared to perform any steps that may be determined to be necessary to clean up any actual raw effluent discharges containing solids. However, it should be noted that all instances of discharge by the District occurred during the winter season and more specifically during severe storm events. In all of these instances the discharges were heavily diluted with direct rainwater on the ponds and stormwater runoff infiltrating into the collection system. As a result, in all of the cases there was no evidence of solids in the discharged effluent.

Additionally, the ACL accuses the District of not taking measures to stop the spill from occurring, stating that the District could have stored the effluent in holding tanks or incorporated a hauling plan. The District contends that this accusation is factually wrong and the proposed methods are physically unfeasible.

The statement that the District did not take measures to stop the spill from occurring is factually wrong due to the District's attempt to contain the bypass within the freeboard of the ponds. The solution to utilize the freeboard of the ponds to prevent the bypass was discussed over the telephone with Mr. Childs of the Board's staff during the week of January 2005 prior to the bypass. Mr. Childs discussed and approved the use of freeboard to contain the bypass with the condition that the District take daily freeboard measurements and report them on a weekly basis. Pursuant to such measurements and reporting, it was noted that the freeboard in pond five, just prior to the bypass, was measured at 1-foot and the District operator observed and reported seepage around the pond 5 overflow pipe. With a catastrophic berm failure imminent at that point, direction had to be given to un-plug the pond 5 overflow pipe and allow the bypass to occur. Otherwise, the failure of pond 5 would have rendered the entire sewer treatment portion of the District inoperable, resulting in a direct threat to the health and welfare of the District's residents.

The Board's suggestion that the excess in the pond could have been dealt with by installing 96 baker tanks is simply infeasible from an engineering and environmental point of view. The use of such a large number of holding tanks (a baker tank with a volume of 21,000 gal.) is physically infeasible based on the steep topography of the remaining portions of the treatment pond site not already covered with the ponds. In fact, the number of such tanks needed to contain the water involved in the 2005 bypass is far more than the number suggested by the Board. The number of gallons of effluent that has bypassed the system from January 11, 2005 to February 28, 2005 is 2.7 million gallons (as reported to the Board). This bypass alone would therefore require at least 129 holding tanks. The probability that there are that many baker tanks in Napa County, let alone the surrounding counties that could be rented is extremely low. Additionally, the level space required to safely place the tanks does not physically exist on the District's treatment pond parcel (see attached slope evaluation map). Attached is a letter from the California Department of Forestry (CDF), the agency responsible for responding to emergencies for Napa County, which indicates the tanks would have to be placed a minimum of 12 feet apart to allow safe access for emergency responders. Using CDF's minimum requirements for spacing there would have to be approximately 3 acres of relatively flat (any cross-slope $\leq 5\%$) surface area (based on the average baker tank being 8' wide by 38' long). The geography of the site is such that 3 acres of relatively flat area does not exist and could not

be created in the absence of extensive earthmoving activity and slope stabilization measures with attendant environmental risks of soil erosion. Therefore, the use of tanks was infeasible in 2005 due to the magnitude of the bypass caused by inflow/infiltration and other sources and the area required to store the tanks and the problem will only grow worse until the underlying infiltration problem can be solved through replacement of the sewer collection system. The same conclusion was indicated to the Board in a letter dated December 17, 2001 (see attached letter).

The Board's other suggestion was to haul the excess effluent from the District to Napa Sanitation District's sewer treatment facility. At first glance this may appear to be a feasible, although expensive, solution. In reality, however, the geography of the site, condition of access roads and magnitude of the bypass render it infeasible. The District's treatment pond parcel is located approximately 1.5 miles from the sewer collection tank. The access road connecting the two facilities is a rural, unimproved, dirt road located adjacent to Putah Creek along the majority of the road's length. Use of the road by anything larger than a passenger vehicle or utility truck is extremely uncertain and potentially dangerous, especially during the winter season. Attempting to negotiate this route with a fully-loaded tractor trailer hauling 5,000 gallons of effluent would not only be dangerous to the driver but would also render the road impassible after just a few trips during the winter rain season.

The fact is 5,000 gallons of water weighs approximately 21 Tons (using 62.4 lbs/cf as the density of the effluent), which combined with the weight of the truck becomes a destructive force to any road bed. This problem became very apparent during the Rumsey fire in Napa County in October 2004. CDF's equipment that responded to the fire needed access to the remote area via this access road to the treatment pond parcel. During their travels the loads from the fire vehicles caused the force main from the sewer collection tank to the treatment ponds to leak, which the District immediately repaired. Since the axle loads of a fire truck are less than a fully loaded tanker truck and the damage occurred during a time when the road was dry, the conclusion that the road in its current condition would be impassible if regularly traveled by fully loaded tanker trucks is inescapable. Additionally, the access roads in and around the treatment ponds themselves would not handle the axle loads of the fully loaded tanker truck without significant road bed work. Finally, even if a tractor-trailer could reach the site, the rate at which the trucks could have been filled during the emergency would have been less than the rate at which the bypass was flowing and so use of this technique would not have prevented the discharge.

Points of Consideration

The District is operating under WDR No. 95-177, which incorporates the Standard Provisions and Reporting Requirements For Waste Discharge Requirements dated March 1, 1991. Section (E) (2) (a) (1) & (2) indicates that the Board may take enforcement action against the discharger unless the bypass was unavoidable to prevent damages to the treatment facilities that would cause them to become inoperable and there were no feasible alternatives to the bypass.

The District contends that the loss of pond 5 through total berm failure as a result of the inflow/infiltration and other sources would have rendered the plant inoperable and that no

feasible alternative to contain the bypass existed at the time.

The District is working on an application to the Board to modify its existing WDR. The purpose of the requested modification is to have the Board recognize the two additional ponds as part of the treatment facility and to authorize the District to utilize a controlled spray field to maximize the ponds capacity for winter storage. The spray field is a solution that the District feels would allow them to enter into the upcoming winter months with ample storage room to deal with the worsening inflow/infiltration problem, to comply with the WDR and to allow the District time to prepare, finance, and implement a renewal and replacement program for the sewer collection system as the ultimate solution to the inflow/infiltration problem.

The District is currently working with the community to stabilize its declining budget and to plan for future improvements so that the District will not only comply with all regulations, but will also be able to operate its facility for another forty years by having a strong replacement and renewal program. The Board of Directors is scheduled to approve a 35% increase to the rates and minimum charge, and a substantial increase in the connection fees on April 19, 2005 to simply keep up with the District's increased costs for routine operations and maintenance. The community realizes the gravity of the situation and is working on additional means of increasing revenue to fund District capital improvements, including those needed to repair or replace the collection system to solve the infiltration problem and prevent it from reoccurring. The District is evaluating retention of a consultant to determine the feasibility of creating a capital assessment program as well as to investigate all other feasible methods of financing, and to prepare a Master Facility Plan to prioritize projects for the most efficient use of any funds raised through such methods.

The entire District is comprised of approximately 340 developed and undeveloped parcels, of which only approximately 163 are connected to the District's system. As you can imagine, the ability to generate revenue from user rates is difficult in this situation, as demonstrated by the fact that it is projected that the proposed rate increase of 35%, while a significant burden on the system users, will only increase the District's revenue by approximately \$20K. As I am sure you are aware, communities with such a small population base face real challenges when attempting to generate sufficient revenues to engage in capital projects, which translates into a longer time period to achieve compliance with issues such as those the District is currently confronting.

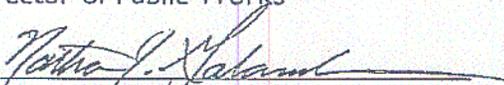
Conclusions

The District has been diligently working towards full compliance with the C&D and ultimately with the District's WDR. The facts presented above prove the District's endeavors and justify a re-evaluation of the current ACL. The District believes that implementation of the spray field, the removal of the ACL, and cooperation from the Board in finding viable solutions will greatly assist the District to reach such full compliance with the C&D and the District's WDR.

Should you have any questions or concerns regarding the District's response to the imposed ACL, we respectfully request the opportunity to provide additional information to clarify our position and actions. Please contact me at (707) 259-8371 or by e-mail at ngalambo@co.napa.ca.us.

Sincerely Yours,

ROBERT J. PETERSON
Director of Public Works

By: 
Nathan J. Galambos
Principal Engineer

cc: Mr. Thomas Pinkos – Executive Officer, RWQCB Central Valley Region
Mr. Jack DelConte – Principal WRCE, RWQCB Central Valley Region
Ms. Wendy Wyles – RWQCB Central Valley Region
Senator Wesley Chesbro
Assemblywoman Noreen Evans
Lake Berryessa Resort Improvement District Board of Directors
Nancy Watt – Napa County Executive Officer
Robert Westmeyer – Napa County Counsel
Margaret Woodbury – Chief Deputy County Counsel
Robert Peterson – Director of Public Works
Don Ridenhour – Assistant Director of Public Works
Tim Lanphear - LBRID Supervising Operator
Neil O'Hare, Emergency Services Manager, CEO Office
Trent Cave – Director of Environmental Management

Cease & Desist Order No. 96-233
September 27, 1996

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

143 Roulter Road, Suite A
Sacramento, CA 95827-3098
PHONE: (916) 255-3000
FAX: (916) 255-3015

10/3/96



C&D
96-233

27 September 1996

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OCT - 3 1996

NAPA COUNTY
DEPT. OF PUBLIC WORKS

CERTIFIED MAIL
P 175 115 545

Mr. Kenneth Johanson
Napa County Public Works
1195 Third Street, Room 201
Napa, CA 94559-3092

TRANSMITTAL OF CEASE AND DESIST ORDER NOS. 96-232 AND 96-233 FOR THE NAPA BERRYESSA RESORT IMPROVEMENT DISTRICT AND THE LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT, NAPA COUNTY

Enclosed are Cease and Desist Order Nos. 96-232 and 96-233, adopted on 20 September 1996 at the Regional Water Board hearing in Sacramento. The Orders contain a specific time schedules for correction of plant deficiencies.

Your first priorities in meeting the schedules in these two Orders are as follows:

For Napa Berryessa RID,

- Submit short-term sludge disposal plan by 15 November 1996
- Establish financial plan by 15 May 1997

For Lake Berryessa RID,

- Begin inflow and infiltration (I/I) study by 15 November 1996
- Establish financial plan by 15 May 1997

The I/I study plan should be developed well in advance of the deadline. Please send us a copy of the draft I/I study plan for possible input. It is imperative that the I/I study be started this winter to take advantage of the data that can be gained during the wet season.

If you have any questions regarding these Orders, please call Paul Marshall at (916) 255-3080.

William H. Crooks
WILLIAM H. CROOKS
Executive Officer

- cc + enclosure:
- Betsy Jennings, State Water Resources Control Board, Sacramento
 - John Norton, State Water Resources Control Board, Sacramento
 - Denise Leaney, Office of Statewide Consistency, Sacramento
 - Environmental Mgmt. Branch, Department of Health Services, Sacramento
 - Napa County Environmental Health Department, Napa
 - Napa County Planning Department, Napa

RECEIVED

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NAPA COUNTY
DEPT. OF PUBLIC WORKS

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 96-233

REQUIRING NAPA COUNTY PUBLIC WORKS
LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT
WASTEWATER SYSTEM
NAPA COUNTY
TO CEASE AND DESIST FROM
DISCHARGING WASTE CONTRARY TO REQUIREMENTS

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

1. On 23 June 1995, the Board adopted Waste Discharge Requirements (WDRs) Order No. 95-171 for the Lake Berryessa Resort Improvement District (hereafter District) which owns and operates its wastewater system. Order No. 95-171 contains, in part, discharge prohibitions and specifications as follows:

"Discharge Prohibition A.1. Discharge of wastes to surface waters or surface water drainage courses is prohibited."

"Discharge Specification B.8. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than two feet (measured vertically)."

"Discharge Specification B.9. On or about 1 October each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specification B.8."
2. The Board adopted a Water Quality Control Plan, Third Edition, for the Sacramento and San Joaquin River Basins (Basin Plan) which prohibits the discharge of municipal and industrial wastes in to Lake Berryessa.
3. The District's plant discharged treated undisinfected wastewater to surface water tributaries of Lake Berryessa in violation of WDRs and the Basin Plan during the winters of 1994-95 and 1995-96.
4. The District submitted a time schedule on 15 August 1995 which includes a time schedule for coming into compliance with Order No. 95-171. The time schedule in this Order is consistent with the time schedule submitted by the District.
5. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.
6. Any person adversely affected by this action of the Board may petition the State Water Resources Control Board (State Board) to review the action. The petition must be received by the State Board, Office of the Chief Counsel, P. O. Box 100, Sacramento, California 95812-0100, within 30

CEASE AND DESIST ORDER NO. 96-233
LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT
NAPA COUNTY

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days of the date on which the action was taken. Copies of the law and regulations applicable to filing petitions will be provided on request.

IT IS HEREBY ORDERED THAT:

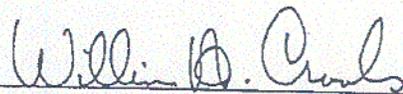
1. Lake Berryessa Resort Improvement District cease and desist from discharging wastes contrary to Discharge Prohibition A.1 and Discharge Specifications B.8 and B.9 of Waste Discharge Requirements Order No. 95-171 by the completion of treatment plant expansion in accordance with the following schedule:

<u>Task</u>	<u>Compliance Date</u>
Begin Inflow/Infiltration Study	15 November 1996
Establish financial plan ¹	15 May 1997
Select project	1 June 1998
Complete project design	1 November 1998
Commence expansion construction	1 July 1999
Complete construction and achieve full compliance	15 September 2001

¹ Financial Plan shall include a comparison of current sewer rates with those of other similar areas.

2. The Discharger shall submit quarterly reports to the Board concerning progress toward achieving compliance with the above time schedules and the number of sewer connections made and building permits issued during the calendar quarter. Reports for each calendar quarter shall be due by the 15th of the following month after each quarter.
3. If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may apply to the Attorney General for judicial enforcement or issue a complaint for Administrative Civil Liability.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 20 September 1996.



WILLIAM H. CROOKS, Executive Officer

PAM/pam

Infiltration & Inflow Study
With Transmittal Letter
November 13, 1996



NAPA COUNTY

DEPARTMENT OF PUBLIC WORKS

1195 THIRD STREET • ROOM 201 • NAPA, CALIFORNIA 94559-3092
PHONE 707-253-4351 • FAX 707-253-4627

KENNETH H. JOHANSON
Director of Public Works
County Surveyor-County Engineer
Road Commissioner

November 13, 1996

Mr. Paul Marshall
California Regional Water Quality Control Board
3443 Routier Road, Suite A
Sacramento, California 95827-3098

RE: Lake Berryessa Resort Improvement District - Cease and Desist Order No. 96-233
Transmittal of Proposed Infiltration & Inflow Study

Dear Paul,

Please find attached, the proposed Infiltration and Inflow (I/I) study for the Lake Berryessa Resort Improvement District. This plan is submitted to fulfill the requirement imposed on the District by Cease and Desist Order No. 96-233 for a plan to study I/I by November 15, 1996. Although we were unable to submit this proposal in advance of the November 15th date, we have already done considerable camera work of the sewer mains and made certain repairs known to contribute to the loading of the facilities.

The basic theory of the plan is to compare "dry" versus "wet" weather flows at key location of the collection system. This will help to identify sections of the collection system that contribute the larger amounts of I/I which will be prioritized for camera work to specifically identify sections of the system that require repair, lining or replacement. Observations by the operators will also be recorded to provide insight into other problem areas. Upon analysis in the spring of 1997, a work plan and more specific plan for continued monitoring will be established.

Please contact me with your questions and comments pertaining to the proposed plan. We will respond as quickly as possible to finalize the plan prior to any significant rainstorms.

Very Truly Yours,

KENNETH H. JOHANSON
Director of Public Works

by:

A handwritten signature in black ink, appearing to read "Myke Praul", written over a horizontal line.

Myke Praul
Water System Supervisor

LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT

Infiltration/Inflow Analysis Fall 1996

Introduction: The Lake Berryessa Resort Improvement District (LBRID) provides water and wastewater collection/distribution, treatment and disposal services to the Berryessa Highlands Subdivision which is comprised of approximately 136 single family homes. The California Regional Water Quality Control Board issued a cease and desist order for the District that requires an infiltration and inflow study be initiated by November 15, 1996. The purpose of this report is to provide a monitoring program during the winter months of 1996. Information gathered during this winter will help to locate sections of the system that provide the largest contributions to I/I flows. With this information, District personnel will conduct the appropriate analysis to determine how best to address reducing rainfall and other non-sewage loading to the sewage disposal facilities.

System Configuration: Attached is a plan that depicts the wastewater collection system for the LBRID. The plan includes streets, lots; sewer mains, manhole locations, pumping stations, etc. Lift Station "A" is located at the water treatment plant and receives all sewage collected by the system. Two, 10 horsepower Moyno, positive displacement pumps lift the sewage from the storage tank over the hill to the disposal ponds. These pumps are monitored by time elapse meters which record the hours of pump operation. Multiplying this time by the pump capacity in gallon per minute, we obtain gallons per day total flow. Sewage to this station can come from areas being pumped or from gravity flow.

Three substations, lift stations "B", "C" and "D", pump sewage from low spots in the collection system to higher locations in the gravity feed portion of the system. Time elapse meters on these station give the total gallons pumped per day. Comparison can be made between "dry" and "wet" day pumping to determine the relative amount of I/I in these collection areas.

Phase One Monitoring Program: For the first phase of monitoring, the collection system has been divided into eleven areas as follows:

- Area #1 - All flow to Lift Station "C"
- Area #2 - All flow to Lift Station "D"
- Area #3 - All flow to Lift Station "B"
- Area #4 - Gravity flow from south section to Manhole A
- Area #5 - Gravity flow from north section to Manhole A
- Area #6 - Gravity flow from south section to Manhole B
- Area #7 - Gravity flow from west section to Manhole B
- Area #8 - Gravity flow from north section to Manhole B
- Area #9 - Gravity flow from south section to Manhole C
- Area #10 - Gravity flow from north section to Manhole C
- Area #11 - Unmonitored, Lots #281-284

Manhole A has two inlets and one outlet. Manholes B and C have three inlets and one outlet. Depth of flow will be recorded on each inlet during both "dry" and "wet" days. Comparison of these two by District personnel will aid in locating areas of relative large amounts of I/I. Visual observation and estimation of seepage into the manhole itself will also be recorded.

"Wet" day measurements are defined as days of active rainfall having been preceded by at least four hours of rain. These days will be taken after a minimum of 6 inches of rainfall during any given season. Two types of "dry" days will be recorded - April and August. Since August is a month of heavy landscaping irrigation, comparison of these measurements will help identify areas of illegal yard drain connections or other related problems.

Analysis of this information will help to determine the degree to which each area is contributing I/I flows to the system. These areas will be prioritized for Phase Two Monitoring.

Phase Two Monitoring Program: Each area of the collection system will be prioritized for more detailed analysis. For example, if Areas #1, #4, #6 and #8 have significantly more "wet" day inflow than the other areas, these sections will be further subdivided by manhole reach to more accurately assess problem areas. In addition, a written survey will be mailed to each active connection within the areas to educate customers and help determine illegal connections or points of infiltration. All manholes within these areas will be visually inspected for ground seepage. Mains that have required maintenance due to stoppages will be noted on the system map for future videoing. Visual inspection by District personnel will be conducted for all cleanout or sump locations. This monitoring will be conducted during the winter of 1997-1998.

Upon analysis of the information gathered by Phase One and Phase Two, problem mains will be videoed by a contract operator with specific locations of I/I identified.

Phase Three Correction and Evaluation Program: Three main problem areas were videoed in August of 1996 when the lines were hydroflushed removing roots and other obstructions. These lines are highlighted on the system map. From this videoed, District personnel have identified several locations in the mains which require corrective work due to offset fittings, cracked or crushed pipe, uncapped or improperly connected laterals and displaced or settled manholes. About a dozen locations have been identified which are scheduled for repair starting in April of 1997.

Analysis of the phase one monitoring will identify other problem mains that will be videoed during the spring and summer of 1997. A program of hydrojetting problem mains on rear easements was started in August 1996. This program should reduce the number of stoppages and associated sewer spills that can occur during winter months. As other problem mains are identified, they will be included in this program. Corrective measures

identified by additional, phase one video work will be scheduled for the 1997 work period.

The Summit Engineering Capacity Study estimated an I/I flow during January and March of 1995 as 3.8 MG and 2.4 MG respectively. A 33% reduction in these numbers would result in elimination of partially treated sewer effluent spilling to Stone Corral Creek from the disposal ponds. While this reduction might not be practical for all sections of the collection system, it is chosen as the level to obtain in problem areas by continued monitoring and corrective work over the next five years.

LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT

Procedure for Infiltration/Inflow Study

The following procedures are to be conducted over the next few years to reduce the amount of rainwater that is being collected by the wastewater system. Each operator must be familiar with these procedures to assure continuity in the absence of the lead operator. The basis to this study is to compare the depth of flow in the various manholes between "dry" and "wet" days. This information is to be recorded in the attached notebook. Analysis of the information will allow us to identify portions of the collection system that need repair or sealing and help reduce sewer flows to the treatment ponds.

1. Study the system map attached. The collection system has been divided into eleven (11) subareas. Area #1 is comprised of all sewer lines that flow to lift station "C" and are pumped to the treatment plant. Area #2 is all lines flowing to and pumped by lift station "D". Area #3 all lines to and from lift station "B". Areas #4 & #5 flow by gravity to manhole A. Areas #6, #7 & #8 flow by gravity to manhole B. Areas #9 and #10 flow to manhole C and Area #11 is the remaining, unmonitored portion that flows to lift station "A". Paint the letters on the corresponding manholes to avoid any confusion.

2. Lift Stations "A, B, C, & D" all have Hobbs meters on them, one for each pump. These meter readings are currently taken every few days for station A but not for the others. In the attached notebook, there are spaces to record these readings for stations "B, C, & D" on a monthly basis. These readings represent the number of hours that each pump operates. Check to see the reading seems reasonable. We will convert the hours of operation into the gallons of wastewater pumped.

3. Construct a measuring stick, graduated in inches, that will extend to the invert or bottom of manholes A, B, and C. Record a depth of flow measurement for each inlet to each manhole in the attached notebook. Measurements need to be taken as follows:

A. A dry morning and afternoon in August and April

- B. A dry morning and afternoon in December, January, February and March
- C. A wet morning and afternoon in December, January, February and March after four hours of rainfall and while it is still raining

This represents about 18 measurements per year. Anytime you can take an additional measurement during heavy rainstorms will help the analysis. I would recommend that you chalk the end of the measuring stick to more easily read the measurement. Try to take morning readings and afternoon reading at the same time of day. Each operator should carry a pick or manhole cover tool, the measuring stick, a flashlight, chalk, rainsuit and the notebook. Try to keep the notebook dry. Measure all inlets to the manholes. Hobbs meter readings should be taken when the manholes are measured.

4. During each rainstorm, when the measurement is being made, notice whether the manhole or lid is allowing water into the piping. This seepage can come from cracks in the manhole walls, joints in the manholes, cracks around the lid, vent holes in the lid or illegal connections to the manholes. Make notations in the notebook for the respective manhole. Also make notations on rainfall runoff that might be flowing overland into the lift stations. In other words, do we need to regrade around the lift station lids to keep runoff from going into the station tank.

5. In your normal duties, notice whether there are any rainwater leaders (gutters) connected to the sewer line at the cleanout or other locations. We will contact the homeowner to remove these connections. Also note if there are any yard drains that might be connected to the sewer for the house. If you aren't sure, ask the homeowner. During rainstorms, drive through the subdivision and note whether any homes have their downspouts connected with white or black flexible piping (looks like dryer hose) to the sewer line. Note all observations in the attached notebook. Also look for areas near sewer mains and laterals where the rainfall runoff disappears into the ground. This may indicate a break in the sewer line.

SECTION 6

SANITARY SEWER DESIGN

6-01 DESIGN FLOW: Any sanitary sewer line must be sized and designed to adequately convey all waste that can reasonably be anticipated under conditions of full ultimate development.

The size of the sewer shall be sufficient to carry the design flow (peak flow plus infiltration) when flowing at 0.7 of full pipe capacity. Trunk mains may be designed for full flow capacity. Size shall be determined by Manning's Equation using $n = .013$. Peak flow shall be 2 1/2 times the average flow and infiltration shall be 500 gallons/acre/day.

Sizing criteria are as follows:

Residential		
Flow -	100 gpd per person	
Density -	3.5 persons per single family residence	
	2.8 persons per multi family residence	
Commercial		
Central		
General	2000	gpad*
Office	1500	gpad
Neighborhood	2000	gpad
Service	1000	gpad
Highway	1000	gpad
Recreation	2000	gpad
Office Professional	500	gpad
	2000	gpad
Industrial		
Industrial		
Industrial, Rail restricted	1000	gpad
	500	gpad
Schools	5000	gpad
Parks	200	gpad
Public Land Uses	1500	gpad

* gallons per acre per day

6-02 VERTICAL ALIGNMENT: Unless otherwise authorized by the City Engineer/Director of Public Works, sanitary sewer grades shall provide a velocity of 2' per second minimum and 10' per second maximum (assuming pipe is flowing full).

Vertical curves may be allowed by the City Engineer/Director of Public Works when surface profile grades are in excess of 5%.

SECTION 5

SANITARY SEWERS

5.01 GENERAL

- A. Sanitary sewer system design within a developing area must include provisions for size and capacity to adequately convey all domestic and industrial waste that can be reasonably anticipated under conditions of full ultimate development. Engineering calculations to support the sewer system design shall be submitted to the City Engineer for approval. The calculations shall include:
1. Map indicating service area within the sewer system including any future contributing development with projected land use, zoning, and any physical features contributing to the sewer system design.
 2. Sanitary sewer waste volumes either existing or proposed within the service area of the system.
 3. Size and slope of each pipe between appurtenant structures.
 4. Invert /RIM elevations of each pipe and appurtenant structure.

B. Line Size and Service Policy

1. The line size and service policy requires that the minimum size of any new public sewer shall be 8 inches in diameter.
2. All side sewers (laterals) 8" and larger shall be connected by or at a manhole.
3. The minimum lateral size is 4 inches where grade requirements can be met and the lateral's intended use is to serve single family residences. Six inch or larger laterals shall be installed where intended use is industrial, commercial or greater than single family residential flows. Joint use of laterals will not be permitted except in multi-family residential uses.
4. Laterals connecting houses having a finished floor elevation 12 inches or less above the highest elevation of the nearest upstream structure shall require installation of a backflow prevention device next to the cleanout.

C. Right of Way Policy

The right of way policy requires that all public sewers be in easements or rights of way granted or dedicated for sewers and/or public use. In the case of public right-of-way for streets, further dedication is not necessary.

Easements for sanitary sewers shall meet both of the following width criteria:

1. Minimum width of any easement shall be 15 feet.
2. All easements shall have a minimum width in feet equal to the required trench-width according to the standard detail for trench backfill plus 2 additional feet of width for every foot of depth of the pipe as measured from the bottom of the pipe to finished grade. All sewer pipes shall be centered within their easements.

#L?
 D. Annexation Policy

The service policy of the Fairfield-Suisun Sewer District requires that all properties served must annex to the City of Fairfield.

5.02 DESIGN

A. Flow

The design sanitary sewer flow shall be computed using the following formula:

$$Q_D = Q_p + I$$

Where: Q_D = design flow (gallons per day)

Q_p = peak flow (residential only)

I = infiltration

The peak flow (Q_p) for residential service areas is defined as three times the average flow, with the average flow for the service area being computed from two basic assumptions:

1. 3-1/2 persons per single family dwelling.
2. 100 gallons per person per day.

Acreage flow estimates for other than residential service areas are as follows:

	Average Flow (Gal./Acre/Day)	Peak Flow (Gal./Acre/Day)
Commercial Areas	1500	4500
Light Industrial Areas	2000	4000
Heavy Industrial Areas	- Sewage flow rate shall be considered on a case by case basis and may require special design.	

Infiltration and inflow (I & I) shall be computed by using 4000 gallons per inch diameter mile per day for sewer mains and laterals. Residential laterals shall be assumed to be a minimum of 75 feet in length..

B. Pipe Capacity

1. Manning's Formula [$Q = A (1.49/n) R^{2/3} s^{1/2}$] shall be used to determine pipe capacity. The "n" value shall be 0.013 or the pipe manufacturer's recommendation, whichever is greater.
2. a. All main sewers shall be sized to carry the design flows at 70% of pipe capacity.
b. Design capacities for trunk sewers 12 inches and larger shall require approval by the Fairfield Suisun Sewer District Engineer.

C. Velocity

Sewer velocity shall be equal to or greater than 2 feet per second for all sewers when flowing full. Where design velocities for main sewers exceed 10 feet per second, polyethylene lined ductile iron pipe conforming to Section 12 of the Specific Provisions shall be used. The ductile iron pipe shall be wrapped with a 40 mil polyethylene blanket.

D. Pipe Cover and Clearances

1. Minimum pipe cover and clearance shall be maintained in the design of sanitary sewers. If certain conditions exist which make it impractical to meet the minimum cover and clearance requirements, the conditions and locations shall be specifically noted above the sewer profile on the plans. Each location not meeting the minimum cover and clearance requirements will require special approval. Any planned condition being specially approved with less than minimum cover will require special pipe, bedding and/or backfill as directed by the City Engineer.

Other utilities shall not, under any circumstances, be installed directly over and parallel to any sanitary sewer line installation.

2. Main and trunk sewers shall have a minimum depth of 6 feet as measured from the top of the pipe to the finished grade.
3. Laterals shall have a minimum depth of 5 feet from the top of the pipe to the top of the curb.
4. Pipe shall be laid with a minimum of 12 inches vertical clearance from water lines and 6 inches clearance from all other improvements and utilities, unless otherwise approved by the City Engineer.

E. Horizontal and Vertical Curves

1. Except for frontage roads, sewer mains and trunks shall be located 5 feet off centerline to the south or west side of the street.
2. Sanitary sewer mains shall be on a straight line between manholes. Whenever it is essential that a curved alignment be used, a minimum radius of 200 feet shall be required, but shall be greater whenever possible. The radius and delta of all curves shall be indicated on the plans adjacent to the curve.
3. The deflection in the joint between any two successive pipe sections shall not exceed eighty 80% of the maximum deflection as recommended in writing by the pipe manufacturer. Minimum 2 foot pipe lengths may be used to install short radius curves providing the requirements specified herein are met.

F. Lateral Sewers

Laterals are those portions of the sewer system between the sewer main and the portions of the sewer maintained by the property owner. The usual location of the line of responsibility is the back of sidewalk cleanout. In all cases, City maintained sewer lines will lie in a street right-of-way or dedicated public easement. In all new subdivision work, the house lateral line from the sewer to the property line shall be installed at the time the sewer main is constructed. Whenever a sanitary sewer is installed which will serve existing houses or other buildings, a lateral line shall be constructed for each existing individual house or building. Each lateral line shall be referenced to the improvement plan stationing. Each individual on site building shall be serviced by a separate lateral to the sewer main.

1. All laterals, from property line or edge of easement to the point of connection with the main line or a manhole shall have an alignment that provides an angle of intersection with the downstream section of the main sewer of no more than 90°.
2. The maximum deflection at any one point in a lateral, not including fittings at saddle or wye connection to main sewer or at angle points having clean outs, shall be 22-1/2° (1/16 bend) and any two consecutive deflections (bends) shall not be less than 2 feet apart.
3. Building drains (i.e. floor drains, etc.) shall not be connected to the sanitary sewer system.
4. Cleanouts shall be provided in the lateral sewer within the City right-of-way at the back of sidewalk as shown on the Standard Details.

LBRID:

Calculation of Allowable I/I:

From: Napa Sanitation District (City of Vacaville Std)

$$\frac{\text{Infiltration}}{\text{Allow}} = 500 \text{ Gal/acre/day}$$

From: City of Fairfield

$$\frac{\text{I/I}}{\text{allow}} = 4000 \text{ Gal/inch dia. / mile pipe/day}$$

LBRID:

$$\text{Area of collection} = 177 \text{ Ac.}$$

Average Collection

$$\text{pipe diameter} \times \text{length} = 35,000 \text{ feet } \textcircled{1} 8" \text{ dia}$$

therefore:

$$\begin{aligned} \textcircled{1} \text{ Inf. Allow} &= (177 \text{ Ac}) (500 \text{ Gal/ac/day}) \\ &= 88,500 \text{ gallons/day} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \text{ I/I Allow} &= \frac{35,000 \text{ ft}}{5,280 \text{ ft/mi}} \times 8" = 53 \text{ inch-miles} \\ &= (53 \text{ inch-mi}) (4,000 \text{ GPD/inch-mi}) = 212,000 \text{ GPD} \end{aligned}$$

Use 88,500 GPD x 30 days = 2.66 MG/M

From Summit Report:

	(MG/M)	1995		P (in)	Ave.
	Allowable	I/T (MG)	ΔI/T		
October	2.66	0.1	+ 2.56	0.73	1.38
November	2.66	0.2	+ 2.46	4.59	3.48
December	2.66	0.4	+ 2.26	3.15	4.34
January	2.66	3.8	- 1.14	21.33	5.59
February	2.66	1.0	+ 1.66	0.65	5.00
March	2.66	2.4	+ 0.26	15.13	5.08

15.96 MG 7.9 MG 8.06 MG 45.58 " 24.87'

I/T actual for 1995 less than Allowable

Ponds spilled in January & March

Assume: if rainfall had not been $\frac{21.33}{5.59} \times \text{Ave}$ for January then ponds would not have spilled in March

Reduce I/E by $\frac{1.14 \text{ MG}}{3.8 \text{ MG}}$ for January
= 0.33 or 33%

Objective of I/I Study and Remediation
Work:

To reduce I/I by 33%

If manhole A measures 0.5 ft during
dry season and 3.0 ft in January
our objective would be to reduce
the net depth by 33% or:

$$3.0 - .5 = 2.5 \text{ ft} \times 33\% = 0.825'$$

Therefore: remediation program will meet
objectives if January "wet weather"
flow at Manhole A depth \leq 2.2 ft.

Letter Dated June 14, 2000



NAPA COUNTY

DEPARTMENT OF PUBLIC WORKS

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KENNETH H. JOHANSON
Director of Public Works
County Surveyor-County Engineer
Road Commissioner

June 14, 2000

Mr. Gary M. Carlton
Executive Officer
Regional Water Quality Control Board
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

RE: Report on Resolution of Deficiencies
In Response to the May 8th Notice of Violation
For the Lake Berryessa Resort Improvement District

Dear Mr. Carlton:

It was with great concern that we received your May 8th Notice of Violation. As we reported to your staff in our May 24th letter to them, receiving this kind of notice is very upsetting to all of us here, and is absolutely contrary to our management objectives and strategy.

As allowed by Resort Improvement District Law, the Napa County Board of Supervisors sits as the Board of Directors of the Lake Berryessa Resort Improvement District (LBRID). At the Direction of the Board, the Director of Public Works functions as the District Engineer, and the Public Works Department staff operates the facilities that provide the water and wastewater utility services.

On May 25th, I did have the opportunity to engage in a conference call with Bill Croyle and Sherry Constancio of your staff, to discuss this particular situation with them. Joining us in that call were Mark Chick, President of the Home Owners Association, and John Hallman, the HOA's liaison with the Department.

My request is that you allow this letter to function as the report that you directed us to file in response to the spill of wastewater that occurred this past March. In this letter I will attempt to:

- Set the context of the spill,
- Review in detail the financing mechanism that has been developed by the HOA Board,
- Outline the formulation of the projects to answer the C & D Order,
- Lay out answers to your specific directives, namely:
 - ▶ To identify a meeting date at which our Board of Directors will approve a revenue plan for a project to bring the system into compliance with the Waste Discharge Requirements;
 - ▶ To identify plans to restrict additional connections; and,
 - ▶ To identify interim and long term plans and timelines to comply with your earlier issued Cease and Desist Order.

Setting the Context of the Spill

The spill that occurred during March was very upsetting to us. The Board's previous orders to the LBRID made it absolutely clear to us that there are to be no discharges to the surface waters of the state. We have been on a long and arduous journey searching for funding to assist with this mandate, but to date have found no assistance.

For the record, I would like to briefly discuss this spill event, to put the water quality component into context.

The rains were periodically heavy this past March. Often, the intensity and distribution of rainfall have much more to do with local flooding and emergency situations than do the cumulative amount of rainfall. That is exactly what I believe happened in this instance. Our system was overdriven by the combination of the precipitation falling on the ponds with the large amounts of inflow & infiltration that resulted from the continuous saturated soil conditions in the collection system area. What this reflects is that our design of system modifications needs to take into account all of these various factors. Very likely, success will be achieved through a combination of several construction activities. Nonetheless, we need to assure that a modicum of reasonableness will be applied to the overall design. We will look forward to the opportunity to work with your staff to assure that all of the Regional Board's needs are met, but at the same time assure the budget of the small local population is not crushed. As you will observe later in this report, the HOA has stepped up to their own problems and are calling for a vote of their own people to tax themselves to solve their own problems. Their realization comes after several frustrating years of our searching for funds to address the mandated changes in regulations.

Once our monitoring detected spillage, we began our notification procedure (both OES and our local DEM were notified early on) and our bacteriological sampling regimen at three locations: Upstream flow; Downstream flow; and, Overflow from sequential oxidation Pond #5. The results of coliform (total/fecal) are tabulated below:

Week	First	Second	Third
Upstream	540/350	>1600/>1600	540/540
Downstream	1600/540	240/240	350/350
Overflow	4/<2	23/13	350/240

It is interesting to note, in two of the three tests, that the bacteriological quality of creek water was substantially better downstream from the overflow, than it was in the watershed upstream of the point of overflow. The data also indicates that the oxidation ponds were doing a good job in stabilizing the wastewater. The rate of overflow was about 20 gallons per minute. Again, this spill was in absolute violation of the Board's Orders.

Reviewing the Financing Mechanism

In order to get an engineered improvement program in place, substantial funding will be necessary. As I alluded to in the previous section, locating external funding has been frustrating and non-productive. Your staff has been helpful in putting in touch with several possible sources, but we have been disqualified for a variety of reasons. The reasons don't matter much; it is the result of disqualification that is frustrating. Many of these local residents have located in this particular area because the housing is relatively inexpensive, albeit remotely located. We are not able to impose a huge increase upon them, especially noting recently approved voter initiatives.

This District has faced a number of difficult situations in the past few years. About five years ago, the access road slid out twice. A contractor was hired to fix these problems. That expense depleted the scant reserves, and put the district into substantial debt. These repairs were done on an emergency basis, because the wastewater force main was damaged in the slide. The County was not and is not in a position to financially assist the District in any way, as may have happened a decade or so ago. About three years ago, huge rate increases were proposed to resolve the debt issue as well as their operational issues. It took them two special elections to find a mechanism to generate sufficient funding on an ongoing basis to support just their day to day operations.

But success may be on the horizon. I do want to share with you some of the recent unprecedented actions that have occurred over the past several months. My belief is that these actions which have been set in motion, if successfully completed, will substantially mitigate the concern that your agency expressed in your letter, and which we share with you.

During the past year, we have worked with the Home Owners Association (HOA) of the Berryessa Estates subdivision, to bring into sharp focus the problems and deficiencies that exist within both their wastewater and potable water systems. This group has taken on these problems, has worked with us to obtain estimates of cost, and has determined the method of financing for these projects that they believe will be acceptable to their friends and neighbors.

In particular, they have decided that they want to have a special election to ask the registered voters if they are willing to impose upon themselves a special tax, which will generate approximately \$50,000 per year for a period of 10 years. They have asked the Board of Supervisors, who sit as the Board of Directors of the Lake Berryessa Resort Improvement District, to hold a special election on July 18th, to pose that question. From their various straw polls and discussions with their neighbors, they believe that they will be successful.

To bring you up to speed on all of this, I am including for your file, copies of the following:

- Excerpts from April 18, 2000 Board of Supervisors agenda, in particular item #19 A & #19B.
- Agenda Report for item #19A, where the Board, upon request of the HOA, called for a Special Election to impose a special tax upon property within the District
- Agenda Report of item #19B, where the Board called for a Special Election to over-ride the Prop 4 spending limitation for the District.
- Copy of a Certified Minute Order indicating that both items 19A and 19B were passed by the Board.
- Copy of the Draft Ordinances (as sent to the County's Elections Department) that will be voted upon by the registered voters within the area of the District, including both the special tax ordinance and the over-ride ordinance, the impartial analyses from the County Counsel for these two ballot measures, and the argument in favor of the special tax measures.
- Copy of extracts from resolutions adopted by the Board, which set out the wording of the two ballot measures.

As you can see, at the request of the HOA of the Lake Berryessa Resort Improvement District, an election is being held on July 18th, to determine if they will be able to generate revenue to fund a number of much needed improvements.

Outlining the formulation of the projects to answer the C & D Order.

Imbedded within the second attachment is a list of five projects where revenues will be spent to address local problems. (And that list includes a designated reserve account, which will be built to begin addressing any problems that may develop in the future.) One of the bullet pointed projects, and one that I am sure is directly on target from your perspective, is to enlarge the wastewater pond capacity. A supporting project is to repair or replace a number of sewer lines that suffer a great deal of inflow and infiltration during storm events, with I & I production lingering until the ground is substantially desaturated. These two projects are specifically targeted at obtaining compliance with the earlier issued Cease and Desist Order.

I would also like to highlight two other projects on that list. The first is, from our perspective, a highly urgent project, that being the repair of the access road to our wastewater treatment ponds, along the frontage of a portion of Lake Berryessa. This waterway is actually Putah Creek, and in particular, the portion of Putah Creek that is subject to inundation when the lake is near full. When the lake is down substantially, the creek runs with tremendous erosive force, and has caused slides that have damaged the

wastewater force main. We have obtained a 75% / 25% grant from State OES to repair this situation, and a consulting geotechnical engineer is presently designing the repairs. Construction is slated for this Fall. The second project that I would like to highlight is the replacement of the wastewater collection tank within the subdivision proper. That tank accumulates raw sewage, which is periodically sent via force main to the treatment ponds. After some analysis, we find that the tank is below our standards, and must be replaced within the next couple of years.

I raise all of these projects to your attention to highlight that we are addressing a number of wastewater related problems. As a Department, we believe that we must responsibly manage these facilities both to serve the public within the District, and to protect all of the public and water resources from any pollutants. It has taken some time to work with the HOA to develop these projects, and it has taken the HOA some time to develop a financing mechanism that they believe will be acceptable to their neighbors. We have great confidence that they will be successful in convincing their constituency to favorably support these important ballot measures.

Laying Out the Answers to Your Directives

Now, I would like to directly address your directives:

- To identify a meeting date at which our Board of Directors will approve a revenue plan for a project to bring the system into compliance with the Waste Discharge Requirements;
- To identify plans to restrict additional connections;
- To identify interim and long term plans and timelines to comply with your earlier issued Cease and Desist Order;
- To identify emergency short-term actions which will be taken forthwith to assure compliance with WDRs; and,
- To develop a public awareness program which informs the public about this environmental threat and the associated risks.

First, it is our intention to meet with the Board of Directors (the Board of Supervisors sitting as the LBRID Board) on July 25th. This meeting is already scheduled to discuss with the Board the Budget for FY 00/01. We will include these compliance issues with that item, asking them to take actions supporting the directions that have been outlined. The timing of the meeting will allow the Board to know the results of the Special Election. As you can imagine, the Board will take one course of action if the Special Tax is approved, and a very different series of actions if the Special Tax is not approved.

Second, if the Special Tax is not approved, we will recommend to the Board on July 25th, that a new connection moratorium be imposed as quickly as the law allows. If the Special Tax is approved, and if you accept the timeline that we lay out below, we would like to continue discussions with your staff to see if the moratorium can be avoided. The concept that we would like to further discuss is that historically only two houses per year are built, the two for this year have already connected, we will have made significant progress by the Fall of 2001 toward full compliance when the next two houses would

come on line, and we would be able to face the Winter of 01/02 with compliance pretty well achieved.

Third, as you can see, the Special Tax will fund not only the road repair, which assures the structural integrity of the wastewater force main, but also the increase in storage capacity of the pond system, the I/I work that needs to be addressed, and the replacement of the sewage collection tank.

The earlier report prepared by Summit Engineers clearly identified that storage was the limiting factor; actual treatment was not. We intend to add storage capacity by increasing the height of the pond levees, using the spoils from the road repair project, and changing the freeboard from the current 3 feet to 2 feet. Increasing oxidation pond depth, even up to 10 feet, should not result in any adverse effects. I will continue to study the situation as we get further into the design, but I suspect that the majority of the nutrient load is assimilated in the first two ponds (note that Pond #1 can feed either Pond #2 or Pond #3 or both). Since direct rainfall accumulation is a problem, it is my intention to steer away from adding more ponds.

It is our intention to move on these projects as soon as the Special Tax is approved. In my mind, the repair of the access road is of greatest importance. Additionally, the spoils from the grading operation will be used to increase the height of the oxidation pond levees. The road project is slated for this Fall, and we will try to develop a contemporaneous project to increase the height of the pond levees.

We will begin design of an aggressive I/I program. For the past several years, we have had portions of the system televised to find gross problems, but, because of access limitations associated with back yard mainlines, this has to be done during the summer when some of the problems are not highly apparent. We will likely start this summer with a coordinated smoke testing program. Our hope is that there will be a huge series of gutter leader disconnects and point repairs. We should be able to make a very modest start on either a slip lining program or a sewer replacement program this summer.

Project Listing and Proposed Timelines

Project	Design	Construction	Completion	Cost
Road	Current	Fall 2000	Fall 2000	\$500,000*
Pond levee	August 2000	Fall 2000	Fall 2000	100,000
Sewage Tank	Fall 2000	Summer 2001	Fall 2001	80,000
I/I repair	Summer 2000	Start 2000	Summer 2009	50,000

* → Note: funding is 75/25 with OES & LBRID (375/125)

As you might imagine for a small district such as LBRID, the proposed timeline is quite aggressive. As we get into the details of our planning and design for these projects this summer, it may become apparent that some of the projects will yield a higher probability of resolving the immediate need to preclude any further spillage. Additionally, we may find that the construction of the road may not be possible this year because the lake level may not drop low enough to key the rock armoring into the bank. As these situations arise, we will be able to quickly move to the other projects that have been designed. In

fact, the cash flow advantage of delaying construction of the road would be of great benefit in moving ahead on these other projects. The downside of delaying the road fix is that the road remains at questionable stability. As we proceed through all of this, we will keep your staff completely informed, and work out the details of any permissions or authorizations that may be required from you.

Fourth, you directed that we develop some emergency short term action to assure compliance. Those on my list to implement this Fall include:

- Irrigating in the late fall from the Pond system, with hand held lines, to bring the ponds to an absolute low. Likely, we will need to keep Ponds #1 & #2 in service to afford treatment (detention time and volume).
- Disking the bottoms of Ponds #4 & #5, to restore and assure the design percolation rate. This must be coupled with the effort outlined above.
- Encroaching into the freeboard of the Pond system during peak events during the winter. Encroachment authorization will be requested from Board staff, to allow reduction from 2 feet to 1 foot. Our request is to have you pre-authorize this encroachment, and we would just report the encroachment to you.
- Renting Baker tanks for placement near the existing sewage collection tank, for short-term storage, for peak flow attenuation. We will locate a supplier, and arrange to have tanks available when the freeboard in Pond #5 is within 2 days of spilling, including encroachment volume. Sizing may be a problem, in that access to the site where the existing sewage accumulation tank is located is alignment and access restricted.

Additionally, I intend to put the following practices into effect, as a last line of defense, so that if we cannot have the pond modifications in place by this coming Winter, we will be in the best possible shape to handle any further discharges:

- Installing a temporary Pond #6, hastily built, just of bermed earth, to trap any overflow from Pond #5
- Routing of flow through the pond system to achieve maximum detention time during peak events to obtain maximum treatment,
- Installing disinfection facilities to treat any overflow (we will work with your staff to handle any dechlorination needs),

Fifth, you asked us to develop a public awareness program. We, in fact, started on that at the annual HOA meeting on June 4th, which I attended, and during which I spoke at length about both the state of the potable water system and the state of the wastewater system. Residents were very concerned about the ramifications of non-compliance, as well they should be. I assured them that it was my intention to squarely address each of these problems.

We periodically issue newsletters to the residents. Our next newsletter will be going out later this month, to convey to them the potable water consumer confidence report. We will include a number of things in this newsletter, likely including the first of these public notification pieces, and the beginning of the I/I investigation program. You must bear with us on this notification in June, in that we cannot issue any information that will appear to advocate a vote for or against this Special Tax.

We have prepared this report to fully comply with your directives. Should you find any portions to be confusing or contrary to your directives, we respectfully request the opportunity to further clarify correct those deficiencies. The attachments referenced in this report are the same as those included in our May 24th letter to Bill Croyle of your staff, and we request that those attachments be included by reference.

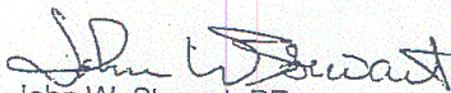
We look forward to working with you and your staff to develop these projects. Additionally, we would like to request that a member of your staff attend our July 25th Board meeting.

Please contact me at 707.259.8179, if you have any questions.

Sincerely,

KENNETH H. JOHANSON, PE
Director of Public Works

By


John W. Stewart, PE
Principal Civil Engineer

ENCL. (incorporated by reference from May 24, 2000 letter to Bill Croyle)

CC: (no attachments)
Bill Croyle, Chief, Lower Sacramento Watershed
Sherry Constancio, Assoc. Sanitary Engineer, Lower Sacramento Watershed
Ken Johanson, Director, via e-mail
Bob Peterson, Assistant Director, via e-mail
John Hallman, HOA liaison
Mark Chick, HOA President

Ordinance T-2000 (LBRID)

ORDINANCE NO. T-2000 (LBRID)

AN ORDINANCE OF THE LAKE BERRYESSA RESORT
IMPROVEMENT DISTRICT ESTABLISHING A SPECIAL TAX
TO BE IMPOSED ON REAL PROPERTY IN THE DISTRICT.

The people of the Lake Berryessa Resort Improvement District (the "District") do ordain as follows:

SECTION 1. **Definitions.** For purposes of this Ordinance, the following words shall be defined as follows:

(a) "Unimproved real property" shall mean all parcels of real property in the District that do not have the infrastructure necessary to connect with the District's water and sewer system.

(b) "Improved real property" shall mean all parcels of real property in the District that have the infrastructure necessary to connect with the District's water and sewer system, including:

- (1) Developed property, which is property with a residence on it; and
- (2) Undeveloped property, which is property without a residence on it.

SECTION 2. **Levy and Purposes of Special Tax.** Beginning with the 2000-2001 fiscal year and, unless ended sooner as provided in this Ordinance, continuing through the 2009-2010 fiscal year, the District shall levy a special tax on real property in the District exclusively for the following purposes:

- (a) Repair of 1995 storm related damage;
- (b) Replacement of wastewater tank;
- (c) Replacement of clarifier;

- (d) Repair and replacement of sewer lines;
- (e) Enlargement of wastewater pond capacity;
- (f) Installation of pump motor regulators; and
- (g) Additions to designated reserve fund.

SECTION 3. Tax Rates.

(a) For fiscal year 2000-2001 through fiscal year 2004-2005, the special tax rate for each parcel of real property in the District shall be as follows:

(1) The unimproved rate. Each parcel of unimproved real property in the District shall be taxed at a rate of \$0.00 per parcel per year.

(2) The improved rate. Each parcel of improved real property in the District shall be taxed at the following rates:

(i) Developed parcels, \$275.00 per parcel per year;

(ii) Undeveloped parcels, \$137.50 per parcel per year.

(b) For fiscal year 2005-2006 through fiscal year 2009-2010, the special tax rate for each parcel of real property in the District shall be as follows:

(1) The unimproved rate. Each parcel of unimproved real property in the District shall be taxed at a rate of \$0.00 per parcel per year.

(2) The improved rate. Each parcel of improved real property in the District shall be taxed at the following rates:

(i) Developed parcels, \$200.00 per parcel per year;

(ii) Undeveloped parcels, \$100.00 per parcel per year.

SECTION 4. Collection of Special Tax.

(a) Unless the District's governing body adopts an alternate procedure by resolution pursuant to subsection (b) of this Section 4, the special tax levied pursuant to this ordinance shall be collected at the same time, and in the same manner, as ad valorem real property taxes are collected within the District by the County of Napa. Under these circumstances, the payment deadlines, late payment charges, and other payment procedures generally applicable to property tax payments in Napa County shall likewise be applicable to the special tax imposed hereunder.

(b) Upon resolution of the District's governing body, the special tax imposed hereunder may be collected by separate billing on an annual or other basis as the Board determines to be in the best interest of the District. In this event, the Board may establish by resolution reasonable rules and procedures relative to such collections, including the establishment of payment deadlines, late payment charges, interest, and collection enforcement alternatives.

SECTION 5. Reduction in Special Tax. If the purposes of the special tax are achieved prior to the 2009-2010 fiscal year, the District's governing body may reduce the rate of, or eliminate, the special tax before the 2009-2010 fiscal year.

SECTION 6. Fiscal and Capital Oversight Committee.

(a) There is hereby created a Fiscal and Capital Oversight Committee. The Committee shall consist of 3 members, who shall be appointed by the Lake Berryessa Estates Property Owners' Association and who shall serve for a term of 3 years from the date of their appointment

(b) The Fiscal and Capital Oversight Committee shall serve in an advisory capacity to the governing body of the District. District staff shall keep the Committee apprised of all project expenditures, project bidding, and District budget issues. The District may not spend any monies in the designated reserve fund for any purpose other than the purposes listed in Section 2 of this Ordinance without the approval of the Committee.

SECTION 7. Limitation on Increase in Tax. The tax imposed by this ordinance is a "special tax" under the terms of Article XIII A, section 4, and Article XIII C, section 1, of the California Constitution as well as section 53722 of the Government Code. It shall not be increased without approval of two-thirds of the voters of the District voting on such increase.

SECTION 8. Implementing Procedures. The District's governing body may implement such procedures as may be appropriate to accomplish the purposes of this ordinance, but such procedures shall not change the purposes for which special tax revenues may be used or alter the methodology for calculating the special tax rates and maximums, all as specified herein, without the prior approval of the District electorate as set forth in Section 7, above.

SECTION 7. Effective Date. If this ordinance is approved by two-thirds of the voters of the District voting on the matter at a special election held prior to August 30, 2000, it shall take effect immediately, and the special tax authorized hereunder shall be assessed and imposed beginning with the 2000-2001 fiscal year and continuing through the 2009-2010 fiscal year.

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The foregoing ordinance was enacted by the qualified electorate of the Lake Berryessa Resort Improvement District at an election held on the 18th day of July, 2000.

[Signature]
Mel Varrelman, Chair, Napa County Board of Supervisors acting as the governing body of the Lake Berryessa Resort Improvement District

ATTEST:

MARY JEAN McLAUGHLIN
Clerk of the Board

By: *[Signature]* Deputy

APPROVED AS TO FORM
Office of County Counsel
By: <i>[Signature]</i> Deputy
Date: <i>April 18, 2000</i>

APPROVED 7-18-00
BOARD OF SUPERVISORS
COUNTY OF NAPA

MARY JEAN McLAUGHLIN
CLERK OF THE BOARD

BY *[Signature]* Deputy

Notice to Contractors
For
LBRID Sewage Pond Improvements Project
PW 00-15

NOTICE TO CONTRACTORS

LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT

NAPA COUNTY

STATE OF CALIFORNIA

Sealed proposals will be received at the office of the District Secretary, at the office of the Clerk of the Napa County Board of Supervisor's, Napa County Administration Building, 1195 Third Street, Room 310, Napa, California, until 3:30 P.M. on October 11th, 2000 (no bids will be accepted after 3:30 P.M.) after which they will be publicly opened and read; for the construction in accordance with the Plans and Special Provisions thereto, to which special reference is made as follows:

L.B.R.I.D. SEWAGE POND IMPROVEMENTS

PW 00-15

Bids are required for the entire work called for by the Plans and Special Provisions, and neither partial nor contingent bids will be considered.

Bid results of the three low bidders with their subcontractor's list will be on the Napa County's website www.co.napa.ca.us/internet/PublicWorks/project.asp the following day after the bids are publicly opened and read.

The Plans and Special Provisions may be seen at the office of the LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT Office, 1195 Third Street, Room 201, Napa California. One set of Plans, Special Provisions (excluding State Standard Specifications and other documents included by reference), Proposal Forms and Contract Forms may be obtained at said office by prospective bidders to those licensed by the State of California for the type of work involved for a fee of twenty dollars (\$20.00) per set, which fee is not refundable.

In accordance with the provisions of Section 1774 of the Labor Code of California, the prevailing wage rates for classifications of Labor to be employed in the work has been determined by the Napa County Flood Control and Water Conservation District and is included in the Special Provisions referred to above.

No bid will be considered unless it is made on a blank form furnished by the District Engineer and is made in accordance with the provisions of the proposal requirements and conditions set forth under Section 2 of the Standard Specifications of the State California, Department of Transportation, dated July 1999, except as modified in the above referred to Special Provisions.

Each bidder must be licensed as required by law.

A non-mandatory pre-bid site visit for the Contractors bidding the project is scheduled October 2nd, 2000 at 9:00 AM. The meeting point is at the job site.

All questions must be mailed, faxed or e-mailed to Russ Bergholz (rberghol@co.napa.ca.us) c/o Napa County Public Works, 1195 Third St. Rm 201, Napa, CA 94559, Fax# 253-3627 by October 3rd, 2000.

The Lake Berryessa Resort Improvement District reserves the right to reject any or all bids.

By order of the Board of the Lake Berryessa Resort Improvement District, State of California, made this 19th day of September, 2000.

MARY JEAN MCLAUGHLIN

Secretary of the District Board

Letter Dated September 29, 2000



NAPA COUNTY

DEPARTMENT OF PUBLIC WORKS

1195 THIRD STREET • ROOM 201 • NAPA, CALIFORNIA 94559-3092
PHONE 707-253-4351 • FAX 707-253-4627
www.co.napa.ca.us/Departments/PublicWorks

KENNETH H. JOHANSON
Director of Public Works
County Surveyor-County Engineer
Road Commissioner

September 29, 2000

Mr. William A. Croyle, Chief
Waste Discharge to Land Unit
Lower Sacramento River Watershed
Regional Water Quality Control Board
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

RE: Status Report on Resolution of Deficiencies
In Response your letter of August 29th
For the Lake Berryessa Resort Improvement District

Dear Mr. Croyle:

First, let me thank Sherry Constancio and you for meeting with Tim Lanphear and me on August 24th at the site. While you left no uncertainty that the past problems of the district were not to be repeated, I would like to recognize your and Sherry's willingness to listen to our proposed solutions and thoughts, and to make constructive criticisms and suggestions. That meeting was extremely informative and helpful to me as we go about formulating solutions to our problems.

The overarching directive in your letter was that we provide a status report on several fronts. We would like to include achievements and advancements on other fronts as well.

Special Tax Approved

On July 18th, the registered voters in the area voted to impose upon all properties within the District a Special Tax. The focus of this tax was to generate funding to accomplish several objectives. I have attached the "Voter Information Pamphlet" for your file. It shows in detail the funding mechanism and the projects that are targeted. The Special Tax will generate just over \$500,000 during its 10-year life. This funding, coupled with approximately \$200,000 from our current operating revenue over the next decade, should provide ample funding to accomplish all of the projects identified, as well as establish a modest reserve fund. I would like to conclude this comment by adding that this Measure passed with a 90% yes vote. The District Board (the Napa County Board of Supervisors sitting as the District's Board of Directors) was highly complimentary of the men and women who spearheaded this effort to have the District's problems resolved with funds generated within the District.

Budget approved

The following week, the Board approved the budget as presented. A copy is attached for your review. In the budget you will see line items identifying \$100,000 for wastewater pond improvements, \$10,000 for wet well design, and \$5,000 for slip lining.

→ Capacity Enhancement Project

Shortly after budget approval, we began design on a substantial pond modification project. In fact, on September 19th, the Board issued a call for bids. Award is expected on October 17th, with construction being completed by late November. Because virtually all of the earthwork will be done within the pond structure, problems normally associated with erosion are not a major issue. A schedule showing key dates is attached. A complete set of plans and specs is attached for your review.

While we do not view this Pond #5 improvement project as being one that will put us into the storage capacity condition that we prefer, it is a major improvement over the system storage capacity of last year. The capacity of Pond #5 will increase from just over 5 acre feet to just under 10 acre feet. In my mind this project is a substitute for the Pond #6 concept referenced in our June letter.

Possible immediate additional capacity

One option that we are exploring is to extend this project to include a smaller effort in Pond #4. This pond can be increased several acre feet with the excavated material being similarly used to provide a much better levee between Pond #4 and Pond #5. That is a priority for me.

Testing being done

Percolation tests are being performed in the bottom of both Pond #4 and Pond #5. Additionally, we have installed a deep trench, approximately 15 feet deep, in both ponds to see if groundwater is evident. All of this data should be available to me by the end of next week, and will be subsequently reported to you.

Monitoring wells

Monitoring well locations were discussed with you during your site visit. Our plan is to install them in the near term, by our geotech firm. To economize, I would like to coordinate monitoring well installation with other work that needs to be done in the area. As you know, we are quite remote, and travel time is expensive. This coordination could delay installation into 2001.

→ Pilot reclamation project approval request

It has been my intention to start this winter with not only Pond #4 and Pond #5 empty, but also with Pond #3 empty. My request to you, and in fact to your Executive Officer, is to allow us to initiate a pilot reclamation spray field project, covering approximately 5 acres, to evaluate if a program could be successful on a long-term basis. If this year's program proves to be effective, we would proceed with a much more formal request.

My proposal to you now would be to develop a program based upon rented temporary hand line being installed to the knoll just north of Pond #4, and a rented pump to feed it. The water would be applied at a rate simulating turf grass irrigation, but with a shortened

application period. I would be personally involved in monitoring and calibrating the system to assure that there is no runoff beyond the 5 acre application area. Further, we would employ a 100 foot buffer that is commonly associated with reclamation projects. Irrigation would be done only during the daylight hours. The application duration would be controlled by the amount of fuel put into the tank of the pump. Application would cease prior to any predicted rain, and would not occur within 2 days after rain (sufficient to saturate the soil.) I would be please to greatly expand this definition of the proposed system if you would be willing to further evaluate it.

Property boundary work

We are still working on a boundary survey to locate the corners of our property. Such work will allow us to assess which projects can best be mounted to answer our additional storage needs.

Storage capacity analysis

By April 2001, we intend to have our analysis of the storage capacity needs of the District completed. This study will utilize the mass balance principles that you provided to me last month.

Defining future projects

By combining the information gained through this storage capacity study with the property boundaries, we will be able to define the location of feasible future storage increase projects. It is our intention to get our next project designed during the Spring of 2001, call for bids in early summer, and construct in August and September.

→ Inflow / Infiltration program

The inflow / infiltration reduction program that I have in mind is one that is spread over about 9 years. As I indicated in my June letter to your Executive Officer, we view completion of this program in the summer of 2009. And, as you can see in this year's budget, we intend on continuing the \$5,000 per year level of effort that we have placed on I/I during the most recent years. The reason that I have set this program at a uniform rate of spending annual project is cash flow. We will be conducting a much more sophisticated evaluation of I/I flows this winter. We will be prepared to report to you the results of this informal study in the Spring of 2001. This work will help us target the most impacted areas first. Obviously, we are very interested in getting to the high contribution I/I problems; repairing in those areas can have a huge beneficial impact on the I/I handled by the collection system as well as the pond system. I received one price for smoke testing the entire system of just under \$10,000. In that our total budget for I/I this year was only \$5,000, I need to further evaluate what my priority will be.

Leak in transfer pipe fixed

At your suggestion during our meeting, we inspected the pipeline transferring water from Pond #3 to Pond #4, in the vicinity of the tee with the pipeline from Pond #2. Indeed, there was a leak. That leak has been repaired. We are pleased to report that the wet areas are now drying nicely. The exploratory trench that had been dug just south of Pond #3 no longer has standing water in it.

Water transfer project

We have implemented a water transfer project to move water from Pond #3 to Pond #5. With the resources at hand we were not very successful. We were much more successful, and did move more water from Pond #3 to Pond #4. That entire operation has stopped, so that the pond bottoms can dry in preparation for the earthmoving project slated to start in October.

Sequential pond flow

We have re-tooled our inlet structure to cause flow to go sequentially through the pond system rather than raw being fed into both Pond #2 and Pond #3. While we have done no scientific testing, the effluent out of Pond #3 looks pretty good.

Weed control program

As for the weeds along the pond system levees, we are prepared to address that problem primarily with herbicides. The staff at the Agricultural Commissioner's office has trained all 3 operators and me. We are all qualified to apply RoundUp, Rodeo, and Surflan. A spray system, which can be mounted on our ATV, has been purchased. We would like your consent to begin that weed control program.

Baker Tank location

My summer intern is presently trying to locate a couple of suppliers of Baker Tanks that can be brought in on short notice in case this winter is especially difficult. We will be looking into chlorination equipment that can be used in case we are faced with a tragic winter. But I must admit that this is my absolute last choice. With chlorination comes the need to dechlorinate. And the consequences of all of this equipment being located in a remote location can be awful.

Delayed slide repair project

While the design of our slide repair is pretty well advanced, we have elected to postpone that project until next year. The primary reason is that the complete fix involves armoring the bank of Putah Creek just below the slide. But, the water level in Lake Berryessa is only down about 12 feet below the gloryhole. This is not enough, at least in the opinion of our geotech consultant, to allow a highly successful project to be completed. We have received an advance from OES of approximately \$250,000 for this slide repair and bank stabilization project.

As you can see, we have been trying hard to get some of these problems addressed. I appreciate the interest shown by Sherry and you. I also appreciate your willingness and patience to respond to our thoughts and questions.

We have prepared this report to fully comply with your directives. Should you find any portions to be confusing or contrary to your directives, we respectfully request the opportunity to further clarify or correct those deficiencies.

Please contact me at 707.259.8179, if you have any questions.

Sincerely,

KENNETH H. JOHANSON, PE
Director of Public Works

By

John W. Stewart, PE
Principal Civil Engineer

ENCL.

Voter pamphlet
Budget
Timeline
Plans and Specs

CC:

(no attachments)
Sherry Constancio, Assoc. Sanitary Engineer, Lower Sacramento Watershed
Ken Johanson, Director, via e-mail
Bob Peterson, Assistant Director, via e-mail
Tim Lanphear, Water & Wastewater System Operator
John Hallman, HOA liaison
Mark Chick, HOA President

Letter Dated December 17, 2001



NAPA COUNTY

DEPARTMENT OF PUBLIC WORKS

1195 THIRD STREET • ROOM 201 • NAPA, CALIFORNIA 94559-3092
PHONE 707-253-4351 • FAX 707-253-4627
www.co.napa.ca.us/Departments/PublicWorks

KENNETH H. JOHANSON
Director of Public Works
County Surveyor-County Engineer
Road Commissioner

December 17, 2001

Mr. Dan Little
Waste Discharge to Land Unit
Lower Sacramento River Watershed
Regional Water Quality Control Board
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

RE: Status Report on Activities at the Lake Berryessa Resort Improvement District

Dear Mr. Little:

Thank you for speaking with me last week. While I had promised this letter by Friday, recent events have kept me from doing so.

I would like to set in writing some information about the issues that are at hand, and our progress to date on dealing with those issues. Additionally, I would like to request authority to begin a fully contained spray field pilot program.

Amount of water in inventory... While we are very close to spilling from Pond #5 into Stone Corral Creek, we believe that we are making progress on this critical issue. At present, we have:

- Zero capacity remaining in Ponds #1, 2, and 3. This is not unusual for this time of year. Movement of water from these sequential oxidation ponds is fully contained in the transfer structure to Pond #4.
- Approximately 1 foot remains from water surface in Pond #4 to the invert of the transfer structure to Pond #5. Pond #4 being near full is not that unusual for this time of year.
- Approximately 2 feet remain from water surface elevation in Pond #5 to the invert of the transfer structure to Stone Corral Creek. This is unusual, and very disappointing from an operational perspective. This is a problem best faced in late March or April.
- Approximately 50% capacity remains in (new) Pond #6.

Pond Construction Results... As you know, approximately 16 months ago we reconstructed the down-slope levees in Ponds #4 & 5, and we added much needed storage capacity in Ponds # 4 & 5. Reconstructing the levees substantially improved their structural integrity over the a priori condition. It does appear that the construction activity

resulted in drastically reducing the infiltration previously available. We will try to restore that feature this summer.

→ Constructed Pond #6 About 3 months ago, we completed construction on Pond #6. Russ Bergholz was handling the design in the initial stages, and I believe that he forwarded to you a set of plans, but I am not sure of that. As you may know, Russ resigned and relocated to Southern California this past summer. I just spoke with Erica Ahmann who handled the final portions of the design, and she said that she did not contact you about this project. Dan, I am concerned that we did not clear all of this through you other than through the conversations that I have had with you over the months and in my correspondence with you earlier this year. Please check your files to see if you do have a set; if not we will immediately forward a set to you. We do have soils compaction testing results, if you are interested in that. Additional technical information is that Pond #6 is not connected hydraulically to Pond #5; a diesel pump exists to move water up to the new pond, and withdrawal of water from Pond #6 will be done via siphon, back to Pond #4.

Running sprinklers within pond system... To minimize the accumulation of wastewater inventory, we are running new "whirl a mist" sprinklers in the middles of Ponds #1, 2, & 3. On a good day, we can accumulate about a quarter to one-half inch of evaporative loss. This process is working well, but slowly.

Running sprinklers upslope of Pond #4 and Pond #6... In our conversation last week, I mentioned to you that we were beginning to use our "whirl a mist" sprinklers on the up slopes above Pond #4 and Pond #6. We fully recognize that there is to be no runoff from our property. That foundational principle is being respected; each of the slopes has a collection structure at the bottom, and the one flat area is being watered is basically "watered by hand," in that progress is frequently monitored to assure zero runoff.

→ Baker Tanks were not successful last season & Hauling is not viable due to large volume... Earlier this year we did put in place a number of rented Baker Tanks to try to attenuate our peak flows; I recall 5 in total. We found that the result was not that effective due to the shear magnitude of flow. We also carefully evaluated trucking dilute raw during peak events, but that too demonstrated itself to be not viable simply due to the shear magnitude of the flow.

→ Inflow / Infiltration program... The inflow / infiltration reduction program began this fall, with smoke testing the entire system; the cost was \$10,000, or about 5% of our O&M budget. No inflow sites were identified.

→ Inflow / Infiltration repair... The recent smoke testing revealed 6 areas of large concern. These could be a major contributor to our pond over loading. One has been repaired.

The other 5 have been located. Two additional short-term laborers have been added to the workforce to specifically address these issues. Our plan is to have the worst two corrected by year's end, and address the remaining three by mid January. All of the 6 locations are in back easements, which means dirt roads which become virtually impossible to traverse if there were recent rains. Having infrastructure in locations where it cannot be maintained and repaired is not how I would run the program, but that is what exists, and I must deal with it as effectively as I can envision. We are prepared to hire in specialized equipment to assist with the repairs. We want to get right on this, because repairing these breaks will likely dramatically reduce the amount of wastewater that has to be held in inventory. The operators continue to monitor manholes at selected locations in the system to see if one run of sewer line has more flow than an equivalent length of pipe in another section of the subdivisions. So far, there is no great revelation resulting from this observation; it appears that leakage is uniform.

Request for Pilot Project Authorization... We are having some measurable success with our limited spray field effort. My request to you is to authorize us to proceed with a spray field pilot project. The general parameters that I propose is that all spray field operations be located up-gradient from our existing pond system, and all tailwater that results from the pilot spray operation would be diverted into the ponds. I believe this to be critical to our survival this year, and quite frankly until probably mid 2003 when we can have a number of projects mounted to dramatically decrease the general I/I that exists in our system. We request your favorable response to our proposal.

We are trying hard to get some of our problems addressed, but we need a bit of assistance to be successful.

Please contact me at 707.259.8179, if you have any questions.

Sincerely,

Robert J. Peterson, PE
Acting Director of Public Works

By

John W. Stewart, PE
Principal Civil Engineer

CC: Bill Croyle, Chief, Lower Sacramento Watershed
Tim Lanphear, Water & Wastewater System Operator, via e-mail
John Hallman, HOA President

Memo from CDF
Dated March 23, 2005

INTER-OFFICE MEMO



NAPA COUNTY FIRE MARSHAL'S OFFICE

To: Nate Galambos, Principal Engineer
Napa County Public Works

From: Kate Dargan, Fire Marshal

Date: March 23, 2005

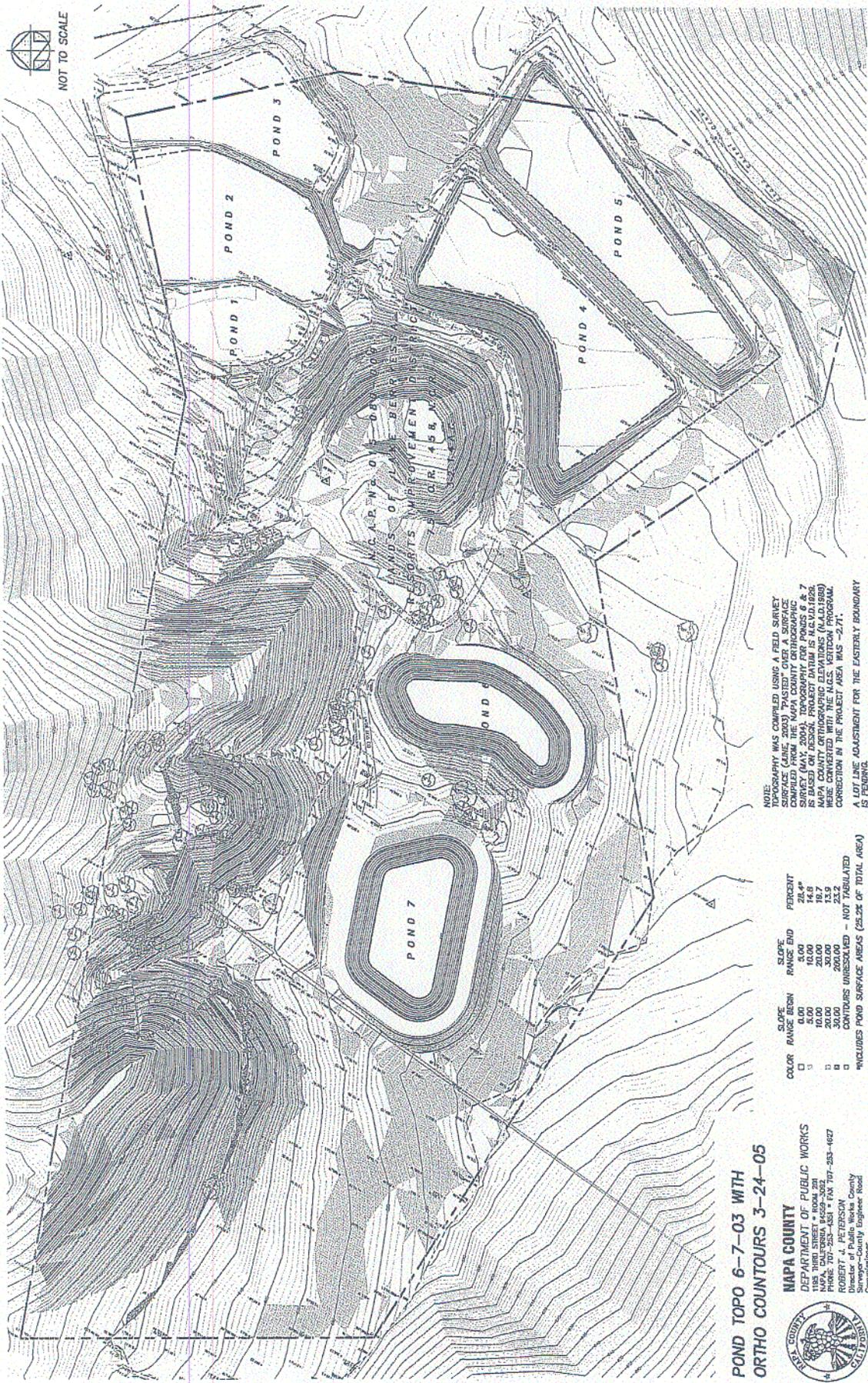
In reply to your inquiry about the necessary fire access requirement for a portable 'Baker Tank' field in Napa County to handle overflow concerns, here are my thoughts.

The tank dimensions represent an obstacle to quick rescue if anyone falls into the tanks or is disabled during internal tank maintenance. Any other emergency might also present an access concerns since the tanks are large enough they cannot be quickly moved or maneuvered around. For this project, we would require a minimum of 12' access around each tank so that a single fire engine could access the interior of the tank field or each individual tank if a rescue was required. 12" represents our smallest access standard.

Please call me if you have any further questions.

Kate Dargan

Ortho Contours Map of District's
Treatment Pond Parcel



NOT TO SCALE

NOTE:
 TOPOGRAPHY WAS COMPILED USING A FIELD SURVEY SURFACE (JUNE, 2003) PASTED OVER A SURFACE SURVEY (MAY, 2004). TOPOGRAPHY FOR PONDS 6 & 7 IS BASED ON DESIGN PROJECT DATUM IS N.A.S.V.A. 1988. MAPA COUNTY ORTHOGRAPHIC ELEVATIONS (MAY 1988) CORRECTION IN THE PROJECT AREA WAS -2.71'.
 A LOT LINE ADJUSTMENT FOR THE EASTERLY BOUNDARY IS FEELING.

COLOR	SLOPE RANGE BEGIN	SLOPE RANGE END	PERCENT
□	0.00	5.00	28.4%
□	5.00	10.00	14.6
□	10.00	15.00	13.9
□	15.00	20.00	13.9
□	20.00	30.00	23.2

CONTOURS UNRESOLVED - NOT TABULATED
 *INCLUDES POND SURFACE AREAS (25.2% OF TOTAL AREA)

POND TOPO 6-7-03 WITH ORTHO COUNTOURS 3-24-05

MAPA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 1155 THIRD STREET • ROOM 201
 MAPA, CALIFORNIA 94559-2002
 PHONE: 707-548-2100 FAX: 707-553-4627
 WWW.MAPACOUNTY.CA.GOV
 Director of Public Works County
 Surveyor-County Engineer Road
 Commissioner

