

May 26, 2006

Mr. Blair Allen
Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, Ca 94612

RE: Tentative Order,
Waste Discharge Requirements For
Mustards Grill Wastewater Treatment System
7399 St Helena Highway
Napa County

Dear Mr. Allen:

After reviewing the Tentative Waste Discharge Requirements for the Mustards Grill, on behalf of the Owner, we would like to submit the following comments and requested modifications to the language within the current Tentative Order, dated April 19, 2006.

To facilitate tracking of comments, our suggestions for re-consideration, modification, and change follow the numbering from the Tentative Order.

The following comments and requested modifications apply to Findings...

A. 1

Paragraph 10 discusses discharge quantity. The original ROWD used quantities from some years back. During the last several months, we have made improvements that measure flows more accurately. In particular, we had the old potable water meter, located at the restaurant building, replaced with a new meter. We are finding flows slightly above what had been registered on the old meter and used in the original ROWD application. From my experience on the potable water side, I know that the typical failure pattern of a water meter is to slow down, and under register the quantity of water delivered to a customer. This fits nicely with our finding in this circumstance.

We now believe that water consumption has been under registered, and the ROWD used those numbers.

As outlined below, we would like to have the plant rated at (a rounded number of) 1.4 million gallons per year, or nominally, 3,835 gallons per day. We also need some flexibility for Inflow & Infiltration. In no case would we put more than 4,000 gallons per day, based upon a 3 day running average, into the dispersal area, regardless of any allowance for I&I. (A more detailed discussion is included below.)

A. 2

Paragraph 13 discusses Wastewater Sources and Flows. Again, we are requesting to discuss the annual and nominal daily flow limitations, as outlined both above and below. The request for discharge to the dispersal area is discussed in detail below.

A. 3

Paragraph 14 covers Septic Tanks and Grease Traps. There are a number of updates. Apparently, we have been reporting most of the information to you, but all installations have been done under the permit with the Napa County Department of Environmental Management.

What exists is presented below:

Tank	Requested Designation	Function	Volume nominal	Age, years	Baffles
1	ST-1	Septic Tank	5,000	New	1, 2/3, 1/3 volumes
2	GT-1	Grease Trap	1,500	New	1, w/ baffle, equal volume
3	GT-2	Grease Trap	1,500	New	1, w/ baffle, equal volume, Zabel A-300 grease filter
4	GT-3	Grease Trap	1,500	3	None, modified inlet & outlet
5	GT-4	Grease Trap	1,500	3	1, w/ baffle, equal volume
6	WW-1	Wet Well	5,000	New	None

The Wet Well has been fitted with two submersible pumps. There are three floats in the tank. Float 1 controls the Lead Pump. Float 2 controls the Lag Pump. Float 3 controls the high water alarm into the Autodialer and into the SCADA system.

A. 4

Paragraph 16 discusses the MBR Treatment Unit. To date we have not installed the chemical injection units; to date we have not needed them. It is best not to have chemicals stored on site. When and if needed, we will install only what is needed. We request that the Order retain the wording that is have shown; we just wanted you to know our intention.

A. 5

Paragraph 17 includes a description of the Treatment System Building. The building was constructed without the roll up door. We believe that the chemicals that were anticipated will not be needed.

A. 6

Paragraph 19 includes an estimate of the dispersal area. The NET area is very close to 40,000 square feet, with a gross imported fill area of approximately 45,000 square feet. If possible, we would like authorization to install a fifth zone in our dispersal area, just to allow one zone to be in sustained relaxation mode. This would allow for both hydraulic and soil micro-organism recovery.

A. 7

Paragraph 20 covers the Dispersal System. The clear well pump tank is 5,000 gallons in volume.

A. 8

Paragraph 25 discusses the Wastewater Monitoring program. Provided that you are persuaded by our presentation on reducing the number of sampling points, this paragraph would need to be updated to reflect the final result.

A. 9

Regarding **Paragraph 26**, we would like to further discuss the Ground Water Monitoring Program. Our observations are outlined in detail below.

A. 10

Paragraph 32 discusses the Old Wastewater Pond. As written, sludge would be removed for offsite disposal. In the Transition Plan referenced in Paragraph 3e, any existing sludge would be treated with lime and buried in place. This pond was Pond #2 in the combined Mustards-Cosentino system. It was the Secondary Treatment pond. Likely, the quality and quantity of the sludge will lend itself to being lime treated and buried in place. We would like that recognized in the text of the Order.

The following comments and suggested modifications apply to the Order, and in particular to the Discharge Specifications...

A. 11

Suggested revision to Paragraph B. 2. ...

A. 11. a

As outlined above, we believe the ROWD application under stated the amount of potable water consumed at the site. With the relocation of the raw wastewater mag meter from the wet well area to the control building area, we will be able to better register the flows to the plant, including data capture by the SCADA system. A new potable water meter has been installed at the Mustards Grill building. Additionally, we have been struggling with a huge Inflow and Infiltration problem; it seems to be somewhat under control, but minor problems linger. Finally, as operators of a very small plant, we find that something as small as a leaking toilet for a portion of the day can impact daily flow limitations.

A. 11. c

The physical limiting factor for the treatment works is the dispersal area, namely the 4,000 gallons per day limitation. In order to accomplish some flow management goals, we would like to be able to see this modified to a three day running average of 4,000 gallons per day, with a 5,333 gallon maximum on any one day. (5,333 is the production when the plant is set at a 4 gpm flow rate.) That would allow us to conduct a planned plant shut down, for example, to repair or replace parts, without having to go into the temporary storage tanks.

A. 11. b

While the MBR plant is rated at 25,000 gallons per day, it will not see that rate in this present application. A more realistic nominal maximum is 5,500 gallons per day.

A. 11. c

The wastewater system is limited by the dispersal area. Total annual flows, utilizing the rated capacity of the dispersal area, is 1.46 million gallons per year. With the I&I that we experienced this past winter, the dispersal field has demonstrated that it is capable of handling the maximum flow on a sustained basis. The County of Napa Use Permit under which the Mustards Grill operates, specifies the number of seats and the number of meals served. As the operators of the wastewater treatment facilities, we would like to have some margin available, so we are not always standing at the brink of violation.

The request is to modify Paragraph B. 2. a., b., and c., as follows:

2. Authorized Wastewater Flows

A. 11. a

a. **Wastewater System.** Discharges into the wastewater treatment system shall not exceed an annual total of 1.4 million gallons.

A. 11. b

b. **MBR Unit.** Discharges into the MBR unit shall not exceed a peak flow of 5,500 gallons per day.

A. 11. c

c. **Dispersal System.** Discharges to the dispersal system shall not exceed 4,000 gallons per day, based upon a 3 day running average, nor shall it exceed 5,333 gallons in any one day.

A. 12

Suggested revision to Paragraph B. 4. ...

The BOD and TSS discharge parameters are well within the limitations of the plant. The 10 mg/l limit on Total Nitrogen is one that we would like to discuss.

While we have only about 6 months of operational data, we are finding that Total Nitrogen can vary between zero and 25 mg/l. In looking through the literature on Nitrogen, we find that, for our dispersal area, a nitrogen loading to the field can be tolerated, and in fact, will be beneficial to the crop, namely, ryegrass. The typical nitrogen uptake rate for a field of ryegrass would be right around 200 pounds per acre per year. An annual flow of 1.4 MG, with a Total Nitrogen loading of 17 mg/l, would yield 200 pounds per acre. Added to that is the added benefit that denitrification can occur in the 2 feet of soil column present in our dispersal area, should any of the applied Nitrogen not already be consumed by the grasses. The soil was imported, because the underlying soil is tight clay, with virtually no percolation capability. Usually, the limitation is 10 mg/l at the property boundary or the nearest receptor (ie, drinking water well.) It seems that the limitation in the plant effluent could be increased slightly, with no detrimental impact. In fact, the science of soil and plant chemistry would find some nitrogen discharged to the crop on the dispersal field to be a beneficial concept.

The request is to change the wording in Paragraph B. 4., constituent c., Total Nitrogen, to be:

3. Discharge Effluent Limits. Treated wastewater discharged to the dispersal system shall comply with the following quality limits:

c. **Total Nitrogen** 17 mg/l, as N, maximum

A. 13

Paragraph 10, possible typo ...V-ditch extends northeasterly from near the **southeast** corner of the graded dispersal area...

A. 13

Paragraph 10 b., possible type ...(described in Finding 30 of this Order)....

A. 14

Suggested revision to Paragraph 5. c. ...

This paragraph calls for the submittal of the O & M Manual within 30 days of Order approval. We are requesting 60 days. This Manual will be a prototype for a couple of others that we will be preparing, and we want to do a very good and complete job. We will be setting out our template for several plants at one time, and his one may take a bit longer to complete than usual. (The other plant is within the Central Valley Board's jurisdiction.)

The request is to change the wording in Paragraph 5.c. to be:

“5. Operation and Maintenance Program....

c. O & M Manual Submittal ...

... no later than 60 calendar days from the date of adoption of this Order...”

A. 15

Suggested revision to Paragraph 7. ...

As noted above, and below in our comments on the monitoring program, we believe that we can develop a better groundwater monitoring program for this Order than the one currently in place. We would like to talk with you about some possible changes, which will recognize that water applied to the dispersal area is not escaping, and what kind of monitoring program can be put in place to deal with that.

We would like to discuss the Ground Water Monitoring Program with you. Below, we raise some points about the sampling frequency and the extent of testing that is required on the samples taken, but we would like to work with you to develop a good strategy for sampling, that takes into account a wastewater system that will be on the Cosentino property that is adjacent to Mustards to the North, and protects from any problems attributable to eh adjacent system.

The following comments and suggested modifications apply to the Order, and in particular to the Self Monitoring Program ...

A. 16

Suggested revision to Paragraphs III F. 1. (f) & (g) ...

Since the Pond will be abandoned, likely prior to the adoption of the Order by the Board, we request that these two paragraphs be deleted.

A. 17

Suggested revision to Paragraph IV B. 1. & 2 ...

The Wet Well Tank (the tank that collects both process waste and sanitary waste for subsequent pumping, and is located adjacent to the restaurant) is connected to the influent point of the MBR by a duplex pump and about 500 feet of 2 inch PVC force main. There is no flow added to or taken from the force main. In that regard, Sampling Station A-1 and Sampling Station M-1 are the same. The most convenient point for sampling for the tests required is at the discharge point into the rotating screen.

A. 17

The Mag Meter at its old location has been non-functional since plant start up, and recently has been relocated to the east side of the Control Building. The non-functioning state seemed to be a consequence of the distance of separation between the totalizer and the meter. This relocation will correct that problem. Additionally, the totalizer will be connected to the SCADA system.

The request is to combine A-1 and M-1 (delete A-1), and use the following description as M-1:

2. MBR Influent

- a. **Station Code:** M-1
- b. **Station Description:** Wastewater influent to the MBR treatment unit
- c. **Purpose:** The purpose of this station is for easurement of flows into the MBR unit and for sampling of the wastewater for analytical characterization of the MBR unit influent.

A. 18

Suggested revision to Paragraph IV B. 3 & 4 ...

The effluent from the plant runs through the mag meter, past an air gap, and then by gravity to the clearwell. The pipe is buried in pretty heavy clay soils, so there is not much chance that water will escape from the pipe. The clearwell is a 5,000 gallon concrete vault, again, buried in heavy clay soils. Because of plant production setting is limited to a nominal 3 gallons per minute, and the submersible pumps in the clearwell are set to pump exactly what is presented to the tank, at the end of any measurement period there is virtually no difference between plant effluent and clear well effluent.

The request is to delete E-1, and expand M-2, as follows:

3. MBR Effluent and Discharges to the Dispersal System

- a. **Station Code:** M-2
- b. **Station Description:** Treated wastewater at a point after the MBR treatment unit, and as applied to the dispersal system
- c. **Purpose:** The purpose of this station is for measurement of flows of final treated wastewater from the MBR unit, and for analytical characterization of the MBR unit effluent in order to document water quality, treatment process performance, compliance with discharge effluent limit requirements, and for measurement of flows discharged to the subsurface dispersal system.

A. 19

Comment on Paragraph IV B. 5. ...

The practicality of dealing with temporarily stored wastewater (resulting from a plant emergency or a planned plant repair) minimizes the opportunity to re-introduce the wastewater back into the plant. For example, a one day shut down would mean perhaps 3,500 gallons of stored wastewater. The margin between 3,500 gallons being processed in succeeding days and the 4,000 gallons per day limitation into the dispersal field means that the wastewater would have to be re-introduced into the plant at 500 gallons per day. We would probably want to pump it all in at one time, and let plant hydraulic inventory take care of it, but that is an operational effort that may not be worth the economic cost.

The short answer is that we presently elect to have temporarily stored wastewater hauled off. We request that the wording in the Tentative Order remain.

A. 19

The flows to the temporary storage tanks would be measured by the influent meter. The valving to implement bypass to the temporary storage tanks is located after the meter. We propose that, during a bypass event, we simply log the date, time, meter reading at both the beginning and end of the event, and note it in our monthly report, along with the reason why, and corrective action taken. This volume hauled, along with sludge volume hauled, would be shown in the monthly report.

Presently, the four tanks are hydraulically connected. We propose to leave them that way for the time being. If we elect to re-process any bypassed and temporarily stored wastewater, we will notify you by voicemail and follow up in writing. If we elect to separate the tanks to take full advantage of the present text in the tentative order, we will notify you in writing, and await written confirmation.

A. 20

Suggested revision to Paragraph IV C. 1, and Paragraph IV C. 2 ...

Presently, the four sludge tanks are connected hydraulically, both influent and effluent. As indicated, we will likely leave them connected that way in the near term, but want to retain the ability to separate them consistent with the current wording of the Tentative Order in the future.

There is no meter to measure the amount of sludge discharged from the plant to the sludge storage tanks. The plant measures depth of water in the aeration tank, to the 0.01 foot. We have been estimating the amount of sludge discharged by using that drop in depth, and converting it into volume. We need to clarify that this drop in tank level would be how we will measure the amount of sludge put to the sludge storage tanks. The MLSS is still low, and likely we will not waste sludge in the near term

The request is to note the authorized measurement techniques.

A. 21

Suggested revision to Paragraph IV D. 1, 2, 3, 4, 5, and 6 ...

It would be more clear for those that work around the treatment works, if we can have the various tanks labeled as follows:

Use, as listed	Present designation	Actual Use	Requested designation
Sanitary Vault	T-1	Septic tank	ST-1
Grease Trap 1	T-2	Grease Trap	GT-1
Grease Trap 2	T-3	Grease Trap	GT-2
Cool Down Tank	T-4	Grease Trap	GT-3
Mixing Tank	T-5	Grease Trap	GT-4
New Lift Station	T-6	Wet Well	WW-1

There is one septic tank, there are four grease traps, and there is one wet well in which the duplex pumping system is located.

A. 22

Suggested revision to Paragraph IV F. ...

The Pond will likely be abandoned prior to the issuance of the Order. The request is that Paragraph IV F. be deleted.

A. 23

Suggested revision to Table 1 – Schedule for Monitoring ...

Several requests have been made to delete Monitoring Stations, namely A-1, E-2, and P. Provided that such requests are considered favorably, Table 1 would need to be revised accordingly.

A. 24

Discussion on Monitoring Parameters Shown in Table 1 – Schedule for Monitoring

...

The MBR is producing remarkable good quality effluent. Typically, BOD and TSS are below detection levels. The sum of all nitrogens ranges between zero and about 25 ppm. The dispersal area is also operating remarkably well. There have been no failed lines (a couple of check valves have been replaced, but that is to be expected) and no evidence of water escaping the boundaries have ever been detected (and we have tested for that in the ponded water on Cosentino.) Additionally, the plant is processing pretty predictable raw wastewater water. It is both restaurant waste and sanitary waste; there are no industrial dischargers, and the I & I is pretty well under control.

Noting all of this, we are requesting that you reconsider a couple of the water quality monitoring schedules, for possible changes.

A. 24. a

For Station M-1:

If we are testing MBR effluent for BOD weekly, TSS weekly and N monthly, is there a reason to test for these three parameters monthly for the raw wastewater? Perhaps a less stringent monitoring schedule, namely quarterly, would allow a sufficient amount of data to be collected to allow proper characterization of raw wastewater presented to the plant.

We have a pretty good characterization of the combined wastewater coming from the 4 grease traps and the 1 septic tank. The 3 composite sampling events that Ernie Erskine set up and used on his sludge generation and tank recharacterization study demonstrated very consistent results.

The monitoring schedule we urge you to consider would be:

For Station M-1: Quarterly monitoring is required for MBR plant influent (M-1).

A. 24. b

For Stations GW-n:

The dispersal area is performing very well. But, I witnessed it perform well throughout a very wet winter. The water that is being applied to the dispersal area is very high quality, and is being contained in the horizontal dimensions. The dispersal area is underlain by tight clays, and is being contained in the vertical dimension... tight clays being present is the reason for moving away from any kind of disposal oriented system that counted on infiltration as one of its factors. So, the likelihood that any water applied to the dispersal area is percolating into the groundwater table is deminimus.

If we are meeting the plant effluent limits, as verified by weekly and monthly testing, is there any reason to rigorously test for the (missing) parameters in the monitoring wells? I can understand the requirement for the testing program for the first year, but after that, it seems that we are left with simply continuing to prove that we are not causing a

problem. Perhaps quarterly sampling could be implemented in this instance. If the MBR plant falls out of compliance, then the Monitoring Schedule could be re-implemented until compliance is achieved.

Of course we need to determine the necessity of monitoring for depth to groundwater in the monitoring wells.

A. 24. b

The monitoring schedule we suggest would be:

For Station GW-n: Provided that MBR plant effluent (M-2) meets discharge limits, quarterly water quality monitoring is required for Ground Water Monitoring Wells GW-n. If MBR plant effluent (M-2) fails to meet discharge limits, then monthly water quality monitoring is required for Ground Water Monitoring Wells GW-n, and will continue until two months following plant compliance, or as directed by the Executive Officer.

A. 24. c

For Station SW-n

For storm water sampling program, we have similar observations. First, there has been no incidence of wastewater escaping from the grease traps, the septic tank, the wet well, the force main, the MBR plant, the storage tanks, the sludge tank, the clearwell, or the dispersal area. If there is no water escaping, then we ponder the usefulness of the data obtained from sampling the first couple of storm events of the wet season.

If any of these components were to break or leak to the surface, then we would immediately begin a surface water sampling program, if nothing else to protect our client by accurately quantifying the extent of the impact on the environment. Scientific data is usually the antidote for emotionally based charges and accusations.

The monitoring schedule we urge you to consider would be:

For Station SW-n: Provided that there is no unauthorized discharge from any of the wastewater system components covered by this Order, no Storm Water sampling is required. Should any component fail, then Discharger shall implement the sampling protocol specified in this Order, daily for the duration of the event, and weekly for two weeks after the last day of the event, or as directed by the Executive Officer.

A. 25

Suggested revision to Paragraph V B. 1. a, d, and i ...

Several requests have been made to delete Monitoring Stations, namely A-1, E-2, and P. Provided that such requests are considered favorably, the monitoring specifications would need to be revised accordingly.

A. 26

Suggested revision to Paragraph V B. 3. ...

The Tentative Order specifies that ground water levels be reported in feet and inches. We request to measure in feet, and decimals thereof.

A. 27

Suggested revision to Paragraph V B. 4. ...

Rainfall data is available from the CIMAS station located in Oakville, a couple of miles north, and on the same side of the valley, and approximately the same distance away from the western ridge of the valley. This station reporting is directly applicable to our site. The following wording is suggested at the end of this section, to wit...

“... falling on the dispersal area. **Discharger is authorized to use the data from the State of California CIMAS station designated ‘Oakville – North Coast Valleys – Station 77’** “

A. 28

Suggested revision to Paragraph V B. 5. a. & b. ...

The Pond will likely be abandoned prior to issuance of the Order. The request is to delete reference to the Pond in both a. and b.

A. 29

Suggested revision to Paragraph V B. 8. ...

The Pond will likely be abandoned prior to the issuance of the Order. The request is that Paragraph V B. 8. be deleted.

A. 30

Suggested revision to Paragraph VI A. 1. a. ...

The due date of monthly reports is presently noted as the 15th of the month following. It is often difficult to get all lab reports by that time. Other permits have allowed one month plus one day.

The suggested wording for this paragraph would be:

1. Reporting Schedule

- a. **Monthly Reports. Written reports shall be prepared for each calendar month and shall be submitted to the Board’s office by the first day of the second month following the monitoring period.**

If you have any questions, please give me a call on my cell = 707.738.4600.

Sincerely,

John W. Stewart, PE
Special Projects Manager

CC: Sean Knight, Mustards Grill
Mike Long, Heritage Systems
Gary McCollum, General Engineering Contractor
Ernie Erskine, Wastewater Consultant