

From: Keith Lichten
To: Faustino Jun Osalbo
Date: 2/8/05 6:15PM
Subject: Re: FW: Response to Nat'l Heritage Inst.

Jun,

Thanks for the chance to comment. Please see our redline-strikeout comments in the attached document. I tried to make them as straightforward as possible--hopefully, they are not too direct.

Overall, it is unclear to us why you don't simply say that the reported data are exceedances. This is the Discharger's own reported data, and it's straightforward to compare the data with the applicable Basin Plan standard. It is not clear that the site's BMPs are adequately designed, given the large contributing catchments, although they're certainly much better than what was out there October 1. Then, indicate the reasons why the City believes it is appropriate to fine (or not).

Regards,

-Keith H. Lichten, P.E.
Acting Section Leader
San Francisco Bay Regional Water Quality Control Board
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>>> "Osalbo, Faustino Jun" <fosalbo@oaklandnet.com> 02/08/05 03:41PM >>>

Keith,

Please comment on the attached draft. Do not send to NHI.

Thanks,

Jun Osalbo

-----Original Message-----

From: Ward, Ron (PWA)

Sent: Tuesday, February 08, 2005 3:30 PM

To: Osalbo, Faustino Jun

Subject: Response to Nat'l Heritage Inst.

Jun:

Please forward the attached draft response to the National Heritage Institute to Keith Lichten of the CRWQCB for his comments.

Ron Ward
Supervising Civil Engineer
238-6606

CC: Dale Bowyer; Laurie Taul; Marcel Uzegbu; Ron (PWA) Ward; Shin-Roei Lee

174 acres - 98 miles
remains for R. Beant.

Draft Response to the National Heritage Institute Feb. 1, 2005 letter:

Item 1

The City has not addressed DeSilva's failure to comply with applicable water quality standards. According to the RWQCB, it appears construction activities have resulted in violation of the water quality standards for turbidity: "the results appear to suggest that there were discharges from the lower detention pond ... and turbidity exceedances, on December 7, 8, 27, 30, 31, and January 3, 2005," and "there remain discharges of turbid water from the site." E-mail from Keith Lichten, RWQCB, to National Heritage Institute (Jan. 24, 2005).

The Storm Water Pollution Prevention Plan (SWPPP) in effect for the Leona Quarry project requires the contractor to propose best management practices (BMPs) to prevent erosion and discharge of sediment laden waters from the site. (The contractor is also required to keep turbidity of discharge waters below a target level of 50 NTU or no more than 10% above background turbidity when turbidity is above 50 NTU as part of the region-wide discharge requirements set by the California Regional Water Quality Control Board (CRWQCB)). However, in accordance with the CRWQCB practices, the contractor may not always be fined when the discharge water exceeds the turbidity standards. Included as part of the CRWQCB requirements is the condition that if the contractor implements the BMPs to the "maximum extent practicable" (MEP), and the turbid discharge is unavoidable, a fine may not be imposed. CRWQCB's interpretation of MEPs is the highest level of effort and technology typically utilized to control erosion in projects of this size in areas of similar rainfall amounts. [As a reviewer, it is unclear to me what the connection is between the City's enforcement process, which you

do not discuss, and the Board's general approach, which is outlined here. This response does not make a connection between the two, nor does it describe the City's approach, the requirements of the NPDES municipal stormwater permit under which the City operates (which are directly applicable to the case at hand), or related information.]

So if the turbidity standards are exceeded in the discharge water, the contractor is first required to identify the cause of the high turbidity. ~~The contractor may not be fined if the circumstances leading to the discharge are beyond his control, such as a series of heavy storms.~~ [This is true only up to a point. For example, if a project's controls were underdesigned for known site conditions, and that resulted in turbid discharges, then it would be inappropriate to simply use heavy storms as an excuse, since the underdesigned controls—a factor within the discharger's control--would have clearly contributed to the discharge. As we note below, the site's BMPs—even the current BMPs—appear underdesigned.

Indeed, one of DeSilva's initial arguments when we began enforcement in October was essentially that under the NPDES Construction Stormwater Permit, they were allowed to implement ineffective controls and then bring them up to a better condition as they failed over time. Our response was that the Permit requires a level of best professional judgment, such that one cannot aim very low, as they did, and then come back later when

things go bad, using that Permit approach as a shield.] If further BMPs are identified as an effective way to reduce the turbidity, the contractor is then responsible for implementing those BMPs without a fine being assessed. If the cause of the turbidity is found to be negligence of the contractor, a fine may be imposed. Since October 15, 2004, the contractor has implemented several additional BMPs, such as blanketing the lower third of the site with erosion control fabric, installing a series of storage tanks, plate filters, sand filters, a flocculent dispenser to aid in settling clay particles, and an elaborate pump system to direct storm water runoff to the detention basin and then through the filtration system. [These statements regarding additional BMPs are correct. However, it should be noted that these BMPs were implemented only under threat of enforcement and that they replaced a series of BMPs that appeared clearly inadequate for the site. Our view is that they should have been in place prior to the beginning of the rainy season]

The Project is utilizing a detention basin to store storm water runoff and groundwater collected from the Project. The detention basin has the capacity to store approximately 2" to 3" of continuous rainfall before overflowing into the storm drain system leading to Chimes Creek. [This statement appears to be incorrect. We have not been able to locate information that would substantiate these numbers, and we would strongly recommend that you obtain the following information prior to making this

Bevel in
Hydrology
CFP/...

response: the volume of the upper pond available for use to detain runoff; the volume of the lower pond available for use to detain runoff; the total area of the catchment—including the area above the site that drains down to the main basin; and, the engineering analysis used to do the lower pond's construction-stage water quality design. The Discharger's SWPPP states that there is an initial site area of 128 acres, and then a post-construction site area of 153 acres. However, it's our understanding that the total catchment contributing to the downstream basin is more like 230 or 240 acres. As far as we can tell, the detention pond detains about 3.3 acre-feet, according to our on-site discussions with the Discharger's representatives. If these numbers are correct, then the pond would detain about 0.2 inches of runoff, rather than the 2-3 inches you indicate. If we use the numbers stated in the Discharger's SWPPP (i.e., assume that about 120 acres drain to the basin), then the pond would detain only about 0.3 inches of runoff. DeSilva assumed a site runoff coefficient of 0.45, so that translates to rainfalls of 0.4 - 0.7 inches, respectively. These are substantially below the numbers you give. Your numbers appear to be calculated for the detention pond's flood flow capacity, which we understand is about 33 acre-feet. However, clearly, the pond is detaining nowhere near that kind of volume for water quality. As we discussed on the site, for public safety reasons, it is not acceptable for the water quality portion of the pond to take up the flood flow storage volume.

In its design calculations for the upper detention pond, dated September 1, 2004, the Discharger notes the Construction Stormwater Permit standard of 3,600 cubic feet of capacity per acre of catchment. If we assume a 120-acre catchment for the lower pond, then it should have a detention volume of at least 9.9 acre-feet to meet this standard. If we assume what we understand to be the actual contributing catchment—more like 230 acres—then the lower pond would have a volume of 19 acre-feet. It might be reasonable to subtract the volume of the upper pond, but it is unclear what detention volume is regularly available in that pond—that is, the upper pond seems to pond water for extended periods of time, so that its effective detention volume may be lower than the design volume.

We know that the Discharger's implemented treatment system has a flow rate of about 350 gallons per minute, or 0.78 cfs. As such, if the lower pond is full to 3.3 acre-feet, and no more water is coming in, it would take that treatment system more than 2 days to empty the lower pond. Therefore, it will work effectively only when relatively small storms come along in a widely spaced manner. This pumping time, combined with the relatively low apparent pond volume relative to the upstream catchment, suggest that the pond and treatment system remain undersized] The

majority of the storm water runoff and ground water enters the detention pond, where it is pumped into a settling and filtration system to clean the water of any sediments, and then released into the storm drain system and Chimes Creek. This system has

proven to be very effective in reducing turbidity levels of discharges from the site. [We would not make a statement like this, given the Discharger's own reporting, which shows regular exceedances of the Basin Plan standard for turbidity. We might note that the system appears to have functioned effectively for small storms, and that it appears to be more effective than not having the system.]

On December 7th, the small sediment pond overflowed from the rim of the pond onto the inlet at Mountain Blvd. The pond is lined with plastic and the overflowing water was filtered with hay bales. [This response should note that your inspectors and Board inspectors have observed that these hay bales are inadequate to control turbidity in discharge from the small pond. Also, this overflow indicates an inadequate BMP design. It would be helpful to state here the Discharger's response to the observed inadequate design]

The discharges on December 8, 2004 were the result of the site receiving approximately 3 inches of rainfall in a 48-hour period. The detention pond was not able to hold this large quantity of runoff, and overflowed before treatment. The small sediment pond also overflowed. [See discussion above]

On December 27, 2004, there was no discharge from the site other than clean water from the filter system. [This statement does

not appear to respond to the Discharger's reported exceedance, as reported in its "Stormwater Sampling Results October 26 through January 3, 2005," sent on January 12, 2005. Two copies of this report were forwarded to Marcel. In that report, the Discharger appears to self-report analytical results showing an exceedance. Thus, there seems to be a contradiction between the Discharger's reported exceedance and the City's statement that only clear water was discharged from the site.]

On December 30, 2004, another heavy storm occurred and the only discharge from the site was from the filter system. [See our note for December 27]

On December 31st, with continuous rain for two days, there was a discharge from the square opening due to the runoff exceeding the capacity of the detention pond. The discharges were from the surface of the stored water. [The last sentence would be more significant if the discharge was from a site with very large-grained sediment, because a surface discharge would then potentially have been significantly cleaner than water from lower down. However, finer-grained sediments have shown up in this site's discharges, and with the added mixing that may have been caused by inflows to the pond and rainfall, it's not clear that the water at the top would have been much cleaner. See also our discussion regarding pond volume and treatment system capacity, above.]

On January 3, 2005, there was no rain but the construction area was wet. The water level at the detention pond was high and a discharge occurred when the contractor adjusted the elevation of the weir in the square opening. The contractor attempted repair procedures to increase the long-term capacity of the detention pond, and a momentary release of turbid water from the detention pond occurred. None of these discharges were considered avoidable and the contractor was not fined for turbid discharges. [Since the Discharger had a treatment system and an upper pond, it appears methods were available to help it reduce lower pond volume prior to doing work, and thus avoid such a discharge. This response does not explain the question that naturally comes, 'why was the Discharger not able to avoid this turbid discharge?' To me, the characterization of the discharge as a "momentary" discharge indicates that it occurred over a minute, or perhaps a few minutes, or less. Is that a correct characterization? Can you simply instead estimate the volume of discharge? Based on the Discharger's reported sampling, the turbidity levels in its discharge at 7 am, while in exceedance of Basin Plan standards, were still relatively low, at about 69 NTU. So you might mention that. However, perhaps there was a separate discharge of turbid water that was not captured by the reported sampling.

Overall, the draft response does not seem to substantively address the comment, given the known site conditions and applied BMPs.

Also, we would note that given our further analysis of the detention pond for construction, it is unclear to us how this pond can be expected to function adequately to treat post-construction runoff from the project site. A typical design would require the pond to treat the runoff resulting from about 1 inch of rain; however, it appears that the pond's post-construction water quality volume falls well below the necessary volume. Similarly, even for small storms, runoff ponds in the basin to depths of at least several feet, rendering flow-through treatment of the kind described in the project's CEQA documents ineffective. Is it possible that the city has not yet completed an engineering review of the basin's water quality design features to ensure it would meet some basic minimum standards? This is particularly of concern, since the City appears to have determined that no other stormwater treatment BMPs will be constructed in the project (aside from the basin). When we met with you last, you indicated that the City had performed an analysis of the project to come to the CEQA-document-required conclusion that no other BMPs were feasible. However, you did not have that analysis handy at the time. Would it be possible for you to forward that analysis to us?