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VIA FAX - 35 pages

October 31, 1993

Clark Drane, Chair
LA Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Dear Chairman Drane:

Please find attached a set of comments that Dr. Anne Jones-Lee and I have prepared on the significant deficiencies in the LA Regional Water Quality Control Board staff's revised tentative WDR's (October 12, 1993) for the proposed Puente Hills Landfill expansion. The LA County Superior Court has found the EIR for the Puente Hills waste management facilities project inadequate in two areas, one of which was the discussion and evaluation of the impacts on groundwater.

As you and other Board members may recall, Dr. Jones-Lee and I have been highly involved for many years in work toward developing true long-term groundwater quality protection from the landfilling of municipal solid waste as well as industrial non-hazardous and hazardous waste. Since 1989 we have been highly involved in the San Gabriel Valley landfills and groundwater quality protection issues through our conduct of detailed reviews of the proposed expansion of the Azusa Landfill, support of the LA Regional Water Quality Control Board's proposal to ban the siting of landfills in sand and gravel pits in the LA Basin and, during the past year, in review of the water quality and other environmental impacts associated with the proposed expansion of the Puente Hills Landfill. We have also been involved in detailed studies of the ability of various landfill liner and monitoring systems to protect the groundwater resources of the region in which the landfill is sited, and in the review of a number of specific landfills located in other areas of California, in other states and in other countries. Our work in California during the past 10 years has included detailed review and comment on the adequacy of state of California regulations governing the landfilling of wastes for providing protection of groundwater quality from leachate-pollution. We were involved in support of the development, and most importantly the implementation, of the state of California Water Resources Control Board's development of the new landfilling Policy that was adopted on June 17, 1993.

Our expertise on issues of landfills and groundwater quality protection is recognized by professionals and professional societies, such as the American Society of Civil Engineers, the American Water Resources Association, the American Chemical Society, and the National Ground Water Association. Those organizations have sponsored our presentation of lectures and/or short-courses on landfills and groundwater quality protection issues. A listing of those activities is included in the enclosed materials.

Our review of the October 12, 1993 tentative WDR's developed by the LA Regional Water Quality Control Board staff shows that these WDR's do not properly reflect the well-established technical information that is available today pertinent to the ability of the Districts' proposed expansion of the Puente Hills Landfill to conform to the performance standards of the state of California Chapter 15 landfilling Policy to provide protection of groundwater resources from use-impairment for as long as the wastes in the landfill represent a threat to groundwater quality. There is no reasonable doubt that if this landfill expansion is constructed as proposed in the WDR's, it will cause pollution of groundwaters in the vicinity of the landfill, including the San Gabriel Valley, that will impair the uses of those waters for domestic and many other water supply purposes.

It is also our finding that these WDR's do not appropriately reflect the state's landfilling Policy performance requirements. Those requirements are not, as stated in the WDR's, to meet the minimum prescriptive design standards for liners as set forth in US EPA's Subtitle D regulations. The Water Resources Control Board made it very clear on June 17, 1993 when it adopted the new state landfilling Policy, that all prescriptive design standards for landfill containment and monitoring systems must achieve the overriding performance standard set forth in Chapter 15 of protection of the groundwater resources in the vicinity of the landfill from use-impairment for as long as the wastes present in the landfill represent a threat. The approach that has been used in the past by the LA Regional Water Quality Control Board staff, of assuming that the minimum prescriptive design standards set forth in Subchapter 15, now Chapter 15, are equivalent to meeting the Chapter 15 performance standard of protection of groundwaters from use-impairment by landfill-derived constituents for as long as the wastes represent a threat, is not valid. The WDR's specifically indicate that the groundwaters under the Puente Hills Landfill and the proposed expansion area are hydraulically connected to the groundwater system of the San Gabriel Valley. As has been acknowledged by the LA Regional Water Quality Control Board in its adoption of a ban on the siting of landfills in sand and gravel pits a year and a half ago, there is no question about the fact that all landfill liner systems, including some far superior to that proposed by the Sanitation Districts and set forth in the tentative WDR's for the Puente Hills landfill expansion, will fail to prevent migration of leachate from the landfill to the groundwater resources in the vicinity of the landfill.

We also find that the WDR's significantly overstate the capabilities of cement-bentonite groundwater barriers (slurry walls) that have been and are continuing to be used in an effort to keep leachate-contaminated groundwater from migrating offsite to the San Gabriel Valley groundwater system. Slurry walls of this type are well-known to be ineffective in preventing leachate-contaminated groundwaters from migrating around and through them.

We also find that the groundwater monitoring system set forth by the Districts and in the WDR's, involving vertical monitoring wells, will have a low probability of detecting groundwater pollution by landfill leachate before widespread groundwater pollution has occurred. The fact is that the Puente Hills Landfill site is geologically unsuitable for a landfill. The fractured rock geology of this site and its close proximity to high-value groundwaters and to residences, makes the existing landfill, as well as any proposed landfill expansion, a highly significant threat to public health and the environment.

We also find that certain of the requirements to be placed on the landfill expansion operation through the WDR's can obviously not be met. A detailed discussion of these issues is presented in the attached comments.

In order to protect the groundwater resources in the San Gabriel Valley from pollution by landfill leachate that will be generated in the proposed expansion of the Puente Hills Landfill, we strongly recommend that the LA Regional Water Quality Control Board vote against expansion of that landfill as proposed in the WDR's.

These comments are unsponsored. They are offered out of our interest in improving groundwater quality protection from municipal landfills, one of the principal sources of contaminants that are impairing the use of groundwaters of the State. While we will not be able to attend the November 1 meeting of the Board, we will be happy to answer any questions that Board members or others may have about our comments, and to provide additional detail on any aspect of them.

Sincerely yours,

G. Fred Lee, PhD, DEE

copy to: R. Nelson
J. Caffrey
W. Pettit

GFL:ml
Enclosure

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November 2, 1993

Clark Drane, Chair
CA Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Dear Chairman Drane:

Please find enclosed a set of comments that Dr. Jones-Lee and I developed on the LA Regional Water Quality Control Board's October 12, 1993 tentative WDR's for the LA County Sanitation Districts' proposed expansion of the Puente Hills Landfill. While, as you may know, during the period of November 1992 through June 1993 we were highly involved in review of the proposed expansion of the Puente Hills Landfill, since mid-July 1993 we have had no further involvement on this matter; we did not know that the Regional Water Quality Control Board had released tentative WDR's in September 1993. It was not until October 28 that we learned of the tentative WDR's and the Regional Board's November 1 meeting to consider them. We were able to obtain from the Regional Board staff a copy of the tentative WDR's on Friday, October 29. We spent the weekend developing the enclosed comments, which we attempted to FAX to you at the offices of the Regional Board on Sunday evening, October 31. The Regional Board FAX machine ran out of paper after accepting only part of the comments. We were able to FAX the complete set of comments to the Glendale City Hall, where the Regional Board meeting was scheduled to be held, on the morning of November 1; they were given to the Board that morning at the City Hall. A representative of the Regional Board staff indicated to me that the Board acknowledged receipt of the comments but had not had time to consider them, and proceeded to adopt the tentative WDR's as the WDR's for the Sanitation Districts' proposed Puente Hills Landfill expansion.

As discussed in the enclosed comments, we have numerous, highly significant problems with those WDR's. We found the approach set forth in them for the design of the proposed landfill liner containment system not to be in accord with the Water Resources Control Board's new landfilling Policy adopted on June 17, 1993. There is no doubt that the landfill containment system set forth in the WDR's will, at best, only postpone groundwater pollution by landfill leachate under the Puente Hills Landfill. Since, as acknowledged in the WDR's, the groundwaters under the landfill are hydraulically connected to the groundwater resources of the San Gabriel Valley, and since the Districts' and Board's groundwater barrier system (slurry walls) at the mouths of the canyons will not be an effective barrier for preventing leachate-contaminated groundwater from moving offsite to the San Gabriel Valley groundwater system, there is no question that the groundwater of the San Gabriel

Valley will ultimately be polluted by leachate from the existing Puente Hills Landfill and its expansion.

If you or any of your colleagues have any questions or comments on our comments on this matter, please contact me.

Sincerely yours,

G. Fred Lee, PhD, DEE

cc: LA RWQCB members
R. Nelson
R. Ghirelli
SWRCB members
W. Pettit

GFL:oh
Enclosure