

Comments on
Calabasas Landfill Special Use Permit Environmental Assessment

Prepared by

the US Department of Interior, National Park Service,
Santa Monica Mountains National Recreation Area

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Submitted by

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The US Department of Interior National Park Service Santa Monica Mountains National Recreation Area has prepared an Environmental Assessment (EA) for the Calabasas Landfill Special Use Permit dated February 1997. The EA states on page ES-1,

"The environmental assessment (EA) has been prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) of 1969, as amended. NEPA requires the evaluation of potential impacts resulting from federal actions or actions involving lands under federal jurisdiction. An EA discloses the potential environmental consequences of implementing the proposed action and alternatives to the proposed action."

* * *

"The EA evaluates potential impacts of continued operation of the Calabasas Landfill from July 1995 (the date of submittal of the SUP application) until its projected closure in 2018."

I find that the EA falls far short of achieving the stated purpose. It is basically a pro-landfill continued operation document that fails to adequately and reliably discuss the active life and long-term problems that this landfill represents to public health, the environment and the interests of NPS and its visitors as well as those within the sphere of influence of the landfill. Specific comments are presented below.

Page ES-7, Table ES-1, states with respect to water resources that Alternative 1, No Action, i.e. continued operation of the landfill, and Alternative 2, Issuance of a Special Use Permit With Permit Conditions would have a negligible impact on surface water and off-site sediments, and a minor adverse impact on groundwater. As discussed herein, that statement is not in accord with what would be expected based on the characteristics of the landfill containment systems and the leachate generated within it.

Page ES-10, Item 2, states, "*The proposed operator meets all applicable Federal, State and local laws and regulations, including permit requirements.*" From the information provided on page ES-10, Table ES-2, it appears that there is already groundwater pollution from the existing operations that have not been adequately controlled thus far, and continued operations will only add to these problems.

At several locations in the EA, there are discussions about how the landfill meets various requirements of the Los Angeles Regional Water Quality Control Board. What should have been discussed in connection with these statements is the LA Regional Water Quality Control Board staff and Board have a long history of not being protective of groundwater resources, public health and the environment associated with their management of landfills. A prime example of this is the Azusa Landfill in the San Gabriel Basin. A similar situation occurs with the Puente Hills Landfill where the LA County Sanitation Districts staff claimed, as did the Regional Board staff, that the landfill was not polluting groundwaters with leachate. However, others, including the author, reviewed the data and concluded that it was polluting. Also, the State Water Resources Control Board staff concluded that the Puente Hills Landfill was polluting groundwaters with landfill leachate.

As another example of the unreliability of the Regional Water Quality Control Board's efforts in managing landfills, the Board and its staff denied for years that the Azusa Landfill is polluting groundwaters. However, it was obvious when the author first examined the data in the quarterly monitoring reports submitted by BFI to the LA Regional Board, that groundwater pollution was occurring each quarter year after year. The Regional Water Quality Control Board staff and Board refused to act on this information, even though it was brought to their attention on several occasions. Finally, the US EPA in examining the same data declared that BFI was a Responsible Party in the San Gabriel Basin Superfund site because of the pollution of the Basin groundwaters by the Azusa Landfill.

Basically, the LA County Sanitation Districts staff and the Regional Water Quality Control Board cannot be relied on to provide accurate information on environmental impacts of landfills.

Page ES-11, item (i), states for hazardous waste, "*The Calabasas Landfill accepts only nonhazardous solid waste.*" Such a statement is not in accord with what is known. What should have been said is that an attempt is being made to keep regulated hazardous waste from being deposited in the landfill. There are unregulated hazardous wastes which are routinely deposited in a landfill. Further, there are large amounts of hazardous substances

which make hazardous wastes hazardous which are exempted from being classified as hazardous wastes that are deposited in municipal solid waste landfills.

Page ES-14, mid-page, discusses the groundwater monitoring system where it states, "The Calabasas Landfill would be equipped with all the necessary groundwater and landfill gas monitoring and control systems prior to closure." There is no discussion, however, of the reliability of these systems. If there had been, the EA would have discussed that the systems are well-known to be unreliable.

Page ES-17, Paragraph § 258.40 Design Criteria states,

"At the Calabasas Landfill, a composite liner with a liquids collection system is constructed prior to refuse placement. The design is prepared in accordance with all federal technical design criteria and must be approved by the Regional Water Quality Control Board prior to construction."

The Regional Water Quality Control Board in the LA Region is well-known to have been approving landfill liner designs which are not protective of groundwater quality in accord with Chapter 15 requirements of no-impaired use for as long as the wastes in the landfill represent a threat. Basically, this Board's staff, and the Board, have been misinterpreting Chapter 15 requirements where they have assumed that minimum prescriptive design requirements for liners, etc., will comply with the overall groundwater protection performance standard of preventing groundwater pollution by landfill leachate for as long as the wastes in the landfill will be a threat. The proposed design for the expansion of the Calabasas Landfill will not comply with the groundwater protection requirements of Chapter 15.

Page 1 discusses the National Park Service requirements with regard to siting new landfills. It states in the second paragraph,

"The purposes of the legislation are to (a) avoid the siting of new landfills within park boundaries, and (b) to mitigate the adverse effects of existing landfills in order to protect the air, land, water and natural and cultural values of the National Park System."

Page 1, third paragraph states, *"The Calabasas Landfill is currently operated as a nonhazardous municipal solid waste landfill in compliance with federal, state, and local standards."* There is question as to the reliability of that statement based on the fact that there appears to be groundwater pollution at the landfill. Groundwater pollution is in violation of the Chapter 15 regulations.

On page 6, under the description of the Calabasas Landfill, it states, *"At the time of the plan's publication in 1982, the landfill had just recently stopped accepting hazardous and liquid waste; currently, the landfill only accepts nonhazardous municipal solid waste."* This is an inaccurate, unreliable statement in that non-regulated hazardous wastes and a wide variety of hazardous chemicals which make hazardous waste hazardous but are not regulated as hazardous waste can and will be deposited in the Calabasas Landfill.

Page 20, last line, states that the landfill gas consists of carbon dioxide and methane (approximately 30 and 32 percent by volume). That is a low percentage of carbon dioxide and methane in landfill gas compared to what is normally present. Either there is something peculiar occurring at the Calabasas Landfill, or there is an error in the description of its landfill gas.

Page 21, third paragraph, mentions that the collected landfill gas is combusted in flares. There is no mention, however, of the fact that the combustion of landfill gas has been found to produce dioxins which are some of the most hazardous chemicals known to man.

Page 21, last paragraph, mentions a neighborhood monitoring program. Does this monitoring program include measurements of dioxins? If not, it should.

From the information provided, it appears there is inadequate bufferland between the landfilling areas and adjacent properties. This is another of the LA County Sanitation Districts' landfills which have been improperly sited from adverse active life impacts on off-site property users. In a situation such as this, there should be at least one mile of land owned by the Districts or Park Service which is not used for residential or other purposes where such use could be adversely impacted by the active life and post-closure releases from the landfill, including odors, litter, bird droppings, landfill gas, groundwater pollution, etc.

The LA County Sanitation Districts has a long history of inadequate management of landfills so that off-site adverse impacts to adjacent property owners/users occur. Further, landfilling at the Calabasas site should not be allowed unless there is adequate buffer to dissipate any of the inadequately controlled releases of odors, gases, litter, etc. The users of Park lands and private property owners/users near the landfill are entitled to use without adverse impacts. The LA County Sanitation Districts should not be allowed to continue to operate landfills without adequate bufferlands to dissipate the adverse impacts of the landfill.

Exhibit 3-6 shows the locations of the gas migration probes and neighborhood monitoring. This figure shows that there is an expected migration of landfill gas from the landfill across the property line into the residential area located at the lower part of mid-figure. While it looks like there are large numbers of probes, based on this exhibit, in fact, they are a considerable distances apart. There could readily be gas migration between the probes that would not be detected. This issue should have been discussed in a credible environmental assessment.

Page 22 begins a section devoted to "Groundwater Quality Protection" which focuses on the subsurface barrier systems and the four liner systems at the site. It is stated in the second paragraph, in this section, "*Subsurface barriers have been installed to prevent migration of groundwater off site.*" The subsurface barriers are described as though they can be expected to work perfectly to prevent off-site migration of groundwater from the site. It is well known, however, that subsurface barriers of this type are not effective in

preventing off-site groundwater migration, especially in a hydrogeologic setting of the type that exists in the Calabasas Landfill area. A properly developed Environmental Assessment would have discussed these issues. As it stands now, unreliable information has been provided on the ability of the subsurface barriers to prevent leachate-polluted groundwaters from migrating off-site and polluting off-site groundwaters.

Exhibit 3-7 shows a representation of the subsurface barrier system. What is left out of this discussion is the fact that there could readily be transport past the barrier through the bedrock system that would not be prevented by it.

Page 22, third paragraph under Groundwater Quality Protection, discusses the landfill liner systems where it states, "*Liner systems 1 and 2 consist of low permeability (less than 10^{-6} cm/sec) clay liners, liquids collection and removal system (LCRS) on top of the clay liners, and subdrain systems installed five feet below the clay liner.*" Again, inadequate information has been presented on the ability of these liner systems to protect groundwaters from pollution by landfill leachate for as long as the wastes in this landfill will be a threat. The wastes in this landfill will be a threat, effectively forever. At best, the clay liners that were installed would prevent leachate migrating out of the landfill into the underlying groundwater system for no more than a few months. This installation of these clay liners is a prime example of the inability of local regulatory agencies to use good science and engineering in implementing regulations.

In 1984 the State Water Resources Control Board adopted Chapter 15 regulations governing the landfilling of municipal solid wastes which contained a provision which called for a minimum liner consisting of one foot of compacted clay with a permeability of less than 10^{-6} cm/sec. Chapter 15 also specified that the liner systems used shall prevent groundwaters from being impaired by landfill waste-derived constituents for as long as the wastes in the landfill represent a threat. The LA Regional Water Quality Control Board chose to ignore this groundwater protection performance standard in developing the liner systems for the Calabasas Landfill and assumed that a minimum liner system of the type discussed in this Environmental Assessment for liners 1 and 2 would be protective of groundwaters from pollution by landfill leachate for as long as the wastes in the landfill will be a threat, i.e. would achieve the overall groundwater protection performance standard set forth in Chapter 15. If the LA Regional Water Quality Control Board staff and Board had performed a simple Darcy's law calculation, they would have found that this clay liner system would be expected to delay groundwater pollution from the Calabasas Landfill by only a few months.

The State Water Resources Control Board Solid Waste Assessment Test (SWAT) report of 1995 found that landfills constructed with one foot of 10^{-6} cm/sec clay are polluting groundwaters just the same as landfills constructed without this clay liner. This is exactly what would be expected based on a simple Darcy's law calculation. The net result is that the statement about how liner systems 1 and 2 are part of the groundwater protection system at the Calabasas Landfill is a deliberate distortion of what is well known about the ability of such a liner to protect groundwaters. This is another significant example of the unreliable information provided in this Environmental Assessment that should cause it to

be rejected as an inappropriate, inadequate discussion of the environmental impacts of this landfill.

This same paragraph also discusses liners 3 and 4 where it describes them as composite liners consisting of an 80 mil thick high density polyethylene geomembrane underlain by a low permeability clay that is one foot thick with a permeability of less than 10^{-6} cm/sec for liner 3 and for liner 4 a two-foot thick clay layer with the permeability of 10^{-7} cm/sec.

Exhibit 3-11 shows the liner system 4. This liner system, like the clay liner discussed above, will, at best, only postpone for a period of time when groundwater pollution occurs. It will not prevent it. As discussed in the enclosed materials, the US EPA recognized this situation in developing this type of proposed liner system where the US EPA Solid Waste Disposal Criteria (August 30, 1988) stated,

"First, even the best liner and leachate collection system will ultimately fail due to natural deterioration, and recent improvements in MSWLF (municipal solid waste landfill) containment technologies suggest that releases may be delayed by many decades at some landfills."

The US EPA Criteria for Municipal Solid Waste Landfills (July 1988) state,

"Once the unit is closed, the bottom layer of the landfill will deteriorate over time and, consequently, will not prevent leachate transport out of the unit."

US EPA, "Solid Waste Disposal Facility Criteria; Proposed Rule," Federal Register 53(168):33314-33422, 40 CFR Parts 257 and 258, US EPA, Washington, D.C., August 30, (1988).

US EPA, "Criteria for Municipal Solid Waste Landfills," US EPA Washington D.C., July (1988).

A properly developed EA would have discussed the inevitable failure of a single composite liner of the type used in liner system 4, as well as for the proposed expansion of the landfill. This is well known in the landfill field. The failure to discuss these issues makes the EA a non-credible document.

Exhibit 3-11 shows that there is a geosynthetic clay liner beneath the HDPE liner on the side slopes. The geosynthetic clay liner is not a suitable liner for that type of situation in that it is subject to rapid penetration by diffusion and has a low inherent structural stability to mechanical failure. This Environmental Assessment is another of the documents that has been prepared by the LA County Sanitation Districts which fails to properly discuss the long-term problems associated with landfill liner systems of this type.

Page 23 mentions that leachate had been spread on the soils in the region for dust control. This means that the surface water runoff from this area will contain a variety of

hazardous and deleterious chemicals that could be adverse to the receiving waters for this runoff.

At the bottom of page 23, mention is made of the use of reclaimed domestic wastewaters for site landscaping, dust control and fire control. A review of the adequacy of treatment of these wastewaters should be conducted to be certain that they are adequately treated and do not contain potentially significant concentrations of pathogenic organisms and hazardous chemicals.

Page 24 lists "Nuisance Control" such as litter, noise, odor and vectors. It is highly inappropriate to label noise, odor, litter and vectors as "nuisance" control. Landfill odors are known to be health threat to many individuals. Vectors are disease-bearing organisms. Noise can be damaging to health and welfare, and litter can promote rodent populations which can spread diseases such as the hantavirus. The potential problems associated with these so-called nuisance parameters as they affect public health and the environment are discussed in the enclosed papers and reports.

The approaches listed for the so-called nuisance control are typical of those used at other landfills. While at this point the reviewer does not know whether there have been problems in any of these areas, it would not be surprising if there are problems from off-site litter, noise, odors and vectors.

Page 24, bottom of the page, and the top of page 25, mentions that the landfill is operated under the California Integrated Waste Management Board LEA permits. No discussion, however, is presented as to whether there are any violations of these permits. A properly developed Environmental Assessment would have discussed these issues.

Beginning on page 26 is a discussion of landfill closure and post-closure. On page 29 is mention of a certain amount of post-closure funding being developed. This amount of funding, which is designed to address issues during the first 30 years after closure will be an infinitesimally small part of the total cost that will ultimately have to be paid as part of properly closing this landfill. One of the major cost items is the operation and maintenance of the final cover. The final cover for this landfill should not be the minimum Subtitle D landfill cover, but should be a leak detectable cover that is operated and maintained in perpetuity. The minimum Subtitle D landfill cover only postpones for a short period of time the infiltration of moisture through the cover into the wastes, generating leachate. A leak detectable cover can be installed, operated and maintained to keep the wastes dry and thereby prevent leachate generation. Without adopting this approach, the new waste cells, like the old cells from the Calabasas Landfill will pollute groundwaters of the region.

Beginning on page 32 is an analysis of alternatives. One of the alternatives that should have been discussed is the proper development of a landfill at this site, recognizing that this site is not a suitable site for this type of landfill. The continued deposition of wastes at this landfill will require a much more expensive landfilling operation than is proposed.

Page 61 states, third paragraph, *"The Calabasas Landfill has experienced several significant earthquakes...with no evidence of amplification of ground response or vertical accelerations."* The fact that there is no evidence for adverse effects of seismic activity on landfills can reflect the fact that adverse impacts on the liner system, etc. would not be evident at this time.

Page 67 indicates that there is groundwater associated with the Calabasas Landfill site. A comprehensive discussion of the groundwater pollution that has occurred thus far, as well as the future pollution that will occur by the expanded landfill, should be presented. Without it, the EA is a non-credible document.

On page 68, under "Groundwater Quality," mention is made that several of the groundwater monitoring wells at the Calabasas Landfill site have detected pollution from the landfill. On page 69, last paragraph, the statement is made, *"However groundwater immediately downgradient of Barriers 1,2, and 5 has shown effects from the landfill."* These issues should have been more fully discussed so that the readers of the EA can understand the situation for the existing groundwater pollution.

Page 76, last sentence and top of page 77, first sentence states that no liquid has been detected in the liner systems for liners 1 and 2. This is not surprising, since the liquid can readily pass through the liner system. This is documented by the fact that when a plastic sheeting layer is added to the liner, leachate is detected at the Calabasas Landfill.

It is important to be aware that neither the LA County Sanitation Districts nor the LA Regional Water Quality Control Board staff and Board can be relied on to provide accurate information on groundwater pollution by landfills in the LA region. As discussed above, it is now well documented that the Districts have provided unreliable information regarding the Puente Hills Landfill pollution of groundwaters. Further, the LA Regional Board has provided unreliable information on the Azusa Landfill's pollution of groundwaters. These situations are not that of not knowing what is occurring, but represent deliberate distortions of obvious information in an attempt to mislead the public and regulatory agencies on the groundwater pollution that is occurring.

One of the problems with this EA is the failure to discuss the situation with respect to off-site groundwaters that will be polluted by leachate-polluted groundwaters arising on-site. The overall discussion of the groundwater regime in the region is significantly deficient compared to that needed to understand the situation.

Page 119, under "Groundwater Quality," states, *"...low levels of volatile organic compounds have been detected in downgradient monitoring wells at three subsurface barriers."* This is of concern since it means that the subsurface barriers are not, as expected, effective in preventing downgradient pollution.

The statement is made on page 120, first paragraph, *"All new disposal areas would be fully lined and complete with a liquids collection and removal system (LCRS) before refuse placement."* This statement is designed to mislead the readers into believing that

this system will be effective in preventing groundwater pollution of the type that has already occurred. This system will not prevent it; all it does is delay it.

Overall Assessment

From an overall perspective, from the sections of the Environmental Assessment that are reviewable based on the information available, it can be concluded that the Environmental Assessment for the proposed continued operation of the Calabasas Landfill presents a highly superficial discussion of environmental impact issues pertinent to assessing the potential for the existing as well as proposed continued operation of this landfill to pollute groundwaters of the area. While based on the discussions provided, the groundwater resources of the area appear to be limited, they are still of value and must be protected in accord with State of California regulations.

The LA County Sanitation Districts have a poor record of protecting groundwaters from pollution by its landfill operations. The Districts basically operate with the premise of doing the least possible to just get by, often providing unreliable information on the operations and the impacts of their landfills in an effort to mislead the public, regulatory agencies and others into believing that the operations comply with regulations when, in fact, a critical review of the information available shows they do not.