

# Review of the Potential Adverse Impacts of the Proposed Expansion of the Allied Imperial Landfill

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The proposed expansion of the Allied Imperial Landfill will lead to significant adverse impacts to adjacent and nearby property owners' public health, groundwater resources and interests due to insufficient buffer lands on Allied property to dissipate waste-derived constituents.

**Imperial County Board of Supervisors should not approve the expansion of the Allied Imperial Landfill.**

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# Qualifications

- BA degree from San Jose State College in Environmental Health, 1955
- Master of Science in Public Health from University of North Carolina, 1957
- PhD from Harvard University in Environmental Engineering, 1960
- 30 years of university graduate-level teaching and research, including work on the evaluation of landfill liners and landfill impacts
- 21 years of full-time private consulting, working with governmental agencies and public and private groups in evaluating the impacts of municipal and industrial landfills
- Evaluated the impact of about 85 landfills
- Published over 1100 papers and reports on research and consulting activities, available at [www.gfredlee.com](http://www.gfredlee.com)
- AAEE Board Certified Environmental Engineer & Fellow, ASCE

# Adverse Impact of Proposed Landfill on Offsite Air Quality

- Landfill gaseous releases (odors and hazardous chemicals)
  - Municipal solid waste landfills emit landfill gas that contains a wide variety of hazardous and odorous chemicals
  - Siting of landfills with inadequate buffer lands of at least a mile or more landfill owner-owned property to dissipate these releases will result in the trespass of odorous and hazardous chemicals onto adjacent and nearby properties
  - This trespass will be significantly detrimental to the public health and interests of owners/users of adjacent and nearby properties with respect to their being able to use the property without the impact of the landfill releases
  - The adverse impacts of the existing landfill will primarily be associated with the active life operation of the landfill. Once closed, gaseous emissions can be greatly reduced through proper monitoring and maintenance

# Groundwater Pollution Issues

- Groundwater pollution by landfill leachate associated with the eventual failure of the landfill liner system of the proposed expansion will occur
  - Moderately permeable sandy silt layers (lenses) underlying the existing landfill that can allow transport of leachate polluted groundwater to adjacent properties
  - Inadequate characterization of the hydrogeology of the area under the existing landfill and proposed expansion
  - Inadequate monitoring of groundwater quality as impacted by leachate pollution under the unlined (now closed) landfill
    - Insufficient number and placement of wells to detect this pollution

# Inadequate Assured Postclosure Funding

- Inadequate provisions for postclosure funding for monitoring and maintenance of the closed landfill for as long as the wastes in the landfill expansion will be a threat
  - Wastes deposited in this type of dry tomb landfill will be a threat to generate leachate and landfill gas for a very long period of time, decades to hundreds or a thousand or more years
  - No assurance that Allied will still be in business throughout the 30-year minimum postclosure funding period required, much less be able and willing to fund the needed postclosure monitoring and maintenance for as long as the wastes in the landfill will be a threat
- Postclosure funding of landfill monitoring and maintenance could readily become the responsibility of Imperial County

# Deficiencies of the Proposed Landfill Expansion

- The deficiencies in the proposed landfill expansion discussed in my report are primarily based on review of documents pertinent to this proposed expansion developed by Allied Imperial in its Initial Study, DEIR and FEIR reports, and the Imperial County Planning and Services Department, including a draft Conditional Use Permit
- My report references our “Flawed Technology” review:  
Lee, G. F., and Jones-Lee, A., “Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste,” Report of G. Fred Lee & Associates, El Macero, CA, December (2004). Updated June (2010).  
<http://www.gfredlee.com/Landfills/SubtitleDFlawedTechnPap.pdf>  
for additional information on the topics discussed

# “Flawed Technology” Review

- This review represents about 100 pages of discussion of the potential problems with Municipal Solid Waste (MSW) landfills of the type that Allied proposes to develop in its landfill expansion
- It is based on over 40 years of experience in investigating the impacts of about 85 MSW landfills located in various parts of the US and other countries
- Detailed information is provided on our work and the work of others on landfill impacts
- Information is also provided on how MSW landfilling can and should be practiced for non-recyclable waste components to control the adverse impacts of MSW landfills on public health and the environment

## “Flawed Technology” Review (cont’d)

- The key to the landfilling of MSW without adverse impacts to adjacent and nearby properties is for the landfill owner to acquire sufficient buffer lands of at least a mile between where wastes will be deposited and adjacent property lines
- In most topographic settings a mile of landfill owner-owned buffer lands between waste deposition and adjacent properties is adequate to dissipate gaseous releases during the active life of the landfill without trespass on adjacent properties
- Adequate postclosure funding must be provided by the landfill owner to monitor and maintain the closed landfill for as long as the wastes in the landfill will be a threat to generate landfill gas and leachate when contacted with water

# Controlling Groundwater Pollution

- By proper siting, design, operation and closure of a MSW landfill, and with adequate postclosure funding for monitoring and maintenance – especially for the landfill cover – for as long as the wastes in the landfill are a threat to generate leachate when contacted with water, it is possible to control offsite groundwater pollution by the landfill
- Allied's proposed landfill expansion is based on the least cost, minimum Subtitle D landfill requirements. This approach is well known not to be protective of groundwater resources from pollution by landfill leachate

# Inadequate Proposed Landfill Cover

- The proposed cover for the landfill expansion as specified in the draft CUP will not keep the wastes in the landfill expansion from generating leachate and landfill gas over the hundreds to a thousand or more years that these wastes will be a threat
- In time, dependent on how well the landfill cover is maintained, water will enter the wastes through the cover and generate landfill gas and leachate that can pollute air and water resources of the area
- This can occur during the postclosure period or after postclosure funding is exhausted

# Overall Conclusions

- The Allied Imperial proposed landfill expansion will be a significant threat to public health, air quality, groundwater quality and the interests of those who own or use properties within the sphere of influence of this landfill
- This sphere of influence can extend a mile or more from the proposed landfill expansion
- Allied's proposed expansion does not include adequate buffer lands to dissipate the waste derived pollutants that will be released by the landfill on Allied Imperial property
- Overall, this landfill expansion should not be approved for development

**Further Information**  
Consult Website of  
**Drs. G. Fred Lee and Anne Jones-Lee**



**<http://www.gfredlee.com>**