

**SANTA ROSA HEALTHY NEIGHBORHOODS ALLIANCE  
SAVE OUR SOUNDNESS • UNITED PENINSULA ASSOCIATION  
WHISPERING PINES CONCERNED CITIZENS**

December 10, 2019

Honorable W.D. "Don" Salter, Chair  
Santa Rosa Board of County Commissioners  
6495 Caroline Street, Suite M  
Milton, Florida 32583

**RE: Santa Rosa 500-Foot Public Health, Fire & Explosion Danger  
Safety Zone Law for New Gas Stations**

Dear Commissioner Salter:

We, the undersigned, on behalf of the organizations we represent, urge you to enforce the Santa Rosa County law requiring a minimum 500-foot safety zone between new gas station storage tanks and residentially-zoned property. This law is essential to protecting Santa Rosa County residents from the health, fire, and explosion danger posed by gas station storage tanks. Furthermore, we specifically ask that you uphold the decision by the Santa Rosa Zoning Board to deny the variance to this law requested by Pullium Cecilio, LLC & Highway 87 Navarre, LLC.

The safety zone law for new gas stations appears in the Santa Rosa Land Development Code (LDC) at 7.01.14.D.3.c. This law reads:

*"In no case shall hazardous or potentially hazardous materials be stored or located in residential zones or within five hundred (500) feet of any residential zone, except for those materials used as fuel by emergency generators for communications towers as provided for in Section 7.01.15 or for public and private utilities. In which case, no hazardous or potentially hazardous materials may be stored within two hundred (200) feet of any residential structure."*

Following is a summary of the scientific research supporting at least a 500-foot safety zone between new gas stations and residential areas.

**Health Risk**

A number of compounds injurious to human health are released during vehicle fueling and from underground storage tank vents. Health effects range from nausea to cancer. Measures to reliably resolve these adverse health effects are not employed at new gas stations.

Benzene is the gasoline constituent most harmful to human health. Adverse health effects of benzene include cancer, anemia, increased susceptibility to infections, and low birth weight. A 2018

study<sup>1</sup> of U.S. gas stations found that benzene emissions from underground gasoline storage tank vents were sufficiently high to constitute a health concern at a distance of 50- and 160-meters (162- and 518-feet).

According to the *World Health Organization Guidelines for Indoor Air Quality*<sup>2</sup> **there is no safe level for benzene**. The following studies document the extent of benzene release from gas stations:

- A study<sup>3</sup> published by the Canadian petroleum industry found average benzene concentrations of 146 and 461 parts per billion at the gas station property boundary in summer and winter, respectively.
- A study<sup>4</sup> of outdoor and indoor benzene concentrations at numerous residences within 196 to 328 feet of gas stations, found median outdoor benzene concentrations of 3.1 and 1.9 ppb, respectively. Median indoor concentrations at these locations were higher, reaching 4.1 and 5.2 ppb, respectively.
- Another study<sup>5</sup> found median ambient benzene levels of 1.9 ppb in houses both less than 165 feet and greater than 328 feet from a service station.
- Yet, another study<sup>6</sup> documented that benzene and other gasoline vapor releases from service stations can be discerned as far as 246 feet from service.

The California Air Resources Board *Air Quality and Land Use Handbook: A Community Health Perspective*<sup>7</sup>, recommends a minimum 300-foot separation distance between gas stations and “sensitive land uses such as residences, schools, daycare centers, playgrounds, or medical facilities.” The State of California is widely recognized as having some of the most effective air pollution control requirements in the nation. Yet even with these controls a minimum separation is still required to protect public health.

Furthermore, the U.S. Environmental Protection Agency echoed concerns about the health risk associated with gas station emissions in their *School Siting Guidelines*<sup>8</sup>. The USEPA recommended screening school sites for potential health risk when located within 1,000 feet of a high-volume gas station.

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<sup>1</sup> *Vent pipe emissions from storage tanks at gas stations: Implications for setback distances*, available online at: <https://www.sciencedirect.com/science/article/pii/S0048969718337549>

<sup>2</sup> The WHO guidelines are available online at: <https://www.ncbi.nlm.nih.gov/books/NBK138708/>

<sup>3</sup> *Exposure of the general population to gasoline*, available online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1520004/>

<sup>4</sup> *Housewives' exposure to volatile organic compounds relative to proximity to roadside service stations*, available online at: <https://www.sciencedirect.com/science/article/abs/pii/S1352231099000977>

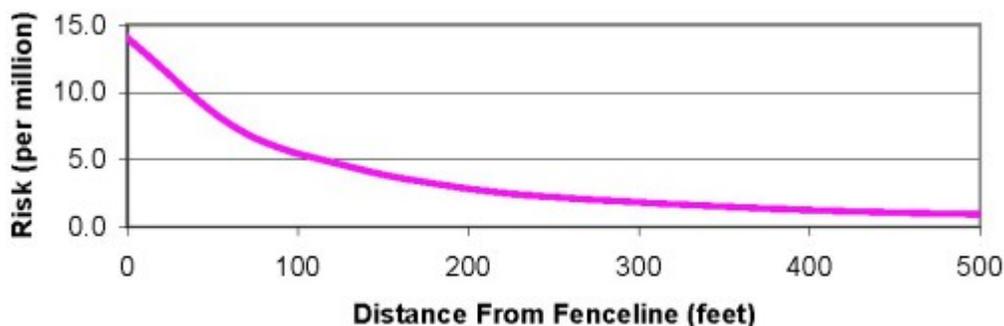
<sup>5</sup> *Exposure to Methyl Tertiary Butyl Ether and Benzene in Close Proximity to Service Stations*, available online at: <https://www.tandfonline.com/doi/abs/10.1080/10473289.2001.10464339>

<sup>6</sup> *Assessing the impact of petrol stations on their immediate surroundings*, available online at: <https://www.sciencedirect.com/science/article/pii/S0301479710002574>

<sup>7</sup> The CARB handbook is available online at: <https://www.arb.ca.gov/ch/handbook.pdf>

<sup>8</sup> The USEPA School Siting Guidelines are available online at: [https://www.epa.gov/sites/production/files/2015-06/documents/school\\_siting\\_guidelines-2.pdf](https://www.epa.gov/sites/production/files/2015-06/documents/school_siting_guidelines-2.pdf)

**Figure 1-6  
Gasoline Dispensing Facility Health Risk  
for 3,600,000 gal/yr throughput**



The graph above is from the California Air Resources Board Handbook<sup>9</sup>. The graph shows how health risk varies with distance from the perimeter of a gas station. Note that the risk continues for some distance beyond 500 feet. The risk also varies with the volume of fuel dispensed at a location. Many of the large combination convenience store-gas stations (hypermarts) being built today will sell three million gallons a year or more. While the health risk may be lower at stations dispensing less than 3,600,000 gallon per year, it is by no means zero.

**Fire & Explosion Danger**

The U.S. Department of Housing & Urban Development will not issue FHA insured mortgages for homes within 300 feet of a tank holding more than 1,000 gallons of gasoline or other *flammable-explosive* materials. All gas stations have storage tanks holding more than 1,000 gallons. This restriction appears in Section 2-2M of the HUD *Handbook Valuation Analysis for Single Family One- to Four- Unit Dwellings*<sup>10</sup>. All new gas station storage tanks have a capacity far in excess of 1,000 gallons.

**Highway 87 Navarre Proposed Gas Station**

The aerial photo to the right is from the Pullium Cecilio, LLC & Highway 87 Navarre, LLC (2019-V-085) staff report.



<sup>9</sup> The CARB handbook is available online at: <https://www.arb.ca.gov/ch/handbook.pdf>

<sup>10</sup> The HUD Handbook is available online at: [https://www.hud.gov/program\\_offices/administration/hudclips/handbooks/hsg/4150.2](https://www.hud.gov/program_offices/administration/hudclips/handbooks/hsg/4150.2)

The photo shows numerous homes in the residentially-zoned district on the east side of the site of this proposed new gas station. Note that the site is only 250 feet wide making it impossible to locate fuel storage tanks anywhere on the site without violating the 500-foot safety zone law. It was for this and other reasons that Santa Rosa County staff found that the project did not meet the criteria set forth in the Santa Rosa County Land Development Code. The Santa Rosa Zoning Board agreed and denied a variance to the 500-foot safety-zone law.

We urge the Santa Rosa County Commissioners to uphold the denial and send a strong message that the public health, fire and explosion 500-foot safety zone law will be vigorously enforced for all new gas stations.

Sincerely,

Debra Rasmussen, Acting Chair  
Santa Rosa Healthy Neighborhoods Alliance  
8533 Vehlin Court  
Navarre, Florida 32566  
850-939-4756  
[djrer85@gmail.com](mailto:djr85@gmail.com)

Dara Lynn Hartigan, President  
Save Our Soundness  
4601 Soundside Drive  
Gulf Breeze, Florida 32563  
850-516-5166  
[dara.hartigan@gmail.com](mailto:dara.hartigan@gmail.com)

Donald E. Richards, Past President  
United Peninsula Association  
P. O. Box 6003  
Gulf Breeze, FL 32563  
404-915-9394 (C)  
[www.unitedpeninsula.org](http://www.unitedpeninsula.org)

Carmen Reynolds, Lt Col (Ret), USAF  
Whispering Pines Concerned Citizens - Board Lead  
850-803-5150  
[klauritz@bellsouth.net](mailto:klauritz@bellsouth.net)