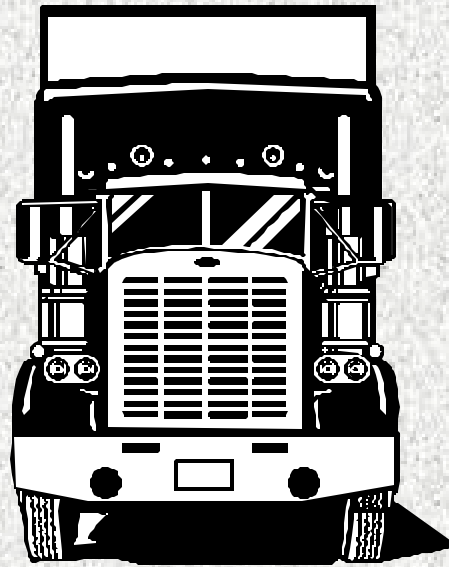


Petroleum Mitigation Agent Hydrocarbon Solutions



**Nickey Petroleum Company,
Inc.**

714.547.4123 x 111

An introduction to PMA

(Ready to Use)

This presentation is designed to give the professionals who deal with petrochemicals, a basic understanding of the science and adaptability of PMA to a wide variety of hydrocarbon related problems that they encounter on a daily basis.

PMA RTU is a synergized blend of Biodegradable, water based surfactants and wetting agents.

PMA RTU is a water based dispersant that is chemically sound and has been accepted and utilized by major corporations and governments around the world.

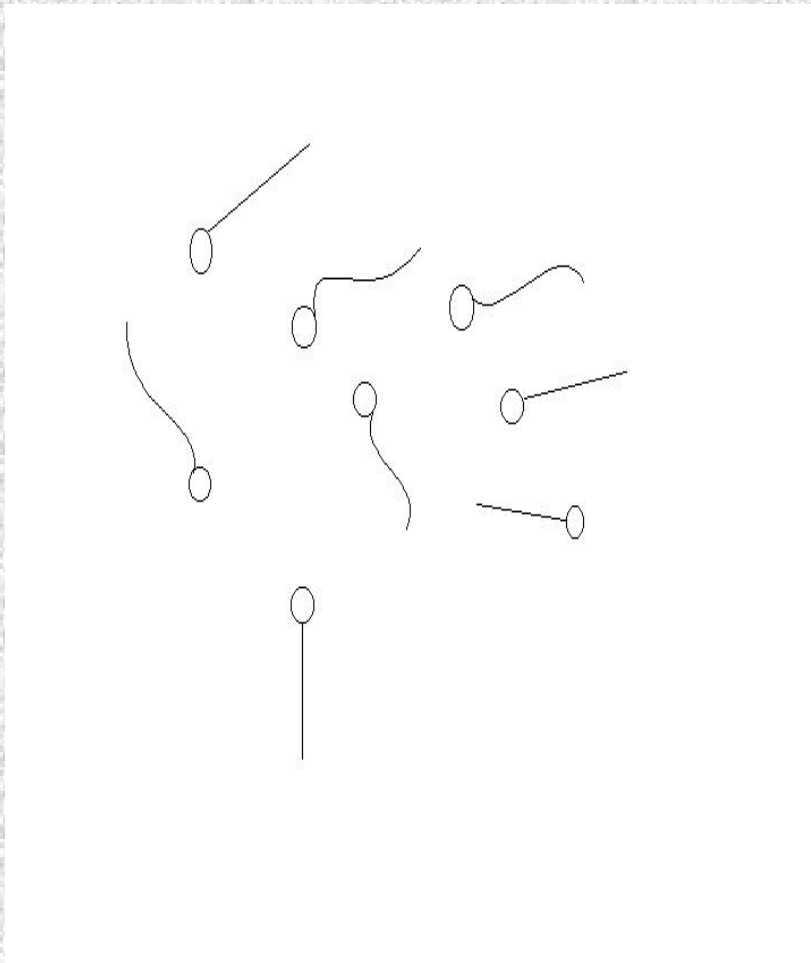
Surfactants

At low concentrations, surfactant molecules exist in a monomeric state in aqueous solutions.

The water loving portion of the surfactant molecule is always shown as a circle.

The straight or squiggled line signifies the oil loving portion of the molecule.

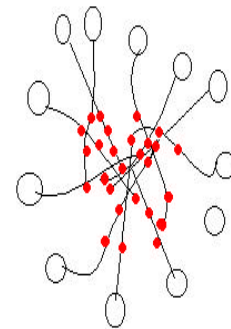
Surfactant Molecules



These molecules attack hydrocarbons and separates long chain structures into single hydrocarbon molecules.

Molecules in Action

These molecule surround and encapsulate the hydrocarbon after treatment with PMA



This process deals with the entire problem. PMA maximizes safety by neutralizing the volatile organics quickly while environmentally addressing the contaminants' permanent removal from the environment.

This is done without stabilizing agents like sodium xylene sulfonate or lauryl sulfonate.

PMA doesn't contain tall oils, d-limonene or high alkali chemicals.

**Petroleum Mitigation Agent,
Ready to Use fuses micro
and macro emulsifying
technology into a single
formula that has proven
effective on a wide range of
petrochemical products.**

Petroleum Mitigation Agent

PMA's emulsifying process is a physical attraction not a chemical reaction.

This physical action is greatly enhanced by agitation.

PMA's designed technology increases cleanup efficiency through:

- 1. Dispersion – water based microemulsion technology**
- 2. Vapor Suppression – safer to use than foam.**
- 3. Desorbption - enhances entrained oil recovery.**

4. Bioavailability -

**Reduces on scene time
minimizing labor costs.**

Effective on all sizes of spills.

**Reduces and eliminates the
slip and fall accident to
responders.**

Elevates biodegradation rates.

PMA Ready to Use Applications

- **Spill Cleanup-Bulk fuels and lubes**
- **Vapor Suppression**
- **Accident Sites**
- **Industrial Cleanup**

Risking a \$30,000 Fine?



No - they used Biomatrix Gold!

In these situations
“PMA” is the answer



Benefits

Worker Safety is enhanced when PMA is used on jobs to eliminate slips and falls.

VOC'S are encapsulated, not masked.

Effective on a wide variety of volatiles:

Gasoline, Solvents, Diesel, Oils, Tallow, Mercaptains, and more...

Spill Cleanup

**PMA Ready to Use quickly
microemulsifies oils on contact.
This makes cleanup from road
spills easier and quicker to
handle.**

**Roadways are clean and without
slippery residual.**

**Extinguishes or prevents ignition
allowing for a quick and safe
cleanup.**

How it Works

PMA works by attacking the fuel leg of the tetrahedron triangle.

Water attacks the heat leg of the triangle

Foam only attacks the oxygen leg of the triangle.

PMA suppresses VOC'S quickly, reducing LEL'S for increased responder and public safety.

Key Benefits of PMA

- **Convenient and Ready to Use.**
- **Environmentally Sound**
- **Increased Safety**
- **Clean Water Act Compliant when properly used.**

Product Review

PMA is the spill cleanup tool that allows for complete encapsulation of hydrocarbons.

PMA will extinguish or prevent ignition of volatile fuels.

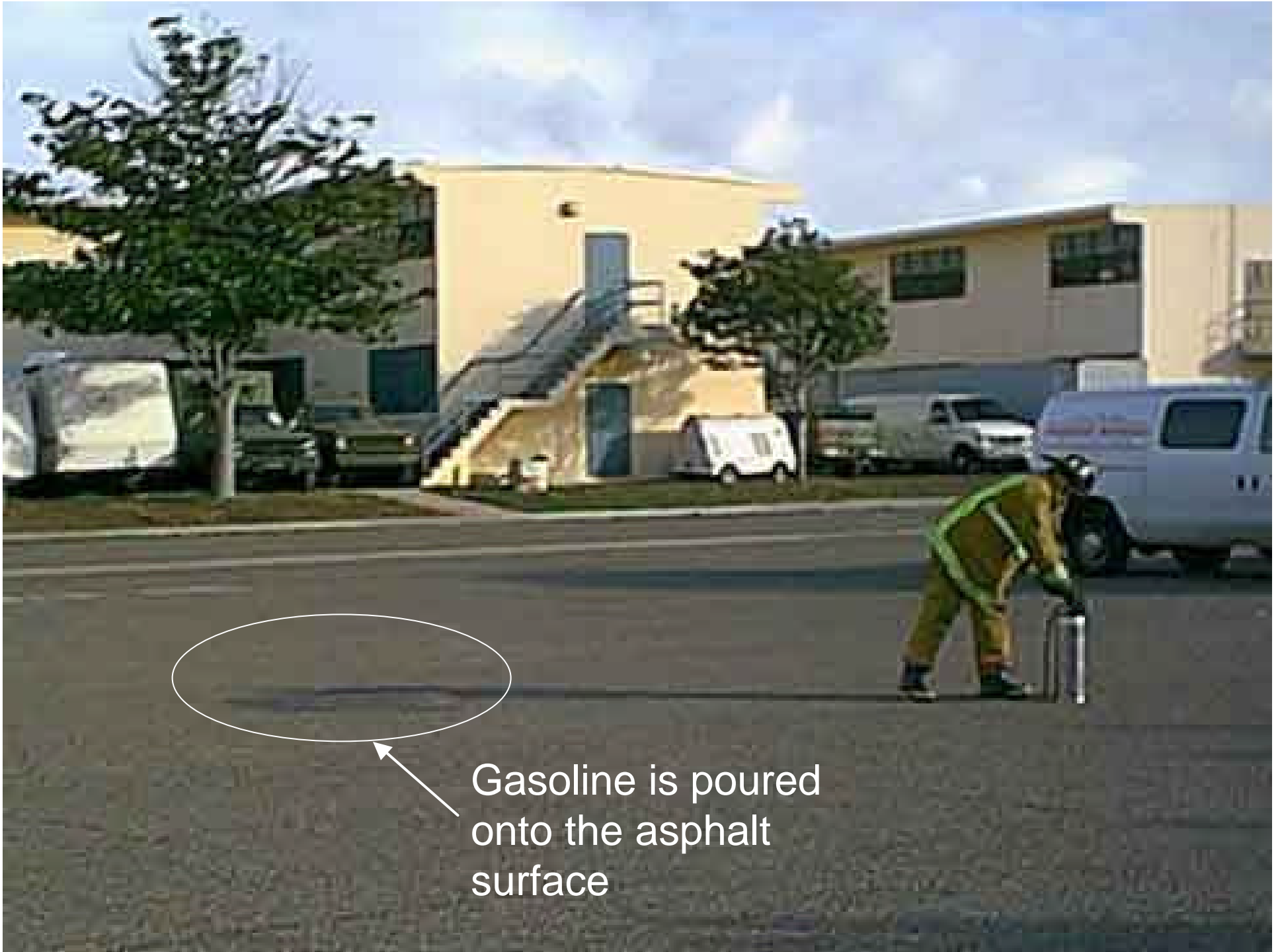
Always follow local regulations regarding removal and disposal of used product.



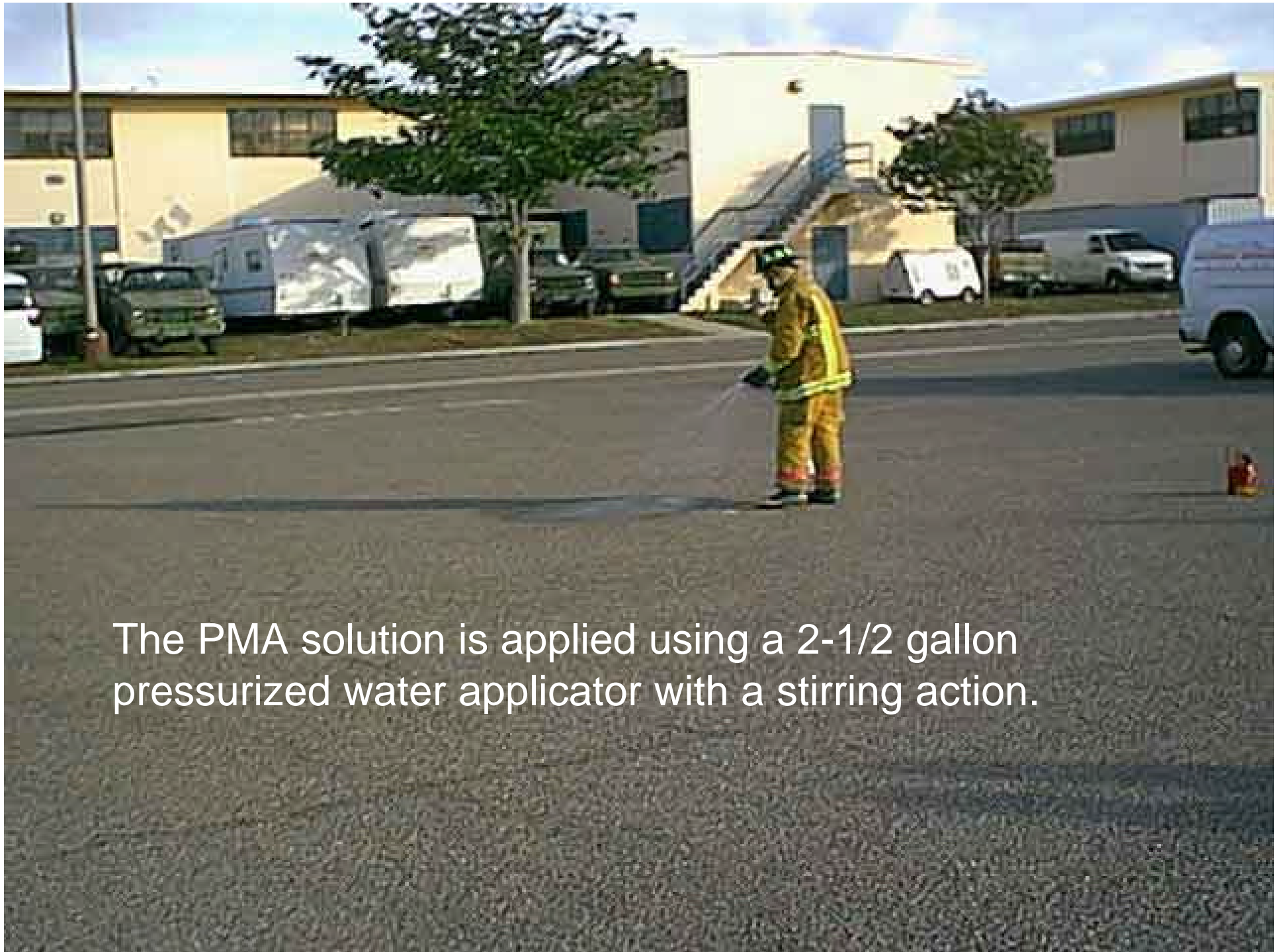
PMA Ready to Use

“Reverse Burn”

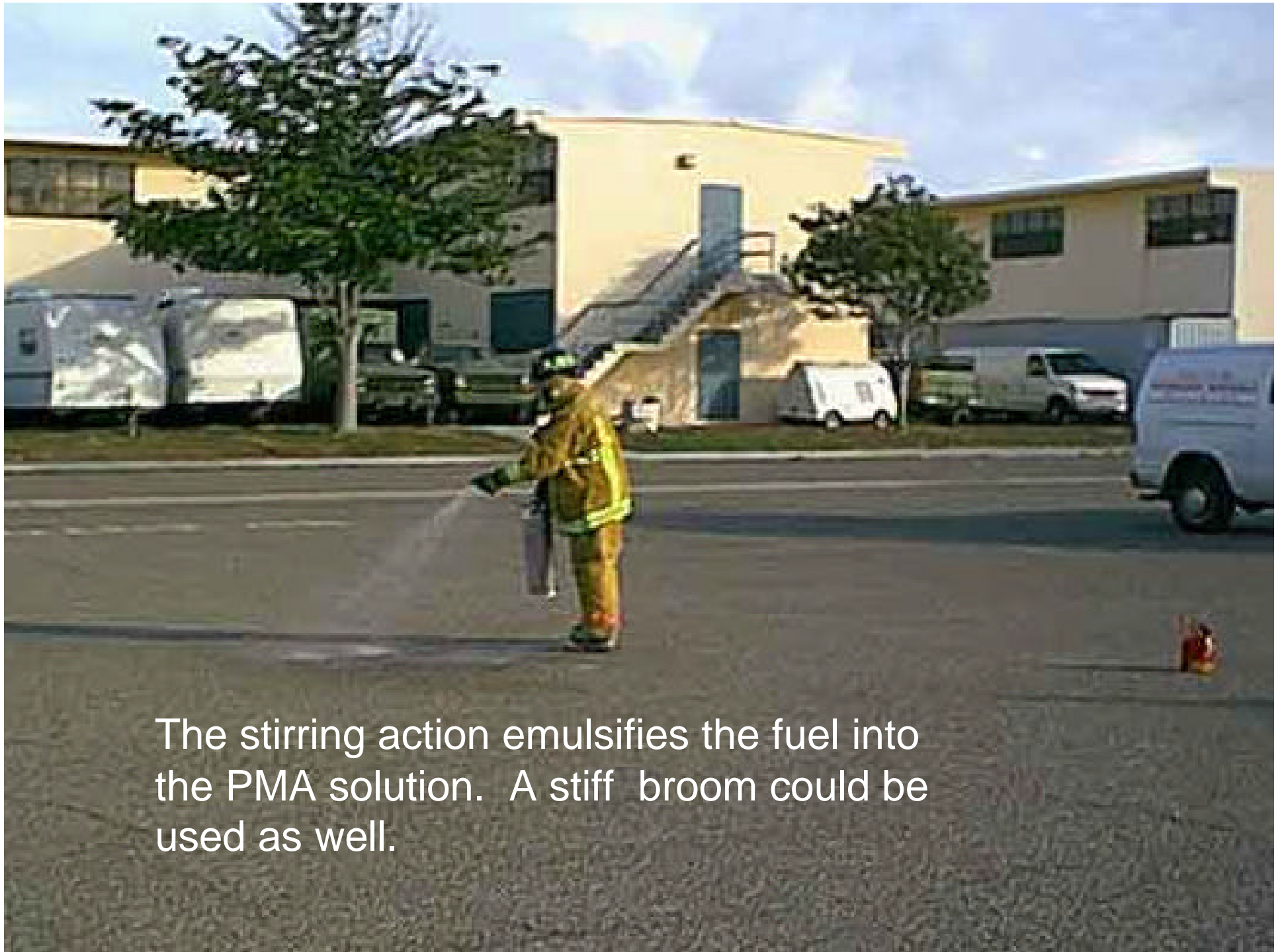
Demonstration



Gasoline is poured
onto the asphalt
surface

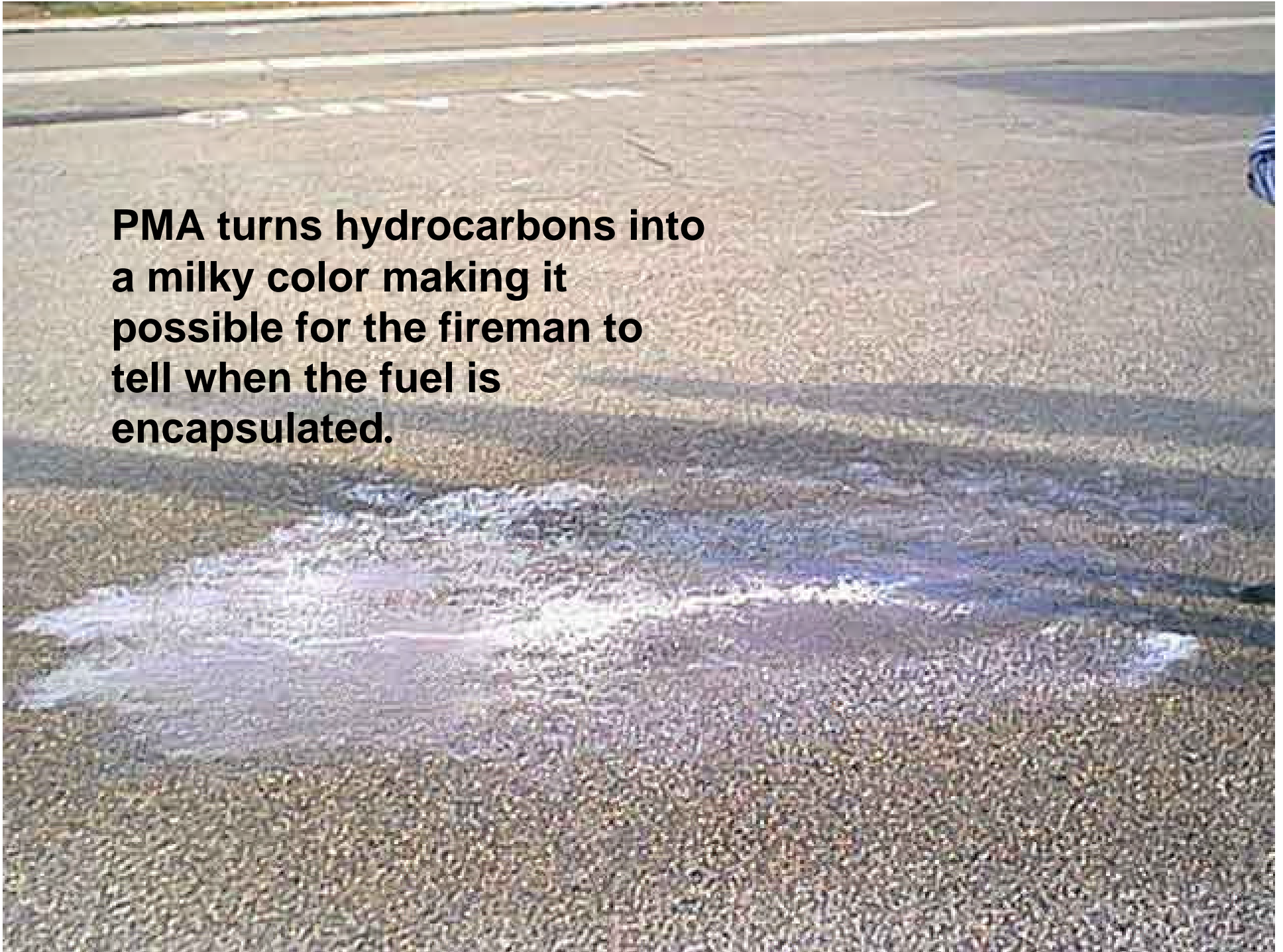


The PMA solution is applied using a 2-1/2 gallon pressurized water applicator with a stirring action.



The stirring action emulsifies the fuel into the PMA solution. A stiff broom could be used as well.

PMA turns hydrocarbons into a milky color making it possible for the fireman to tell when the fuel is encapsulated.





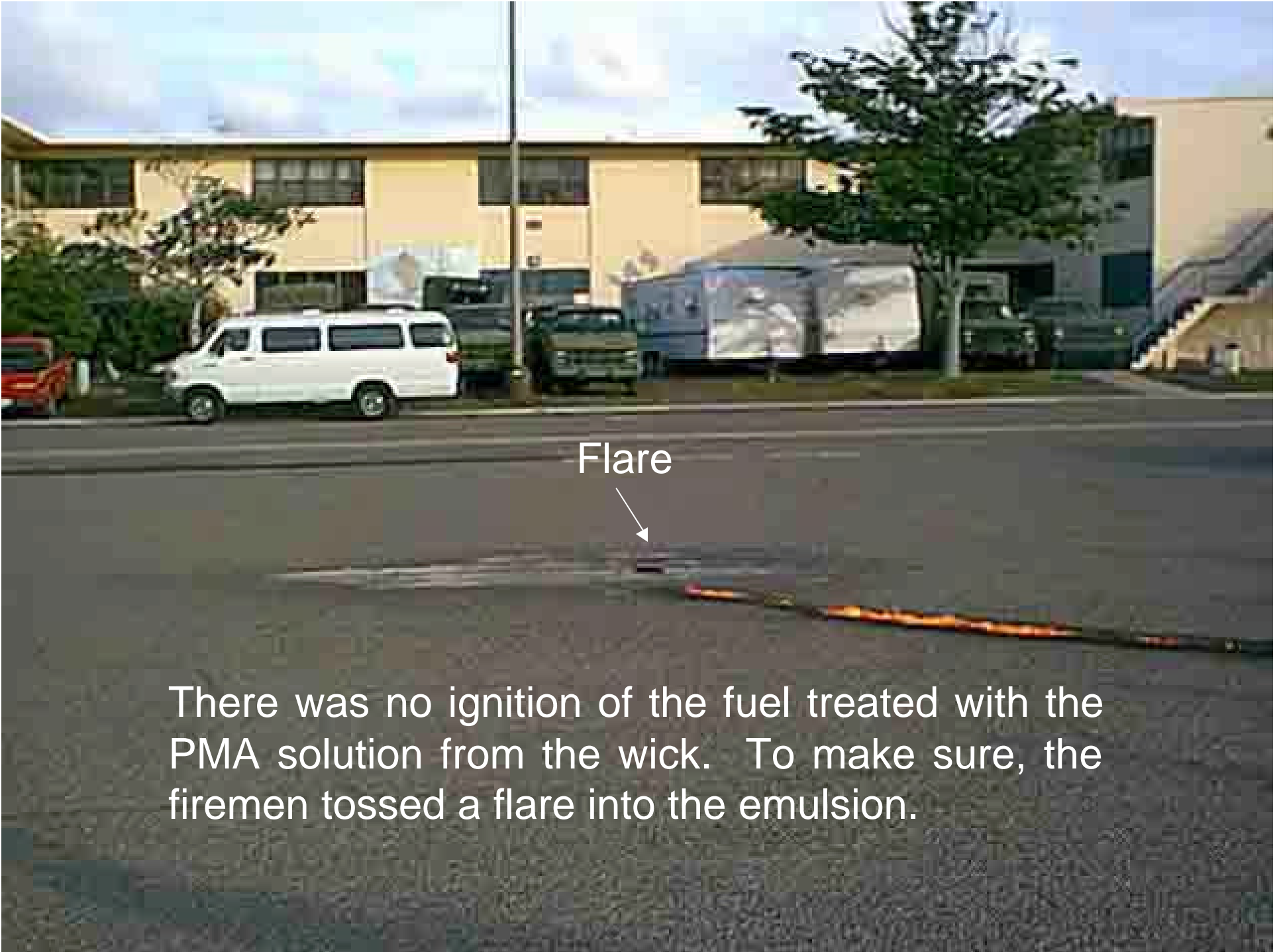
A gasoline “wick” is poured leading to the treated spill...



...and ignited with a road flare.

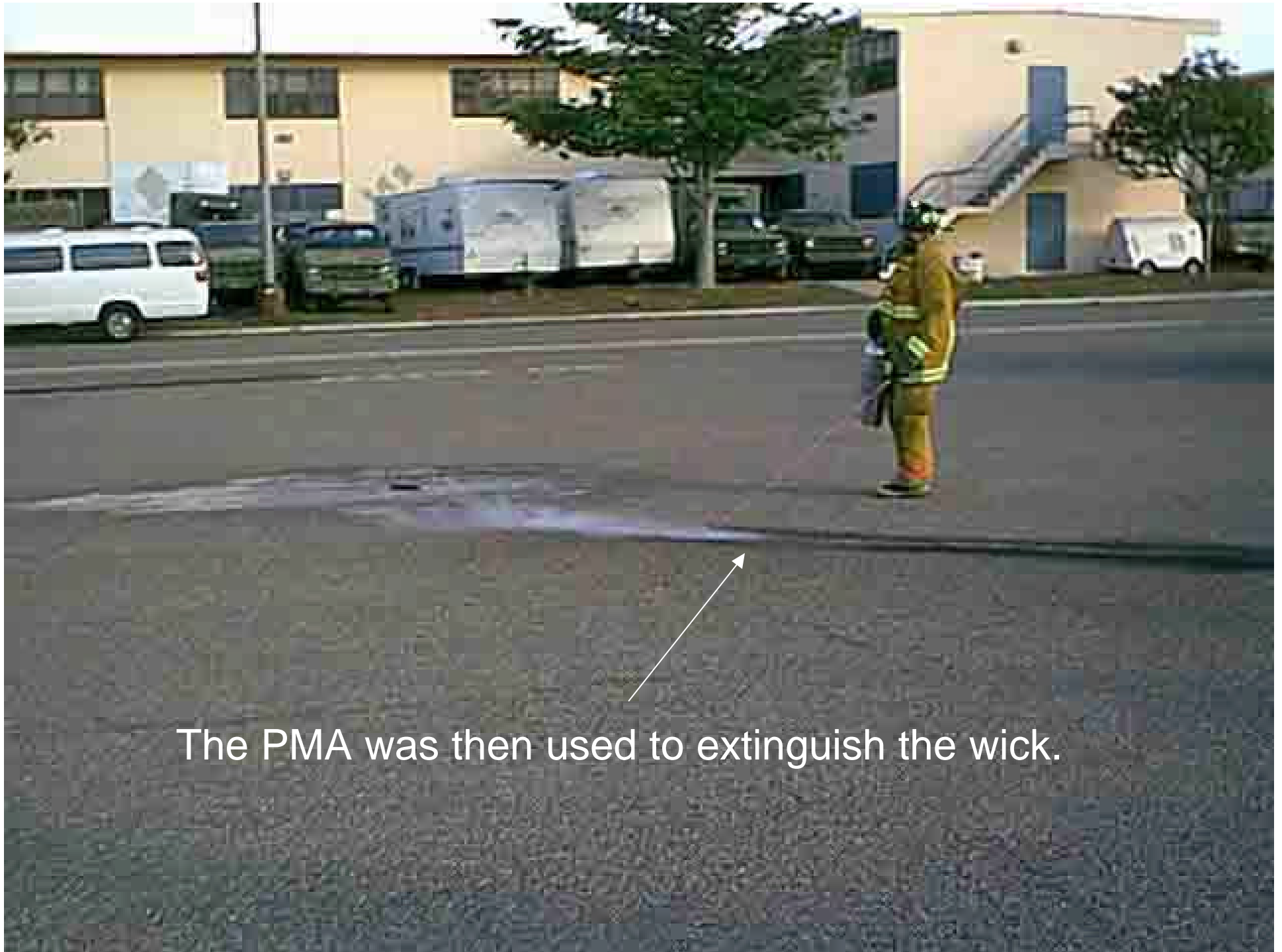


The fire stops at the emulsified fuel

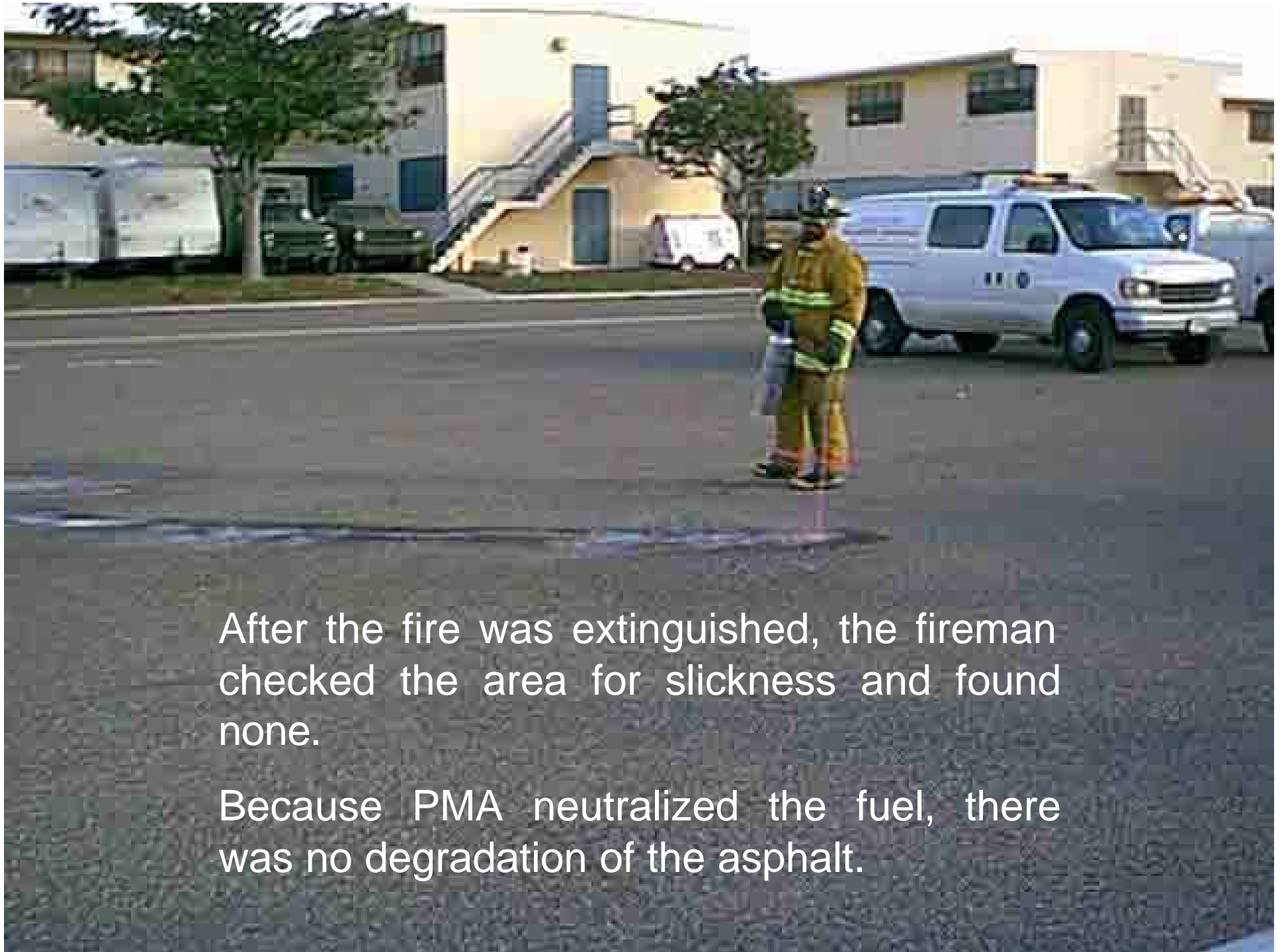


Flare

There was no ignition of the fuel treated with the PMA solution from the wick. To make sure, the firemen tossed a flare into the emulsion.



The PMA was then used to extinguish the wick.



After the fire was extinguished, the fireman checked the area for slickness and found none.

Because PMA neutralized the fuel, there was no degradation of the asphalt.

To complete the cleanup, use:

