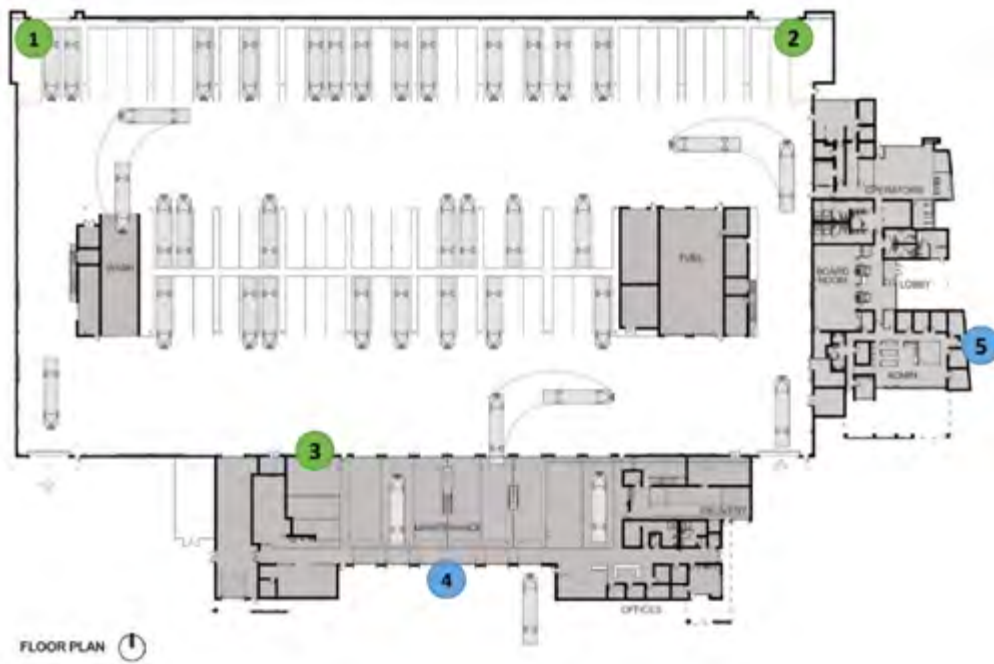


BEST PRACTICES ALARM SYSTEM

When a gas detection system is required, it will be installed with an alarm system to alert facility personnel of any hazardous situations. This alarm panel and its visual and audible indicators should be visible and audibly heard from all parts of the building.

The example below shows the floor plan of a large bus depot where it is not necessary to place alarming indicators at each corner. Three indicators are sufficient to alert anyone in the large bus storage area. Indicator #3 can be located in an area that will alert both the storage area and the maintenance area (in grey, below the storage area).

In addition to alerting personnel inside the facility, indicators should also be located outdoors, near entrances so that first responders and facility personnel arriving to site can easily determine the situation when they arrive. Consider placing these indicators near the fire department lock box and near any main entrances through which emergency services will likely enter. Outdoor indicator 4 in the diagram below is near the bus entrance to the facility, and indicator 5 is near the lobby entrance.



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BEST PRACTICES ALARM SYSTEM

Visual signals should be unique, for each prescribed action, and for each emergency scenario; signals for actual fires should be different than signals for gas presence. It is also necessary to have instructions near any alarm panel that clearly indicates which action should be carried out for each visual signal; Visitors to the facility also need to know what actions to take during an emergency.

The table below lists a typical sequence of operations used to configure a methane detection system. In this case, the alarm system is integrated with a gas detection system, and has three states – normal, gas detected at 20% of the Lower Flammability Limit (LFL), and gas detected at 40% of the LFL. The table shows the different indication and preventive actions taken during each state of the gas detection system

Condition	Gas Concentration Level		
	Normal	20% LFL	40% LFL
Operation Lights – Green	On	Off	Off
Operation Lights – Amber	Off	On	Off
Operation Lights – Red	Off	Off	On
Warning Horns	Off	On – Level 1	On – Level 2
Strobe Alarms	Off	Off	On – Level 2
Supervisory Advisory	No	Yes	Yes
Fire Department Callout	No	No	Yes
Ventilation Fans	Manual	On	On
Roll-Up Doors/Louvers	Manual	Open	Open
Automatic Gas Valve	Open	Open	Closed
Shunt Trip Building Loads	No	No	Yes
Automatic Reset of System if Fault Clears	N/A	Yes	No – Manual Reset Required