

Designing access points with obstacles in mind

By John Allen, HySecurity Product Manager



If you install automated gate systems for long enough, you'll inevitably encounter challenging design problems, such as gates on a steep road, spatial restrictions for the swing arc or back run of a slide gate, or even lack of power for the gate.

These challenges add to the already difficult task of installing a safe gate that complies with UL and ASTM standards. But every property owner — whether residential, commercial, or industrial — has security at the forefront of their mind. Fortunately, there are a variety of gate operators available to help address these obstacles.

Slide or swing?

Hillside properties with sloped roadways can be tricky. Slide gates are the preferred solution, but sometimes there isn't enough space for the back run of the panel. There are limits to how much the road grade can be flattened to provide clearance for the gate. What do you do if a slide gate cannot be used?

One possible solution is a rising swing gate with dual-axis action that turns as it lifts the gate panel. Operators like the HySecurity SwingRiser provide up to 12 inches of additional clearance at the bottom of the gate panel as the gates open. The added clearance comes in handy for more than just sloped roadways.

Often, with curving roadways, the gate must swing over a curb to fully open. These types of operators add security by minimizing the clearance between the bottom of the panel and the road when closed. They can also be used to clear obstacles (such as railroad tracks) in the roadway.

Rising above restrictions

Sometimes sites have limitations. For example, when there is not enough space for a slide gate to open and a swing gate obstructs traffic on the property, there is a third option — to lift the gate panel straight up.

That solution has the smallest possible footprint, covering only a little more ground than the closed gate itself. Vertical lift gates often use counterweights to keep the system balanced, minimizing the power needed to open and close the gate. The gate travels up and down a set of tall posts on either side of the gate, with tall panels extending above the top of the posts when the gate is fully open.



There are also several other added benefits as well. Vertical lift gates are quite fast compared to swing or slide gates with similar lane widths. A secondary barrier arm gate is a good idea for these situations to prevent trucks with high cargo loads from crossing the access point until the panel is fully open.

The barrier arm should be configured to operate as a sequenced gate with primary/secondary controls between the gate operators.



The power of going solar

Gates installed in remote locations without a source of electricity bring their own set of problems. Solar systems are common solutions for these cases, and it may be surprising just how cost effective and versatile a solar option can be. If the nearest power is miles away, then it may be one of the only options.

Fortunately, there are many choices for gate operators designed specifically for solar power. When designing an automatic gate for solar applications, efficiency is the key criteria. The best practice is to always design for the worst-case scenario — a period of high traffic during the winter season when solar charging is at a minimum.

Keeping the gate as small and light as possible will reduce demand on the solar system. Be picky about the location of the solar panel; it needs an unobstructed view of the sky from morning to evening to maximize power collection.

Remember that in the winter, when solar power is least available, the sun is also much lower in the sky. Obstacles such as trees and buildings that don't shade the panel in the summer may do so in the winter. To be safe, it is better to run a few extra feet of wire to escape from the shade of a tree.

It is also helpful to select an operator with the lowest possible idle current draw, like the Titan with the new Mercury 310 from Nice. Such operators are designed to draw only a few milliamps of current while waiting for an open command.

Solar savings

Even when the site is within a few hundred feet of a powerline, solar can still be the more cost-effective option. The added cost of solar panels and batteries is often much less than the cost of trenching to bring power to the access point. Solar solutions can be designed for most climates — not just the sunbelt. A larger panel and larger batteries can still be cost effective.

If you are dealing with challenging requirements like these, remember that there are options. If you need assistance or are unsure of your design, ask for help from your distributor or manufacturer.

The amazing thing about the gate automation industry is that they are supremely helpful with these matters. There is no reason you cannot design a secure and safe solution for any vehicle access point. ■



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