

Whitpain Township, Pennsylvania USA

Whitpain Township Illuminates
Savings and Sustainability with Solar
Lighting Solution.



*Ligman Zenith Pole™ installed at the entrance of
Whitpain Township's municipal complex*

About Whitpain Township

Whitpain Township is a suburb of Philadelphia, PA with a population of ~20,000. Founded in 1701, Whitpain is one of the oldest townships in Montgomery County and is comprised of several small communities including Blue Bell, Center Square, West Ambler, and Broad Axe.

Challenge

Whitpain Township faced persistent challenges with its aging lighting infrastructure, which caused frequent outages, heightened safety risks, and increased maintenance costs. These issues compromised public safety in heavily used community spaces such as Wentz Run Park, as well as at critical municipal facilities including the police station, administration buildings, and the public works building.

Upgrading the system was identified as a top priority to improve reliability, enhance safety, and reduce operating costs while meeting the greater challenge of completing the project within the constraints of a limited budget.

Strategic Objectives

Whitpain established four key objectives to transform their lighting infrastructure challenge:

1. **Operational Cost Elimination** – Eliminate ongoing maintenance expenses and monthly PECO Energy electricity charges for long-term budget relief.
2. **Environmental Leadership** – Deploy renewable solar technology to advance the Township's sustainability goals and demonstrate environmental stewardship to the community.
3. **Capital Cost Avoidance** – Avoid costly and labor intensive underground electrical system replacement and road restoration projects by leveraging off-grid solar technology that requires no in-ground connections and could be safely installed by the Township's own public works team members.
4. **Zero-Impact Implementation** – Avoid both administrative and community disruption by maintaining full community access and facility operations during upgrade processes.

Key Partnerships

Whitpain Township brought together a cross-disciplinary network of public and private sector partners, leveraging diverse expertise to identify and implement a sustainable solution.



Developed the strategic plan, system upgrade options, and project management support.



Provided the solar lighting solution, engineered for the application, geolocation, and days-of-autonomy.



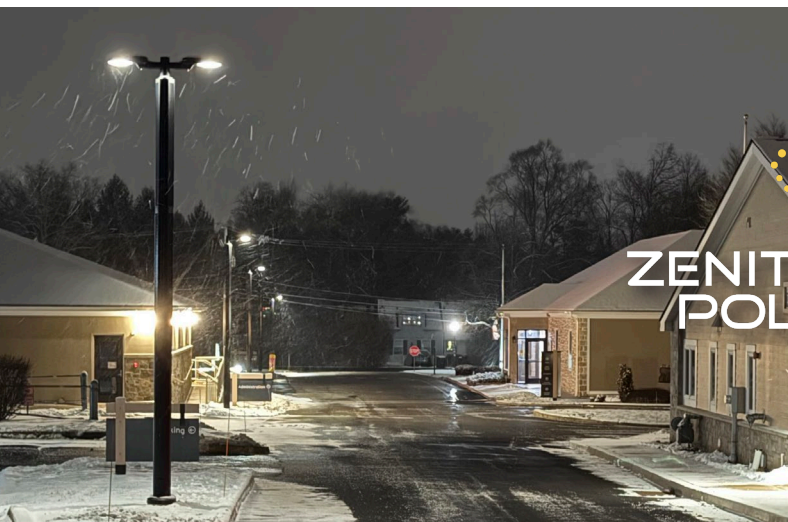
Developed product and technology specific proposal to meet performance and budget requirements.



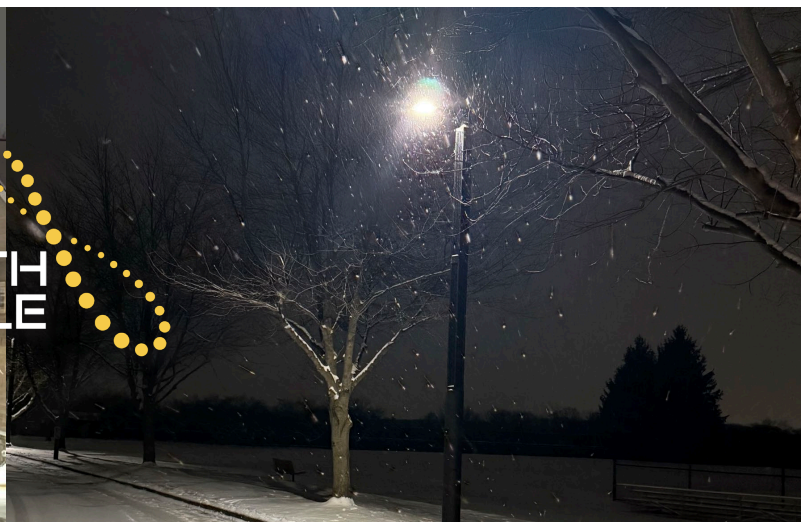
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Solution Overview



Ligman Zenith Pole™ illuminating Whitpain parking lots and roadways



Ligman Zenith Pole™ illuminating Whitpain roadways

In 2022, Whitpain deployed **43 Ligman Solar Systems** engineered to provide reliable lighting, taking into account Philadelphia's harsh winter conditions.

- **Power Generation and Storage:** 18-foot off-grid poles equipped with proprietary hexagonal-vertical photovoltaic (PV) modules generates power throughout the day. The energy is stored in Lithium Iron Phosphate (LiFePO₄) batteries, which are safely and securely stored in the pole.
- **Lighting Configuration:** Ligman PowerMission2 luminaires (20W each) with 4000K LEDs leverage MicroVOS® technology to optimize illumination requirements for the streets, parking areas, and walkways.
- **Performance Management:** The integrated intelligent lumen management system optimizes battery consumption by automatically balancing energy levels with required brightness based on motion detection events and remaining days of autonomy.



Ligman North America 100W and 140W PV vertical modules utilize a hexagonal 360° design to collect sunlight across the sky and throughout seasons.



Results

- **Capital Cost Avoidance** – Eliminated need for investment in underground electrical system replacement and road restoration projects.
- **Electricity Cost Elimination** – Zero monthly PECO Energy electricity charges delivering ongoing budget relief.
- **Labor Cost Savings** – Public works team performed installations of the low-voltage systems, avoiding contractor costs.
- **Rapid Implementation** – Complete installation in days versus months with zero community disruption to police station operations, park access, or daily municipal services.
- **Proven Reliability & Minimal Maintenance** – For over three years, this system has delivered consistent solar lighting performance through Philadelphia's most extreme weather, including extended periods of cloud cover. The vertical solar panels deter the accumulation of dirt, snow, and debris, reducing the need for cleanings and saving in maintenance costs. A handheld remote allows for performance adjustments as required.
- **Enhanced Public Safety** – Consistent, reliable illumination of the roadways, parking lots, and walkways for vehicles and pedestrians with motion-activated brightness controls.

“Using solar lighting technology and working with a world-class team of partners, we turned our lighting infrastructure challenges into a sustainable solution with low costs, low maintenance, and saved our constituents costly taxes.”

Tom Farzetta, Director of Public Works,
Whitpain Township

Summary

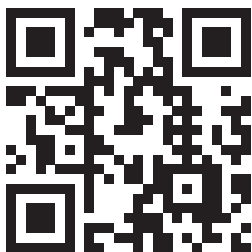
Whitpain Township, Pennsylvania successfully replaced aging and unreliable streetlighting infrastructure around critical administrative and community areas with off-grid Ligman solar lighting systems.

This strategic solution eliminated a costly underground electrical system replacement while achieving zero monthly electricity expenses, reduced maintenance costs, and enhanced public safety. The project demonstrates how communities can leverage solar lighting technology and the right partners to address infrastructure challenges while advancing sustainability goals and maintaining fiscal responsibility.



Two Ligman Zenith Poles™ are installed in front of the Whitpain Township Administration Building

Learn more at:



ligmannorthamerica.com

