



AGENDA ITEM # 7

**AGENDA ITEM EXECUTIVE SUMMARY
Committee of the Whole Meeting
February 24, 2020**

Item Title: Pedestrian Safety at Irving Park Road and Pinecroft Drive

Staff Contact: Jeffrey D. O'Dell, Village Administrator

COMMITTEE OF THE WHOLE ACTION

Consider a staff recommendation for enhanced pedestrian safety measures at the intersection of Irving Park Road and Pinecroft Drive.

Executive Summary:

Over the past several years, the Village has received many citizen inquiries about pedestrian safety at the intersection of Irving Park Road and Pinecroft Drive. As development, business activity, and vehicular traffic on Irving Park Road has increased in this area of the community, pedestrians who cross Irving Park Road at Pinecroft Drive are exposed to greater risk as a result of the uncontrolled intersection. Other than pedestrian crossing warning signs and painted crosswalks, there are no signals or lighting posted to further enhance safety at this intersection.

Irving Park Road is under the jurisdiction of the Illinois Department of Transportation (IDOT). Village staff has contacted IDOT on several occasions during the past few years requesting a review of the intersection in hopes of having the state agency install additional safety measures at the intersection. In 2018, IDOT reviewed the intersection to determine if a change in traffic control was warranted. The agency determined that this intersection did not meet any of the applicable warrants for installation of a traffic signal as the volumes on Pinecroft Drive were insufficient to warrant a traffic signal.

Since then, IDOT has implemented a new policy for evaluating pedestrian crossings at uncontrolled locations. That policy, which went into effect in March of 2019, allows local jurisdictions like the Village of Roselle to submit a highway permit application through IDOT's Bureau of Traffic Permits Section to install supplemental safety measures at uncontrolled intersections such as Irving Park Road and Pinecroft Drive. One such safety measure is the installation of Rectangular Rapid Flashing Beacons (RRFB's). If approved, the local jurisdiction is responsible for paying for all costs to design, purchase, install, and maintain the RRFB's. The RRFB's provide higher visibility to motorists approaching pedestrian crosswalks, make use of solar energy for powering flashing beacons, and use a push button for activation by pedestrians.

Village staff has reviewed IDOT's permit application process and based on the agency's summary of recommendations for pedestrian crossings at uncontrolled locations, the recommended treatment at the Irving Park Road and Pinecroft Drive intersection would be the installation of RRFB's. The installation of RRFB's would require two devices: one directed at traffic on eastbound Irving Park Road and one directed at westbound traffic. Staff's estimated cost to purchase and install two RRFB's is \$20,000. Public Works staff can provide the necessary engineering and IDOT permitting related work. Staff would recommend a budget amount of \$25,000 should any unforeseen expenses related to installation of the RRFB's occur.

Implications:

Is this item budgeted? No, but TIF funding can be used to purchase and install the RRFB equipment. Until adequate TIF funding increment is available, staff recommends using reserves from the General Capital Projects Fund to pay for this equipment.

Any other implications to be considered? When traffic control signals are not in place or not in operation, the driver of a vehicle must come to a complete stop and yield the right of way to a pedestrian crossing the roadway within a crosswalk, even those without stop signs, traffic lights, or other signage. However, presence of marked roadway crosswalks or the addition of supplemental safety measures such as the RRFB's provide no guarantee of pedestrian safety. That said, our police, fire, and public works department support the installation of RRFB's at this location and believe it will enhance pedestrian safety at the intersection of Irving Park Road and Pinecroft Drive.

Attachments:

Aerial Photos of Intersection and Current Signage
Sample RRFB Specification Sheet

R920-E

RECTANGULAR RAPID FLASHING BEACON



carmanah[®]
Traffic

MUTCD-compliant, pedestrian-activated warning beacon for uncontrolled marked crosswalks

- The R920-E is the benchmark for Rectangular Rapid Flashing Beacons (RRFBs)
- Ultra-efficient optics and Energy Management System (EMS)
- Compact design to simplify installation
- Proven technology platform
- Meets and exceeds MUTCD requirements, including IA-21

RRFBs have been found to provide vehicle yielding rates between 72 and 96 percent for crosswalk applications, including 4 lane roadways with average daily traffic (ADT) exceeding 12,000*.

Superior Design and Technology

The R920-E utilizes a self-contained solar engine integrating the Energy Management System (EMS) with an on-board user interface, housed in a compact enclosure together with the batteries and solar panel. MUTCD interim approval IA-21 flash pattern and multiple configurations enable the R920-E to handle all crosswalk applications.

Easy Installation

With its highly efficient and compact design, installation is quick and uncomplicated, dramatically reducing installation costs. Retrofitting can be done where existing sign bases are used to enhance existing marked crosswalks in minutes, and new installations can be completed without the cost of larger poles, new bases, and trenching.

Advanced User-Interface

The R920-E comes with an on-board user interface for quick configuration and status monitoring. It allows for simple in-the-field adjustment of flash pattern, duration, intensity, ambient auto adjust, night dimming, and many more. Settings are automatically sent wirelessly to all units in the system.

Reliable

Designed with Carmanah's industry-leading solar modeling tools to provide dependable year-after-year operation.

Trusted

With thousands of installations, Carmanah's beacons are the benchmark in traffic applications and other transportation applications worldwide.



WE SIMPLIFY PLANNING.

Contact us to get your Energy Balance Report and purchase specifications.



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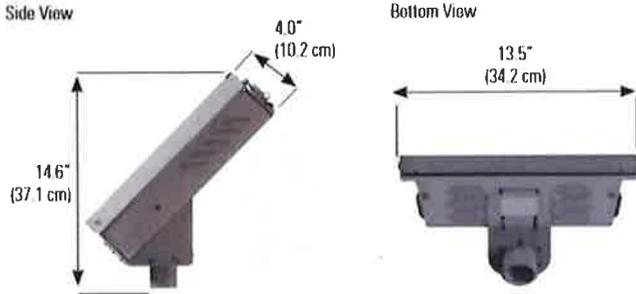
R920-E

RECTANGULAR RAPID FLASHING BEACON

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DIMENSIONS



SOLAR ENGINE MOUNTING

2.0" - 2.5" Perforated Square Pole Mount 2.38" - 2.88" Diameter Round Pole Mount 4.0" - 4.5" Diameter Round Pole Mount Side Pole Mount



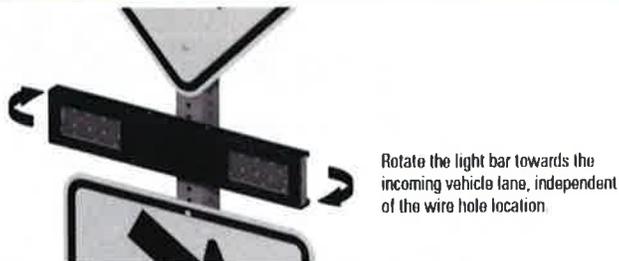
LIGHT BAR CONFIGURATION

Uni-directional Configuration

Bi-directional Configuration



IN-THE-FIELD AIMING



On-Board User Interface (OBU)	Adjustable system settings with auto-scrolling LED display on our latest EMS System test, status, and fault detection: battery, solar, button, beacon, radio, day/night Flash patterns: RFB1 (WV+S), RFB2 (WSDOT), 0.5 sec. alternating (MUTCD), 0.5 sec. unison (MUTCD), 0.1 sec. unison, 0.25 sec. unison, 0.1 sec. x3 quick flashes unison, 0.1 sec. x3 quick flashes alternating Input: momentary for push button activation, normally open switch, normally closed switch Flash duration: 5 sec. to 1 hr. Intensity setting: 20 to 1400 mA for multiple RFBs, circular beacons, or LED enhanced signs Nighttime dimming: 10 to 100% of daytime intensity Ambient Auto Adjust: increases intensity during bright daytime Automatic Light Control: reduces intensity if the battery is extremely low Temperature correction: yellow or red beacons Calendar: internal time clock function Radio settings: enable/disable, selectable channel from 1 to 14 Output: enabled when beacons flashing daytime and nighttime, or nighttime only Activation counts and data reporting via OBU or optional USB connection MUTCD interim approval IA-21 and MUTCDC compliant
Optical	Purpose-built light bar optics = maximum efficiency and no stray light Exceeds SAE J595 class 1 intensity by 2.5 to 3x when used as recommended Meets SAE J578 chromaticity 3 in (76 mm) x 7 in (178 mm) clear, UV-rated polycarbonate lens with yellow LEDs High-power LEDs: +90% lumen maintenance (L90) based on IES LM-80 Side-emitting pedestrian confirmation LEDs Independent, stainless steel mounting brackets make back-to-back installation simple and enable in-fold aiming for maximum effectiveness Yellow, black, or green powder coated light bar covers
Connectivity	Encrypted, wireless radio with 2.4 GHz mesh technology Wireless update of settings from any unit to all systems on the same radio channel User-selectable multiple channels to group different beacons and ensure a robust wireless signal Communicates with all other Gen III radio-enabled systems including our R820-E, -F, and -G circular beacons Instantaneous wireless activation: <150 ms Wireless range: 1000 ft (305 m) Integrated, vandal-proof antenna
Energy Collection	13 W high-efficiency photovoltaic solar panel 45 deg tilt for optimal energy collection Maximum Power Point Tracking with Temperature Compensation (MPPT-TC) battery charger for optimal energy collection in all solar and battery conditions
Energy Storage	12 V 14 Ahr. battery system Replaceable, recyclable, sealed, maintenance-free, best-in-class AGM batteries offer the widest temperature range and longest life Battery design life: +5 yrs. Tool-less battery change with quick connect terminals and strapping for easy installation
Solar Engine Construction	Weatherproof, gasketed enclosure with vents for ambient air transfer (NEMA 3R) Lockable, hinged lid for access to on-board user interface and batteries Corrosion-resistant aluminum with stainless steel hardware Raw aluminum finish or yellow, black, or green powder coated Prewired to minimize installation time High-efficiency optics and EMS = the most compact, lightweight system 19 lb (8.6 kg) including batteries, excluding beacons and push button
Environmental	40 to 165° F (-40 to 74° C) system operating temperature 40 to 140° F (-40 to 60° C) battery operating temperature 150 mph (241 kph) wind speed as per AASHTO LTS-6
Activation	Push button: ADA compliant, piezo driven with visual LED and two-tone audible confirmation
Warranty	5-year limited warranty



Specifications subject to local environmental conditions, and may be subject to change.
All Carmanah products are manufactured in facilities that are certified to ISO quality standards
US Patent No 6,573,659. Other patents pending.
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Document: SPEC_TIRA_R920-E_RevS

Google Maps 609 W Irving Park Rd



Image capture: Sep 2018 © 2020 Google

Roselle, Illinois

Google

Street View

Irving Park Road / Pinecrafter
 Looking EAST

Google Maps 638 W Irving Park Rd



Image capture: Sep 2018 © 2020 Google

Roselle, Illinois

Google

Street View

IRVING PARK ROAD / PINECLOFT
LOOKING WEST

Google Maps 703 W Irving Park Rd



Image capture: Jul 2019 © 2020 Google

Roselle, Illinois

Google

Street View

NEAR Spranghne / Irving Park Road
Looking West

Google Maps 534 IL-19



Image capture: Sep 2018 © 2020 Google

Roselle, Illinois

Google

Street View

NEAR ~~WILSON~~ WEST ENTRANCE TRAD STATE
LOOKING EAST