



Staff Report

Subject: New Ballwin Road Lighted School Crosswalk Signs

Department/Program: Public Works/Pavement/Streets

Explanation: Approximately 2 years ago the LED lighted School crosswalk systems on New Ballwin Road in front of Selvage Middle school failed (two separate crosswalk units). After discovering that we could no longer get replacement parts, the LED yellow warning bar was removed and the LED School crosswalk signs were changed out to standard School crosswalk signs. This LED system was installed with a grant around 2009 for \$30,000. The signs in front of Holy Infant are operational; however, due to a lack of replacement parts they have been repaired internally by staff numerous times and are likely to fail in the near future.

I have attached quotes for a replacement LED School zone crosswalk system similar to what had been in place on New Ballwin road approximately 2 years ago.

The cost for a Standard School Crosswalk signs are roughly \$300 for all four signs. This is what is Standard in the MUTCD.

Option 1: Continue with the MUTCD standard with a cost of \$300 for all four signs.

Option 2: Use the LED lighted system similar to what we used before at a combined cost around \$21,724.00 for both Selvage and Holy infant.

These signs are NOT budgeted.

With there being several schools in the City of Ballwin on City maintained Right of Ways, Staff is looking for Board Direction.

Other Elementary school crosswalks in Ballwin that are on City maintained roadways are Henry, Claymont, Ballwin, Westridge, and Woerther.

LED School zone systems	Unit Cost	Total Cost (2 units)
Mobotrex	\$10,862.00	\$21,724.00
Traffic Safety	\$10,865.56	\$21,731.12
Lightguard Systems	\$18,630.00	\$37,260.00

Submitted By: Jim Link

Date: January 2, 2024



Date: 12-6-2023

INFORMAL PRICE QUOTATION

Vendor Number*	Vendor	Qty	Unit Cost	Net Cost	Delivery Cost	Total Cost	Delivery Date
1.	Mobotrex	2	\$10,862.00			\$21,724.00	
2.	Traffic Safety	2	\$10,865.56			\$21,731.12	
3.	Lightguard Systems	2	\$18,630.00			\$37,260.00	
4.							

* Additional Vendors listed on separate sheet

Recommended Vendor: Mobotrex

Account Number: _____



 Department Head

 City Administrator

Crosswalk system

Led crosswalk system for New Ballwin road. Solar powered, ADA push button, similar to what was up there previously.

Comments: _____

Prepared by: _____

Customer: BALLW

Bottorff, Jim
 Ballwin, City Of
 Dept. Of Public Works
 200 Park Dr
 Ballwin MO 63011-3728
 United States

Date: 11/27/2023

Expire Date: 12/27/2023

Prepared By: Mack, Joshua J.

Contact: Bottorff, Jim

Phone: (636) 227-2257

Email: jbottorff@ballwin.mo.us

Description: Carmanah R920-MX with LED Enhanced S1-1 Signs

Part #	Description	Quantity	Price	Extended
90866	MX LED Sign Module, S1-1 School, 30", FYG DG3, YLW LED	4	\$504.00	\$2,016.00
88423	SIGN MOUNT KIT, LED ENH, BANDING TO POLE	4	\$20.00	\$80.00
91698	MX SERIES, FLASHER MODULE HARNESS,16'	4	\$36.00	\$144.00
POL-BDSP-010-Y	Bulldog III ADA Push Button with NO LED	2	\$95.00	\$190.00
POL-APBC-Y	Polara Aluminum Push Button Cup for Bull	2	\$20.00	\$40.00
800H-109	9x12 MUTCD SIGN R10-25	2	\$38.00	\$76.00
91693	MX SERIES,PUSHBUTTON HARNESS,BULLDOG,16'	2	\$36.00	\$72.00
90460	MX SERIES,MX100 SOLAR PWR MOD,W/ 15W PNL	4	\$1,869.00	\$7,476.00
91615	FWK:MOUNT,POLE TOP,3.5-4.5"OD,NO COLOR	4	\$110.00	\$440.00
67620	BATTERY:7A/HR,STAND,(E SERIES)	8	\$41.00	\$328.00
91842	SOFTWARE,MX LITE SUBSCRIPTION,3YR	4	\$0.00	\$0.00

Sale Amount:	\$10,862.00
Sales Tax:	0.00
Misc Charges:	0.00
Total Amount:	\$10,862.00

Notes:

SHIPPING INCLUDED

MATERIAL ONLY - Please RFQ if turn-on assistance / onsite labor is needed

4" round poles NOT included

Terms:

THIS QUOTE IS BASED ON THE ENTIRE VALUE AND VOLUME OF ALL LINE ITEMS - Prices listed on this quote are valid only in the event of purchase of all line items in the quantities listed, in their entirety. Purchases of individual line items will require a new quote prior to acceptance of any purchase orders.

Shipment of the material will be approximately 90 days after receipt of both an acceptable purchase order and approved submittal data if required. PAYMENT TERMS ARE NET 30 DAYS with prior approved credit. MoboTrex, Inc. retains title to material until paid in full. A service charge of 1.5% per month (18% annual rate) will be assessed against all past due accounts. Prices and delivery quoted are firm for 30 days from the data of bid. The above quote does not include installation of the products quoted. On-Site technical assistance is available and will be quoted upon request.

Quotation does not include sales tax. Sales tax will be added at time of invoice unless a valid Sales Tax Exempt certificate has been provided. Sales tax exempt certificate should accompany customer Purchase Order.

Limited Warranty: MoboTrex, Inc. only obligations shall be to replace such quantity of the product proven to be defective.

Warranty Period: The length of warranty manufacturers have conveyed to the seller and which can be passed on to the buyer.

Additional terms and conditions apply - See MoboTrex, Inc. Terms & Conditions document at our website: www.mobotrex.com.

Thank you for the opportunity to provide this quote.

R920-MX

Customized Data Sheet and Solar Power Report

Boost safety at unsignalized crossings with proven technology, actionable alerts, and street-level data.

- ✓ Every system ships with **3 years of free remote connectivity**
- ✓ Actionable email and text alerts
- ✓ Remote system access via MX Cloud™
- ✓ Quick setup and local access with MX Field App™ (iOS®/Android™)
- ✓ 'Smart module' design for simple installation and richer data
- ✓ Solar Power Report (SPR) prepared for every location



Meets MUTCD Standards



Buy America/BABA compliant



3-year limited warranty

New Ballwin Rd

Region: 235 New Ballwin Rd, Ballwin, MO 63021, USA

ID: CMH05C614A8

Model: R920-MX

PROJECT LOCATION PROFILE

Shading	30% reduction applied to insolation to account for typical site shading
Min. Average Temperature	31.2 °F (-0.4 °C)
Min. Peak Sun Hours	3.1



carmanah[®]
MX Series



SYSTEM OPERATING PROFILE

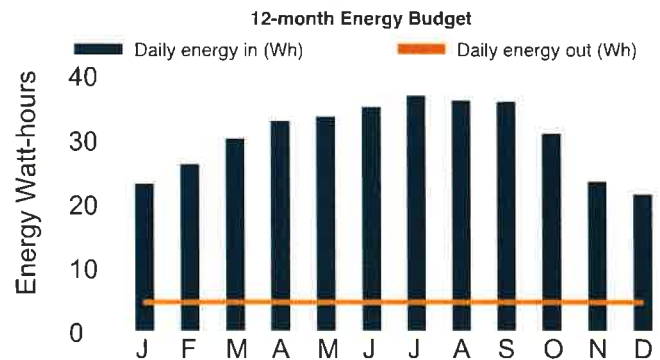
Pedestrian Activations Per Day	300
Power Source	Solar
Solar Panel	15 W
Battery Capacity	7 amp hours (1 battery)
Overhead Lighting	None
MX Subscription	MX Lite

SOLAR POWER REPORT (based on your project location profile)

This custom report demonstrates that our solar-powered system is sustainable and reliable year-round at your project location.

Battery Autonomy (recommended > 7 days)	13.9 Days
Array-To-Load Ratio (recommended > 1.2)	4.8

✓ Your system will be sustainable year-round!



R920-MX

Customized Data Sheet and Solar Power Report



carmanah[®] MX Series
carmanah.com | traffic@carmanah.com | 1-844-412-8395

MX FLASHER MODULES




MX RRFB Module



MX Beacon Module



MX LED Sign Module

Flasher Module	MX LED Sign Module
Size/Quantity	30", S1-1, Single
Sheeting Color	FYG
Optical	Meets MUTCD LED requirements for color, flash rate and dimming Viewing angle: 15°
Construction	3M High Intensity Prismatic or Diamond Grade retroreflective sheeting and components UV-resistant polycarbonate channels and waterproof housings protect wiring; include fully integrated junction box
Mounts	Standard Banding to Pole
Overhead Lighting (contact Carmanah for a lighting layout)	 <p>Overhead Lighting for Crosswalks: Overhead lighting fixtures enhances safety by providing adequate, pedestrian-level lighting. Learn more.</p> <p>None</p>

PUSH BUTTON





Standard Pushbutton

Accessibility:

Push buttons have a variety of features available to improve safety for people with disabilities, including audible messages, raised directional arrows and locator tones. [Learn more.](#)

Housing Color	Yellow
Activation	Pushbutton: piezo-driven with visual LED and two-tone audible confirmation Passive detection option available

WIRELESS COMMUNICATION AND DATA COLLECTION

Local	MX Field App (Bluetooth®) for on-site setup, local access to default settings, system health status and more  
System-To-System	Linked MX systems flash in sync up to 1,000 ft (305 m) away
Remote Connectivity	MX Cloud (cellular) for remote health status monitoring, email/SMS alerts, scheduling, asset management, programming and more Subscription: MX Lite See all MX subscriptions
Location & Time	GPS

INCLUDED WITH EVERY SYSTEM

Warranty	3-year limited warranty on MX system 1-year limited warranty on batteries
Support	Carmanah's North American product support technologists available for solution building, solar sizing and troubleshooting 24/7 access to Carmanah's online Product Support Center

MX POWER MODULES



MX 100

Type	Solar Power Module
Housing Dimensions & Weight (w/o batteries)	12.6 x 13.6 x 5.3", 320 x 345 x 135 mm, 5 lb (2.3 kg)
Housing Color	Natural
Construction	Weatherproof, gasketed enclosure with vents for ambient air transfer (NEMA 3R) Lockable door Cabinet systems include Type II lock option (standard for MX 400) Corrosion-resistant aluminum with stainless steel hardware
Solar	15 W at 45-degree tilt for optimal energy collection 12 VDC operation, solar sized to specific geographic location Includes 12-month Solar Power Report to ensure sustainability System designed for 5+ year battery life Replaceable, recyclable, sealed, maintenance-free AGM batteries offer the widest temperature range and longest life
Solar Dimensions & Weights	See solar power module dimensions

SOLAR MOUNT

Mount Color	Natural
Pole Size	4" - 4.5" OD Round



2.0-2.5"
Perforated Square Pole



2.38-2.88"
Diameter Round Pole



3.5-4.5" Diameter Round Pole



Side of Pole

CMH05C614A8

Access to Carmanah's solar sizing tool and the Solar Power Report is provided to you for informational purposes only. Carmanah expressly disclaims all representations and warranties with respect to such tool and report, including, without limitation, that they will meet your requirements, achieve any intended results, or be error-free. By using such tool and report, you agree and understand that solar simulations are estimates based on historical data only and cannot be relied upon as representations of future performance. Factors such as (without limitation): the presence of buildings, trees, and other obstacles; the direction of the installed solar panel; added third-party equipment; and any improper maintenance of solar panels and batteries, may dramatically affect our product's performance and lifespan. Your use of the solar sizing tool, Carmanah's website, and the report and other material generated by them, are subject to our Terms of Use, which can be found at: <https://carmanah.com/policies/website-terms-of-use/>

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Quote



Traffic Safety Corp.
2708 47th Avenue
Sacramento, CA 95822, USA
<https://www.xwalk.com>

US: +1 888 446 9255
Worldwide: +1 916 394 9884

Customer Number: 02-QUOTEMO
Quote Number: 0120458

Quote Date: 11/29/2021
Expires On: 12/29/2021

Salesperson: Jennifer Kay
jennifer.kay@xwalk.com

Direct Line: 1-916-330-1081

Bill To:
City of Ballwin
Ballwin, MO 63011
United States
jbottorff@ballwin.mo.us

Ship To:
City of Ballwin
Ballwin, MO 63011
United States

Confirm To: Jim Bottorff

Notes: 636-227-2257

Ship Via
BEST WAY

Terms
Net 30 Days From Invoice Date

Item / Description	UOM	Qty Quoted	Price	Amount
Please advise Flash Time. Factory Default: 30 seconds. Options: 10, 20, 30, 45, 60, 90, 120, 150, 180, 240				

We do not have a resale certificate (exemption number) on file for you. Please submit your exemption/certificate number if you have one. Thank you!
U.S. customers only.

Freight Allowed
We Appreciate Your Business

Traffic Safety Warranty: https://www.xwalk.com/pages/sys_warranty.htm

Net Order:	\$10,865.56
Freight:	\$0.00
Sales Tax:	\$0.00
Order Total:	\$10,865.56 USD

Quote



Traffic Safety Corp.
 2708 47th Avenue
 Sacramento, CA 95822, USA
<https://www.xwalk.com>

US: +1 888 446 9255
 Worldwide: +1 916 394 9884

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 United States

Confirm To: Jim Bottorff

Notes: 636-227-2257

Ship Via
 BEST WAY
Terms
 Net 30 Days From Invoice Date

Item / Description	UOM	Qty Quoted	Price	Amount
SI-TS40S1130S1A Solar LED Flashing School Xing Sign, 30"x30" for Wireless Communication, w/Wired Activation (Sensor/Push Button Not Included), FYG, All (4) Same Channel	EA	4.000	\$2,478.39	\$9,913.56
AC-4EVRBDSPFS-Y Yellow 4EVR Push-Button with Stainless Steel Button (frame and sign included)	EA	2.000	\$312.00	\$624.00
SI-W16-7P-L Diagonal Downward Arrow Left 12"x24" Diamond Grade Fluorescent Yellow/Green. No hardware included	EA	2.000	\$82.00	\$164.00
SI-W16-9P Rectangular "AHEAD" 12"x24" FYG. No hardware included	EA	2.000	\$82.00	\$164.00

At time of order advise size/shape of pole. U channel will not work
 POLE PRICE NOT INCLUDED IN THE QUOTE
 BY MUTCD THE BOTTOM OF THE SIGN NEEDS TO 7' ABOVE GROUND.

Continued



2292 Airport Blvd.
 Santa Rosa, CA 95403
 Phone (707) 542-4547
 Fax (707) 525-6333

Quote	Quote # 120921- 36
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Submitted to: **Jim Bottorff**
 City of Ballwin Public Works
 200 Park Dr.
 Ballwin Park, MO, 63011
 USA
jbottorff@ballwin.mo.us
 Phone 636-227-9000

PRICING IS FOR A REPLACEMENT SYSTEM WITH 1 MASTER
 AND 3 SLAVE SOLAR WIRELESS SIGN SYSTEMS

Reference: Ballwin MO Replacement of Spot Signs

Date:	Shipment:	Terms and Conditions:	Pricing Basis
12/9/2021	FOB Santa Rosa	50/50 Discount pricing, SEE NOTE 6	MSRP

Item	QTY	Model Number	Description	MSRP Total
1	2	LGS-PBA-R10-25-5x7	ADA 2" Push Button Assembly - R10-25 sign 5x7.75 NO LED	\$ 630.00
2	4	LGS-W11-2 B 30 FYG	Ped Sign w/o Crosswalk Lines & LED Enhanced Border	\$ 3,500.00
3	1	LGS-PLC-SE MASTER	Wireless Master - Standard Energy (minimum 55W, 100AH)	\$ 3,740.00
4	3	LGS-PLC-SE SLAVE	Wireless Slave - Standard Energy (minimum 55W, 100AH)	\$ 9,900.00
5	1	LGS-WMS UPGD KIT	Wireless Master Conversion Kit - 4 Slaves	\$ 500.00
6	1	LGS-SHIPPING	Estimated Shipping & Handling Charges	\$ 1,270.00
7	1	LGS 50/50 TERMS Discount	Discount for 50% Pre-Pay Order	\$ (910.00)

Total Including Shipping & Handling **\$ 18,630.00**

- Notes:**
- Quote is subject to attached TERMS AND CONDITIONS OF SALE and may expire thirty (30) days from quote date.
 - This offer excludes the following, but is not limited to: installation, poles, wire, miscellaneous mounting hardware, applicable sales tax, drawings, bonds, fees, permit fees or any other added fees.
 - This product complies with U.S. Patent no. 6,384,742 awarded to LightGuard Systems, Inc. Use license is authorized for each system purchased.
 -
 - Shipping 6 weeks normally, after receipt of Order Confirmation - subject to change due to parts availability or special order.
 - PAYMENT TERMS: 50% Due Upon Order 50% Due Upon Completed Order Ready To Ship. 50/50 terms are our best pricing and represent approx 5% discount off our standard prices.**
 - Solar Powered Systems are designed to operate within the performance characteristics outlined in the attached solar calculation worksheet. If the actual electrical load exceeds that noted in the worksheet (% daily power consumption), then the customer is responsible to increase the power via additional solar panels &/or batteries as required.

Sher Paz
 Sher Paz
 Authorized Sales Agent
sher@lightguardsystems.com

Date: December 9, 2021

(Quote tool version 2v136)

TERMS AND CONDITIONS OF SALE

1. **QUOTES:** All quotes, bids, contracts, and orders are subject to final written approval by LightGuard Systems (LGS). Quotes will be honored for 30 days. After 30 days, pricing is subject to change. Applicable sales taxes are not included in quotes, and will be added to all orders at time of confirmation, unless the Buyer provides LGS with a tax exemption certificate at the time of order placement.
2. **PAYMENT TERMS:** Order payment terms are specified in each quote and cannot be changed without a new quote being issued. "50/50" terms require the first 50% payment received or postmarked within 5 business days of order confirmation to avoid production delays. The remaining 50% payment is due before order can ship. Delays of final invoice payment (funds not received within 20 days of invoicing) may result in equipment being released to other orders. "Prepay" terms require full payment received or postmarked within 5 business days of order confirmation to avoid production delays. Past due accounts will incur finance charges.
3. **MINIMUM ORDER:** Minimum system order accepted is \$3,000. Minimum replacement part order accepted is \$150.00.
4. **FREIGHT:** All prices are FOB Santa Rosa, CA. Shipment method/carrier will be determined at LGS' discretion.
5. **CANCELLATION CHARGES:** Confirmed orders are subject to a cancellation charge of 30%. Custom orders may not be cancelled.
6. **CHANGE ORDERS:** Confirmed orders may not be modified without acceptance and written approval by LGS.
7. **RECEIPT OF GOODS:** LGS shall not be liable for delays or failure in the fulfillment or performance of this contract if hindered or prevented, directly or indirectly, by labor disputes, orders of any governmental agency, national emergencies, sabotage, riots, conditions of war, inadequate transportation facilities, acts of God (such as fire, flood, windstorm, earthquake, hurricane, tornado), or any cause beyond the reasonable control of LGS.
8. **WORKMANSHIP:** All work completed by LGS is done in a workmanlike manner according to standard industry practices. A request by Buyer for any alteration or deviation of a product will incur additional charges over and above this formal quote, and will be executed only upon prior written authorization by LGS. LGS reserves the right to change/upgrade, without notice, product details or specifications, and/or substitute any product in a system it deems comparable due to lack availability or unexpected delays from its vendors.
9. **LIMITED WARRANTY:** See www.lightguardsystems.com/product-warranties for full LGS Limited Warranty policy. Summarized description below.
Subject to the Conditions and Exclusions noted below, LGS warrants to the end user that each LGS product, when installed and operated under normal use and maintained according to the instructions furnished with the product, will be free from defects in materials and workmanship. LGS agrees that it will, at its option, either repair any such defect or replace the nonconforming product or part thereof with an equivalent replacement product or part at no charge to Buyer/end user for LGS-branded or LGS-supplied parts for the periods set forth below:
5 Year Limited Warranty - Rectangular Rapid Flashing Beacons (RRFB), LED Signs, and base plates for a period of 5 years from date of installation. Warranty period will never start later than 6 months after the date of purchase from LGS, however.
3 Year Limited Warranty - In-Roadway Warning Lights (IRWL), Bollards, Controllers, and related cabling, for a period of 3 years from date of installation. Warranty period will never start later than 6 months after the date of purchase from LGS, however.
1 Year Limited Warranty - Third party manufacturers' non-value added product such as batteries, enclosures, solar panels, push buttons, static signs, etc., for a period of 1 year from date of installation. Warranty period will never start later than 6 months after the date of purchase from LGS, however. If a third party manufacturers' standard warranty period is greater, that period will apply. In some cases, Buyer/end user may need to facilitate the warranty coverage directly with a third party manufacturer, rather than LGS. For Limited Warranty coverage outside the USA, contact your local LGS representative, as coverage may vary.
10. **CONDITIONS AND EXCLUSIONS OF WARRANTY:** See <https://www.lightguardsystems.com/company-info/product-warranties/> for full LGS Conditions and Exclusions of Limited Warranty. Summarized description below.
All products must have been purchased from LGS or an authorized LGS Dealer. All LGS products are designed to function/operate as an integrated system. LGS does not warranty any of its products to function or provide any level of safety when directly integrated with non-LGS products/brands. Limited Warranty does not cover any product that has been subjected to damage/abuse, misuse, alteration, neglect, unauthorized repair or installation, connection to an improper power source, operation beyond its manufactured specifications and limits, improper site preparation, maintenance not in accordance with manufacturer instructions, or operation with components not supplied or approved in writing by LGS, including, but not limited to, buttons, switches, system wiring, and cabling, (see manufacturer installation instructions at www.lightguardsystems.com/installation-manual). Limited Warranty is void if the product has been subjected to adverse conditions, or otherwise operated outside its specified environment. Limited Warranty does not cover the finish or non-functional appearance of any product. Buyer, if different than end user, shall be solely liable to the end user for the condition of the products as installed. Buyer is also required to provide the end user with all documentation related to this Limited Warranty as well as these Terms and Conditions.
11. **DAMAGES:** Buyer and end user agree to save and hold LGS harmless from any and all liability, loss, and expense, including attorney's fees, arising out of or in connection with any Buyer offered warranties. In no event shall LGS be liable for loss, damage, or expense directly or indirectly arising from the use of the product, or from any other cause, except as expressly stated in the Limited Warranty. LGS is not liable for, and Buyer expressly waives any right of action it has or may have against LGS for any consequential or special damages arising out of any breach of warranty, express or implied. LGS will not be liable for payment of any expenses incurred by Buyer or end user for facilitation of warranty replacement, including but not limited to, shipping, travel, and/or installation costs. LGS is not liable for any damage done by unauthorized repair, replaced components, from misapplications of the product and any of its components, or for damage due to shipping, accidents, abuse, negligence, or acts of God.
12. **VALIDITY:** If any provision of these Terms and Conditions of Sale are found to be invalid or unenforceable, the remaining provisions shall not be affected and will remain fully enforceable.
13. **JURISDICTION AND VENUE:** Any questions, claims, disputes, or litigation arising from or related to Buyer's Purchase Order, shall be held in Sonoma County and governed by the laws of California, without regard to the principles of conflicts of law. If after good faith negotiations an agreed upon resolution cannot be reached, non-binding arbitration is to be held in Sonoma County, California. The arbitration will comply with, and be governed by, the provisions of the California Arbitration Act, sections 1280 through 1294.2, of the California code of Civil Procedure. Arbitration costs will be borne in a proportion determined by the arbitrator.

Ballwin, Missouri

Google Street View

Jul 2011 See latest date

