4455 Genesee Street, Buffalo, New York 14225 | *Phone:* 716.632.7500 | *Fax:* 716.631.6969 | www.calspan.com

Calspan

June 26th, 2018

To whom it may concern:

This letter is to certify that the subject barrier, the GROUND RETRACTABLE BOLLARD (MODEL RB-400) provided by Barrier1 Systems, Inc., was tested to the requirements of the ASTM standard F-2656-07, Standard Test Method for Vehicle Crash Testing of Perimeter Barriers, in place when the test was performed.

The test was performed at Calspan Corporation on June 25th, 2018. The barrier was impacted by a truck weighing 6840.2 kg (15,080 lbs.) travelling at 47.64kph (29.60 mph). Post-test measurements of the dynamic movement of the test vehicle's payload (truck bed) show that the left and right leading edge of the truck bed was stopped at 1542mm and 1683mm respectively before the trailing edge of the impacted element. As such, based on the truck mass, impact velocity and penetration into the protected zone, the barrier rating per the ASTM standard F-2656-07 is M30–P1.

Calspan is accredited to ISO 17025 to perform ASTM F2656-07 testing by Perry Johnson Laboratories Accreditation, Inc. (PJLA) under Certificate Number L13-137 and Accreditation Number 76654.

Respectfully,

Edward Dutton

Edward Dutton
Test Director

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
1616 CAPITOL AVENUE
OMAHA NE 68102-4901

January 25, 2019

Protective Design Center

Barrier1 Systems, Incorporated
8015 Thorndike Road
Greensboro, North Carolina 27409

Dear Barrier1 Systems, Incorporated:

The Protective Design Center received the submitted test report for the M30 P1 Barrier1 Ground Retractable Bollard – Model RB-400 from Calspan Corporation (ASTM F2656-07, test number TR3255, test date June 25, 2018; and report date June 25, 2018), and determined the report meets test standard ASTM F2656, *Standard Test Method for Vehicle Crash testing of Perimeter Barriers*. The Protective Design Center will add the barrier to the Department of Defense Anti-Ram Vehicle Barrier List prior to the end of March 2019.

The acceptance of the submitted test report only indicates that the test report met the criteria specified in ASTM F2656. Acceptance is neither an endorsement of the barrier nor a guarantee that the barrier will be in any Department of Defense project.

The Protective Design Center maintains the Department of Defense Anti-Ram Vehicle Barrier List and makes it publically available at https://www.nwo.usace.army.mil/About/Centers-of-Expertise/Protective-Design-Center/PDC-Library/.

The Protective Design Center treats all submitted test reports as proprietary information and safeguards them from public disclosure.

Thank you for your interest and endeavors in protecting our personnel and facilities worldwide. If you have any questions, you may contact Mr. Brian Erickson at (402) 995-2394, or via email at brian.w.erickson@usace.army.mil; or Ms. Ann Mittelsdorf at (402) 995-2930, or via email at ann.m.mittelsdorf@usace.army.mil.

Sincerely,

Curt P. Betts, P.E.
Chief, Protective Design Center

cc:
Mr. Ed Dutton
Calspan Corporation
4455 Genesee Street
Buffalo, New York 14225