

# THE GARRISON

Security Bollard

# StressCrete®

GROUP



**INCREASE SAFETY WITHOUT  
SACRIFICING STYLE**

## **YOUR FIRST CHOICE IN THE LAST LINE OF DEFENSE**

StressCrete centrifugally cast reinforced concrete bollard combines elegance with durability and surpasses most other materials in the market. The spinning process introduces qualities into the concrete which cannot be obtained by more conventional casting methods — a higher density and stronger concrete.

Engineered to the most rigorous standards, StressCrete has developed a security bollard solution by adding a pre-engineered steel core to the existing bollard portfolio without sacrificing any of the aesthetic beauty. It is engineered to resist the impact of a 5,070 lb pickup truck traveling at 50 mph. The Garrison security bollard is based aesthetically on the standard Silhouette bollards allowing for a seamless transition from decorative to security bollards without drawing attention.

**INCREASED SECURITY WITHOUT  
SACRIFICING STYLE.**





Protect your site by working with StressCrete Group to create custom security bollard solutions that will protect your property and visitors without interfering in their experience.

# THE GARRISON

ENGINEER RATED PU50 P1 SECURITY BOLLARD

## FEATURES

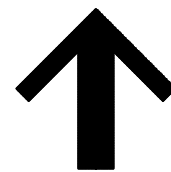
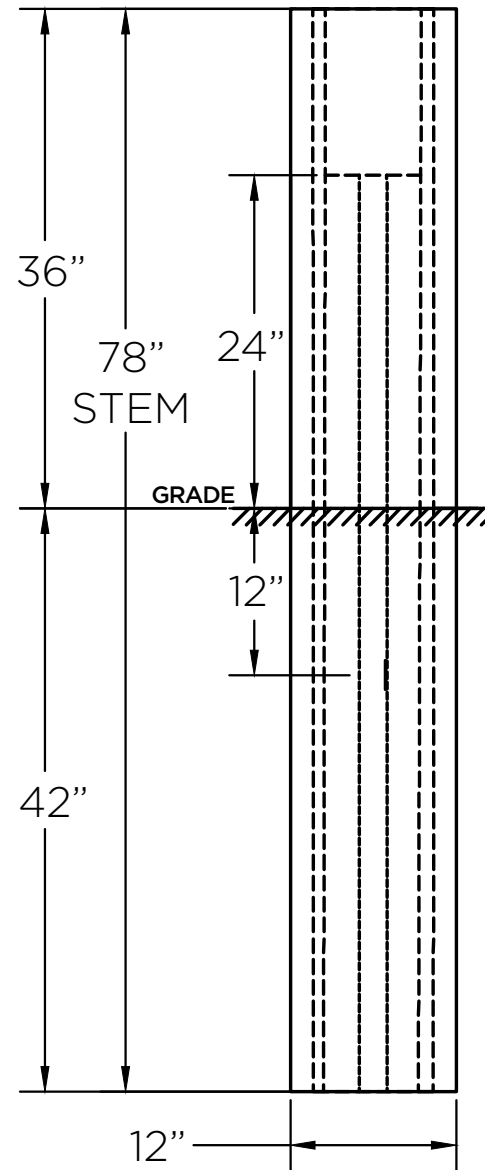
- PU50 Engineered using Finite Element Analysis
- 36" Above-Grade Height
- 42" Buried Below Grade
- 45" deep x 30" wide strip foundation (min. 114" length)
- Min. array of 2 bollards - a single bollard is engineer rated to resist impact of vehicle
- Available in Lit or Non-Lit configuration
- Cost effective with a long service life
- Minimal vibration and deflection
- Low maintenance
- Resistant to vandalism

## WHY USE BOLLARDS

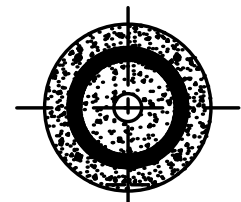
- Define separate areas for motorists and pedestrians
- Provide a safe barrier from high-traffic areas
- Protect people and property from terrorist attacks
- Control access to various parts of the site
- Enhance the aesthetic value of the property
- Prevent vehicles from damaging buildings
- Guide foot traffic

## BOLLARD COLOR OPTIONS

- Midnight Lace • Eclipse Black • Pearl Gray
- Salt and Pepper • Saluki Bronze
- See catalog for more colors



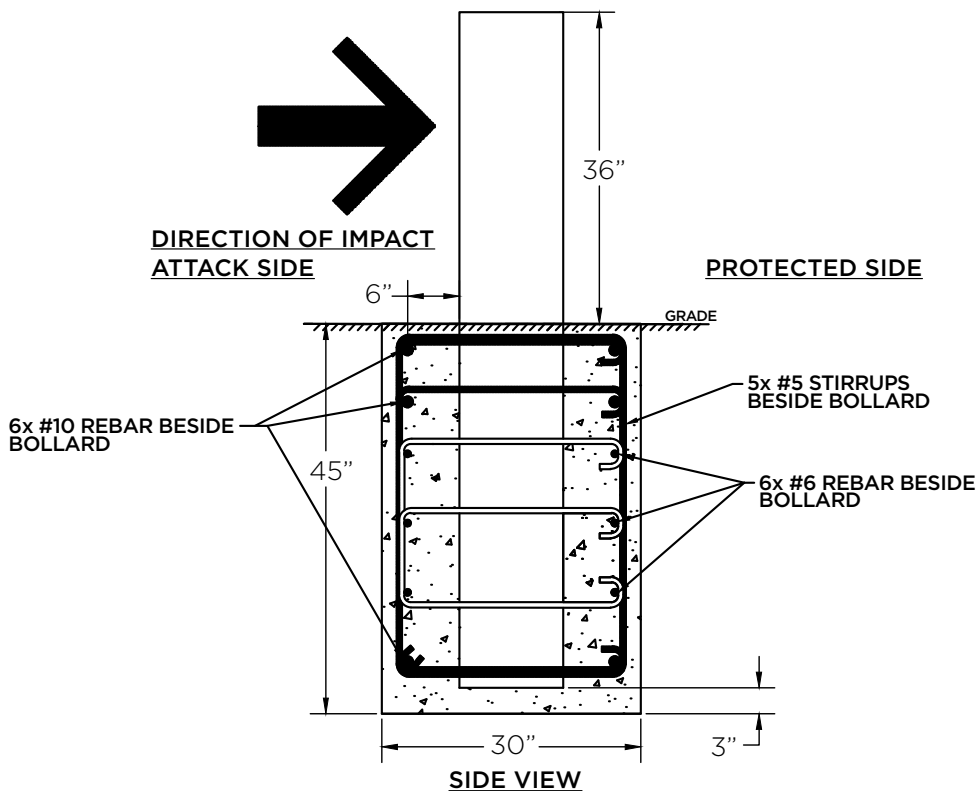
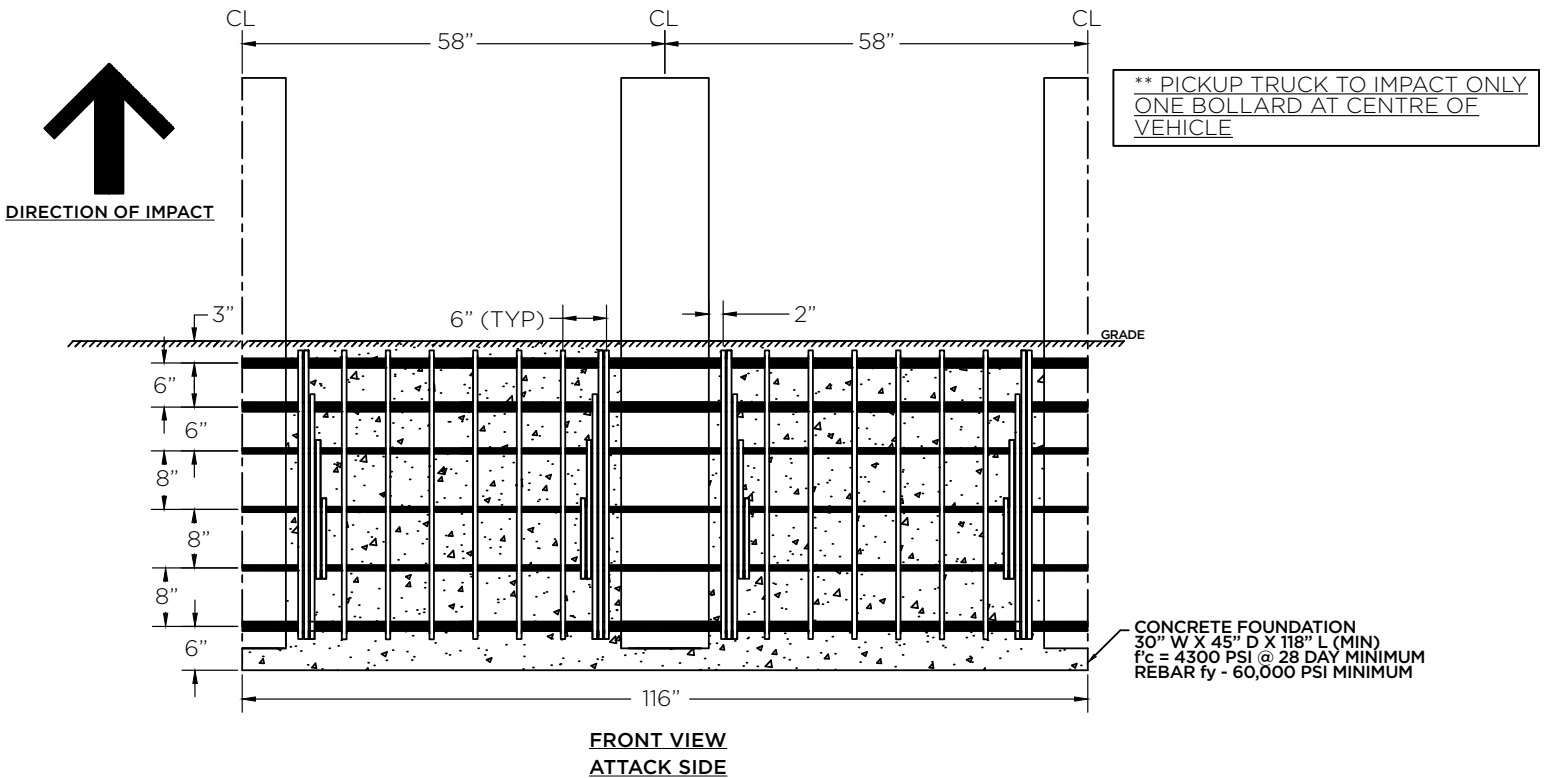
**DIRECTION OF IMPACT**



**NAMEPLATE  
TOP VIEW**

# THE GARRISON

## ENGINEERED SECURITY BOLLARD & FOUNDATION



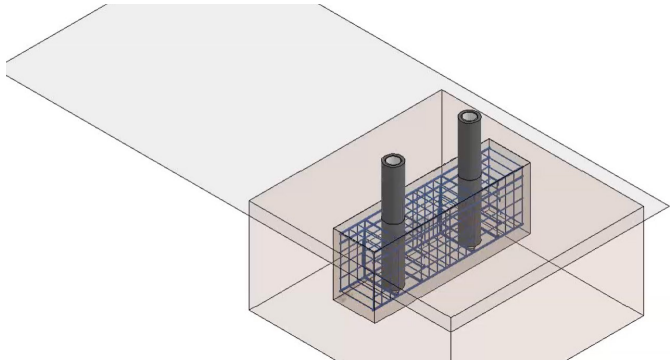
PU50 P1 is the designation based on ASTM F2656 standard. PU50 is a pick up truck weighing 5070 lb traveling at 50 mph. P1 is the penetration rating which states that the bollard stops the vehicle within 3.3 ft.

All backfill shall be in compliance with the requirements of ASTM F2656 Standard Test Method for Crash Testing of Vehicular Security Barriers section 7.2.2. If the existing soil conditions are not in conformance with the requirements of ASTM F2656 section 7.2.2., then the existing soil shall be replaced with soil meeting the requirements.

# FINITE ELEMENT ANALYSIS

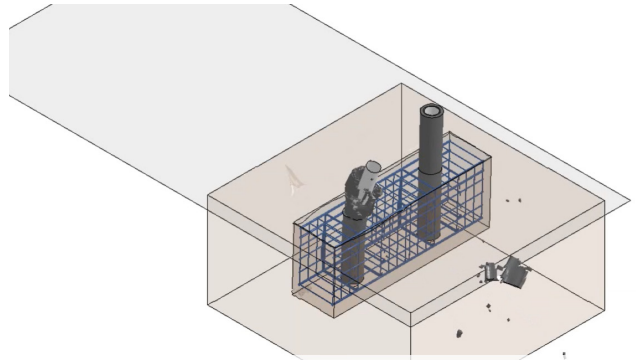
CRASH SIMULATION WITH 5,070 LB PICKUP TRUCK

## BEFORE IMPACT

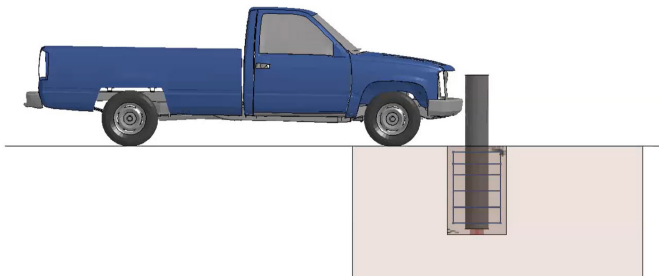


Without Vehicle

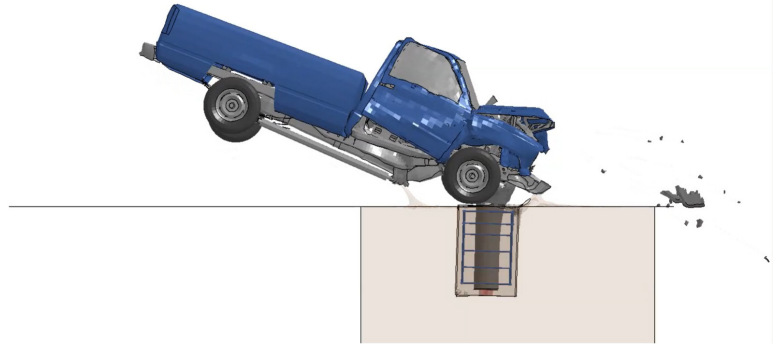
## MOMENT OF IMPACT



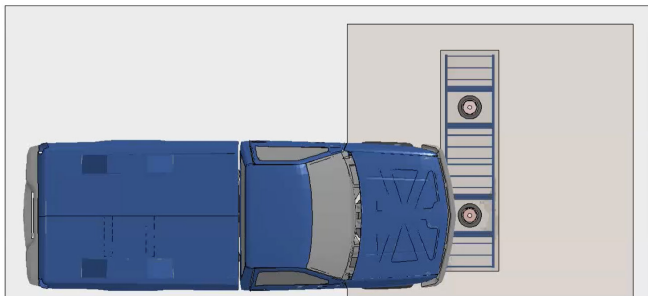
Without Vehicle



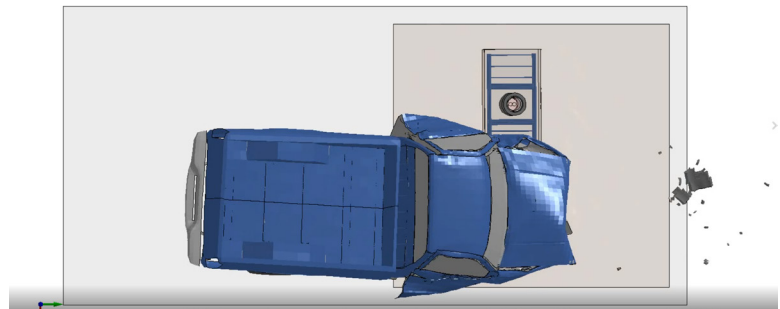
Side View



Side View



Top View



Top View

### WHEN TO USE SECURITY BOLLARDS

Site security has become an increasingly more important consideration in recent years. For many venues, the level of threat may differ, but it is safe to say that architects, city planners, engineers, and property managers will all consider safety at some point during the development and operation of a project site. Whether by accident, or through malicious intent, public and private sites, government buildings, commercial areas, and school campuses are all susceptible to vehicular infringement.

With the Garrison, there is no longer a choice between safety for pedestrians and the visual aesthetic of the site. The Garrison Security Bollard perfectly blends security, performance, and style. Available in all the same finishes as the rest of StressCrete spun concrete products, the Garrison Engineer Rated PU50 P1 Security Bollard blends seamlessly into any aesthetic.

### WHERE TO USE BOLLARDS

- Schools and Universities
- Sport Facilities
- Concert Venues
- Government Buildings
  - » Courthouses
  - » Capitol Buildings
  - » Prisons
  - » Police & Fire Stations
  - » Post Offices
  - » and More
- Site Perimeters
  - » Parks
  - » Courtyards
- Bike Lanes
- Commercial Areas
  - » Storefronts
  - » Malls
  - » Financial Institutions
  - » Business/Office Center
- Residential Areas
  - » Apartment Complexes
  - » Condo Buildings
  - » Hotels
- Industrial Facilities
  - » Warehouses
  - » Factories
- Water and Electrical Boxes
- Parking Lots/Garages

## ABOUT STRESSCRETE GROUP

We are a family business that operate by the core values of honesty, integrity, compassion and respect to better the lives of our employees, their families, our customers and the communities we represent. StressCrete Group services multiple market segments through three divisions.

StressCrete Ltd., established in 1953, is the longest-operating, most experienced manufacturer of spun concrete poles in North America. With plants in Alabama, Kansas and Ontario, we offer the broadest, most diverse range of spun concrete poles and bollards in the industry; with quality second to none.

King Luminaire Co. Inc. produces a comprehensive assortment of high performance outdoor luminaires, metal poles, pole arms and accessories, plus bollards and site amenities. With an array of state-of-the-art LED Technology and HID optical systems, and plants in Ohio and Ontario, King Luminaire is a North American leader in the outdoor lighting industry.

KingCast Inc. is a gravity die cast supplier of high quality aluminum and zinc products to various market segments in the manufacturing industry. KingCast Inc. ensures a seamless flow from initial design to finished product with a fully-equipped CNC machine shop, fabrication shop, as well as multiple finishing processes including powder coating. Clients can rely on KingCast to provide turnkey solutions with virtually endless capabilities.

At StressCrete Group, we provide every customer with the highest quality innovative products and work as a team to create and maintain life-long customers through world class service.

**StressCrete**<sup>®</sup>  
**GROUP**

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