

CrashCore™ Bollard

Crash-Rated Bollard Installation Instructions



COMPONENTS



INCLUDED COMPONENTS

- | | |
|----|---|
| 1A | Stainless Steel Post Cover |
| 2A | Plastic Post Cover |
| B | S20 Deep Rebar Cage |
| C | S20 Deep Steel Core |
| D | Flat Head Screw, 1/2" -13 Thread, 2" long |

All purchases subject to McCue Limited Warranty & Purchase Terms,
available at www.mccue.com/support/warranty



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Suggested Tool List

Below you will find the suggested tools for a deep cage CrashCore Bollard installation

EQUIPMENT

- Skid Steer with 10" Auger & Bucket Attachments
- Core Drill with 12" Diamond Core Bit
- Small Concrete Mixer or 5 Gallon Bucket with Concrete Paddle Mixer
- Gas-Powered Generator
- Wet/Dry Vacuum
- Pressure Washer
- Portable Work Lights (If Night Work)
- Cordless Blower
- Pallet Jack with 5000 lb Capacity
- Cordless Impact Driver
- Dumpster

HARDWARE & SUPPLIES

- Fast-Setting Concrete Mix with Minimum 3000 psi — Approximately 2 ft³ Per Bollard
- 1/4" x 1-3/4" Tapcon Self-Threading Concrete Anchors
- 3/16" Carbide Tip Masonry Drill Bit
- 5/16" Hex Impact Socket
- 5/16" Allen Key or Hex Bit
- Towels or Rags for Clean Stainless Steel
- Stainless Steel-Safe Cleaner

TOOLS

- Chalk for Marking Concrete
- Chalk Line or Laser
- Tape Measure
- 24" Push Broom
- 7" Corn Hand Broom
- Finishing Trowel
- Flat Transfer Shovel
- Round Point Shovel
- Level
- Extension Cord
- 48" Post Hole Digger
- Wheelbarrow
- Web Slings for Lifting at least 1000 lb Capacity
- Square with at least 2 ft Blade
- 3/4" Water Hose with Hose Head Nozzle
- Steel Drilling Hammer or Dead Blow Hammer
- Shut-Off Valve Wrench (Water Security Key)
- 2 Adjustable Pipe Wrenches
- Utility Knife
- String or Wire
- Digging Bar
- Camera or Smart Phone

PPE

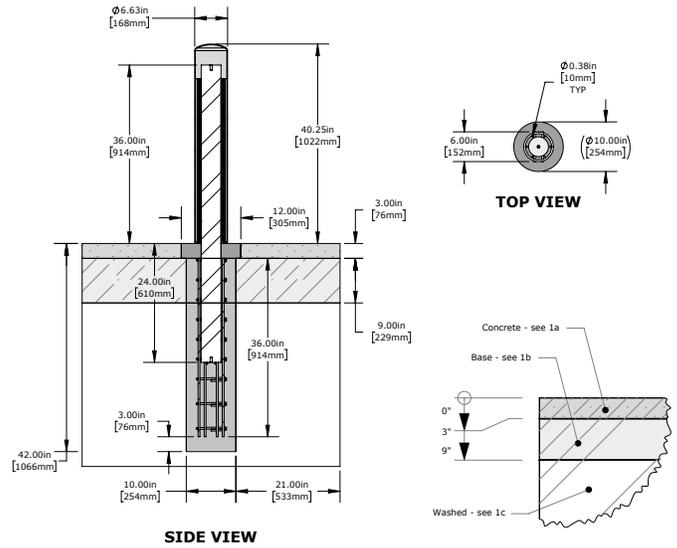
- Dust Mask
- Eye Protection
- Steel Toe Boots
- Ear Protection
- Gloves

OH SH!T LIST

- Cones
- Cation Tape
- Metal Barricade
- Steel Tamper
- Jack Hammer
- 1/2" - 13 Tap
- 3/8" or #3 x 36" Rod or Rebar
- Masking Tape
- Tarp

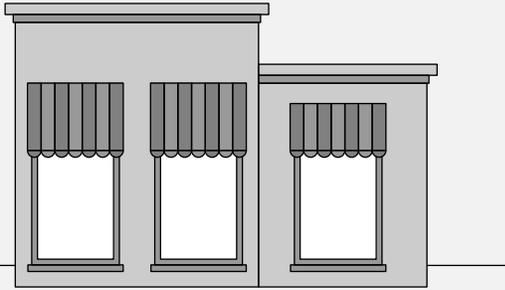
GROUND CONDITIONS PER ASTM F3016

- **1a:** The concrete is 3000 psi minimum unconfined compressive strength, with one layer of #3 (Ø3/8") rebar spaced at 12" each way, with 1-1/4" cover at bottom. Rebar not shown here.
- **1b:** The base is Type A Grade 1 crushed limestone road base, compacted to 90% of standard proctor density.
- **1c:** The washed sand shall be classified as SP - poorly graded sand & be compacted to a density of not less than 90% maximum dry density in accordance with AASHTO Method of Test T099.



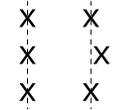
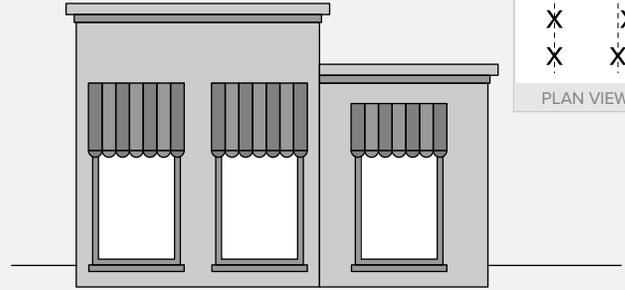
1

PHOTOGRAPH: Take wide angle photo including entire site.



2

Layout and mark bollard locations per print.

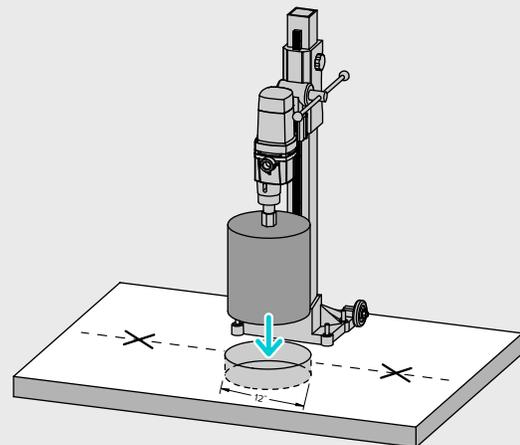
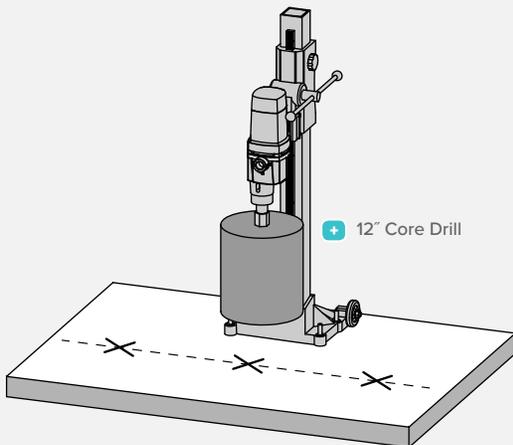


PLAN VIEW

+ Chalk, Tape & T-Square

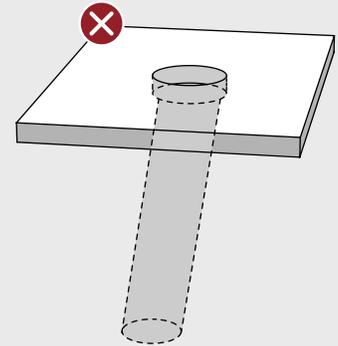
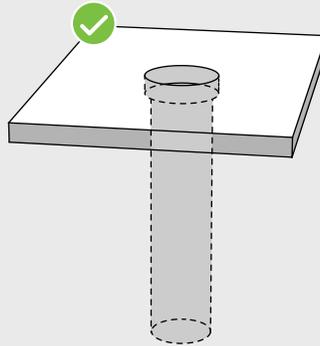
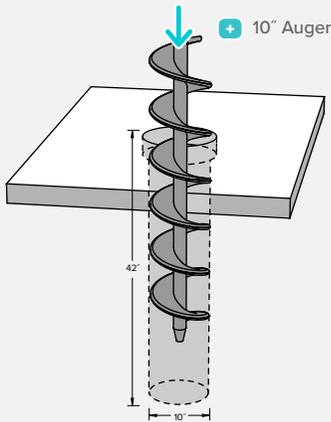
3

Use the 12" core drill to drill through concrete. Keep it clean — use the wet vac to make sure concrete slurry doesn't stain the sidewalk or enter drains.



4

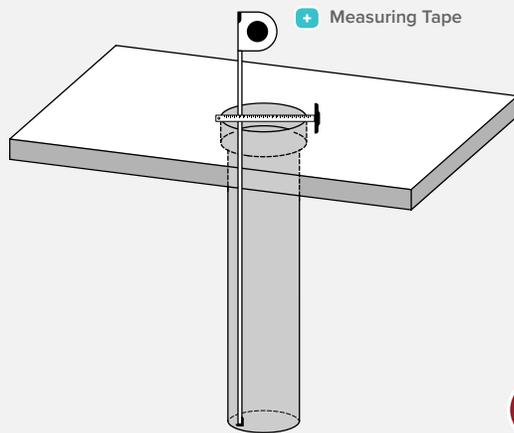
Using the 10" auger remove earth from hole. Auger 10" diameter hole 42" deep.



NOTE: Ensure hole is drilled straight and not at an angle

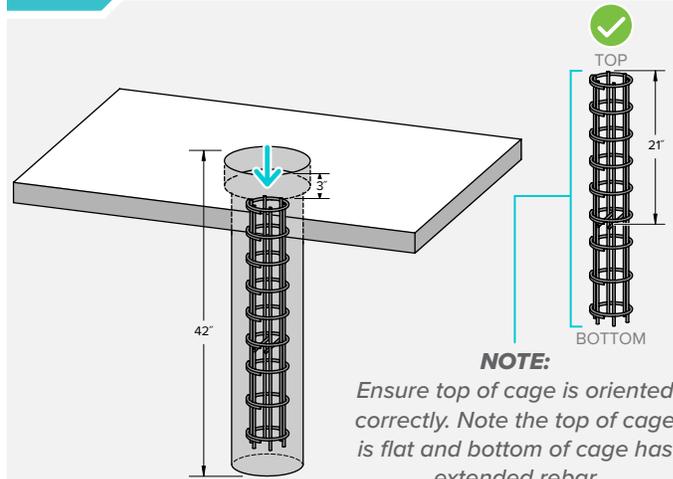
5

PHOTOGRAPH: Take two individual photos of both the diameter and depth of hole.



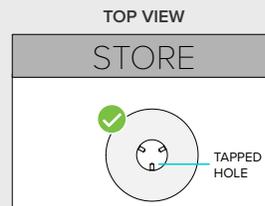
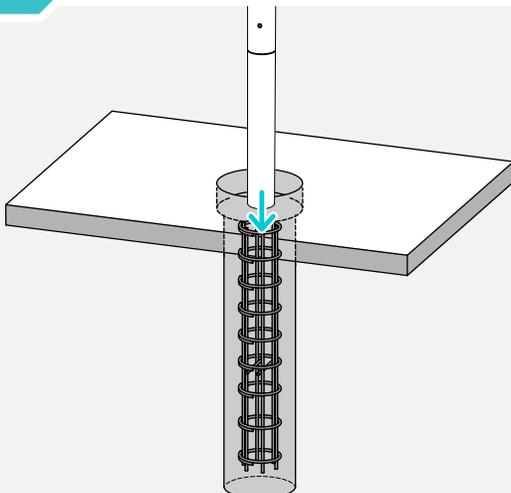
6

Install rebar cage 3" from ground level.

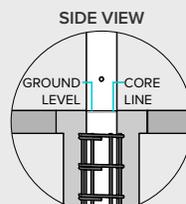


7

Lower the 215 lb core into the cage. Ensure one tapped hole is facing the parking lot and core is plumb.



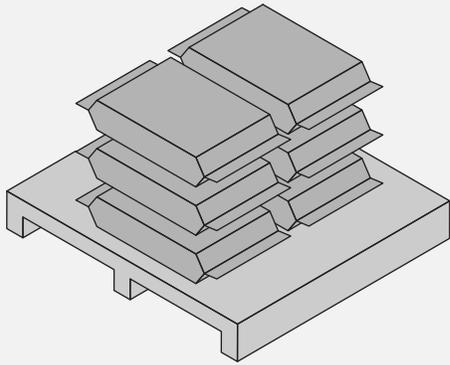
PARKING LOT



NOTE: Ensure top of core is oriented correctly. Note the tapped hole should be above the grooved core line.

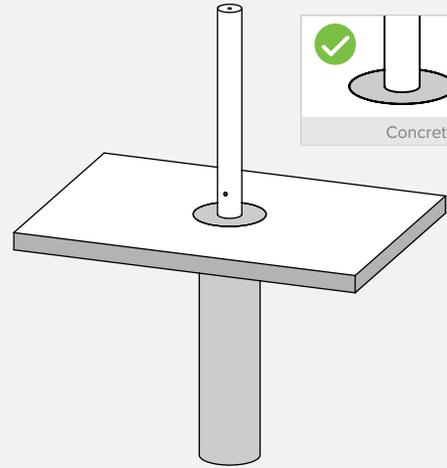
8

PHOTOGRAPH: Take photo of concrete bag.



9

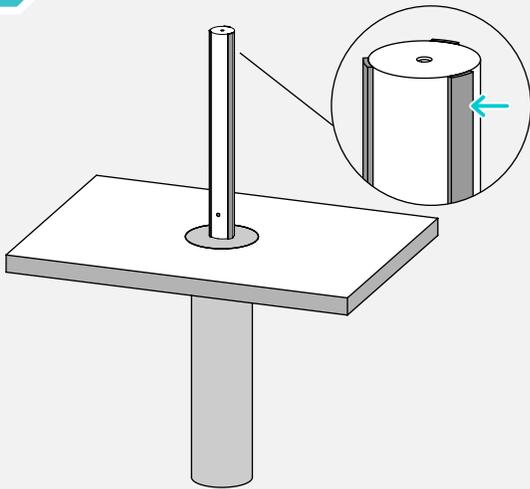
Mix & place 3,000 PSI minimum concrete into the hole to ground level — estimated concrete approximately 2 cubic feet per bollard.



NOTE:
Ensure core
is plumb

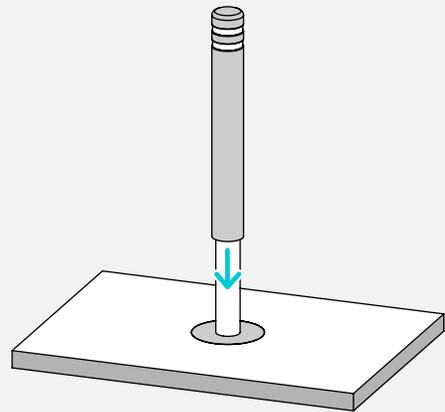
10A

IF PLASTIC COVER: Cut a 3' piece of foam tape and apply to the area between the threaded holes.



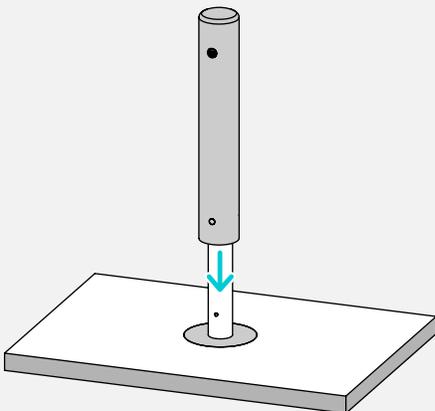
11A

While concrete is still curing, install the plastic post cover.



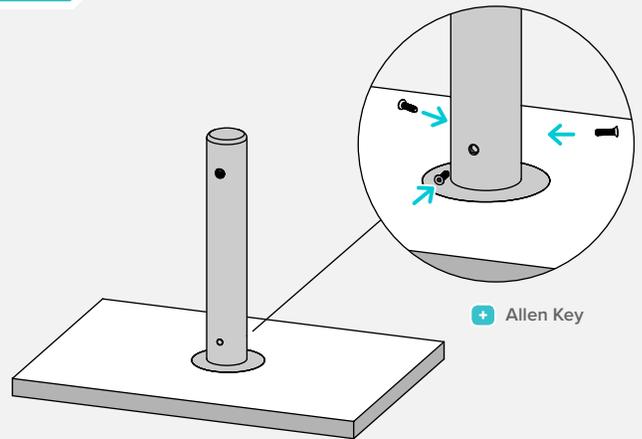
10B

IF STAINLESS STEEL COVER: While concrete is still curing, install the stainless steel post cover.



11B

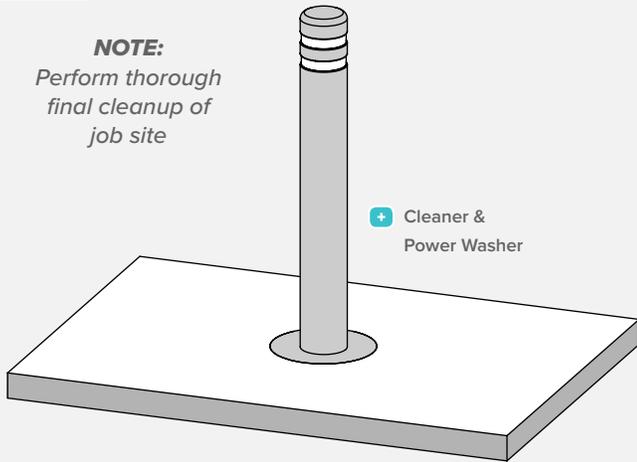
Use the 5/16" Allen Key to tighten the screws to secure the cover.



12

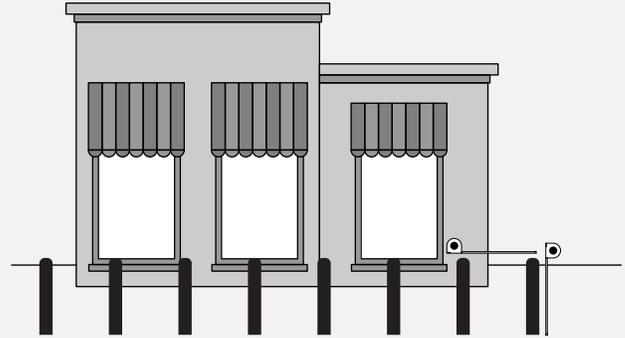
Clean bollard cover and ensure entire site is clean.

NOTE:
Perform thorough final cleanup of job site



13

PHOTOGRAPH: Take photos of completed installation, bollard height & typical spacing.



NOTE: Total of 3 photos



Installation Checklist

Ensure all items are complete before finishing installation

MEASUREMENT CHECK

- 42" Deep hole
- 10" Diameter hole
- Cage is 3" from ground level

CORE ALIGNMENT

- Center the core in the hole
- Core is plumb
- Check the overall height of the bollard from ground level using a tape measure and the line on the core

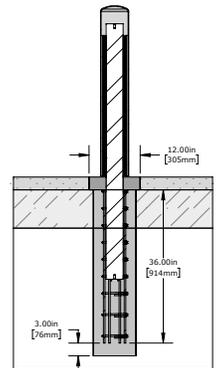
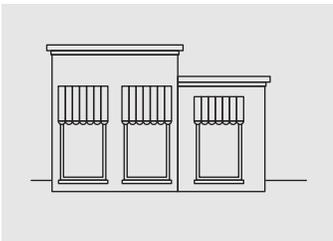
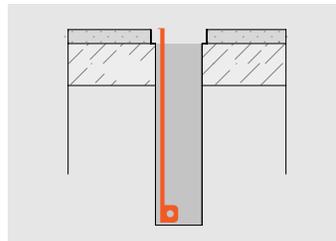


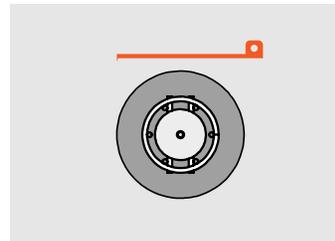
PHOTO CHECK: Ensure to document the completion of each specified step that included a photo icon as shown below



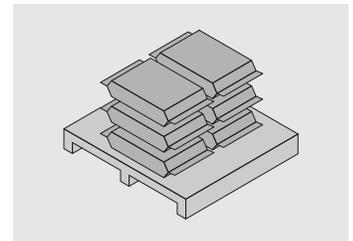
Before Photo Of Work Site



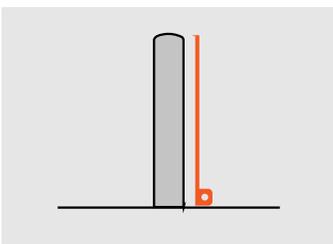
42" Deep Hole



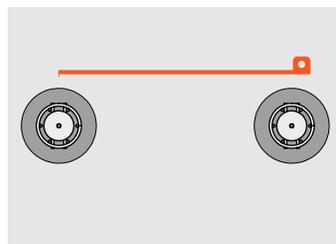
10" Diameter Hole



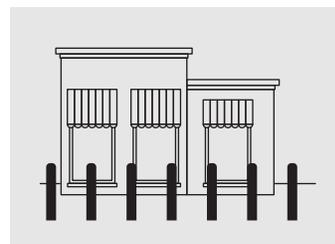
Concrete Bag



Overall Bollard Height



Typical Bollard Spacing



Finished Site Installation



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