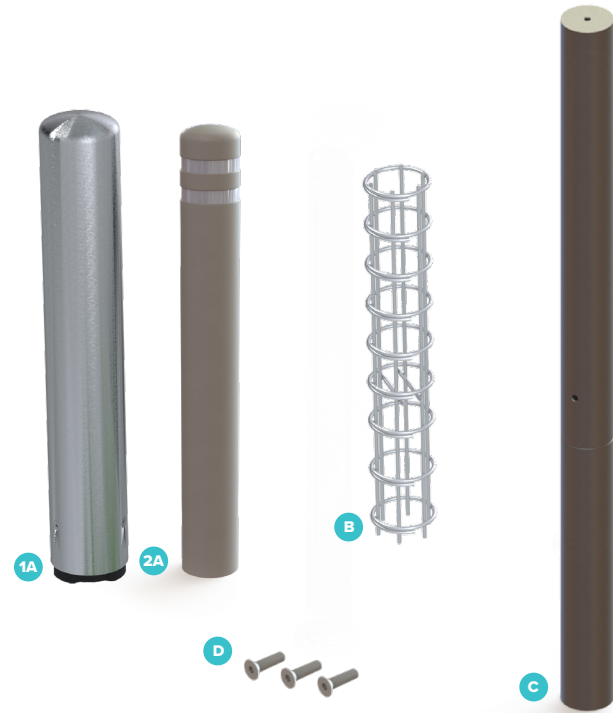


CrashCore™ Bollard

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,
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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

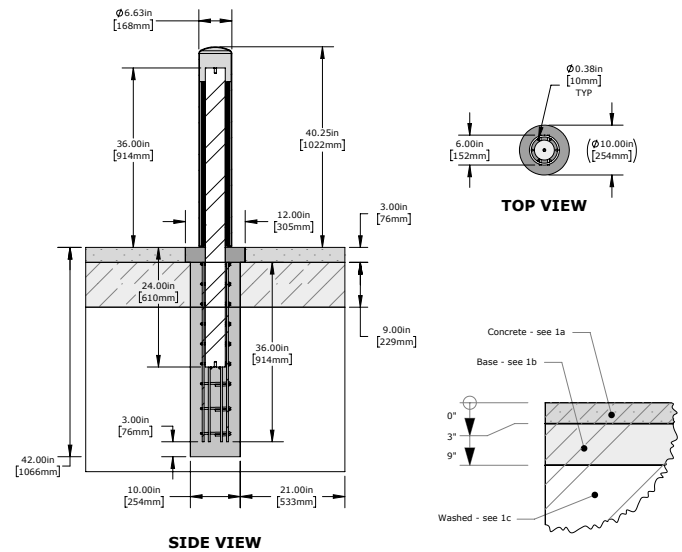


OH SH!T LIST

- ☐ 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

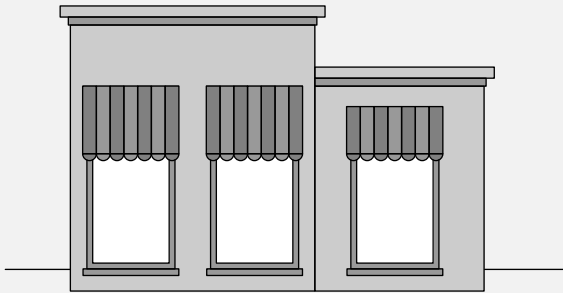
GROUND CONDITIONS PER ASTM F3016

- **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.



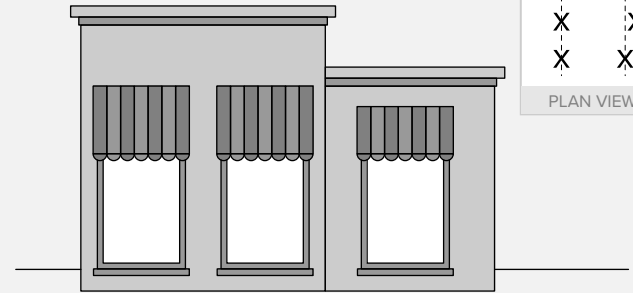
1

PHOTOGRAPH: Take wide angle photo including entire site.



2

Layout and mark bollard locations per print.

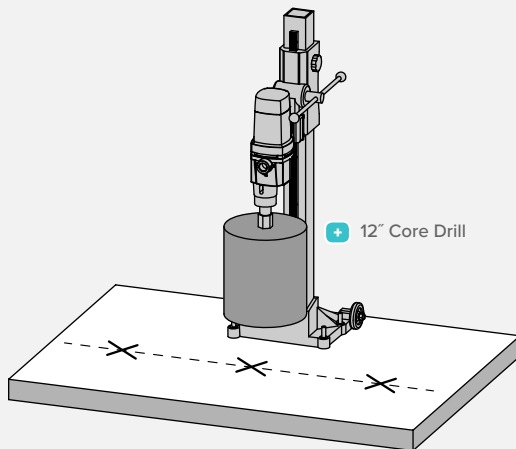


PLAN VIEW

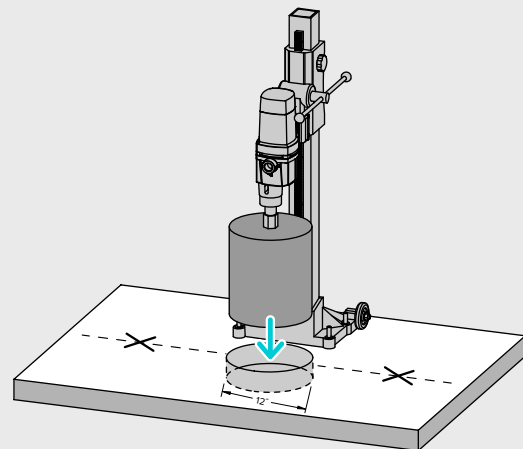
+ Chalk, Tape & T-Square

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.

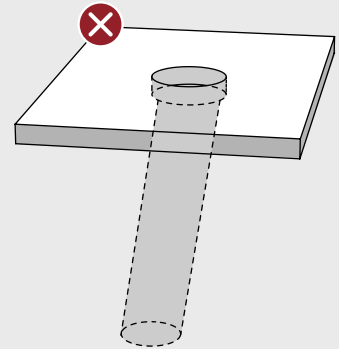
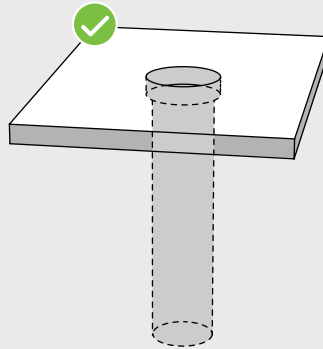
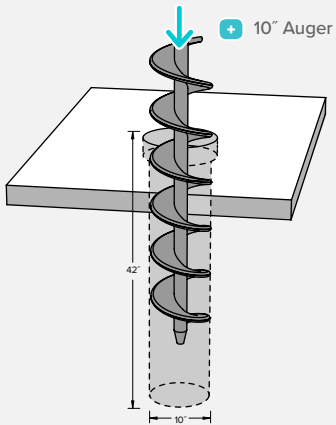


+ 12" Core Drill



4

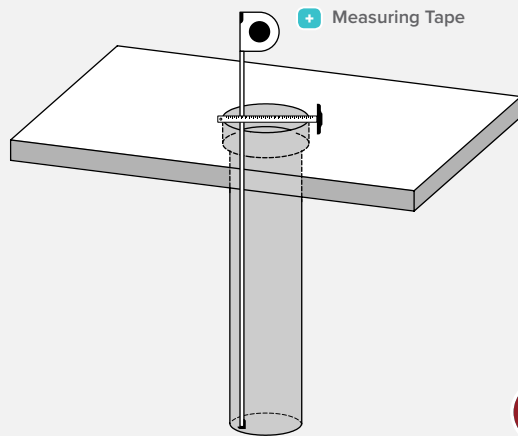
Using the 10" auger remove earth from hole. Auger 10" diameter hole 42" deep.



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

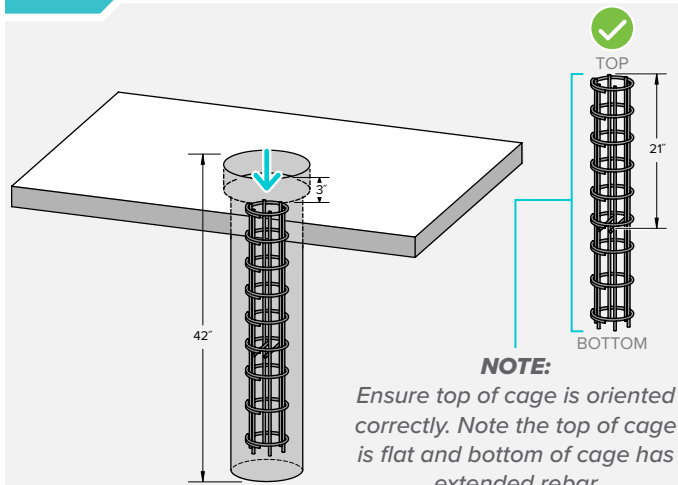
5

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



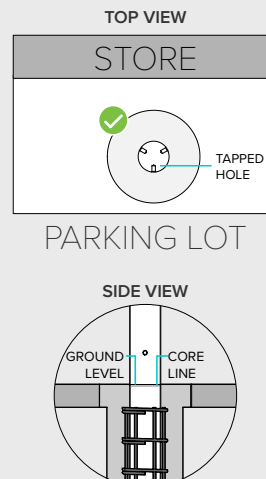
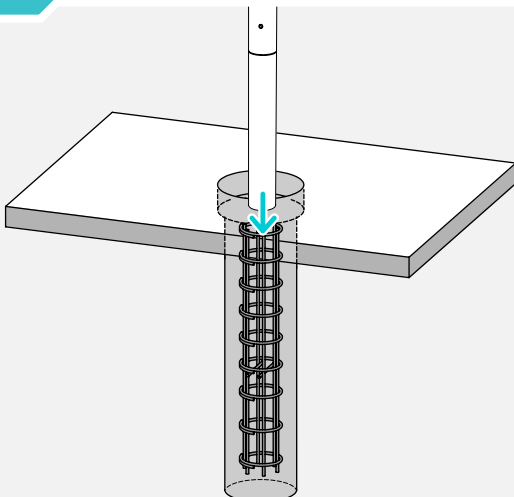
6

Install rebar cage 3" from ground level.

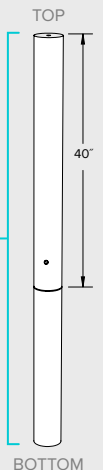


7

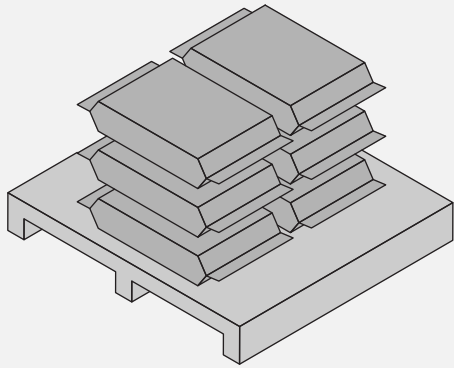
Lower the 215 lb core into the cage. Ensure one tapped hole is facing the parking lot and core is plumb.



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

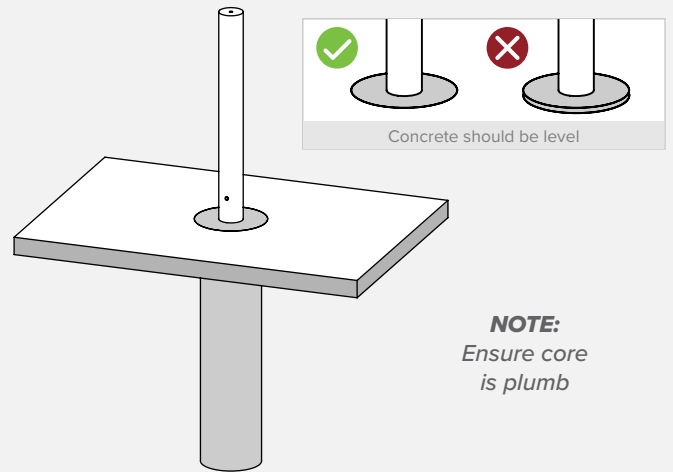


8

PHOTOGRAPH: Take photo of concrete bag.

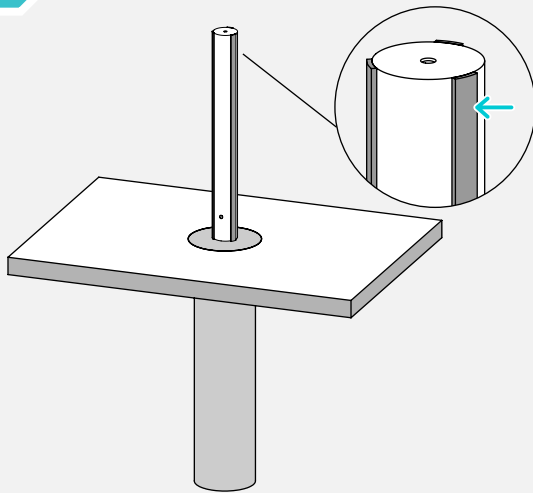
9

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



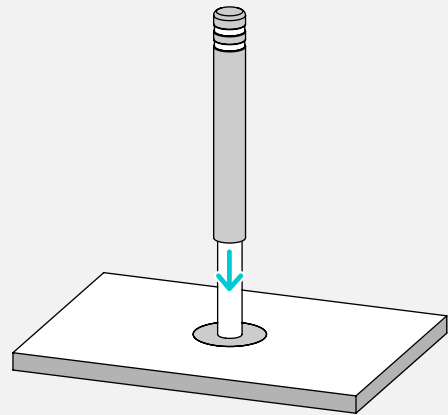
10A

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



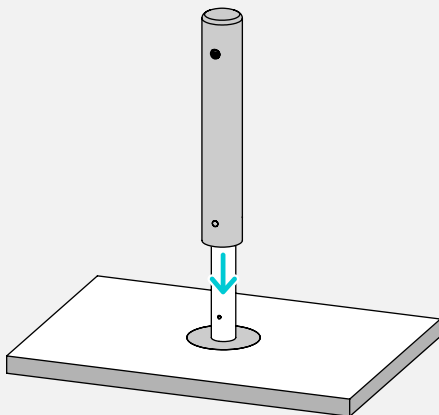
11A

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



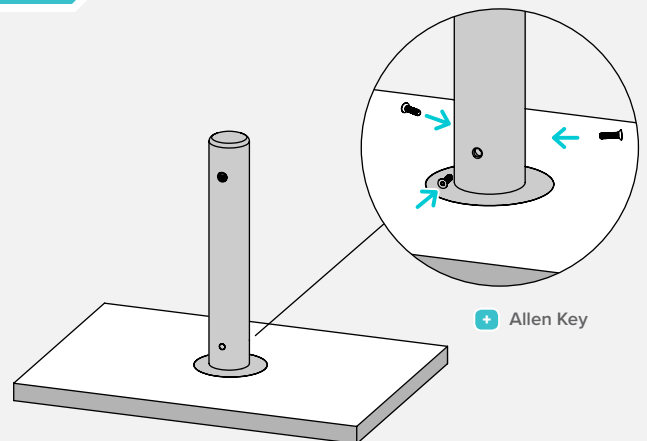
10B

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.



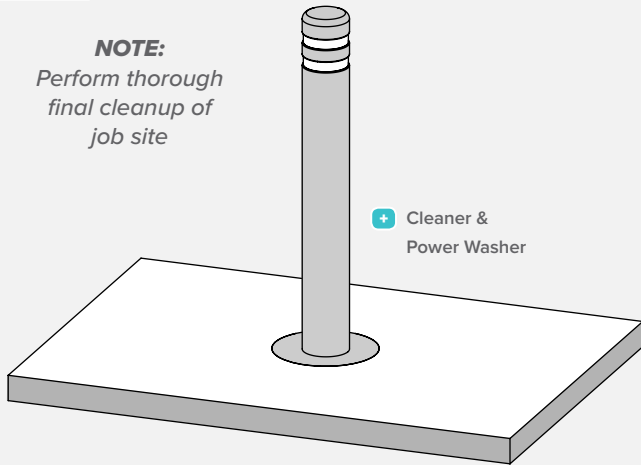
12

Clean bollard cover and ensure entire site is clean.

NOTE:

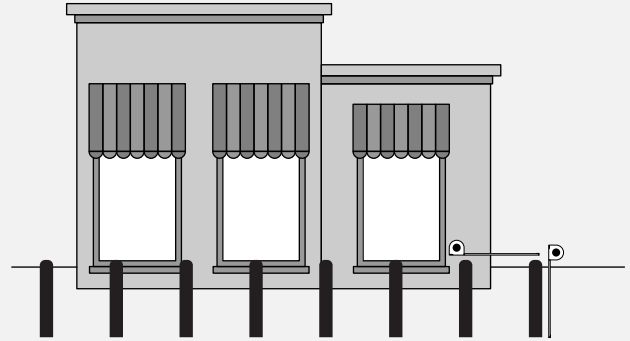
Perform thorough final cleanup of job site

+ Cleaner & Power Washer



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

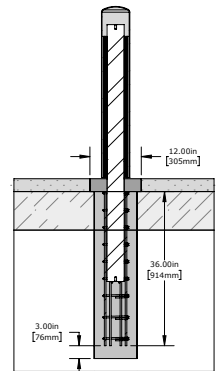
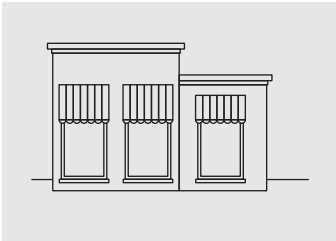
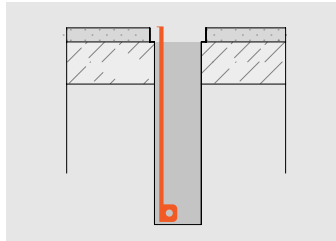


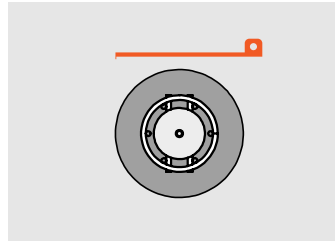
PHOTO CHECK: Ensure to document the completion of each specified step that included a photo icon as shown below



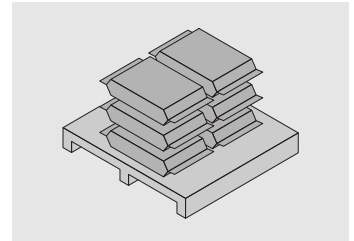
☐ Before Photo Of Work Site



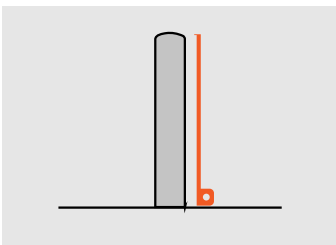
☐ 42" Deep Hole



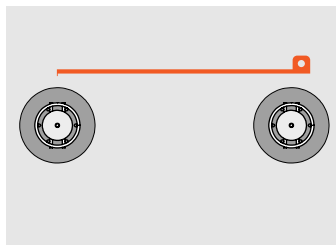
☐ 10" Diameter Hole



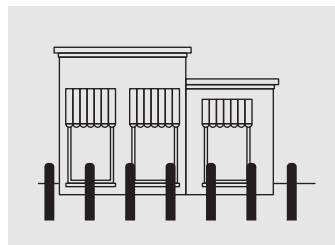
☐ Concrete Bag



☐ Overall Bollard Height



☐ Typical Bollard Spacing



☐ Finished Site Installation



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