



# MaxiForce Steel Bollard Base Installation Schedule

For Simple, Removable, and EZ Bases

## Engineered Anchorage System for MaxiForce Steel Bollard Bases - Single Footing (For Simple, Removable and EZ Bases)

Base Type	Concrete Pier Diameter (In.)	Concrete Pier Height (In.)	Concrete Pier Reinforcing	Bollard Base/Embedment at Concrete Pier
Simple	12"	39"	2 - #4 Vert.	8" Min
Removable	12"	39"	2 - #4 Vert.	8" Min
EZ	12"	39"	2 - #4 Vert.	6" Min

## Engineered Anchorage System for MaxiForce Steel Bollard Bases - Continuous Beam Footing (For Simple, Removable and EZ Bases)

Base Type	Concrete Grade Beam Width (In.)	Concrete Grade Beam Height (In.)	Concrete Grade Beam Reinforcing	Bollard Base/Embedment at Concrete Grade Beam
Simple	12"	22"	3 - #4 Cont.	8" Min
Removable	12"	22"	3 - #4 Cont.	8" Min
EZ	12"	22"	3 - #4 Cont.	6" Min

### Design and Construction Notes

- 1.0 For continuous concrete grade beam footing, pipe bollards shall be spaced 4' - 0" O.C. maximum.
- 2.0 Allowable Foundation Pressure = 2,000 psf. Allowable Lateral Bearing = 150/psf. Assumed in-place soil, Sand, Silty Sand, Clayey Sand, Silty Gravel, or Clayey Gravel. For higher soil allowable design values, site soil investigation by a Registered Geotechnical Engineer is required.
- 3.0 See supplemental concrete footing details for additional information.
- 4.0 Material Specifications: Concrete = 3,000 psi (28-day min); Reinforcing ASTM A615 (60 ksi for all bars #5 and larger 40 ksi for all bars #4 and smaller).

Drawing Rev. 2	Created 11/19/2020
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**MaxiForce**  
7560 Main Street  
Sykesville, MD 21784  
tel: +1 (410) 552 9888  
sales@maxiforcebollards.com  
www.maxiforcebollards.com



MaxiForce Bollards

Title **S/R/EZ Base Installation Schedule**

C	DO NOT SCALE DRAWING	SHEET 1 OF 1
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# Engineered Anchorage System for the MaxiForce EZ Base Circular Concrete Pier Footing

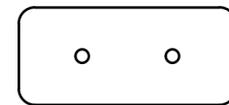
1. MaxiForce Steel pipe bollard per specification.
2. MaxiForce Universal Base assembly per Blue Ember Technologies.
3. Finished grade or pavement.
4. Concrete base pier per schedule, at each pipe sleeve.
5. Compacted gravel bed (3" minimum).
6. #3 hoop ties at 12" O.C. and 2 - #3 ties at top and bottom of concrete pier.
7. Centerline of bollard and concrete base pier.

**Protected Side**

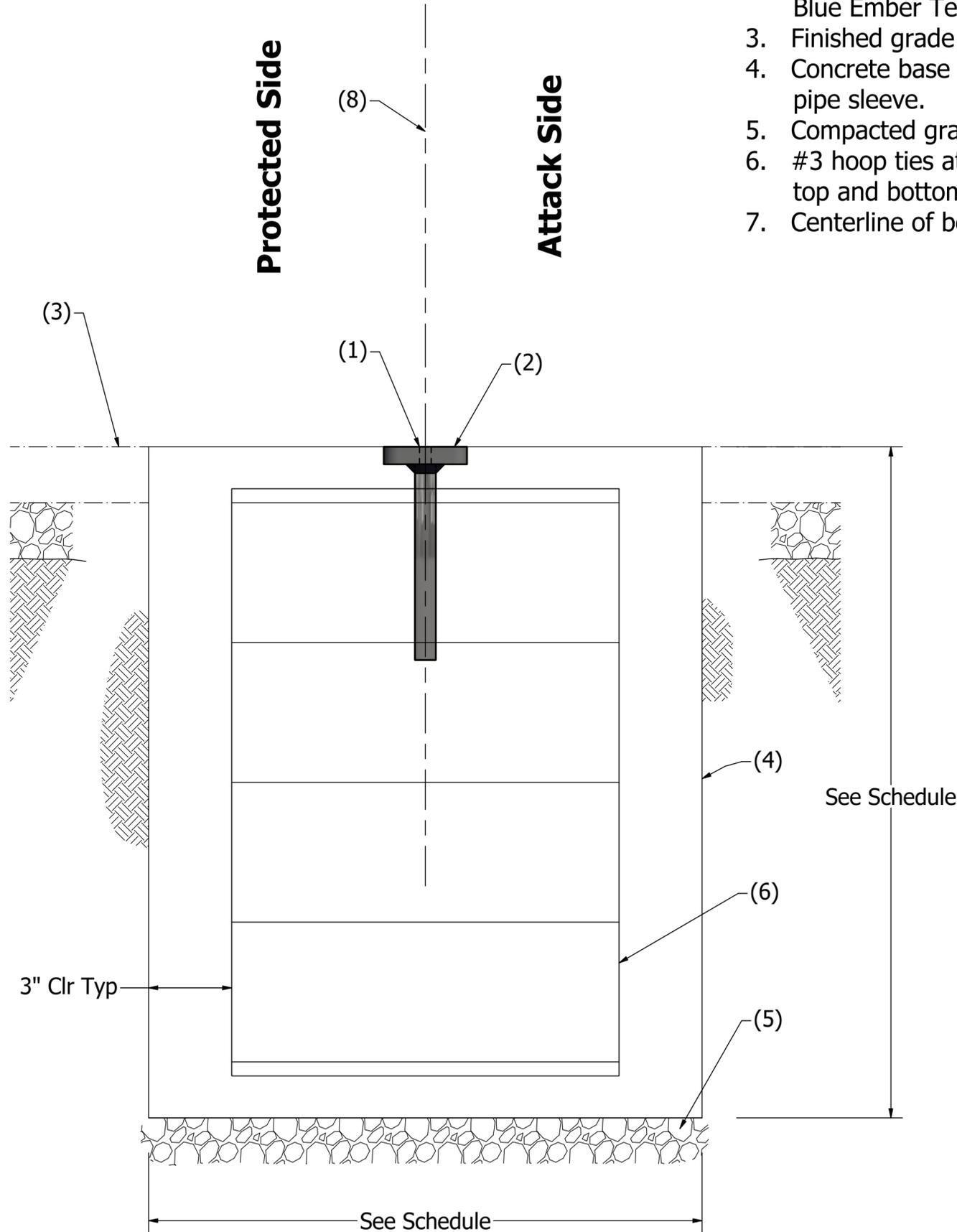
**Attack Side**

## Installation Orientation

**Protected Side**



**Attack Side**



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Title		<b>EZ Base Pier Footing</b>	
C	DO NOT SCALE DRAWING	SHEET 1 OF 1	

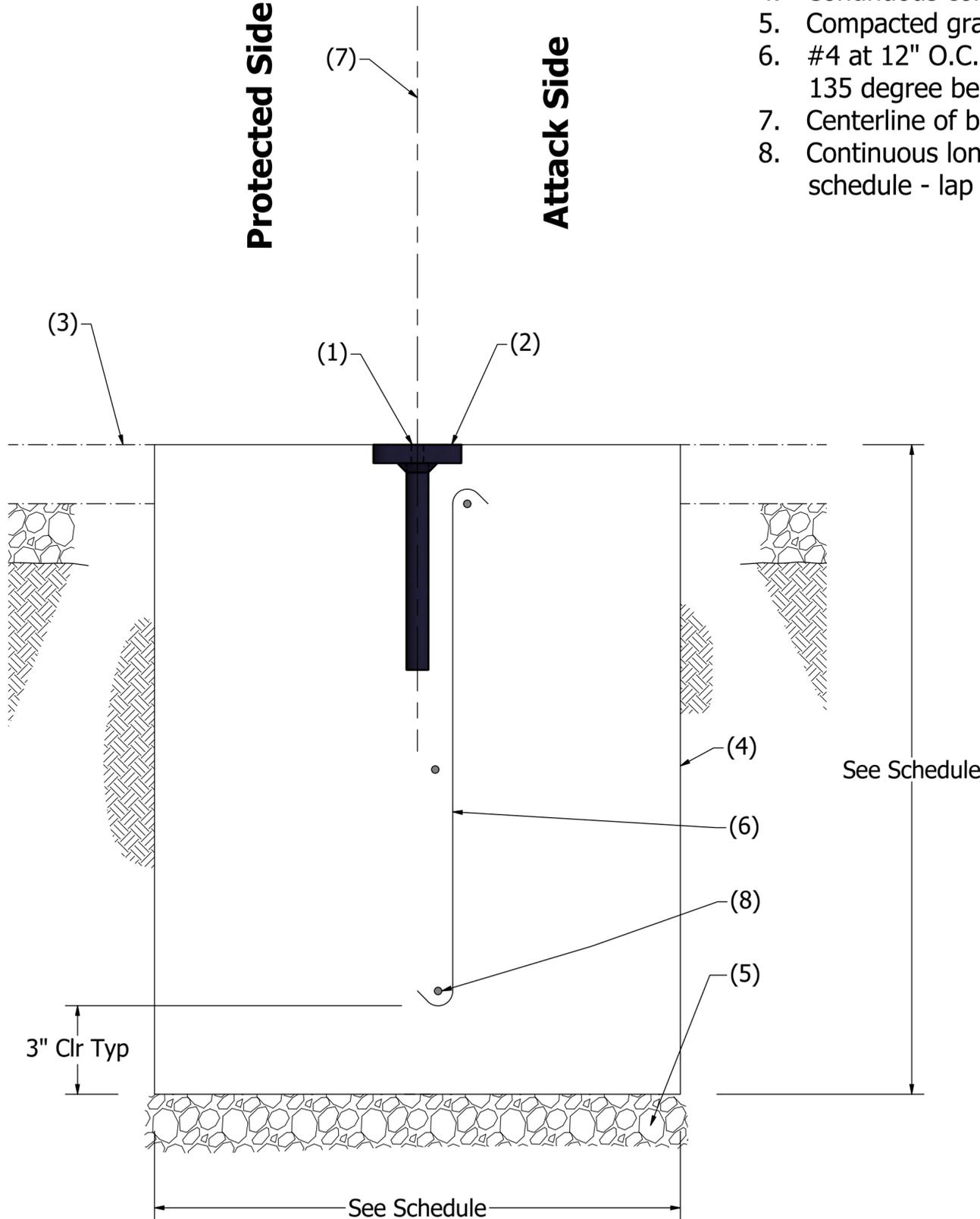


# Engineered Anchorage System for the MaxiForce EZ Base Continuous Beam Footing

1. MaxiForce Steel pipe bollard per specification.
2. MaxiForce EZ Base assembly per Blue Ember Technologies.
3. Finished grade or pavement.
4. Continuous concrete grade beam per schedule.
5. Compacted gravel bed (3" minimum).
6. #4 at 12" O.C. - TYP. with 4" min. hooks with 135 degree bend - TYP. UNO.
7. Centerline of bollard and concrete grade beam.
8. Continuous longitudinal reinforcement per schedule - lap splice 24" min. - TYP. UNO.

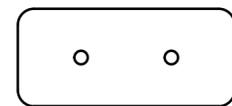
**Protected Side**

**Attack Side**



## Installation Orientation

**Protected Side**



**Attack Side**

See Schedule

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Title <b>EZ Base Beam Footing</b>		C	DO NOT SCALE DRAWING
		SHEET 1 OF 1	