

## INSTALLATION AND OPERATION MANUAL

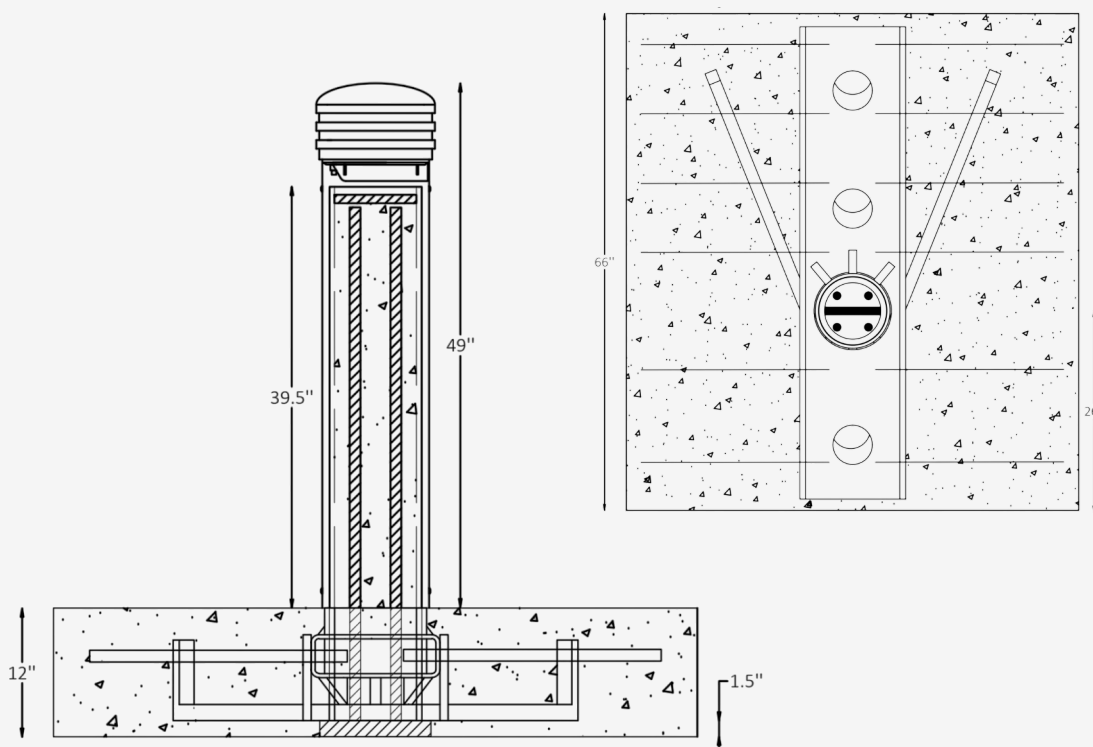
### Security Bollard / M30 SHALLOW (ASTM F2656-07) / WRD-SB

**IMPORTANT:** Carefully read all instructions before installing the fixture. Ignoring these guidelines could result in death, severe injury, or significant property damage. Keep these instructions for future use.

#### **! WARNING! RISK OF FIRE, ELECTRIC SHOCK, OR SERIOUS INJURY**

- Always turn off power at the circuit breaker before beginning installation, maintenance, or service on the fixture.
- Installation should be carried out by a certified electrician in accordance with the National Electrical Code (NEC) and applicable local regulations.
  - Confirm compatibility between the fixture's rated voltage and the electrical supply before connecting.
  - LED elements are delicate electronic parts. Do not tamper with sealed sections of the fixture or touch LEDs with bare hands or tools.
- Avoid installing the fixture on circuits shared with heavy-duty equipment such as HVAC systems or motors, as this may expose it to harmful power surges.
  - The included driver or transformer must not be bypassed or substituted. Use the fixture only in its original configuration.
- Fixtures must be connected in parallel, each with independent leads. Do not connect in series or daisy-chain multiple units.
- Factory-installed wiring must remain unmodified. Do not cut or alter pre-stripped coaxial or pendant cables.
- When making electrical connections, use only UL-certified waterproof connectors suitable for outdoor use.
- Ensure the mounting surface or foundation is stable, level, and structurally capable of supporting the fixture's weight.
- Select proper mounting hardware for the specific surface type. To preserve the powder-coated finish, avoid direct contact with concrete or rough materials that may cause abrasion or chipping.

## INSTALLATION DIAGRAM



**MINIMUM GROUND CONDITIONS REQUIRED (per ASTM F2656-07):**

- Concrete must have a minimum unconfined compressive strength of 3,000 psi.
- Approximate concrete volume per bollard: 1.0 cubic yards.
- Minimum installation area for 1 bollard: 168" (L) × 66" (W) × 12" (D).

#### **CERTIFICATION**



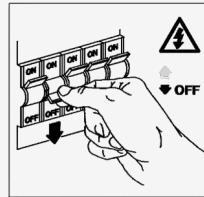
### Step 1

Carefully unpack the fixture and inspect all components for any damage before installation.

Verify that electrical wiring (feeder) has been properly routed to the installation location and that the power supply is locked out and tagged out.

All electrical work must be performed by a licensed electrician in accordance with NEC and local codes.

Before excavation, check for underground utilities such as water pipes, gas lines, and electrical conduits. A digging permit may be required depending on local regulations and excavation depth.



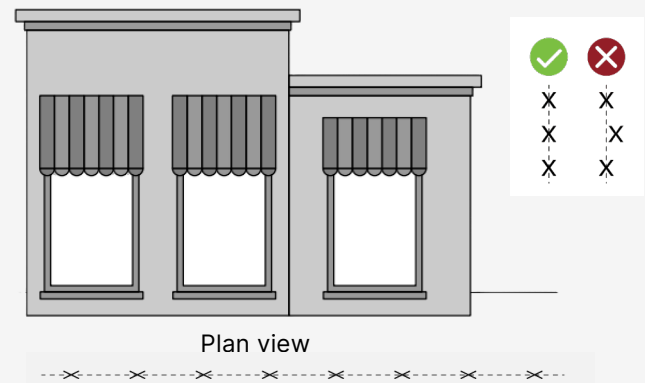
### Step 2

Review the approved engineering drawings and foundation layout before installation.

Mark the centerline of each bollard, the required on-center spacing, and edge offsets according to the tested configuration specified for the M30 Shallow system.

Verify that all markings align with site conditions and that the total array length and spacing correspond to the certified test setup.

Ensure the layout is square, level, and clear of obstacles before proceeding with excavation.



### Step 3

Excavate the foundation area in accordance with the approved engineering drawings and the tested M30 Shallow configuration.

For multi-bollard arrays, dig a continuous trench 12" deep, with a minimum length of 168" and width of 66", or as specified on the stamped structural drawings.

The bottom of the excavation must be level, compacted, and free of loose soil, debris, or standing water.

Confirm that subgrade conditions meet the required bearing capacity before placing any reinforcement or concrete.

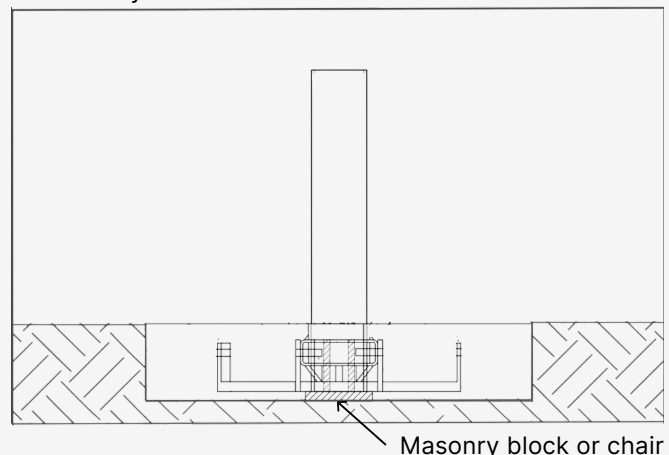
### Step 4

Place masonry blocks or chairs at the bottom of the excavation to elevate the bollard reinforcement cage or base steel 3" above the subgrade.

This ensures proper concrete coverage and prevents direct contact between the steel and soil.

Position the supports so that when the bollard is installed, the top of the bollard gusset or sleeve will be flush with the finished concrete surface, resulting in a final bollard height of 39.5" above finished grade.

Verify the base elevation using a laser level or equivalent instrument to maintain consistent alignment across the entire array.



### CERTIFICATION

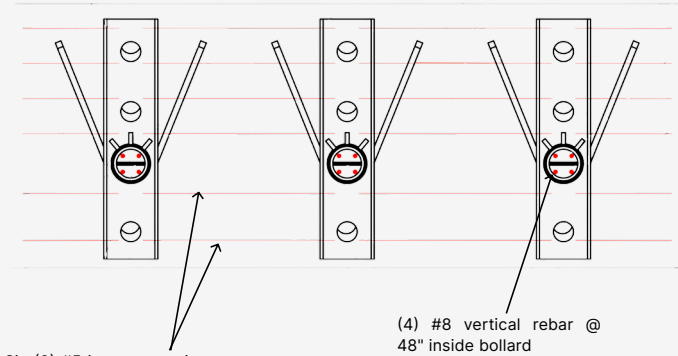


## INSTALLATION AND OPERATION MANUAL

### Security Bollard / M30 SHALLOW (ASTM F2656-07) / WRD-SB

#### Step 5

Insert #5 rebar (with a minimum 3 in embedment) into the prefabricated connection holes to securely tie adjacent bollards together in accordance with the approved layout. Afterward, insert the specified vertical reinforcement into each bollard tube as shown in the engineering drawings. Verify that all bollards are plumb, properly aligned, and securely braced before concrete placement.



Six (6) #5 interconnecting horizontal rebar inserted 3" into bollard provided by installer (typ)

#### Step 7

Immediately after placement, hold a level against the side of the bollard and verify that it is perfectly plumb in both directions.

Adjust alignment as needed before the concrete begins to set, as no corrections can be made once it has cured.

After the concrete has hardened, patch and smooth the surface around the bollard so it is flush and uniform with the surrounding grade.

#### Step 6

Pour concrete with a minimum compressive strength of 3000 PSI, or as specified in the approved structural drawings.

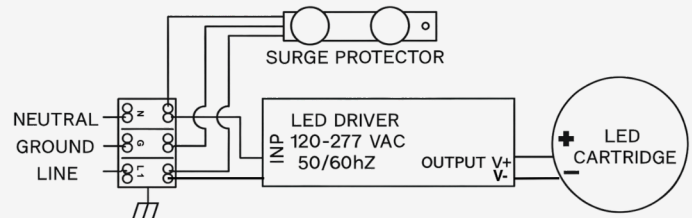
Maintain the correct water-to-mix ratio — the concrete should have a workable, moldable-clay consistency.

Fill the bollard tube and foundation cavity completely, continuing until the concrete is flush with the finished surface grade.

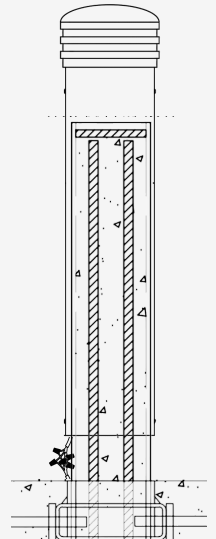
During placement, vibrate the concrete thoroughly to remove air pockets and achieve full consolidation around the bollard body and reinforcement.

#### Step 8

Wait until the concrete has fully set.



Connect the wires as follows: black to line (L), white to neutral (N), and green or bare copper to ground (GND), using the wire nuts included in the hardware kit. Make sure excess wires are secured away from any metal surfaces to prevent contact.

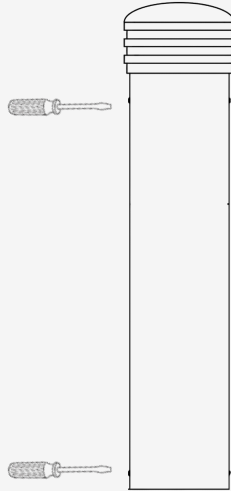


#### CERTIFICATION



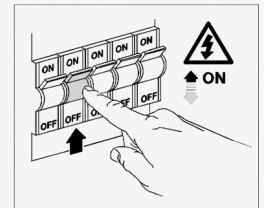
### Step 9

Place the cover onto the installed base and fasten it securely using the provided screws.



### Step 10

Once installation is complete, turn the power ON at the main fuse box. The fixture should now operate properly.



## MAINTENANCE NOTES

Clean fixture surfaces using a soft cloth and mild detergent.

### What to Avoid

- Do not use abrasive cleaners or scouring pads.
- These can scratch the powder coat, exposing aluminum to oxidation.
- Avoid strong solvents like acetone, paint thinner, or alcohol-based cleaners.
- They can break down the powder coating's integrity.
- Don't use high-pressure washers too close to the surface.
- Excessive pressure may damage seals and finishes.
- Never clean under direct sunlight or while hot.
- This may cause streaking or spotting.

### CERTIFICATION



## LIMITED WARRANTY

A We Lighting warrants that its outdoor bollards and column luminaires are free from defects in materials and workmanship under normal use and conditions for a period of [5 years] from the original date of purchase. This warranty is valid only when the product is installed and operated in accordance with the instructions provided in this manual, the National Electrical Code (NEC), and all applicable local building and electrical regulations.

**This warranty does not apply to:**

- Damage resulting from improper installation, failure to follow installation instructions, or insufficient maintenance.
- Use with incompatible or unstable power supplies, including unauthorized modifications of the fixture or its components.
- Mechanical damage, corrosion, or deterioration caused by installation in conditions that exceed the product's rated specifications (e.g., extreme temperature, humidity, wind load).
- Electrical failure due to power surges, lightning strikes, voltage irregularities, or operation on circuits shared with inductive loads (e.g., HVAC units, pumps, motors).
- Mounting on unstable or unapproved foundations, including surfaces not rated to bear the weight or vibration load of the fixture.
- Installation in submerged or continuously wet environments, unless explicitly rated for such conditions (e.g., IP68 or higher).
- Exposure to aggressive substances such as road salt, industrial chemicals, oil, or airborne pollutants that may degrade the materials or finish.

**Warranty Claims:**

To initiate a warranty claim, please contact A We Lighting's Customer Service team. You will be required to provide:

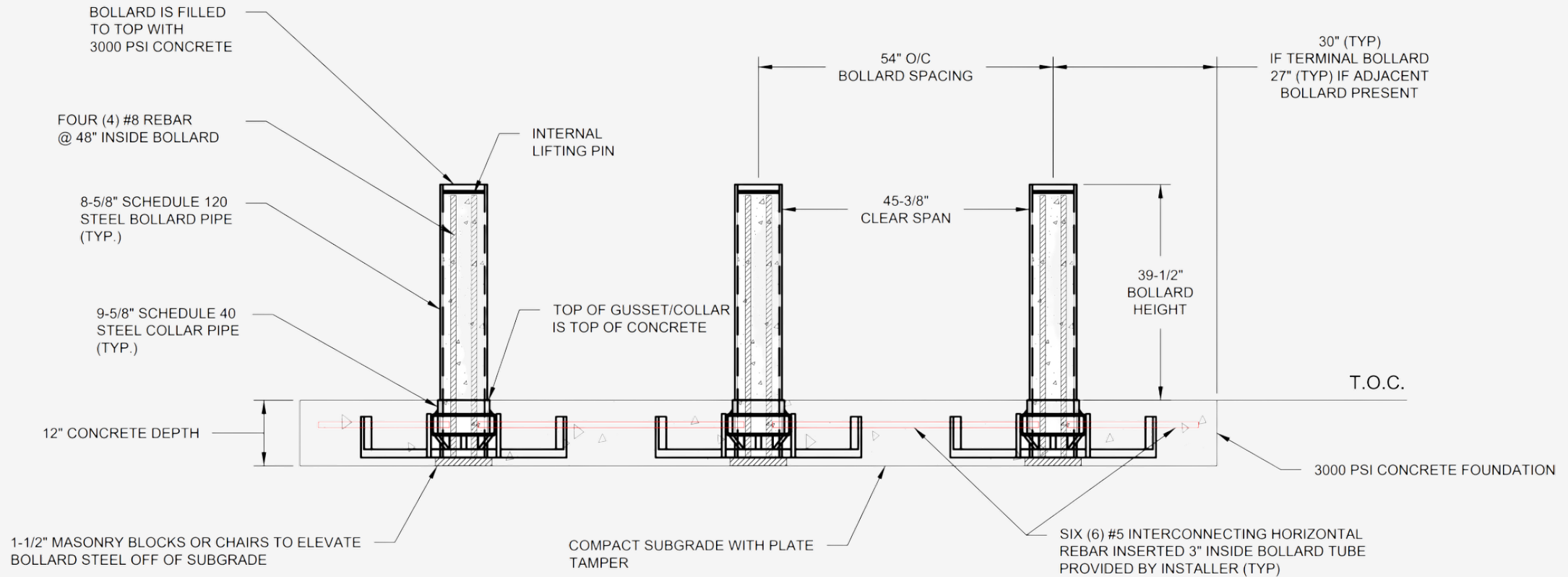
- Proof of purchase (invoice or receipt)
- A detailed description of the problem
- Photographic evidence of the issue, including installation site and close-up views of the defect

A We Lighting reserves the right to inspect the product (either on-site or via return shipping) to determine whether it qualifies for coverage under this warranty.

## CERTIFICATION



## TYPICAL BOLLARD ARRAY INSTALLATION

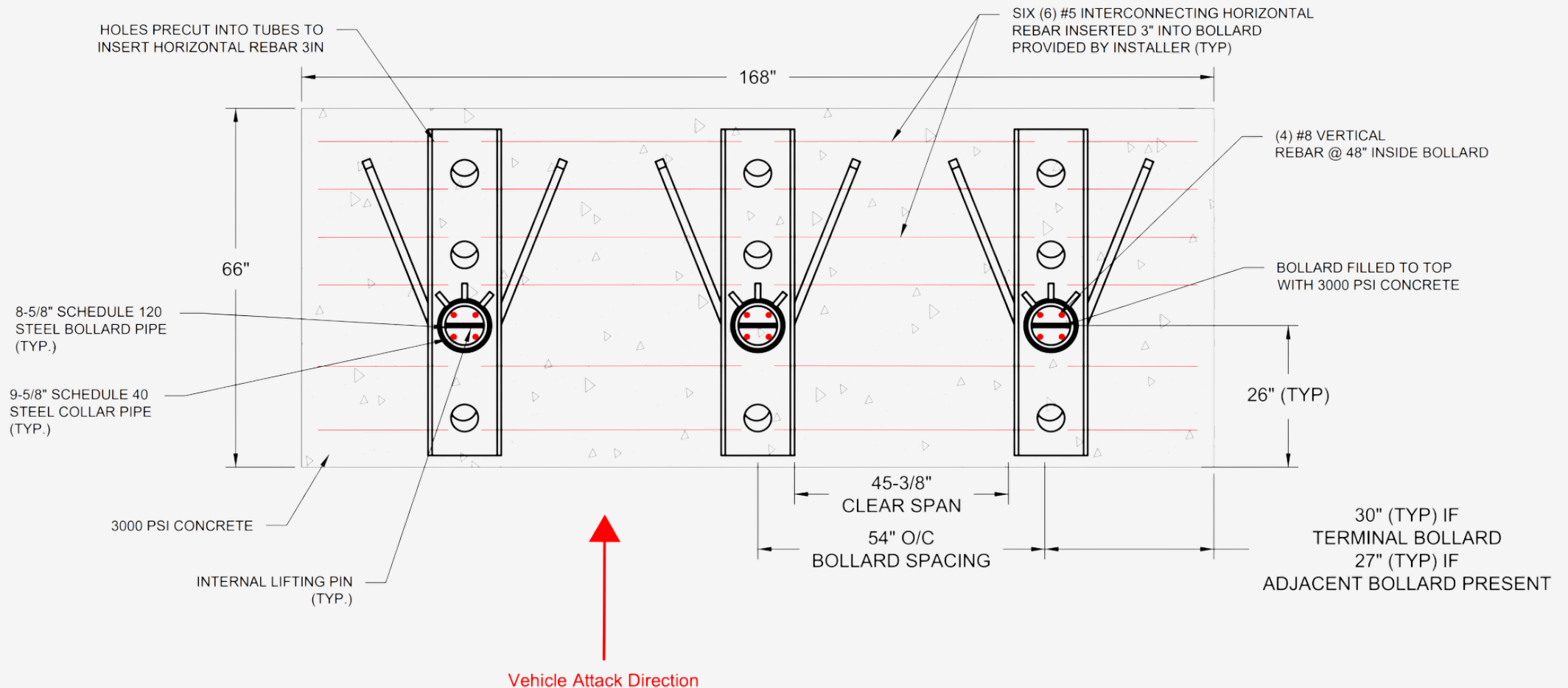


NOTE:  
MODIFIED SPACING FOR SITE SPECIFIC CONDITIONS AVAILABLE.

### CERTIFICATION



## TYPICAL BOLLARD ARRAY INSTALLATION



NOTE:  
MODIFIED SPACING FOR SITE SPECIFIC CONDITIONS AVAILABLE.

### CERTIFICATION

