

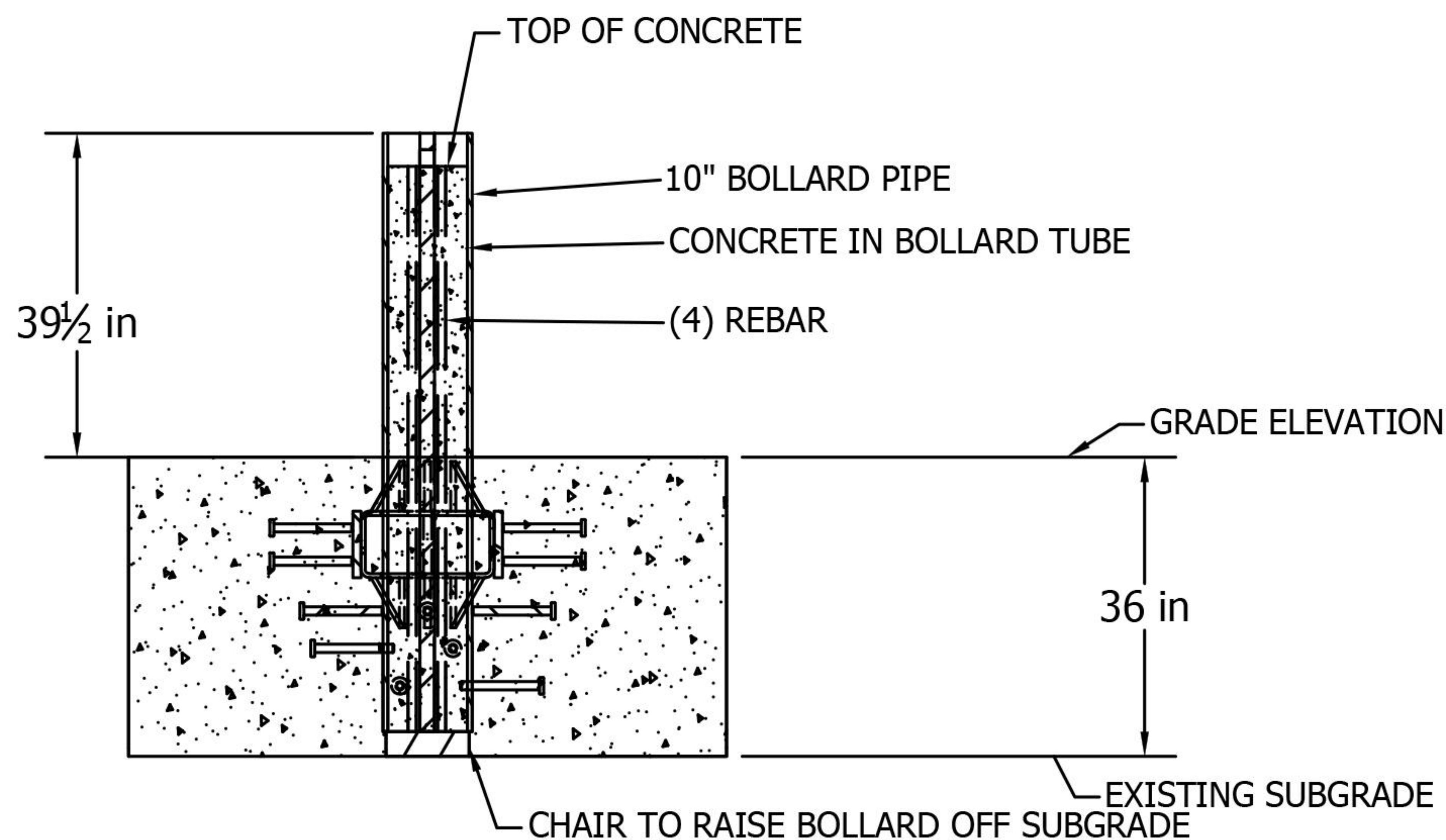
SET & POUR BOLLARD - MODEL SPB-1200 (PREFABRICATED SINGLE BOLLARD UNIT, NO REBAR IN FOUNDATION)

STOPS 15,000 LB. VEHICLE AT 50 MPH IMPACT (BOLLARD SPACING IS UNRESTRICTED)

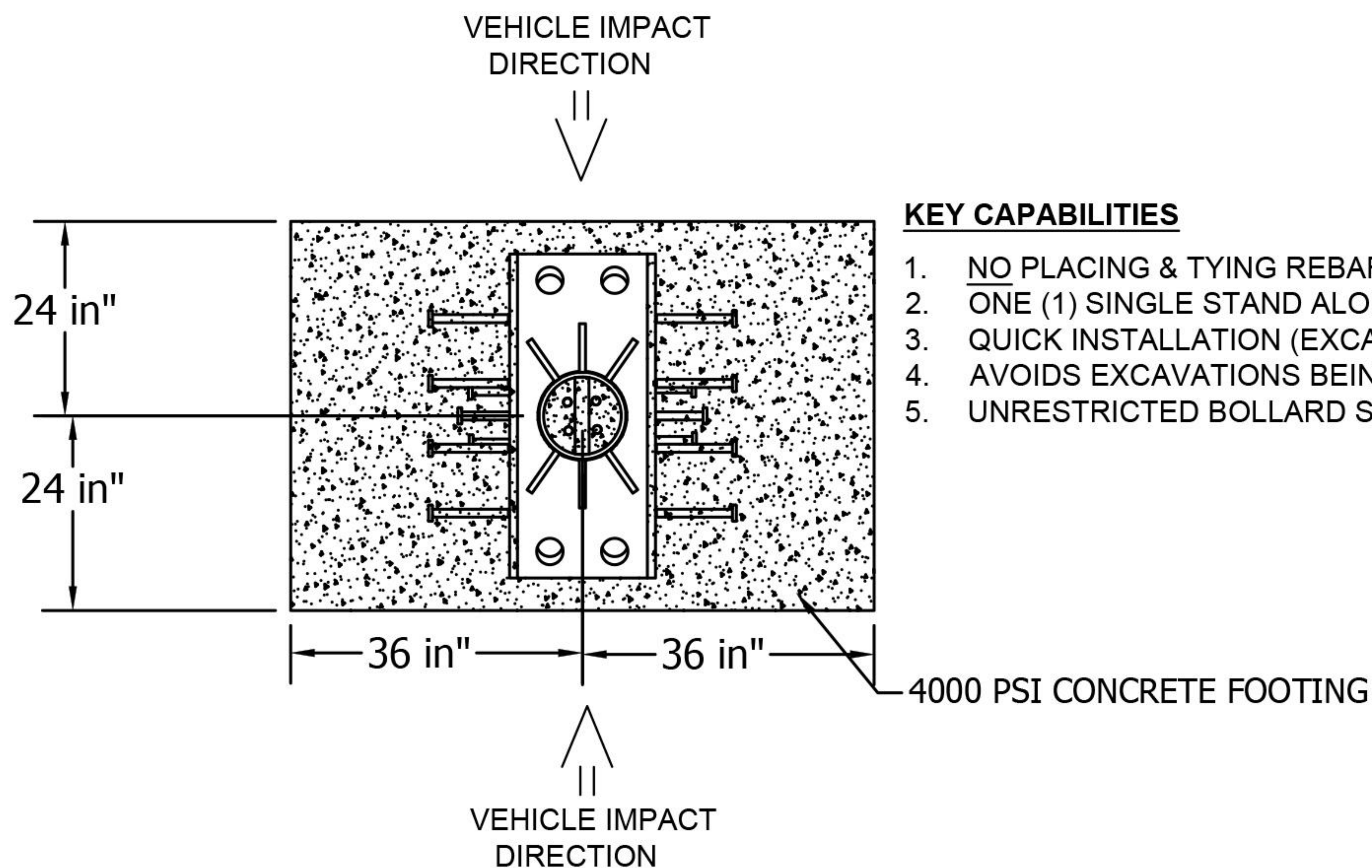
ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

SINGLE STAND ALONE BOLLARD INSTALLATION

FRONT VIEW



TOP VIEW



KEY CAPABILITIES

1. NO PLACING & TYING REBAR IN CONCRETE FOUNDATION.
2. ONE (1) SINGLE STAND ALONE PREFABRICATED BOLLARD UNIT STOPS THE VEHICLE IMPACT.
3. QUICK INSTALLATION (EXCAVATE, THEN SET BOLLARD & POUR CONCRETE).
4. AVOIDS EXCAVATIONS BEING OPEN OVERNIGHT (SET & POUR BOLLARD ARRAY IN 1 DAY).
5. UNRESTRICTED BOLLARD SPACING (ONE BOLLARD STOPS VEHICLE IMPACT).

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**DETAILS
ASTM M50(K12)
SET & POUR BOLLARD**

SAMPLE DRAWING

SHEET: 1 OF 9

20180702-01-PD

SCALE: N.T.S.

SET & POUR BOLLARD - MODEL SPB-1200 (PREFABRICATED SINGLE BOLLARD UNIT, NO REBAR IN FOUNDATION)

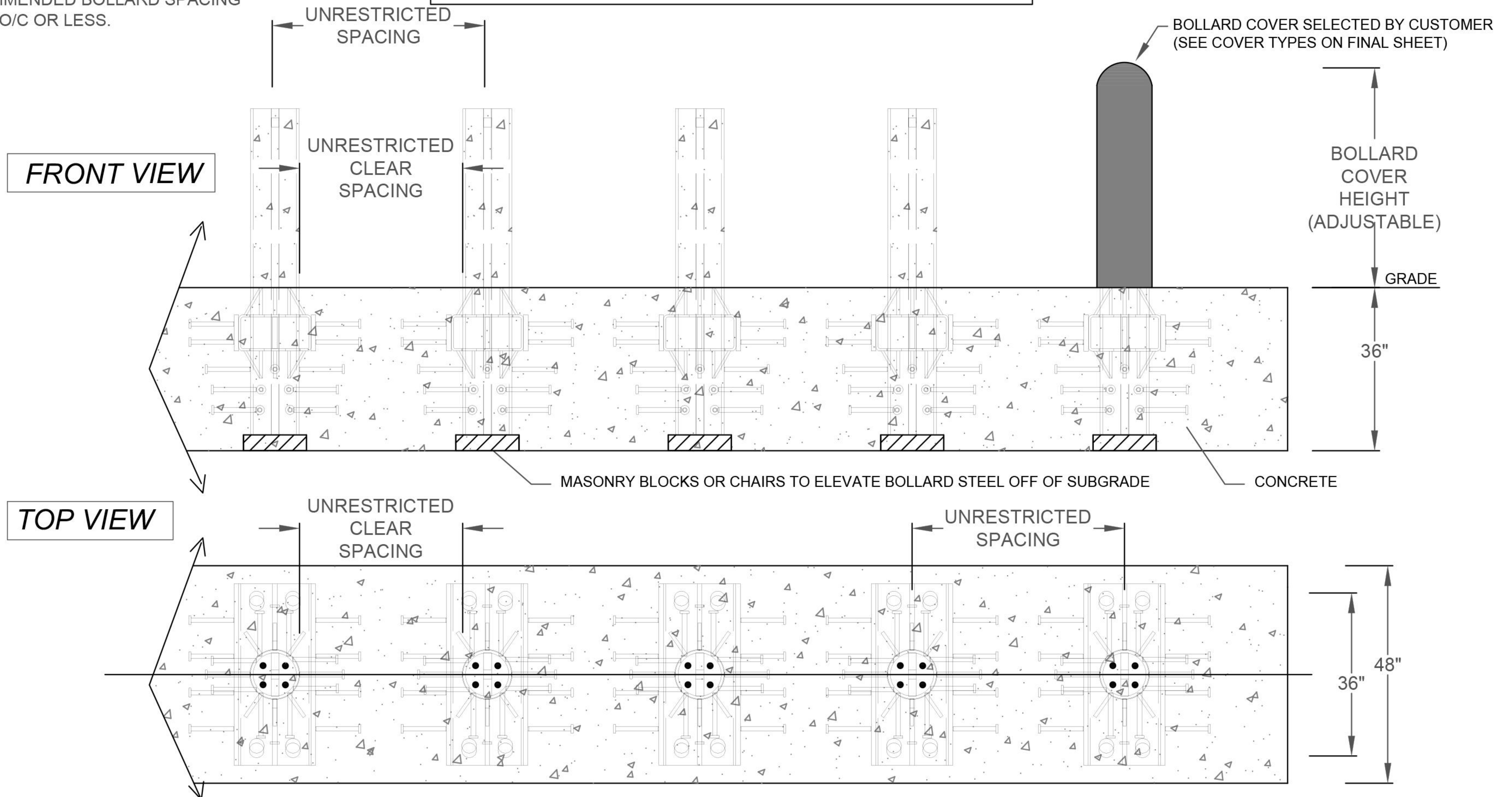
STOPS 15,000 LB. VEHICLE AT 50 MPH IMPACT (BOLLARD SPACING IS UNRESTRICTED)

ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

NOTE

RECOMMENDED BOLLARD SPACING OF 60" O/C OR LESS.

TYPICAL BOLLARD ARRAY INSTALLATION



KEY CAPABILITIES

1. NO PLACING & TYING REBAR IN CONCRETE FOUNDATION.
2. ONE (1) SINGLE PREFABRICATED BOLLARD UNIT STOPS THE VEHICLE IMPACT.
3. QUICK INSTALLATION (EXCAVATE, THEN SET BOLLARD & POUR CONCRETE).
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**TYPICAL ARRAY
ASTM M50(K12)
SET & POUR BOLLARD**

SAMPLE DRAWING

SHEET: 2 OF 9

20180702-01-PD

SCALE: N.T.S.

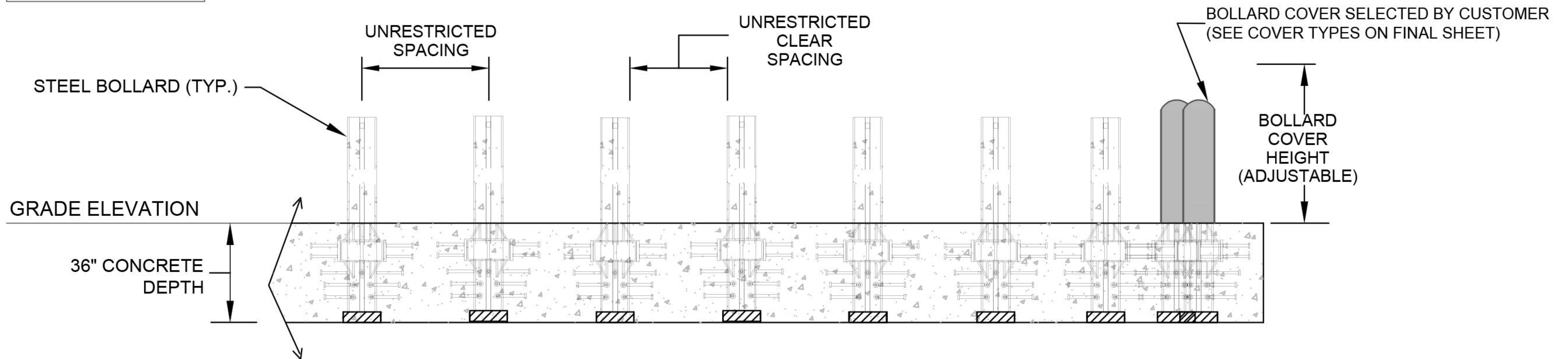
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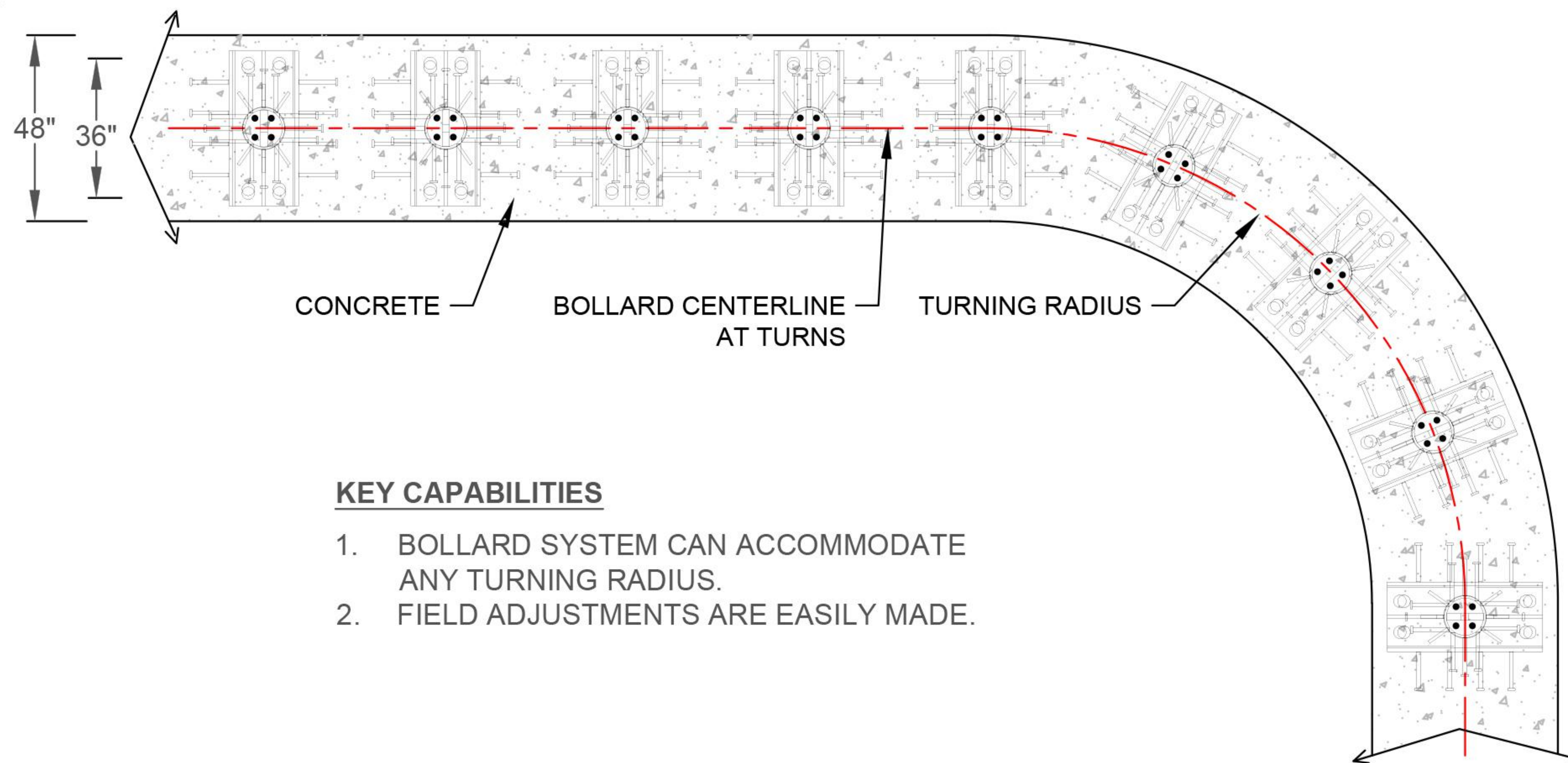
ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

BOLLARD INSTALLATION WITH TURN

FRONT VIEW



TOP VIEW



KEY CAPABILITIES

1. BOLLARD SYSTEM CAN ACCOMMODATE ANY TURNING RADIUS.
2. FIELD ADJUSTMENTS ARE EASILY MADE.

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**TYPICAL ARRAY
ASTM M50(K12)
SET & POUR BOLLARD**

SAMPLE DRAWING

SHEET: 3 OF 9

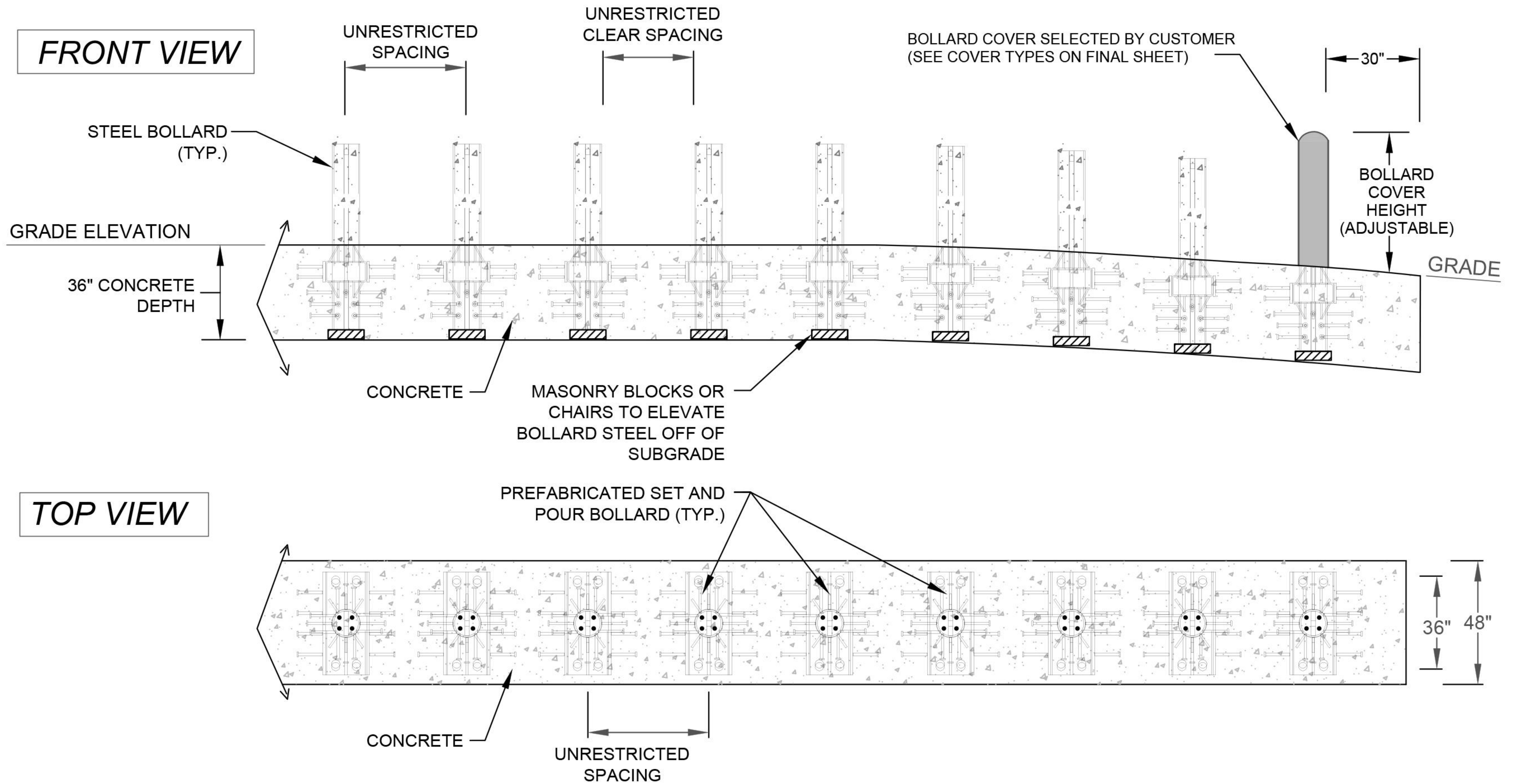
20180702-01-PD

SCALE: N.T.S.

SET & POUR BOLLARD - MODEL SPB-1200 (PREFABRICATED SINGLE BOLLARD UNIT, NO REBAR IN FOUNDATION)

STOPS 15,000 LB. VEHICLE AT 50 MPH IMPACT (BOLLARD SPACING IS UNRESTRICTED)
 ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

BOLLARD INSTALLATION ACROSS GRADE CHANGES



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**TYPICAL ARRAY
 ASTM M50(K12)
 SET & POUR BOLLARD**

SAMPLE DRAWING

SHEET: 4 OF 9

20180702-01-PD

SCALE: N.T.S.

SET & POUR BOLLARD - MODEL SPB-1200 (PREFABRICATED SINGLE BOLLARD UNIT, NO REBAR IN FOUNDATION)

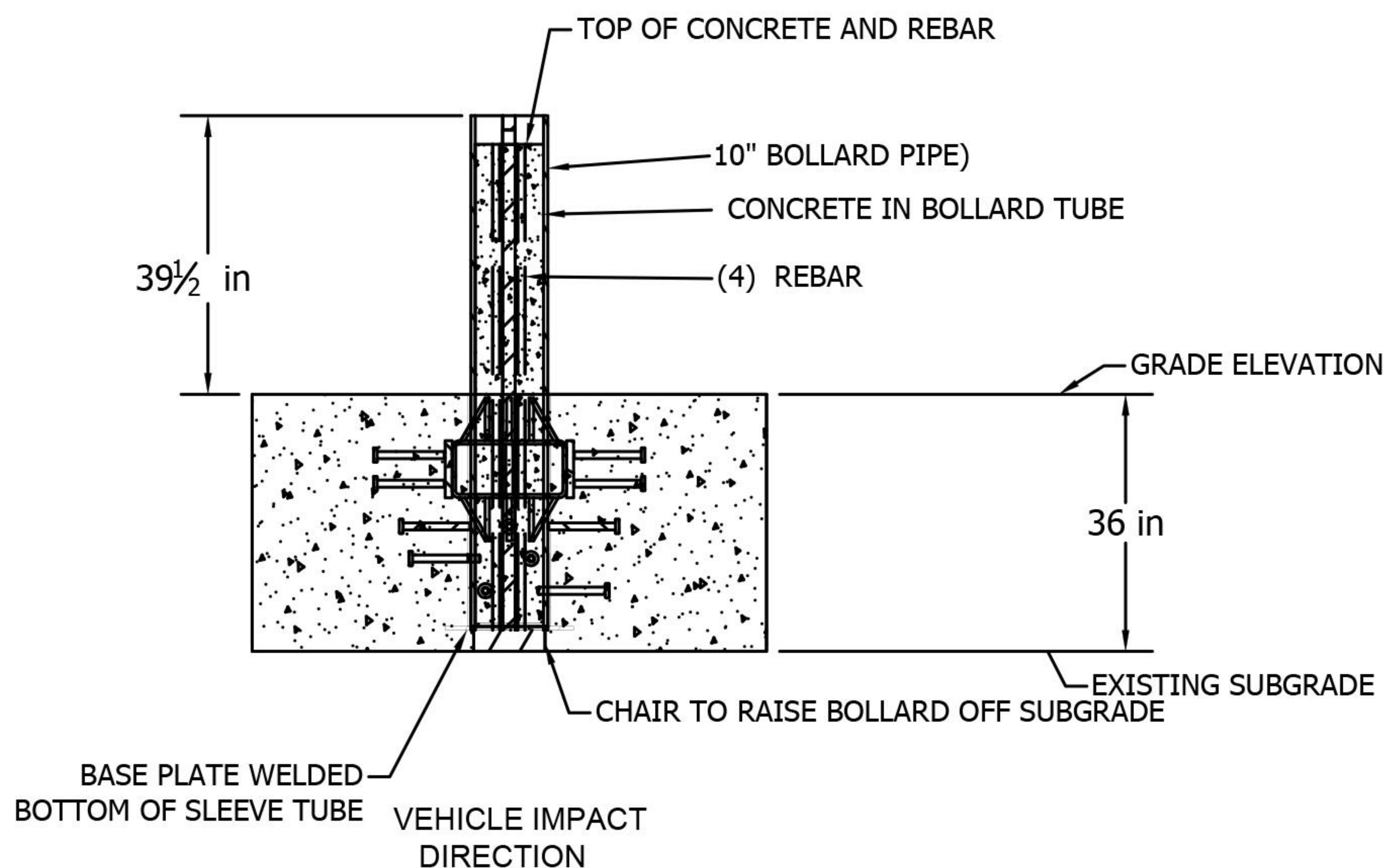
STOPS 15,000 LB. VEHICLE AT 50 MPH IMPACT (BOLLARD SPACING IS UNRESTRICTED)

ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

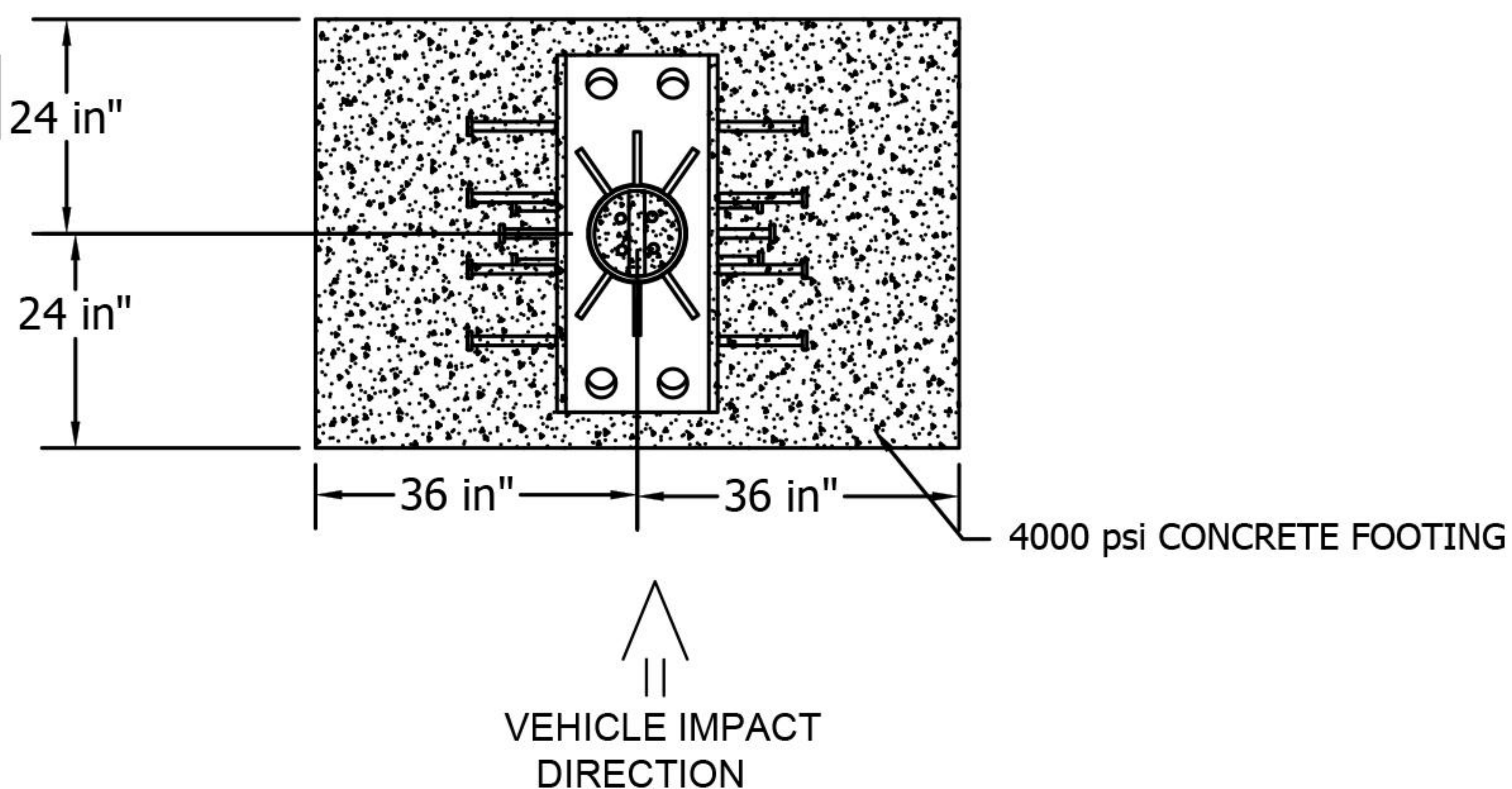
REMOVABLE BOLLARD MODEL

REMOVABLE BOLLARD

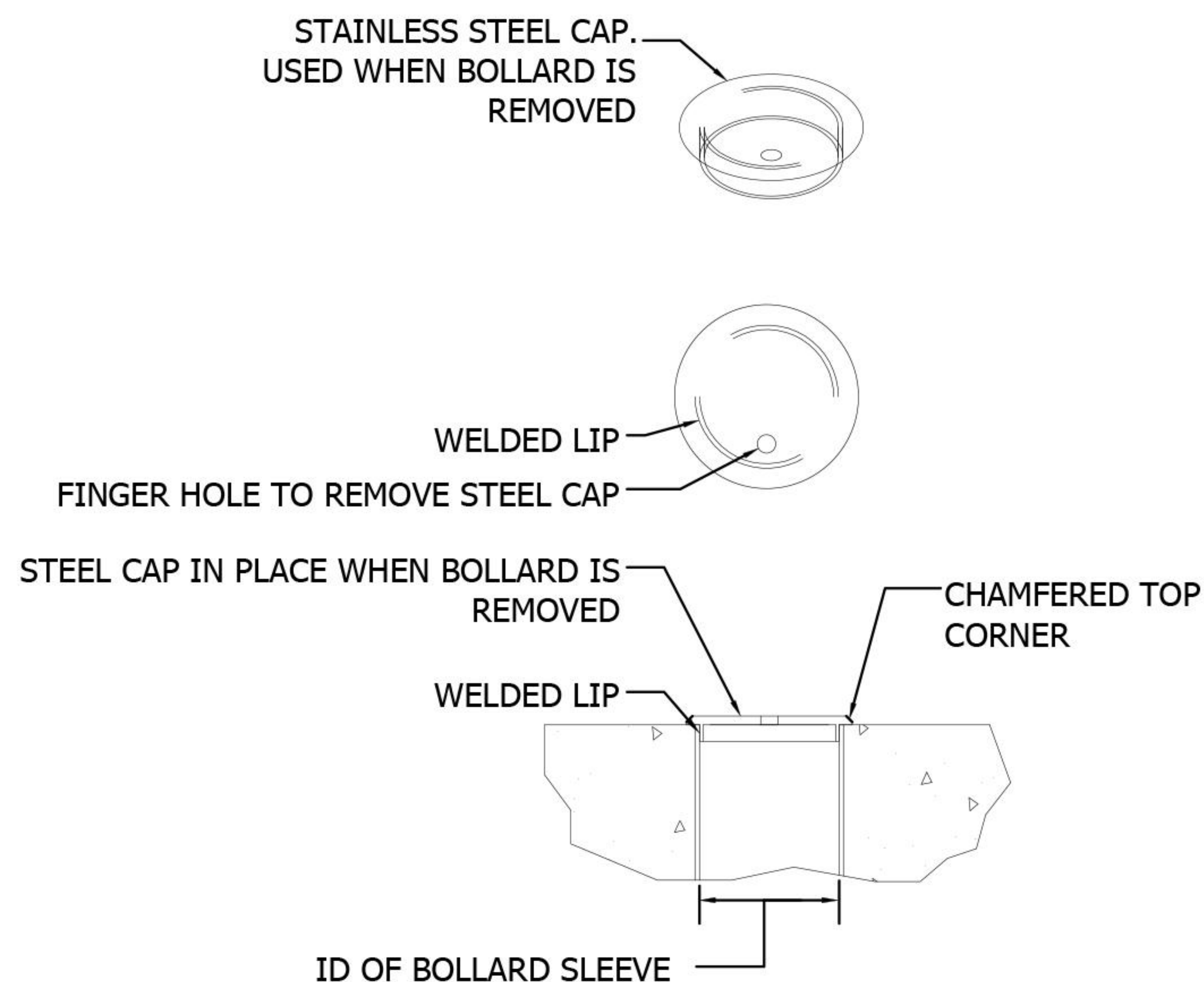
FRONT VIEW



TOP VIEW



BOLLARD CAP DETAILS



KEY CAPABILITIES

1. NO PLACING & TYING REBAR IN CONCRETE FOUNDATION.
2. ONE (1) SINGLE STAND ALONE PREFABRICATED BOLLARD UNIT STOPS THE VEHICLE IMPACT.
3. QUICK INSTALLATION (EXCAVATE, THEN SET BOLLARD & POUR CONCRETE).
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TYPICAL ARRAY
ASTM M50(K12)
SET & POUR BOLLARD

SAMPLE DRAWING

SHEET: 5 OF 9

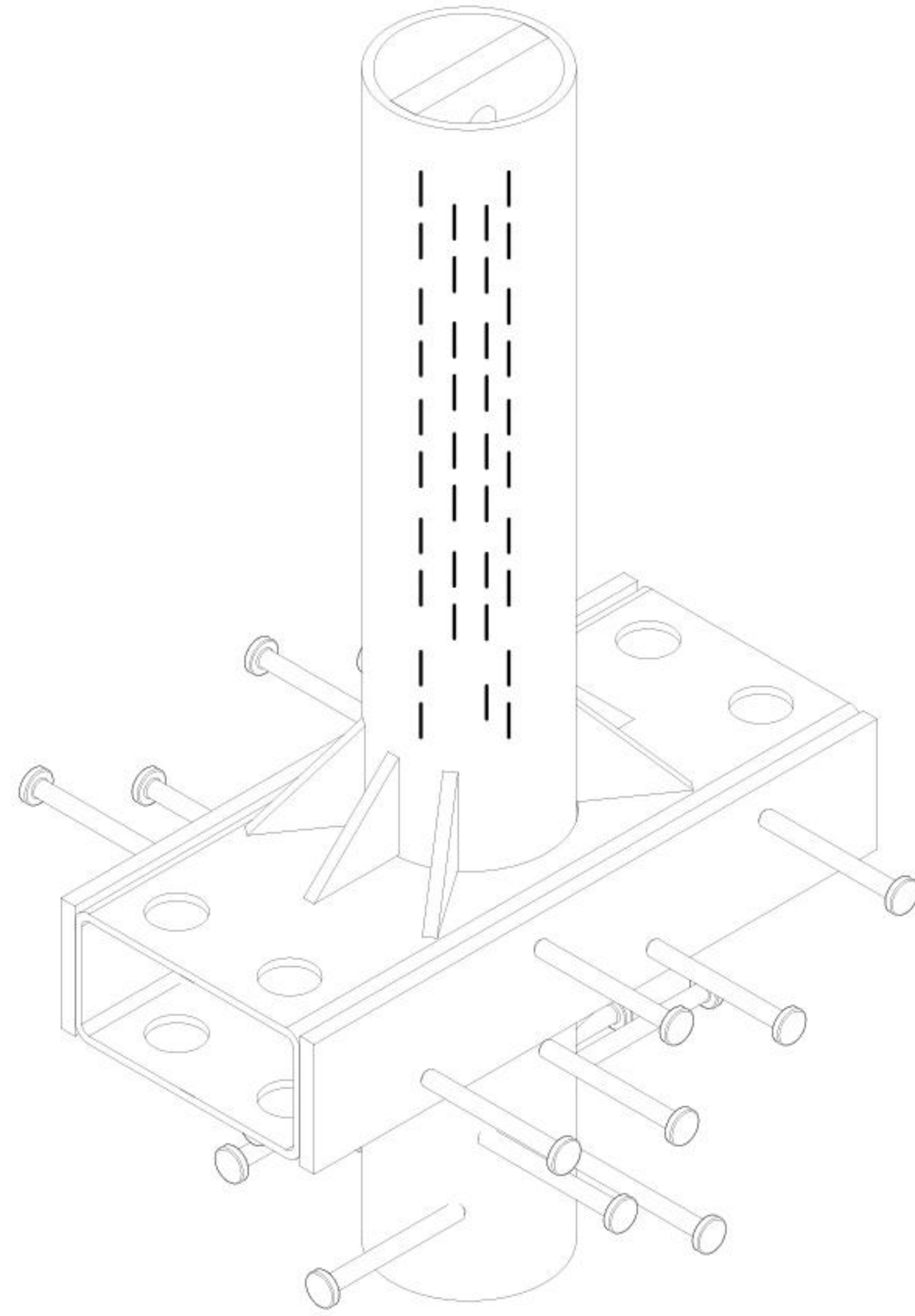
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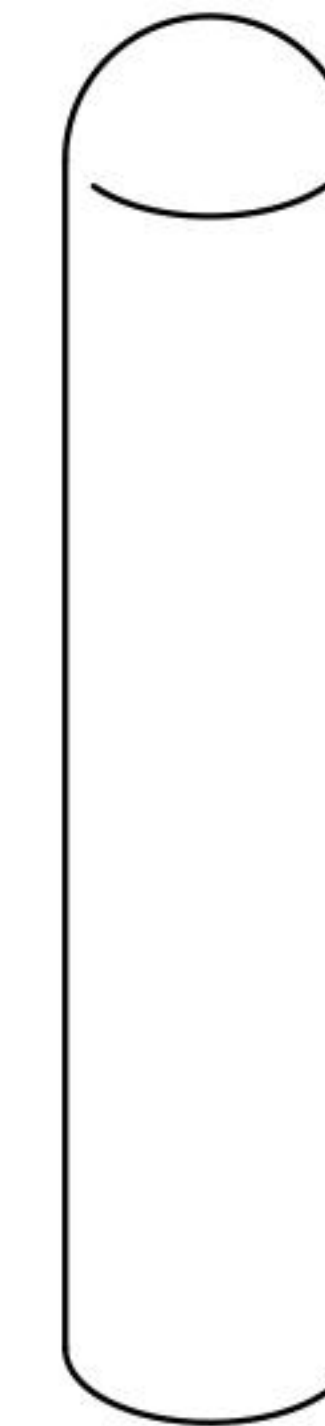
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ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

PREFABRICATED BOLLARD MATERIALS PROVIDED BY BARRIER1 SYSTEMS



(QTY 1) EACH:
BOLLARD TUBE



(QTY 1) EACH:
BOLLARD COVER

MATERIALS PROVIDED BY INSTALLER

1. CONCRETE, 2.75 CUBIC YARDS PER BOLLARD
2. CHAIRS TO ELEVATE BOLLARDS ABOVE SUBGRADE

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**TYPICAL ARRAY
ASTM M50(K12)
SET & POUR BOLLARD**

SAMPLE DRAWING

SHEET: 6 OF 9

20180702-01-PD

SCALE: N.T.S.

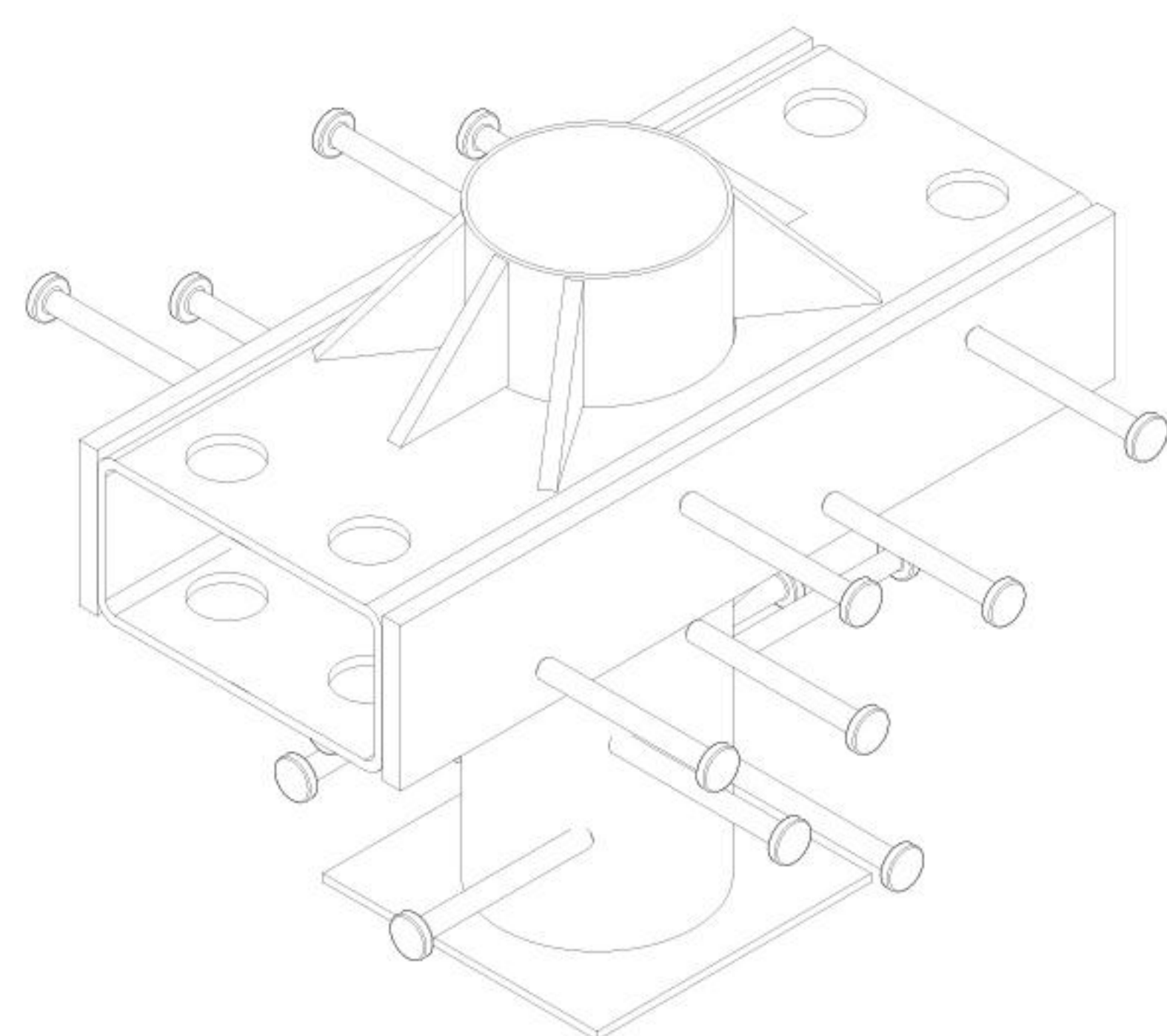
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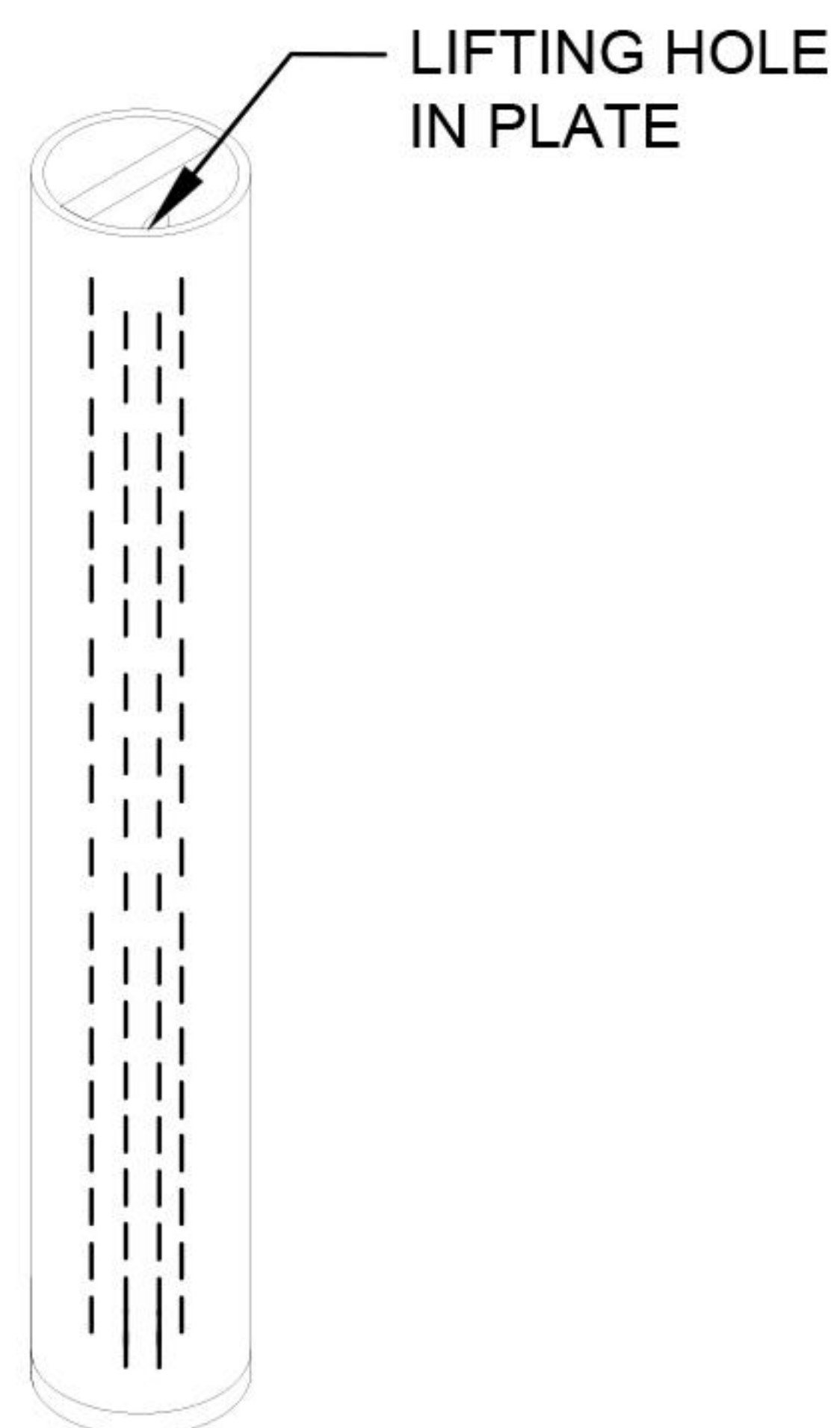
ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

REMOVABLE BOLLARDS

PREFABRICATED BOLLARD MATERIALS PROVIDED BY BARRIER1 SYSTEMS



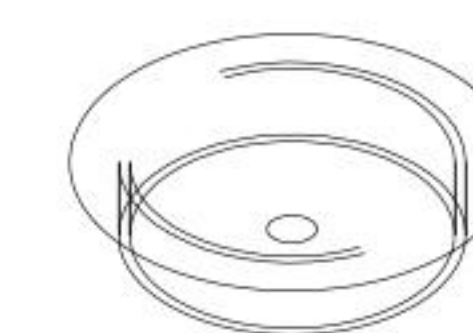
(QTY 1) EACH:
BOLLARD SLEEVE



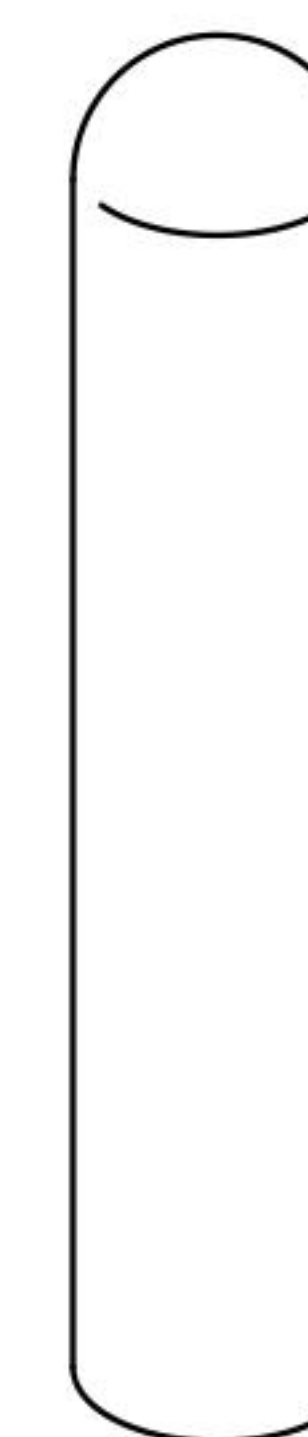
(QTY 1) EACH:
BOLLARD TUBE



(QTY 4) EACH:
PRE-CUT VERTICAL REBAR
(INSIDE BOLLARD)



(QTY 1) EACH:
BOLLARD SLEEVE CAP



(QTY 1) EACH:
BOLLARD COVER

MATERIALS PROVIDED BY INSTALLER

1. CONCRETE. 2.75 CUBIC YARDS PER BOLLARD.
2. CHAIRS TO ELEVATE BOLLARD ABOVE SUBGRADE

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TYPICAL ARRAY
ASTM M50(K12)
SET & POUR BOLLARD

SAMPLE DRAWING

SHEET: 7 OF 9

20180702-01-PD

SCALE: N.T.S.

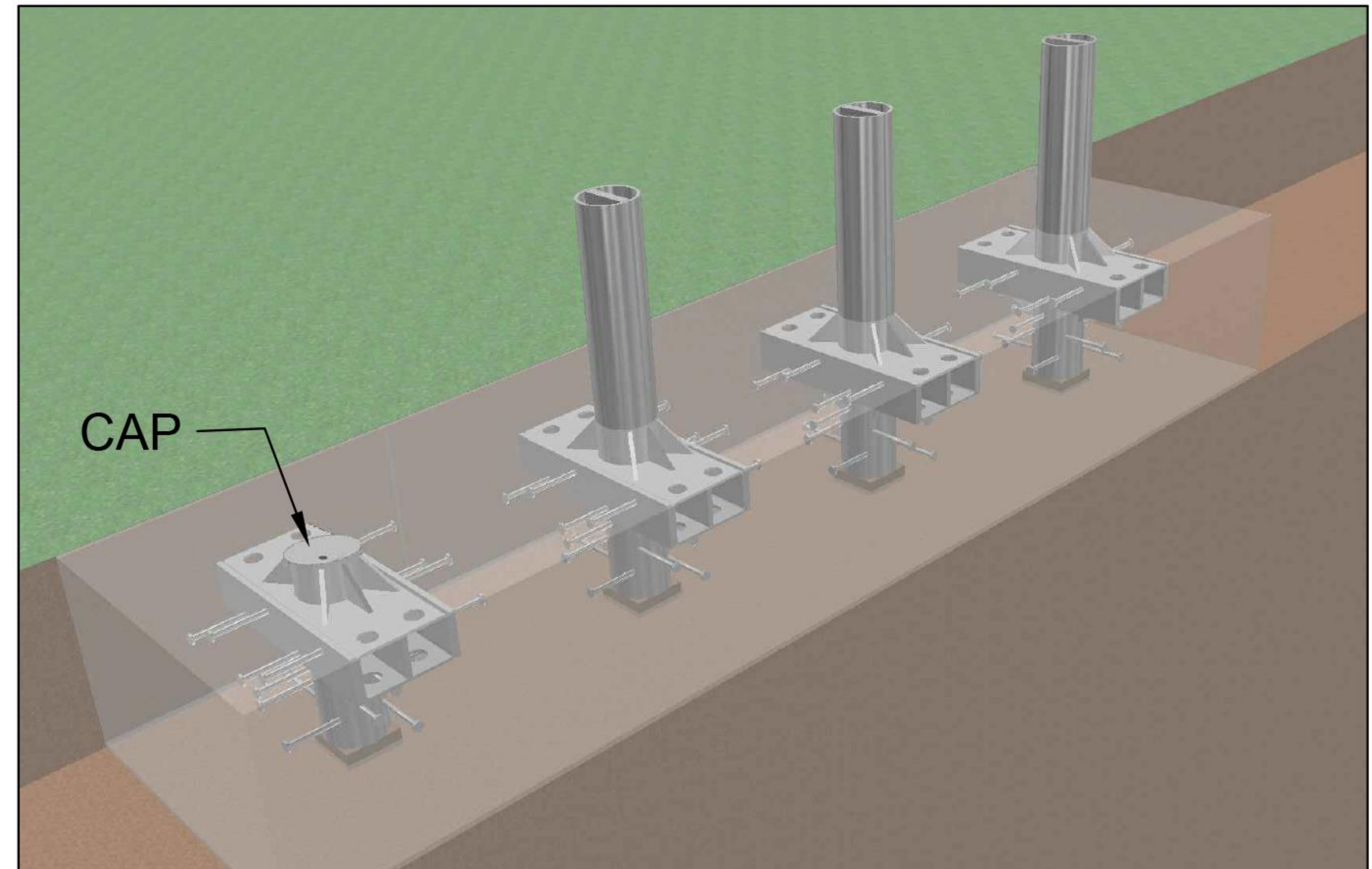
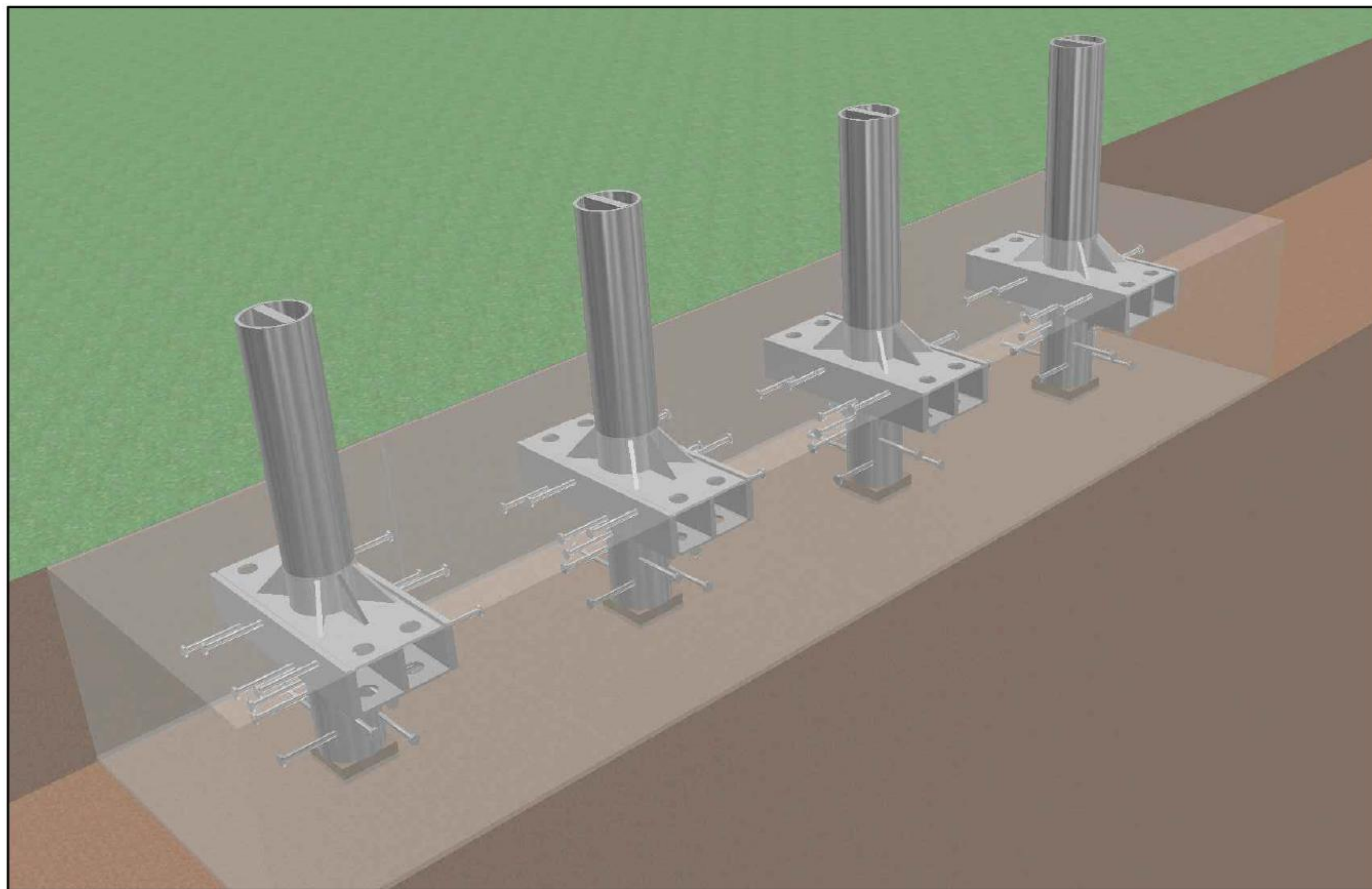
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ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

FIXED BOLLARDS IN ARRAY

REMOVABLE BOLLARDS IN ARRAY



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3D VIEW

SAMPLE DRAWING

SHEET: 8 OF 9

20180702-01-PD

SCALE: N.T.S.

SET & POUR BOLLARD - MODEL SPB-1200 (PREFABRICATED SINGLE BOLLARD UNIT, NO REBAR IN FOUNDATION)

STOPS 15,000 LB. VEHICLE AT 50 MPH IMPACT (BOLLARD SPACING IS UNRESTRICTED)
ASTM F2656-07 M50(K12) CERTIFIED, APPROVED BY DoD AND ON ANTI-RAM LIST

BOLLARD COVER EXAMPLES - CUSTOM TYPES, SHAPES, SIZES AND COLORS ARE AVAILABLE



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BOLLARD COVER EXAMPLES

SAMPLE DRAWING

SHEET: 9 OF 9

20180702-01-PD

SCALE: N.T.S.