

## **APPENDIX 'F'**

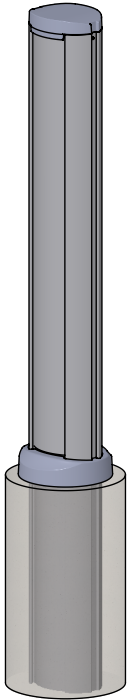
# **BOLLARDS – MAGLIN INSTAL MBO-1600-SERIES**

# INSTALLATION INSTRUCTIONS: MBO-1600

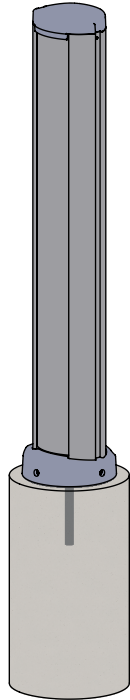
**DESCRIPTION:** BOLLARD, 1600

**DWG:** INSTALL\_SCTB1600

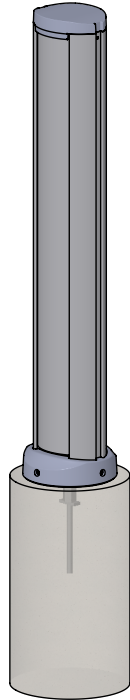
**REV:** M01



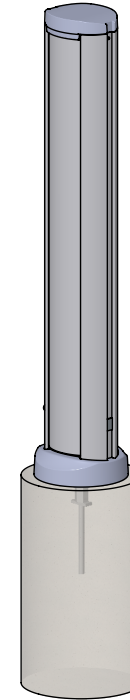
**BASE TYPE B1**  
**DIRECT BURIAL - PG. 6:**  
BOLLARD IS PERMANENT, IT IS DIRECTLY BURIED INTO CONCRETE



**BASE TYPE B2**  
**THREADED ROD - PG. 7:**  
BOLLARD IS REMOVABLE, A THREADED ROD IS PERMANENTLY SET INTO CONCRETE & PROTRUDES ABOVE GROUND SURFACE WHEN BOLLARD IS REMOVED.



**BASE TYPE B3**  
**THREADED ANCHOR - PG. 9:**  
BOLLARD IS REMOVABLE, AN ANCHOR IS SET PERMANENTLY INTO CONCRETE & FLUSH WITH THE SURFACE WHEN BOLLARD IS REMOVED.



**BASE TYPE B3/4**  
**THREADED ANCHOR - PG. 11:**  
BOLLARD IS REMOVABLE, AN ANCHOR IS SET PERMANENTLY INTO CONCRETE FLUSH WITH SURFACE. BOLLARD SLIDES OVER SLEEVE & HELD WITH PIN.



**BASE TYPE B4**  
**REMOVABLE FROM SLEEVE - PG. 13:**  
BOLLARD IS REMOVABLE, POST IS SET PERMANENTLY INTO CONCRETE & PROTRUDES FROM SURFACE. BOLLARD SLIDES OVER POST & IS HELD IN PLACE WITH A PIN

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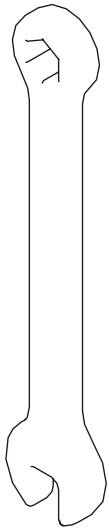
## NOTES:

**!CAUTION!** FAILURE TO FOLLOW INSTRUCTIONS COULD LEAD TO INJURY, ENSURE ALL STEPS ARE FOLLOWED AND FASTENERS ARE USED, TWO OR MORE PEOPLE ARE REQUIRED FOR INSTALLATION

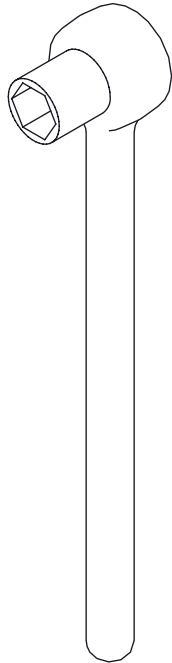
**!CAUTION!** PLEASE ENSURE THAT THE ANCHORS BEING USED FOR THIS PRODUCT HAVE ADEQUATE CAPACITY FOR SECURING THE PRODUCT AS INTENDED. IN ORDER FOR ANCHORS TO MEET THEIR CATALOGUE RATINGS, THEY MUST BE INSTALLED IN SOLID CONCRETE AND AS PER ANCHOR MANUFACTURERS SPECIFICATIONS.

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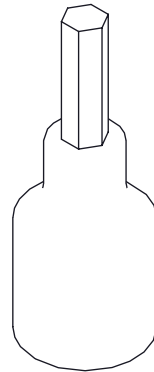
## TOOLS (NOT SUPPLIED):



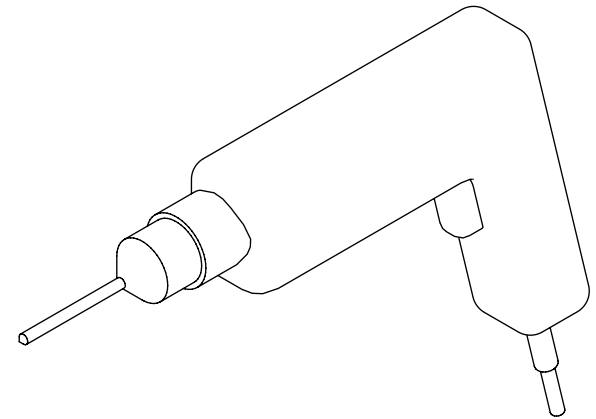
WRENCH  
1 1/8"



RATCHET WRENCH  
1 1/8"



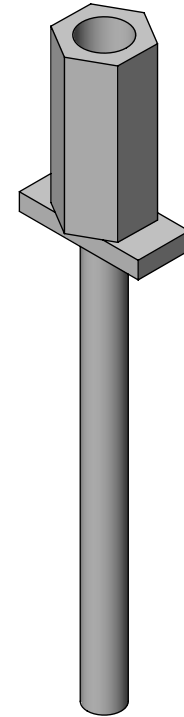
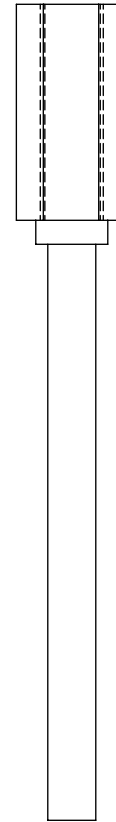
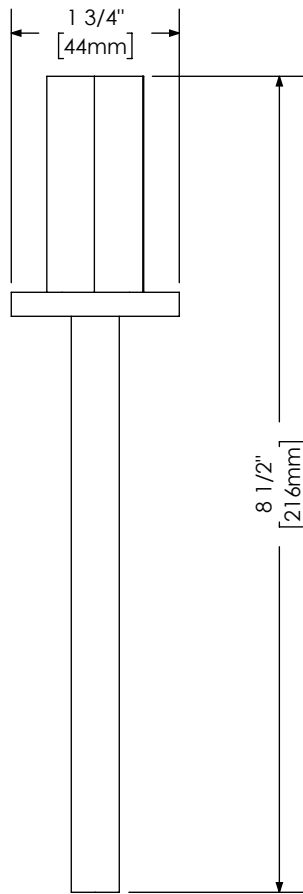
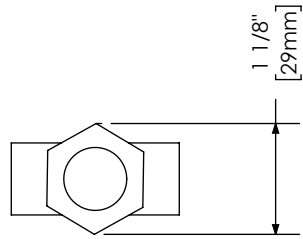
HEX KEY OR ALLEN KEY  
3/16" & 3/8"



HAMMER DRILL  
(MASON BIT SIZE THAT  
MATCHES CHOSEN ANCHOR)

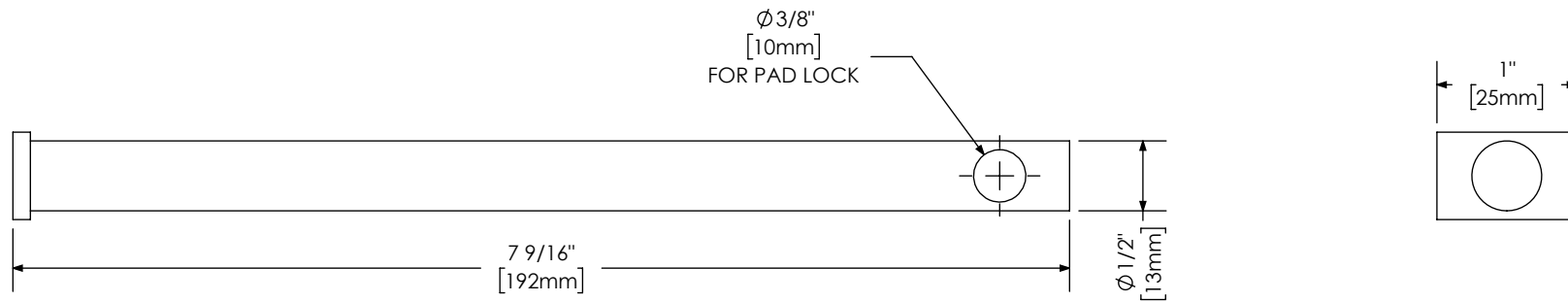
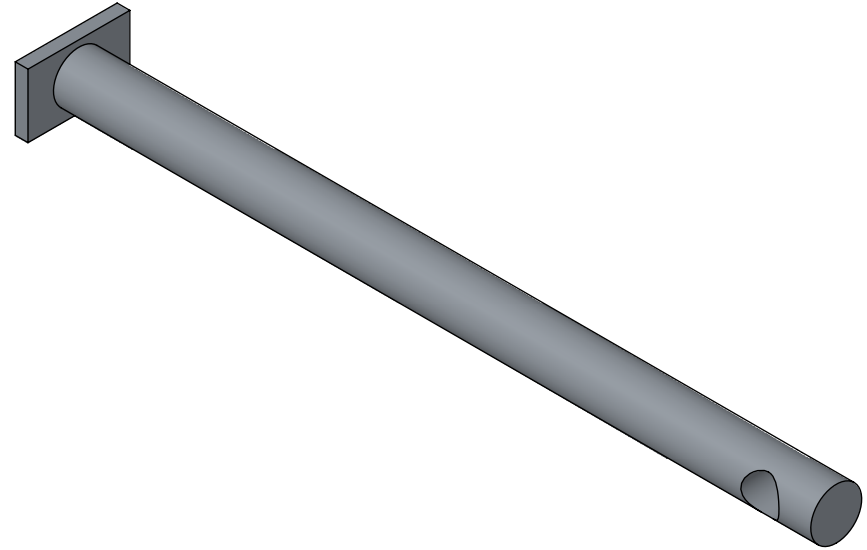
# PARTS: ANCHOR

SUPPLIED WITH BASE TYPE B3 & B3/4



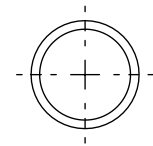
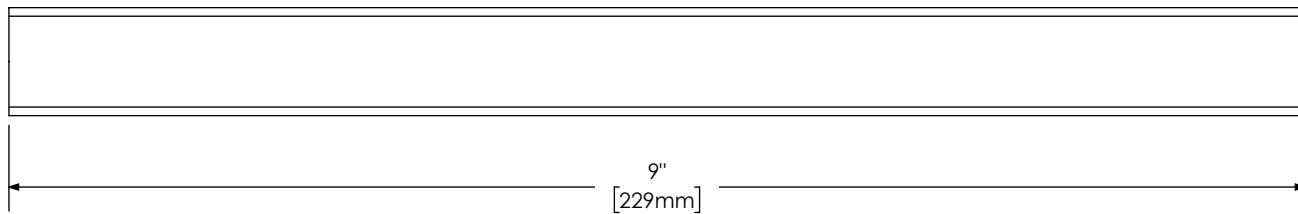
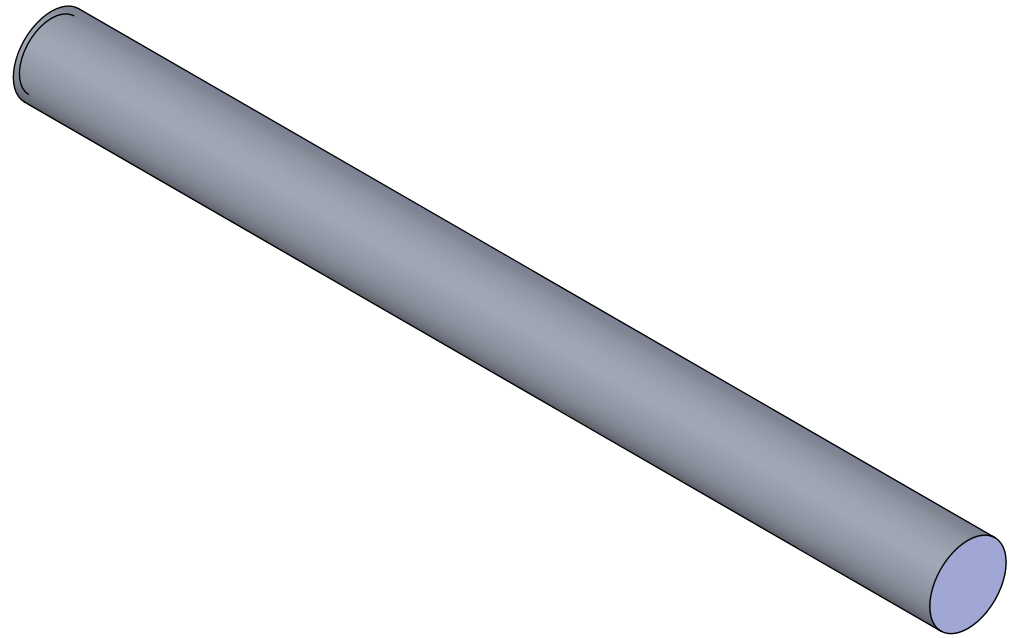
# PARTS: PIN

SUPPLIED WITH BASE TYPE 3/4 & 4



# PARTS: THREADED ROD

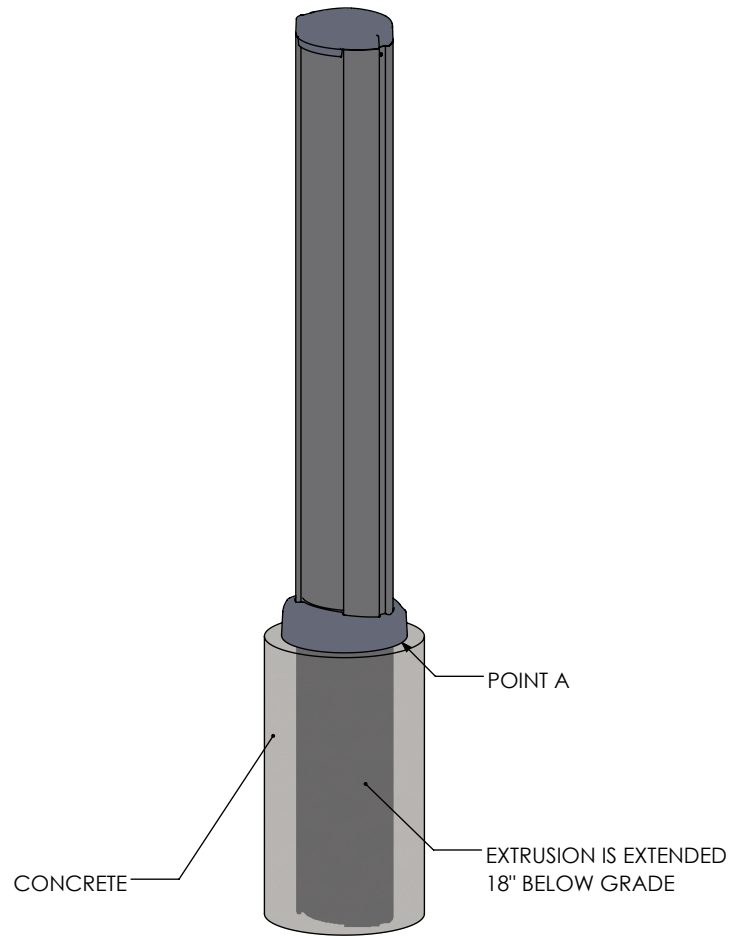
SUPPLIED WITH BASE TYPE 2



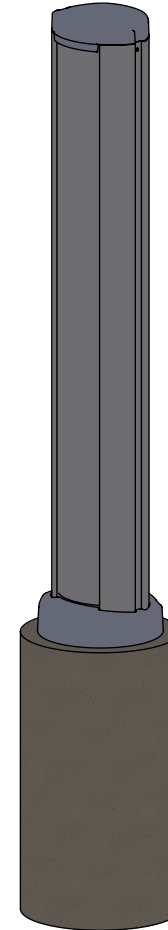
# BASE TYPE B1

- 1 SET THE BOLLARD IN WET CONCRETE KEEPING BOTTOM EDGE (POINT A) EVEN WITH FINISH GRADE, ALSO SET THE BOLLARD TO DESIRED ORIENTATION.

ENSURE THAT THE BOLLARD IS SUPPORTED IN A PLUMB POSITION AS CONCRETE HARDENS.



- 2 INSTALLATION IS COMPLETE NOW.

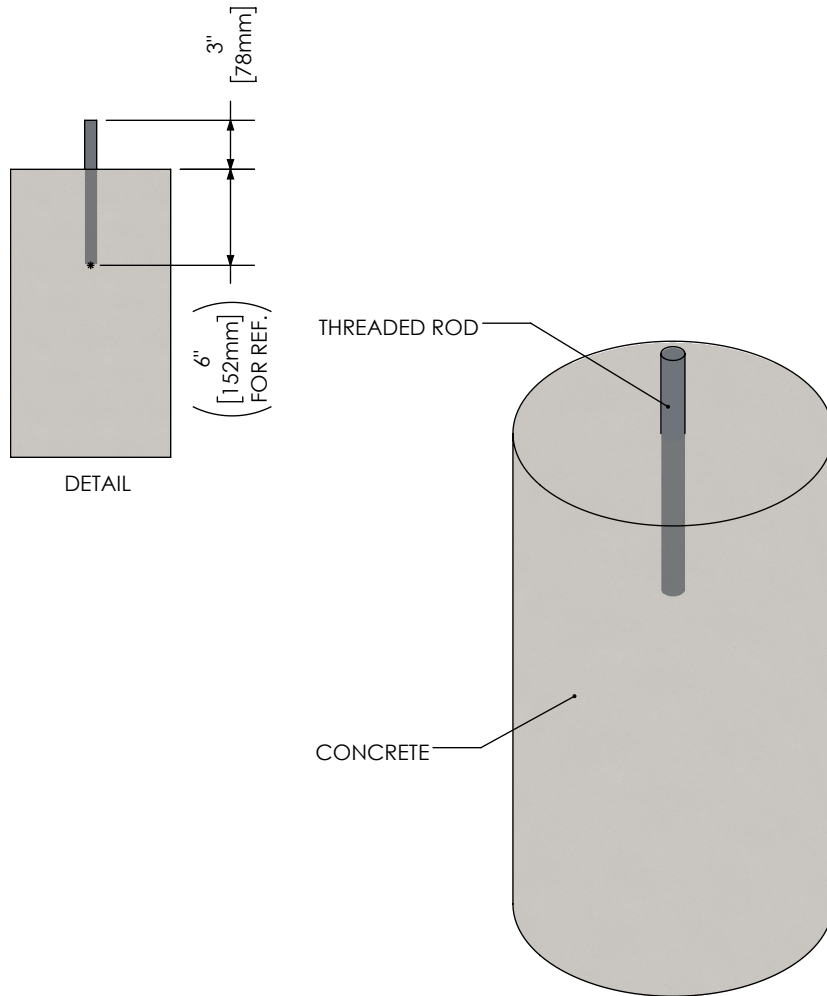


# BASE TYPE B2

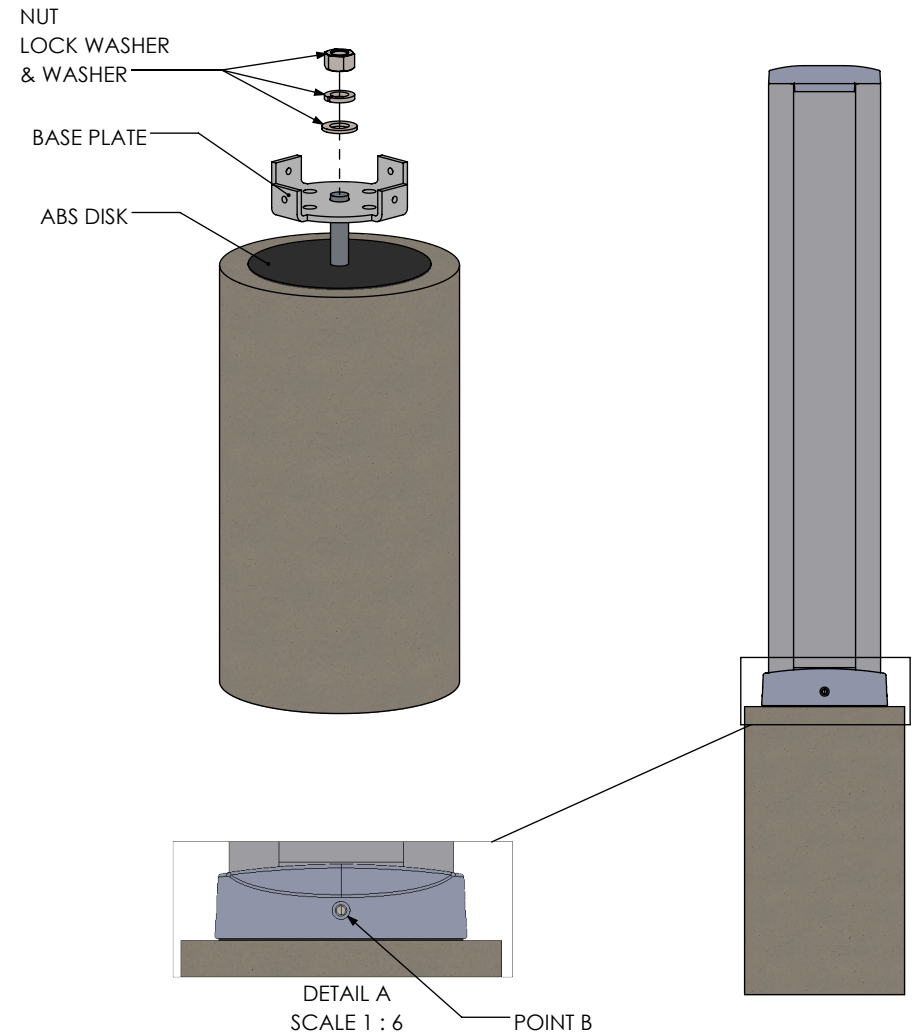
**1 FOR NEW CONCRETE BASE :-** PLACE ROD 3" ABOVE GROUND INTO CONCRETE, ENSURE THAT THE THREADED ROD IS SUPPORTED IN A PLUMB POSITION UNTIL ROD IS SET.

**FOR AN EXISTING CONCRETE BASE :-** DRILL 1" HOLE INTO THE PAD & EPOXY THE THREADED ROD IN PLACE SITTING 3" ABOVE GROUND SO THAT IT WILL NOT ROTATE. ENSURE THAT THE THREADED ROD IS SUPPORTED IN A PLUMB POSITION UNTIL ROD IS SET.

**!CAUTION!** - KEEP THREADED ROD CLEAN OF CONCRETE OR EPOXY DURING INSTALL.

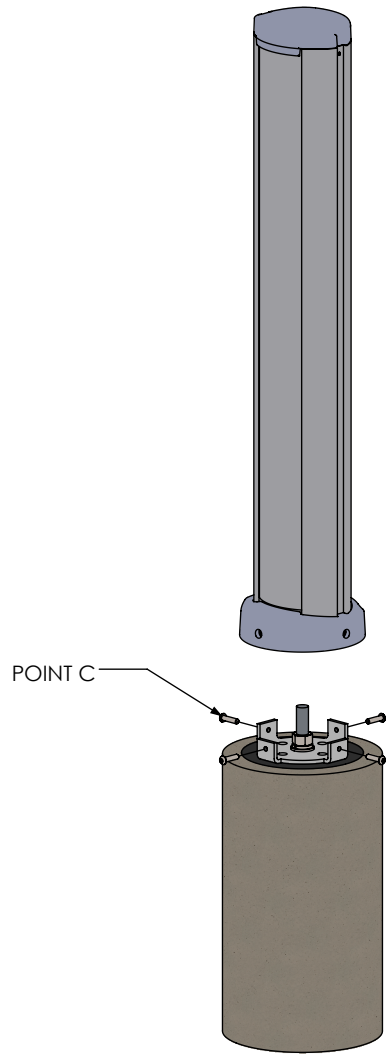


**2** ONCE THE ROD IS SET, PLACE ABS DISK ON BOTTOM AS SHOWN. FASTEN THE BASE PLATE TO THREADED ROD IN DESIRED ORIENTATION ON TOP OF ABS DISK. NOTE THAT THE HOLES NEED TO ALIGN WITH 4 HOLES ON THE BOLLARD BASE (POINT B). THIS DETERMINES THE FINAL INSTALLED ORIENTATION OF THE BOLLARD

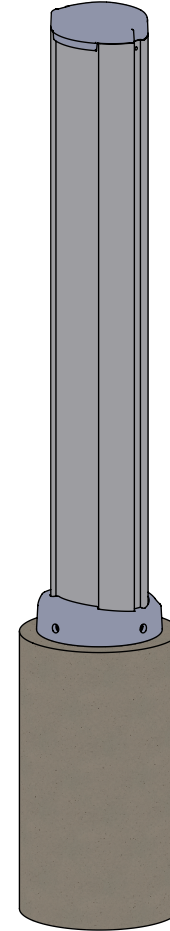




- 3** PLACE BOLLARD ON BASE MOUNT IN DESIRED ORIENTATION, FASTEN EQUALLY FROM ALL 4 SIDES TO SECURE THE BOLLARD USING HEX KEY (POINT C).



- 4** INSTALLATION IS COMPLETE NOW

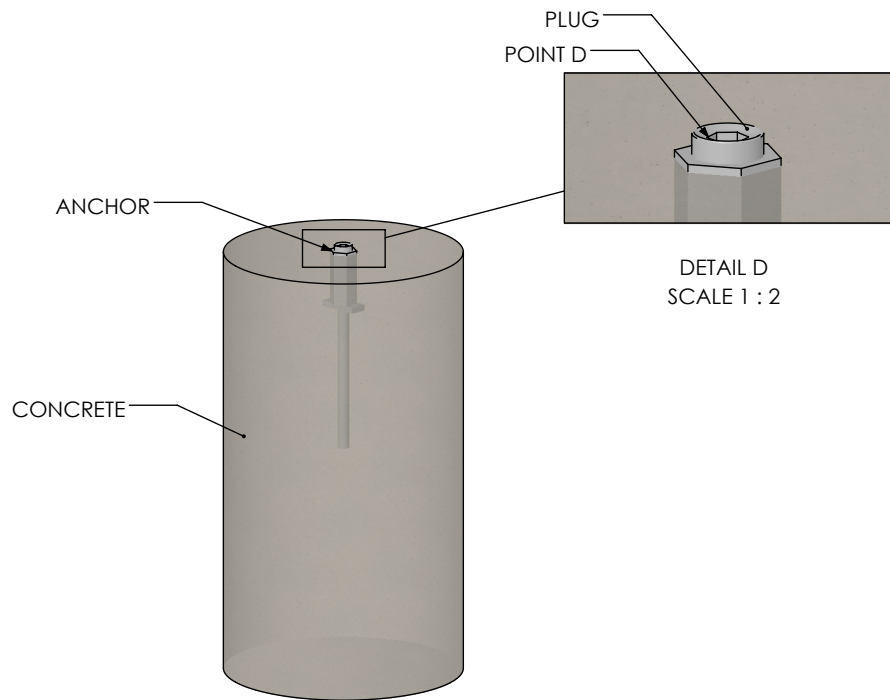


# BASE TYPE B3

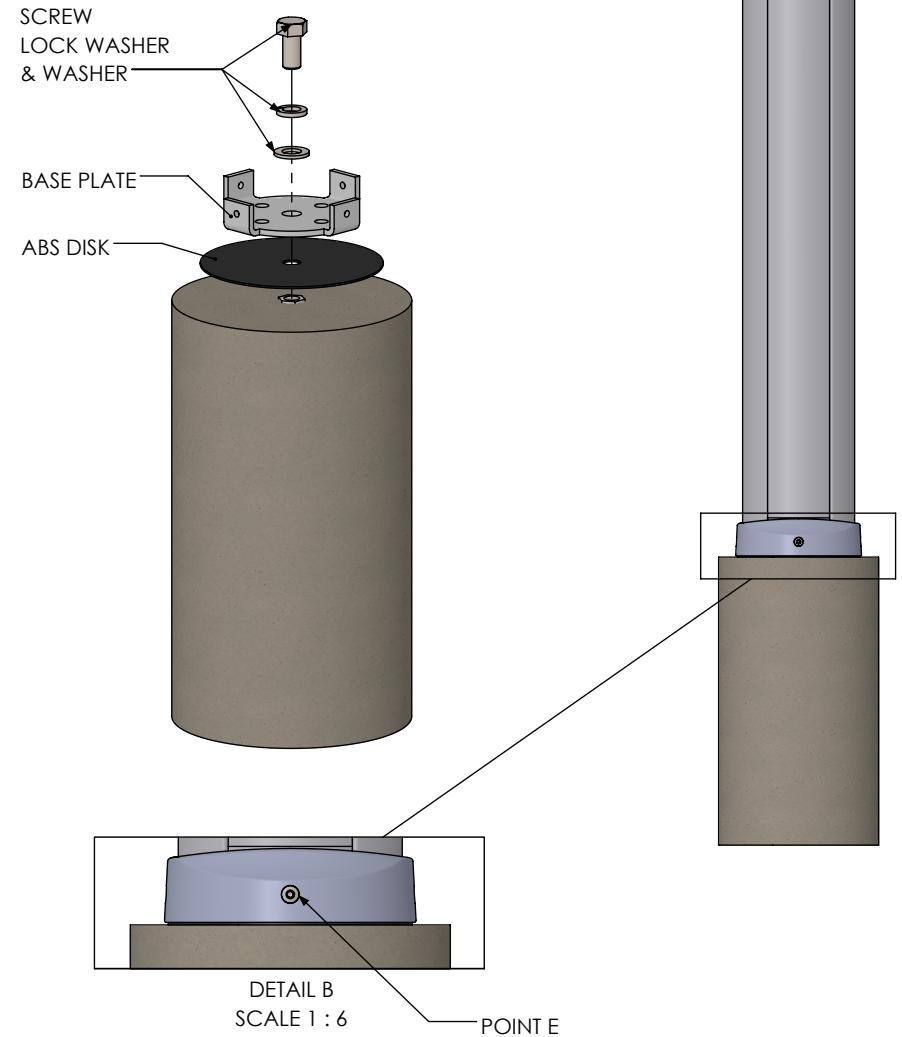
**1 FOR NEW CONCRETE BASE :-** PLACE THREADED ANCHOR FLUSH TO GROUND INTO CONCRETE, ENSURE THAT THE THREADED ANCHOR IS SUPPORTED IN A PLUMB POSITION UNTIL ANCHOR IS SET.

**FOR AN EXISTING CONCRETE BASE :-** DRILL 2" HOLE INTO THE PAD, PLACE ANCHOR INTO GROUND FLUSH WITH GRADE THEN POUR CONCRETE. ENSURE THAT THE THREADED ROD IS SUPPORTED IN A PLUMB POSITION UNTIL ROD IS SET.

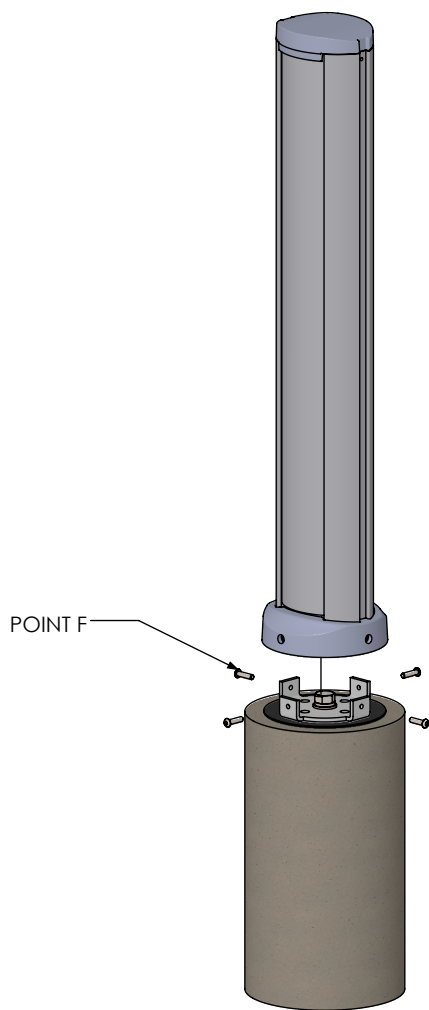
NOTE - WHEN BOLLARD IS REMOVED THE PLUG MUST BE PLACED BACK INTO ANCHOR HOLE TO PREVENT DIRT AND DERBIS FROM ENTERING (POINT D).



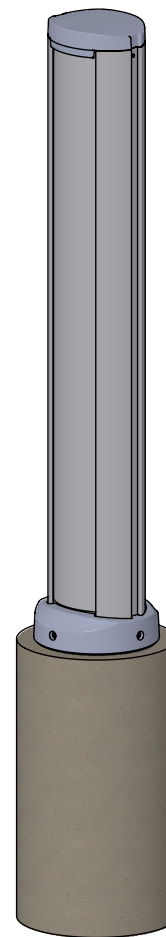
**2 ONCE THE ANCHOR IS SET, PLACE ABS DISK ON BOTTOM AS SHOWN.**  
FASTEN THE BASE PLATE TO ANCHOR IN DESIRED ORIENTATION ON TOP OF ABS DISK.  
NOTE THAT THE HOLES NEED TO ALIGN WITH 4 HOLES ON THE BOLLARD BASE (POINT E). THIS DETERMINES THE FINAL INSTALLED ORIENTATION OF THE BOLLARD



- 3** PLACE BOLLARD ON BASE MOUNT IN DESIRED ORIENTATION, FASTEN EQUALLY FROM ALL 4 SIDES TO SECURE THE BOLLARD USING HEX KEY (POINT F).



- 4** INSTALLATION IS COMPLETE NOW

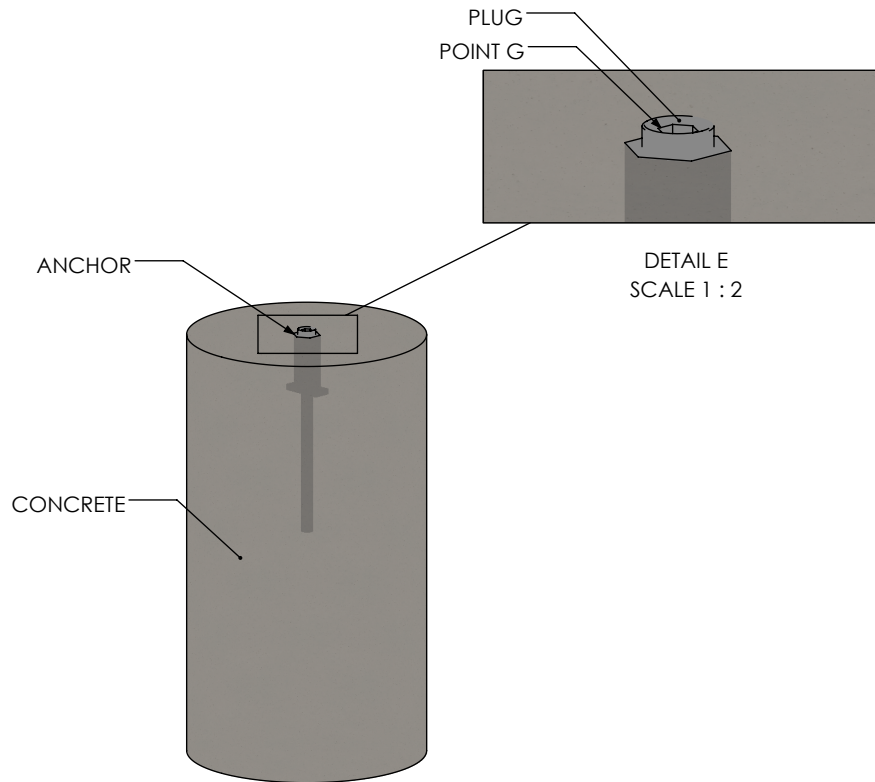


# BASE TYPE B3/4

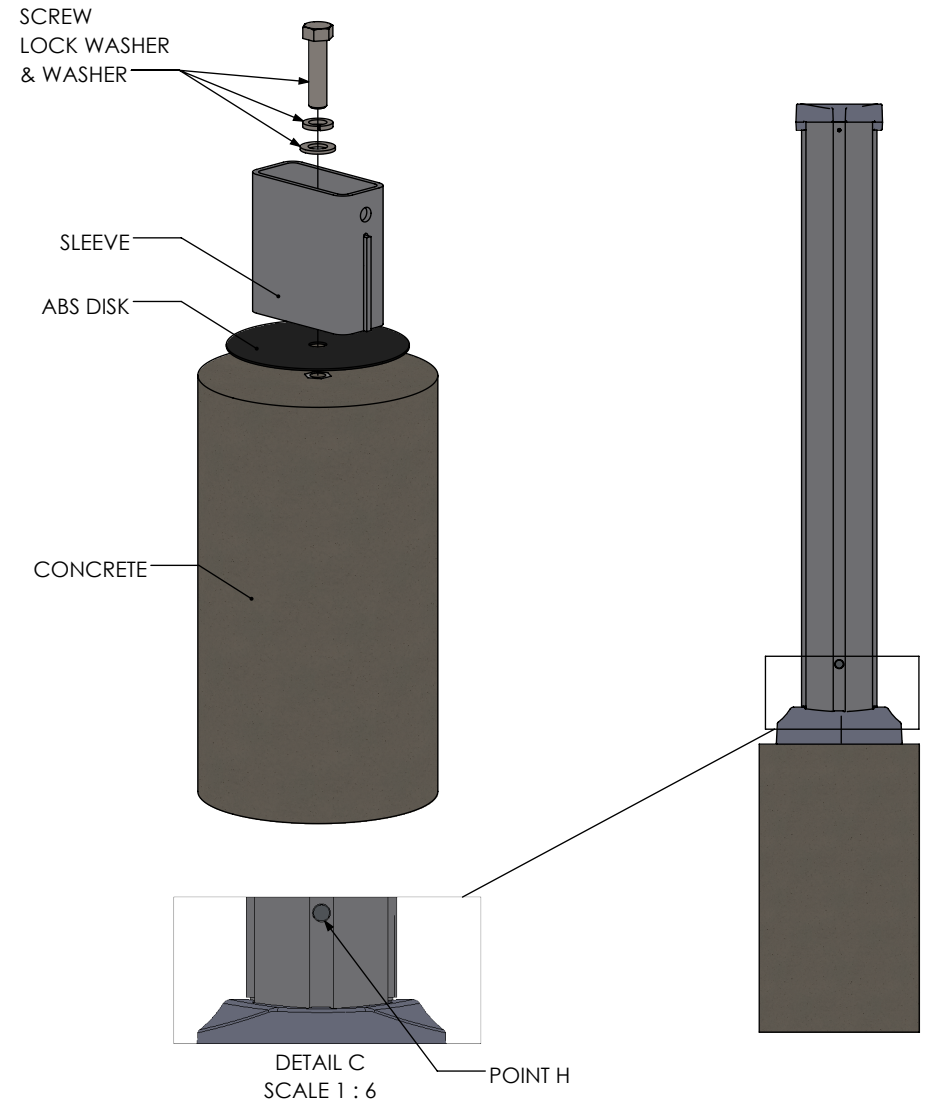
**1 FOR NEW CONCRETE BASE :-** PLACE THREADED ANCHOR FLUSH TO GROUND INTO CONCRETE, ENSURE THAT THE THREADED ANCHOR IS SUPPORTED IN A PLUMB POSITION UNTIL ANCHOR IS SET.

**FOR AN EXISTING CONCRETE BASE :-** DRILL 2" HOLE INTO THE PAD, PLACE ANCHOR INTO GROUND FLUSH WITH GRADE THEN POUR CONCRETE. ENSURE THAT THE THREADED ROD IS SUPPORTED IN A PLUMB POSITION UNTIL ROD IS SET.

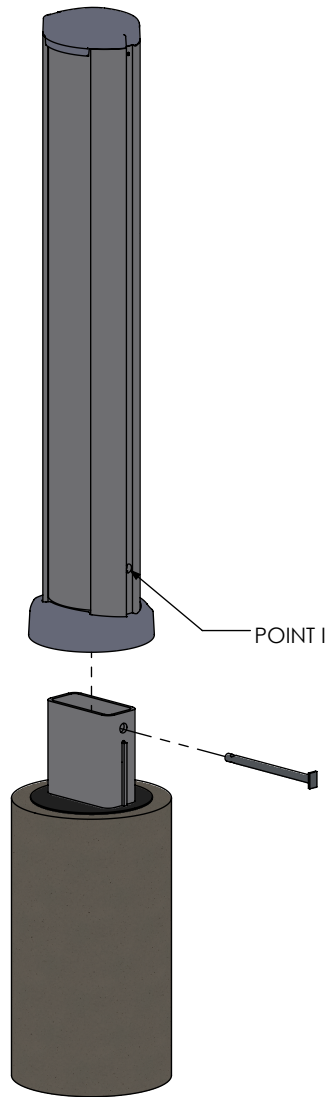
NOTE - WHEN BOLLARD IS REMOVED THE PLUG MUST BE PLACED BACK INTO ANCHOR HOLE TO PREVENT DIRT AND DERBIS FROM ENTERING (POINT G).



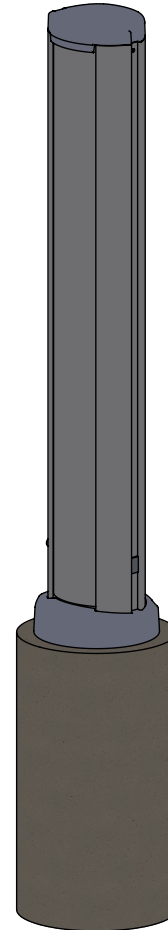
**2 ONCE THE ROD IS SET, PLACE ABS DISK ON BOTTOM**  
FASTEN THE SLEEVE TO ANCHOR IN DESIRED ORIENTATION ON TOP OF ABS DISK.  
NOTE THAT THE HOLES NEED TO ALIGN WITH 4 HOLES ON THE BOLLARD BASE (POINT H).  
THIS DETERMINES THE FINAL INSTALLED ORIENTATION OF THE BOLLARD



- 3** ORIENT THE BOLLARD WITH BOTTOM SLEEVE & SLIDE IT ON. SECURE USING PIN (POINT I )  
USE PAD LOCK IF NEEDED.



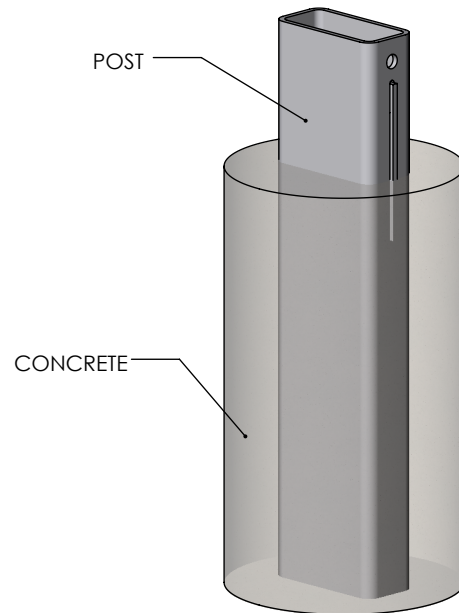
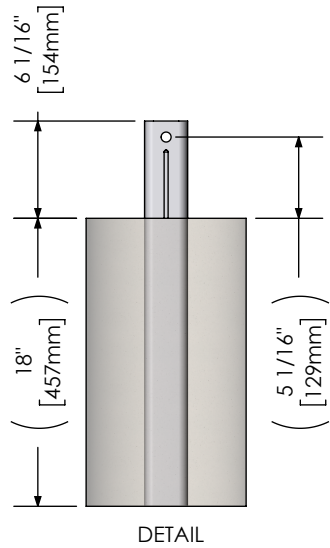
- 4** INSTALLATION IS COMPLETE NOW.



# BASE TYPE B4

- 1 SET THE DIRECT BURIAL POST IN WET CONCRETE KEEP TUBE EDGE 6 -1/16" ABOVE GRADE, ENSURE HOLE IS 5 -1/16" ABOVE GRADE. SET THE DESIRED ORIENTATION & CONFIRM THAT BOLLARD PIN CAN SLIDE INTO PLACE.

ENSURE THAT THE DIRECT BURIAL POST IS SUPPORTED IN A PLUMB POSITION AS CONCRETE HARDENS.



- 2 ONCE THE POST IS SET, PLACE ABS DISK ON BOTTOM AS SHOWN. ORIENT THE BOLLARD WITH POST & SLIDE IT ON. SECURE USING PIN AT THE BOTTOM. USE PAD LOCK IF NEEDED.

INSTALLATION IS COMPLETE NOW.

