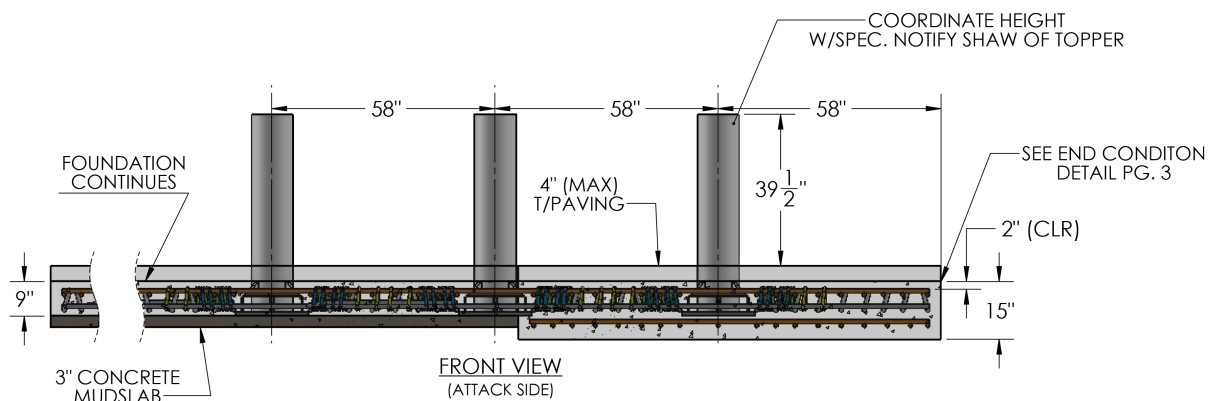




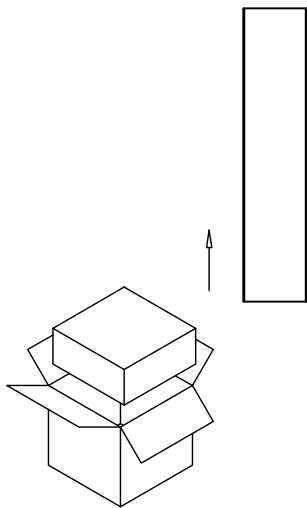
ART 13 SLOPE

1.Mounting of security base in accordance with ASTM CRASH RATED standards

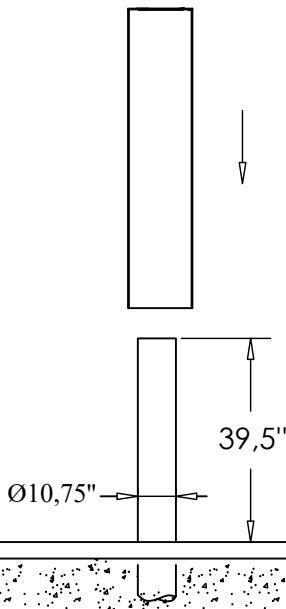
Detailed installation information on page 3,4,5,6 and 7



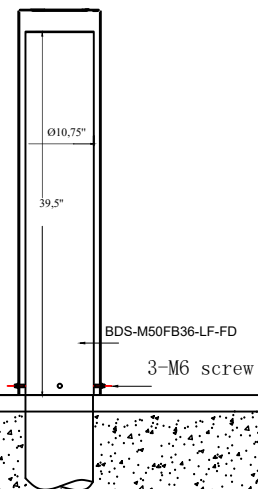
2. Take out the lamps and find the corresponding accessories.

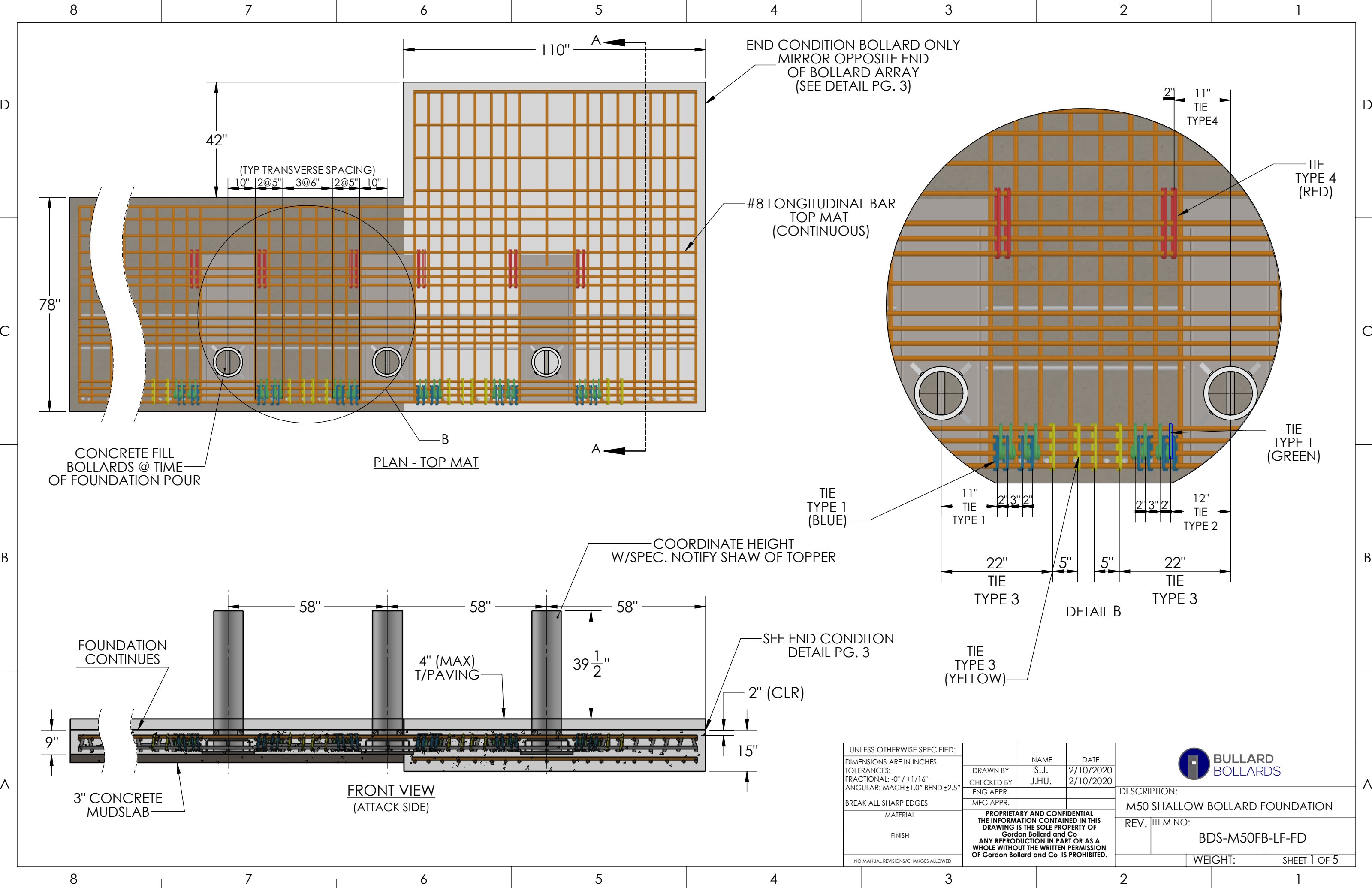


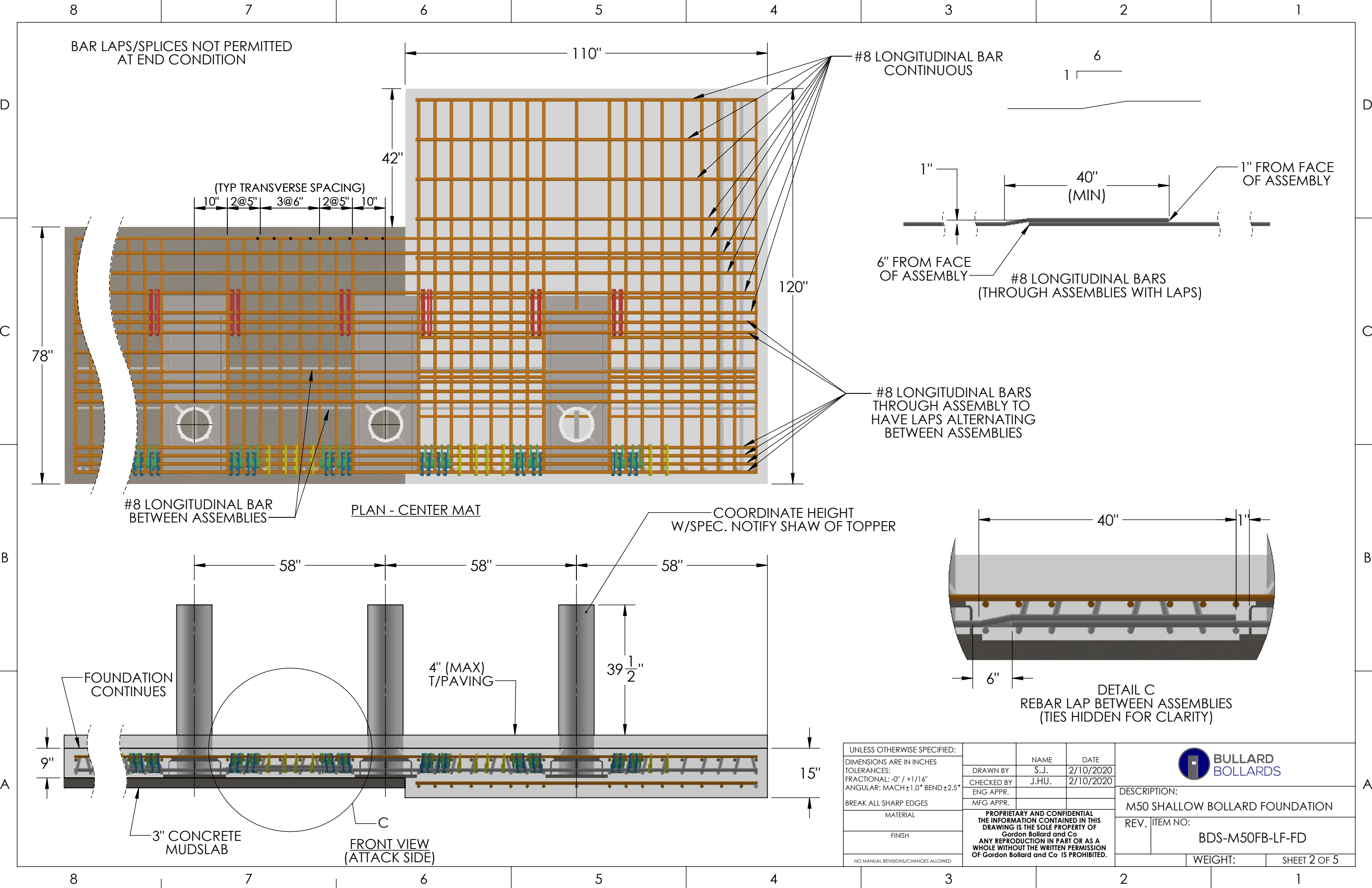
3. Fix the lamp on the embedded ground cage.




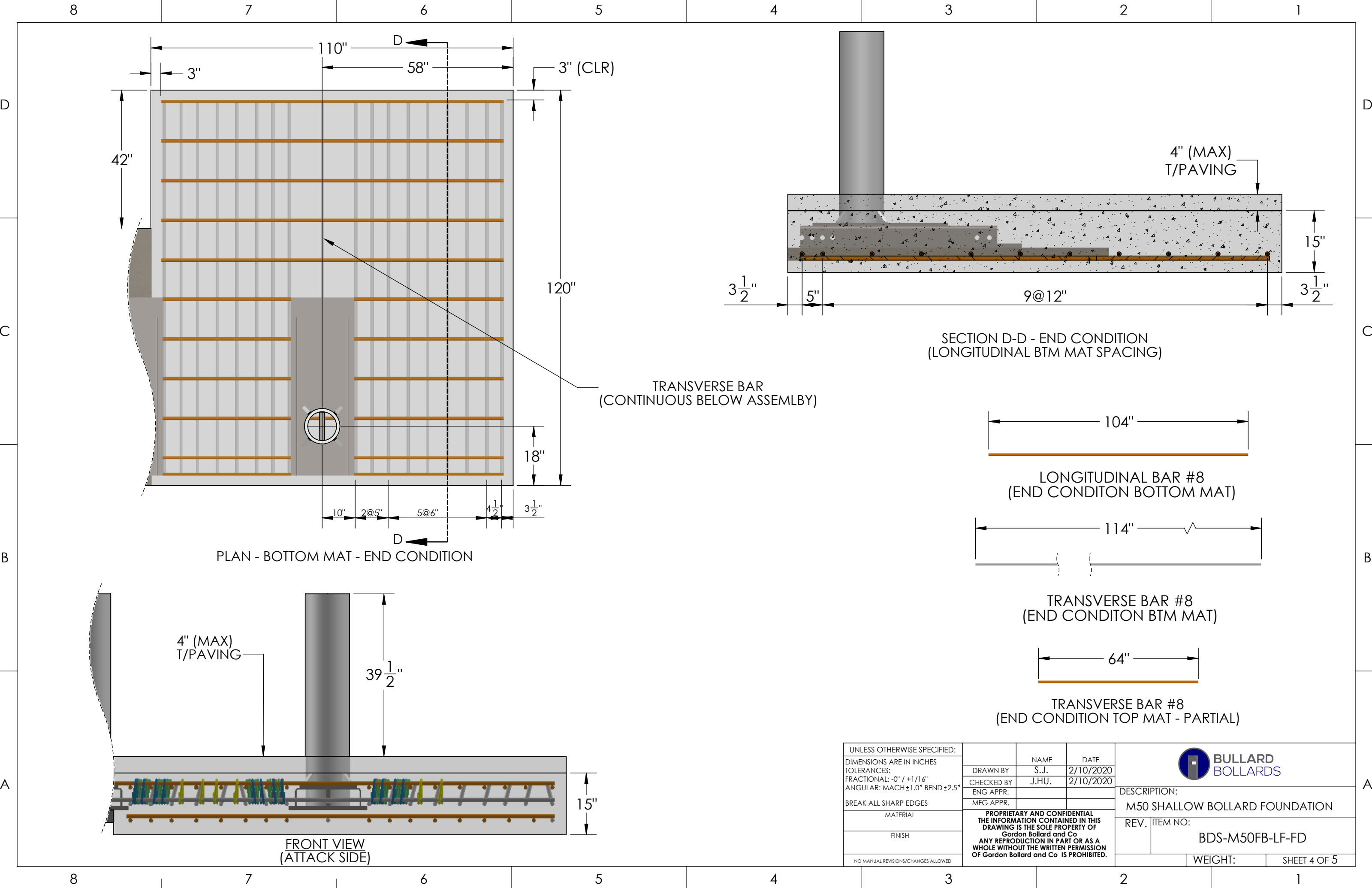
4.Lamp size drawing.






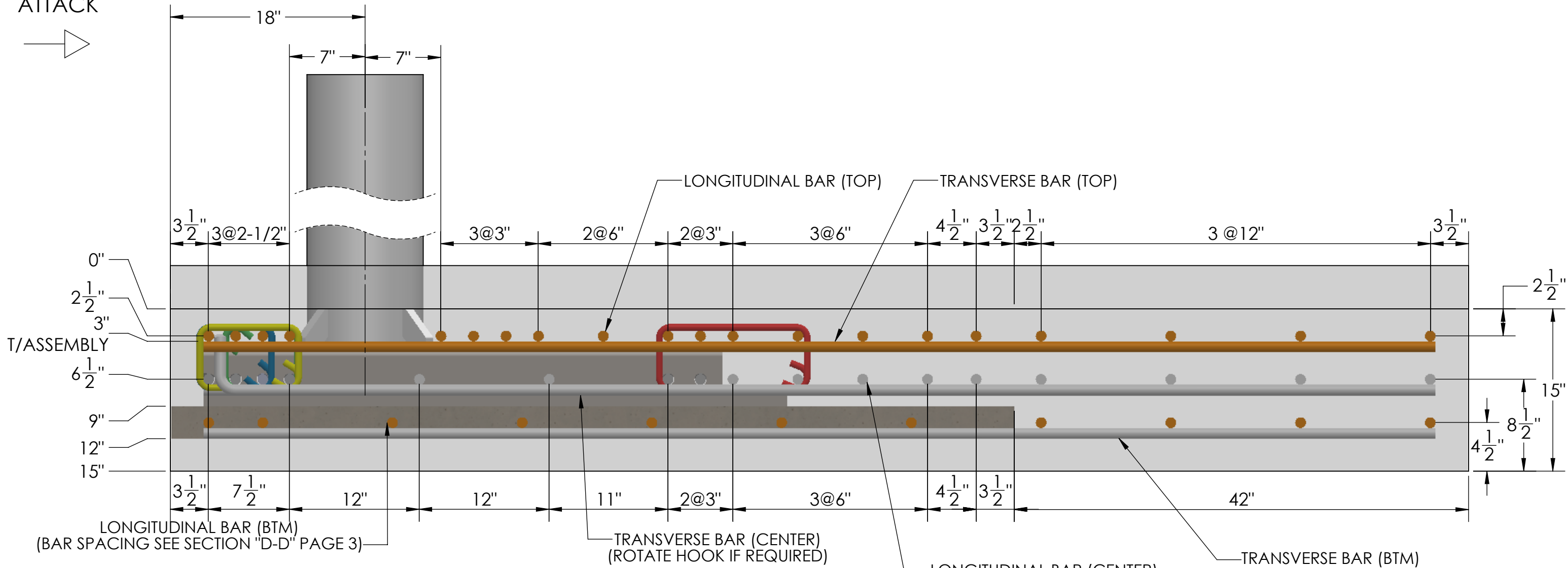


UNLESS OTHERWISE SPECIFIED:				 BULLARD BOLLARDS	
DIMENSIONS ARE IN INCHES		NAME	DATE		
TOLERANCES:		DRAWN BY	S.J.		2/10/2020
FRACTIONAL: -0" / +1/16"		CHECKED BY	J.HU.		2/10/2020
ANGULAR: MACH±1.0° BEND±2.5°		ENG APPR.			
BREAK ALL SHARP EDGES		MFG APPR.			
MATERIAL		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF Gordon Bollard and Co ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF Gordon Bollard and Co IS PROHIBITED.			
FINISH					
NO MANUAL REVISIONS/CHANGES ALLOWED					
DESCRIPTION:				M50 SHALLOW BOLLARD FOUNDATION	
REV.	ITEM NO:			BDS-M50FB-LF-FD	
WEIGHT:				SHEET 2 OF 5	

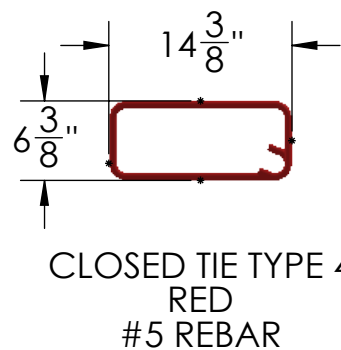
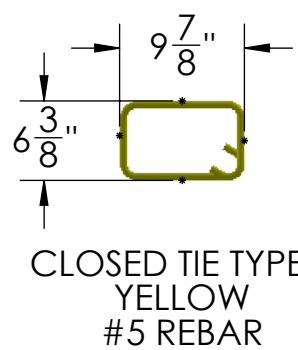
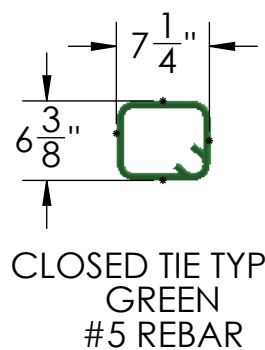
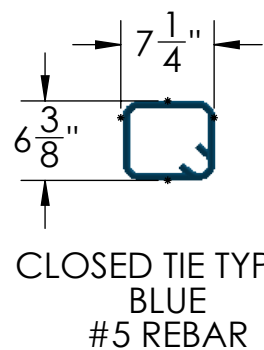
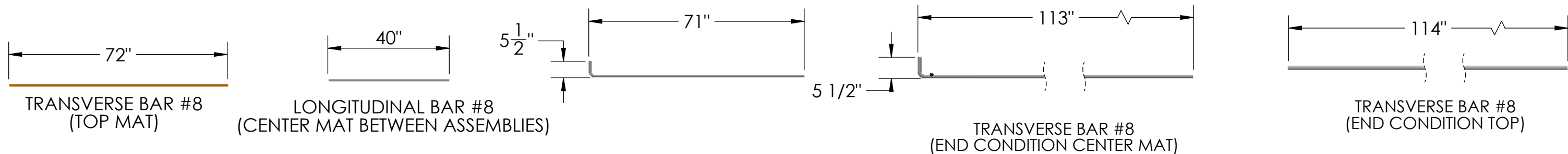


UNLESS OTHERWISE SPECIFIED:					 BULLARD BOLLARDS			
DIMENSIONS ARE IN INCHES			NAME	DATE				
TOLERANCES:		DRAWN BY	S.J.	2/10/2020	DESCRIPTION: M50 SHALLOW BOLLARD FOUNDATION			
FRACTIONAL: -0" / +1/16"		CHECKED BY	J.HU.	2/10/2020				
ANGULAR: MACH±1.0° BEND±2.5°		ENG APPR.						
BREAK ALL SHARP EDGES		MFG APPR.						
MATERIAL		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF Gordon Bollard and Co ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF Gordon Bollard and Co IS PROHIBITED.			REV.	ITEM NO: BDS-M50FB-LF-FD		
FINISH								
NO MANUAL REVISIONS/CHANGES ALLOWED							WEIGHT:	SHEET 4 OF 5

ATTACK
→



SECTION VIEW A-A SIDE VIEW



UNLESS OTHERWISE SPECIFIED:			
DIMENSIONS ARE IN INCHES			
TOLERANCES:			
FRACTIONAL: -0" / +1/16"			
ANGULAR: MACH ±1.0° BEND ±2.5°			
BREAK ALL SHARP EDGES			
MATERIAL		NAME	DATE
FINISH		DRAWN BY	S.J. 2/10/2020
NO MANUAL REVISIONS/CHANGES ALLOWED		CHECKED BY	J.HU. 2/10/2020
		ENG APPR.	
		MFG APPR.	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF Gordon Bollard and Co ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF Gordon Bollard and Co IS PROHIBITED.			
BULLARD BOLLARDS			
DESCRIPTION: M50 SHALLOW BOLLARD FOUNDATION			
REV.	ITEM NO: BDS-M50FB-LF-FD		
WEIGHT:			SHEET 34 OF 5

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1. - GENERAL:
a. ALL NOTES THIS PAGE ARE APPLICABLE TO THE DRAWINGS AND DETAILS PROVIDED FOR FIXED AND REMOVABLE BOLLARDS ONLY.
b. THE CONTRACTOR SHALL USE MATERIALS AND EMPLOY CONSTRUCTION METHODS IN ORDER TO COMPLY WITH THE DESIGN DRAWINGS. CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY SPECIFIC DEVIATIONS AND OBTAIN ENGINEER'S WRITTEN APPROVAL FROM THE SPECIFIC DEVIATION.
c. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION
d. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS.

2. - FOUNDATIONS:
a. DESIGN "NET" ALLOWABLE SOLID BEARING PRESSURE OF 3000 POUNDS/SQ. FOOT, AT A DEPTH OF 10IN. BELOW ADJACENT GRADE. ALL FOOTING EXCAVATIONS TO BE VERIFIED BY OTHERS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT ADVERSE CONDITIONS.
b. THE EXCAVATION SHALL BE KEPT DRY AT ALL TIMES. GROUNDWATER SHALL BE REMOVED FROM THE EXCAVATION.
c. CONTRACTOR SHALL REMOVE ALL LOOSE SOLID OR ROCK FROM THE FOOTING EXCAVATION PRIOR TO CONCRETE PLACEMENT.
d. SUBGRADE SHALL BE UNIFORMLY COMPACTED TO AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.

3. - CONCRETE:
a. CONCRETE SHALL CONFORM TO ACI BUILDING CODE 318-14. UNLESS NOTED, CONCRETE SHALL BE NORMAL WEIGHT, 4500 PSI @ 28 DAYS WITH MAX. WATER-CEMENTIOUS MATERIAL RATIO OF 0.45. MAXIMUM SLUMP FOR CONCRETE SHALL BE 5" ± AT POINT OF PLACEMENT.
b. UNLESS NOTED, CEMENT SHALL CONFORM TO ASTM C150 TYPE II, AGGREGATES SHALL BE NORMAL WEIGHT CONFORMING TO ASTM C33.
c. CONCRETE SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ACI 318-14, "TOTAL AIR CONTENT FOR THE CONCRETE EXPOSED TO CYCLES OF FREEZING & THAWING."
d. HOT WEATHER CONCRETE PLACEMENT SHALL COMPLY WITH ACI 305R. COLD WEATHER CONCRETE PLACEMENT SHALL COMPLY WITH ACI 306R-16.
e. CONCRETE CURING SHALL COMPLY WITH ACI 308R.
f. CONCRETE SHALL BE CONSOLIDATED AND SHALL COMPLY WITH ACI 309R.
g. CONTROL JOINTS SHALL BE SCORED OR SAW-CUT JOINTS (1" DEEP FILLED WITH SEALANT) TO MATCH EXISTING CONDITION AND BE PLACED AT A MAXIMUM SPACING OF 12 FEET ON-CENTER. CONCRETE SURFACES THAT ARE EXPOSED SHALL COMPLY WITH THE BUILDING CODE REQUIREMENTS.
h. FOR SHALLOW DEPTH FOUNDATIONS (12 IN. DEPTH OR LESS) OR IN A CORROSIVE ENVIRONMENT: CONCRETE SHALL INCLUDE A CORROSION INHIBITOR, COMPLYING WITH ASTM C494 TYPE C, AT A DOSAGE OF 1.5 TIMES THE MINIMUM RECOMMENDATION BY THE MANUFACTURER.
i. FOR SHALLOW DEPTH FOUNDATIONS (12 IN. DEPTH OR LESS): CONCRETE SHALL INCLUDE A "FORTA FERRO" SYNTHETIC FIBERS MANUFACTUERD BY FORTA CORP (OR EQUIVALENT). FIBERS SHALL COMPLY WITH ASTM C 1116 AT A DOSAGE OF 3 POUNDS PER CUBIC YARD PLACED PER MANUFACTURERS RECOMMENDATIONS.

4. - REINFORCING STEEL:
a. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60. PROVIDE A MINIMUM BAR LAP OF 60 BAR DIAMETERS. STAGGER LAPS WHERE POSSIBLE.
b. REINFORCING THAT IS WELDED SHALL BE WELDABLE TYPE ASTM A-706.

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UNLESS OTHERWISE SPECIFIED:

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ANGULAR: MACH±1.0° BEND±2.5°
BREAK ALL SHARP EDGES

MATERIAL

FINISH

NO MANUAL REVISIONS/CHANGES ALLOWED

DRAWN BY

CHECKED BY

ENG APPR.

MFG APPR.

NAME

S.J.

J.HU.

DATE

2/10/2020

2/10/2020

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OF Gordon Bollard and Co IS PROHIBITED.

DESCRIPTION:


GENERAL INSTALL NOTES

REV.

ITEM NO:

WEIGHT:

SHEET 5 OF 5

 **BULLARD
BOLLARDS**

A

B

C

D