| MATERIAL FINISHES | |
|---|---|
| SEAT PLANK | ANODIZED |
| RISER PLANK | MILL FINISH |
| FOOT PLANK | MILL FINISH |
| CHAIN LINK | GALVANIZED |

# BRB-0815AP

## NON-ELEV. ALUM. 8 ROW x 15'-0" BLEACHER

| DRAWING REFERENCE NUMBER: NA–0815PRF_CL | |
|---|---|
| DRAWING SHEET INDEX | |
| 1.CS | COVER SHEET |
| 2.TD | SEATING PLAN |
| 3.FP | FOUNDATION PLAN |
| 4.ID | FRAME IDENTIFICATION |
| 5.BA | BLEACHER ASSEMBLY PREP |
| 6.BA | BLEACHER ASSEMBLY – BRACING |
| 7.BA | BLEACHER ASSEMBLY SECTION VIEW |
| 8.AP | ANCHORING PLAN |
| 9.PF | PLANK & FRAMING PLAN |
| 10.GR | GUARDRAIL ASSEMBLY |
| 11.DS | TYPICAL BLEACHER ASSEMBLY DETAILS |

| RECOMMENDED TOOLS | | |
|---|---|---|
| SOCKET WRENCH | POP RIVET GUN | CORDLESS DRILL |
| ½" DEEP WELL SOCKET | LEVEL | 3/16" DRILL BIT |
| 9/16" DEEP WELL SOCKET | RUBBER MALLET | 7/16" DRILL BIT |
| TAPE MEASURE | GLOVES | SAFETY GLASSES |

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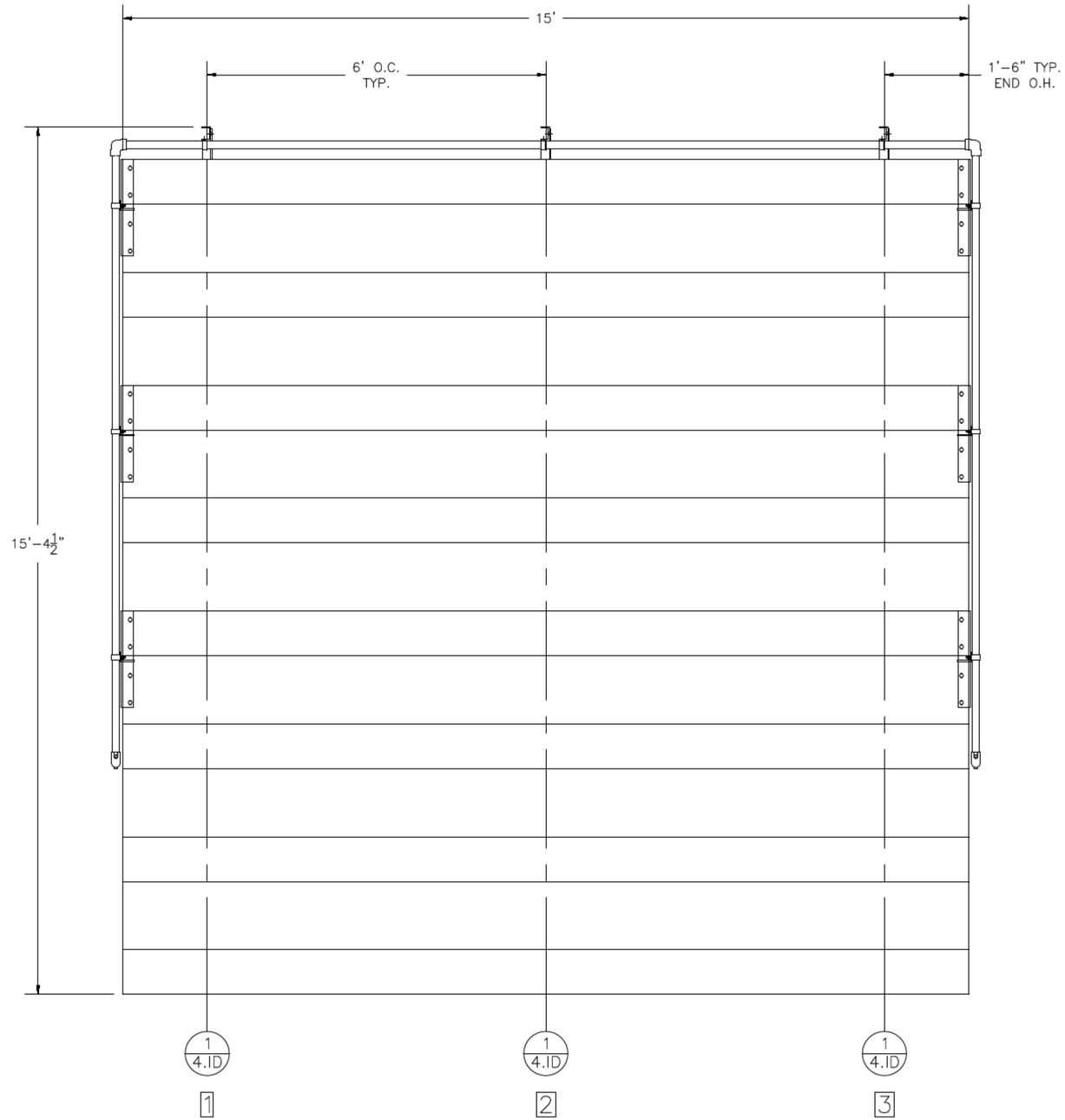
| | | | | |
|---|---|---|---|---|
| MODEL: BRB-0815AP | | | | |
| DESCRIPTION: NON–ELEV. 8 ROW x 15'–0" ASSEMBLY COVER SHEET | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 1.CS |




| SECTION LENGTH | GROSS SEATS | ACTUAL SEATS | NO. OF ROWS | NET SEATS |
|---|---|---|---|---|
| 15 | 10.00 | 10.00 | 8 | 80 |
| | | | | 0 |
| | | | *NET SEATS* | 80 |
| | | | *WHEELCHAIR SPACES* | 0 |
| | | | *TOTAL NET SEATING CAPACITY (BASED ON 18" PER SEAT)* | 80 |

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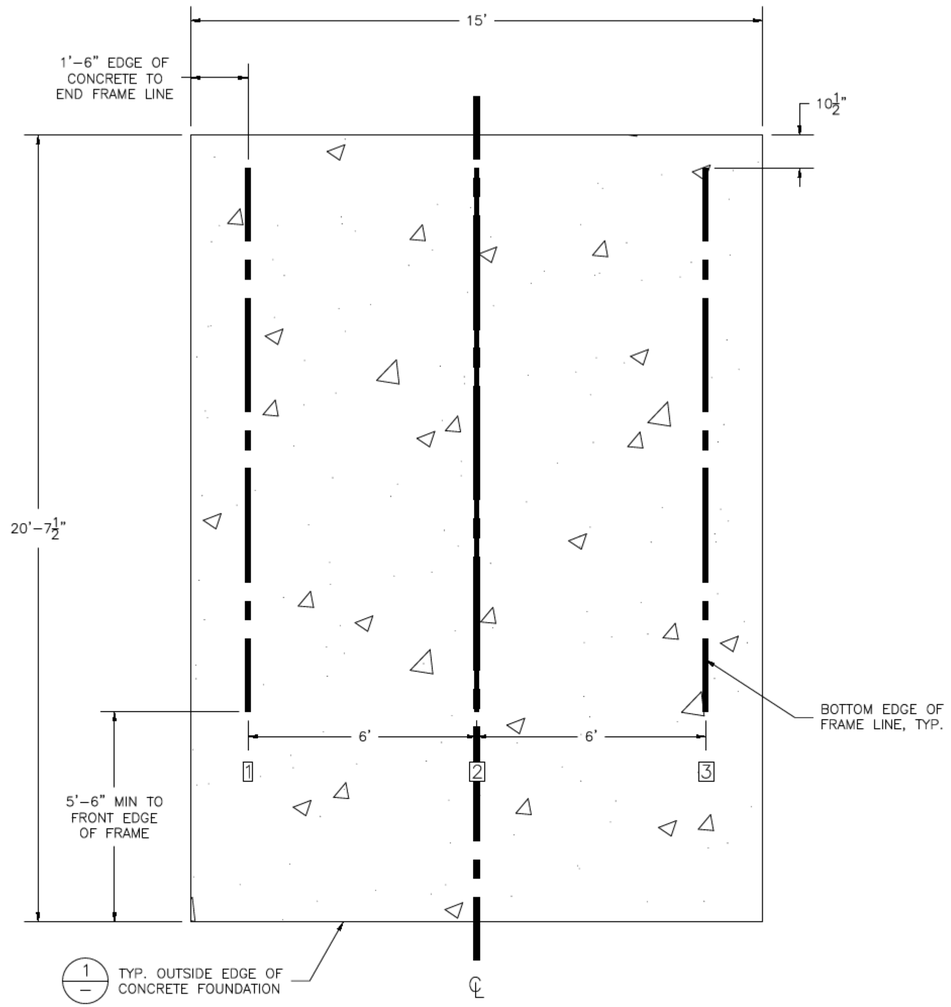
MODEL: BRB-0815AP

DESCRIPTION: NON-ELEV. 8 ROW x 15'-0" SEATING PLAN

| DRAWN BY: | DATE: | REVISION: | SCALE: | SHEET NUMBER: |
|---|---|---|---|---|
| HIT | 8/29/23 | 0 | N.T.S. | 2.TD |




# CONCRETE FOUNDATION SPECIFICATIONS

**SCOPE:**

Foundation construction is not part of NATIONAL RECREATION SYSTEMS, INC's., scope of work unless noted otherwise in the contract documents. The OWNER shall review the foundation design with local code authorities and coordinate with NRS, Inc.

**FOUNDATION DESIGN & ANCHORS:**

1) The foundation designs are based on the following:
   a) Minimum presumed soil bearing of 2000 psf.
   b) Bleacher frame dead and live load of 700 lbs./ft.
   c) Bleacher frame wind uplift of 250 lbs./ft.
2) Unless otherwise specified on the drawings the bleacher frames shall be attached to concrete with a $^{12}$" dia. x 3$^{3}/_{4}$" wedge type expansion anchor. The anchors shall be embedded a minimum of 2" into the concrete.

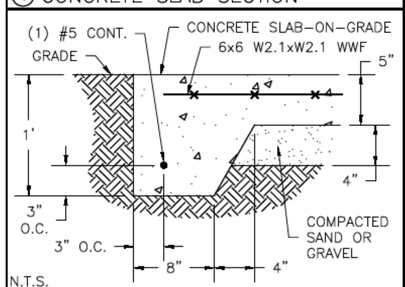
**CONCRETE SPECIFICATIONS:**

1) All concrete construction shall be in accordance with *ACI 318.08.*
2) All concrete shall be air-entrained using an air entraining admixtruing meeting *ASTM C260* Total air content: 5%-7% per *ASTM C173*
3) All concrete shall have a minimum 28-day strength of Fc=3000psi. Concrete shall have air-entrainment
4) A $^{1}/_{4}$" bituminous expansion joint material shall be placed between strip and slab foundations when adjacent to each other.
5) The depressions in the top of the foundations between high spots shall not exceed $^{5}/_{16}$" below 10-foot long straightedge. The 10-foot straightedge method used to measure foundation flatness shall be in accordance with *ACI 302.1R-04 "Guide for Concrete Floor and Slab Construction".*

**CONCRETE SLAB RECOMMENDED SPECIFICATIONS:**

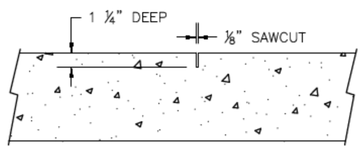
1) Concrete slab shall have a minimum thickness of 5" (some areas may require 6") and placed on 4" of compacted gravel or compacted sub base.
2) NRS. INC., recommends that the concrete slab be reinforced with 6x6-W2.1xW2.1 welded wire fabric at 1$^{12}$" concrete cover from the top. In lieu of welded wire fabric, steel fiber substitution requires OWNER approval and his understanding of potential maintenance issues.
3) Contractor may substitute blended fiber reinforcing, provided the blend consists of multifilament polypropylene fibers and cold drawn steel wire fibers. Novamesh 950 or approved equivalent, applied at a dosage rate of 5lb/CY unless specified otherwise or a different recommendation is made by the manufacturer.
4) Crack control joints shall be sawed into slab to form approximate square patterns. The maximum spacing for control joints shall not exceed 13'-6", UNLESS INDICATED OTHERWISE. The bleacher frames shall not be set on control joints. The designer shall contact NRS to coordinate joint spacing requirements with the specific bleacher design.
5) The slab may be sloped a maximum of 1/8 inch per foot for drainage. The maximum overall out of level slope for the slab perpendicular to the seats (front to rear) shall not exceed 2" and parallel to the seats (end to end) shall not exceed 4".

① CONCRETE SLAB SECTION




N.T.S.

② CONTROL JOINT DETAIL




N.T.S.

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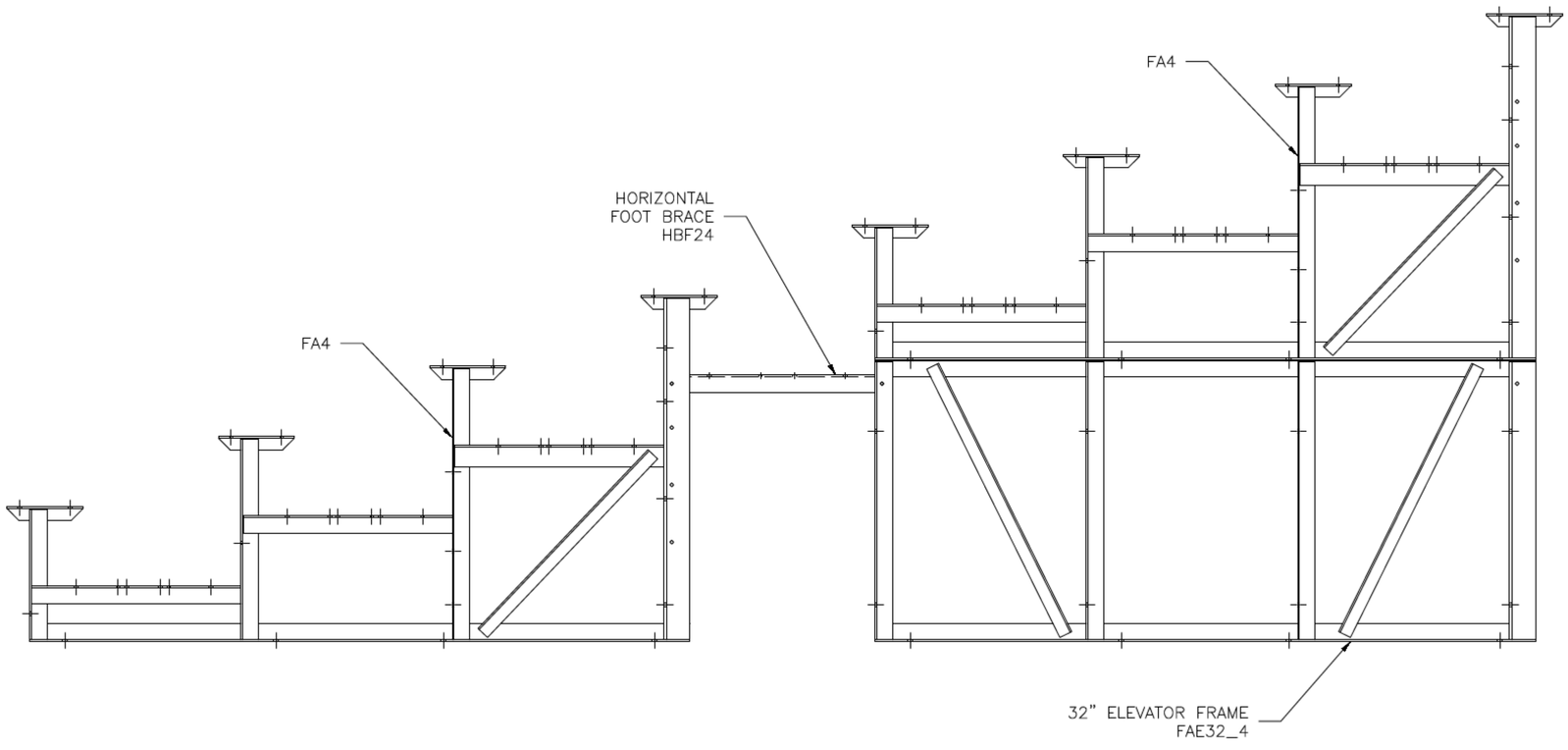
| | | | | | |
|---|---|---|---|---|---|
| MODEL: BRB-0815AP | | | | | |
| DESCRIPTION: NON–ELEV. 8 ROW x 15'–0" FOUNDATION PLAN | | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 3.FP | |

1
4.ID FRAME LINES 1, 2, 3

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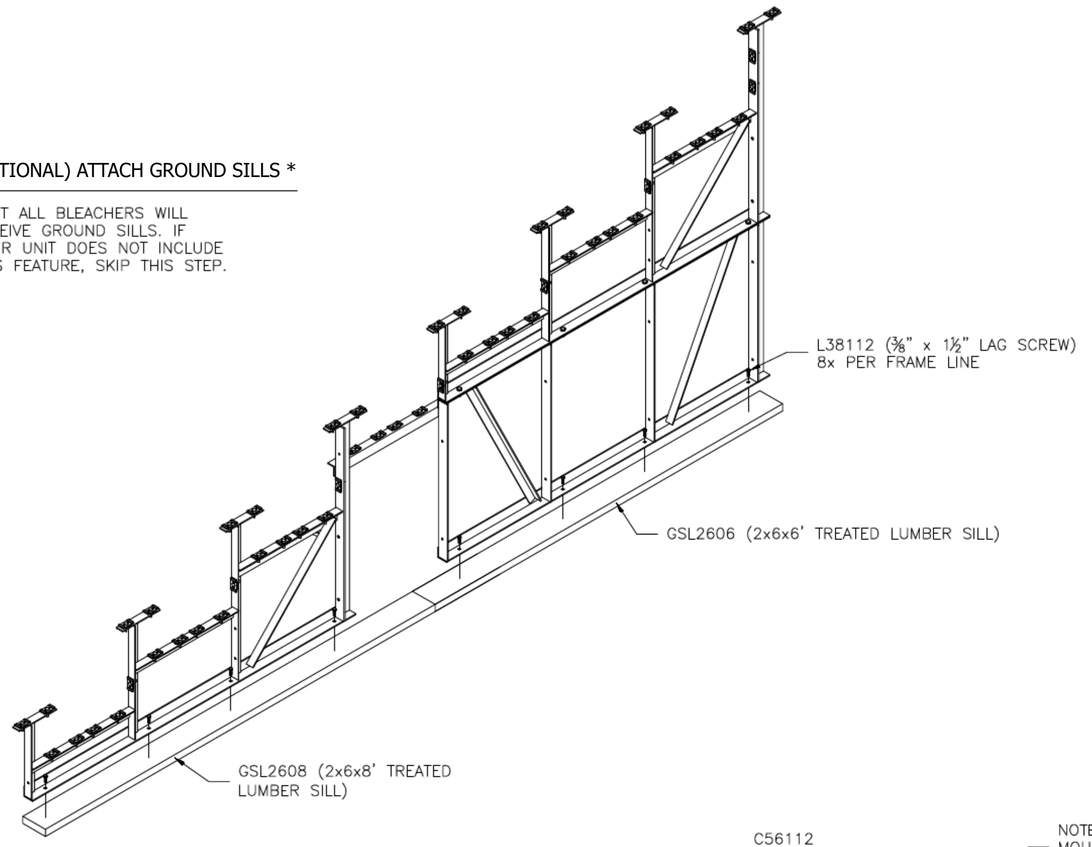
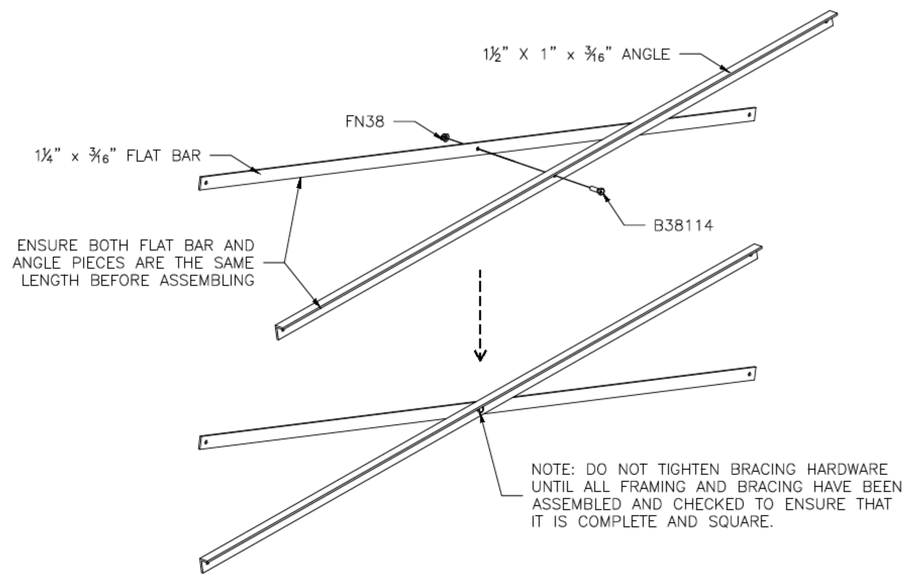
| | | | | |
|---|---|---|---|---|
| MODEL: BRB-0815AP | | | | |
| DESCRIPTION: NON-ELEV. 8 ROW x 15'-0" FRAME IDENTIFICATION | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 4.ID |

## (OPTIONAL) ATTACH GROUND SILLS *

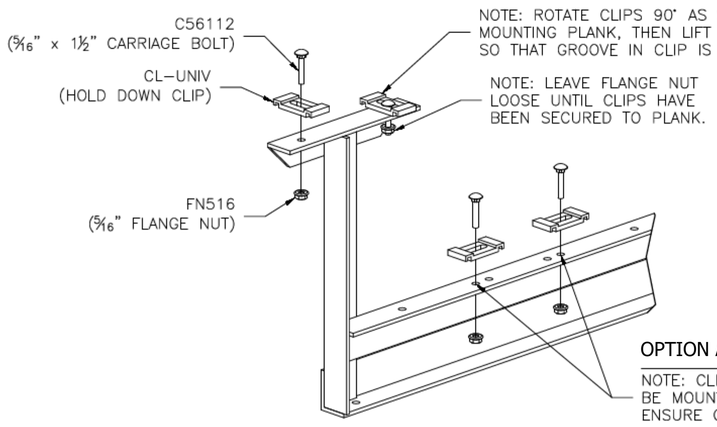
*NOT ALL BLEACHERS WILL RECEIVE GROUND SILLS. IF YOUR UNIT DOES NOT INCLUDE THIS FEATURE, SKIP THIS STEP.




## PRE-ASSEMBLE X-BRACE PAIR(S)

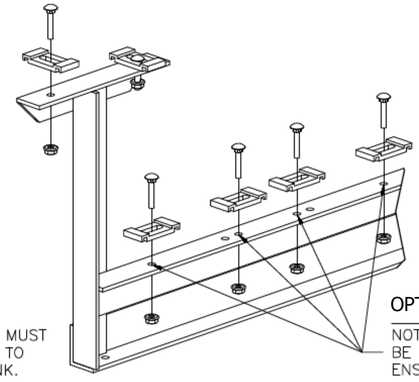



## ONCE FRAMING IS COMPLETE, PRE-ASSEMBLE CLIP SETS ON BLEACHER FRAMES




### OPTION A: SINGLE FOOT BOARDS

NOTE: CLIP SETS ON FOOT SUPPORTS MUST BE MOUNTED TO HOLES SHOWN HERE TO ENSURE CORRECT FIT WITH FOOT PLANK.



### OPTION B: DOUBLE FOOT BOARDS

NOTE: CLIP SETS ON FOOT SUPPORTS MUST BE MOUNTED TO HOLES SHOWN HERE TO ENSURE CORRECT FIT WITH FOOT PLANK.

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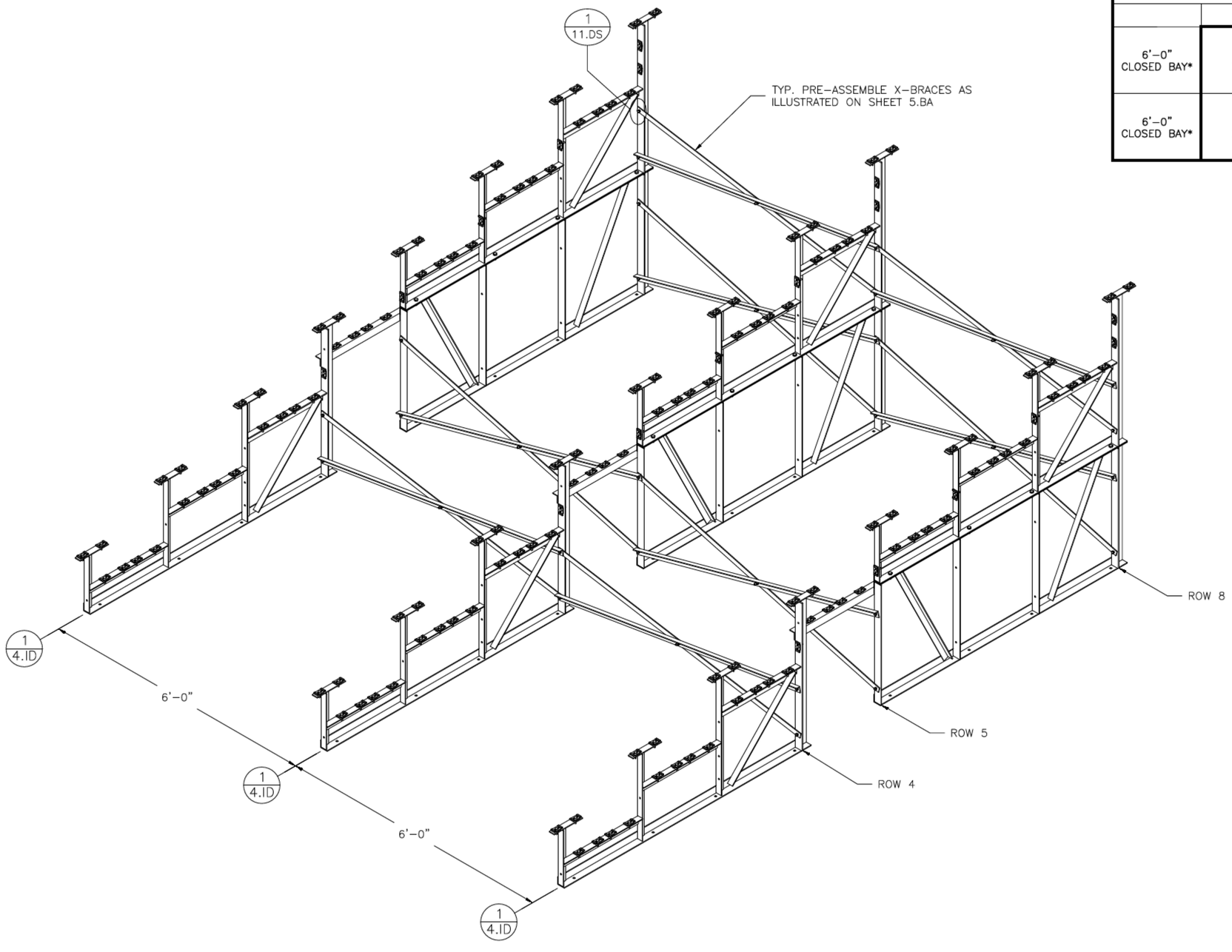
| | | | | |
|---|---|---|---|---|
| MODEL: BRB-0815AP | | | | |
| DESCRIPTION: NON–ELEV. 8 ROW x 15'–0" ASSEMBLY PREP | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 5.BA |

## BRACING CHART

| | ROW 4 | ROW 5 | ROW 8 |
|---|---|---|---|
| 6'–0" CLOSED BAY* | 6'–2½" X–BRACE | 6'–4⅛" X–BRACE | 6'–2½" X–BRACE |
| | | | 6'–4⅛" X–BRACE |
| 6'–0" CLOSED BAY* | 6'–2½" X–BRACE | 6'–4⅛" X–BRACE | 6'–2½" X–BRACE |
| | | | 6'–4⅛" X–BRACE |




* NOTE:
"CLOSED BAY" RECEIVES ONLY X–BRACING.

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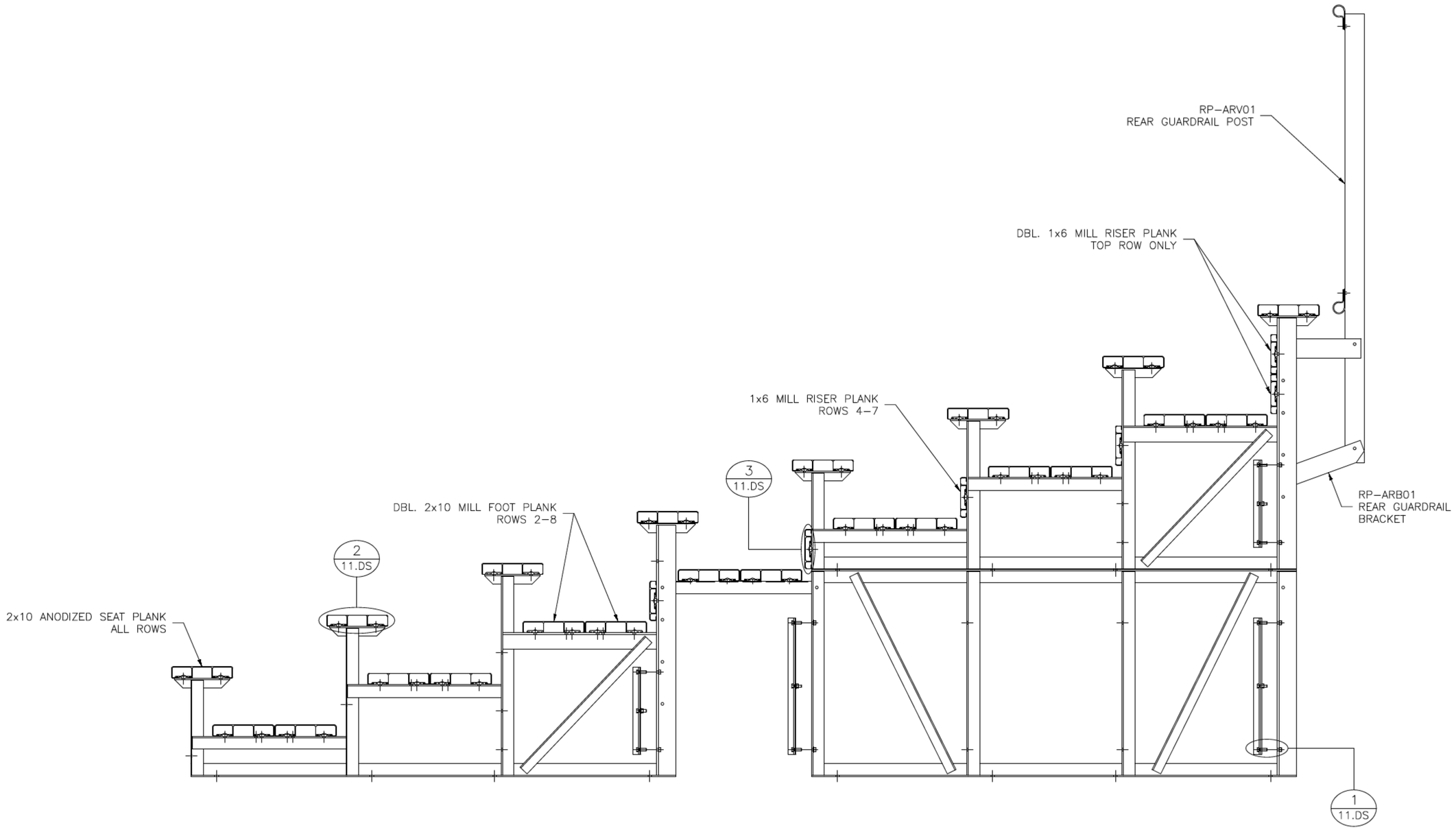
| | | | | | |
|---|---|---|---|---|---|
| MODEL: BRB-0815AP | | | | | |
| DESCRIPTION: NON–ELEV. 8 ROW x 15'–0" ASSEMBLY – BRACING | | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 6.BA | |

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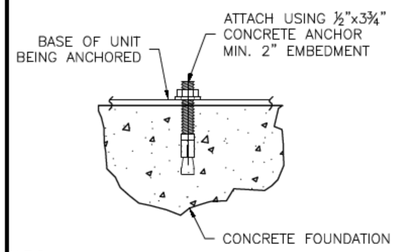
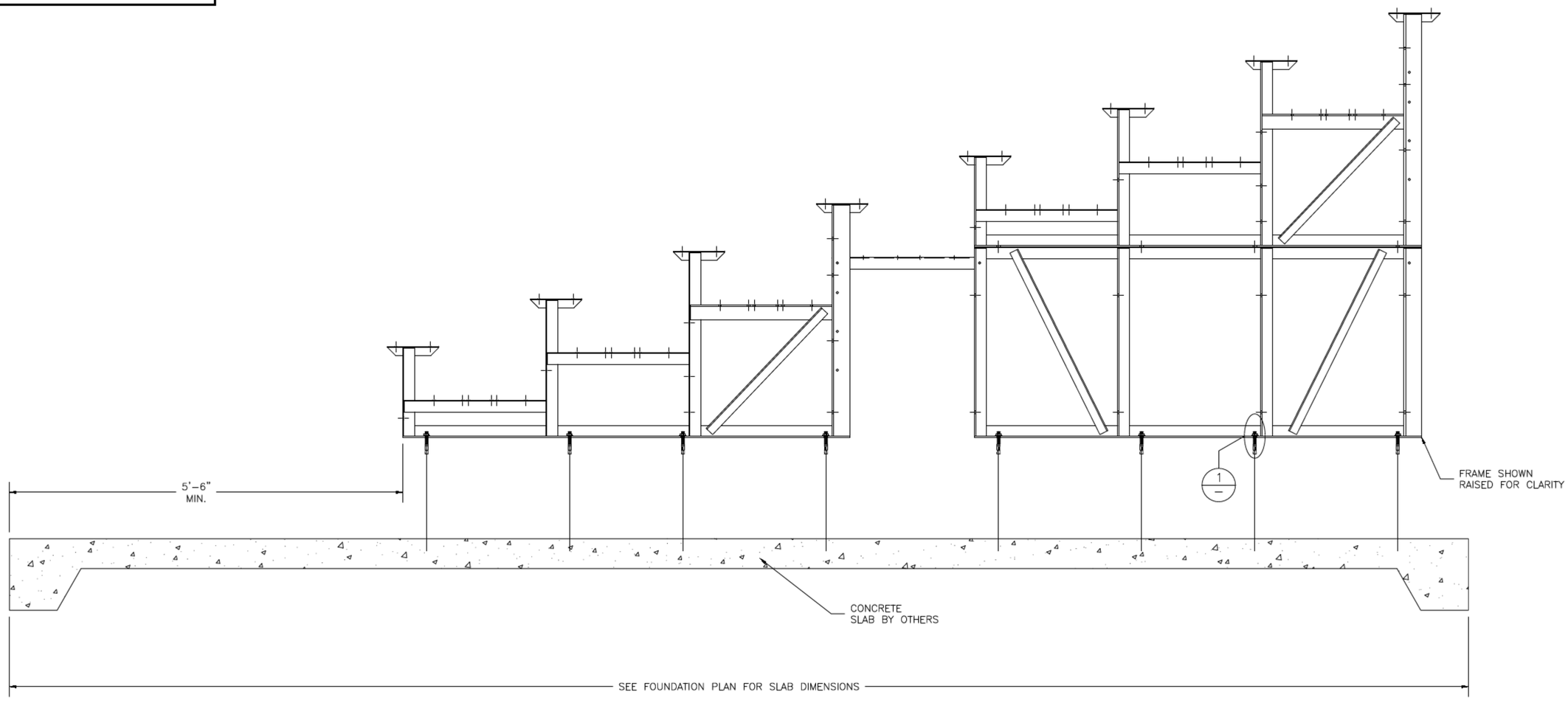
| | | | | | |
|---|---|---|---|---|---|
| MODEL: | BRB-0815AP | | | | |
| DESCRIPTION: | NON–ELEV. 8 ROW x 15'–0" ASSEMBLY SECTION VIEW | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 7.BA | |

## (1) WEDGE ANCHOR DETAIL – 3 3/4"




N.T.S.

## (OPTIONAL) ANCHOR BLEACHER TO CONCRETE FOUNDATION *




* CONCRETE WEDGE ANCHORS NOT INCLUDED WITH ALL UNITS. IF USING OTHER ANCHORING SYSTEM, SKIP THIS STEP AND REFER TO INSTRUCTIONS SPECIFIC TO THE ANCHORING SYSTEM PURCHASED FOR YOUR UNIT.

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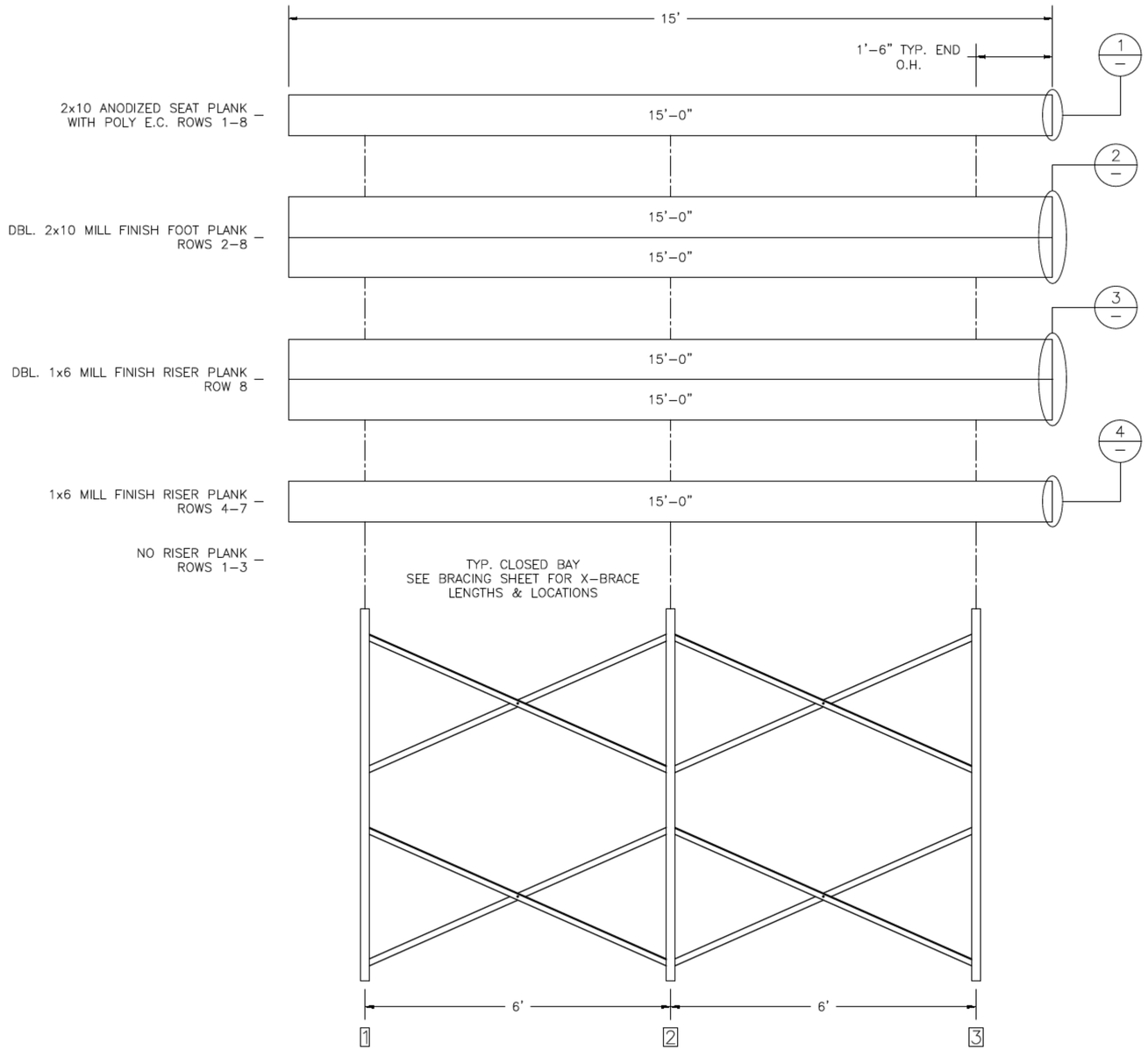
| | | | | | |
|---|---|---|---|---|---|
| MODEL: BRB-0815AP | | | | | |
| DESCRIPTION: NON–ELEV. 8 ROW BLEACHER ANCHORING PLAN | | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 8.AP | |

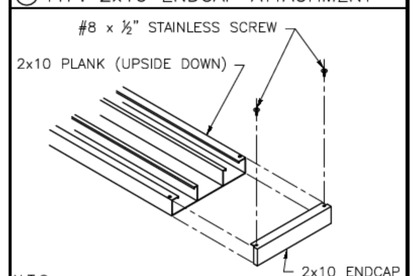
## PLANK PLAN



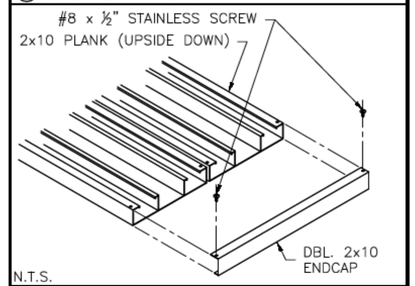

## FRAMING PLAN

* NOTE:
"CLOSED BAY" RECEIVES ONLY X–BRACING.

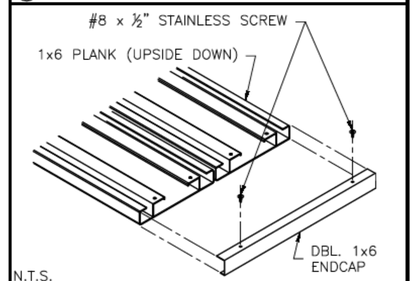
### ① TYP. 2x10 ENDCAP ATTACHMENT



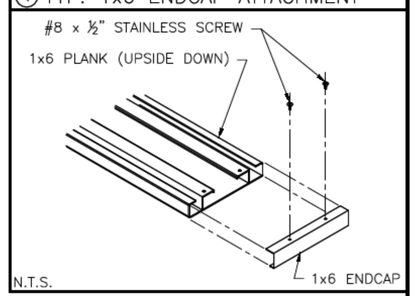

### ② DBL. 2x10 ENDCAP ATTACHMENT




### ③ DBL. 1x6 ENDCAP ATTACHMENT




### ④ TYP. 1x6 ENDCAP ATTACHMENT

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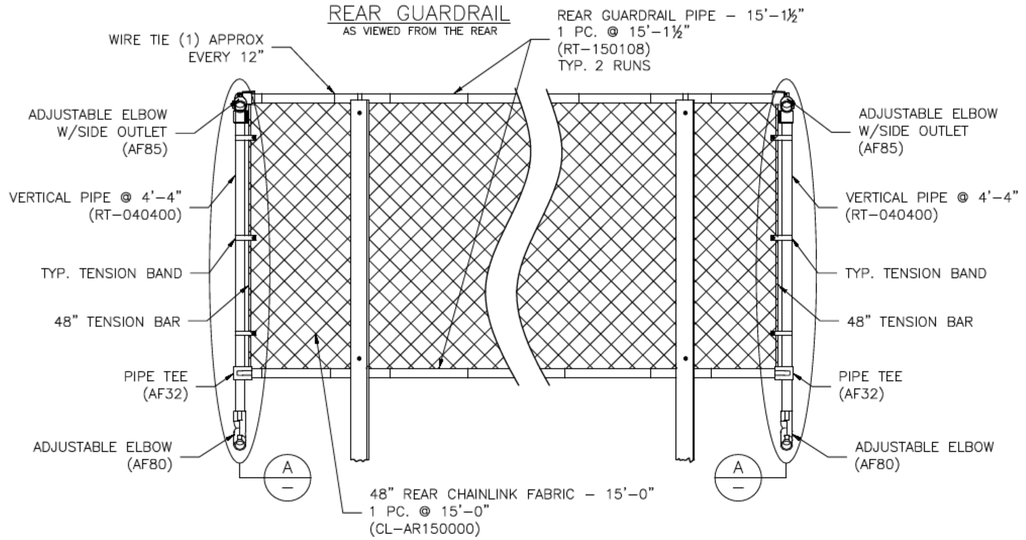
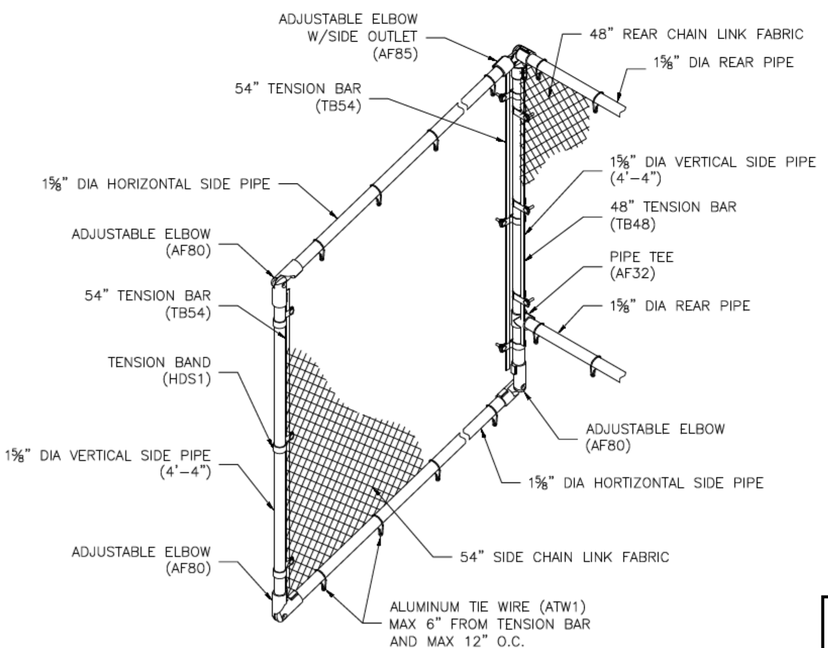
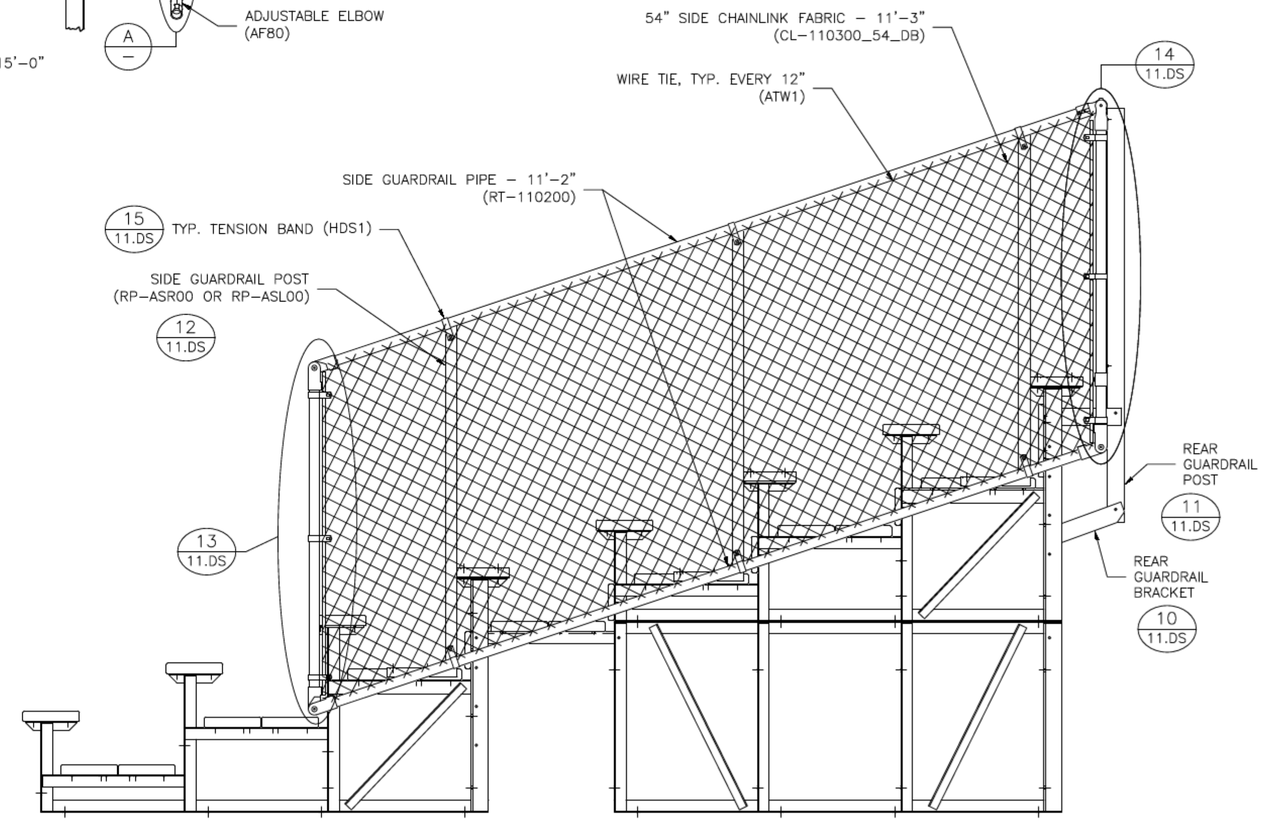
| | | | | | |
|---|---|---|---|---|---|
| MODEL: | BRB-0815AP | | | | |
| DESCRIPTION: | NON–ELEV. 8 ROW x 15'–0" PLANK & FRAMING PLAN | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 9.PF | |

## REAR GUARDRAIL
AS VIEWED FROM THE REAR




## DETAIL A
SPECTATOR RIGHT SIDE GUARDRAIL CONNECTION

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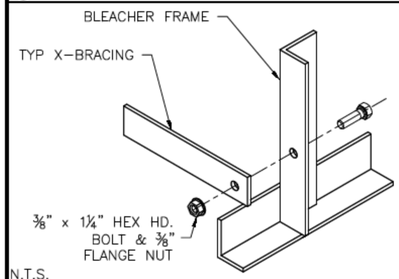
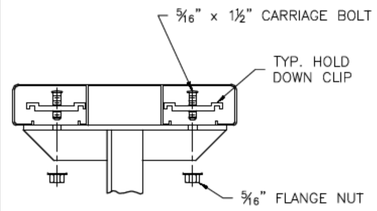
| | | | | |
|---|---|---|---|---|
| MODEL: BRB-0815AP | | | | |
| DESCRIPTION: NON–ELEV. 8 ROW x 15'–0" GUARDRAIL ASSEMBLY | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 10.GR |

## ① TYP. BRACE CONN. – 1¼ BOLT



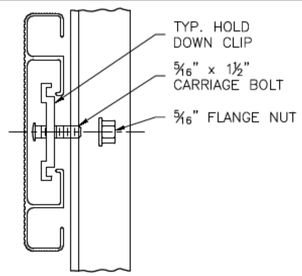

N.T.S.

## ② TYP. 2x10 PLANK ATTACHMENT



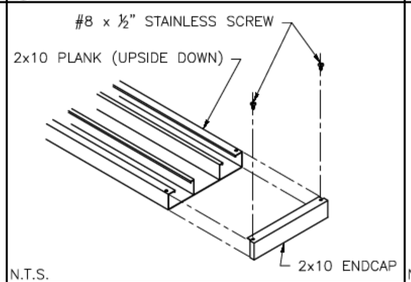

N.T.S.

## ③ TYP. 1x6 PLANK ATTACHMENT



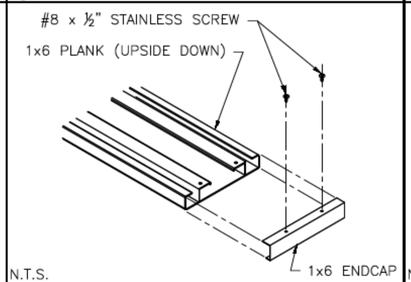

N.T.S.

## ④ TYP. 2x10 ENDCAP ATTACHMENT



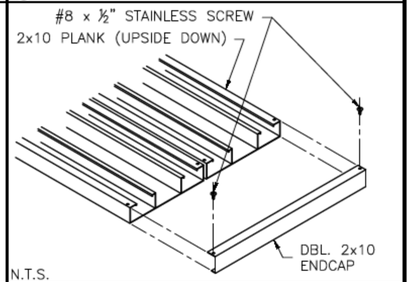

N.T.S.

## ⑤ TYP. 1x6 ENDCAP ATTACHMENT



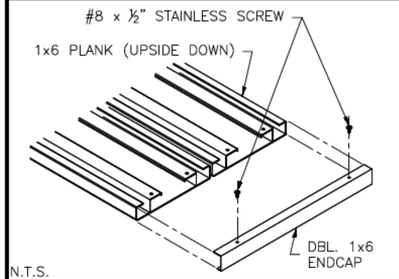

N.T.S.

## ⑥ DBL. 2x10 ENDCAP ATTACHMENT



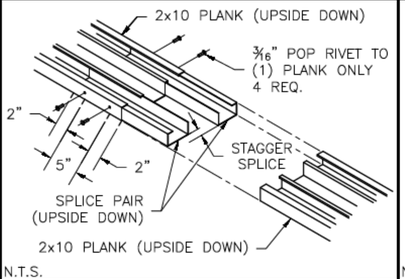

N.T.S.

## ⑦ DBL. 1x6 ENDCAP ATTACHMENT



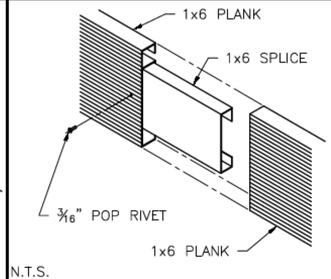

N.T.S.

## ⑧ TYP. 2x10 SPLICE CONN.



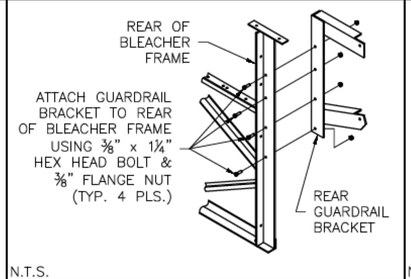

N.T.S.

## ⑨ TYP. 1x6 SPLICE CONN.



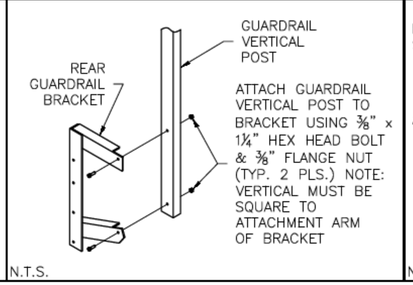

N.T.S.

## ⑩ REAR GUARDRAIL BRACKET ATTACH



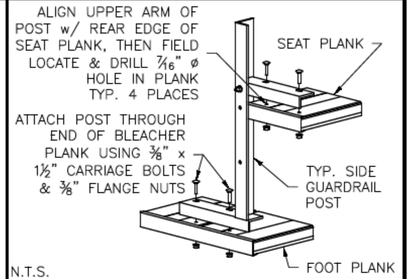

N.T.S.

## ⑪ REAR GUARDRAIL POST ATTACH



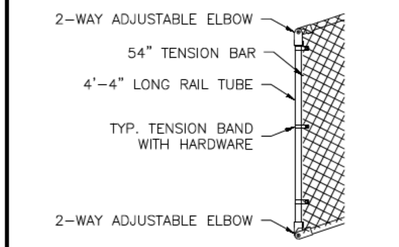

N.T.S.

## ⑫ SIDE GD. RAIL POST INSTALLATION



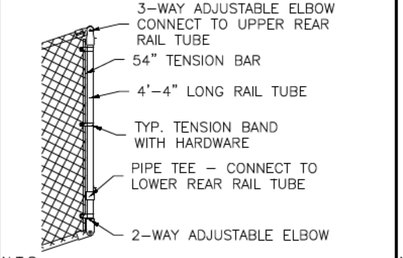

N.T.S.

## ⑬ VERT. PIPE DETAIL (SIDE, BOTTOM)



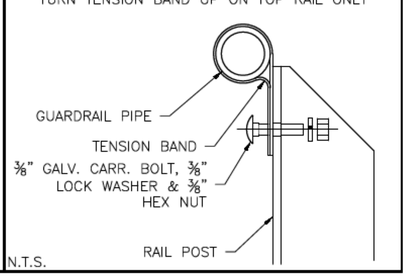

N.T.S.

## ⑭ VERT. PIPE DETAIL (SIDE, TOP)




N.T.S.

## ⑮ TENSION BAND ATTACHMENT




N.T.S.

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| | | | | | |
|---|---|---|---|---|---|
| MODEL: BRB-0815AP | | | | | |
| DESCRIPTION: TYPICAL BLEACHER ASSEMBLY DETAILS | | | | | |
| DRAWN BY: HIT | DATE: 8/29/23 | REVISION: 0 | SCALE: N.T.S. | SHEET NUMBER: 11.DS | |