CODES REVIEW

IT IS THE INTENT OF THE CONTRACT DOCUMENTS TO COMPLY WITH THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE AS IMPLEMENTED BY LOCAL JURISDICTION. THE DOCUMENTS HAVE BEEN DESIGNED IN COMPLIANCE WITH THE FOLLOWING REGULATIONS, AMONG OTHERS. IT IS REQUIREMENT THAT ALL WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE REQUIREMENTS OF THESE REGULATIONS:

AUTHORITY HAVING JURISDICTION: PA DEPARTMENT OF LABOR AND INDUSTRY.
EDUCATION INSTITUTIONAL DISTRICT E-1

APPLICABLE CODES:
- INTERNATIONAL BUILDING CODE, 2018 ed.
- CHAPTER 11 INTERNATIONAL BUILDING CODE 2018 ed ACCESSIBILITY REQUIREMENTS
- INTERNATIONAL ENERGY CONSERVATION CODE 2018 ed.
- INTERNATIONAL EXISTING CODE 2018 ed.
- INTERNATIONAL PLUMBING CODE, 2018 ed.
- INTERNATIONAL MECHANICAL CODE, 2018 ed.
- INTERNATIONAL FIRE CODE, 2018 ed.
- INTERNATIONAL FUEL GAS CODE 2018 ed.
- NFPA 70 - 2017-NATIONAL ELECTRIC CODE
- ICC/ANSI A117.1-2009

I ICC 300 2017

<u>BUILDING INFORMATION: CONCESSION AND RESTROOMS BUILDING:</u>
- NEW, NON-COMBUSTIBLE.
- FLOOR AREA FOR THE RESTROOM BUILDING (SINGLE STORY): 1,215.00 S.F. -
- SPRINKLER SYSTEM: NOT REQUIRED. CHAPTER NINE IN IBC 2018

<u>BUILDING INFORMATION, BLEACHERS AND PRESS BOX</u>
BLEACHERS HAVE 12 ROWS WITH A TOTAL CAPACITY OF 734 SEATS INCLUDING 8 WHEELCHAIRS.

<u>DEFINITION OF FIRE SEPARATION DISTANCE:</u>
THE DISTANCE MEASURED FROM THE BUILDING FACE TO ONE OF THE FOLLOWING:
THE CLOSEST INTERIOR LOT LINE.
TO THE CENTERLINE OF A STREET, AN ALLEY OR PUBLIC WAY.
TO AN IMAGINARY LINE BETWEEN TWO BUILDINGS ON THE LOT.
THE DISTANCE SHALL BE MEASURED AT RIGHT ANGLES FROM THE FACE OF THE WALL.

<u>USE GROUP</u>:
BLEACHER: SECTION 303.6 ASSEMBLY A5 STADIUMS AND BLEACHERS
CONCESSION STAND & RESTROOMS: A5.

<u>TYPE OF CONSTRUCTION: CHAPTER 6</u>

TABLE 601
BLEACHERS TYPE OF CONSTRUCTION: IIB
(TABLE 601): NON COMBUSTIBLE EXTERIOR AND INTERIOR WALLS AND STRUCTURAL ELEMENTS. FLOOR CONSTRUCTION AND ROOF CONSTRUCTION WITH ASSOCIATED SECONDARY MEMBERS ARE NON-COMBUSTIBLE, II B.

CONSESSION BUILDING: VB, ACCORDING TO TABLE 601, NO RATING IS REQUIRED FOR BEARING WALLS, NON-BEARING WALLS, FLOOR CONSTRUCTION & ASSOCIATED SECONDARY MEMBERS, OR ROOF CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS.

<u>ALLOWABLE HEIGHT IN FT AND AREA IN SQ FT:</u>
CHAPTER 5, TABLE 504.3 <u>HEIGHT LIMITATIONS</u>
OCCUPANCY A, & B, TYPE II B, NON-SPRINKLERED: 55 FT, TYPE VB, NS : 40 FT
OCCUPANCY A, & B, TYPE IIIB, NON-SPRINKLERED: 55 FT
<u>TABLE 506.2. AREA LIMITATIONS IN SQ</u>
OCCUPANCY A5, NS: UL
OCCUPANCY B, NS, TYPE IIB: 23,000.
OCCUPANCY B, NS, TYPE IIIB: 19,000
TYPE VB: OCCUPANCY B: 9,000, OCCUPANCY S1: 9000, OCCUPANCY U: 5,000

FIRE RESISTANCE RATING FOR EXTERIOR WALLS BASED ON <u>FIRE SEPARATION DISTANCE</u>. (TABLE 602). FOR IIB, OCCUPANCY A & B, WITH FIRE SEPARATION OVER OR EQUAL TO 30 FT, FIRE RATING REQUIRED = 0. IF FIRE SEPARATION IS LESS THAN 30 FT, FIRE RATING REQUIRED =1HR.
WHEN FIRE SEPARATION IS LARGER THAN 10 FT AND LESS THAN 30 FT, FOR TYPE VB, AND OCCUPANCY, A, B, S-2, AND U, THE FIRE RESISTANCE REQUIRED FOR EXTERIOR WALL IS 0 HR. FOR OCCUPANCY S-1 THE RATING OF THE EXTERIOR WALLS HAVE TO BE 1HR. FOR IT TO BE 0HR, THE DISTANCE HAS TO BE 30 FT.
ALLOWABLE HEIGHT SEE ABOVE
ALLOWABLE AREA, SEE ABOVE

<u>**CHAPTER 10, MEANS OF EGRESS**</u>

<u>OCCUPANT LOAD</u>, TABLE 1004.5:
- COMMERCIAL KITCHENS: 200 GROSS
- ACCESSORY USES (STORAGE/MECHANICAL): 300 SF GROSS PER OCCUPANT
  ASSEMBLY WITH FIXED SEATS, SEE SECTION 1004.4
- SECTION 1004.4: FOR AREAS HAVING FIXED SEATING WITHOUT DIVIDING ARMS, THE OCCUPANT LOAD SHALL NOT BE LESS THAN THE NUMBER OF SEATS BASED ON ONE PERSON FOR EACH 18 INCHES OF SEATING LENGTH.

CALCULATIONS:
- BLEACHERS: 734
- KITCHEN: 2
- STORAGE: 3
- TOTAL: 762

<u>RAMPS</u>

1012.3 CROSS SLOPE
THE SLOPE MEASURED PERPENDICULAR TO THE DIRECTION OF TRAVEL OF A RAMP SHALL NOT BE STEEPER THAN ONE UNIT VERTICAL IN 48 UNITS HORIZONTAL (2-PERCENT SLOPE).

1012.4 VERTICAL RISE
THE RISE FOR ANY RAMP RUN SHALL BE 30 INCHES (762 MM) MAXIMUM

SECTION 1014.2
HANDRAIL HEIGHT, MEASURED ABOVE STAIR TREAD NOSINGS, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE UNIFORM, NOT LESS THAN 34 INCHES (864 MM) AND NOT MORE THAN 38 INCHES (965 MM).

1014.4 CONTINUITY
HANDRAIL GRIPPING SURFACES SHALL BE CONTINUOUS, WITHOUT INTERRUPTION BY NEWEL POSTS OR OTHER OBSTRUCTIONS.
EXCEPTIONS:
HANDRAIL BRACKETS OR BALUSTERS ATTACHED TO THE BOTTOM SURFACE OF THE HANDRAIL THAT DO NOT PROJECT HORIZONTALLY BEYOND THE SIDES OF THE HANDRAIL WITHIN 11/2 INCHES (38 MM) OF THE BOTTOM OF THE HANDRAIL SHALL NOT BE CONSIDERED OBSTRUCTIONS. FOR EACH 1/2 INCH (12.7 MM) OF ADDITIONAL HANDRAIL PERIMETER DIMENSION ABOVE 4 INCHES (102 MM), THE VERTICAL CLEARANCE DIMENSION OF 11/2 INCHES (38 MM) SHALL BE PERMITTED TO BE REDUCED BY 1/8 INCH (3.2 MM).
WHERE HANDRAILS ARE PROVIDED ALONG WALKING SURFACES WITH SLOPES NOT STEEPER THAN 1:20, THE BOTTOMS OF THE HANDRAIL GRIPPING SURFACES SHALL BE PERMITTED TO BE OBSTRUCTED ALONG THEIR ENTIRE LENGTH WHERE THEY ARE INTEGRAL TO CRASH RAILS OR BUMPER GUARDS.
HANDRAILS SERVING STEPPED AISLES OR RAMPED AISLES ARE PERMITTED TO BE DISCONTINUOUS IN ACCORDANCE WITH SECTION 129.16.1

1012.10.1 CURB, RAIL, WALL OR BARRIER
A CURB, RAIL, WALL OR BARRIER SHALL BE PROVIDED TO SERVE AS EDGE PROTECTION. A CURB SHALL BE NOT LESS THAN 4 INCHES (102 MM) IN HEIGHT. BARRIERS SHALL BE CONSTRUCTED SO THAT THE BARRIER PREVENTS THE PASSAGE OF A 4-INCH-DIAMETER (102 MM) SPHERE, WHERE ANY PORTION OF THE SPHERE IS WITHIN 4 INCHES (102 MM) OF THE FLOOR OR GROUND SURFACE.

1029.1.1 BLEACHERS
BLEACHERS, GRANDSTANDS AND FOLDING AND TELESCOPIC SEATING, THAT ARE NOT BUILDING ELEMENTS, SHALL COMPLY WITH ICC 300.
1029.1.1.1 SPACES UNDER GRANDSTANDS AND BLEACHERS
SPACES UNDER GRANDSTANDS OR BLEACHERS SHALL BE SEPARATED BY FIRE BARRIERS COMPLYING WITH SECTION 707 AND HORIZONTAL ASSEMBLIES COMPLYING WITH SECTION 711 WITH NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION.
EXCEPTIONS:
- TICKET BOOTHS LESS THAN 100 SQUARE FEET (9.29 M2) IN AREA.
- TOILET ROOMS.
- OTHER ACCESSORY USE AREAS 1,000 SQUARE FEET (92.9 M2) OR LESS IN AREA AND EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1

1029.6.3 OPEN-AIR ASSEMBLY SEATING
IN OPEN-AIR ASSEMBLY SEATING, THE REQUIRED CAPACITY IN INCHES (MM) OF AISLES SHALL BE NOT LESS THAN THE TOTAL OCCUPANT LOAD SERVED BY THE EGRESS ELEMENT MULTIPLIED BY 0.08 (2.0 MM) WHERE EGRESS IS BY STEPPED AISLE AND MULTIPLIED BY 0.06 (1.52 MM) WHERE EGRESS IS BY LEVEL AISLES AND RAMPED AISLES.
EXCEPTION: THE REQUIRED CAPACITY IN INCHES (MM) OF AISLES SHALL BE PERMITTED TO COMPLY WITH SECTION 1029.6.2 FOR THE NUMBER OF SEATS IN THE OPEN-AIR ASSEMBLY SEATING WHERE SECTION 1029.6.2 PERMITS LESS CAPACITY.

<u>AUTOMATIC SPRINKLER SYSTEMS.</u>
NONE OF THE FOLLOWING CONDITIONS APPLY:
AUTOMATIV SPRINKLER SYSTEM NOT REQUIRED: NO COMMERCIAL COOKING, NO ENCLOSED AREA UNDER BLEACHERS EXCEEDING 1000 SQ FT. NO S-1 STORAGE EXCEEDING 12000 SQ FT.

903.2.1.5 GROUP A-5
AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED FOR **ALL ENCLOSED GROUP A-5 ACCESSORY USE AREAS IN EXCESS OF 1,000 SQUARE FEET** .

903.2.1.5.1 SPACES UNDER GRANDSTANDS OR BLEACHERS

ENCLOSED SPACES UNDER GRANDSTANDS OR BLEACHERS SHALL BE EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 WHERE EITHER OF THE FOLLOWING EXIST:
- THE ENCLOSED AREA IS 1,000 SQUARE FEET (93 M2) OR LESS AND IS NOT CONSTRUCTED IN ACCORDANCE WITH SECTION 1029.1.1.1.
- THE ENCLOSED AREA EXCEEDS 1,000 SQUARE FEET (93 M2).

[F] 903.2.9 GROUP S-1
AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT ALL BUILDINGS CONTAINING A GROUP S-1 OCCUPANCY WHERE ONE OF THE FOLLOWING CONDITIONS EXISTS:
A GROUP S-1 FIRE AREA EXCEEDS 12,000 SQUARE FEET (1115 M2)

[F] 903.2.11.5 COMMERCIAL COOKING OPERATIONS
AN AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN COMMERCIAL KITCHEN EXHAUST HOOD AND DUCT SYSTEMS WHERE AN AUTOMATIC SPRINKLER SYSTEM IS USED TO COMPLY WITH SECTION 904.

- BUILDINGS NOT SPRINKLERED

FIRE ALARM SYSTEM:
- SEE ELECTRICAL DRAWINGS

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ENERGY CONSERVATION CODE ED 2018:

HEATED AREAS (EVEN SEASONALLY) ARE REQUIRED TO BE INSULATED FOLLOWING THE ECC.

DAUPHIN COUNTY. ZONE 5. TABLE C402.1.3 ECC

- UNHEATED SLAB ON GRADE: R-10 FOR 24" IN
- EXTERIOR WALLS: METAL FRAMED: R13 + R7.5CI (PRESS BOX)
- EXTERIOR WALLS: METAL BUILDINGS: R13+ R13 Ci
- **MASS WALLS: R-11.4 Ci** (CONCESSION BUILDING)
- ROOFS: ATTIC: R 38, INSULATION COMPLETELY ABOVE ROOF: **R 30 CI,**
- ROOFS METAL BUILDINGS: R19+ R11 LS.
- FLOORS (JOIST/FRAMING): R30

TABLE C402.1.4
- SWINGING OPAQUE DOORS: U=0.3
- GARARGE DOORS WITH LESS THAN 14% GLAZING: U=0.31

C402.2.2 ABOVE-GRADE WALLS
THE MINIMUM THERMAL RESISTANCE (R-VALUE) OF MATERIALS INSTALLED IN THE WALL CAVITY BETWEEN FRAMING MEMBERS AND CONTINUOUSLY ON THE WALLS SHALL BE AS SPECIFIED IN TABLE C402.1.3, BASED ON FRAMING TYPE AND CONSTRUCTION MATERIALS USED IN THE WALL ASSEMBLY. THE R-VALUE OF INTEGRAL INSULATION INSTALLED IN CONCRETE MASONRY UNITS SHALL NOT BE USED IN DETERMINING COMPLIANCE WITH TABLE C402.1.3 EXCEPT AS OTHERWISE NOTED IN THE TABLE. IN DETERMINING COMPLIANCE WITH TABLE C402.1.4, THE USE OF THE U-FACTOR OF CONCRETE MASONRY UNITS WITH INTEGRAL INSULATION SHALL BE PERMITTED.
"MASS WALLS" WHERE USED AS A COMPONENT IN THE THERMAL ENVELOPE OF A BUILDING SHALL COMPLY WITH ONE OF THE FOLLOWING:
- WEIGH NOT LESS THAN 35 POUNDS PER SQUARE FOOT (171 KG/M2) OF WALL SURFACE AREA.
- WEIGH NOT LESS THAN 25 POUNDS PER SQUARE FOOT (122 KG/M2) OF WALL SURFACE AREA WHERE THE MATERIAL WEIGHT IS NOT MORE THAN 120 PCF (1900 KG/M3).
- **HAVE A HEAT CAPACITY EXCEEDING 7 BTU/FT2 • °F (144 KJ/M2 • K).**
- HAVE A HEAT CAPACITY EXCEEDING 5 BTU/FT2 • °F (103 KJ/M2 • K), WHERE THE MATERIAL WEIGHT IS NOT MORE THAN 120 PCF (1900 KG/M3)
-

TYPICAL WEIGHT OF NON-GROUTED 8" CINDER BLOCK= 38 lb PER SQ FT.

<u>**ACCESSIBILITY:**</u>

CHAPTER 11. IBC 2018

1104.3.2 **PRESS BOXES**
PRESS BOXES IN A BUILDING, ROOM OR SPACE USED FOR ASSEMBLY PURPOSES SHALL BE ON AN ACCESSIBLE ROUTE.
EXCEPTIONS:
AN ACCESSIBLE ROUTE SHALL NOT BE REQUIRED TO PRESS BOXES IN BLEACHERS THAT HAVE A SINGLE POINT OF ENTRY FROM THE BLEACHERS, PROVIDED THAT THE AGGREGATE AREA OF ALL PRESS BOXES FOR EACH PLAYING FIELD IS NOT MORE THAN 500 SQUARE FEET (46 M2).

SECTION 1109.2.1 **FAMILY OR ASSITED-USE TOILET** & BATHING ROOMS
IN ASSEMBLY AND MERCANTILE OCCUPANCIES, AN ACCESSIBLE FAMILY OR ASSISTED-USE TOILET ROOM SHALL BE PROVIDED WHERE AN AGGREGATE OF SIX OR MORE MALE AND FEMALE WATER CLOSETS IS REQUIRED.

1109.2.1.2 FAMILY OR ASSISTED-USE TOILET ROOMS
FAMILY OR ASSISTED-USE TOILET ROOMS SHALL INCLUDE ONLY ONE WATER CLOSET AND ONLY ONE LAVATORY.
EXCEPTION: THE FOLLOWING ADDITIONAL FIXTURES SHALL BE PERMITTED IN A FAMILY OR ASSISTED-USE TOILET ROOM:
- A URINAL.
- A CHILD-HEIGHT WATER CLOSET.
- A CHILD-HEIGHT LAVATORY.

1109.2.2 **WATER CLOSET COMPARTMENT**
WHERE WATER CLOSET COMPARTMENTS ARE PROVIDED IN A TOILET ROOM OR BATHING ROOM, AT LEAST 5 PERCENT OF THE TOTAL NUMBER OF COMPARTMENTS SHALL BE <u>WHEELCHAIR ACCESSIBLE</u>. WHERE THE COMBINED TOTAL WATER CLOSET COMPARTMENTS AND URINALS PROVIDED IN A TOILET ROOM OR BATHING ROOM IS SIX OR MORE, AT LEAST 5 PERCENT OF THE TOTAL NUMBER OF COMPARTMENTS SHALL BE <u>AMBULATORY ACCESSIBLE,</u> PROVIDED IN ADDITION TO THE WHEELCHAIR-ACCESSIBLE COMPARTMENT. IN 2012IBC & ICC A117.1-2009 IT SAYS

1109.2.3 **LAVATORIES**
WHERE LAVATORIES ARE PROVIDED, AT LEAST 5 PERCENT, BUT NOT LESS THAN ONE, SHALL BE ACCESSIBLE. WHERE AN ACCESSIBLE LAVATORY IS LOCATED WITHIN THE ACCESSIBLE WATER CLOSET COMPARTMENT AT LEAST ONE ADDITIONAL ACCESSIBLE LAVATORY SHALL BE PROVIDED IN THE MULTICOMPARTMENT TOILET ROOM OUTSIDE THE WATER CLOSET COMPARTMENT. WHERE THE TOTAL LAVATORIES PROVIDED IN A TOILET ROOM OR BATHING FACILITY IS SIX OR MORE, AT LEAST ONE LAVATORY WITH ENHANCED REACH RANGES SHALL BE PROVIDED.

1109.5.1 MINIMUM NUMBER
NOT FEWER THAN TWO **DRINKING FOUNTAINS** SHALL BE PROVIDED. ONE DRINKING FOUNTAIN SHALL COMPLY WITH THE REQUIREMENTS FOR PEOPLE WHO USE A WHEELCHAIR AND ONE DRINKING FOUNTAIN SHALL COMPLY WITH THE REQUIREMENTS FOR STANDING PERSONS.

1109.12.3 **POINT OF SALE AND SERVICE COUNTERS**
WHERE COUNTERS ARE PROVIDED FOR SALES OR DISTRIBUTION OF GOODS OR SERVICES, AT LEAST ONE OF EACH TYPE PROVIDED SHALL BE ACCESSIBLE. WHERE SUCH COUNTERS ARE DISPERSED THROUGHOUT THE BUILDING OR FACILITY, ACCESSIBLE COUNTERS SHALL ALSO BE DISPERSED

1108.2.2.1 GENERAL SEATING
WHEELCHAIR SPACES SHALL BE PROVIDED IN ACCORDANCE WITH TABLE 1108.2.2.1

1108.2.5 **DESIGNATED AISLE SEATS**
AT LEAST 5 PERCENT, BUT NOT LESS THAN ONE, OF THE TOTAL NUMBER OF AISLE SEATS PROVIDED SHALL BE DESIGNATED AISLE SEATS AND SHALL BE THE AISLE SEATS LOCATED CLOSEST TO ACCESSIBLE ROUTES.
EXCEPTION: DESIGNATED AISLE SEATS ARE NOT REQUIRED IN TEAM OR PLAYER SEATING SERVING AREAS OF SPORT ACTIVITY.

1108.2.7.2 **TICKET WINDOWS**
WHERE TICKET WINDOWS ARE PROVIDED IN STADIUMS AND ARENAS, AT LEAST ONE WINDOW AT EACH LOCATION SHALL HAVE AN ASSISTIVE LISTENING SYSTEM

IBC 2018
CHAPTER 29. TABLE 2902.1
PLUMBING CALCULATIONS

BLEACHERS & GRAND STANDS :
- WATER CLOSET, MALE: 1 PER 75 FOR THE FIRST 1,500
- LAVATORY, MALE: 1 PER 200
- WATER CLOSET, FEMALE: 1 PER 40 FOR THE FIRST 1520
- LAVATORY, FEMALE: 1 PER 150
- DRINKING FOUNTAIN: 1 PER 1000
- SERVICE SINK: 1 SERVICE SINK

TOTAL NUMBER OF FIXTURES:
500/2= 250 MALE
250/75= (3.33) ROUNDED UP TO 4. 2 URINALS AND 2 WC.
250/200= 2 LAVATORIES

500/2= 250 FEMALE
250/40=6.25, ROUNDED UP TO 7 TOILETS
250/150= 1.66, ROUNDED UP TO 2 LAVATORIES

[P] 2902.1.2 SINGLE-USER TOILET FACILITY AND BATHING ROOM FIXTURES
THE PLUMBING FIXTURES LOCATED IN SINGLE-USER TOILET FACILITIES AND BATHING ROOMS, INCLUDING FAMILY OR ASSISTED-USE TOILET AND BATHING ROOMS THAT ARE REQUIRED BY SECTION 1109.2, **SHALL CONTRIBUTE TOWARD THE TOTAL NUMBER OF REQUIRED PLUMBING FIXTURES FOR A BUILDING OR TENANT SPACE**.

IPC 2018
CHAPTER 4. SECTION 424.2 SUBSTITUTION FOR WATER CLOSETS
IN EACH BATHROOM OR TOILET ROOM, URINALS SHALL NOT BE SUBSTITUTED FOR MORE THAN 67 PERCENT OF THE REQUIRED WATER CLOSETS IN ASSEMBLY AND EDUCATIONAL OCCUPANCIES.

ICC 300-2017 STANDARDS FOR BLEACHERS, FOLDING & TELESCOPIC SEATING
404.1 MINIMUM NUMBER OF EXITS
TABLE 404.1
OCCUPANT LOAD 251-750: 2 EXITS

404.3 EXTERIOR INSTALLATIONS. FOR EXTERIOR INSTALLATIONS, **THE EXIT DISCHARGE** SHALL PROVIDE A DIRECT AND UNOBSTRUCTED ACCESS TO A PUBLIC WAY.
EXCEPTION: WHERE ACCESS TO A PUBLIC WAY CANNOT BE PROVIDED, A SAFE DISPERSAL AREA SHALL BE PROVIDED WHERE ALL OF THE FOLLOWING ARE MET:
1. THE AREA SHALL BE OF A SIZE TO ACCOMMODATE NOT LESS THAN 5 SQUARE FEET (0.46 M2) FOR EACH PERSON.
2. THE AREA SHALL BE LOCATED ON THE SAME LOT NOT LESS THAN 50 FEET (15 240 MM) FROM THE STRUCTURE REQUIRING EGRESS.
3. THE AREA SHALL BE PERMANENTLY MAINTAINED AND IDENTIFIED AS A SAFE DISPERSAL AREA.
4. THE AREA SHALL BE PROVIDED WITH A SAFE AND UNOBSTRUCTED PATH OF TRAVEL FROM THE STRUCTURE.

404.4 TRAVEL DISTANCE

FOR EXTERIOR INSTALLATIONS, THE TRAVEL DISTANCE FROM EACH SEAT TO THE PERIMETER OF THE SEATING STRUCTURE SHALL NOT EXCEED 400 FEET (122 M). WHERE AISLES ARE PROVIDED FOR SEATING, THE DISTANCE SHALL BE MEASURED ALONG THE AISLES AND AISLE ACCESSWAY WITHOUT TRAVEL OVER OR ON THE SEATS.

SECTION 405, AISLES

404.5 REQUIRED WIDTH.
THE CLEAR WIDTH OF AISLES AND OTHER MEANS OF EGRESS FOR OPEN-AIR ASSEMBLY SEATING SHALL NOT BE LESS THAN THE OCCUPANT LOAD SERVED BY THE EGRESS ELEMENTS MULTIPLIED BY THE APPROPRIATE FACTOR IN TABLE 404.5(3). THE TOTAL NUMBER OF SEATS SPECIFIED SHALL BE THOSE WITHIN THE SPACE EXPOSED TO THE SAME ENVIRONMENT. AISLES SHALL ALSO COMPLY WITH SECTION 405. WHERE THE WIDTH OF THE STAIR AND STEPPED AISLE EXCEEDS 30 INCHES (762 MM) FROM A HANDRAIL, THE CAPACITY OF THE STAIR AND STEPPED AISLE SHALL BE DETERMINED BY ADDING THE CAPACITY OF THE AISLE WITHIN 30 INCHES (762 MM) OF THE HANDRAIL AND THE CAPACITY OF THE STAIR OR STEPPED AISLE BEYOND 30 INCHES (762 MM) OF THE HANDRAIL.

TABLE 404.5(3)

FOR TOTAL NUMBER OF SEATS IN THE OPEN-AIR ASSEMBLY OCCUPANCY LESS THAN 15,000
WIDTH OF STAIRS AND STEPPED AISLES WITH HANDRAILS WITHIN 30 INCH= NUMBER OF SEATS X 0.080 INCH
WIDTH OF STAIRS AND STEPPED AISLES WITHOUT HANDRAILS WITHIN 30 INCHES = NUMBER OF SEATS X 0.080 INCH
WIDTH OF PASSAGEWAYS, DOORWAYS AND RAMPS NOT STEEPER THAN IN 1:10 SLOPE = NUMBER OF SEATS X 0.060 INCH
WIDTH OF RAMPS STEEPER THAN IN 1:10 SLOPE = NUMBER OF SEATS X0.066 INCH

404.5.1 MEASUREMENT. THE CLEAR WIDTH OF AISLES AND OTHER MEANS OF EGRESS SHALL BE MEASURED TO WALLS, EDGES OF SEATING AND TREAD EDGES EXCEPT FOR PERMITTED PROJECTIONS.
THERE SHALL BE NO OBSTRUCTIONS IN THE REQUIRED WIDTH OF AISLES EXCEPT FOR HANDRAILS AS PROVIDED IN SECTION 409.7.

405.2 MINIMUM AISLE WIDTH. THE MINIMUM CLEAR WIDTH OF AISLES SHALL BE AS FOLLOWS.
1. <u>FORTY-EIGHT INCHES</u> (1219 MM) FOR STEPPED AISLES HAVING SEATING ON EACH SIDE. EXCEPTION: THIRTY-SIX INCHES (914 MM) WHERE THE AISLE SERVES LESS THAN 50 SEATS.
2. <u>THIRTY-SIX INCHES</u> (914 MM) FOR STEPPED AISLES HAVING SEATING ON ONLY ONE SIDE. EXCEPTION: TWENTY-THREE INCHES (584 MM) BETWEEN A STEPPED AISLE HANDRAIL AND SEATING WHERE AN AISLE DOES NOT SERVE MORE THAN FIVE ROWS ON ONE SIDE.

405.4 CONVERGING AISLES. WHERE AISLES CONVERGE TO FORM A SINGLE PATH OF EGRESS TRAVEL, THE REQUIRED EGRESS CAPACITY OF THAT PATH SHALL NOT BE LESS THAN THE COMBINED REQUIRED CAPACITY OF THE CONVERGING AISLES.

406.3 **TREAD DEPTH**. TREAD DEPTH SHALL BE A MINIMUM OF 11 INCHES (279 MM). THE TOLERANCE BETWEEN ADJACENT TREADS SHALL NOT EXCEED 0.188 INCH (408 MM).

406.4 TREAD CONSTRUCTION. TREADS CONSTRUCTED OF MORE THAN TWO ELEMENTS SHALL NOT HAVE A GAP OF MORE THAN 0.50 INCH (12.8 MM) BETWEEN ADJACENT TREAD SURFACES. TREADS CONSTRUCTED OF GRATING SHALL NOT PERMIT A SPHERE OF 0.50 INCH (12.8 MM) IN DIAMETER TO PASS THROUGH.

406.5 TREAD MARKING STRIPE. A CONTRASTING MARKING STRIPE SHALL BE PROVIDED ON EACH TREAD AT THE NOSING OR LEADING EDGE SUCH THAT THE LOCATION OF EACH TREAD IS READILY APPARENT WHEN VIEWED IN DESCENT. SUCH STRIPE SHALL BE NOT LESS THAN 1 INCH (25 MM), AND NOT MORE THAN 2 INCHES (51 MM), WIDE. **EXCEPTION:** THE CONTRASTING STRIPE IS PERMITTED TO BE OMITTED WHERE THE TREAD SURFACES ARE SUCH THAT THE LOCATION OF EACH TREAD IS READILY APPARENT WHEN VIEWED IN DESCENT.
406.6 RISER HEIGHT. RISER HEIGHT SHALL BE NOT LESS THAN 4 INCHES (102 MM) NOR MORE THAN 8 INCHES (203 MM).
EXCEPTION: RISER HEIGHT NOT EXCEEDING 9 INCHES (229 MM) SHALL BE PERMITTED WHERE NECESSITATED BY THE SLOPE OF THE ADJACENT SEATING AREAS TO MAINTAIN SIGHTLINES.
406.7 RISER CONSTRUCTION. RISERS SHALL BE OF SOLID CONSTRUCTION.
EXCEPTIONS:
1. OPENINGS IN RISERS ARE PERMITTED PROVIDED THE OPENING DOES NOT EXCEED 0.5 INCHES (12.7 MM) IN HEIGHT AND WIDTH.

SECTION 407 AISLE ACCESSWAYS
407.1 REQUIRED AISLE ACCESSWAYS.
AISLE ACCESSWAYS SHALL BE PROVIDED ABOVE THE FIRST ROW OF SEATING. AISLE ACCESSWAYS LOCATED MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GROUND BELOW SHALL BE CONSTRUCTED SUCH THAT OPENINGS SHALL NOT ALLOW THE PASSAGE OF A SPHERE GREATER THAN 4 INCHES (102 MM) IN DIAMETER. WHERE BLEACHER-TYPE SEATING IS UTILIZED, SUCH SEATS SHALL BE A MINIMUM DEPTH OF 9 INCHES (229 MM). ROW-TO ROW SPACING SHALL BE A MINIMUM OF 22 INCHES (559 MM). 407.2 MINIMUM WIDTH. THE MINIMUM CLEAR AISLE ACCESSWAY WIDTH SHALL NOT BE LESS THAN 12 INCHES (305 MM) MEASURED AS THE CLEAR HORIZONTAL DISTANCE FROM THE BACK OF THE ROW AHEAD AND THE NEAREST PROJECTION OF THE ROW BEHIND.

ADDED LATER:
407.2 MINIMUM WIDTH
THE MINIMUM CLEAR AISLE ACCESSWAY WIDTH SHALL NOT BE LESS THAN 12 INCHES (305 MM) MEASURED AS THE CLEAR HORIZONTAL DISTANCE FROM THE BACK OF THE ROW AHEAD AND THE NEAREST PROJECTION OF THE ROW BEHIND. WHERE CHAIRS HAVE AUTOMATIC OR SELF-RISING SEATS, THE MEASUREMENT SHALL BE MADE WITH SEATS IN THE RAISED POSITION. WHERE ANY SEAT IN A ROW DOES NOT HAVE AN AUTOMATIC OR SELF-RISING SEAT, THE MEASUREMENTS SHALL BE MADE WITH THE SEAT IN THE DOWN POSITION. FOR SEATS WITH FOLDING TABLET ARMS, ROW SPACING SHALL BE DETERMINED WITH THE TABLET ARM IN THE USE POSITION

407.4 SINGLE ACCESS
FOR ROWS OF SEATING SERVED BY AISLES OR DOORWAYS AT ONLY ONE END OF THE ROW, THE MINIMUM CLEAR WIDTH OF 12 INCHES (305 MM) BETWEEN ROWS SHALL BE INCREASED BY 0.6 INCH (15.2 MM) FOR EVERY ADDITIONAL SEAT BEYOND SEVEN SEATS WHERE SEATS HAVE BACKRESTS OR <u>BEYOND TEN</u> WHERE SEATS ARE WITHOUT BACKRESTS. THE MINIMUM CLEAR WIDTH IS NOT REQUIRED TO EXCEED 22 INCHES (559 MM).
EXCEPTION: FOR SMOKE-PROTECTED OR OPEN-AIR ASSEMBLY SEATING, THE ROW LENGTH LIMITS FOR A 12-INCH-WIDE (305 MM) AISLE ACCESSWAY, BEYOND WHICH THE AISLE ACCESSWAY MINIMUM CLEAR WIDTH SHALL BE INCREASED, ARE IN TABLE 407.5 (21)
CALCULATION: FROM THE TABLE, 10 SEATS PLUS (4.5" / 0.6)= 7.5. TOTAL =***<u>17 SEATS</u>***

407.4.2 PATH THROUGH ADJACENT ROWS
WHERE ONE OF THE TWO PATHS OF TRAVEL IS ACROSS THE AISLE THROUGH A ROW OF SEATS TO ANOTHER AISLE, THERE SHALL NOT BE MORE THAN <u>24 SEATS</u> BETWEEN THE TWO AISLES; AND THE MINIMUM CLEAR WIDTH BETWEEN ROWS FOR THE ROW BETWEEN THE TWO AISLES SHALL BE 12 INCHES (305 MM) PLUS 0.6 INCH (15.2 MM) FOR EACH ADDITIONAL SEAT BEYOND SEVEN WHERE SEATS HAVE BACKRESTS OR BEYOND TEN WHERE SEATS ARE WITHOUT BACKRESTS IN THE ROW BETWEEN AISLES.
EXCEPTION: FOR SMOKE-PROTECTED OR <u>OPEN-AIR ASSEMBLY</u> SEATING THERE SHALL NOT BE MORE THAN <u>40 SEATS</u> BETWEEN THE TWO AISLES AND THE MINIMUM CLEAR WIDTH SHALL BE 12 INCHES (305 MM) PLUS 0.3 INCH (7.6 MM) FOR EACH ADDITIONAL SEAT BEYOND SEVEN WHERE SEATS HAVE BACKRESTS OR *<u>BEYOND TEN</u>* WHERE SEATS ARE WITHOUT BACKRESTS IN THE ROW BETWEEN AISLES.
CALCULATION: 10 + (4.5/0.3) = 15. TOTAL ALLOWED IS ***<u>25 SEATS</u>***

SECTION 408 GUARDS
408.1 REQUIRED GUARDS. GUARDS SHALL BE PROVIDED IN THE FOLLOWING AREAS.
1. ALONG OPEN-SIDED WALKING SURFACES, CROSS AISLES, STEPPED AISLES, RAMPS AND LANDINGS OF TIERED SEATING AREAS WHICH ARE LOCATED MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW. SUCH GUARDS SHALL BE NOT LESS THAN 42 INCHES (1067 MM) HIGH, MEASURED VERTICALLY ABOVE THE LEADING EDGE OF THE TREAD, ADJACENT WALKING SURFACE OR ADJACENT BENCH SEAT.

408.2 OPENING LIMITATIONS. OPEN GUARDS SHALL BE CONSTRUCTED OF MATERIALS SUCH THAT A 4-INCH-DIAMETER (102 MM) SPHERE CANNOT PASS THROUGH ANY OPENING UP TO A HEIGHT OF 34 INCHES (864 MM). FROM A HEIGHT OF 34 INCHES (864 MM) TO 42 INCHES (1067 MM) ABOVE THE ADJACENT WALKING SURFACES, A SPHERE 8 INCHES (203 MM) IN DIAMETER SHALL NOT PASS.
EXCEPTIONS:
1. THE TRIANGULAR OPENING FORMED BY THE RISER, TREAD AND BOTTOM RAIL AT THE OPEN SIDE OF A STEPPED AISLE OR TIERED SEATING SHALL BE OF A MAXIMUM SIZE SUCH THAT A SPHERE OF 6 INCHES (152 MM) IN DIAMETER CANNOT PASS THROUGH THE OPENING.
2. GUARDS AT THE END OF AISLES WHERE THEY TERMINATE AT A FASCIA OF BOXES, BALCONIES AND GALLERIES SHALL HAVE BALUSTERS OR ORNAMENTAL PATTERNS SUCH THAT A 4-INCH DIAMETER (102 MM) SPHERE CANNOT PASS THROUGH ANY OPENING UP TO A HEIGHT OF 26 INCHES (660 MM). FROM A HEIGHT OF 26 INCHES (660 MM) OR GREATER ABOVE THE ADJACENT WALKING SURFACES, A SPHERE 8 INCHES (203 MM) IN DIAMETER SHALL NOT PASS.
3. THE OPENING LIMITATION SHALL NOT APPLY TO GUARDS REQUIRED IN ACCORDANCE WITH ITEM 2 OF SECTION 408.1.

SECTION 409 HANDRAILS

409.1 REQUIRED HANDRAILS. WHERE SEATS ARE LOCATED ON BOTH SIDES OF A STEPPED AISLE, A MINIMUM OF ONE MID-AISLE HANDRAIL SHALL BE PROVIDED. WHERE SEATS ARE LOCATED ON ONE SIDE OF A STEPPED AISLE, A MINIMUM OF ONE HANDRAIL SHALL BE PROVIDED ON THE SIDE OF THE STEPPED AISLE WHERE THERE ARE NO SEATS.

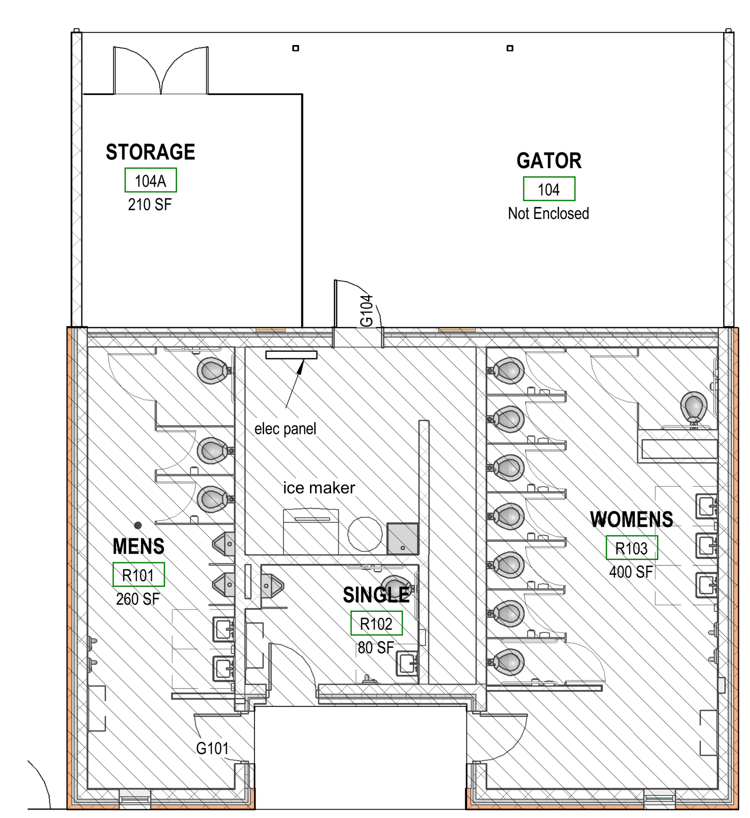
409.1.1 MID-AISLE HANDRAILS. WHERE THERE IS SEATING ON BOTH SIDES OF THE AISLE, THE MID-AISLE HANDRAILS SHALL BE DISCONTINUOUS WITH GAPS OR BREAKS AT INTERVALS NOT EXCEEDING FIVE ROWS TO FACILITATE ACCESS TO SEATING AND PERMIT CROSSING FROM ONE SIDE OF THE AISLE TO THE OTHER. THESE GAPS OR BREAKS SHALL HAVE A CLEAR WIDTH OF NOT LESS THAN 22 INCHES (559 MM) AND NOT GREATER THAN 36 INCHES (914 MM), MEASURED HORIZONTALLY, AND THE HANDRAIL SHALL HAVE ROUNDED TERMINATIONS OR BENDS. SUCH DISCONTINUITIES SHALL ALSO BE PERMITTED WHERE THERE IS SEATING ON ONE OR BOTH SIDES OF THE AISLE, AND WHERE THERE ARE GUARDRAILS COMPLYING WITH THE GRASPABILITY REQUIREMENTS FOR HANDRAILS. AN ADDITIONAL RAIL SHALL BE PROVIDED BELOW THE HANDRAIL, LOCATED PARALLEL TO, AND APPROXIMATELY 12 INCHES (305 MM) BELOW, THE HANDRAIL. THE ADDITIONAL RAIL NEED NOT COMPLY WITH THE GRASPABILITY PROVISIONS OF SECTION 409.3.
409.2 HEIGHT. HANDRAIL HEIGHT, MEASURED ABOVE STEPPED AISLE TREAD NOSINGS, SHALL BE UNIFORM, NOT LESS THAN 34 INCHES (864 MM) AND NOT MORE THAN 38 INCHES (965 MM).

409.5 HANDRAIL TERMINATION. HANDRAILS LOCATED ON THE SIDE OF A STEPPED AISLE SHALL RETURN TO A WALL, GUARD OR THE WALKING SURFACE OR SHALL BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT STEPPED AISLE FLIGHT.
409.5.1 MID-AISLE HANDRAIL TERMINATION. MID-AISLE HANDRAILS SHALL NOT EXTEND BEYOND THE LOWEST RISER AND SHALL TERMINATE WITHIN 18 INCHES (381 MM) MEASURED HORIZONTALLY, FROM THE FACE OF THE LOWEST RISER. HANDRAIL EXTENSIONS ARE NOT REQUIRED.
EXCEPTION: MID-AISLE HANDRAILS SHALL BE PERMITTED TO EXTEND BEYOND THE LOWEST RISER WHERE THE HANDRAIL EXTENSIONS DO NOT OBSTRUCT THE WIDTH OF THE CROSS AISLE.
409.7 PROJECTIONS. PROJECTIONS INTO THE REQUIRED WIDTH AT EACH HANDRAIL SHALL NOT EXCEED 4.5 INCHES (11.4 MM) AT OR BELOW THE HANDRAIL HEIGHT.

NUMBER OF WHEELCHAIRS FOR 521 SEATS: 7
REFER TO IBC 2018 CHAPTER 11,

TABLE 11108.2.2.1
501 TO 5000 SEATS REQUIRE 6, PLUS 1 FOR EACH 150, OR FRACTION THEREOF, BETWEEN 501 THROUGH 5000. 501 TO 5,000 REQUIRE 6, PLUS 1 FOR EACH 150, OR FRACTION THEREOF,
FOR 504 SEATS 7 WHEELCHAIR ACCESSIBLE SPACES ARE REQUIRED.

1108.2.4 DISPERSION OF WHEELCHAIR SPACES IN MULTILEVEL ASSEMBLY SEATING AREAS
WHEELCHAIR SPACES IN TEAM OR PLAYER SEATING SERVING AREAS OF SPORT ACTIVITY ARE NOT REQUIRED TO BE DISPERSED.



A8 LIMIT OF CONDITIONED AREA
SCALE: 1/8" = 1'-0"

LEGEND
CONDITIONED AND INSULATED AREA

WMF
WEBER MURPHY FOX
ARCHITECTURE | INTERIORS | CONSTRUCTION MANAGEMENT | PLANNING & LANDSCAPE ARCHITECTURE
CLEVELAND
ERIE
STATE COLLEGE

ARCHITECT/LANDSCAPE
WEBER MURPHY FOX
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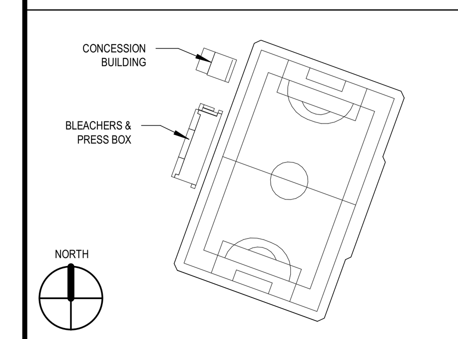
dastructures.com

MARK	DATE	DESCRIPTION
	01-22-2023	BID SET
	12-06-2023	REVISED DRAWINGS
	10-04-2023	BID SET
	09-27-2023	PERMIT SET
	09-06-2023	CD SUBMISSION

KEY PLAN:



PROJECT TITLE:

PENNSTATE Harrisburg

STADIUM SEATING & RESTROOMS BLDG
PENN STATE UNIVERSITY HARRISBURG CAMPUS
777 W Harrisburg Pike, Middletown, PA 17057

PSU BUILDING NUMBER: 0985095
PSU PROJECT NUMBER: 00-08713.00
PROJECT NUMBER: 2022.138.00
PROJECT PHASE: CONSTRUCTION DOCUMENTS

CODE REVIEW

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CHECKED BY: Checker
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