PENNSTATE Harrisburg

# CONSTRUCTION DOCUMENTS

BID SET

01/22/2024

# STADIUM SEATING & RESTROOMS BLDG

PSU PROJECT NUMBER: 00-08713.00
PSU BUILDING NUMBER:
HB 0985-113 RESTROOM BUILDING
HB 0985-114 PRESS BOX
HB 0985-115 SPECTATOR SEATING
WMF PROJECT NUMBER: 2022.138.00

## PROJECT SUMMARY:

PROJECT DESCRIPTION:

SITE GRADING AND STORM WATER MANAGEMENT FOR NEW CONSTRUCTION AREA.
REMOVAL OF EXISTING PARKING LOT AND BUILDING A NEW EXPANDED PARKING LOT
SANITARY SEWER LINE EXTENSION. COMMUNICATION (FIBER OPTIC) UTILITY EXTENSION
NEW PRESSBOX AND BLEACHERS FOR 500 SPECTATORS
NEW RESTROOMS BUILDING WITH PROTECTED AREA FOR STORAGE . BUILDING FOOT PRINT= 2088 SQ FT

**THE RESTROOM BUILDING IS AN FM GLOBAL INSURED BUILDING.**

## GENERAL NOTES:

NO CONSTRUCTION MATERIALS, DEBRIS, CLEANING SOLUTIONS, WASH WATER OR OTHER FORMS OF ILLICIT DISCHARGES SHALL ENTER THE STORM SEWER SYSTEM.

ALL SANITARY SEWER WASTE SHALL COMPLY WITH PENN STATE UNIVERSITY'S SAFETY POLICY SY40-DISPOSAL OF POLLUTANTS IN UNIVERSITY SANITARY SYSTEM. SY40 CAN BE FOUND AT THE FOLLOWING LOCATION:
HTTPS://POLICY.PSU.EDU/POLICIES/SY40

PROJECT SHALL COMPLY WITH ALL PSU OPP DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS.
PLEASE REFER TO DIVISION 26 REQUIREMENTS AT THE FOLLOWING LOCATION:
https://oppwiki.atlassian.net/wiki/spaces/OPPDCS/pages/5409384/Division+26+-+Electrical

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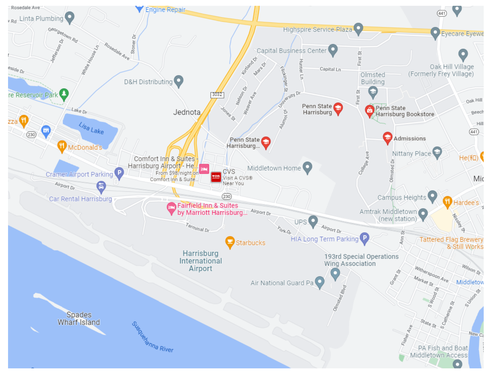
## DRAWING LIST


| | | |
|---|---|---|
| GENERAL | | |
| GENERAL | G-001 | COVERSHEET |
| GENERAL | G-002 | CODE REVIEW |
| CIVIL | | |
| CIVIL | C101 | OVERALL EXISTING FEATURES PLAN |
| CIVIL | C102 | EXISTING FEATURES & DEMOLITION PLAN |
| CIVIL | C103 | SITE PLAN |
| CIVIL | C104 | GRADING & UTILITY PLAN |
| CIVIL | C105 | EROSION & SEDIMENTATION PLAN |
| CIVIL | C301 | SANITARY SEWER PROFILE |
| CIVIL | C501 | DETAILS |
| CIVIL | C502 | STORMWATER MANAGEMENT DETAILS |
| CIVIL | C503 | E & S DETAILS |
| LANDSCAPE | | |
| LANDSCAPE | L-101 | OVERALL LANDSCAPE LAYOUT, MATERIAL AND PLANTING PLAN |
| LANDSCAPE | L-501 | LANDSCAPE DETAILS |
| STRUCTURAL | | |
| STRUCTURAL | S001 | GENERAL NOTES AND TYPICAL DETAILS |
| STRUCTURAL | S101 | FOUNDATION PLAN |
| STRUCTURAL | S102 | BLEACHER SLAB PLAN |
| STRUCTURAL | S201 | ROOF FRAMING PLAN |
| ARCHITECTURAL | | |
| ARCHITECTURAL | A-001 | LIFE SAFETY PLAN, GENERAL NOTES, ABBREVIATIONS & SYMBOLS |
| ARCHITECTURAL | A-002 | ACCESSIBLE MOUNTING HEIGHTS |
| ARCHITECTURAL | AE101 | RESTROOMS BLDG PLANS |
| ARCHITECTURAL | AE201 | EXTERIOR ELEVATIONS |
| ARCHITECTURAL | AE202 | BUILDING SECTIONS |
| ARCHITECTURAL | AE301 | WALL SECTIONS & DETAILS |
| ARCHITECTURAL | AE302 | WALL SECTIONS & DETAILS |
| ARCHITECTURAL | AE401 | LARGE SCALE PLANS & INTERIOR ELEVATIONS |
| ARCHITECTURAL | AE402 | BLEACHERS & PRESS BOX PLANS & ELEVATIONS |
| ARCHITECTURAL | AE403 | PRESS BOX SECTIONS & DETAILS |
| ARCHITECTURAL | AE601 | SCHEDULES, LEGENDS & DETAILS |
| PLUMBING | | |
| PLUMBING | P001 | SYMBOLS & GENERAL NOTES-PLUMBING |
| PLUMBING | P101 | FLOOR PLANS - PLUMBING |
| MECHANICAL | | |
| MECHANICAL | H-001 | SYMBOLS & GENERAL NOTES- HVAC |
| MECHANICAL | H-101 | FLOOR PLANS - HVAC |
| ELECTRICAL | | |
| ELECTRICAL | E-001 | SYMBOLS & GENERAL NOTES- ELECTRICAL |
| ELECTRICAL | E-010 | SITE PLAN - ELECTRICAL |
| ELECTRICAL | E-101 | FLOOR PLANS - ELECTRICAL |
| ELECTRICAL | E-501 | LIGHTING DETAILS & SCHEDULES |
| ELECTRICAL | E601 | POWER DETAILS & SCHEDULES |


## PROJECT LOCATION:

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## DRAWING NUMBERING SYSTEM

STANDARD FORMAT FOR ALL PROJECTS

AE102R1
EXAMPLE

A - DISCIPLINE DESIGNATOR - LEVEL 1
A - DISCIPLINE DESIGNATOR - LEVEL 2 (HYPHEN IF NOT USED)
1 - SHEET TYPE DESIGNATOR
02 - SHEET SEQUENCE DESIGNATOR
R1 - SUPPLEMENTAL DRAWING DESIGNATION (IF USED)

DISCIPLINE DESIGNATOR - LEVEL 1

G - GENERAL
H - HAZARDOUS MATERIAL
V - SURVEY/MAPPING
B - GEOTECHNICAL
C - CIVIL
L - LANDSCAPE
S - STRUCTURAL
A - ARCHITECTURAL
I - INTERIORS
Q - EQUIPMENT
F - FIRE PROTECTION
P - PLUMBING
D - PROCESS
M - MECHANICAL
E - ELECTRICAL
T - TELECOMMUNICATIONS
R - RESOURCE
X - OTHER DISCIPLINES
Z - CONTRACTOR/SHOP DRAWINGS
O - OPERATIONS

DISCIPLINE DESIGNATOR - LEVEL 2 (FOR ARCHITECTURE)

AS - ARCHITECTURAL SITE
AD - ARCHITECTURAL DEMOLITION
AE - ARCHITECTURAL ELEMENTS
AF - ARCHITECTURAL FINISHES
AG - ARCHITECTURAL GRAPHICS
AI - ARCHITECTURAL INTERIORS
AJ - ARCHITECTURAL REFLECTED CEILING PLAN
AK - USER DEFINED

SEE SPECIFIC DISCIPLINES FOR THEIR LEVEL 2 DESIGNATORS

SHEET TYPE DESIGNATOR

0 - GENERAL
1 - PLANS
2 - ELEVATIONS
3 - SECTIONS
4 - LARGE SCALE VIEWS
5 - DETAILS
6 - SCHEDULES & DIAGRAMS
7 - USER DEFINED
8 - USER DEFINED
9 - 3D REPRESENTATIONS

SUPPLEMENTAL SHEET TYPE DESIGNATOR

R - REVISED ISSUES SIMILAR SCOPES
X - COMPLETE CHANGES
A, B, C ... - PHASED WORK OF SAME DRAWING

SHEET FILE PLOT DATE: 1/22/2024 8:19:02 AM C:\Revit Local Files\A_AE21_PSU-Stadium Seating and Restroom Bldg_Central_tabloid.rvt

# 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.

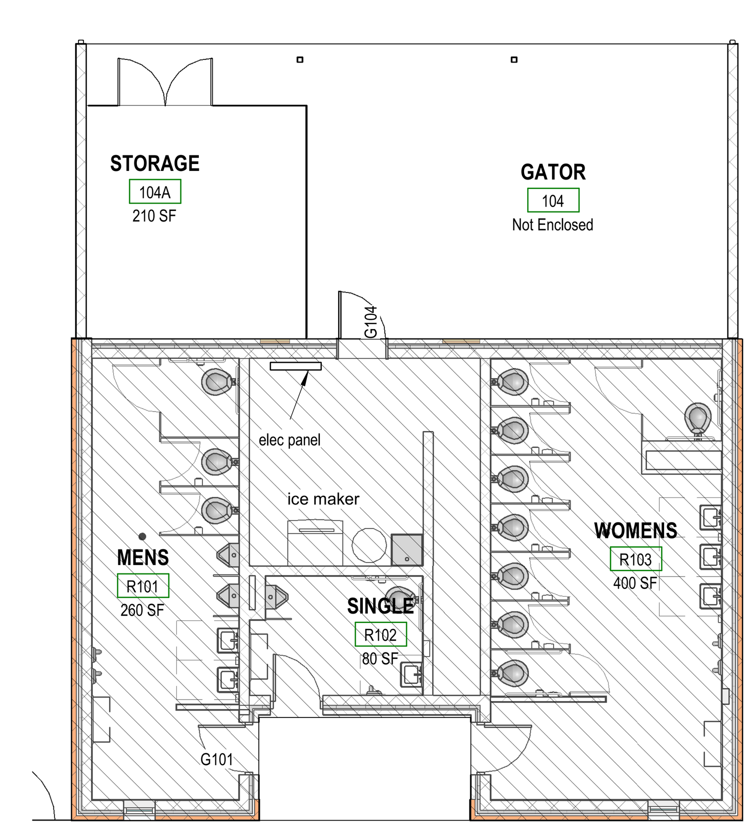
**409.1.1 MID-AISLE HANDRAILS.** WHERE THERE IS SEATING ON BOTH SIDES OF THE AISLE, THE MID-AISLE HANDRAILS SHALL BE DISCONTINUOUS WITH GAPS OR BREAKS AT INTERVALS NOT EXCEEDING FIVE ROWS TO FACILITATE ACCESS TO SEATING AND PERMIT CROSSING FROM ONE SIDE OF THE AISLE TO THE OTHER. THESE GAPS OR BREAKS 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

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| | 12-06-2023 | REVISED DRAWINGS |
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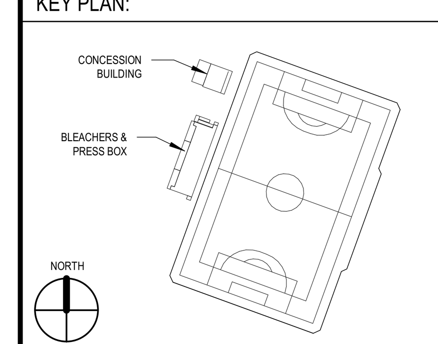


PROJECT TITLE:

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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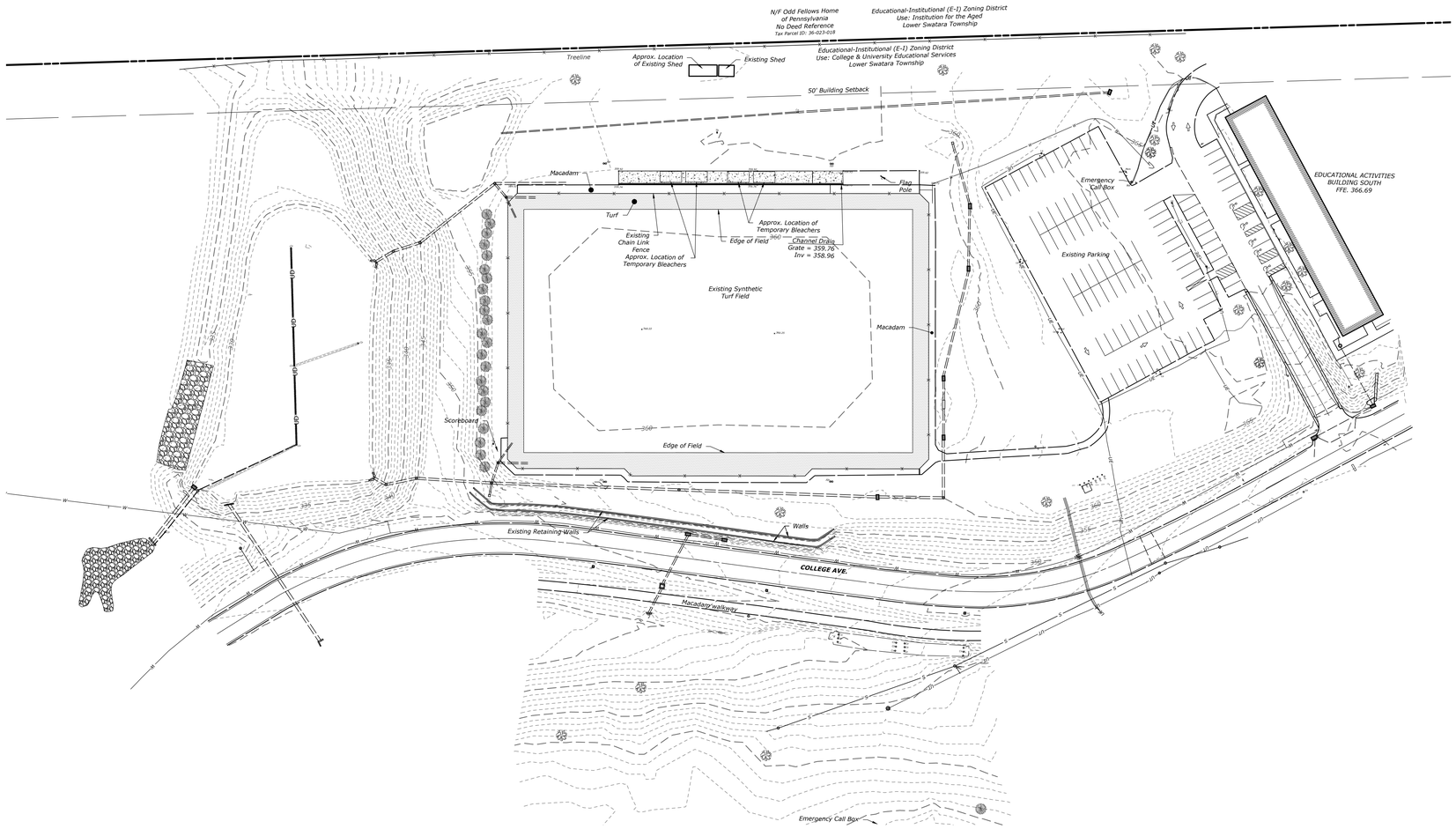
DRAWING NO.
**G-002**

SHEET FILE/PLOT DATE: 3/22/2024 8:19:05 AM C:\Revit Local Files\A_R21_PSUH Stadium Seating and Restroom Bldg_Central_labdul.rvt




## LEGEND

EXISTING FEATURES

- EDGE OF PAVED BITUMINOUS SURFACE
- EDGE OF GRAVEL OR CRUSHED STONE SURFACE
- 420 INDEX CONTOUR LINE
- 421 INTERMEDIATE CONTOUR LINE
- × 500.00 SPOT ELEVATION
- CONCRETE SURFACE
- UE UNDERGROUND ELECTRIC LINES
- UT UNDERGROUND TELECOM LINES
- MANHOLE
- Ls LIGHT STANDARD OR LAMPPOST
- Sp STADIUM LIGHT POST
- Bol BOLLARD
- Em ELECTRIC METER
- Eb ELECTRIC BOX
- Tb TELEPHONE BOX
- DRAINAGE PIPE
- DRAINAGE INLET
- RIP-RAP
- UNDERGROUND NATURAL GAS LINE
- Gv GAS VALVE
- Gm GAS METER
- TREELINE
- WALL
- S SANITARY SEWER GRAVITY LINE
- FM SANITARY SEWER FORCEMAIN LINE
- Co SANITARY SEWER CLEANOUT
- W WATER LINE
- Wv WATER VALVE
- Fh FIRE HYDRANT
- Well WELL
- Wm WATER METER
- Sp WATER SPIGOT
- Ib IRRIGATION BOX
- SIGN

GRAPHIC SCALE

50 25 0 50

1"= 50 FEET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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

## OVERALL EXISTING FEATURES PLAN

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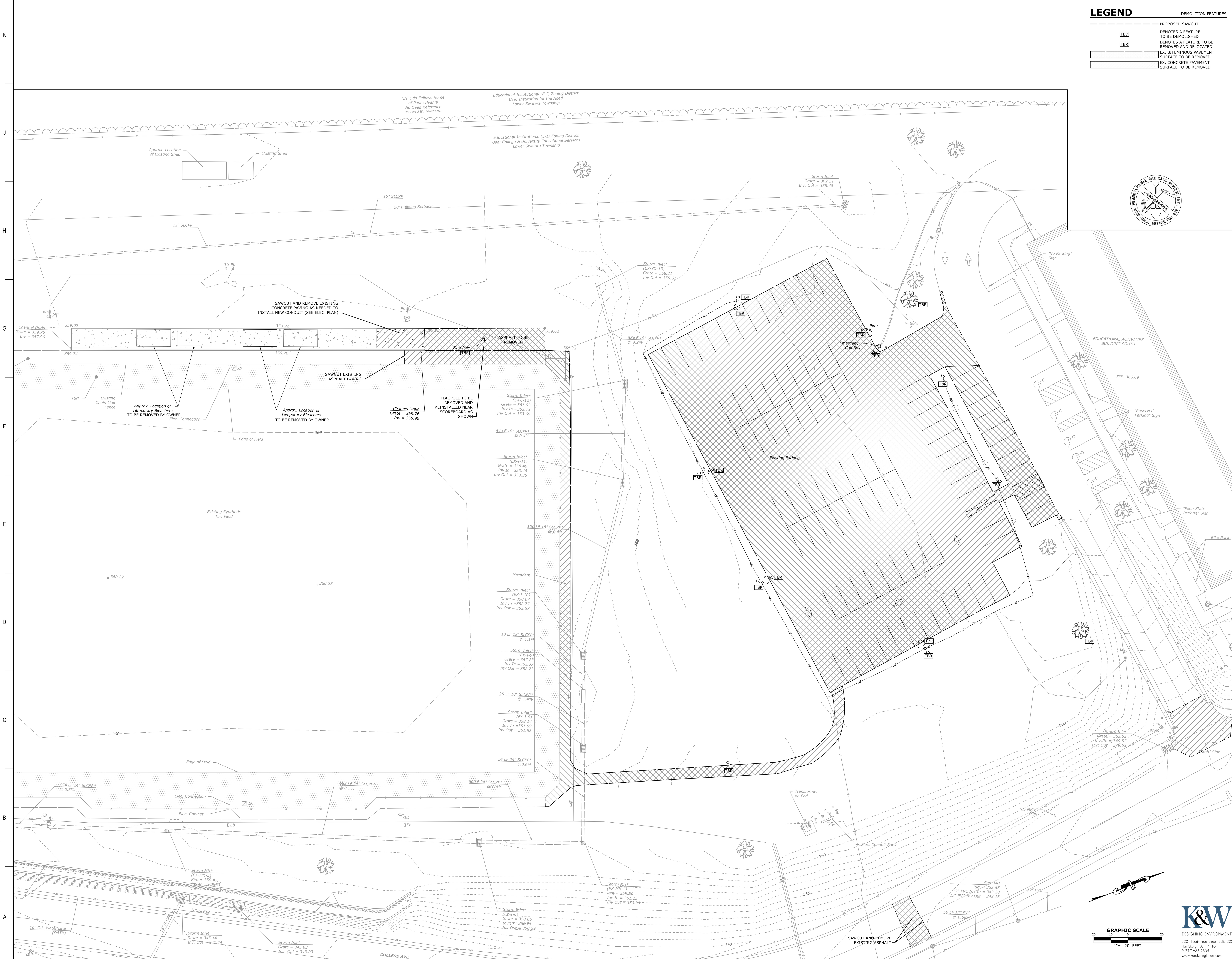


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KEY PLAN:

PROJECT TITLE:

PENNSTATE Harrisburg 1855

# 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

# EXISTING FEATURES & DEMOLITION PLAN

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**C102**

## LEGEND

PROPOSED SITE FEATURES

- BUILDING
- CONCRETE SURFACE
- EDGE OF BITUMINOUS PAVEMENT
- STANDARD DUTY PAVEMENT
- PAINTED STRIPE TRAFFIC ISLAND
- FENCE
- (A) HANDICAP PARKING SIGN
- (B) VAN ACCESSIBLE SIGN
- (C) 'NO PARKING - LOADING ZONE' SIGN WITH DOUBLE ARROW

## SITE PLAN NOTES

1. REFER TO ARCHITECTURAL PLANS FOR CONCRETE PADS OUTSIDE OF EXTERIOR DOORWAYS.
2. SEE ARCHITECTURAL PLANS FOR CONCRETE SCORING LAYOUT.
3. SIGNS AND PAVEMENT MARKINGS SHALL COMPLY WITH PENNDOT PUBLICATION 408, SECTION 1103, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AS AMENDED.
4. MAXIMUM SIDEWALK CROSS SLOPE = 2%.

N/F Odd Fellows Home of Pennsylvania
No Deed Reference
Tax Parcel ID: 36-023-018

Educational-Institutional (E-I) Zoning District
Use: Institution for the Aged
Lower Swatara Township

Educational-Institutional (E-I) Zoning District
Use: College & University Educational Services
Lower Swatara Township

50' Building Setback

Approx. Location of Existing Shed

Existing Shed

PROPOSED BUILDING 2,100 SF

PROPOSED BLEACHERS (REFER TO ARCH. PLANS)

8' WIDE DOUBLE GATE (LOCATION MAY BE FIELD ADJUSTED BASED ON BLEACHER STRUCTURE)

8' HT. GALVANIZED FENCE 6" FROM EDGE OF CONCRETE SLAB

TRANSITION BETWEEN GALVANIZED AND BLACK VINYL COATED FENCE

8' HT. BLACK VINYL COATED C.L. FENCE

TRANSITION FROM 8' HT. FENCE TO 4' HT. FENCE; TOP OF FENCE TO BE ANGLED TO MATCH BOTTOM OF BLEACHER STRUCTURE

4' HT. BLACK VINYL COATED C.L. FENCE

10' WIDE DOUBLE GATE

REFER TO STRUCTURAL DRAWINGS FOR CONCRETE BLEACHER SLAB

EX. ASPHALT PAVEMENT

6' WIDE GRAVEL PATH

6' WIDE ASPHALT WALK

TRANSITION BETWEEN GALVANIZED AND BLACK VINYL COATED FENCE

TRANSITION FROM 8' HT. FENCE TO 4' HT. FENCE

4' WIDE GATE

6' WIDE ASPHALT WALK

WATER FOUNTAIN (SEE ARCH. DWGS)

CONCRETE PLAZA

4' HT. BLACK VINYL COATED C.L. FENCE

10' WIDE DOUBLE GATE

Turf

Existing Chain Link Fence

Edge of Field

Existing Synthetic Turf Field

Scoreboard

RELOCATED FLAGPOLE

SCOREBOARD AREA

Edge of Field

SIGN ATTACHED TO NEW LIGHT POST

SIGN ATTACHED TO NEW LIGHT POST

RELOC. PARKING STATION

6' WIDE CONCRETE WALK

LIMIT OF DEPRESSED CURB

RELOC. EMERGENCY CALL STATION

RELOC. WAP POLES

10' WIDE PAINTED LOADING ZONE

DEPRESSED CURB

NEW SITE LIGHTING (typ.) (SEE ELEC. PLAN)

LIMIT OF DEPRESSED CURB

CONCRETE WALK

Macadam

DEPRESSED CURB

6' WIDE CONCRETE WALK

LIMIT OF NEW CONCRETE CURB

NEW SITE LIGHTING (typ.) (SEE ELEC. PLAN)

NEW PEDESTRIAN SITE LIGHTING (typ.) (SEE ELEC. PLAN)

6' WIDE CONCRETE WALK

LIMIT OF NEW CONCRETE CURB

8' WIDE PAINTED CROSSWALK

"No Parking" Sign

EDUCATIONAL ACTIVITIES BUILDING SOUTH

"Reserved Parking" Sign

8' WIDE PAINTED CROSSWALK

"Penn State Parking" Sign

Bike Racks

6' WIDE CONCRETE WALK

LIMIT OF NEW CONCRETE CURB

NEW PEDESTRIAN SITE LIGHTING (typ.) (SEE ELEC. PLAN)

NEW ASPHALT PAVING (SEE GRADING/UTILITY PLAN)

LIMIT OF NEW CONCRETE CURB

"Stop" Sign

"25 MPH" Sign

6' WIDE CONCRETE WALK

LIMIT OF NEW CONCRETE CURB

ASPHALT PAVEMENT RESTORATION

Walls

COLLEGE AVE.

GRAPHIC SCALE
20 0 10 20
1" = 20 FEET

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| | 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

## SITE PLAN

DRAWN BY: MRS

CHECKED BY: MRS

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DRAWING NO.

**C103**


C:\Revit Local Files\A_R21_PSUHStadiumSeatingandRestroomBldg_Central_cluiu@wmf-inc.com.rvt
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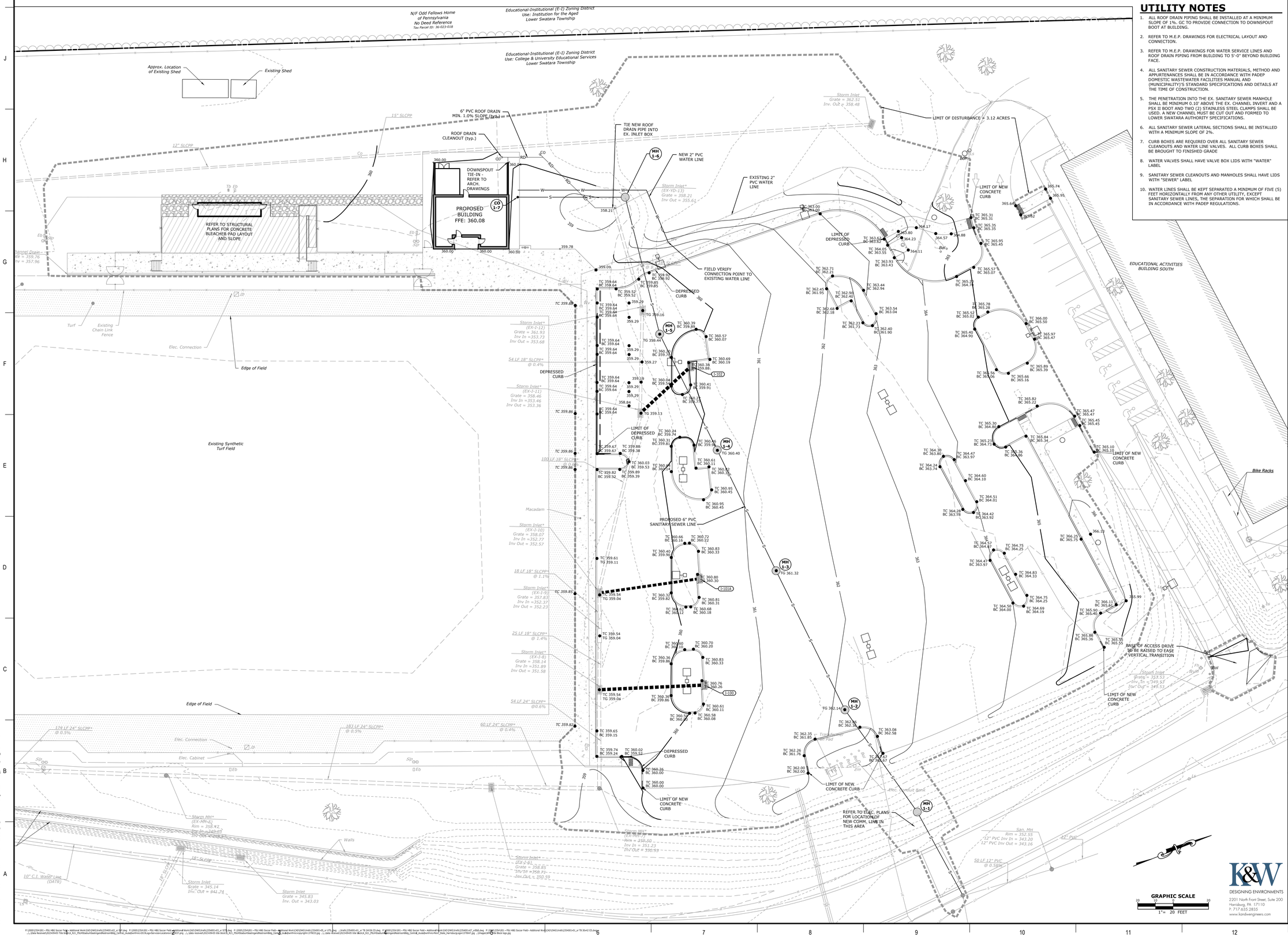


## LEGEND

PROPOSED GRADING FEATURES

- 421 — INTERMEDIATE CONTOUR LINES
- 420 — INDEX CONTOUR LINES

## GRADING NOTES

1. FINISHED GRADE ALONG THE EXTERIOR FACE OF THE BUILDING SHALL BE 360.00 UNLESS OTHERWISE NOTED.
2. POSITIVE DRAINAGE SHALL BE PROVIDED ACROSS THE ENTIRE PROJECT AREA AND DIRECTED TOWARDS EXISTING DRAINAGE FACILITIES.

## LEGEND

PROPOSED UTILITY FEATURES

- SANITARY SEWER MANHOLE
- MH 4 — SANITARY SEWER STRUCTURE LABEL
- SANITARY SEWER SERVICE LATERAL
- WV — WATER VALVE
- W — WATER LINE
- RD — RD — ROOF DRAIN PIPE

## UTILITY NOTES

1. ALL ROOF DRAIN PIPING SHALL BE INSTALLED AT A MINIMUM SLOPE OF 1%. GC TO PROVIDE CONNECTION TO DOWNSPOUT BOOT AT BUILDING.
2. REFER TO M.E.P. DRAWINGS FOR ELECTRICAL LAYOUT AND CONNECTION.
3. REFER TO M.E.P. DRAWINGS FOR WATER SERVICE LINES AND ROOF DRAIN PIPING FROM BUILDING TO 5'-0" BEYOND BUILDING FACE.
4. ALL SANITARY SEWER CONSTRUCTION MATERIALS, METHOD AND APPURTENANCES SHALL BE IN ACCORDANCE WITH PADEP DOMESTIC WASTEWATER FACILITIES MANUAL AND (MUNICIPALITY'S STANDARD SPECIFICATIONS AND DETAILS AT THE TIME OF CONSTRUCTION.
5. THE PENETRATION INTO THE EX. SANITARY SEWER MANHOLE SHALL BE MINIMUM 0.10' ABOVE THE EX. CHANNEL INVERT AND A PSX II BOOT AND TWO (2) STAINLESS STEEL CLAMPS SHALL BE USED. A NEW CHANNEL MUST BE CUT OUT AND FORMED TO LOWER SWATARA AUTHORITY SPECIFICATIONS.
6. ALL SANITARY SEWER LATERAL SECTIONS SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 2%.
7. CURB BOXES ARE REQUIRED OVER ALL SANITARY SEWER CLEANOUTS AND WATER LINE VALVES. ALL CURB BOXES SHALL BE BROUGHT TO FINISHED GRADE
8. WATER VALVES SHALL HAVE VALVE BOX LIDS WITH "WATER" LABEL
9. SANITARY SEWER CLEANOUTS AND MANHOLES SHALL HAVE LIDS WITH "SEWER" LABEL.
10. WATER LINES SHALL BE KEPT SEPARATED A MINIMUM OF FIVE (5) FEET HORIZONTALLY FROM ANY OTHER UTILITY, EXCEPT SANITARY SEWER LINES, THE SEPARATION FOR WHICH SHALL BE IN ACCORDANCE WITH PADEP REGULATIONS.


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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

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PROJECT PHASE: CONSTRUCTION DOCUMENTS

## GRADING & UTILITY PLAN

DRAWN BY: MRS

CHECKED BY: MRS

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DRAWING NO.

**C104**

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SHEET FILE PLOT DATE: 9/5/2023 | 10:14 PM

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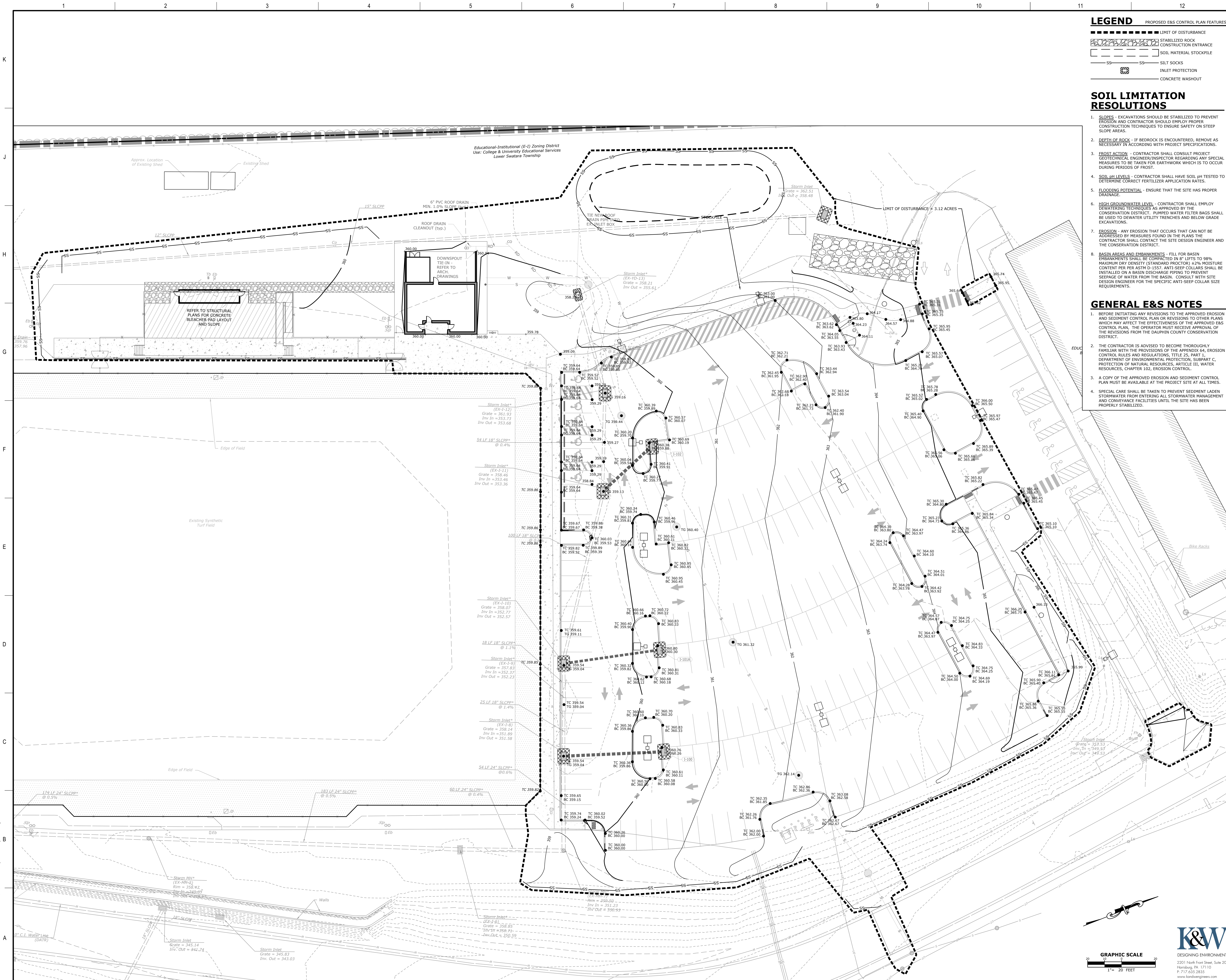


## LEGEND

PROPOSED E&S CONTROL PLAN FEATURES

- LIMIT OF DISTURBANCE
- STABILIZED ROCK CONSTRUCTION ENTRANCE
- SOIL MATERIAL STOCKPILE
- SILT SOCKS
- INLET PROTECTION
- CONCRETE WASHOUT

## SOIL LIMITATION RESOLUTIONS

1. SLOPES - EXCAVATIONS SHOULD BE STABILIZED TO PREVENT EROSION AND CONTRACTOR SHOULD EMPLOY PROPER CONSTRUCTION TECHNIQUES TO ENSURE SAFETY ON STEEP SLOPE AREAS.
2. DEPTH OF ROCK - IF BEDROCK IS ENCOUNTERED, REMOVE AS NECESSARY IN ACCORDING WITH PROJECT SPECIFICATIONS.
3. FROST ACTION - CONTRACTOR SHALL CONSULT PROJECT GEOTECHNICAL ENGINEER/INSPECTOR REGARDING ANY SPECIAL MEASURES TO BE TAKEN FOR EARTHWORK WHICH IS TO OCCUR DURING PERIODS OF FROST.
4. SOIL pH LEVELS - CONTRACTOR SHALL HAVE SOIL pH TESTED TO DETERMINE CORRECT FERTILIZER APPLICATION RATES.
5. FLOODING POTENTIAL - ENSURE THAT THE SITE HAS PROPER DRAINAGE.
6. HIGH GROUNDWATER LEVEL - CONTRACTOR SHALL EMPLOY DEWATERING TECHNIQUES AS APPROVED BY THE CONSERVATION DISTRICT. PUMPED WATER FILTER BAGS SHALL BE USED TO DEWATER UTILITY TRENCHES AND BELOW GRADE EXCAVATIONS.
7. EROSION - ANY EROSION THAT OCCURS THAT CAN NOT BE ADDRESSED BY MEASURES FOUND IN THE PLANS THE CONTRACTOR SHALL CONTACT THE SITE DESIGN ENGINEER AND THE CONSERVATION DISTRICT.
8. BASIN AREAS AND EMBANKMENTS - FILL FOR BASIN EMBANKMENTS SHALL BE COMPACTED IN 8" LIFTS TO 98% MAXIMUM DRY DENSITY (STANDARD PROCTOR) ±2% MOISTURE CONTENT PER PER ASTM D-1557. ANTI-SEEP COLLARS SHALL BE INSTALLED ON A BASIN DISCHARGE PIPING TO PREVENT SEEPAGE OF WATER FROM THE BASIN. CONSULT WITH SITE DESIGN ENGINEER FOR THE SPECIFIC ANTI-SEEP COLLAR SIZE REQUIREMENTS.

## GENERAL E&S NOTES

1. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE DAUPHIN COUNTY CONSERVATION DISTRICT.
2. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
3. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
4. SPECIAL CARE SHALL BE TAKEN TO PREVENT SEDIMENT LADEN STORMWATER FROM ENTERING ALL STORMWATER MANAGEMENT AND CONVEYANCE FACILITIES UNTIL THE SITE HAS BEEN PROPERLY STABILIZED.

GRAPHIC SCALE
20 10 0 20
1" = 20 FEET


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# STADIUM SEATING & RESTROOMS BLDG

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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

# EROSION & SEDIMENTATION CONTROL PLAN

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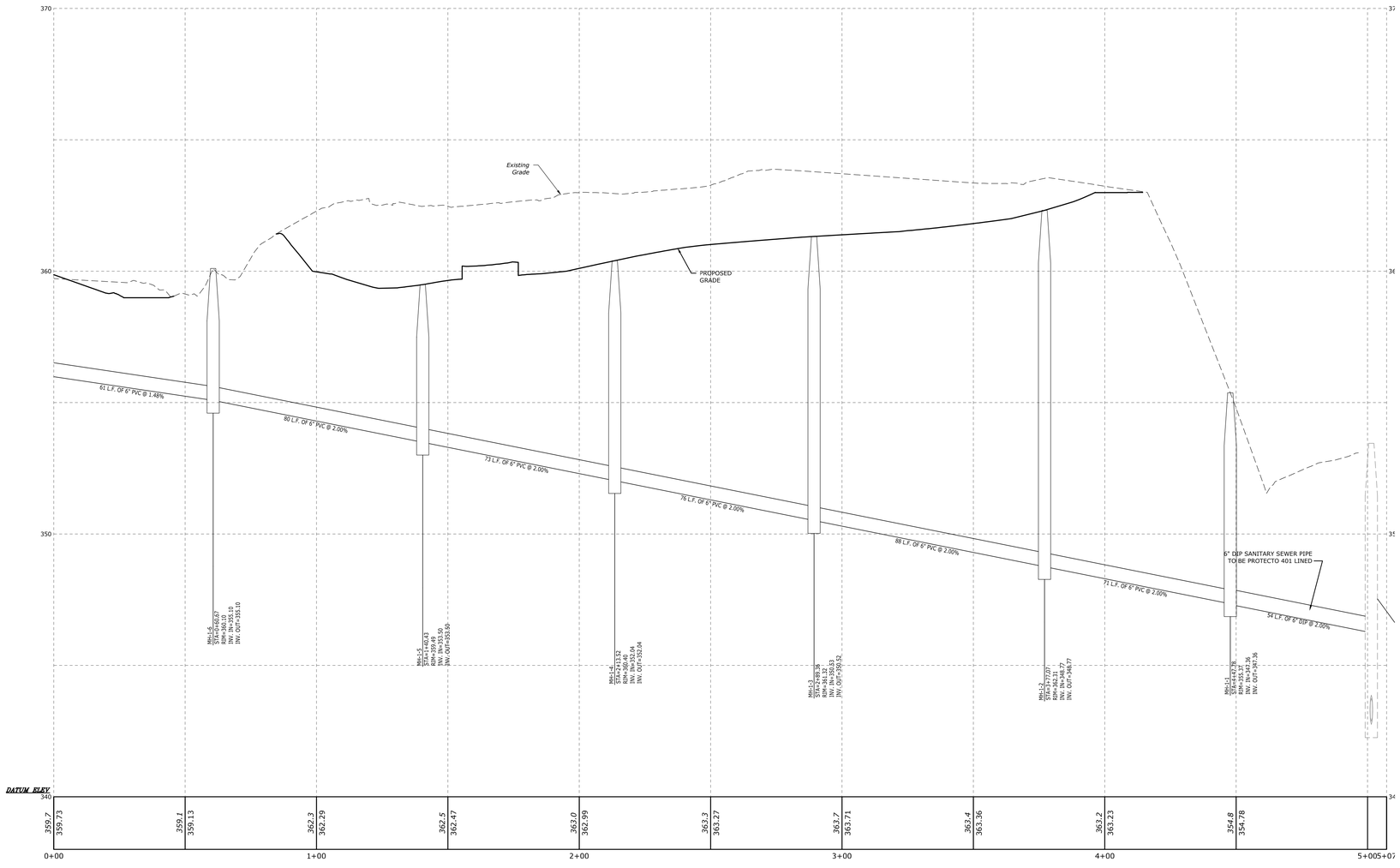
DRAWING NO.

C105




## SANITARY SEWER PROFILE

HORZ. SCALE: 1"=40'
VERT. SCALE: 1"= 4'

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PROJECT NUMBER: 2022.138.00

PROJECT PHASE: CONSTRUCTION DOCUMENTS

**SANITARY SEWER PROFILE**

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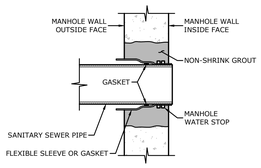
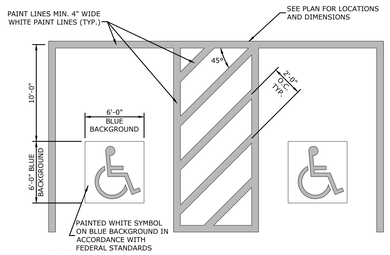



SECTION

## CONNECTION TO EXISTING SANITARY SEWER MANHOLE

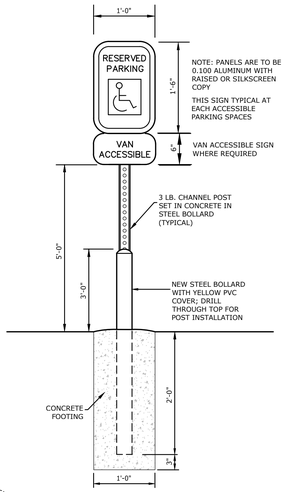
NOT TO SCALE




NOTES:
1. SEE SITE PLAN FOR ACCESSIBLE SPACE LOCATION AND DIMENSIONS.
2. PROVIDE 2 COATS OF PAINT ON ALL SURFACES.

## H.C. ACCESSIBLE PARKING SPACE & PAVEMENT MARKING DETAIL

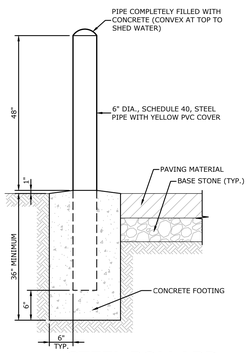
NOT TO SCALE




NOTES:
1. SIGN SHALL BE INSTALLED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES, AS AMENDED.

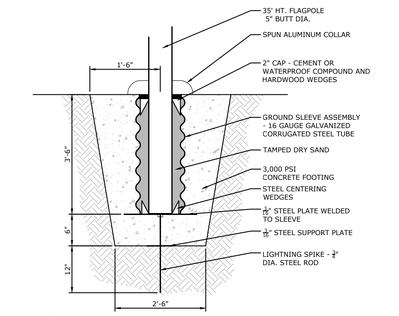
## H/C ACCESSIBLE PARKING SIGN

NOT TO SCALE




## STEEL BOLLARD

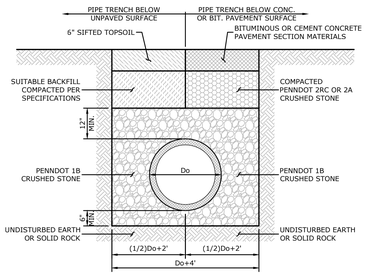
NOT TO SCALE




NOTE:
FOUNDATION SHOWN IS FOR RELOCATION OF EXISTING 35' FLAGPOLE (MODEL ESR35B51-AE, AS ORIGINALLY PROVIDED BY CONCORD AMERICAN FLAGPOLE, 4155 PATRIOT DRIVE, SUITE 100, GRAPEVINE TX, 76051, 800-527-3902). NEW FOUNDATION GROUND SLEEVE SYSTEM TO BE PROVIDED BY CONCORD AMERICAN FLAGPOLE, OR APPROVED EQUAL.

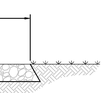
## FLAGPOLE FOUNDATION

NOT TO SCALE




## SANITARY SEWER PIPE TRENCH SECTION

NOT TO SCALE

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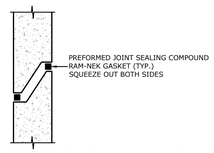
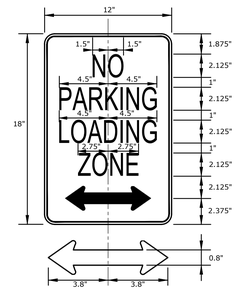



## MANHOLE WALL JOINT

NOT TO SCALE




COLOR
LEGEND, ARROW, & BORDER: RED (REFLECTORIZED)
BACKGROUND: WHITE (REFLECTORIZED)
BLANK STD: BS-1218
COORDINATE WITH LIGHT POST MANUFACTURER FOR MOUNTING

## NO PARKING LOADING ZONE SIGN

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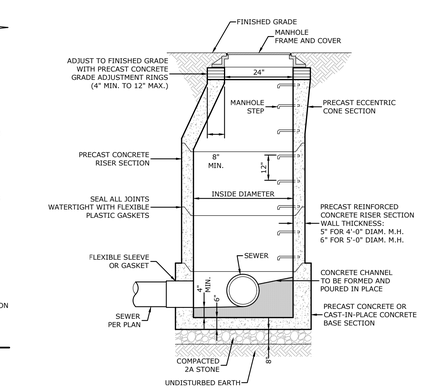
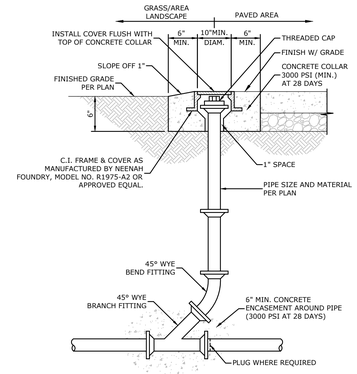


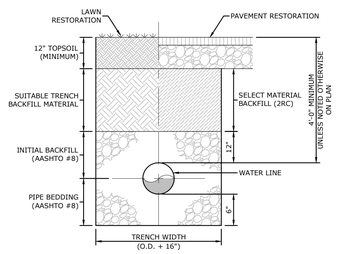

## PRECAST CONCRETE SANITARY SEWER MANHOLE

NOT TO SCALE



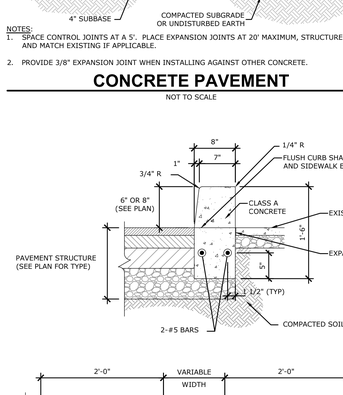

## SANITARY SEWER CLEANOUT

NOT TO SCALE




## WATER LINE TRENCH

NOT TO SCALE




NOTES:
1. SPACE CONTROL JOINTS AT A 5'. PLACE EXPANSION JOINTS AT 20' MAXIMUM, STRUCTURE FACE, AND MATCH EXISTING IF APPLICABLE.
2. PROVIDE 3/8" EXPANSION JOINT WHEN INSTALLING AGAINST OTHER CONCRETE.

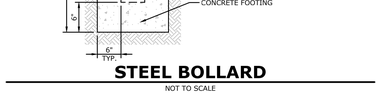
## CONCRETE PAVEMENT

NOT TO SCALE




## 6" CONCRETE CURB DETAIL

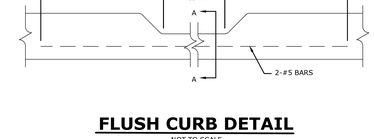
NOT TO SCALE




NOTES:
1. ALL PAVING MATERIALS AND INSTALLATION MATERIALS SHALL CONFORM TO PENNDOT PUBLICATION 408, AS AMENDED.
2. ALL EXCAVATIONS WITHIN BOROUGH RIGHTS-OF-WAY SHALL HAVE FULL STONE BACKFILL WITHIN UTILITY TRENCHES, AND SHALL BE COMPACTED TO BOROUGH STANDARDS.

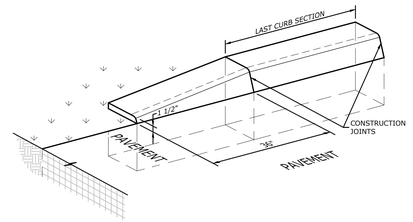
## STANDARD DUTY ASPHALT SECTION

NOT TO SCALE



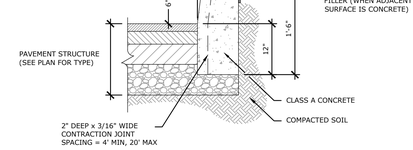

## FLUSH CURB DETAIL

NOT TO SCALE




## BULLNOSE END CURB TREATMENT

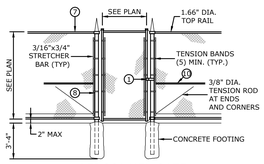
NOT TO SCALE




NOTES:
1. PROVIDE MATERIALS MEETING THE REQUIREMENTS OF THE LATEST EDITION OF PUBLICATION 408, SECTION 630 FOR PLAIN CEMENT CONCRETE CURB AND DEPRESSED CURB.
2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS. MAX. LENGTH = 20, MIN. LENGTH = 4'.
3. PLACE 3/4" THICK PREMOLDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY/ CUT MATERIAL TO CONFORM TO CROSS SECTIONAL AREA OF CURB.

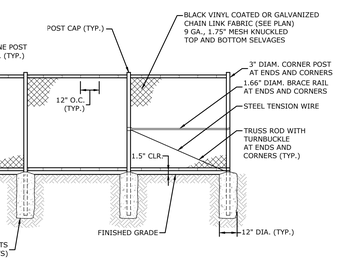
## 6" CONCRETE CURB DETAIL

NOT TO SCALE



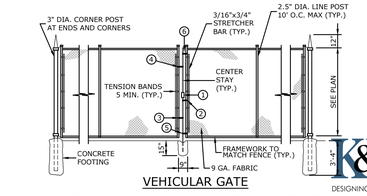

PERSONNEL GATE

| LABEL LEGEND | | | |
|---|---|---|---|
| 1 | LOCK KEEPER | 6 | 6 UPPER GUIDE |
| 2 | LOCK KEEPER GUIDE | 7 | 9 GA. TIE WIRES @ 12" SPACING ON TOP RAIL & TENSION WIRE |
| 3 | LOWER FORKS | 8 | 9 GA. WIRE TIES ON LINE POSTS SHALL BE @ 12" SPACING |
| 4 | UPPER FORKS | 9 | 7 GA. TENSION WIRE 6" ABOVE BOTTOM SELVAGE |
| 5 | LOWER GUIDE | 10 | 1.66" DIA. BRACE RAIL AT ENDS AND CORNERS |




## CHAIN LINK FENCE

NOT TO SCALE

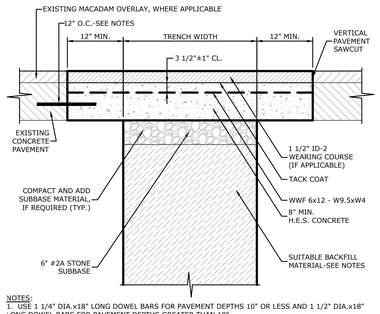



VEHICULAR GATE

## CHAIN LINK FENCE GATES

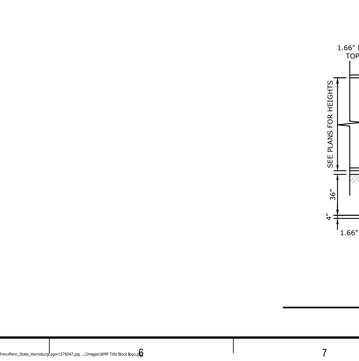
NOT TO SCALE

NOTES:
1. USE 1 1/4" DIA.x18" LONG DOWEL BARS FOR PAVEMENT DEPTHS 10" OR LESS AND 1 1/2" DIA.x18" LONG DOWEL BARS FOR PAVEMENT DEPTHS GREATER THAN 10".
2. PLACE DOWEL BARS PARALLEL TO THE CENTERLINE AND SURFACE OF THE SLAB, THE VERTICAL OR HORIZONTAL SKEW FROM ONE END OF THE DOWEL BAR TO THE OTHER END IS NOT TO EXCEED 1/4".
3. TRAVERSE PAVEMENT JOINTS SHALL BE CONSTRUCTED AT A 6:1 OR FLATTER SKEW.
4. ALL CONSTRUCTION SHALL CONFORM TO PENNDOT PUBLICATION 408 AND ROADWAY CONSTRUCTION DRAWINGS, CURRENT EDITIONS.




## TRENCH PAVEMENT RESTORATION

NOT TO SCALE




NOTES:
1. PLACE EXPANSION JOINTS (EJ) AT 20'-0" O/C MAX, OR AS SHOWN ON PLAN, FOLLOWING THE GUIDELINES BELOW:
   1.1. REMOVE ALL EXISTING JOINT MATERIALS AND CLEAN/DRY JOINTS PRIOR TO SEALING.
   1.2. FOR JOINTS 1/4" TO 1/2" WIDE, THE WIDTH TO DEPTH RATIO SHALL BE EQUAL.
   1.3. JOINTS 1/2" WIDE OR GREATER SHALL HAVE A SEALANT DEPTH OF 1/2".
2. PROTECT JOINT SEALANT FROM PEDESTRIAN AND VEHICULAR TRAFFIC UNTIL IT COMPLETELY CURES.
3. INSTALL 5" LONG "SPEED LOAD" SLEEVES, BY GREENSTREAK (OR APPROVED EQUAL), AND 10" LONG, 1/2" SMOOTH DOWELS AT 42" O.C., MINIMUM TWO DOWELS PER JOINT.

## CONCRETE EXPANSION JOINT DETAIL

NOT TO SCALE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diastructures.com


| MARK | DATE | DESCRIPTION |
|---|---|---|
| | 01-22-2024 | 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

## DETAILS

DRAWN BY: MRS

CHECKED BY: MRS

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DRAWING NO.

**C501**


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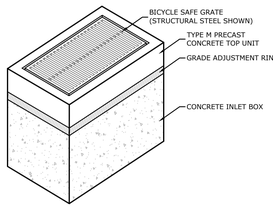
SHEET PLOTS PLOT DATE: 9/5/2023 | 10:14 PM © Weber Murphy Fox | PSU-Stadium Seating and Restroom Bldg | Central_studio@wmf-inc.com.rvt

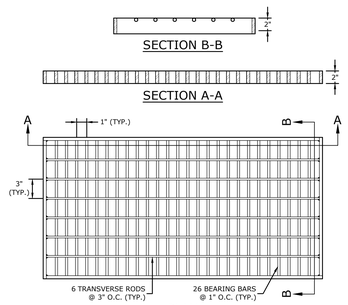



NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PENN DOT PUBLICATION 408, SECTION 605 AND STANDARDS FOR ROADWAY CONSTRUCTION, RC-46M. CONTRACTOR SHALL VERIFY INLET BOX SIZING BASED ON PIPE SIZES AND ALIGNMENT PRIOR TO ORDERING PRECAST STRUCTURES. STRUCTURE SHALL BE CERTIFIED FOR H20 LOADING.
2. ALL DRAINAGE STRUCTURES SHALL HAVE POURED-IN-PLACE CONCRETE CHANNEL BOTTOMS.
3. USE PRECAST CONCRETE OR STEEL GRADE ADJUSTMENT RINGS WHEN REQUIRED.
4. ALL INLETS IN PARKED AREAS SHALL HAVE HEAVY-DUTY BICYCLE SAFE GRATING.
5. ALL INLETS IN PEDESTRIAN/PLAYGROUND AREAS SHALL HAVE ADA COMPLIANT GRATING.
6. ALL INLETS SHALL BE SUMPED BELOW GRADE (2 INCHES) TO AID IN THE RUNOFF FLOW TO THE INLETS.
7. ALL FRAMES, CONCRETE TOP UNITS, AND GRADE ADJUSTMENTS RINGS SHALL BE SET IN A BED OF FULL MORTAR IN ACCORDANCE WITH PENNDOT PUBLICATION 408.
8. ALL INLETS DEEPER THAN FIVE FEET SHALL BE PROVIDED WITH MANHOLE-TYPE STEPS FOR ACCESS.

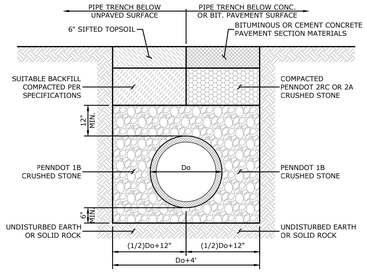
## TYPE 'M' INLET

NOT TO SCALE



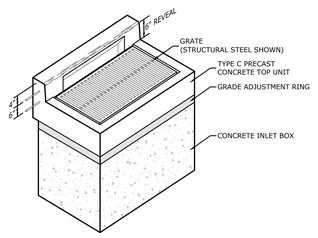

## STRUCTURAL STEEL BICYCLE SAFE GRATE

NOT TO SCALE




## STORM PIPE TRENCH SECTION

NOT TO SCALE

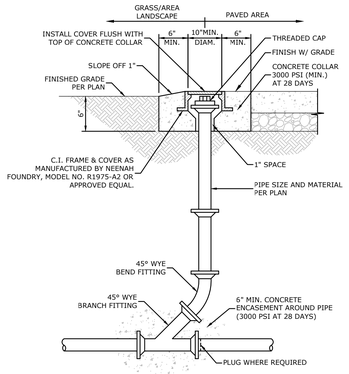



NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PENN DOT PUBLICATION 408, SECTION 605 AND STANDARDS FOR ROADWAY CONSTRUCTION, RC-45M. CONTRACTOR SHALL VERIFY INLET BOX SIZING BASED ON PIPE SIZES AND ALIGNMENT PRIOR TO ORDERING PRECAST STRUCTURES. STRUCTURE SHALL BE CERTIFIED FOR H20 LOADING.
2. ALL DRAINAGE STRUCTURES SHALL HAVE POURED-IN-PLACE CONCRETE CHANNEL BOTTOMS.
3. USE PRECAST CONCRETE OR STEEL GRADE ADJUSTMENT RINGS WHEN REQUIRED.
4. ALL INLETS SHALL HAVE BICYCLE SAFE GRATES.
5. ALL INLETS SHALL BE SUMPED BELOW GRADE (2 INCHES) TO AID IN THE RUNOFF FLOW TO THE INLETS.
6. ALL FRAMES, CONCRETE TOP UNITS, AND GRADE ADJUSTMENTS RINGS SHALL BE SET IN A BED OF FULL MORTAR IN ACCORDANCE WITH PENNDOT PUBLICATION 408.
7. ALL INLETS OVER FOUR FEET IN DEPTH, AS DETERMINED FROM FINISHED GRADE TO THE BOTTOM OF THE INLET, SHALL BE PROVIDED WITH STEPS FOR ACCESSIBILITY

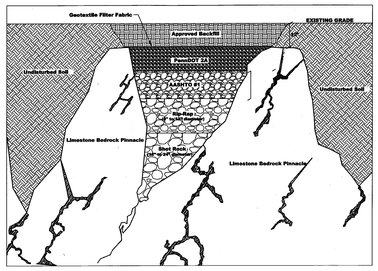
## TYPE 'C' INLET

NOT TO SCALE




## STORM SEWER CLEANOUT

NOT TO SCALE




NOTES:

1. THE REPAIRS OUTLINED BELOW ARE GENERAL GUIDELINES AND EACH SINKHOLE OCCURRENCE SHOULD BE THOROUGHLY REVIEWED BY THE GEOTECHNICAL ENGINEER OF RECORD FOR AN APPROPRIATE REMEDIATION PLAN:

   STRUCTURAL AREAS (AREAS WITHIN THE BUILDING FOOTPRINT OR BENEATH PAVEMENT)
   - ANY AND ALL LOOSE AND/OR SATURATED SOILS WITHIN THE SINKHOLE SHOULD BE EXCAVATED AND CONTINUE UNTIL STABLE SOILS, A "THROAT" IS IDENTIFIED, OR UNTIL THE EXTENT OF THE EXCAVATION EQUIPMENT IS REACHED.
   - UPON REMOVAL OF THE UNSTABLE SOILS, THE EXCAVATION SHOULD BE BACKFILLED USING HIGH MOBILITY, LOW STRENGTH FLOWABLE FILL (500 PSI) TO FINAL SUBGRADE ELEVATION.

   NON-STRUCTURAL AREAS (NON-BUILDING/LANDSCAPED AREAS)
   - ANY AND ALL LOOSE AND/OR SATURATED SOILS SHOULD BE EXCAVATED FROM THE SINKHOLE. EXCAVATION SHOULD CONTINUE UNTIL STABLE SOILS, A "THROAT" IS IDENTIFIED, OR UNTIL THE EXTENT OF THE EXCAVATION EQUIPMENT IS REACHED.
   - THE EXCAVATION SHOULD BE BACKFILLED WITH AGGREGATE OF DECREASING SIZE AS DEPICTED ON THE *INVERTED FILTER DETAIL*

## SINKHOLE REPAIR DETAIL

NOT TO SCALE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| MARK | DATE | DESCRIPTION |
|---|---|---|
| | 09-06-2023 | CD SUBMISSION |
| | 09-27-2023 | PERMIT SET |
| | 10-04-2023 | BID SET |
| | 12-06-2023 | REVISED DRAWINGS |
| | 01-22-2024 | BID SET |

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PENNSTATE Harrisburg

**STADIUM SEATING & RESTROOMS BLDG**

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PSU BUILDING NUMBER: 0985095

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**STORMWATER MANAGEMENT DETAILS**

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DRAWING NO.

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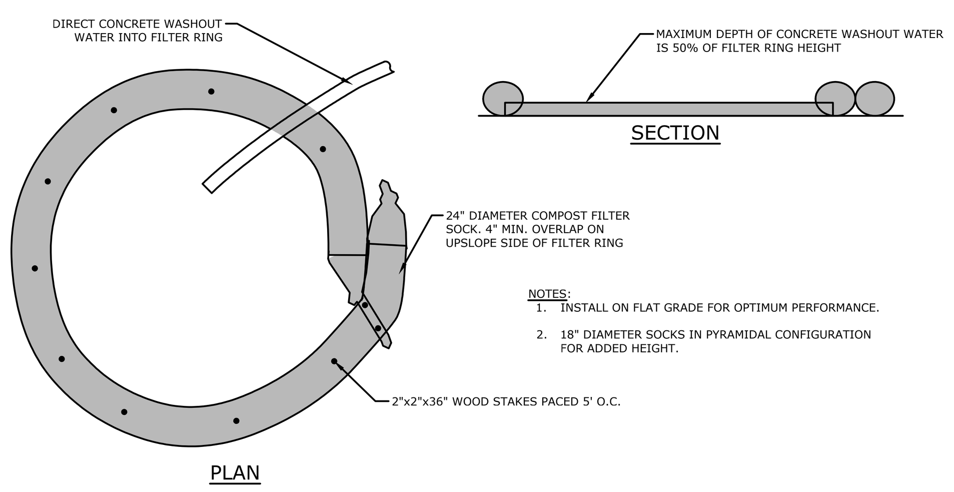
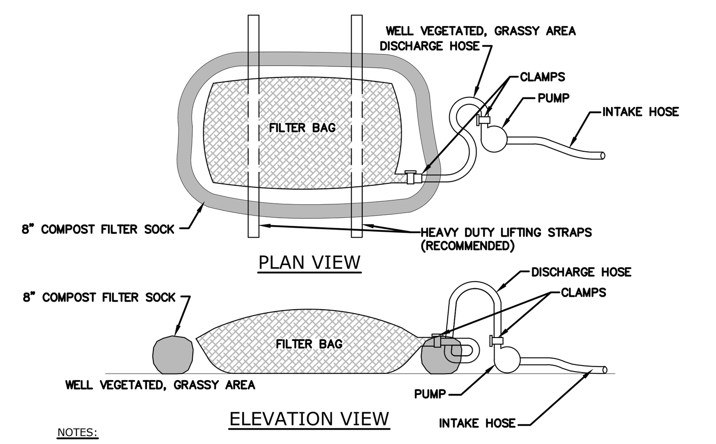



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. 18" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

## FIGURE 3.18
## TYPICAL COMPOST SOCK WASHOUT INSTALLATION

NOT TO SCALE




NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

| PROPERTY | TEST METHOD | MINIMUM STANDARD |
|---|---|---|
| AVG. WIDE WIDTH STRENGTH | ASTM D-4884 | 60 LB/IN |
| GRAB TENSILE | ASTM D-4632 | 205 LB |
| PUNCTURE | ASTM D-4833 | 110 LB |
| MULLEN BURST | ASTM D-3786 | 350 PSI |
| UV RESISTANCE | ASTM D-4355 | 70% |
| AOS % RETAINED | ASTM D-4751 | 80 SIEVE |

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

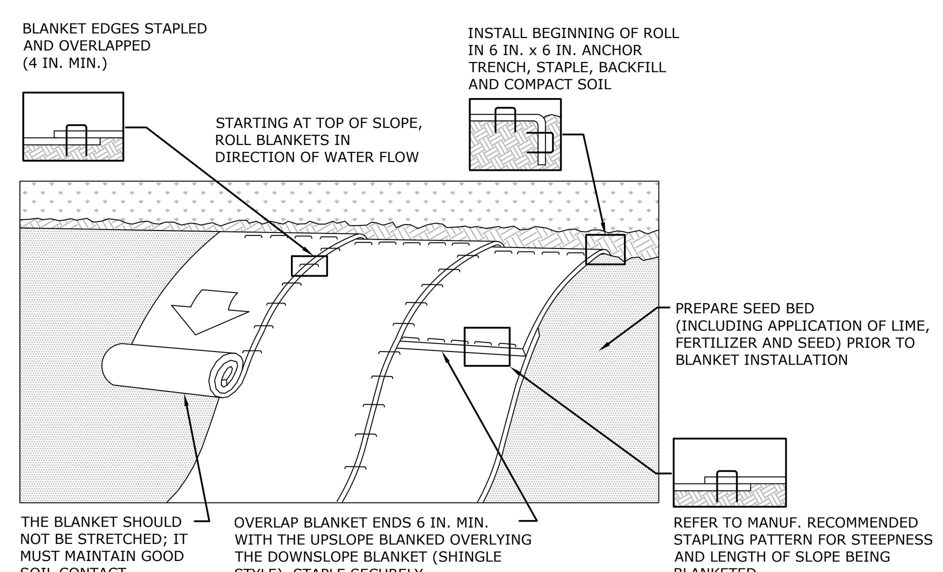
THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

## ALTERNATIVE CONSTRUCTION DETAIL
## PUMPED WATER FILTER BAG

NOT TO SCALE




NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

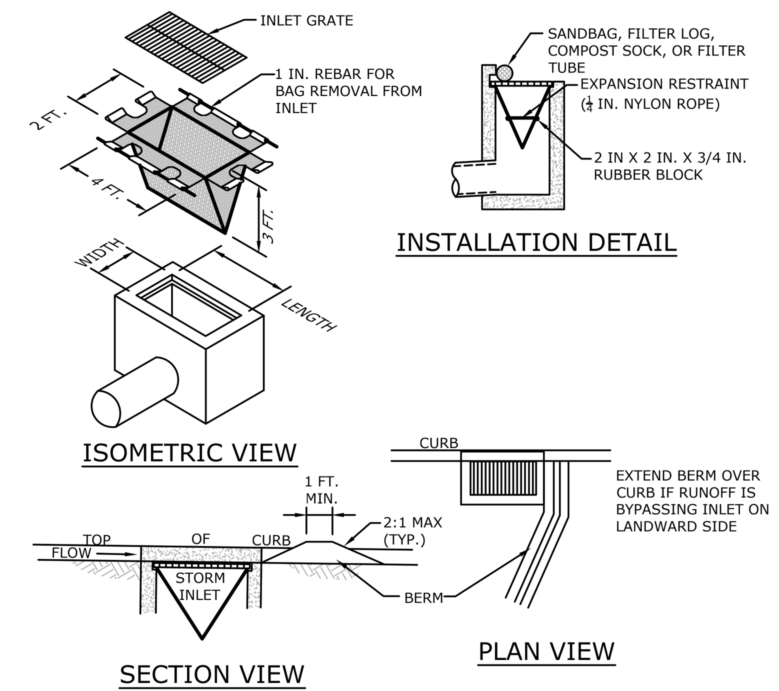
THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

## STANDARD CONSTRUCTION DETAIL #11-1
## EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE




NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

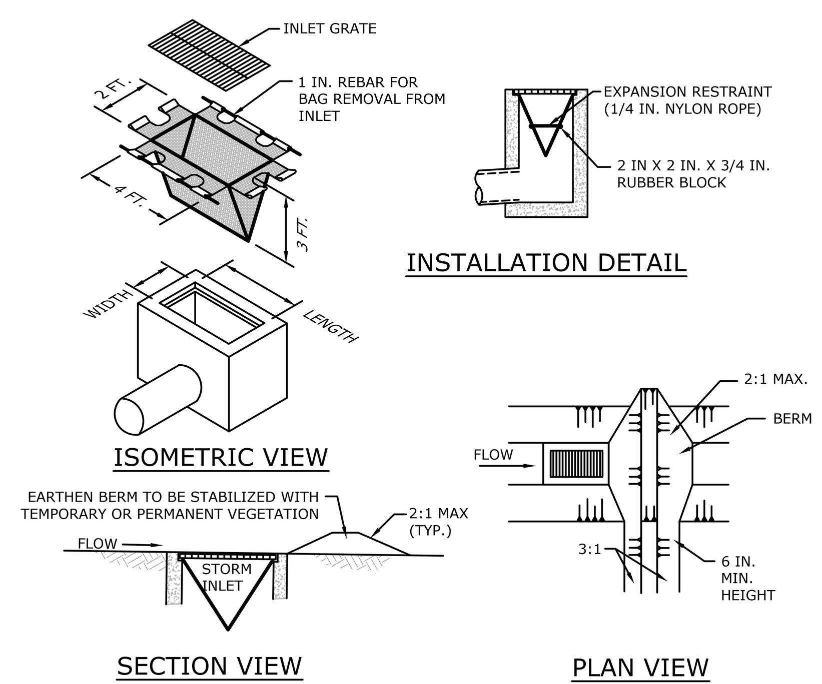
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

## STANDARD CONSTRUCTION DETAIL #4-15
## FILTER BAG INLET PROTECTION - TYPE C INLET

NOT TO SCALE




NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

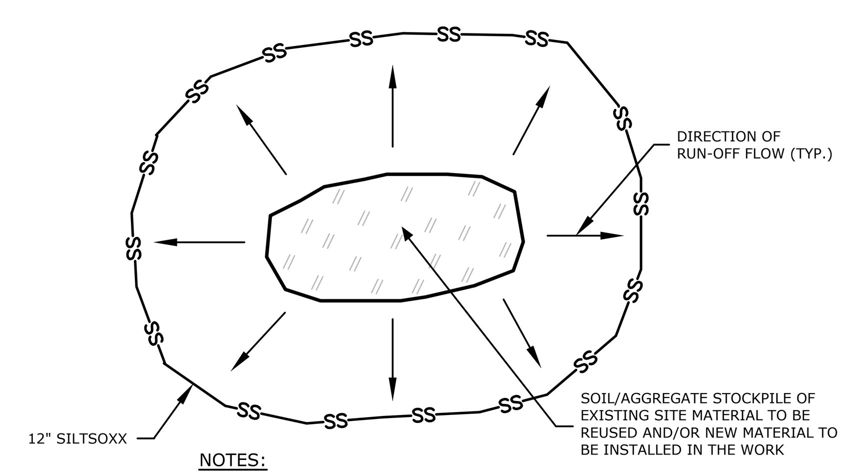
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

## STANDARD CONSTRUCTION DETAIL #4-16
## FILTER BAG INLET PROTECTION - TYPE M INLET

NOT TO SCALE




NOTES:

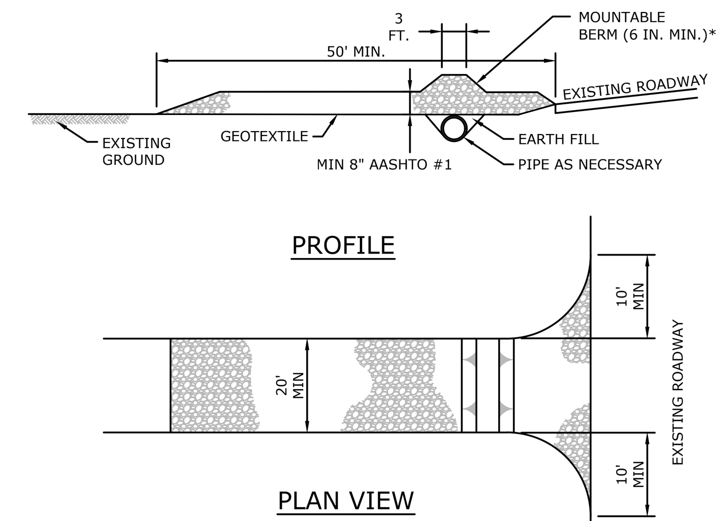
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.

3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

## TEMPORARY TOPSOIL STOCKPILE

NOT TO SCALE




* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

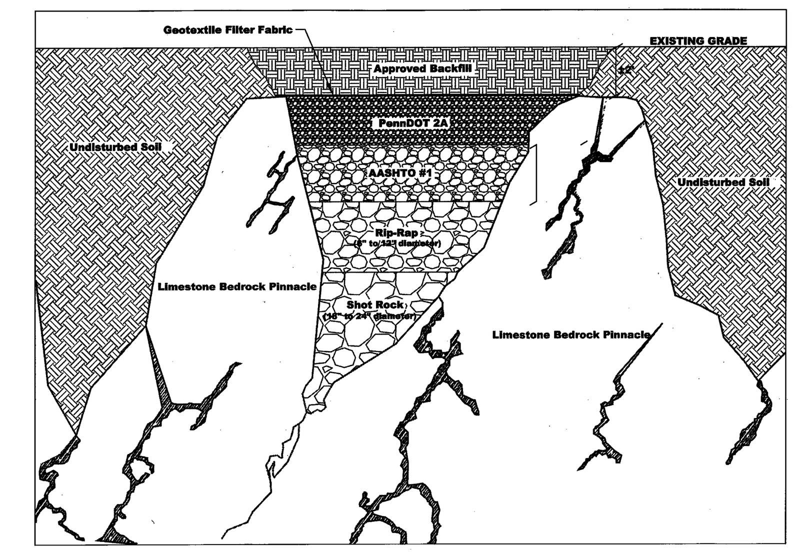
MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED

## STANDARD CONSTRUCTION DETAIL #3-1
## ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE



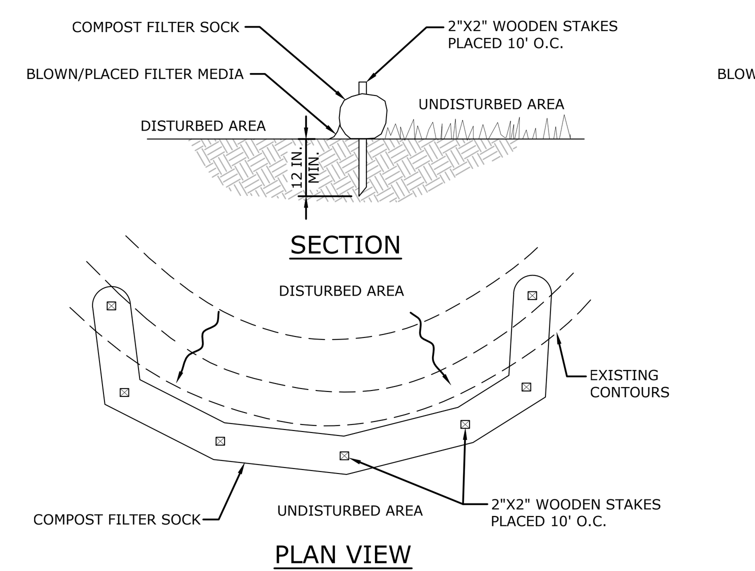

NOTES:
1. THE REPAIRS OUTLINED BELOW ARE GENERAL GUIDELINES AND EACH SINKHOLE OCCURRENCE SHOULD BE THOROUGHLY REVIEWED BY THE GEOTECHNICAL ENGINEER OF RECORD FOR AN APPROPRIATE REMEDIATION PLAN:

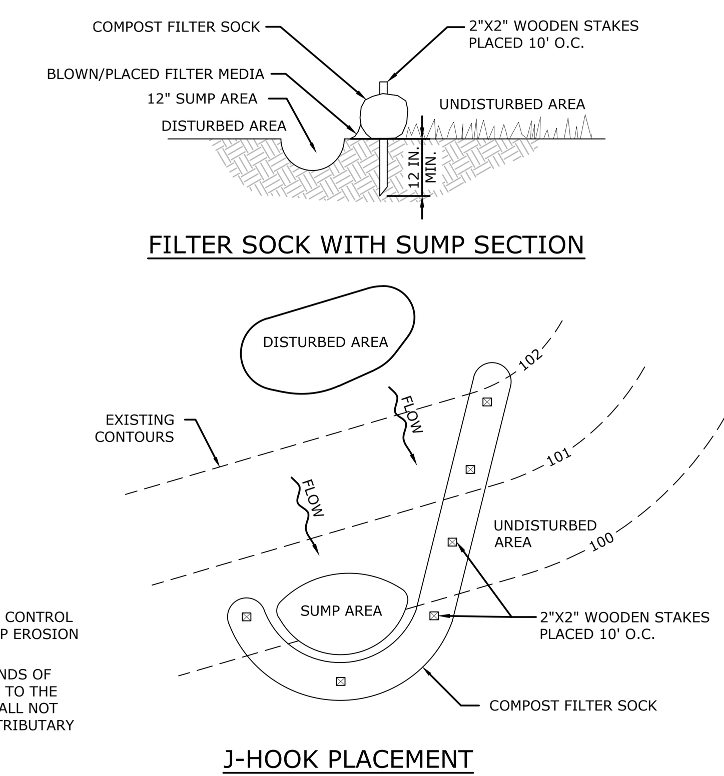
STRUCTURAL AREAS (AREAS WITHIN THE BUILDING FOOTPRINT OR BENEATH PAVEMENT)
- ANY AND ALL LOOSE AND/OR SATURATED SOILS WITHIN THE SINKHOLE SHOULD BE EXCAVATED AND CONTINUE UNTIL STABLE SOILS, A "THROAT" IS IDENTIFIED, OR UNTIL THE EXTENT OF THE EXCAVATION EQUIPMENT IS REACHED.
- UPON REMOVAL OF THE UNSTABLE SOILS, THE EXCAVATION SHOULD BE BACKFILLED USING HIGH MOBILITY, LOW STRENGTH FLOWABLE FILL (500 PSI) TO FINAL SUBGRADE ELEVATION.

NON-STRUCTURAL AREAS (NON-BUILDING/LANDSCAPED AREAS)
- ANY AND ALL LOOSE AND/OR SATURATED SOILS SHOULD BE EXCAVATED FROM THE SINKHOLE. EXCAVATION SHOULD CONTINUE UNTIL STABLE SOILS, A "THROAT" IS IDENTIFIED, OR UNTIL THE EXTENT OF THE EXCAVATION EQUIPMENT IS REACHED.
- THE EXCAVATION SHOULD BE BACKFILLED WITH AGGREGATE OF DECREASING SIZE AS DEPICTED ON THE *INVERTED FILTER DETAIL*

## SINKHOLE REPAIR DETAIL

NOT TO SCALE




| COMPOST FILTER SOCK # | SOCK DIAMETER (IN) |
|---|---|
| 1 | 12 |
| 2 | 8 |
| 3 | 8 |
| 4 | 12 |
| 5 | 12 |
| 6 | 12 |
| 7 | 18 |
| 8 | 12 |
| 9 | 18 |

NOTES:
1. SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.
8. TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED. REFER TO TABLE 4.1 & 4.2 FOR FABRIC SPECIFICATIONS AND COMPOST STANDARDS.
9. A SUMP AREA MAY BE ADDED TO THE STANDARD COMPOST FILTER SOCK PLACEMENT AT THE DISCRETION OF THE CONTRACTOR.
10. A J-HOOK WITH SUMPED AREA MUST BE INSTALLED WHERE SPACE LIMITATIONS PREVENT THE PLACEMENT OF COMPOST FILTER SOCK AT LEVEL GRADE.

**TABLE 4.2**
**COMPOST STANDARDS**

| | |
|---|---|
| ORGANIC MATTER CONTENT | 25% - 100% (DRY WEIGHT BASIS) |
| ORGANIC PORTION | FIBROUS AND ELONGATED |
| pH | 5.5 - 8.5 |
| MOISTURE CONTENT | 30% - 60% |
| PARTICLE SIZE | 30% - 50% PASS THROUGH 3/8" SIEVE |
| SOLUBLE SALT CONCENTRATION | 5.0 DS/M (MMHOS/CM) MAXIMUM |

**TABLE 4.1**
**COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS**

| MATERIAL TYPE | 3 MIL HDPE | 5 MIL HDPE | 5 MIL HDPE | MULTI-FILAMENT POLYPROPYLENE (MFPP) | HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP) |
|---|---|---|---|---|---|
| MATERIAL CHARACTERISTICS | PHOTO-DEGRADABLE | PHOTO-DEGRADABLE | BIO-DEGRADABLE | PHOTO-DEGRADABLE | PHOTO-DEGRADABLE |
| SOCK DIAMETERS | 12" 18" | 12" 18" 24" 32" | 12" 18" 24" 32" | 12" 18" 24" 32" | 12" 18" 24" 32" |
| MESH OPENING | 3/8" | 3/8" | 3/8" | 3/8" | 1/8" |
| TENSILE STRENGTH | | 26 PSI | 26 PSI | 44 PSI | 26 PSI |
| ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155) | 23% AT 1000 HR. | 23% AT 1000 HR. | | 100% AT 1000 HR. | 100% AT 1000 HR. |
| MINIMUM FUNCTIONAL LONGEVITY | 6 MONTHS | 9 MONTHS | 6 MONTHS | 1 YEAR | 2 YEARS |
| TWO-PLY SYSTEMS | | | | | |
| INNER CONTAINMENT NETTING | HDPE BIAXIAL NET; CONTINUOUSLY WOUND; FUSION WELDED JUNCTURES; 3/4" X 3/4" MAX. APERTURE SIZE | | | | |
| OUTER FILTRATION MESH | COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH); 3/16" MAX. APERTURE SIZE | | | | |
| SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MO. OR LESS | | | | | |

## STANDARD CONSTRUCTION DETAIL #4-1
## COMPOST FILTER SOCK

NOT TO SCALE

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CONSTRUCTION MANAGEMENT
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PHONE: 814-317-5037
E-MAIL: rdiviney@DAStructures.com
dastructures.com

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | 01-22-2024 | 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 1855

**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

## E&S DETAILS

K&W DESIGNING ENVIRONMENTS
2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

DRAWN BY: MRS
CHECKED BY: MRS
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DRAWING NO.

**C503**

SHEET FILE/PLOT DATE: 9/5/2023 1:08:44 PM C:\Revit Local Files\A_R21_PSUH Stadium Seating and Restroom Bldg_Central_ckula@wmf-inc.com.rvt

NPDES PERMIT
BOUNDARY = 232.00
ACRES

+/- 311' - 6"

12... ILE GLA

EDUCATIONAL
ACTIVITIES
BUILDING
(EAB) SOUTH

EXISTING FLAG
POLE LOCATION
RELOCATE TO
NEW FLAGPOLE
LOCATION.

3 MAG VIR

1 ACE RUB

1 ACE RUB

EDUCATIONAL ACTIVITIES BUILDING SOUTH

FFE. 366.69

Bike Racks

**TOTAL LOD**
3.13 acres

NEW FLAG
POLE LOCATION

10" C.I. Water Line
(DATE)

COLLEGE AVE.

Walls

NORTH

0 15' 30' 60'

# A1 OVERALL LANDSCAPE LAYOUT AND MATERIAL PLAN

SCALE: 1" = 30'-0"

## GENERAL SHEET NOTES

1. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES AND PROVIDE PROOF OF INSURANCE AND PROVIDE ALL TRAFFIC CONTROL NECESSARY FOR THIS WORK.
2. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE ARCHITECT IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND / OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO CONSTRUCTION. ALL CONFLICTS SHOULD BE CONFIRMED WITH THE ARCHITECT PRIOR TO BIDDING.
3. SHOULD ANY UNCHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ARCHITECT IMMEDIATELY BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA.
4. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER, LOCAL MUNICIPALITY AND / OR UTILITY COMPANY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY OR PERMANENT SERVICE HAS BEEN PROVIDED.
5. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRICAL LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT THE POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS.
6. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT SHOULD ANY DISCREPANCY REGARDING THE PROPOSED WORK OR UNFORESEEN CONDITIONS ARISE PRIOR TO PROCEEDING FURTHER WITH THE AFFECTED WORK.
7. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL RUBBISH, TRASH, DEBRIS AND ORGANIC MATERIALS IN A LAWFUL MANNER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS FOR BUILDING, WALLS, CONCRETE SLABS AND UTILITY SERVICE POINT CONNECTIONS AND NOTIFYING THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO CONSTRUCTION.
10. THE CONTRACTOR SHALL REFERENCE BUILDING CONSTRUCTION PLANS FOR EXACT LOCATIONS OF ALL UTILITY CONNECTIONS TO BUILDINGS AND DOOR STEP LOCATIONS.
11. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS AND MATERIALS TO THE ARCHITECT AS REQUIRED FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
12. THE CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING, DOWNSPOUT LOCATIONS, STAIRS, RAISED CONCRETE SIDEWALKS AND RAMPS.
13. EXISTING CONDITIONS AND TOPOGRAPHICAL SURVEY WAS PROVIDED BY K&W ENGINEERS. WEBER MURPHY FOX TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.
14. ALL MATERIALS, CONSTRUCTION METHODS AND TESTING SHALL CONFORM TO THE CURRENT STANDARDS, SPECIFICATIONS AND GENERAL CONDITIONS OF THE LOCAL OFFICIALS. IN CASE OF DISCREPANCIES BETWEEN THE CONSTRUCTION DRAWINGS AND LOCAL OFFICIAL SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING TO ACCOMPLISH ALL WORK INDICATED ON PLANS TO PERFORM REQUIRED COMPACTION OPERATIONS.
16. ALL DIMENSIONS SHOWN ARE FACE TO FACE UNLESS NOTED OTHERWISE.
17. SPOT ELEVATIONS AND CONTOURS ARE CONTROLS ONLY. ALL GRADING SHALL BE SMOOTH AND CONTINUOUS. NO LOW AREAS OR "BIRD BATHS" WILL BE PERMITTED.
18. REFER TO ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF THE BUILDING.
19. SAWCUT ALL JOINTS WHERE PROPOSED PAVEMENT MEETS EXISTING PAVEMENT TO CREATE A CLEAN JOINT.
20. SEE DIVISION 32 SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION.
21. ASPHALT PAVEMENT AND CONCRETE WALKWAY REQUIREMENTS FROM GEOTECHNICAL REPORT (SEE CIVIL PLANS).
22. DOUBLE SWING GATE WIDTH TO ACCOMMODATE 10' PLOW WIDTH.
23. COORDINATE WITH THE WORK OF THE OTHER TRADES.
24. THE PLANT MATERIAL LIST IS PRESENTED FOR THE CONVENIENCE OF THE LANDSCAPE CONTRACTOR. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND THE PLANT KEY, THE PLAN SHALL PREVAIL.
25. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING FULLY BOTH THE SITE AND BID DOCUMENTS. DISCREPANCIES IN THE DOCUMENTS OR THE ACTUAL SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT (WEBER MURPHY FOX) IN WRITING AT THE TIME OF BIDDING OR DISCOVERY. NO ACCOUNT SHALL BE MADE AFTER CONTRACT COMPLETION FOR FAILURE TO REPORT SUCH CONDITION, OR FOR ERRORS ON THE PART OF THE LANDSCAPE CONTRACTOR AT THE TIME OF BIDDING.
26. ALL QUESTIONS CONCERNING THE LANDSCAPE PLAN SET AND/OR NOTES AND/OR SPECIFICATIONS SHALL BE DIRECTED TO THE ARCHITECT.
27. THERE SHALL BE NO ADDITIONS, DELETIONS OR SUBSTITUTIONS WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.
28. ALL DIMENSIONS TO BE FIELD-CHECKED BY THE LANDSCAPE CONTRACTOR PRIOR TO LANDSCAPE MATERIAL INSTALLATION. DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT.
29. ANY EXISTING SOD AREAS THAT ARE UNNECESSARILY DISTURBED DURING THE LANDSCAPE INSTALLATION SHALL BE RESODDED TO MATCH EXISTING.
30. ANY LANDSCAPE AREAS DISTURBED WITHIN THE OVERALL PROJECT AREA DUE TO NEW CONSTRUCTION AND NOT SHOWN IMPROVED ON THESE DRAWINGS SHALL BE RESODDED AND/OR MULCHED TO MATCH EXISTING.
31. SEE THE EROSION & SEDIMENTATION CONTROL PLAN FOR ADDITIONAL INFORMATION
32. COORDINATE SITE FURNITURE WITH OWNER.

PLANTS

1. SEE **L-501** FOR PLANT LIST.
2. PROPOSED PLANTING DATES OF ALL REQUIRED LANDSCAPING: SEE DIVISION 32 SPECIFICATION PLANTS.

## ALTERNATES

1. FENCES & GATES (SEE CIVIL)
2. PLANTINGS AND ASSOCIATED PLANTING BEDS/ EDGING.

## SHEET KEYNOTES

- A — NEW SEEDED LAWN. SEE DETAIL.
- B — NEW DECORATIVE STONE AND EDGING. SEE DETAIL.
- C — edging — BASE BID - LAWN. ADD ALT #2. NEW PLANTING BED. SEE DETAIL. — edging
- ADD ALT #2 - NEW ORNAMENTAL TREE. SEE DETAIL.
- ADD ALT #2 - NEW SHRUB . SEE DETAIL.
- ADD ALT #2 - NEW GROUND COVER. SEE DETAIL.

## SHEET KEYNOTES

| Key Value | Keynote Text |
|---|---|
| 1 | PROTECT EXISTING TO REMAIN |
| 2 | RESURFACE TO MATCH EXISTING. SEE CIVIL. |
| 3 | PROTECT EXISTING TREE TO REMAIN. SEE DETAIL. |
| 14 | NEW CONCRETE PAVING. SEE CIVIL. |
| 15 | NEW FROST SLAB. SEE ARCH & STRUCTURAL. |
| 21 | NEW FENCE. SEE CIVIL. |
| 22 | NEW GATE. SEE CIVIL. |
| 23 | NEW AREA POLE LIGHT BASE. SEE ELECTRIC. |
| 24 | NEW WALKWAY FIXTURE BASE.SEE ELECTRIC. |
| 26 | NEW ADA PARKING STRIPING. SEE CIVIL. |
| 27 | NEW ADA SIGN. SEE CIVIL. |
| 28 | NEW BOLLARD. COLOR BLACK. SEE CIVIL. |
| 29 | RELOCATED FLAG POLE. NEW FOOTER AND CONDUIT FOR LIGHTING. SEE CIVIL. |
| 33 | NEW DECORATIVE STONE AT BASE OF FENCE WITH METAL EDGING. SEE DETAIL. |
| 34 | NEW FLEXIBLE METAL EDGING AT CURVED PLANTING BED. |
| 35 | NEW RIGID METAL EDGING AT STRAIGHT BEDS. SEE DETAIL. |
| 41 | NEW WATER FOUNTAIN. COLOR: BLACK. CAMPUS STANDARD. SEE MEP DRAWINGS. |
| 51 | NEW BUILDING. SEE ARCH. |


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ARCHITECTURE
INTERIORS
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diastructures.com


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

KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg

**PSU H STADIUM SEATING & RESTROOMS BLDG**
**PENN STATE UNIVERSITY**
College Ave, Penn State Harrisburg Campus

PSU BUILDING NUMBER: 0985095
PSU PROJECT NUMBER: 00-08713.00
PROJECT NUMBER: 2022.138.00
PROJECT PHASE: CD

**OVERALL LANDSCAPE LAYOUT, MATERIAL, AND PLANTING PLAN**

DRAWN BY: TKT
CHECKED BY: LA


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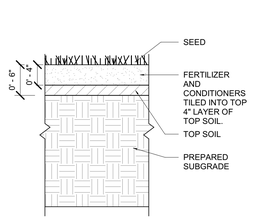
DRAWING NO.

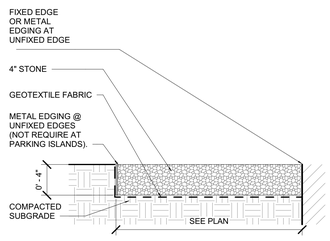
**L-101**


SHEET PLOT DATE: 2/7/2024 3:54:4 PM © Weber Murphy Fox | P:\2021\Barbacco Seating and Restroom Bldg\REBID_Central_Drawings\Barbacco_Landscape.rvt




D1 TYP. LAWN

SCALE: NOT TO SCALE




D2 DECORATIVE STONE BED

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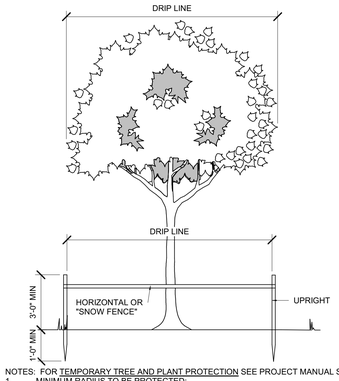
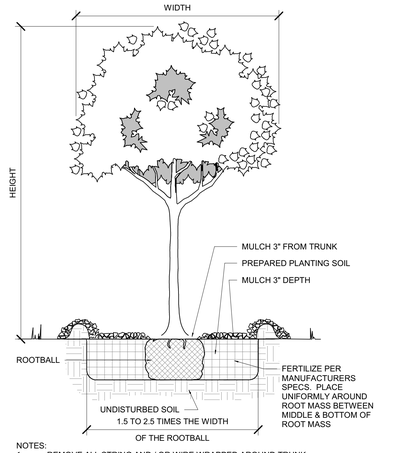



NOTES: FOR TEMPORARY TREE AND PLANT PROTECTION SEE PROJECT MANUAL SPECIFICATIONS

1. MINIMUM RADIUS TO BE PROTECTED:
   A. HARDWOODS - ENTIRE DRIPLINE; B. CONIFERS - ENTIRE DRIPLINE
2. UPRIGHTS - NO LESS THAN 2"x2" LUMBER
3. HORIZONTALS - NO LESS THAN 1"x4" LUMBER OR "SNOW FENCE"
4. BARRIERS SHALL BE ERECTED AROUND ALL PROTECTED TREES AND PLANTS AND INSPECTED BY GENERAL CONTRACTOR BEFORE CONSTRUCTION BEGINS
5. UPRIGHT POSTS ARE TO BE AT LEAST 4'-0" IN LENGTH w/ A MINIMUM OF 1'-0" ANCHORED IN GROUND AND 3'-0" ABOVE GROUND
6. BARRIERS TO REMAIN IN PLACE UNTIL ALL PAVING, CONSTRUCTION AND HEAVY EQUIPMENT IS OUT OF THE AREA

A1 TREE BARRICADE DETAIL

SCALE: NTS

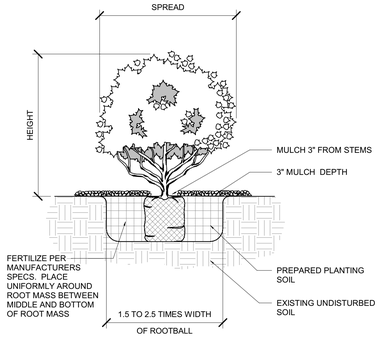



NOTES:

1. REMOVE ALL STRING AND / OR WIRE WRAPPED AROUND TRUNK
2. REMOVE ALL STRAPS, ROPES, WIRE AND / OR STRINGS USED TO LIFT THE ROOTBALL
3. REMOVE ALL BURLAP AND / OR WIRE FROM THE TOP OF ROOTBALL
4. TOP OF ROOTBALL TO BE SET AS SPECIFIED

A3 ADD ALT #2 - TREE PLANTING DETAIL

SCALE: NTS

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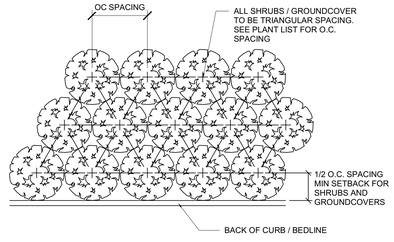
A6 ADD ALT #2 - SHRUB & GROUNDCOVER PLANTING

SCALE: NTS

ADD ALT NO. #2 - PLANT LIST

| QTY | SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE | REMARKS |
|---|---|---|---|---|---|
| ORNAMENTAL TREE | | | | | |
| 3 | MAG VIR | MAGNOLIA virginiana 'Jim Wilson' | Moonglow Sweet Bay Magnolia | 7-8' | B&B, Tree Form |
| SHRUB | | | | | |
| 12 | ILE GLA | ILEX glabra 'Shamrock' | Shamrock Inkberry | 24" | Container |
| TREE - SHADE | | | | | |
| 2 | ACE RUB | ACER rubrum "Franksred' | Red Sunset Maple | 1.5" CAL. | B & B |




A8 ADD ALT #2 - SHRUB & GROUNDCOVER SPACING

SCALE: NTS

WMF
WEBER MURPHY FOX

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| 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:

NORTH

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## LANDSCAPE DETAILS

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DRAWING NO.

**L-501**

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DESIGN CRITERIA

D-1. DESIGN CODES
1. BUILDING CODE ........................ IBC 2018
2. STEEL CODE ........................ AISC 14th Edition
3. CONCRETE CODE ........................ ACI 318-05
4. MASONRY CODE ........................ ACI 530-05
5. WOOD CODE ........................ NDS 2005

D-2. DESIGN STRESSES
1. STEEL STRESSES
a. WIDE-FLANGE SHAPES........................ ASTM A992
b. HSS SHAPES........................ ASTM A500, GRADE B
c. STEEL PIPE........................ ASTM A53, GRADE B
d. OTHER STEEL SHAPES........................ ASTM A36
e. DEFORMED BARS........................ ASTM A615, 60,000 PSI
f. WELDED WIRE FABRIC........................ ASTM 185
g. SHEAR STUDS........................ ASTM A108
h. ANCHOR RODS........................ ASTM F1554, GRADE 36
i. BOLTS........................ ASTM A325
j. WASHERS........................ ASTM F436
2. CONCRETE STRESSES
a. FOOTINGS ........................ 3,000 PSI
b. SLABS AND WALLS ........................ 4,000 PSI
3. WOOD
a. S4S SPF #2 OR BETTER
b. LVL VERSA-LAM 2.1E-3100FB

D-3. DESIGN LOADS
1. FLOOR LIVE LOADS
a. PUBLIC ROOMS........................ 100 PSF
2. ROOF SNOW LOADS
a. GROUND SNOW LOAD (Pg)........................ 40 PSF
b. ROOF LIVE LOAD ........................ 20 PSF
c. FLAT ROOF SNOW LOAD (Pf)........................ 40 PSF
d. SNOW LOAD IMPORTANCE FACTOR (IS) ........................ 1.0
e. SNOW EXPOSURE FACTOR (Ce) ........................ 0.9
f. THERMAL FACTOR (Ct) ........................ 1.0
3. SOILS
a. BEARING PRESSURE ........................ 2,000 PSF

01.00 GENERAL NOTES

1. MEANS, METHODS, PROCEDURES, AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR.

2. CONSTRUCTION LOADS SHALL NOT OVERLOAD STRUCTURE NOR SHALL THEY BE IN EXCESS OF DESIGN LOADS INDICATED ON DRAWINGS.

3. JOB SITE SAFETY INCLUDING ALL OSHA REGULATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR.

4. TEMPORARY BRACING, SHEETING, SHORING, AND ANY OTHER ITEMS REQUIRED TO ENSURE THE STRUCTURAL INTEGRITY OF THE NEW AND ANY EXISTING STRUCTURES, SIDEWALKS, UTILITIES, ANY OTHER ITEMS DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR.

5. CONTRACTOR WILL FURNISH SUB-CONTRACTORS WITH ANY ADDITIONAL DRAWINGS NEEDED TO COMPLETE STRUCTURAL WORK.

6. SEE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS FOR DIMENSIONS AND DETAILS REQUIRED FOR RELATED WORK, NOT SHOWN ON THE STRUCTURAL DRAWINGS.

7. STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS. CONTRACTORS SHALL COORDINATE STRUCTURAL, ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS AND OTHER DISCIPLINES AND INCORPORATE ALL REQUIREMENTS INTO SHOP DRAWINGS AND FIELD WORK.

8. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES FOUND BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS AND IS RESPONSIBLE TO COORDINATE ALL EXISTING CONDITIONS WITH NEW WORK.

9. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES FOUND BETWEEN STRUCTURAL DRAWINGS AND THE DRAWINGS OR REQUIREMENTS OF ANY OTHER DISCIPLINE , THE GENERAL STRUCTURAL NOTES, SPECIFICATIONS, AND OTHER DRAWINGS. THE ARCHITECT/ENGINEER WILL DETERMINE WHICH REQUIREMENT WILL GOVERN.

10. CONTRACTOR IS RESPONSIBLE FOR COORDINATING DIMENSIONS AND INSTALLATION DETAILS OF PURCHASED EQUIPMENT WITH THE SUPPORTING STRUCTURE. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THESE ITEMS AND THE STRUCTURE.

11. DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE SHOWN IN THE DETAILS. CONTACT ENGINEER FOR INTERPRETATION OF THE APPLICABILITY OF TYPICAL DETAILS.

12. CRITERIA OUTLINED IN THE GEOTECHNICAL REPORT SUPERCEDES CRITERIA OUTLINED IN THE CONTRACT DOCUMENTS.

13. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW ALL EXISTING JOB CONDITIONS. ANY ADVERSE EXISTING CONDITIONS AFFECTING WORK SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR POSSIBLE CLARIFICATION OF RECONCILIATION.

03.21 CONCRETE REINFORCEMENT

1. TERMINATE ALL BARS IN ACCORDANCE WITH ACI 318 CODE LATEST ISSUE, WITH A HOOK IF THE REQUIRED EMBEDMENT LENGTH CANNOT BE OBTAINED.

2. REINFORCING SHOWN IN SECTIONS OF STRUCTURAL DRAWINGS OF BEAMS, SLABS, WALLS, ETC. IS TO BE CONTINUOUS AND TYPICAL, UNLESS OTHERWISE NOTED.

3. CONCRETE PROTECTION FOR REINFORCING STEEL:
A. FOOTINGS: COVERAGE OF 3" FOR BOTTOM AND SIDES
B. PIERS: COVERAGE OF 1-1/2" FOR TIES
C. WALLS: COVERAGE OF 3/4" ON INSIDE FACE COVERAGE OF 2" ON OUTSIDE FACE FOR #6 BARS AND LARGER COVERAGE OF 1-1/2" ON OUTSIDE FACE FOR #5 BARS AND SMALLER

03.31 CAST-IN-PLACE STRUCTURAL CONCRETE

1. PIPES OR CONDUITS PLACED IN SLABS SHALL NOT HAVE AN OUTSIDE DIAMETER LARGER THAN 1/3 THE SLAB THICKNESS AND SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTER. ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE.

2. ALL SLABS ON GRADE ARE TO BE 4" THICK WITH 4" COMPACTED #57 STONE BASE AND BE REINFORCED WITH 6 X6-W2.1 XW2.1 (6X6-8/8) WELDED MESH, UNLESS NOTED OTHERWISE. SPLICES PER CRSI, LATEST EDITION.

3. SEE THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION AND EXTENT OF SLABS

4. PROVIDE ALL OPENINGS IN FLOOR FOR OTHER TRADES. OPENINGS 1'-0" IN THE LONGEST DIMENSION ARE TO HAVE (1) #4 BAR X 2'-0" DIAGONALLY AT THE CORNERS.

5. WHERE BEAMS ARE SHOWN WITHOUT BEARING PLATES, SET BEAMS ON GROUT TO THE PROPER ELEVATION.

6. FILL ALL COLUMN AND BEAM POCKETS WITH CONCRETE OR MASONRY AFTER ALL COLUMNS AND BEAMS ARE IN PLACE.

7. CONSTRUCTION JOINTS IN BEAMS, SLABS, AND WALLS USED AS BEAMS, ARE TO BE NEAR THE CENTER OF SPAN.

8. REINFORCED CONCRETE BEAMS ARE TO HAVE 8" MINIMUM BEARING

9. CONCRETE WALL CONSTRUCTION JOINTS ARE TO BE 60'-0" OC MAXIMUM, UNO.

10. ALL WALLS THAT SUPPORT STRUCTURAL SLABS ARE TO HAVE #4 DOWELS 5'-0" LONG AT 12" OC THAT EXTEND 2'-6" INTO TOP OF WALL, UNO.

11. CONCRETE WALLS ARE TO HAVE CORNER BARS THE SAME AS HORIZONTAL WALL REINFORCING, INCLUDING TOP AND BOTTOM BARS, TYPICAL AT ALL CORNERS AND INTERSECTIONS, MINIMUM #4 @ 12" OC, 6'-0" LONG.

12. PROVIDE (1) #5 BAR AROUND ALL OPENINGS IN CONCRETE WALLS, BOTH FACES, DIAGONALLY AT EACH CORNER (TOTAL OF 8).

13. CONCRETE SLAB ON GRADE JOINTS
1. CONTRACTION JOINTS
a. ARE TO BE 1/4 THICKNESS OF THE SLAB WITH A MINIMUM OF 1" DEEP.
b. PREFORMED PLASTIC OR HARDBOARD STRIPS ARE ACCEPTABLE.
c. EARLY ENTRY DRY-CUT JOINTS MUST BE COMPLETED 1 TO 4 HOURS AFTER FINISHING.
d. CONVENTIONAL SAW CUTS ARE TO BE COMPLETED 4 TO 12 HOURS AFTER FINISHING.
e. REINFORCING TO CONTINUE THROUGH JOINT.
2. JOINT SPACING
a. MAXIMUM JOINT SPACING TO BE 24 TO 30 TIMES THE SLAB THICKNESS WITH A MAXIMUM SPACING OF 15'.
b. ALL PANELS SHOULD BE NEAR SQUARE. LENGTH TO WIDTH RATIO NOT TO EXCEED 1.5.
3. CONSTRUCTION JOINTS
a. KEY THE TWO SIDES OF THE JOINT TOGETHER.
b. USE PREFORMED BITUMINOUS OR METAL STRIPS.
4. GENERAL
a. GC TO PROVIDE PLAN OF JOINT LOCATIONS.
b. COORDINATE JOINT LOCATIONS WITH FLOOR FINISHES.
c. PROVIDE AND INSTALL JOINT FILLER OR PATCH AS REQUIRED.
d. SEE ARCHITECTURAL DRAWINGS FOR OTHER JOINT REQUIREMENTS.
e. SPECIFICATIONS MAY CONTAIN FURTHER INFORMATION AND OVERRULE THESE NOTES.

03.60 GROUTING

1. PROVIDE NON-SHRINK, NON-METALLIC PRE-MIXED GROUT UNDER ALL COLUMN BASE PLATES AND BEAM BEARING PLATES. GROUT SHALL HAVE A 7 DAY COMPRESSIVE STRENGTH OF 6,000 PSI.

04.20 UNIT MASONRY

1. CONCRETE BLOCK WALLS SUBJECT TO EARTH PRESSURE SHALL BE DOWELED TO FOOTINGS WITH #3 BARS @ 16" OC, EMBEDDED 6" MINIMUM IN FOOTING AND PROJECTING 2 COURSES INTO THE BLOCK. THE BLOCK CELLS ARE TO BE GROUTED WHERE THE DOWELS OCCUR.

2. PROVIDE ALL REINFORCED BLOCK WALLS WITH VERTICAL REINFORCING AS NOTED AND CONTINUOUS BOND BEAMS AT BEARING ELEVATIONS. REINFORCE BOND BEAMS WITH 1 #5 BAR, CONTINUOUS, UNO.
A. VERTICAL REINFORCING:
a. INTERIOR WALLS: 1 #5 @ 48" OC
b. EXTERIOR WALLS: 1 #5 @ 24" OC

3. GROUT CELLS FULL WHERE REINFORCING OCCURS. REINFORCING TO EXTEND FROM FOUNDATION TO TOP OF WALL.

4. SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, F'M, SHALL BE MINIMUM 1,500 PSI. HOLLOW AND SOLID CONCRETE BLOCK USED IN WALLS SHALL CONFORM TO ASTM C-90.

5. MORTAR FOR MASONRY SHALL CONFORM TO ASTM C270, TYPE M OR S. MINIMUM COMPRESSIVE STRENGTH OF MORTAR SHALL BE 2,500 PSI FOR TYPE M MORTAR AND 1,800 PSI FOR TYPE S MORTAR.

6. PROVIDE TYPE S MORTAR FOR ALL MASONRY WORK EXCEPT PROVIDE TYPE M MORTAR FOR MASONRY IN CONTACT WITH EARTH.

7. GROUT FOR MASONRY SHALL CONFORM TO ASTM C476. MINIMUM COMPRESSIVE STRENGTH OF GROUT SHALL BE 2,500 PSI.

8. ALL VERTICAL REINFORCING IN MASONRY WALLS SHALL BE GROUTED SOLID FULL HEIGHT INTO CENTERS OF CELLS OF UNITS WITH CEMENT GROUT.

9. PROVIDE CONTINUOUS HORIZONTAL JOINT REINFORCING "DUR-O-WALL" OR EQUIVALENT SPACED AT 16" O.C. MAXIMUM VERTICALLY IN ALL MASONRY WALLS.

10. MASONRY JOINT REINFORCEMENT:
A. INTERIOR WALLS: MILL- GALVANIZED, CARBON STEEL.
B. EXTERIOR WALLS: HOT-DIP GALVANIZED, CARBON STEEL.
C. WIRE SIZE FOR SIDE RODS: 0.148-INCH DIAMETER.
D. WIRE SIZE FOR CROSS RODS: 0.148-INCH DIAMETER.
E. WIRE SIZE FOR VENEER TIES: 0.148-INCH DIAMETER.
F. SPACING OF CROSS RODS, TABS, AND CROSS TIES: NOT MORE THAN 16 INCHES O.C.
G. PROVIDE IN LENGTHS OF NOT LESS THAN 10 FEET, WITH PREFABRICATED CORNER AND TEE UNITS.

11. VERTICAL SPACING TO BE 16" O.C.

12. WHERE WALLS ABUT EACH OTHER AND AT OUTSIDE CORNERS, PROVIDE PREFABRICATED TEE-TYPE AND CORNER TRUSS TIES. DISCONTINUE JOINT REINFORCING AT CONTROL JOINTS.

13. PROVIDE VERTICAL CONTROL JOINTS IN MASONRY WALLS AS PER ARCHITECTURAL DRAWINGS.

14. ALL MASONRY ANCHORS, HEADED STUDS, EPOXY/ADHESIVE ANCHORS, EXPANSION ANCHORS, AND OTHER ITEMS CONNECTED TO OR EMBEDDED IN MASONRY AS SPECIFIED ON THE DRAWINGS SHALL BE CONNECTED TO OR EMBEDDED IN GROUTED SOLID MASONRY CELLS.

05.12 STRUCTURAL STEEL FRAMING

1. FOR ALL DESIGN AND FABRICATION, THE STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," AISC 360-05.

2. BEAMS AND GIRDERS SHALL HAVE BEAM WEB HOLES AS INDICATED ON THE STRUCTURAL DRAWINGS. ALL HOLES SHALL BE CENTERED AT MID-DEPTH OF THE BEAM, U.N.O. ALL RECTANGULAR WEB HOLES SHALL HAVE A MINIMUM CORNER RADIUS 0F 5/8 INCH OR TWICE THE THICKNESS OF THE BEAM WEB, WHICHEVER IS GREATER. ALL WEB OPENINGS SHALL BE MACHINE OXYGEN CUT; MANUAL CUTTING OR BURNING IS NOT PERMITTED. COORDINATE LOCATION AND SIZE OF WEB HOLE WITH MECHANICAL CONTRACTOR, SUBJECT TO REVIEW BY THE STRUCTURAL EOR.

3. ASD HAS BEEN USED FOR THE THE DESIGN OF THE STRUCTURE. THE NUMBER SHOWN AT THE END OF THE BEAM IS THE REACTION IN KIPS. IF NO NUMBER IS SHOWN, THEN THE REACTION IS TO BE 15 KIPS.

4. THE NUMBERS SHOWN THUS [ # ] ADJACENT TO THE BEAM REACTION ON THE PLANS INDICATE THE MAGNITUDE OF MOMENT DUE TO LATERAL FORCES. THIS VALUE IS TO BE USED TO DESIGN THE FLEXIBLE MOMENT CONNECTION.

5. THE NUMBERS SHOWN THUS < > ADJACENT TO THE BEAM DESIGNATION ON THE PLANS INDICATE THE NUMBER OF 3/4" DIAMETER HEADED SHEAR CONNECTORS, EQUALLY SPACED ALONG THE TOP FLANGE OF THE BEAM. STUDS ARE TO BE 1" BELOW TOP OF SLAB.

6. THE TOP OF STEEL ELEVATION IS MEASURED (+ OR -) FROM THE REFERENCE ELEVATION.

7. PROVIDE 3/16" THICK CLOSURE PLATES ON ALL TUBE AND PIPE COLUMNS, UNLESS OTHERWISE NOTED.

8. PROVIDE SLOTS OR SHIMS FOR VERTICAL AND HORIZONTAL ADJUSTMENTS ON ALL CORNICE ANGLES, RELIEF ANGLES, HUNG LINTELS AND DIAGONAL BRACES, WELD IN FINAL POSITION.

9. ALL TUBE BEAMS ARE TO HAVE TOP AND BOTTOM CLIPS TO PREVENT ROTATION IN ADDITION TO SHEAR CONNECTION, MINIMUM 3 X 3 X 5/16" TOP AND BOTTOM CLIPS MAY BE DESIGNED FOR ROTATION AND SHEAR. HOLD ENDS OF ANGLES BACK 1" FROM FINISHED SURFACES.

10. THE GENERAL CONTRACTOR IS TO PROVIDE ADDITIONAL STEEL AS REQUIRED FOR BASKETBALL BACKSTOP INSTALLATION; SIZES TO BE DETERMINED BY BACKSTOP SUPPLIER.

11. THE GENERAL CONTRACTOR IS TO PROVIDE AND COORDINATE DRILLING PATTERN FOR FOLDING PARTITION HANGERS TO STEEL FABRICATOR.

06.11 ROUGH CARPENTRY

1. ALL STUD WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL HAVE 2x4 STUDS PLACED AT 16" OC, EXCEPT WHERE SHOWN OTHERWISE.

2. TOP PLATES SHALL BE DOUBLED ON ALL STUD WALLS.

3. CRIPPLES UNDER HEADERS SHALL BE CONTINUOUS TO SOLE PLATE.

4. BLOCK ALL STUD WALLS AS REQUIRED FOR SHEATHING.

5. ALL WOOD IN CONTACT WITH CONCRETE, MASONRY, OR SOIL SHALL BE PRESSURE TREATED.

6. BEAMS, GIRDERS, AND JOISTS SHALL NOT BE NOTCHED, UNLESS NOTED OTHERWISE.

7. JOISTS, RAFTERS, AND DECKING SHALL NOT BE CUT AND HEADED OR DISPLACED TO PROVIDE FOR OPENINGS IN ROOFS OR FLOORS, EXCEPT AS DETAILED ON DRAWINGS.

8. INSTALL ALL HORIZONTAL MEMBERS WITH CROWN UP.

9. ALL MEMBERS IN BEARING SHALL BE ACCURATELY CUT AND ALIGNED SO THAT FULL BEARING IS PROVIDED WITHOUT THE USE OF SHIMS. BEARING POSTS SHALL HAVE FULL BLOCKING OF SUPPORT UNDER.

10. ALL JOISTS SHALL HAVE A MINIMUM OF 2" BEARING AT SUPPORTS. LAPPING JOISTS SHALL HAVE 6" LAPS CENTERED OVER INTERIOR SUPPORTS.

11. LEDGERS AND STUD WALL FOUNDATION SILL PLATES, AND OTHER PLATES FASTENED TO CONCRETE OR MASONRY, SHALL BE BOLTED TO CONCRETE WITH ANCHOR BOLTS OF SIZE AND MINIMUM SPACING AS SHOWN ON DRAWINGS. AT LEAST TWO BOLTS SHALL BE PROVIDED FOR EACH PIECE WITH ONE BOLT WITHIN 12" OF EACH END.

12. PLACE A SINGLE PLATE AT THE BOTTOM AND A DOUBLE PLATE AT THE TOP OF ALL STUD WALLS. SILL PLATES SHALL BE BOLTED TO FOUNDATION BEAM WITH 1/2" DIAMETER ANCHOR BOLTS EMBEDDED SEVEN INCHES MINIMUM AT A MAXIMUM SPACING OF 48" OC. PROVIDE A MINIMUM OF TWO BOLTS PER PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12" OR LESS THAN 4" FROM EACH END OF PIECE. ANCHOR BOLTS SHALL BE HOT DIPPED GALVANIZED PER ASTM A653, G185.

13. STUDS SHALL BE DOUBLED AT ALL ANGLES, CORNERS AND AROUND ALL OPENINGS.

14. PROVIDE FRAMING AND BLOCKING TO SUPPORT ALL EDGES OF OPENINGS IN THE PLYWOOD ROOF DECK.

15. UNLESS OTHERWISE NOTED, ALL TIMBER CONNECTIONS SHALL BE NAILED IN CONFORMANCE WITH THE INTERNATIONAL BUILDING CODE, TABLE 2304.9.1.

16. FOR BEAMS AND GIRDERS PERPENDICULAR TO WALLS, PROVIDE ONE STUD FOR EACH 1 1/2" OF BEAM WIDTH. STUD PACKS/COLUMNS SHALL BE CONTINUOUS TO FOUNDATION, INCLUDING WITHIN FLOOR TRUSS SPACE.

17. WOOD JOIST SUPPLIER TO VERIFY CAPACITY OF WOOD MEMBERS AND HANGERS TO BE USED.

06.16 SHEATHING

1. PLYWOOD SHEATHING AND SUBFLOOR NAILING
A. ROOF PLYWOOD: 8d COMMON AT 6" OC AT ALL SUPPORTED EDGES AND AT 12" OC AT INTERIOR SUPPORT.
B. FLOOR PLYWOOD: 8d COMMON AT 6" OC AT ALL SUPPORTED EDGES AND AT 10" OC AT INTERIOR SUPPORTS.
C. WALL PLYWOOD SHEATHING DIRECT TO FRAMING: 8d COMMON AT 6" OC ALL PANEL EDGES AND AT 10" OC AT ALL INTERIOR STUDS.

2. BEFORE EACH PANEL IS PLACED, A LINE OF GLUE SHALL BE APPLIED TO THE JOISTS WITH A CAULKING GUN. THE PANEL T&G JOINT SHALL ALSO BE GLUED, ALTHOUGH LESS HEAVILY TO AVOID SQUEEZE-OUT.

3. ALL WOOD STRUCTURE PANEL DIAPHRAGMS AT WALLS, ROOFS AND FLOORS SHALL BE APA RATED SHEETING. ALL PLYWOOD SHALL HAVE AT LEAST 5-PLIES. ALL PANEL EDGES ARE TO BE BLOCKED USING 2 x 4 FLAT. PLACE PANELS WITH STRENGTH DIRECTION PERPENDICULAR TO SUPPORTS WITH ENDS AND JOINTS STAGGERED. ORIENTED STRAND BOARD SUBSTITUTION IS ALLOWED EXCEPT FLOORS USE PLYWOOD IN ALL CASES. MAINTAIN SPECIFIED PANEL SPAN RATINGS AND THICKNESS.

31.00 FOUNDATIONS

1. FOUNDATIONS HAVE BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH CRITERIA ESTABLISHED IN THE GEOTECHNICAL REPORT.

2. ALL FOUNDATIONS ARE TO BEAR ON MATERIAL HAVING AT LEAST THE ABOVE NOTED CAPACITY. ROCK-BEARING FOUNDATIONS ARE TO BE FOUNDED ON 100% COMPETENT ROCK. ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 3'-6" BELOW FINISHED GRADE.

3. * FOOTING ELEVATIONS HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION. FOOTING BOTTOMS SHALL BE AT LEAST 6" BELOW ANY EARTH DISTURBED BY REMOVAL OF EXISTING CONSTRUCTION.

4. STEPS IN ALL FOOTINGS ARE NOT TO EXCEED 1'-0" VERTICAL FOR EACH 2'-0" HORIZONTAL.

5. DOWEL GRADE BEAMS TO CAISSONS WITH 4 #8 BARS. PROVIDE 2'-0" EMBEDMENT IN CAISSON AND EXTEND DOWEL TO TOP BARS OF GRADE BEAM.

6. WHERE GRADE BEAMS WITH DIFFERENT BOTTOM ELEVATIONS MEET AT A COMMON CAISSON, PROVIDE A CONCRETE PIER, SAME WIDTH AS GRADE BEAM X 12" LONG FROM TOP OF CAISSON TO BOTTOM OF HIGHER GRADE BEAM.

7. ALL FOUNDATION WALLS ARE TO BE CMU UNLESS NOTED OTHERWISE.

8. UNLESS NOTED OTHERWISE, ALL CONCRETE WALLS SHALL BE REINFORCED WITH #4 BARS @ 12 " OC, EACH WAY, EACH FACE.

9. DOWEL CONCRETE WALLS TO FOOTINGS WITH #4 @ 12 " DOWELS, UNO.

10. UNLESS NOTED OTHERWISE ALL WALL FOOTINGS ARE TO BE 12" THICK AND PROJECT 6" ON EACH SIDE OF THE WALL WITH A MINIMUM TOTAL WIDTH OF 2'-0". FOOTINGS ARE TO BE REINFORCED WITH 3-#4 CONTINUOUS BARS AND #4 CROSS TIES AT 4'-0" OC SECURELY WIRE TIED TO THE CONTINUOUS RODS

11. BACKFILL SHALL NOT BE PLACE AGAINST BASEMENT RETAINING WALLS UNTIL:

A. CONCRETE OR MASONRY GROUT HAS REACHED ITS SPECIFIED 28 DAY STRENGTH.
B. WOOD FLOOR FRAMING (INCLUDING DIAPHRAGM) REQUIRED TO STABILIZE WALLS IS COMPLETE AND FULLY NAILED AND ANCHORED.
C. STEEL FLOOR FRAMING (INCLUDING CONCRETE SLAB WITH 7-DAY CURE) REQUIRED TO STABILIZE WALLS IS COMPLETE AND FULLY ANCHORED.
D. BASEMENT SLAB (IF APPLICABLE) HAS BEEN INSTALLED AND CURED FOR 7 DAYS.

12. FOOTINGS AND SLAB-ON-GRADE CONCRETE SHALL NOT BE PLACED ON MUDDY OR FROZEN GROUND. SUB-GRADE FOR SLAB WHERE VAPOR BARRIER IS NOT REQUIRED SHALL BE DAMP AT TIME OF CONCRETE PLACEMENT.

13. IN NO CASE SHALL BULLDOZERS OR OTHER HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8 FEET FROM ANY FOUNDATION WALL. IF IT IS NECESSARY TO OPERATE SUCH EQUIPMENT CLOSER THAN 8 FEET TO THE WALL, THE CONTRACTOR SHALL BE THE SOLE RESPONSIBLE PARTY AND AT HIS OWN EXPENSE SHALL PROVIDE ADEQUATE SUPPORTS OR BRACE THE WALL TO WITHSTAND THE ADDITIONAL LOADS SUPERIMPOSED FROM SUCH EQUIPMENT.

14. NO CONCRETE FOUNDATION OR SLAB ON GRADE MAY BE PLACED UNTIL SUBGRADE FOR SAME HAS BEEN APPROVED BY THE GEOTECHNICAL ENGINEER.

06.17 SHOP FABRICATED STRUCTURAL WOOD TRUSSES

1. PREFABRICATED WOOD TRUSSES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF THE PROJECT IN ACCORDANCE WITH THE LATEST EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR STRESS-GRADE LUMBER AND ITS FASTENINGS" AS RECOMMENDED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.

2. THE TRUSS MANUFACTURER SHALL SUBMIT THE FOLLOWING CERTIFICATIONS, SEALED BY THE ENGINEER RESPONSIBLE FOR THE DESIGN, FOR THE ARCHITECT'S APPROVAL PRIOR TO FABRICATION OF ANY MATERIALS.
A. CERTIFICATION BY AN INDEPENDENT AGENCY OF THE RATED LOAD CAPACITY OF THE CONNECTORS USED TO SECURE THE MEMBERS.
B. CERTIFICATION THAT THE MANUFACTURER IS LICENSED TO FABRICATE TRUSSES UTILIZING THE CONNECTOR SYSTEM PROPOSED.
C. CERTIFICATION THAT THE TRUSSES ARE DESIGNED TO MEET THE LOAD CRITERIA SPECIFIED HEREIN.
D. FABRICATION AND INSTALLATION DRAWINGS SHALL BE SUBMITTED TO THE CONTRACTOR FOR APPROVAL OF SIZE, SHAPE AND LAYOUT PRIOR TO FABRICATION OF MATERIALS.

3. TOP CHORDS ARE TO BE DESIGNED TO RESIST BENDING INDUCED BY THE ROOF DEAD LOAD AND LIVE LOAD.

4. DEFLECTIONS DUE TO LIVE LOAD SHALL BE LIMITED TO L/360. TOTAL LOAD DEFLECTIONS SHALL BE LIMITED TO L/240.

5. TRUSS MANUFACTURER SHALL DESIGN AND PROVIDE ALL ROOF TRUSS CONNECTIONS TO BEARING LOCATIONS AND OTHER TRUSS CONNECTIONS .

6. TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADING:
A. TOP CHORD LIVE LOAD: ROOF 40 PSF

B. TOP CHORD DEAD LOAD: ROOF 15 PSF

C. BOTTOM CHORD DEAD LOAD ALL TRUSS TYPES 5 PSF

D. MECHANICAL EQUIPMENT AS SHOWN ON PLANS.

8. TRUSS MANUFACTURER SHALL DESIGN AND PROVIDE ALL HEADERS AND SPECIAL TRUSSES REQUIRED TO SUPPORT ROOF TOP EQUIPMENT AND TO FRAME ROOF OPENINGS. CONNECTIONS BETWEEN HEADERS AND TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER.

9. TRUSS MANUFACTURER SHALL DESIGN AND INDICATE LOCATIONS FOR ALL TEMPORARY AND PERMANENT (IF ANY) BRIDGING. GENERAL CONTRACTOR SHALL INSTALL ALL BRIDGING AS DIRECTED BY TRUSS MANUFACTURER.

## WALL FOOTING SCHEDULE

| MARK | WIDTH | THICKNESS | REINFORCING |
|---|---|---|---|
| WF2412 | 2' - 0" | 1' - 0" | 3- #4 BARS, #4 TIES @ 48" OC |
| WF3012 | 2' - 6" | 1' - 0" | 3- #4 BARS, #4 TIES @ 48" OC |
| WF3612 | 3' - 0" | 1' - 0" | 4- #4 BARS, #4 TIES @ 48" OC |

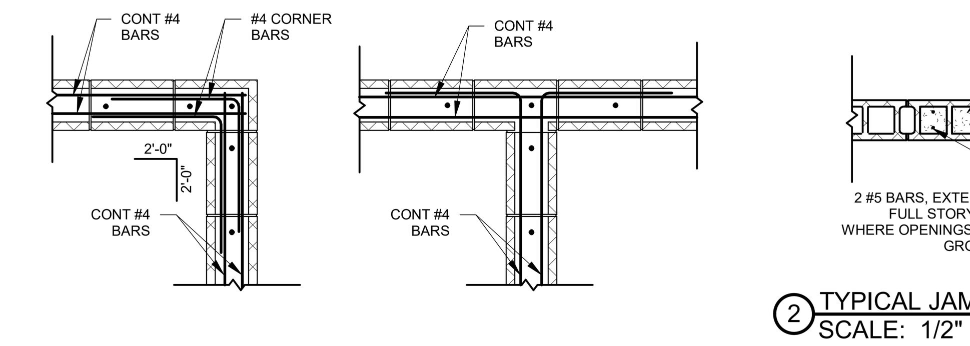
## LINTEL SCHEDULE

STEEL LINTELS TO HAVE 1" OF BEARING FOR EACH FOOT OF SPAN, WITH A MINIMUM OF 6" AND A MAXIMUM OF 12" AT EACH END. WHERE LINTELS ARE WITHIN 12" OF COLUMN, EXTEND THE LINTEL AND CLIP TO THE COLUMN. UNLESS NOTED OTHERWISE, THE FOLLOWING LINTELS ARE TO BE USED FOR THE CONDITIONS INDICATED.

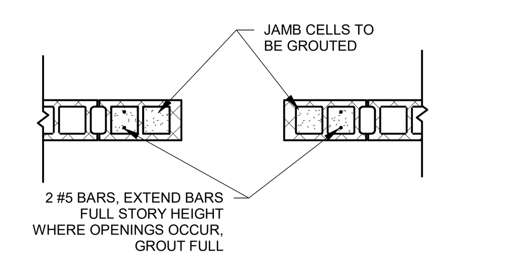
| MATERIAL TYPE | LINTEL, MINIMUM | MAX. CLEAR SPAN |
|---|---|---|
| 4" MASONRY | L4x4x 5/16 | 4'-4" |
| 4" MASONRY | L6x4x 5/16, LLV | 7'-0" |
| 6" MASONRY | 6x8 PRECAST LINTEL, 2- #3 BOTTOM | 4'-0" |
| 6" MASONRY | 6x8 PRECAST LINTEL, 2- #3 BOTTOM, 1- #3 TOP | 6'-8" |
| 6" MASONRY | WT5 x 13 | 6'-8" |
| 8" MASONRY | (2) L5x 3.5x 5/16 | 6'-0" |
| 8" MASONRY | (2) 4x8 PRECAST LINTEL, 1- #3 BOTTOM | 4'-0" |
| 8" MASONRY | (2) 4x8 PRECAST LINTEL, 1- #4 BOTTOM, 1- #3 TOP | 6'-8" |
| 8" MASONRY | 8x8 PRECAST LINTEL, 2- #5 TOP AND BOTTOM | 8'-0" |
| 8" MASONRY | HSS4x8x1/4 W/ 1/4" PLATE, SEE DETAIL THIS SHEET | 12'-0" |

| MARK | DESCRIPTION | REMARKS |
|---|---|---|
| L-1 | (2) 4x8 PRECAST LINTEL, 1- #3 BOTTOM & 5/16" BENTPLATE, 7.5 x 5, LLH | |
| L-2 | | |
| L-3 | | |

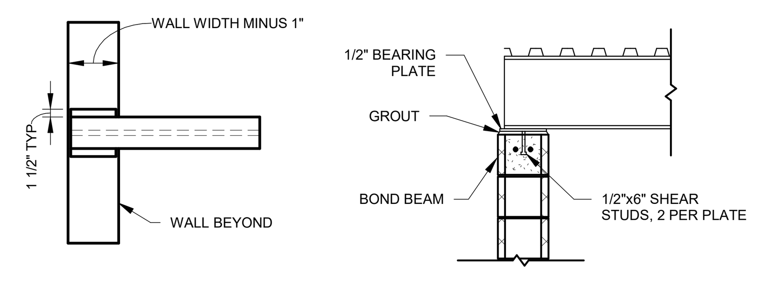
NOTES:
1.



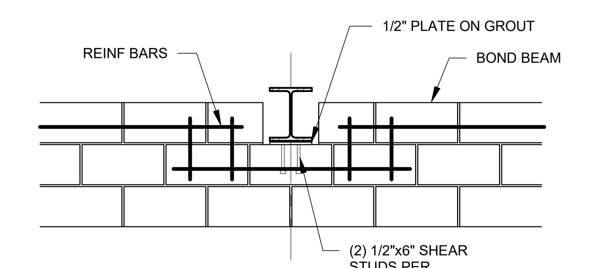
1 TYPICAL BOND BEAM CORNER AND INTERSECTION DETAIL
SCALE: 1/2" = 1'-0"



2 TYPICAL JAMB DETAIL
SCALE: 1/2" = 1'-0"

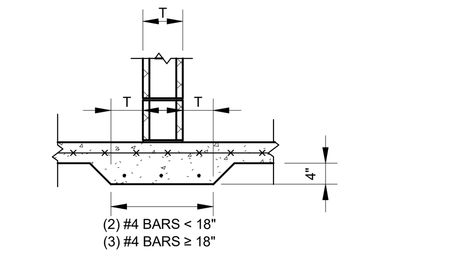


3 TYPICAL BEAM BEARING ON BLOCK WALL
SCALE: 1/2" = 1'-0"

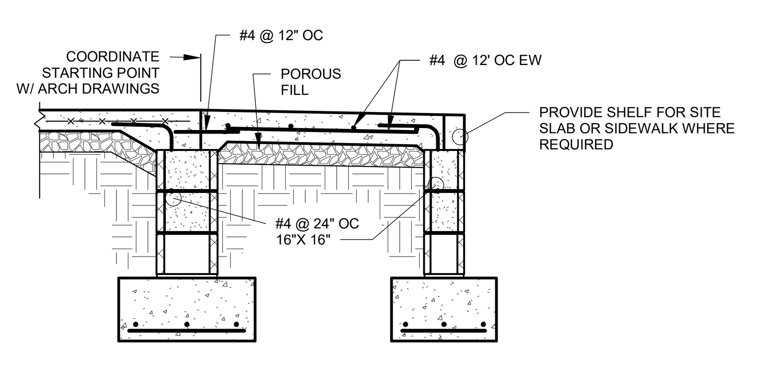


NOTE:
1. DETAIL IS SIMILAR WHERE WALLS SLOPES FOR ROOF PITCH

4 TYPICAL BOND BEAM INTERRUPTION DETAIL
SCALE: 1/2" = 1'-0"

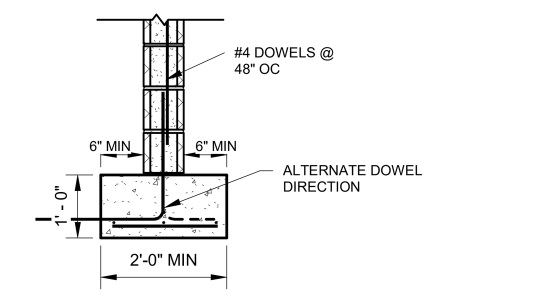


5 TYPICAL THICKENED SLAB DETAIL
SCALE: 1/2" = 1'-0"

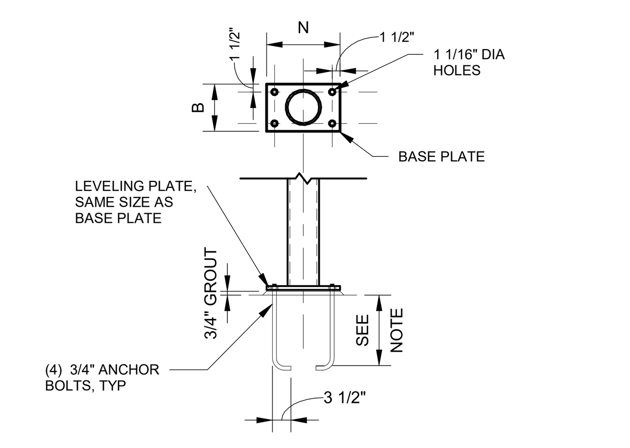


NOTE:
1. SLOPE SLAB AWAY FROM BUILDING AT 2% PITCH.

6 TYPICAL ENTRANCE SLAB DETAIL
SCALE: 1/2" = 1'-0"

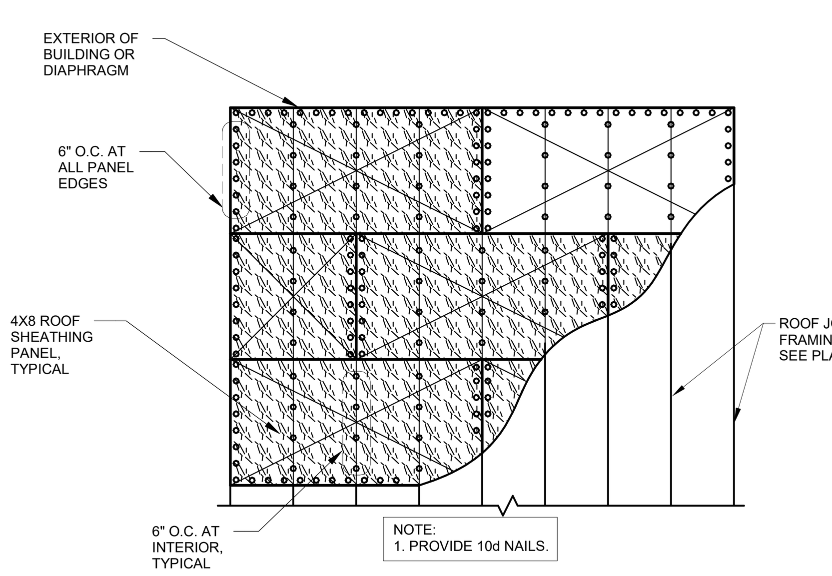


7 TYPICAL FOUNDATION WALL DETAIL
SCALE: 1/2" = 1'-0"

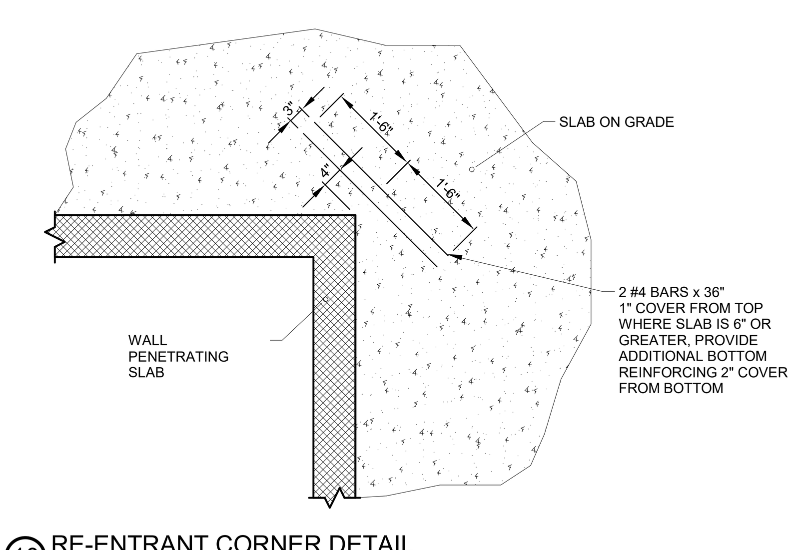


NOTE:
1. 9" WHERE COLUMN BEARS ON FOOTING, 16" WHERE COLUMN BEARS ON PIER.

8 TYPICAL COLUMN BASE DETAIL
SCALE: 1/2" = 1'-0"



9 TYPICAL ROOF SHEATHING NAILING PATTERN
SCALE: 1/2" = 1'-0"



10 RE-ENTRANT CORNER DETAIL
SCALE: 1/2" = 1'-0"

## FASTENING SCHEDULE

| CONNECTION | FASTENING | LOCATION |
|---|---|---|
| 1. JOIST TO SILL OR GIRDER | 3 - 8d COMMON (2 1/2"x0.131")<br>3 - 3"x0.131" NAILS | TOENAIL |
| 2. BRIDGING TO JOIST | 2 - 8d COMMON (2 1/2"x0.131")<br>2 - 3"x0.131" NAILS | TOENAIL EACH END |
| 3. SOLE PLATE TO JOIST OR BLOCKING | 16d (3 1/2"x0.135") AT 16" OC<br>3"x0.131" NAILS AT 8" OC | TYPICAL FACE NAIL |
| SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANEL | 3 - 16d (3 1/2"x0.135") AT 16" OC<br>4 - 3"x0.131" NAILS AT 16" OC | BRACED WALL PANELS |
| 4. TOP PLATE TO STUD | 2 - 16d COMMON (3 1/2"x0.162")<br>3 - 3"x0.131" NAILS | END NAIL |
| 5. STUD TO SOLE PLATE | 4 - 8d COMMON (2 1/2"x0.131")<br>4 - 3"x0.131" NAILS<br>2 - 16d COMMON (3 1/2"x0.162")<br>3 - 3"x0.131" NAILS | TOENAIL<br>END NAIL |
| 6. DOUBLE STUDS | 16d (3 1/2"x0.135") AT 24" OC<br>3"x0.131" NAIL AT 8" OC | FACE NAIL |
| 7. DOUBLE TOP PLATES<br>DOUBLE TOP PLATES | 16d (3 1/2"x0.135") AT 16" OC<br>3"x0.131" NAILS AT 12" OC<br>8 - 16d COMMON (3 1/2"x0.162")<br>12 - 3"x0.131" NAILS | TYPICAL FACE NAIL<br>LAP SPLICE |
| 8. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE | 3 - 8d COMMON (2 1/2"x0.131")<br>3 - 3"x0.131" NAILS | TOENAIL |
| 9. RIM JOIST TO TOP PLATE | 8d (2 1/2"x0.131") AT 6" OC<br>3"x0.131" NAILS AT 6" OC | TOENAIL |
| 10. TOP PLATES, LAPS, AND INTERSECTIONS | 2 - 16d COMMON (3 1/2"x0.162")<br>3 - 3"x0.131" NAILS | FACE NAIL |
| 11. CONTINUOUS HEADER, TWO PIECES | 16d COMMON (3 1/2"x0.162") | 16" OC ALONG EDGE |
| 12. CONTINUOUS HEADER TO STUD | 4 - 8d COMMON (2 1/2"x0.131") | TOENAIL |
| 13. RAFTER TO PLATE | 3 - 8d COMMON (2 1/2"x0.131")<br>3 - 3"x0.131" NAILS | TOENAIL |
| 14. BUILT-UP CORNER STUDS | 16d COMMON (3 1/2"x0.162")<br>3"x0.131" NAILS | 24" OC<br>16" OC |
| 15. BUILT-UP GIRDER AND BEAMS | 20 COMMON (4"x0.192") AT 32" OC<br>3"x0.131" NAILS AT 24" OC<br>2 - 20d COMMON (4"x0.192")<br>3 - 3"x0.131" NAILS | FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES<br>FACE NAIL AT ENDS AND AT EACH SPLICE |
| 16. JOIST TO BAND JOISTS | 3 - 16d COMMON (3 1/2"x0.162") | FACE NAIL |
| 17. WALL PANEL TO WALL PANEL | 2 - 16d @ 12" OC | FACE NAIL |
| 18. BULKHEADS TO NEW AND EXISTING WOOD STRUCTURE | 2 - #9x1 1/2" MIN. WOOD SCREWS IN EACH JOIST OR @ 2'-0" OC | -- |
| 19. BULKHEADS TO NEW AND EXISTING STEEL STRUCTURE | 2 - #10 TEK SCREWS IN EACH JOIST OR @ 2'-0" OC | -- |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| MARK | DATE | DESCRIPTION |
|---|---|---|
| | 01-22-2024 | BID SET |
| | 12-06-2023 | REVISED DRAWINGS |
| | 10-04-2023 | BID SET |
| | 09-27-2023 | PERMIT SET |
| | 09-06-2023 | CD SUBMISSION |

KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg 1855

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

GENERAL NOTES AND TYPICAL DETAILS

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CHECKED BY: RSD
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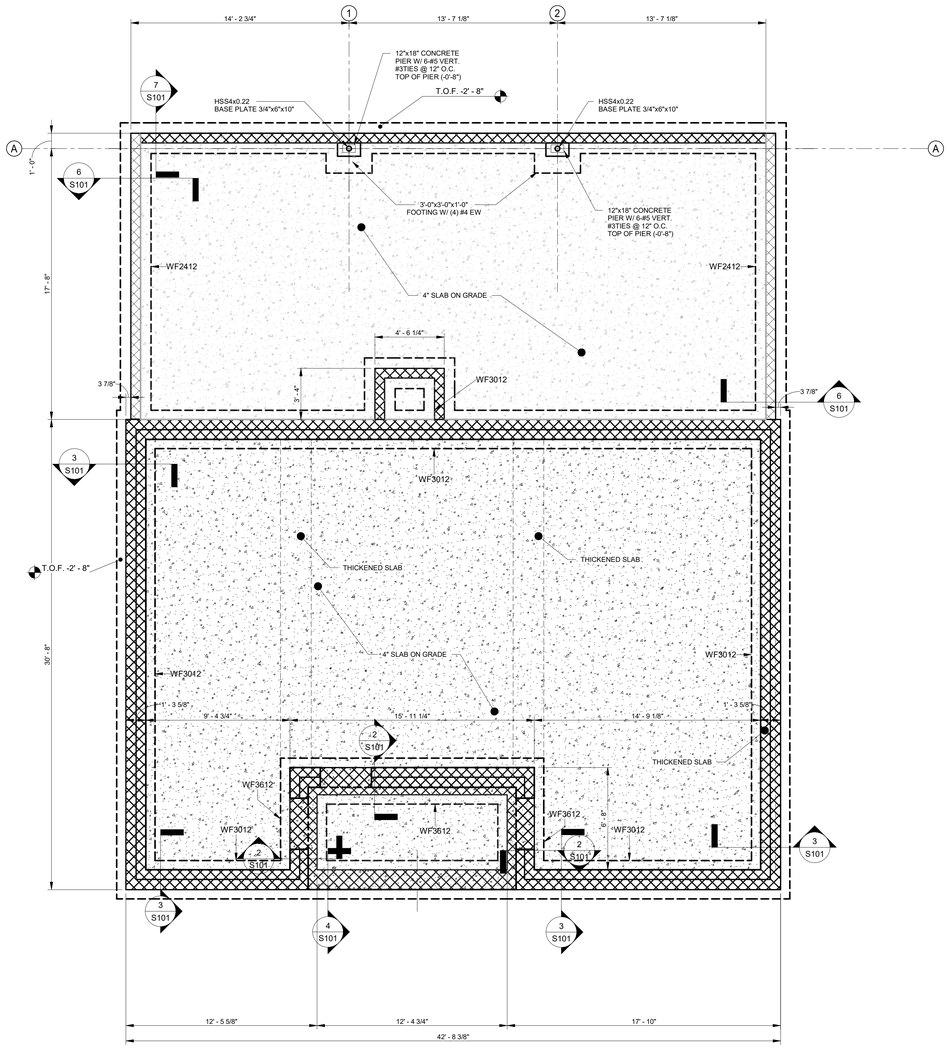
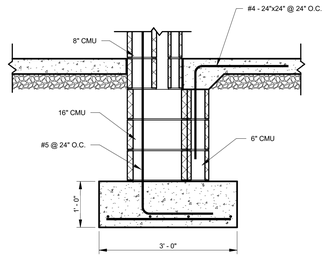



1 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"




2 FOUNDATION SECTION AT ENTRANCE SLAB
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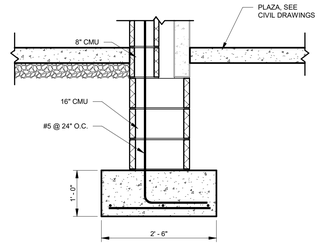


3 FOUNDATION SECTION EXTERIOR WALL
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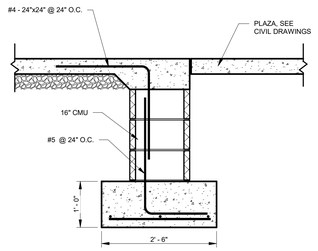


4 FOUNDATION SECTION AT ENTRANCE
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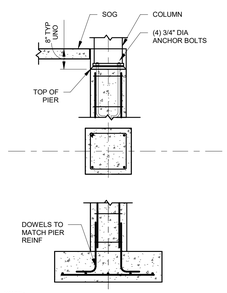
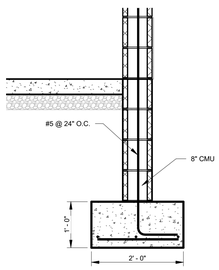
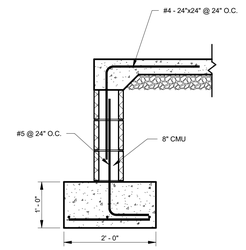



**NOTE:**
1. BRICK LEDGES ARE CONSIDERED IN THE OVERALL SIZE OF PIER AS GIVEN ON THE PIER SCHEDULE. WHERE BRICK LEDGES ARE NECESSARY, PIER REINFORCEMENT SHALL BE ORIENTED AS SHOWN ABOVE.

5 TYPICAL CONCRETE PIER DETAIL
SCALE: 1/2" = 1'-0"




6 FOUNDATION SECTION AT REAR CMU WALL
SCALE: 3/4" = 1'-0"




7 FOUNDATION SECTION AT REAR SLAB
SCALE: 3/4" = 1'-0"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REGISTERED PROFESSIONAL
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ENGINEER
PE-049201E

| MARK | DATE | DESCRIPTION |
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| | 01-22-2024 | BID SET |
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KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg

# STADIUM SEATING & RESTROOMS BLDG

**PENN STATE UNIVERSITY HARRISBURG CAMPUS**

777 W Harrisburg Pike, Middletown, PA 17057

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## FOUNDATION PLAN

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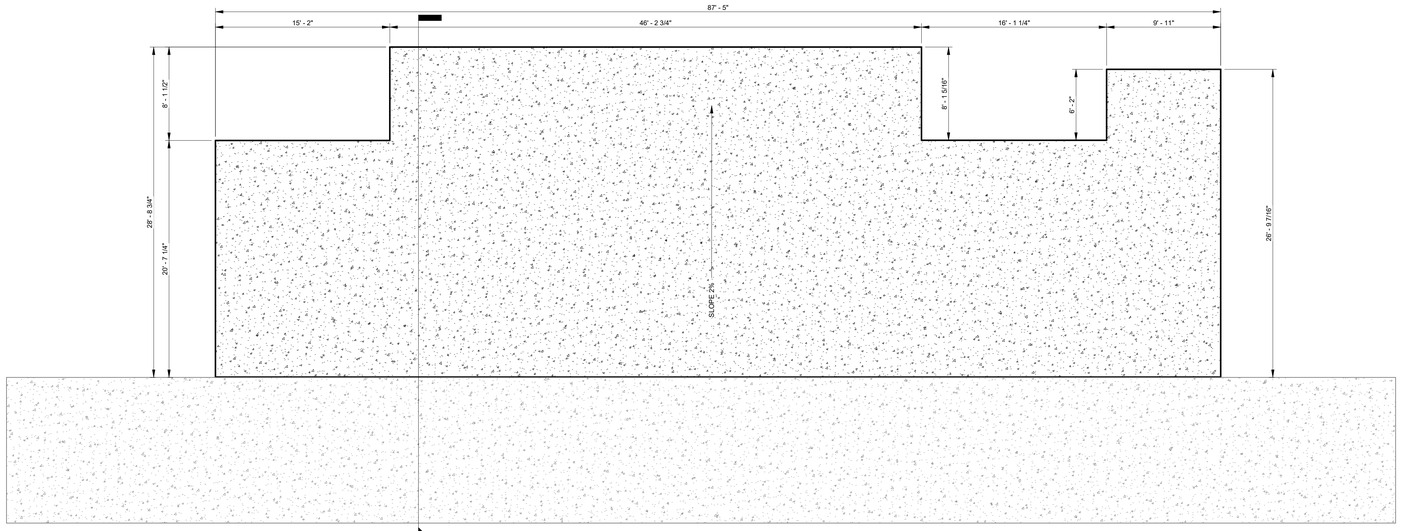
**S101**

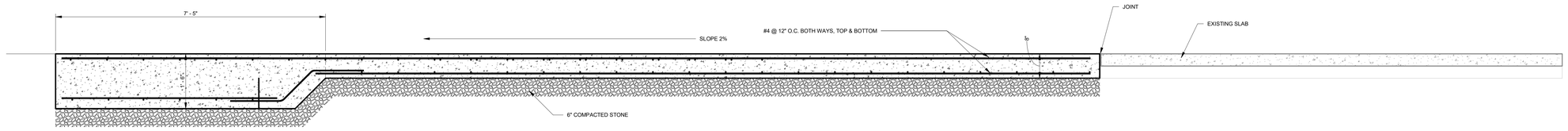
SHEET PLOT/PLOT DATE: 3/1/2024 11:43:51 PM C:\CAD\E Projects\2022\138\Structural\Tuesday\PSUH Stadium Seating and Restroom Bldg-STR.rvt




2 S102

NOTE: CONCRETE SLAB LAYOUT FOR BIDDING PURPOSES ONLY. FINAL DIMENSIONS AND FOUNDATION DESIGN TO BE PROVIDED BY SELECTED BLEACHER SUPPLIER.

1 FOUNDATION PLAN
SCALE: 3/16" = 1'-0"

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2 SECTION THROUGH BLEACHER SLAB
SCALE: 3/4" = 1'-0"


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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
RANDALL S. DIVINEY
ENGINEER
PE-040201E

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | 01-22-2024 | BID SET |
| | 12-06-2023 | REVISED DRAWINGS |
| | 10-04-2023 | BID SET |
| | 09-27-2023 | PERMIT SET |
| | 09-06-2023 | CD SUBMISSION |

KEY PLAN:

NORTH

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

## BLEACHER SLAB PLAN

DRAWN BY: Author

CHECKED BY: Checker

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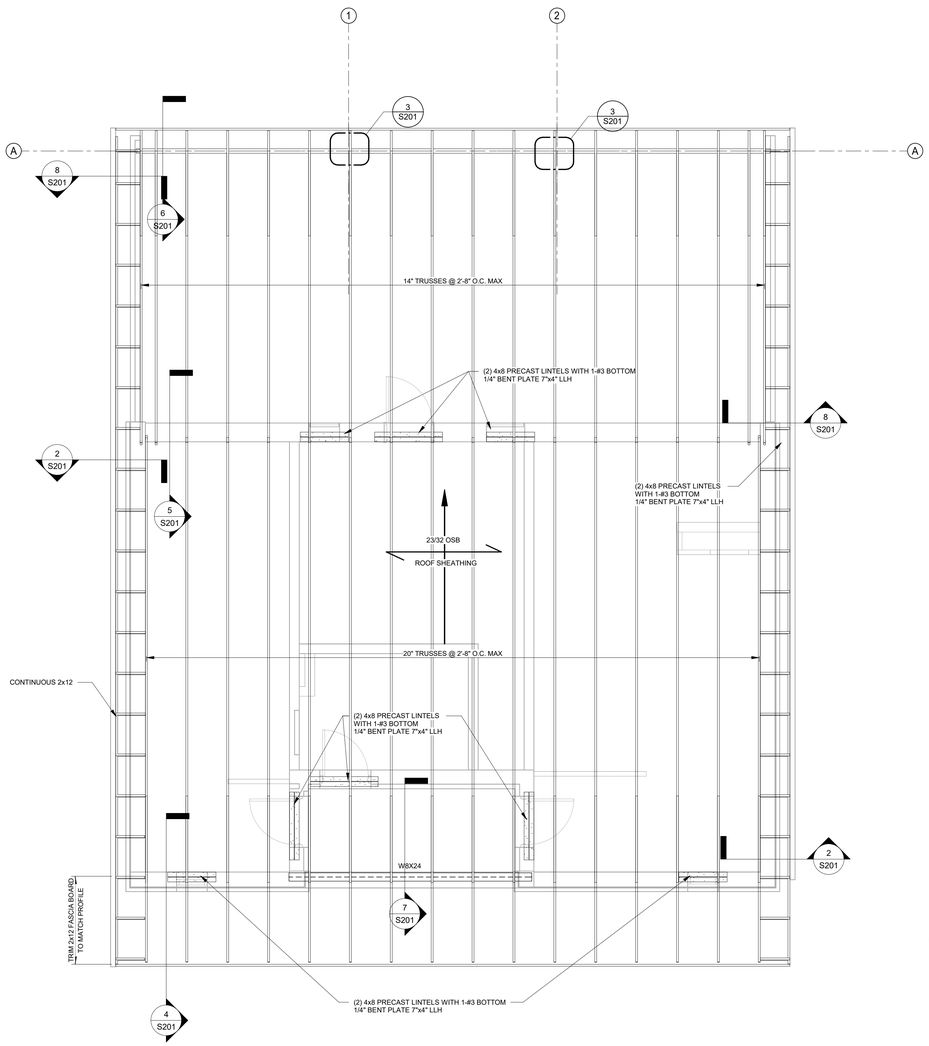
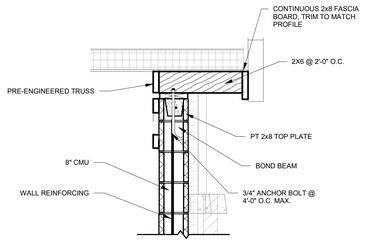
DRAWING NO.

# S102

SHEET PLEPLOT DATE: 3/7/2024 10:23:24 PM C:\BASE Projects\2020\ HCAD\Structural\Tussey\PSH Stadium Seating and Restroom Bldg-STR.rvt




1 ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"




2 SECTION
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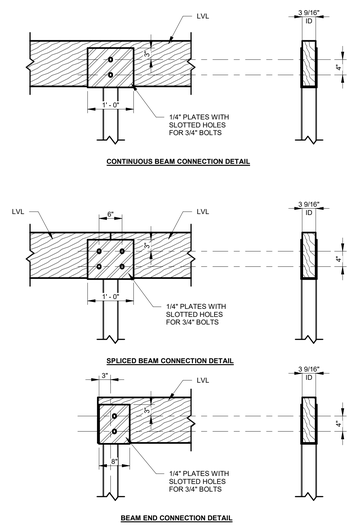
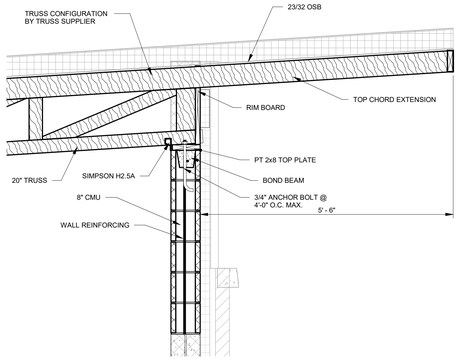



3 LVL SADDLE DETAIL
SCALE: 3/4" = 1'-0"

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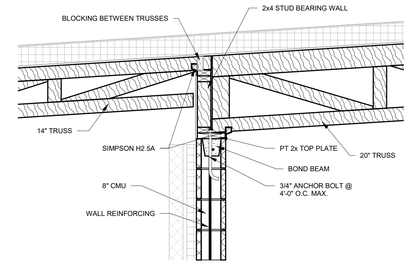


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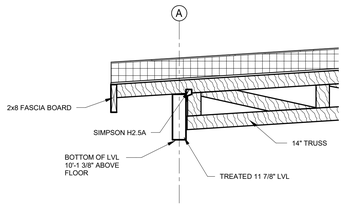
SCALE: 3/4" = 1'-0"

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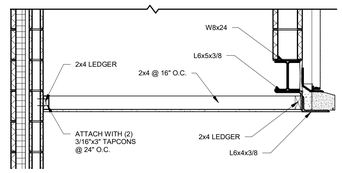
SCALE: 3/4" = 1'-0"

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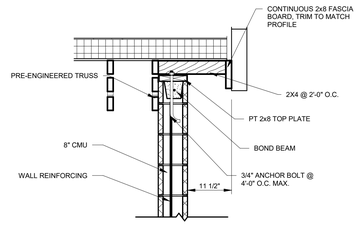
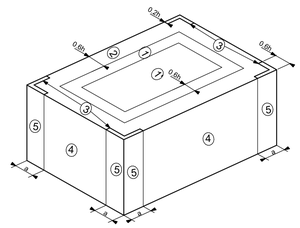
SCALE: 3/4" = 1'-0"




8 SECTION
SCALE: 3/4" = 1'-0"




CORNER ZONE WIDTH — $a$ = 4ft, 0 in
ZONE 1 AND 2 WIDTH AND ZONE 3 LENGTH — 0.6 $h$ = 12ft, 0in
ZONE 3 WIDTH — 0.2 $h$ = 4ft, 0in

$p$ =

| ZONE | POSITIVE WIND PRESSURE $p_1^\beta$ (PSF) | NEGATIVE WIND PRESSURE $p_\beta$ (PSF) |
|---|---|---|
| 1' | 16 | -25.6 |
| 1 | 16 | -44.6 |
| 2 | 16 | -58.9 |
| 3 | 16 | -80.3 |
| 4 | 25.6 | -27.8 |
| 5 | 25.6 | -34.2 |

COMPONENTS AND CLADDING WIND PRESSURE

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
RANDALL S. DIVINEY
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PE-040201E

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## ROOF FRAMING PLAN

DRAWN BY: DLD

CHECKED BY: RSD

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DRAWING NO.

**S201**

SHEET PLEPLOT DATE: 3/21/2024 12:32:32 PM C:\DAVE Projects\2020 HOA\Structural\Tussee\PSH Stadium Seating and Restroom Bldg-STR.rvt

# ABBREVIATIONS

| | |
|---|---|
| # | POUND OR NUMBER |
| & | AND |
| @ | AT |
| A/C | AIR CONDITIONING |
| A/E | ARCHITECT/ENGINEER |
| ACT | ACOUSTIC CEILING TILE |
| ADA | AMERICANS W/ DISABILITIES ACT |
| AFF | ABOVE FINISHED FLOOR |
| ALUM | ALUMINUM |
| ANOD | ANODIZED |
| APPROX | APPROXIMATE |
| ARCH | ARCHITECT |
| AUTO | AUTOMATIC |
| AV | AUDIO VISUAL |
| AVG | AVERAGE |
| BIT | BITUMINOUS |
| BLDG | BUILDING |
| BLKG | BLOCKING |
| BM | BENCHMARK |
| BOT | BOTTOM |
| BRG | BEARING |
| BRG PL | BEARING PLATE |
| BRK | BRICK |
| BSMT | BASEMENT |
| BTWN | BETWEEN |
| BYND | BEYOND |
| CAB | CABINET |
| CB | CATCH BASIN |
| CG | CORNER GUARD |
| CHNL | CHANNEL |
| CIP | CAST IN PLACE |
| CJ | CONTROL JOINT |
| CL | CENTER LINE |
| CLG | CEILING |
| CLO | CLOSET |
| CLR | CLEAR |
| CMT | CERAMIC MOSAIC TILE |
| CMU | CONCRETE MASONRY UNIT |
| CO | CLEAN OUT |
| COL | COLUMN |
| CONC | CONCRETE |
| CONST | CONSTRUCTION |
| CONT | CONTINUOUS, CONTINUE |
| CORR | CORRIDOR |
| CPT | CARPET |
| CT | CERAMIC TILE |
| CTYD | COURTYARD |
| CW | CURTAIN WALL |
| D | DEPTH |
| DBL | DOUBLE |
| DEMO | DEMOLISH OR DEMOLITION |
| DEPT | DEPARTMENT |
| DF | DRINKING FOUNTAIN |
| DIA | DIAMETER |
| DIM | DIMENSION |
| DISP | DISPOSAL |
| DN | DOWN |
| DO | DOOR OPENING |
| DS | DOWNSPOUT |
| DTL | DETAIL |
| DW | DISHWASHER |
| DWG | DRAWING |
| DWR | DRAWER |
| E | EAST |
| EA | EACH |
| EC | ELECTRICAL CONTRACTOR |
| EIFS | EXTERIOR INSULATION AND FINISH SYSTEM |
| EJ | EXPANSION JOINT |
| ELEC | ELECTRICAL |
| ELEV | ELEVATOR OR ELEVATION |
| EPDM | ETHYLENE PROPYLENE DIENE M-CLASS |
| EQ | EQUAL |
| EXIST | EXISTING |
| EXT | EXTERIOR |
| FAB | FABRICATED |
| FD | FLOOR DRAIN OR FIRE DEPARTMENT |
| FE | FIRE EXTINGUISHER |
| FEC | FIRE EXTINGUISHER CABINET |

| | |
|---|---|
| FF | FINISH FLOOR |
| FF EL. | FINISHED FLOOR ELEVATION |
| FFE | FURNITURE, FIXTURES, & EQUIPMENT |
| FIN | FINISH (ED) |
| FIXT | FIXTURE |
| FLG | FLASHING |
| FLR | FLOOR |
| FND | FOUNDATION |
| FO | FACE OF |
| FPRF | FIREPROOF |
| FR | FIRE RATING, FRAME |
| FUR | FURRED (ING) |
| GA | GAUGE |
| GALV | GALVANIZED |
| GC | GENERAL CONTRACTOR |
| GD | GRADE (ING) |
| GF | GROUND FACE |
| GL | GLASS, GLAZING |
| GWB | GYPSUM WALL BOARD |
| HB | HOSE BIBB |
| HC | HANDICAP OR HOLLOW CORE |
| HDW | HARDWARE |
| HI | HIGH |
| HM | HOLLOW METAL |
| HORZ | HORIZONTAL |
| HP | HIGH POINT |
| HR | HOUR |
| HT | HEIGHT |
| HVAC | HEATING, VENTILATING, AND AIR CONDITIONING |
| ILO | IN LIEU OF |
| IN | INCH |
| INCL | INCLUDE (D), (ING) |
| INSUL | INSULATE (D) (ION) |
| INT | INTERIOR |
| INV | INVERT |
| J | JOIST |
| JC | JANITOR CLOSET |
| JT | JOINT |
| KIT | KITCHEN |
| LAM | LAMINATE (D) |
| LAV | LAVATORY |
| LCKR | LOCKER |
| LH | LEFT HAND |
| LNDG | LANDING |
| LO | LOW |
| LP | LIGHT POLE |
| LP | LOW POINT |
| LS | LIGHT SWITCH |
| LT | LIGHT |
| LVR | LOUVER |
| M | MIRROR |
| MACH | MACHINE |
| MATL | MATERIAL |
| MAX | MAXIMUM |
| MC | MECHANICAL CONTRACTOR |
| MECH | MECHANICAL |
| MFG | MANUFACTURER |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MO | MASONRY OPENING |
| MTD | MOUNTED |
| MTL | METAL, MATERIAL (S) |
| MWRK | MILLWORK |
| N | NORTH |
| NA | NON APPLICABLE |
| NIC | NOT IN CONTRACT |
| NO | NUMBER |
| NOM | NOMINAL |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| OH | OVERHANG OR OVERHEAD |
| OPH | OPPOSITE HAND |
| OPNG | OPENING |
| OPP | OPPOSITE |

| | |
|---|---|
| OZ | OUNCE |
| PC | PLUMBING CONTRACTOR |
| PCC | PRE-CAST CONCRETE |
| PERF | PERFORATE (D) |
| PFB | PREFABRICATE (D) |
| PL | PROPERTY LINE |
| PLAM | PLASTIC LAMINATE |
| PLUMB | PLUMBING |
| PLYWD | PLYWOOD |
| PNL | PANEL |
| PROJ | PROJECT |
| PT | PAINT (ED) |
| PVC | POLYVINYL CHLORIDE |
| QT | QUARRY TILE |
| QTY | QUANTITY |
| R | RADIUS |
| RBR | RUBBER |
| RCP | REFLECTED CEILING PLAN |
| RD | ROOF DRAIN |
| REQ'D | REQUIRED |
| RM | ROOM |
| RO | ROUGH OPENING |
| RTG | RATING |
| S | SOUTH |
| SC | SEALED CONCRETE |
| SEC | SECTION |
| SF | SQUARE FOOT |
| SIM | SIMILAR |
| SPEC | SPECIFIED OR SPECIFICATION |
| SPK | SPEAKER |
| SPRK | SPRINKLER |
| SQ | SQUARE |
| SS | SOLID SURFACE OR SANITARY SEWER |
| SSTL | STAINLESS STEEL |
| ST | STORM SEWER |
| STC | SOUND TRANSMISSION COEFFICENT |
| STD | STANDARD |
| STL | STEEL |
| STL JST | STEEL JOIST |
| STL LNTL | STEEL LINTEL |
| STOR | STORAGE |
| STRUCT | STRUCTURE OR STRUCTURAL |
| T&G | TONGUE AND GROOVE |
| T/D | TELEPHONE/DATA |
| TB-xx | TEST BORING-XX(E.F. TB-1) |
| TELE | TELEPHONE |
| TEMP | TEMPORARY |
| TERRAZZO | TZ |
| TF | TOP OF FOOTING |
| THK | THICKNESS |
| TLT | TOILET |
| TME | TO MATCH EXISTING |
| TO | TOP OF |
| TOC | TOP OF CONCRETE |
| TOS | TOP OF STEEL |
| TPD | TOILET PAPER DISPENSER |
| TYP | TYPICAL |
| TYP | TYPICAL |
| U/S | UNDERSIDE |
| UNO | UNLESS NOTED OTHERWISE |
| URO | UNLESS REQUIRED OTHERWISE |
| VCT | VINYL COMPOSITION TILE |
| VERT | VERTICAL |
| VEST | VESTIBULE |
| VIF | VERIFY IN FIELD |
| VP | VISION PANEL |
| W | WEST, WIDE, WIDTH |
| W/ | WITH |
| WC | WATER CLOSET |
| WD | WOOD |
| WH | WATER HEATER |
| WIN | WINDOW |
| WO | WITHOUT |
| WP | WORK POINT |
| WT | WEIGHT |
| WWF | WELDED WIRE FABRIC |

# LEGEND

- EARTH
- GRAVEL
- SAND/MORTAR/PLASTER
- CONCRETE
- BRICK MASONRY
- CONCRETE MASONRY
- ALUMINUM
- STEEL
- WOOD, ROUGH FRAMING
- WOOD, FINISH
- PARTITION
- PLYWOOD/ PARTICLE BOARD
- GLASS
- GYPSUM WALL BOARD
- BATT INSULATION
- BOARD INSULATION
- SPRAY INSULATION
- BITUMINOUS PAVING
- CERAMIC/QUARRY TILE
- SOLID SURFACE
- ACOUSTICAL CEILING TILE
- CARPET

# GENERAL NOTES

1. GENERAL NOTES APPLY TO ALL SHEETS AND DRAWINGS.

2. THE INTENT OF THE DRAWINGS IS TO PROVIDE FOR COMPLETE, OPERABLE AND INTEGRATED SYSTEMS. CONTRACTORS SHALL PROVIDE FOR THE COST OF ALL LABOR AND MATERIAL TYPICALLY AND NORMALLY SUPPLIED FOR SYSTEMS OF SIMILAR TYPE, FEATURES AND SCOPE, AND REQUIRED TO ACHIEVE THIS INTENT.

3. THE LOCATION AND EXTENT OF ANY EXISTING CONSTRUCTION PREVIOUSLY DEMOLISHED AND SHOWN IN THE DRAWINGS WAS TAKEN FROM INFORMATION AVAILABLE TO THE ARCHITECT AND IS FOR REFERENCE PURPOSES ONLY. NEITHER THE OWNER OR THE ARCHITECT MAKE ANY REPRESENTATIONS ABOUT THE ACCURACY OF INFORMATION CONTAINED IN THE EXISTING DRAWINGS OR THE CONDITION OR EXTENT OF ANY CONSTRUCTION REMAINING BELOW THE NEW WORK.

4. IT IS ADVISED THAT EACH BIDDER EXAMINE THE EXISTING SITE.

5. EACH BIDDER MUST INFORM THEMSELVES FULLY OF THE CONDITIONS RELATING TO THE WORK OF THE PROJECT AND THE EMPLOYMENT OF LABOR THEREON. FAILURE TO DO SO WILL NOT RELIEVE A SUCCESSFUL BIDDER OF THEIR OBLIGATIONS TO FURNISH ALL MATERIALS AND LABOR NECESSARY TO CARRY OUT THE PROVISIONS OF THEIR CONTRACT.

6. EACH BIDDER SHALL SURVEY AND VERIFY ALL CONDITIONS OF THE SITE AND BUILDING PRIOR TO BIDDING THE PROJECT. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN SITE AND BUILDING CONDITIONS AND THE CONTRACT DOCUMENTS AND SUBMIT A REQUEST FOR INFORMATION TO ARCHITECT.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE PERFORMANCE OF THE CONTRACT.

8. CONTRACTOR SHALL HAVE LIMITED USE OF PROJECT SITE FOR DEMOLITION AND CONSTRUCTION OPERATIONS AS INDICATED ON DRAWINGS AND THE CONTRACT DOCUMENTS.

9. LIMIT USE OF PROJECT SITE TO AREAS WITHIN THE CONTRACT LIMITS. DO NOT DISTURB AREAS OUTSIDE PROJECT SITE EXCEPT FOR PATCHING OR CONNECTING OR EXTENDING EXISTING BUILDING SYSTEMS.

10. MAINTAIN PORTIONS OF EXISTING BUILDING/FIELD, STRUCTURE, AFFECTED BY CONSTRUCTION OPERATIONS IN A WEATHERTIGHT CONDITION THROUGHOUT CONSTRUCTION PERIOD. REPAIR DAMAGE CAUSED BY CONSTRUCTION OPERATIONS AND WEATHER.

11. PROVIDE PROTECTION, OPERATE TEMPORARY FACILITIES, AND CONDUCT CONSTRUCTION AS REQUIRED TO COMPLY WITH ENVIRONMENTAL REGULATIONS AND THAT MINIMIZE POSSIBLE AIR, WATERWAY, AND SUBSOIL CONTAMINATION OR POLLUTION OR OTHER UNDESIRABLE EFFECTS.

12. PROVIDE MEASURES TO PREVENT SOIL EROSION AND DISCHARGE OF SOIL-BEARING WATER RUNOFF AND AIRBORNE DUST TO UNDISTURBED AREAS AND TO ADJACENT PROPERTIES AND WALKWAYS.

13. INSTALL TEMPORARY FENCING LOCATED AS INDICATED OR OUTSIDE THE DRIP LINE OF TREES TO PROTECT VEGETATION FROM DAMAGE FROM CONSTRUCTION OPERATIONS. PROTECT TREE ROOT SYSTEMS FROM DAMAGE, FLOODING, AND EROSION.

14. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. PROVIDE BARRIERS IN AND AROUND EXCAVATIONS AND SUBGRADE CONSTRUCTION TO PREVENT FLOODING BY RUNOFF OF STORMWATER FROM HEAVY RAINS.

15. BEFORE CONSTRUCTION OPERATIONS BEGIN, FURNISH AND INSTALL SITE ENCLOSURE FENCE IN A MANNER THAT WILL PREVENT PEOPLE AND ANIMALS FROM EASILY ENTERING SITE EXCEPT BY ENTRANCE GATES.

16. THE EXISTENCE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AND CONSTRUCTION INDICATED AS EXISTING ARE NOT GUARANTEED. BEFORE BEGINNING SITEWORK, INVESTIGATE AND VERIFY THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES, MECHANICAL AND ELECTRICAL SYSTEMS, AND OTHER CONSTRUCTION AFFECTING THE WORK.

17. BEFORE CONSTRUCTION, VERIFY THE LOCATION AND INVERT ELEVATION AT POINTS OF CONNECTION OF SANITARY SEWER, STORM SEWER, AND WATER-SERVICE PIPING; UNDERGROUND ELECTRICAL SERVICES, AND OTHER UTILITIES.

18. BEFORE PROCEEDING TO LAY OUT THE WORK, VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND LAYOUT INFORMATION SHOWN ON DRAWINGS, IN RELATION TO THE PROPERTY SURVEY AND EXISTING BENCHMARKS. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.

19. LOCATE THE WORK AND COMPONENTS OF THE WORK ACCURATELY, IN CORRECT ALIGNMENT AND ELEVATION, AS INDICATED.

20. BEFORE PROCEEDING WITH EACH COMPONENT OF THE WORK, EXAMINE AREAS, CONDITIONS, AND SUBSTRATES WITH INSTALLER OR APPLICATOR PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE. RECORD OBSERVATIONS. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. PROCEEDING WITH THE WORK INDICATES ACCEPTANCE OF SURFACES AND CONDITIONS.

21. SHOULD THE DRAWINGS DISAGREE WITH ONE ANOTHER, THE LARGER SCALE DRAWING SHALL GOVERN FOR MATTERS CONCERNING INTENT. SHOULD THE DRAWINGS AND SPECIFICATIONS DISAGREE, THE BETTER QUALITY OR GREATER QUANTITY OF MATERIALS OR WORK SHALL BE PROVIDED AND PERFORMED.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING, FITTING OR PATCHING REQUIRED TO COMPLETE THE WORK OR TO MAKE ITS PARTS FIT TOGETHER PROPERLY. ALL AREAS REQUIRING CUTTING, FITTING AND PATCHING SHALL BE RESTORED TO THE CONDITION EXISTING PRIOR TO CUTTING, FITTING AND PATCHING, UNLESS OTHERWISE REQUIRED BY THE CONTRACT DOCUMENTS.

23. WHERE EXISTING CONSTRUCTION HAS BEEN DISTURBED, PATCH EXISTING WALL, FLOOR, CEILING, TRIM AND FINISH ASSEMBLIES TO MATCH ADJACENT ASSEMBLIES. PATCH SHALL MAINTAIN THE ACOUSTICAL, SMOKE AND FIRE RATING OF THE ASSEMBLY. CONTRACTOR RESPONSIBLE FOR THE DISTURBANCE SHALL COMPLETE PATCH.

24. ALL DIMENSIONS ARE TO THE FACE OF MASONRY, CONCRETE, AND STUD. ALL DIMENSIONS ARE ACTUAL.

25. ALL WALLS EXTEND TO THE STRUCTURE ABOVE UNLESS INDICATED OTHERWISE. CAREFULLY SCRIBE WALLS TO STRUCTURAL ELEMENTS, AS REQUIRED. WHERE EXPOSED USE AN 'L' MOLD TRIM TO PROVIDE A FINISHED EDGE. SEAL ALL PENETRATIONS AND PERIMETER TIGHTLY WITH ACOUSTIC SEALANT.

26. CONTRACTOR SHALL PROVIDE MASONRY OR FRAMING OF SUFFICIENT DEPTH TO ACCOMMODATE ITEMS SEMI-RECESSED OR RECESSED IN WALL(S).

27. CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF CHASES WITH ALL APPLICABLE TRADES.

28. ANY MISCELLANEOUS WOOD FRAMING, BLOCKING AND NAILERS USED ARE TO BE TREATED WITH FIRE RETARDANT.

29. PROVIDE CONCEALED BACKING, STRAPS, HANGERS, ATTACHMENT PLATES, ANCHORS AND FASTENERS OF ADEQUATE SIZE AND NUMBER TO SECURELY ATTACH ITEMS TO INTENDED SURFACE, ACCURATELY LOCATED AND ALIGNED WITH OTHER PORTIONS OF THE WORK.

30. EXPOSED PLUMBING, MECHANICAL, ELECTRICAL AND TECHNOLOGY INFRASTRUCTURE IS NOT PERMITTED IN FINISHED SPACES UNLESS SPECIFICALLY APPROVED.

31. REMOVE DEBRIS FROM CONCEALED SPACES BEFORE ENCLOSING THE SPACE.

32. CLEAN PROJECT SITE AND WORK AREAS DAILY, INCLUDING COMMON AREAS. ENFORCE REQUIREMENTS STRICTLY. DISPOSE OF MATERIALS LAWFULLY. MAINTAIN PROJECT SITE FREE OF WASTE MATERIALS AND DEBRIS. CLEAN AREAS WHERE WORK IS IN PROGRESS TO THE LEVEL OF CLEANLINESS NECESSARY FOR PROPER EXECUTION OF THE WORK.

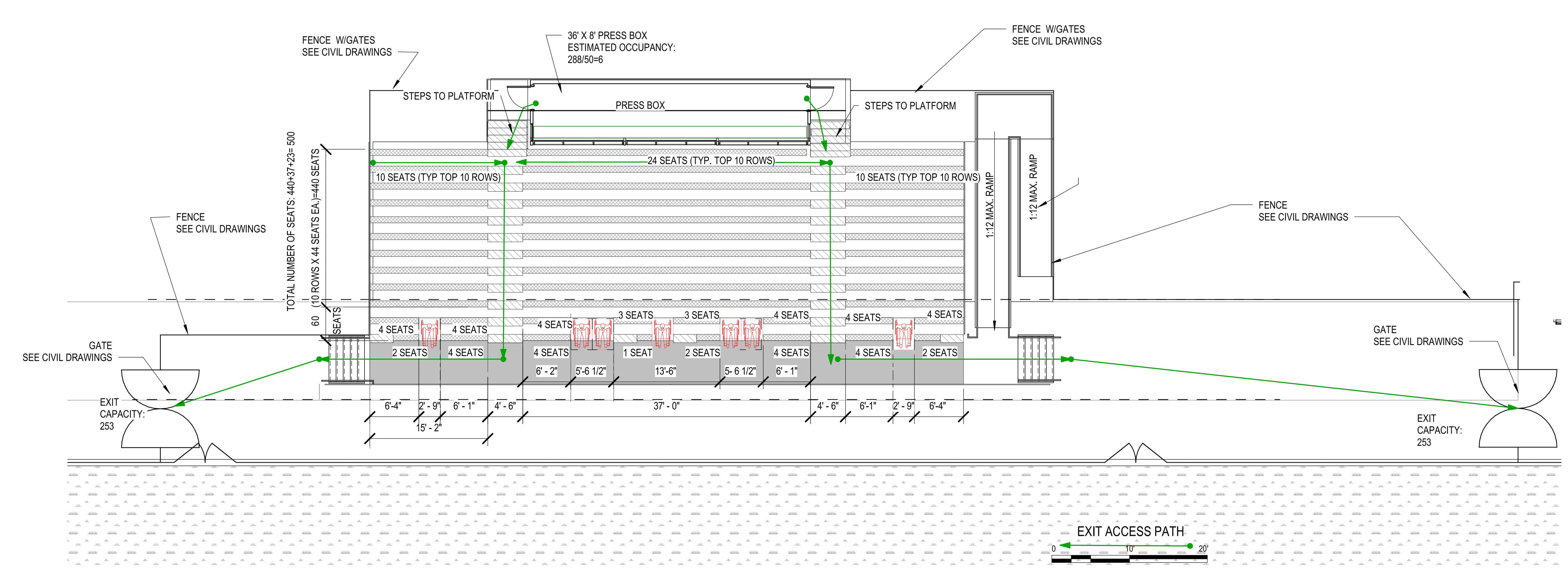
33. DO NOT BURN WASTE MATERIALS.

34. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. REMOVE WASTE MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL. TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.

35. ALL LANDSCAPED AREAS, LAWN AREAS AND PLANTING BEDS DISTURBED BY WORK ARE TO BE RESTORED TO THEIR ORIGINAL CONDITION.

# SYMBOLS

- ROOM NAME — ROOM NAME
- 123 — NUMBER
- 03 30 00.A00 — REFERENCE KEYNOTE
- 15 — SHEET KEYNOTE
- 123A — DOOR MARK
- 15 — WINDOW MARK
- W1 — WALL TYPE
- SF.1 / CW.1 — STOREFRONT/ CURTAIN WALL TAG
- IG — GLAZING TAG
- 12 — ACCESSORIES/ FINISHES TAG
- 1 — REVISION MARK
- A1 / A-501 — DETAIL NUMBER / SHEET NUMBER
- A1 / A-2## — SECTION NUMBER / SHEET NUMBER
- A1 / A-2## — EXTERIOR ELEVATION NUMBER / SHEET NUMBER
- A1 / A-2## — INTERIOR ELEVATION NUMBER / SHEET NUMBER
- LEVEL
- MATCH LINE
- EXISTING COLUMN GRID
- COLUMN GRID
- DOOR - EXISTING
- DOOR - NEW CONSTRUCTION
- CENTER LINE
- PROPERTY LINE
- EL 109 — NEW CONTOUR
- EL 109 — EXISTING CONTOUR
- 1010.00' — SPOT ELEVATION
- 1 HOUR RATED
- 2 HOUR RATED
- 3 HOUR RATED
- 4 HOUR RATED
- SMOKE RATED




B5 BLEACHERS LIFE SAFETY PLAN

SCALE: 1" = 10'-0"

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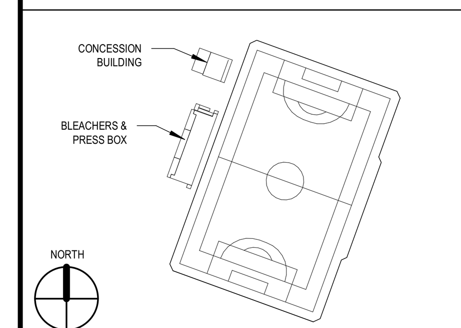
dastructures.com

| 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

LIFE SAFETY PLAN, GENERAL NOTES, ABBREVIATIONS & SYMBOLS

DRAWN BY: Aut

CHECKED BY: Checker

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DRAWING NO.

A-001

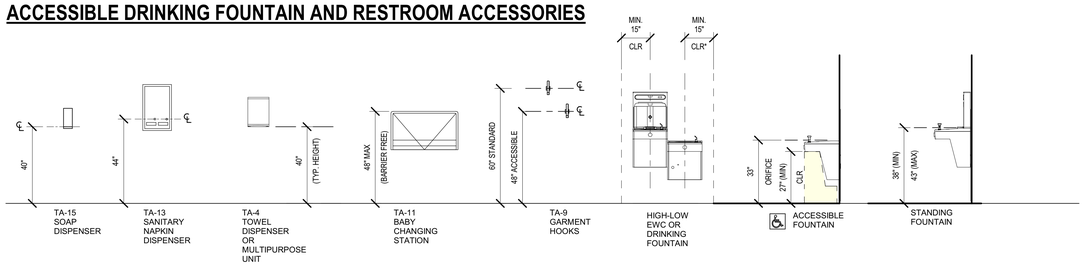
SHEET FILE/PLOT DATE: 3/22/2024 8:18:13 AM C:\Revit Local Files\A_R21_PSUH Stadium Seating and Restroom Bldg_Central_labdul.rvt

# TYPICAL MOUNTING HEIGHTS BASED ON ICC A117.1-2017, UNO

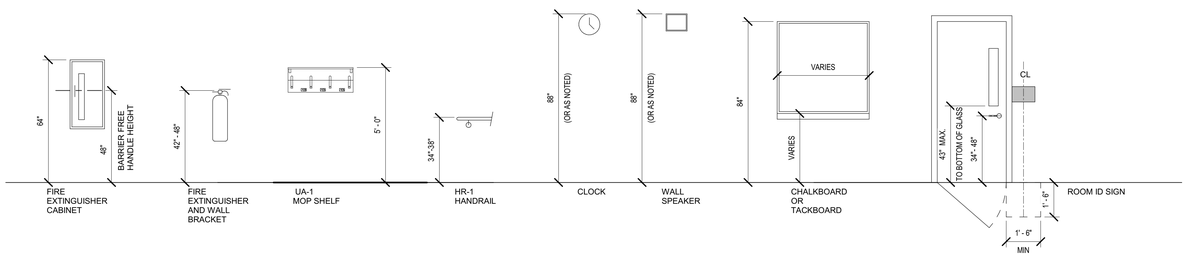
MISCELLANEOUS ACCESSORIES, TOILET ACCESSORIES, AND FIXTURES

NOTE: MOUNTING HEIGHTS SHOWN ARE PROPOSED FOR ALL ACCESSORIES AND FIXTURES REQUIRED UNLESS OTHERWISE NOTED OR DIMENSIONED ON DRAWINGS FOR SPECIFIC CONDITIONS.

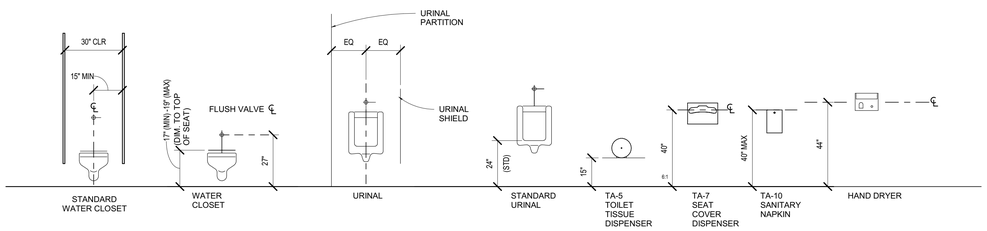
## ACCESSIBLE DRINKING FOUNTAIN AND RESTROOM ACCESSORIES



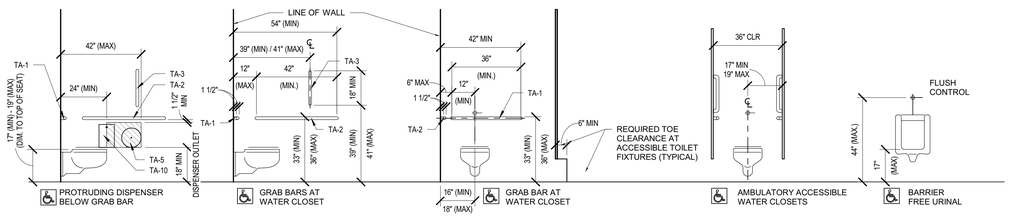

## MISCELLANOUS ITEMS

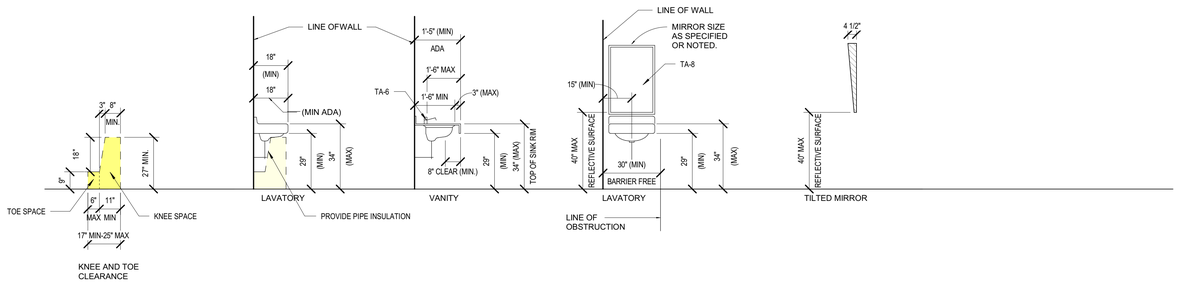



## STANDARD TOILET FIXTURES AND ACCESSORIES




## ACCESSIBLE TOILET FIXTURES AND ACCESSORIES




## SIGNAGE STANDARDS:

ROOM SIGNS TO FOLOW PSU STANDARDS FOUND AT:

https://oppwiki.atlassian.net/wiki/spaces/OPPDCS/pages/5409571/10+10+00+INFORMATION+SPECIALTIES?preview=/5409571/117637137/2023_PSU%20Interior%20Standards%20Manual.pdf

REFER TO SPECIFICATIONS SECTION 101400 FOR SAMPLE CUT SHEETS OF ROOM SIGNS

PERMANENT ROOM SIGNS ARE TO BE LOCATED AT DOORWAYS:
- SIGNS MOUNT ON THE STRIKE SIDE OF THE DOOR (PRIMARY LOCATION)
- MINIMUM HEIGHT: BASELINE OF LOWEST TACTILE COPY, MOUNTED NO LOWER THAN 48" ABOVE THE FLOOR
- MAXIMUM HEIGHT: BASELINE OF HIGHEST TACTILE COPY, MOUNTED NO HIGHER THAN 60" ABOVE FLOOR.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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

**ACCESSIBLE MOUNTING HEIGHTS**

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**A-002**

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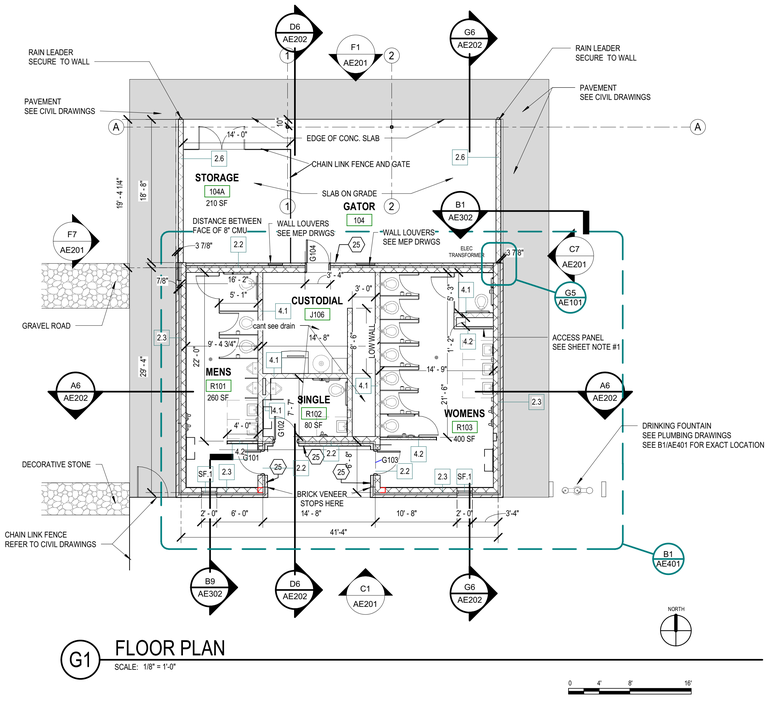



## G1 FLOOR PLAN

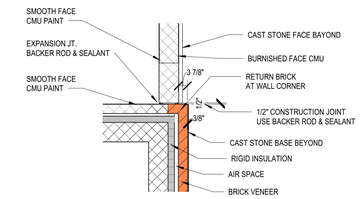
SCALE: 1/8" = 1'-0"

**FOOT PRINT: 2088 SF**

FULLY ENCLOSED: 1215 SF

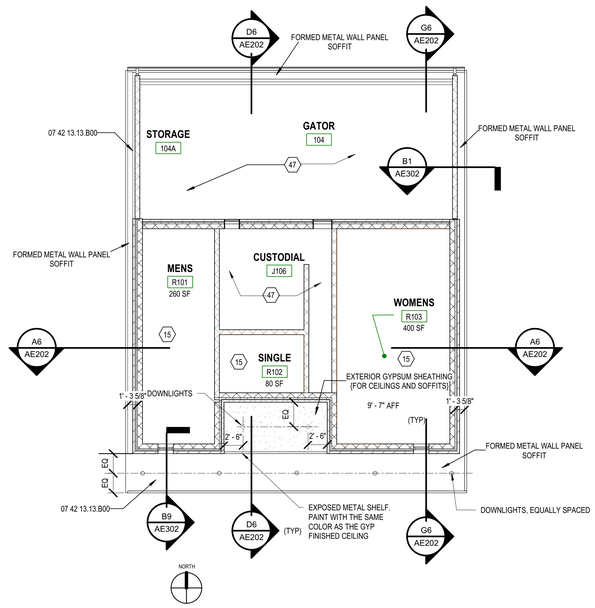
OVERALL EXTERIOR DIMENSIONS FOR MULTI-WYTHE WALLS:

FROM EXTERIOR FACE OF 8" CMU
TO EXTERIOR FACE OF 8" CMU



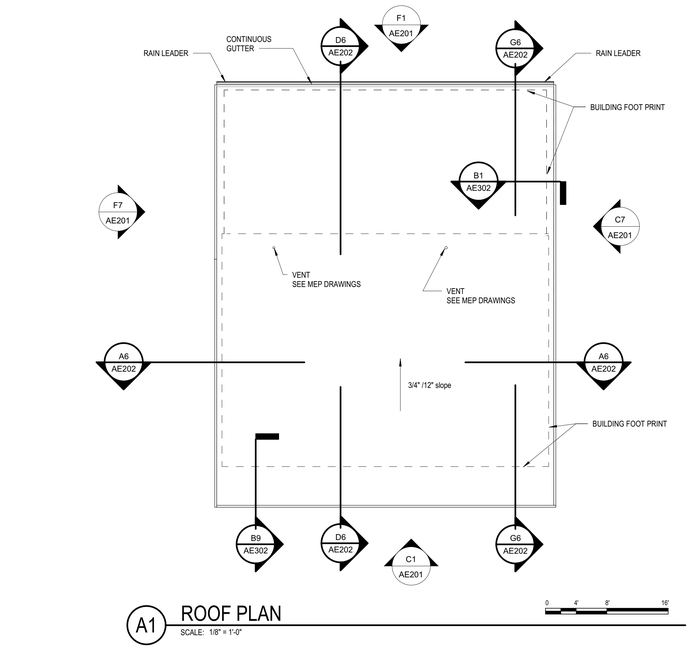

## G5 CORNER DETAIL

SCALE: 1/2" = 1'-0"



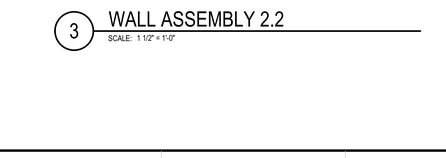

## G8 REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"



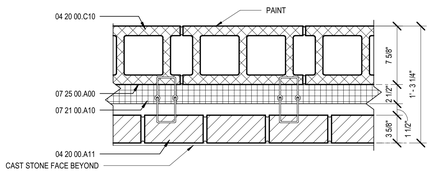

## A1 ROOF PLAN

SCALE: 1/8" = 1'-0"




## 1 WALL ASSEMBLY 2.5

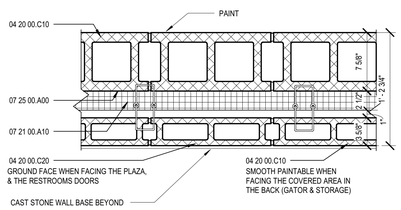
SCALE: 1 1/2" = 1'-0"




## 2 WALL ASSEMBLY 2.4

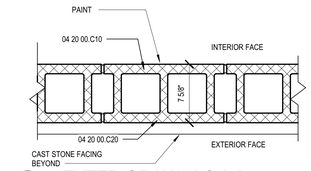
SCALE: 1 1/2" = 1'-0"

WALL ASSEMBLY 2.3 IS A STACKED WALL.
THE BOTTOM PART IS WALL ASSEMBLY 2.4
& THE TOP IS WALL ASSSEMBLY 2.5



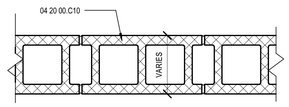

## 3 WALL ASSEMBLY 2.2

SCALE: 1 1/2" = 1'-0"




## 4 EXTERIOR WALLS 2.6

SCALE: 1 1/2" = 1'-0"




WIDTH:
WALL TYPE: 4.1: 7-5/8" THICK
WALL TYPE: 4.2: 3-5/8" THICK

## 5 INTERIOR WALLS 4.1 & 4.2

SCALE: 1 1/2" = 1'-0"

### GENERAL SHEET NOTES

1. LIGHT FIXTURES AND APPURTENENCES RECESSED OR SURFACE MOUNTED ON SOFFITS TO BE CENTERED, AND EQUALLY SPACED.

### SHEET NOTES

1 ACCESS PANEL:
36" WIDE X 36" HIGH. WITH BOTTOM 24" ABOVE F.F.L.
MOUNT FLUSH WITH WALL. SCREW FRAME TO CMU.
MATERIAL TO BE STAINLESS STEEL W/CONTINUOUS & CONCEALED HINGES.
SCREW DRIVER OPERATED CAM LATCH.
SUBMIT PRODUCT DATA FOR APPROVAL.

### REFERENCE KEYNOTES

| | |
|---|---|
| 04 20 00.A11 | STANDARD MODULAR BRICK - STRETCHER COURSE (COLOR) |
| 04 20 00.C10 | CONCRETE MASONRY UNIT - SMOOTH (SIZE) |
| 04 20 00.C20 | CONCRETE MASONRY UNIT - GROUND FACE (SIZE) |
| 07 21 00.A10 | EXTRUDED-POLYSTYRENE BOARD INSULATION (THICKNESS) |
| 07 25 00.A00 | WEATHER RESISTIVE BARRIER |
| 07 42 13.13.B00 | FORMED METAL WALL PANEL SOFFIT |
| 09 29 00.A00 | EXTERIOR GYPSUM SHEATHING (FOR CEILINGS AND SOFFITS) |
| 32 31 13.A00 | CHAIN LINK FENCE AND GATE |

### SHEET KEYNOTES

| | |
|---|---|
| 07 42 13 | FORMED METAL WALL PANELS |
| 15 | EXPOSED STRUCTURE PAINTED SEE FINISH SCHEDULE |
| 25 | ACCESSIBLE ROOM SIGN |
| 47 | NO PAINT FOR EXPOSED STRUCTURE HERE |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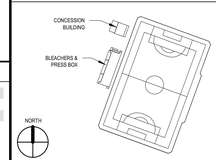
| | 09-27-2023 | PERMIT SUBMISSION |
| | 09-06-2023 | CD SUBMISSION |

KEY PLAN:




PROJECT TITLE:

**STADIUM SEATING & RESTROOMS BLDG**

**PENN STATE UNIVERSITY HARRISBURG CAMPUS**
777 W Harrisburg Pike, Middletown, PA 17057

PROJECT NUMBER: 2022.138.00

PROJECT PHASE: CONSTRUCTION DOCUMENTS

SHEET TITLE:

**RESTROOMS BLDG PLANS**

DRAWN BY: CJK

CHECKED BY: ALC

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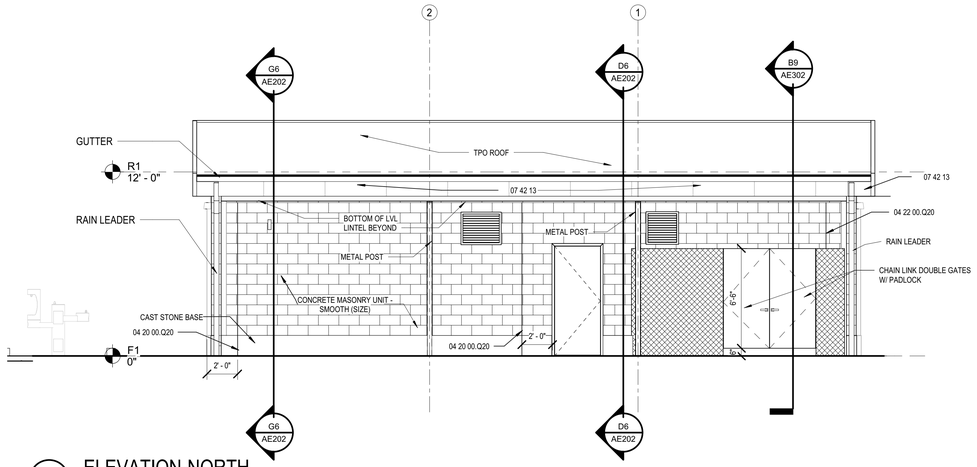
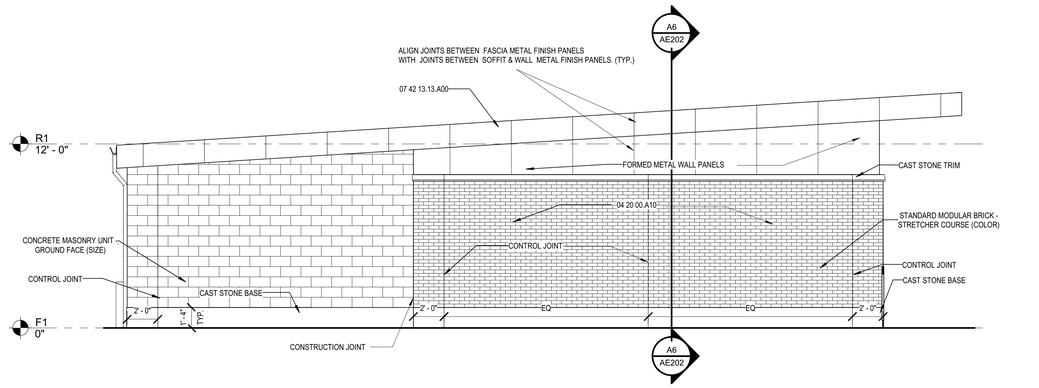



F1 ELEVATION-NORTH

SCALE: 1/4" = 1'-0"

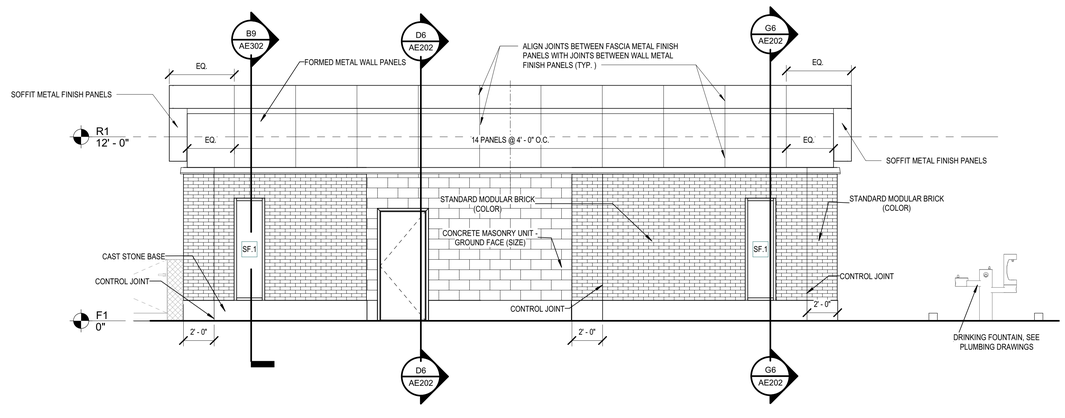
0 2' 4' 8'




F7 ELEVATION WEST

SCALE: 1/4" = 1'-0"

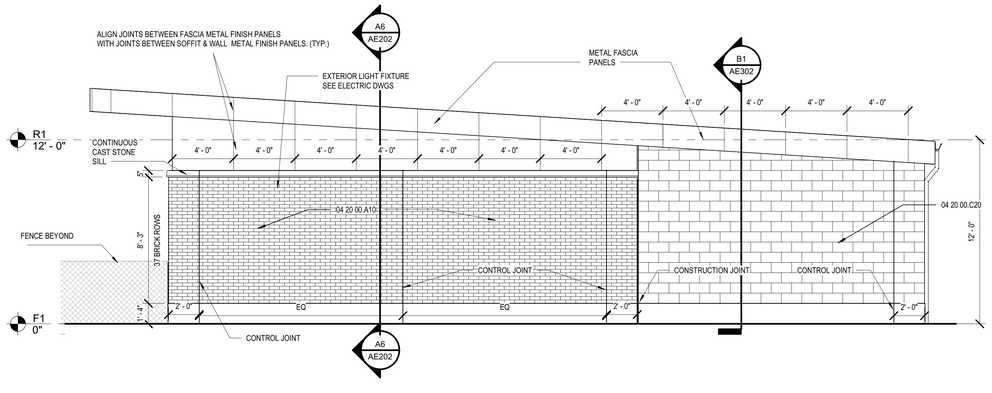
0 2' 4' 8'




C1 ELEVATION-SOUTH

SCALE: 1/4" = 1'-0"

0 2' 4' 8'




C7 ELEVATION EAST

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

## GENERAL SHEET NOTES

SLOPE IMPERVIOUS SURFACES 2% AWAY FROM BUILDING

## REFERENCE KEYNOTES

| | |
|---|---|
| 04 20 00.A10 | STANDARD MODULAR BRICK (COLOR) |
| 04 20 00.A11 | STANDARD MODULAR BRICK - STRETCHER COURSE (COLOR) |
| 04 20 00.C10 | CONCRETE MASONRY UNIT - SMOOTH (SIZE) |
| 04 20 00.C20 | CONCRETE MASONRY UNIT - GROUND FACE (SIZE) |
| 04 20 00.Q20 | CONTROL JOINT |
| 04 22 00.Q20 | CONTROL JOINT |
| 04 72 00.A00 | CAST STONE BASE |
| 04 72 00.B00 | CAST STONE TRIM |
| 07 42 13.13.A00 | FORMED METAL WALL PANELS |
| 22 47 00.A00 | DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS |

## SHEET KEYNOTES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E-MAIL: msnyder@kandwengineers.com
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310 PENN STREET, SUITE 104
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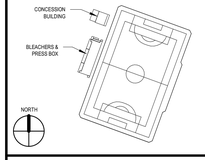
PHONE: 814-317-5037
E-MAIL: rdiviney@DIAStructures.com
diastructures.com


| 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

## EXTERIOR ELEVATIONS

DRAWN BY: CJK

CHECKED BY: ALC

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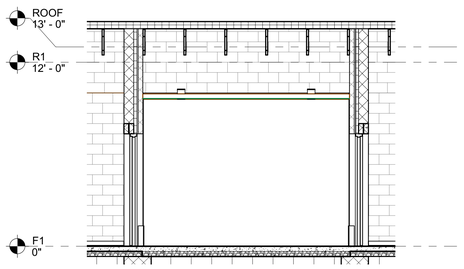
DRAWING NO.

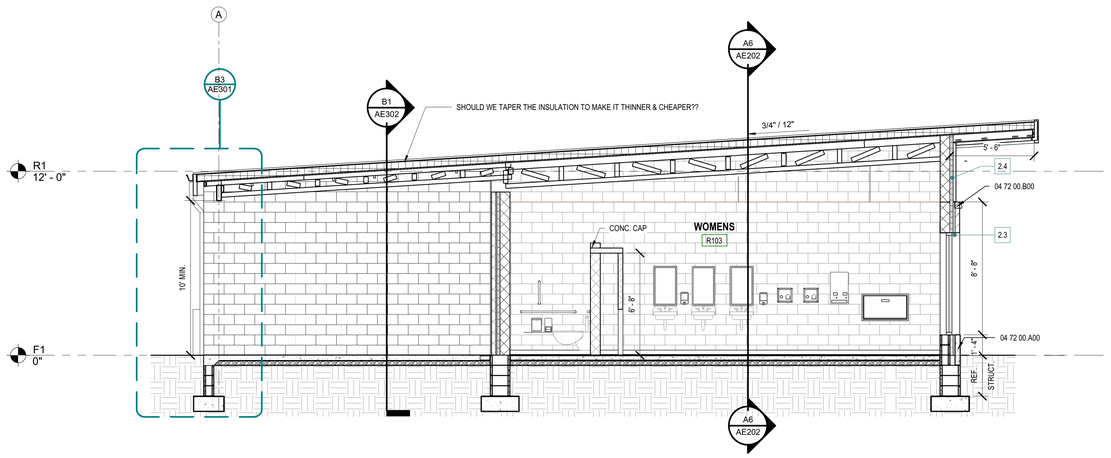
**AE201**

SHEET PLEAPLOT DATE: 3/22/2024 8:34:24 AM C:\Revit Local Files\A_R21_ PSUH Stadium Seating and Restroom Bldg_Central_dabdurkut




## G1 SECTION THRU ALCOVE

SCALE: 1/4" = 1'-0"




## G6 BUILDING SECTION (N/S)

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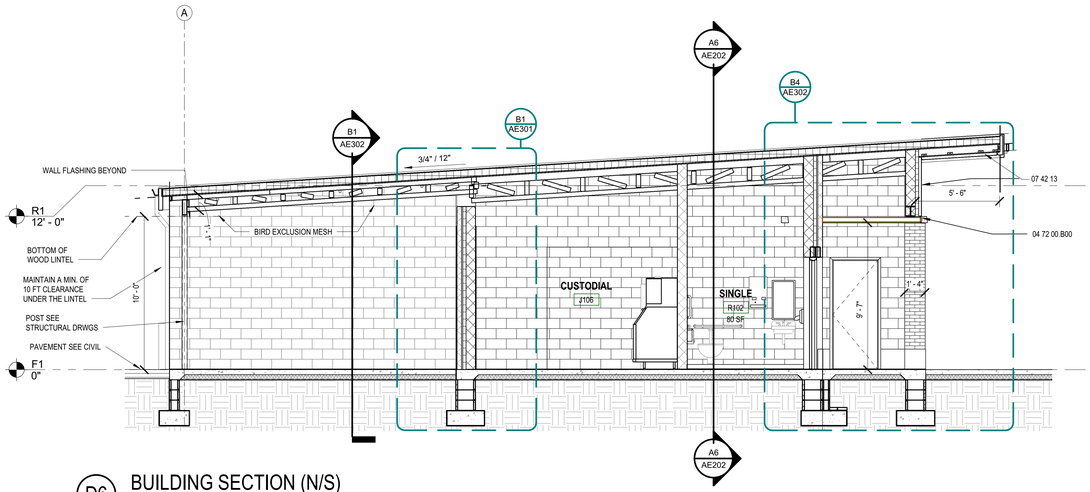
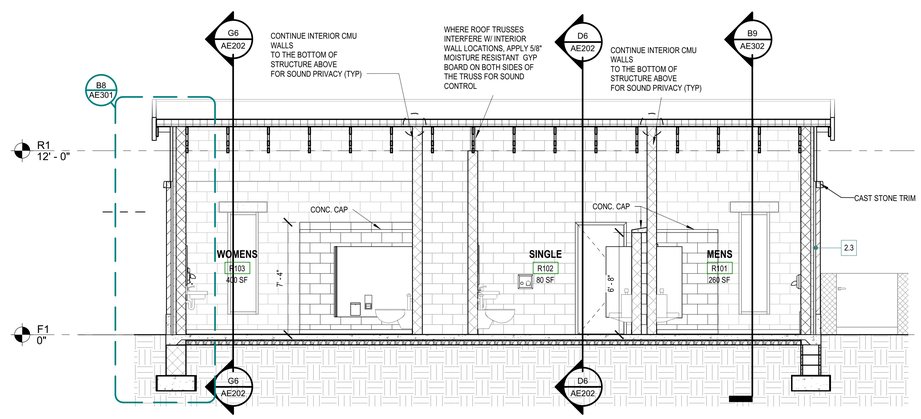
0 2' 4' 8'




## D6 BUILDING SECTION (N/S)

SCALE: 1/4" = 1'-0"

0 2' 4' 8'




## A6 BUILDING SECTION (W/E)

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

### GENERAL SHEET NOTES

SLOPE IMPERVIOUS SURFACES 2% AWAY FROM BUILDING

### REFERENCE KEYNOTES

| | |
|---|---|
| 04 72 00.A00 | CAST STONE BASE |
| 04 72 00.B00 | CAST STONE TRIM |

### SHEET KEYNOTES

02 Sheet Keynote Legend

| KEYNOTE NUMBER | KEYNOTE TEXT |
|---|---|
| 07 42 13 | FORMED METAL WALL PANELS |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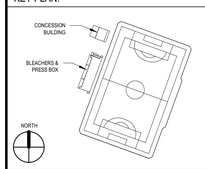
KEY PLAN:




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

## BUILDING SECTIONS

DRAWN BY: Author

CHECKED BY: Checker

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DRAWING NO.

# AE202

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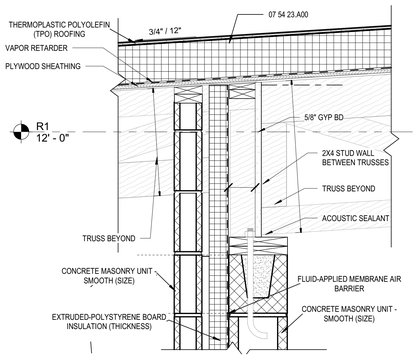


## H1 ROOF DETAIL

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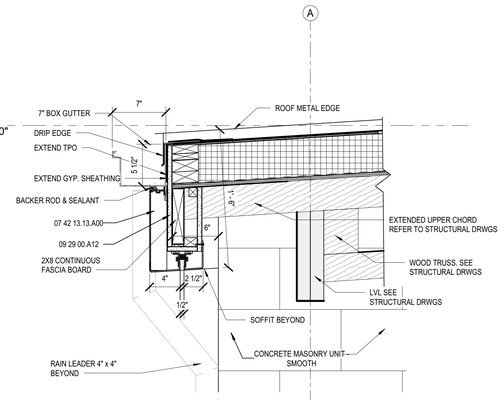


## H4 ROOF DETAIL

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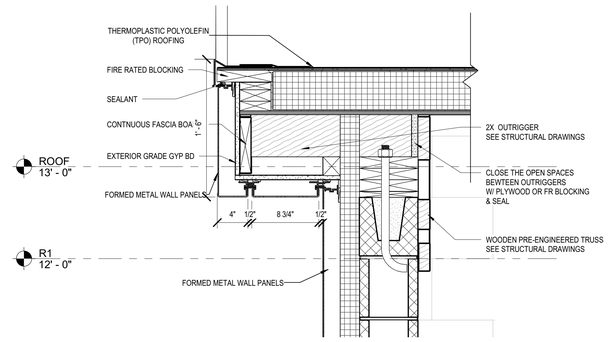


## H6 RAKE DETAIL

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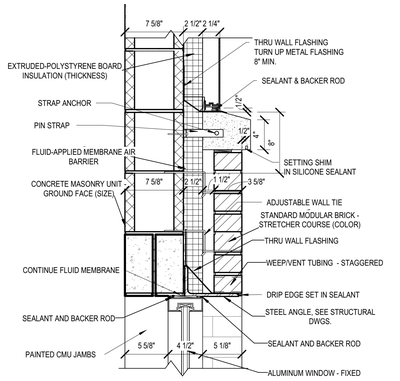
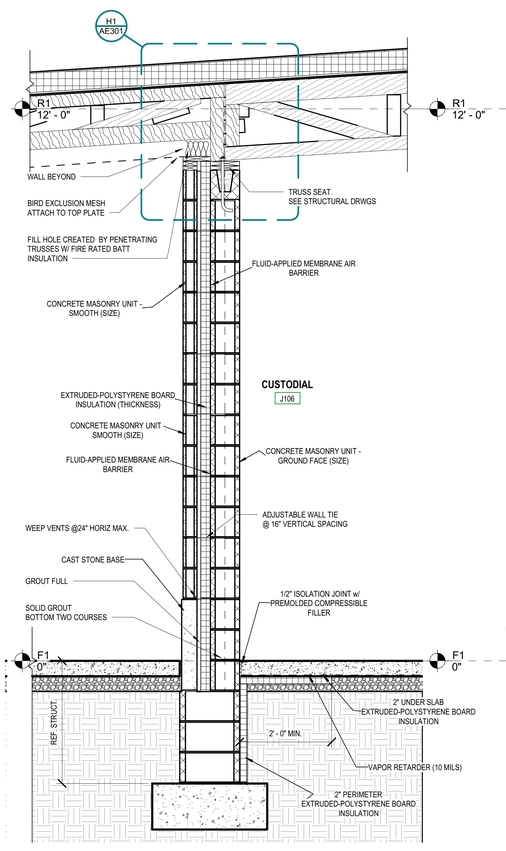


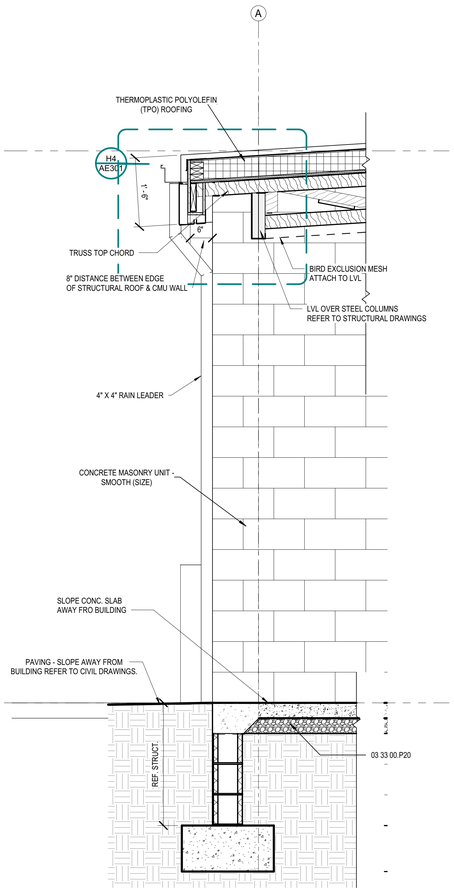

## H10 WINDOW HEAD DETAIL

SCALE: 1 1/2" = 1'-0"




## B1 WALL SECTION

SCALE: 3/4" = 1'-0"




## B3 WALL SECTION

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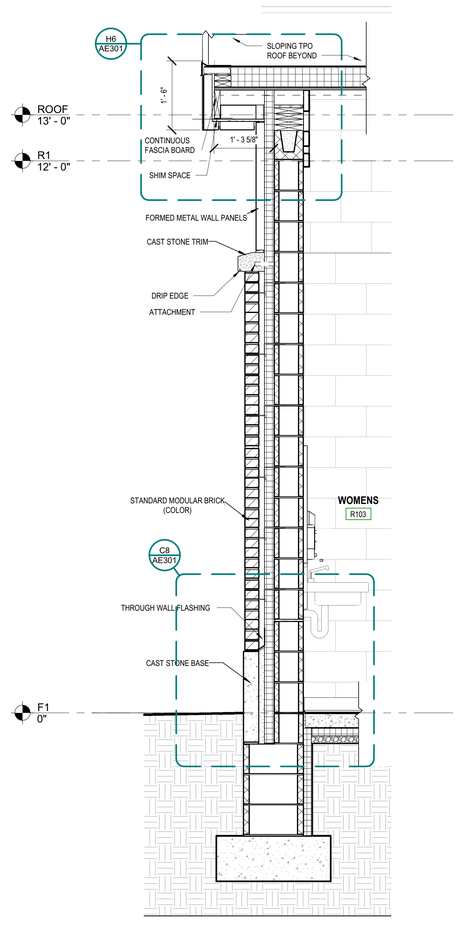
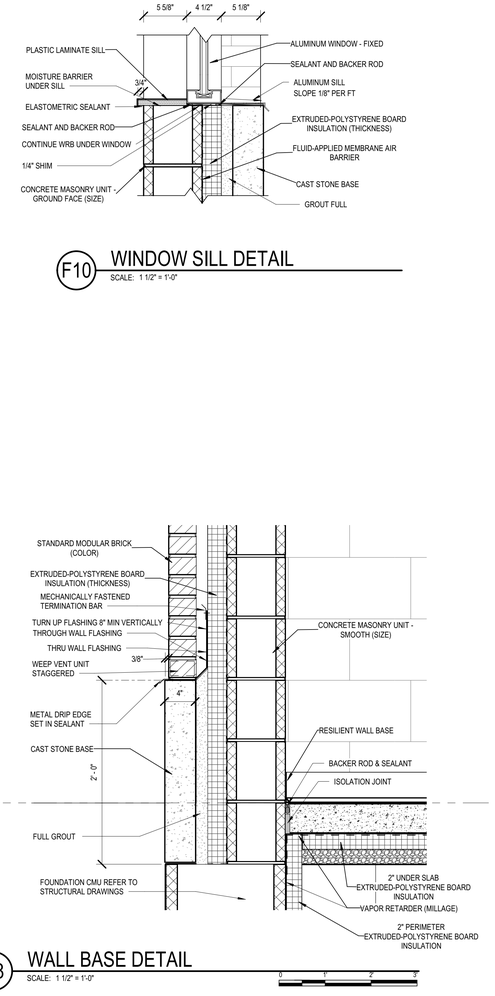


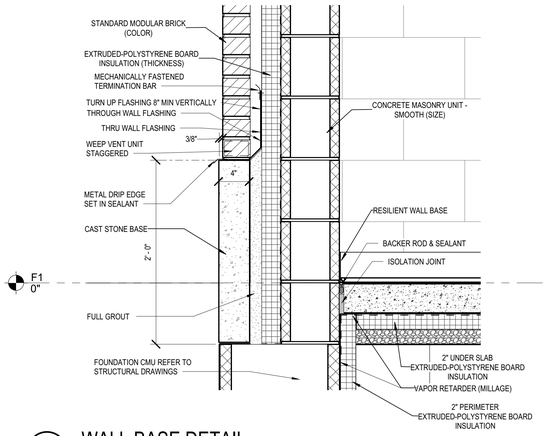

## B8 BUILDING SECTION

SCALE: 3/4" = 1'-0"




## F10 WINDOW SILL DETAIL

SCALE: 1 1/2" = 1'-0"




## C8 WALL BASE DETAIL

SCALE: 1 1/2" = 1'-0"

### GENERAL SHEET NOTES

### REFERENCE KEYNOTES

| | |
|---|---|
| 03 30 00.P20 | VAPOR RETARDER (MILLAGE) |
| 03 30 00.Q30 | 1/2" ISOLATION JOINT w/ PREMOLDED COMPRESSIBLE FILLER |
| 03 33 00.P20 | VAPOR RETARDER (10 MILS) |
| 04 20 00.A11 | STANDARD MODULAR BRICK - STRETCHER COURSE (COLOR) |
| 04 20 00.C10 | CONCRETE MASONRY UNIT - SMOOTH (SIZE) |
| 04 20 00.C20 | CONCRETE MASONRY UNIT - GROUND FACE (SIZE) |
| 04 20 00.S11 | WEEP/VENT TUBING - STAGGERED |
| 04 22 00.A00 | CONCRETE MASONRY UNIT - SMOOTH |
| 04 22 00.A10 | CONCRETE MASONRY UNIT - SMOOTH (SIZE) |
| 04 26 13.A10 | STANDARD MODULAR BRICK (COLOR) |
| 04 72 00.A00 | CAST STONE BASE |
| 04 72 00.B00 | CAST STONE TRIM |
| 05 12 00.D10 | STEEL ANGLE, SEE STRUCTURAL DWGS. |
| 06 41 16.C41 | PLASTIC LAMINATE SILL |
| 07 21 00.A10 | EXTRUDED-POLYSTYRENE BOARD INSULATION (THICKNESS) |
| 07 21 00.A11 | 2" PERIMETER EXTRUDED-POLYSTYRENE BOARD INSULATION |
| 07 21 00.A12 | 2" UNDER SLAB EXTRUDED-POLYSTYRENE BOARD INSULATION |
| 07 27 26.A00 | FLUID-APPLIED MEMBRANE AIR BARRIER |
| 07 42 13.13.A00 | FORMED METAL WALL PANELS |
| 07 54 23.A00 | THERMOPLASTIC POLYOLEFIN (TPO) ROOFING |
| 07 62 00.A20 | THRU WALL FLASHING |
| 07 92 00.C00 | SEALANT AND BACKER ROD |
| 08 51 13.A20 | ALUMINUM WINDOW - FIXED |
| 09 29 00.A12 | 5/8" EXTERIOR GYPSUM SHEATHING |
| 09 65 13.A00 | RESILIENT WALL BASE |

### SHEET KEYNOTES

| | |
|---|---|
| 07 54 23 | THERMOPLASTIC POLYOLEFIN (TPO) ROOFING |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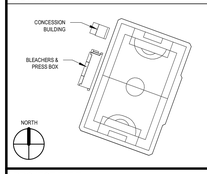
KEY PLAN:




PROJECT TITLE:

PENNSTATE Harrisburg

**STADIUM SEATING & RESTROOMS BLDG**

**PENN STATE UNIVERSITY HARRISBURG CAMPUS**

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PSU BUILDING NUMBER: 0985095

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PROJECT PHASE: CONSTRUCTION DOCUMENTS

**WALL SECTIONS & DETAILS**

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CHECKED BY: ALC

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DRAWING NO.

**AE301**

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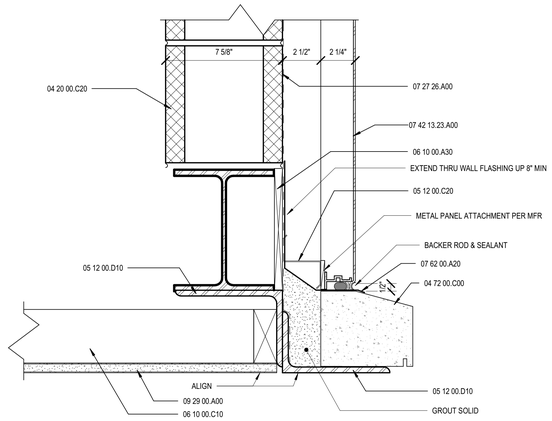
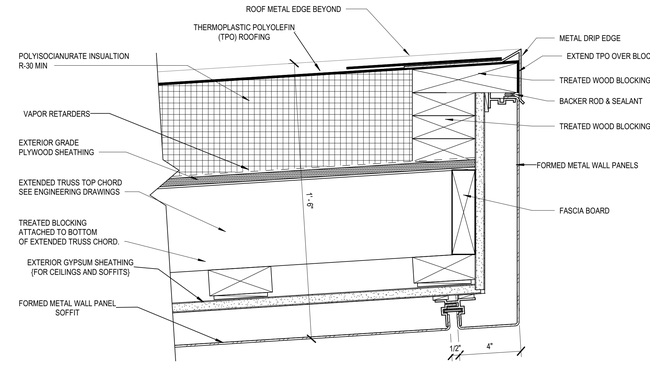
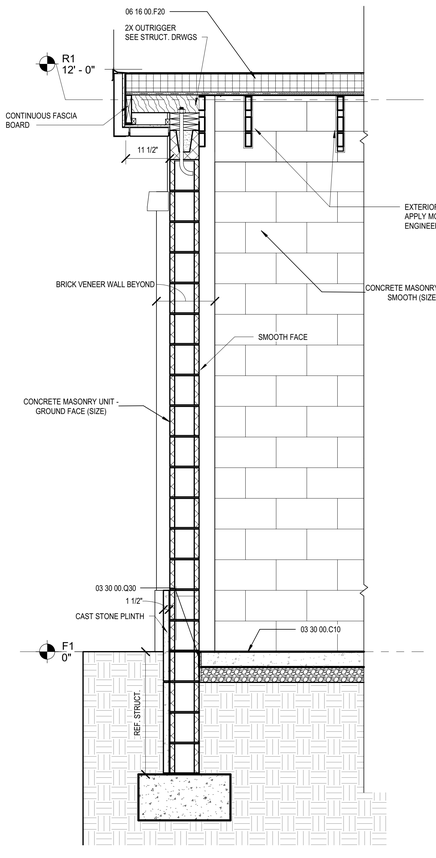


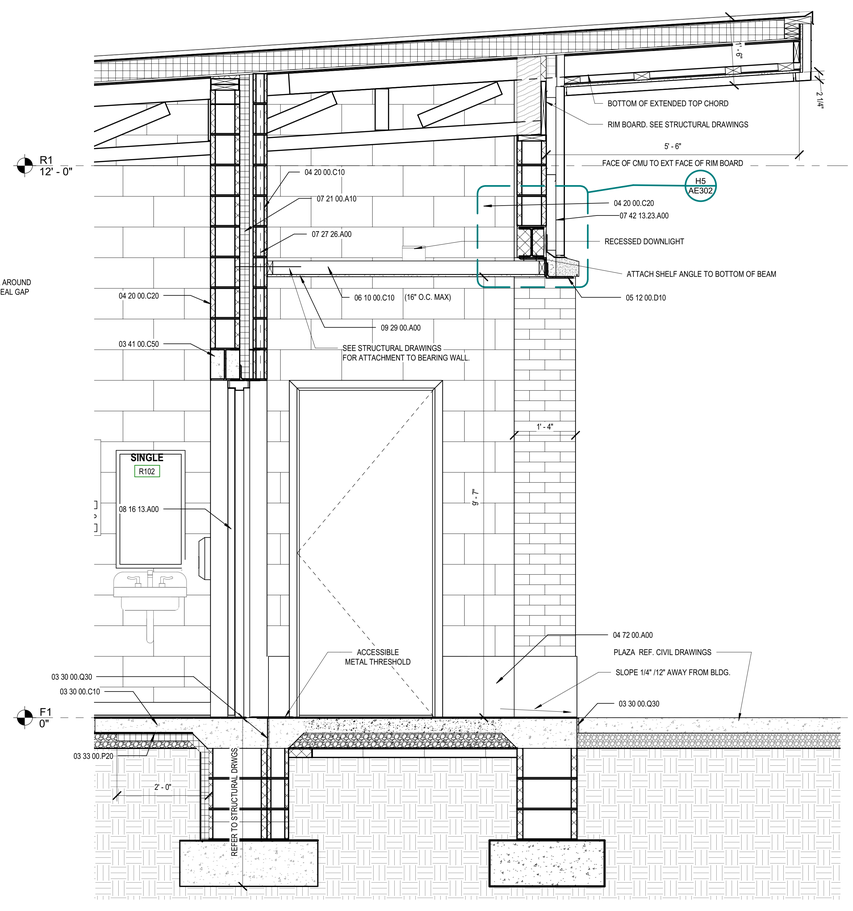

H5 DETAIL
SCALE: 3" = 1'-0"




H10 ROOF OVERHANG DETAIL
SCALE: 3" = 1'-0"




B1 WALL SECTION
SCALE: 3/4" = 1'-0"

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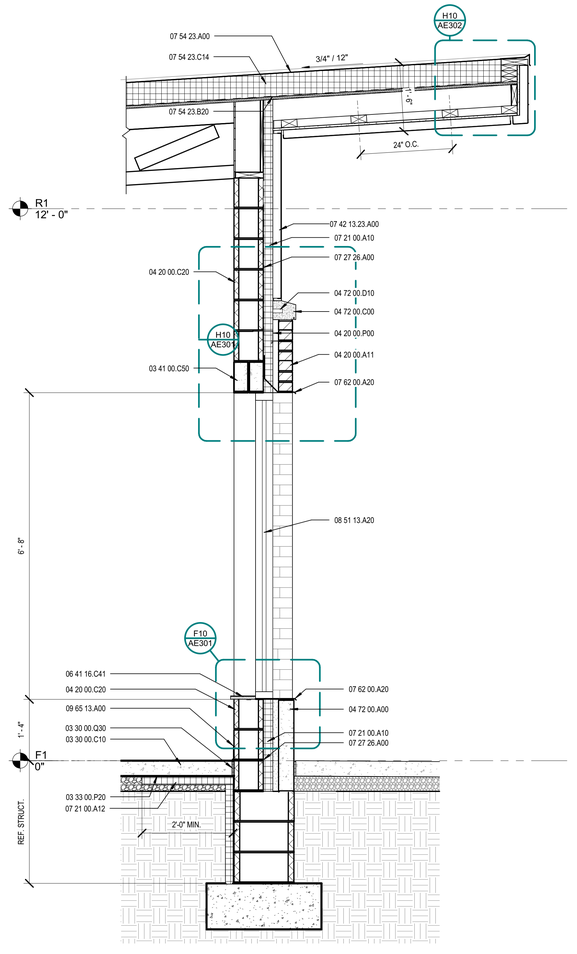


B9 WALL SECTION
SCALE: 3/4" = 1'-0"

0 1' 2' 3'

GENERAL SHEET NOTES

REFERENCE KEYNOTES

| | |
|---|---|
| 03 30 00.C10 | CONCRETE SLAB ON GRADE. SEE STRUCTURAL PLAN. |
| 03 30 00.Q30 | 1/2" ISOLATION JOINT w/ PREMOLDED COMPRESSIBLE FILLER |
| 03 33 00.P20 | VAPOR RETARDER (10 MILS) |
| 03 41 00.C50 | PRECAST CONCRETE LINTEL. SEE STRUCTURAL DRAWINGS |
| 04 20 00.A11 | STANDARD MODULAR BRICK - STRETCHER COURSE (COLOR) |
| 04 20 00.C10 | CONCRETE MASONRY UNIT - SMOOTH (SIZE) |
| 04 20 00.C20 | CONCRETE MASONRY UNIT - GROUND FACE (SIZE) |
| 04 20 00.P00 | TIES & ANCHORS |
| 04 22 00.A10 | CONCRETE MASONRY UNIT - SMOOTH (SIZE) |
| 04 72 00.A00 | CAST STONE BASE |
| 04 72 00.C00 | CAST STONE CAP |
| 04 72 00.D10 | PIN STRAP |
| 05 12 00.C20 | STEEL Z-GIRT |
| 05 12 00.D10 | STEEL ANGLE, SEE STRUCTURAL DWGS. |
| 06 10 00.A30 | TREATED WOOD BLOCKING |
| 06 10 00.C10 | 2x4 WOOD STUD |
| 06 16 00.F20 | EXTERIOR GRADE PLYWOOD SHEATHING |
| 06 41 16.C41 | PLASTIC LAMINATE SILL |
| 07 21 00.A10 | EXTRUDED-POLYSTYRENE BOARD INSULATION (THICKNESS) |
| 07 21 00.A12 | 2" UNDER SLAB EXTRUDED-POLYSTYRENE BOARD INSULATION |
| 07 27 26.A00 | FLUID-APPLIED MEMBRANE AIR BARRIER |
| 07 42 13.13.A00 | FORMED METAL WALL PANELS |
| 07 42 13.13.B00 | FORMED METAL WALL PANEL SOFFIT |
| 07 42 13.23.A00 | METAL COMPOSITE MATERIAL WALL PANELS |
| 07 54 23.A00 | THERMOPLASTIC POLYOLEFIN (TPO) ROOFING |
| 07 54 23.B20 | VAPOR RETARDER |
| 07 54 23.C14 | POLYISOCYANURATE BOARD INSULATION 6" THICK |
| 07 62 00.A20 | THRU WALL FLASHING |
| 08 16 13.A00 | ALUMINUM DOOR AND FRAME |
| 08 51 13.A20 | ALUMINUM WINDOW - FIXED |
| 09 29 00.A00 | EXTERIOR GYPSUM SHEATHING (FOR CEILINGS AND SOFFITS) |
| 09 65 13.A00 | RESILIENT WALL BASE |

SHEET KEYNOTES

| | |
|---|---|
| 07 26 00 | VAPOR RETARDERS |
| 07 54 23 | THERMOPLASTIC POLYOLEFIN (TPO) ROOFING |


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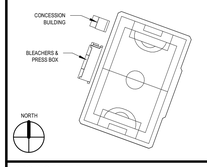


PROJECT TITLE:

PENNSTATE Harrisburg

**STADIUM SEATING & RESTROOMS BLDG**
**PENN STATE UNIVERSITY HARRISBURG CAMPUS**
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PSU BUILDING NUMBER: 0985095
PSU PROJECT NUMBER: 00-08713.00
PROJECT NUMBER: 2022.138.00
PROJECT PHASE: CONSTRUCTION DOCUMENTS

**WALL SECTIONS & DETAILS**

DRAWN BY: Author
CHECKED BY: Checker

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DRAWING NO.

**AE302**

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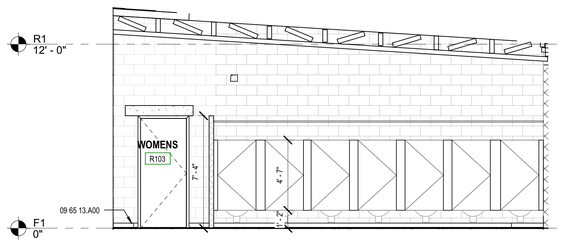
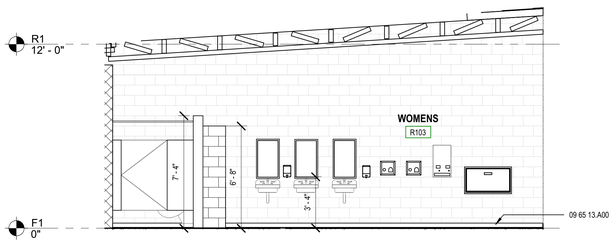
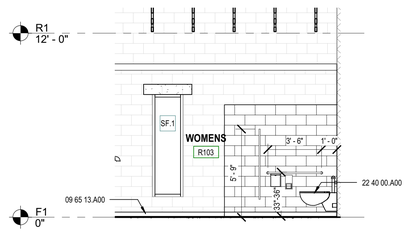


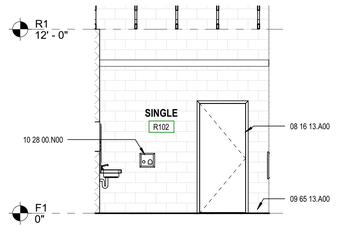

J1 INT. ELEVATION - R103 (WEST)
SCALE: 1/4" = 1'-0"



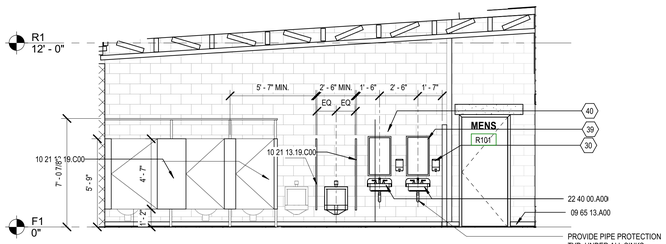

J4 INT. ELEVATION - R103 (EAST)
SCALE: 1/4" = 1'-0"



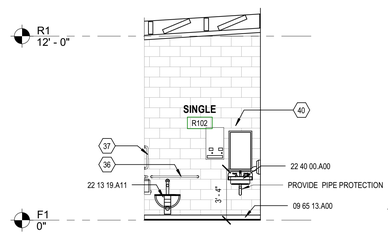

J8 INT. ELEVATION - R103 (SOUTH)
SCALE: 1/4" = 1'-0"



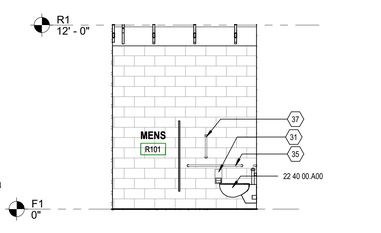

C3 INT. ELEVATION - R102 (SOUTH)
SCALE: 1/4" = 1'-0"



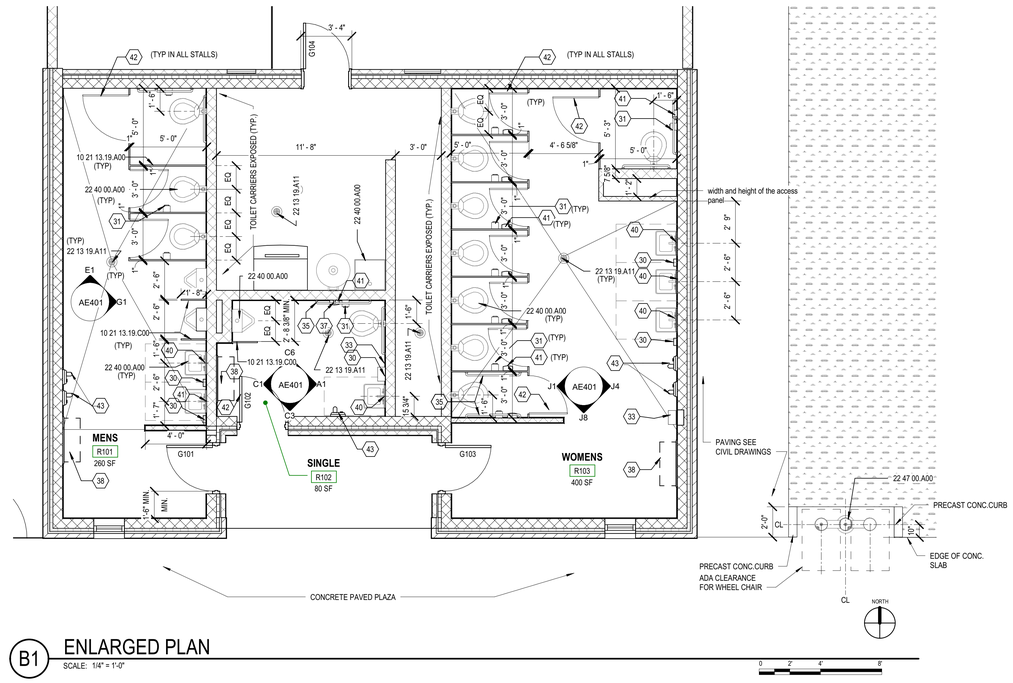

G1 INT. ELEVATION - R101 (EAST)
SCALE: 1/4" = 1'-0"



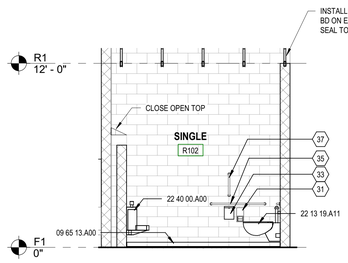

A1 INT. ELEVATION - R102 (EAST)
SCALE: 1/4" = 1'-0"



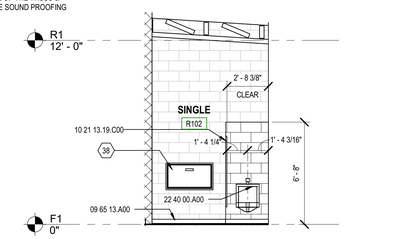

E1 INT. ELEVATION - R101 (NORTH)
SCALE: 1/4" = 1'-0"




B1 ENLARGED PLAN
SCALE: 1/4" = 1'-0"




C6 INT. ELEVATION - R102 (NORTH)
SCALE: 1/4" = 1'-0"




C1 INT. ELEVATION - R102 (WEST)
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

RESTROOM ACCESSORIES NOTES:

**GRAB BARS:**
GRAB BAR SHALL BE TYPE-304 STAINLESS STEEL WITH SATIN-FINISH, SLIP-RESISTANT SURFACE. GRAB BAR SHALL HAVE 18-GAUGE (1.2MM) WALL THICKNESS AND 1-1/2" (38MM) OUTSIDE DIAMETER.
CLEARANCE BETWEEN THE GRAB BAR AND WALL SHALL BE 1-1/2" (38MM). CONCEALED MOUNTING FLANGES SHALL BE 11-GAUGE (3.2MM) THICK STAINLESS STEEL PLATE, 2" X 3-1/8" (50 X 80MM), AND EQUIPPED WITH AT LEAST TWO SCREW HOLES FOR ATTACHMENT TO WALL. FLANGE COVERS SHALL BE 22 GAUGE (0.8MM), 3-1/4" (85MM) DIAMETER X 1/2" (13MM) DEEP, AND SHALL SNAP OVER MOUNTING FLANGE TO CONCEAL MOUNTING SCREWS AND/OR WINGIT FASTENERS. ENDS OF GRAB BAR SHALL PASS THROUGH CONCEALED MOUNTING FLANGES AND BE HELIARC WELDED TO FORM ONE STRUCTURAL UNIT. GRAB BAR SHALL COMPLY WITH ACCESSIBLE DESIGN (INCLUDING ADAAG IN THE U.S.A.) FOR STRUCTURAL STRENGTH.
USE MOUNTING KIT BOBRICK NO 252-30
INSTALL USING MANUFACTURER'S INSTRUCTIONS. GRAB BARS TO SUPPORT WEIGHT AS INDICATED BY CODES.

**ACCESSIBLE MIRRORS:**
TILT MIRROR ASSEMBLY SHALL CONSIST OF A MIRROR AND A SEPARATE WALL FRAME WITH BUILT-IN WALL HANGER. WALL FRAME FURNISHED WITH TUMBLER LOCK FOR SECURING MIRROR TO WALL FRAME. TILT MIRROR FRAME SHALL BE TYPE 304 STAINLESS STEEL WITH BEVELED FRONT TO HOLD FRAME TIGHTLY AGAINST MIRROR; CORNERS SHALL BE WELDED, GROUND, AND POLISHED SMOOTH. WALL FRAME SHALL BE TYPE 304 STAINLESS STEEL DESIGNED WITH HORIZONTAL LOCKING BARS TO SECURE MIRROR TO WALL FRAME. ALL EXPOSED SURFACES SHALL HAVE SATIN FINISH WITH VERTICAL GRAIN. SELECT FLOAT GLASS MIRROR SHALL BE GUARANTEED FOR 15 YEARS AGAINST SILVER SPOILAGE. ALL EDGES SHALL BE PROTECTED BY PLASTIC FILLER STRIPS. BACK SHALL BE PROTECTED BY FULL-SIZE, SHOCK-ABSORBING, WATERRESISTANT, NONABRASIVE, 1/8" (3MM) THICK POLYSTYRENE PADDING.

RESTROOM ACCESSORIES NOTES:

**BABY CHANGING STATION:**
BODY SHALL BE DURABLE, INJECTION-MOLDED POLYPROPYLENE. DESIGN OF UNIT SHALL BE SURFACE-MOUNTED. UNIT SHALL BE EQUIPPED WITH A PNEUMATIC CYLINDER FOR CONTROLLED OPENING AND CLOSING OF BED. BED SHALL BE SECURED TO METAL MOUNTING CHASSIS WITH A CONCEALED STEEL-ON-STEEL HINGE. NO HINGE STRUCTURE SHALL BE EXPOSED ON INTERIOR OR EXTERIOR SURFACES. UNIT SHALL HAVE MOUNTING HARDWARE INCLUDED. UNIT SHALL HAVE MICROBAN® ANTIMICROBIAL EMBEDDED INTO PLASTIC MATERIAL ON THE CHANGING SURFACE. UNIT SHALL COMPLY WITH ADA REGULATIONS WHEN PROPERLY INSTALLED. BED SHALL HAVE SMOOTH CONCAVE CHANGING AREA WITH A SAFETY STRAP.
UNIT SHALL CONFORM TO ASTM F2285-04(16) STANDARD SAFETY PERFORMANCE SPECIFICATION FOR DIAPER CHANGING TABLES FOR COMMERCIAL USE, ANSI Z535.4 PRODUCT SAFETY SIGNS AND LABELS, EN 12221:2008+A1: 2013. UNIT SHALL HAVE A BUILT-IN LINER DISPENSER FOR USE WITH 3-PLY CHEMICAL FREE BIODEGRADABLE BED LINERS, INSTRUCTIONAL GRAPHICS AND SAFETY MESSAGES IN 4 LANGUAGES. UNIT SHALL BE BACKED BY MANUFACTURER'S 5-YEAR LIMITED WARRANTY ON MATERIALS AND WORKMANSHIP AND INCLUDE A PROVISION FOR REPLACEMENT CAUSED BY VANDALISM. COLOR TO BE GREY.
BABY CHANGING STATIONS MUST BE PROPERLY INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

**SANITARY NAPKIN DISPOSAL:**
SURFACE-MOUNTED SANITARY NAPKIN DISPOSAL SHALL BE BY OWNER AND INSTALLED BY CONTRACTOR.

**COAT HOOK:**
SURFACE-MOUNTED ROBE HOOK SHALL BE TYPE-304 STAINLESS STEEL WITH SATIN FINISH. FLANGE AND SUPPORT ARM SHALL BE 22 GAUGE (0.8MM) AND EQUIPPED WITH A CONCEALED, 18-GAUGE (1.2MM) MOUNTING BRACKET THAT IS SECURED TO A CONCEALED, 19-GAUGE (1.0MM) WALL PLATE WITH A STAINLESS STEEL SETSCREW. CAP SHALL BE 14 GAUGE (2.0MM), WELDED TO THE SUPPORT ARM.

GENERAL NOTES

INTERIOR ELEVATIONS NOTES:

1. REFER TO SHEET A002 FOR MOUNTING HEIGHTS
2. ALL OVERHEAD DUCTS,CONDUITS AND PIPES TO BE KEPT 7FT MIN. ABOVE FLOOR LEVEL.
2. GC TO PROVIDE CUT SHEETS AND SHOP DRAWINGS FOR PLACEMENT OF ALL TOILET ACCESSORIES.
3. ALL ACCESSORIES TO BE PROVIDED BY GC UNLESS NOTED AS BEING BY OWNER.

REFERENCE KEYNOTES

| | |
|---|---|
| 08 16 13.A00 | ALUMINUM DOOR AND FRAME |
| 09 65 13.A00 | RESILIENT WALL BASE |
| 10 21 13.19.A00 | PLASTIC TOILET COMPARTMENT |
| 10 21 13.19.C00 | PLASTIC URINAL SCREEN |
| 10 28 00.N00 | HOT AIR HAND DRYER |
| 22 13 19.A11 | FLOOR DRAIN, SEE PLUMBING DRAWINGS |
| 22 40 00.A00 | PLUMBING FIXTURES, SEE PLUMBING DRAWINGS |
| 22 47 00.A00 | DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS |

SHEET KEYNOTES

| | |
|---|---|
| 30 | SOAP DISPENSER PROVIDED BY OWNER, INSTALLED BY GC. |
| 31 | TOILET PAPER DISPENSER PROVIDED BY OWNER, INSTALLED BY G.C. |
| 33 | SANITARY NAPKIN DISPENSER, BY OWNER INSTALLED BY G.C. |
| 35 | 42" LONG, 1 1/2" DIAMETER GRAB BAR, SATIN FINISHED. BOBRICK NO (B-6806.99 X 18) |
| 36 | 36" LONG 1 1/2" DIAMETER GRAB BAR BOBRICK NO (B-6809.99 X 36) |
| 37 | 18" LONG 1 1/2" DIAMETER GRAB BAR BOBRICK NO (B-6809.99 X 42) |
| 38 | KB300 BABY CHANGING STATION, KOALA BEAR |
| 39 | WELDED-FRAME MIRROR 18"X30", BOBRICK NO 290 1830 |
| 40 | FIXED POSITION TILT-MIRROR, BOBRICK NO 293 1830 |
| 41 | SURFACE MOUNTED SANITARY NAPKIN DISPOSAL PROVIDED BY OWNER, INSTALLED BY GC |
| 42 | SURFACE MOUNTED COAT HOOK, INSTALL ON INSIDE FACE OF STALL DOOR. |
| 43 | HAND DRYER, TYSON AIRBLADE V , HU02, 120 V, SPRAYED NICKEL |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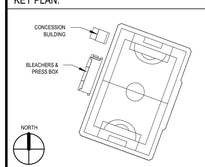
diastructures.com


| 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

**LARGE SCALE PLANS & INTERIOR ELEVATIONS**

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CHECKED BY: Checker

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DRAWING NO.
**AE401**

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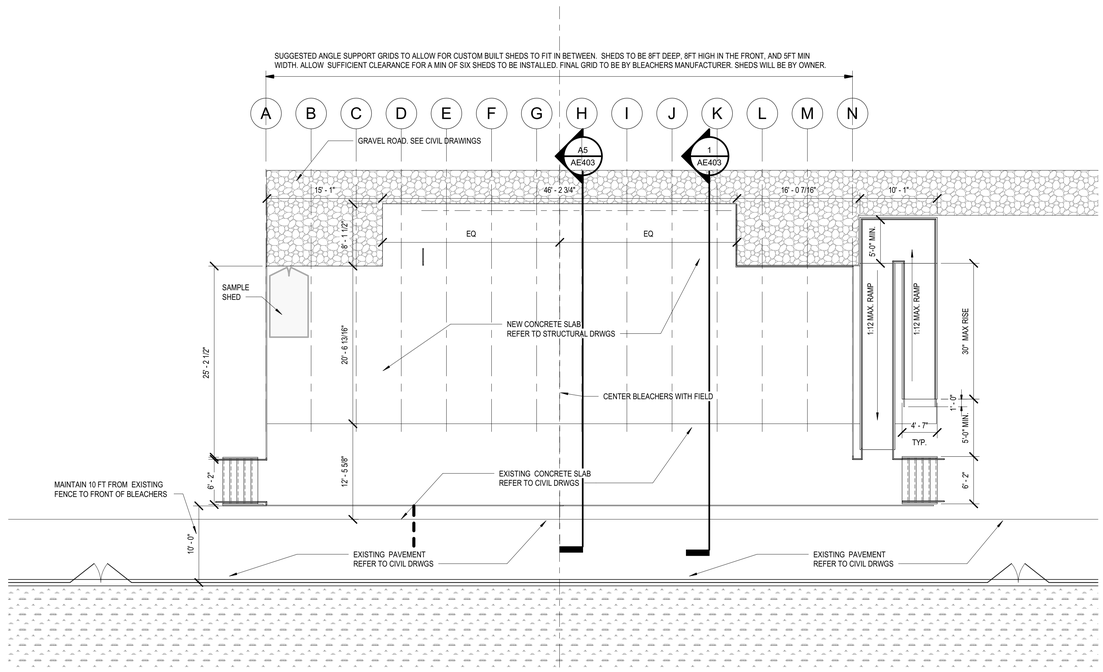
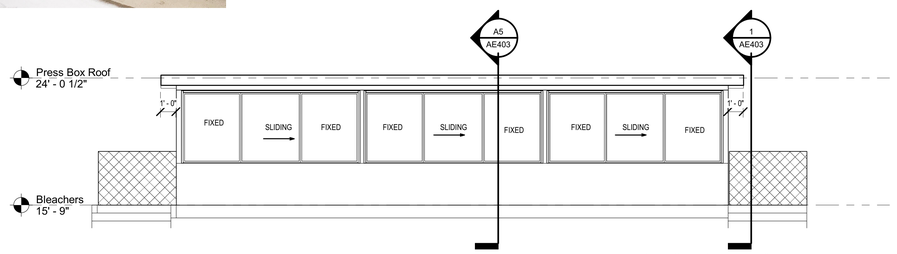
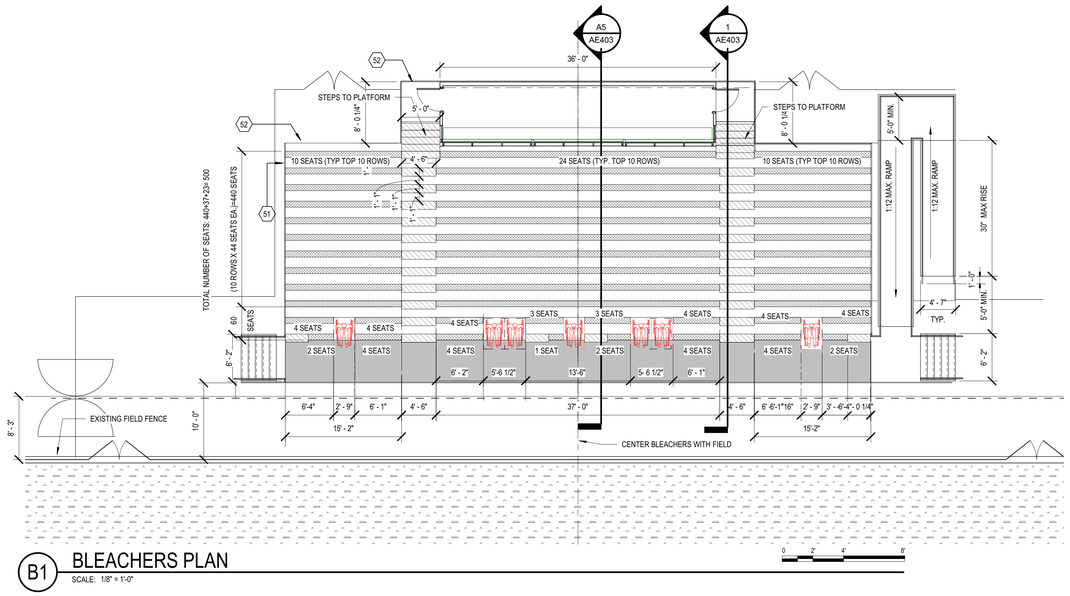



E1 BLEACHERS CONC. SLAB
SCALE: 1/8" = 1'-0"

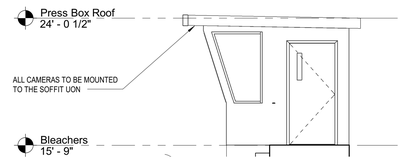
EXAMPLE OF A STORAGE SHED LOCATED UNDER A BLEACHER



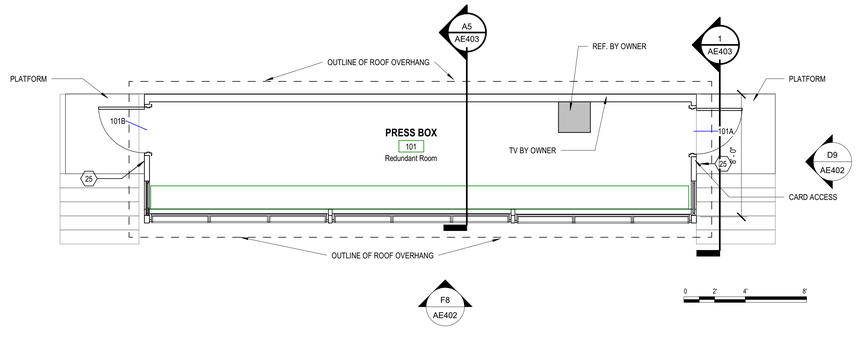

F8 PRESS BOX ELEVATION - FRONT
SCALE: 1/4" = 1'-0"




B1 BLEACHERS PLAN
SCALE: 1/8" = 1'-0"




D9 PRESS BOX ELEVATION- SIDE TYP.
SCALE: 1/4" = 1'-0"




B8 LARGE SCALE PLAN - PRESS BOX
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

1. **REFER TO SHEET AE601 FOR ADDITIONAL INFORMATION ON DOORS PRESS BOX AND DOOR HARDWARE**

**SEAT COUNT INFORMATION**

18" BENCH SEATS : 493
WHEEL CHAIR SPACES: 7
TOTAL SEAT COUNT: 500

REFERENCE KEYNOTES

SHEET KEYNOTES

| | |
|---|---|
| 25 | ACCESSIBLE ROOM SIGN |
| 51 | FACE MOUNTED GUARDRAIL / HANDRAIL - REFERENCE DETAIL |
| 52 | FACE MOUNTED GUARDRAIL |

THERMAL PERFORMANCE

THE PRESS BOX SHALL COMPLY WITH THE INTERNATIONAL ENERGY CONSERVATION CODE OF 2018
THE PRESCRIPTIVE METHOD WAS FOLLOWED IN ASSIGNING THE MINIMUM INSULATION RATING TO THE EXTERIOR WALLS, FLOOR, AND ROOF, AND THE U VALUE FOR THE EXTERIOR DOORS AND THE U-VALUE AND SHGC VALUE TO THE FENESTRATION.
SEE E7/AE403 AND RELATED KEYNOTES.

SHOULD THE PRESSBOX FABRICATOR CHOOSE DIFFERENT INSULATION VALUES, U-VALUE, OR SHGC , DOCUMENTATION OF ENERGY CODE COMPLIANCE SHOULD BE SUBMITTED.

NFRC 200 – SHALL BE USED FOR DETERMINING FENESTRATION PRODUCT SOLAR HEAT GAIN COEFFICIENT

NFRC 100 - SHALL BE USED FOR DETERMINING THE U-FACTORS OF WINDOWS AND DOORS.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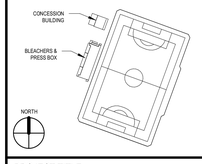
KEY PLAN:




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

## BLEACHERS & PRESS BOX PLANS & ELEVATIONS

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CHECKED BY: Checker

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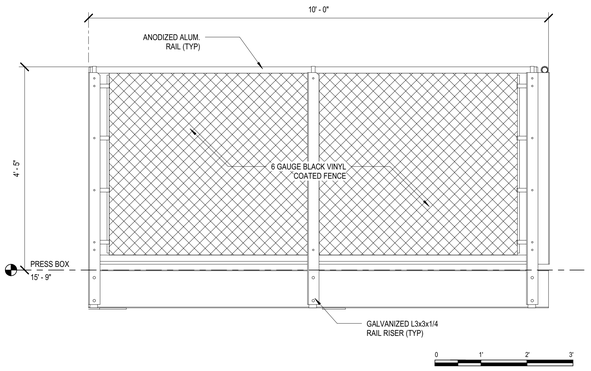
DRAWING NO.

**AE402**

SHEET PLEPLOT DATE: 3/2/2023 8:18:53 AM © Penn State Harrisburg, 401 | PSUH Stadium Seating and Restroom Bldg_Owner_default.rvt




## H1 PLATFORM GUARDRAIL DETAIL

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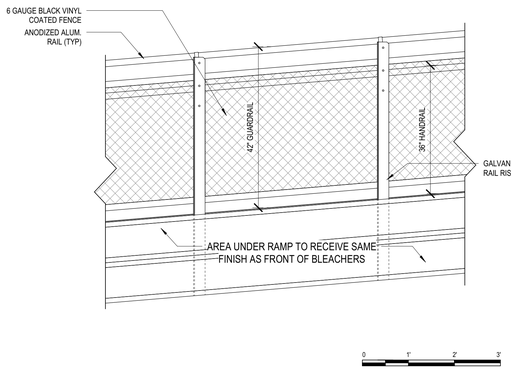


## H4 RAMP RAILING DETAIL

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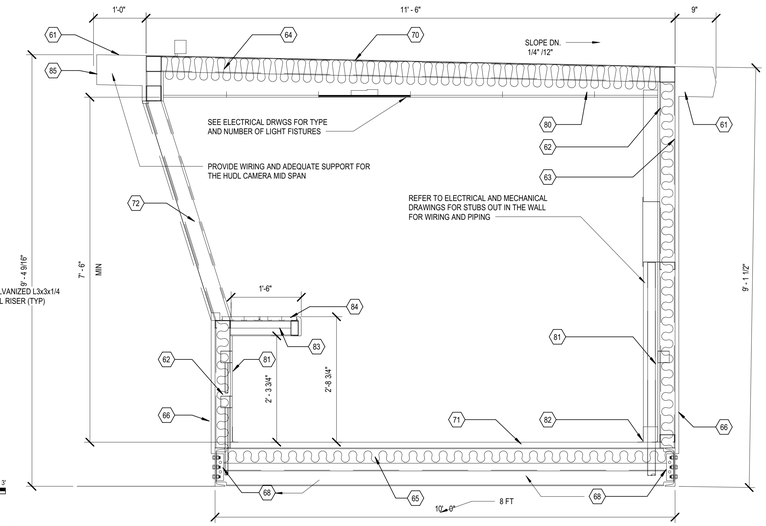
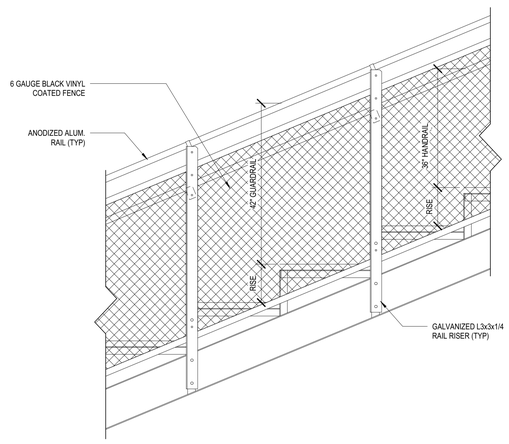



## E7 PRESS BOX SECTION

SCALE: 3/4" = 1'-0"




## D1 END RAILING DETAIL

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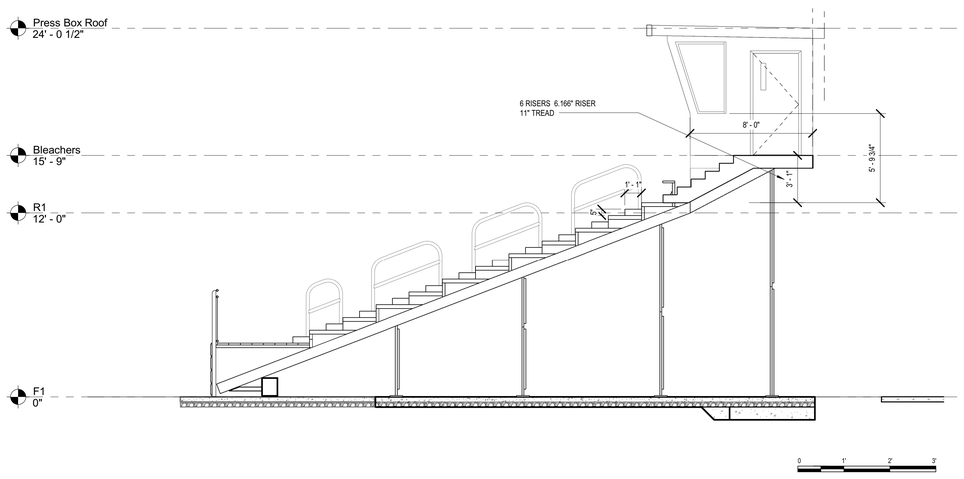
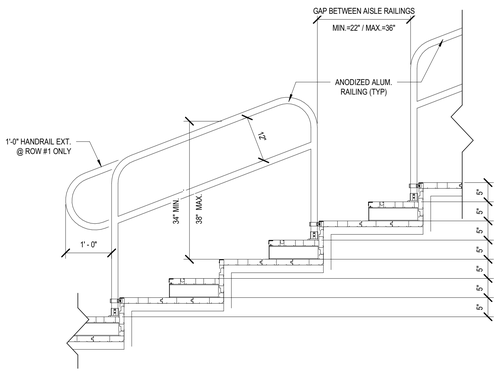
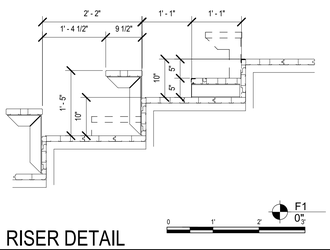



## A1 MID-AISLE RAILING DETAIL

SCALE: 3/4" = 1'-0"




## E4 RISER DETAIL

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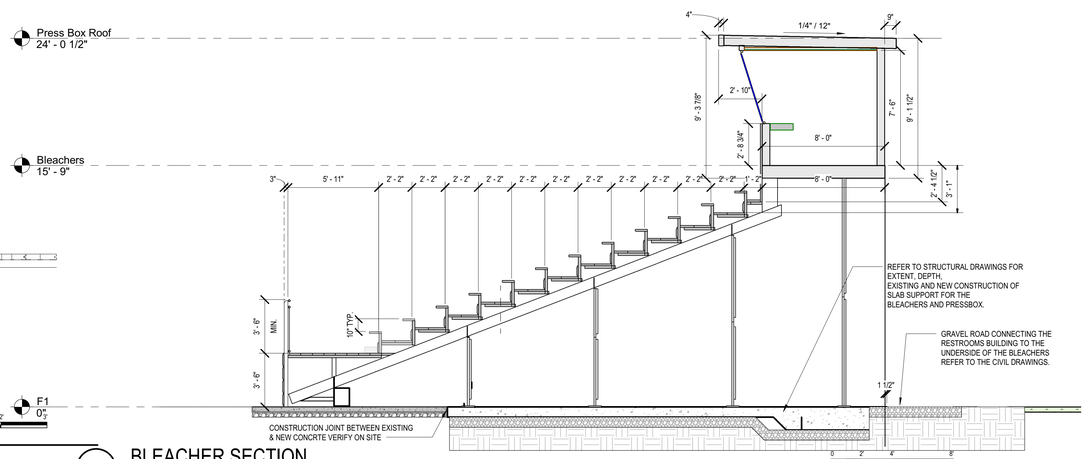


## A5 BLEACHER SECTION

SCALE: 1/4" = 1'-0"

### GENERAL SHEET NOTES

### REFERENCE KEYNOTES

### THERMAL PERFORMANCE

THE PRESS BOX SHALL COMPLY WITH THE INTERNATIONAL ENERGY CONSERVATION CODE OF 2018
THE PRESCRIPTIVE METHOD WAS FOLLOWED IN ASSIGNING THE MINIMUM INSULATION RATING TO THE EXTERIOR WALLS, FLOOR, AND ROOF, AND THE U VALUE FOR THE EXTERIOR DOORS AND THE U-VALUE AND SHGC VALUE TO THE FENESTRATION.
SEE E7/AE403 AND RELATED KEYNOTES.

SHOULD THE PRESSBOX FABRICATOR CHOOSE DIFFERENT INSULATION VALUES, U-VALUE, OR SHGC , DOCUMENTATION OF ENERGY CODE COMPLIANCE SHOULD BE SUBMITTED.

NFRC 200 – SHALL BE USED FOR DETERMINING FENESTRATION PRODUCT SOLAR HEAT GAIN COEFFICIENT

NFRC 100 - SHALL BE USED FOR DETERMINING THE U-FACTORS OF WINDOWS AND DOORS.

### SHEET KEYNOTES

| | |
|---|---|
| 61 | 26 GAUGE TRIM (TYP) |
| 62 | INSULATED CAVITY WALLS-R13 MIN. W/ ARMOREFLECT WHITE CONTINUOUS WRAP |
| 63 | CONTINUOUS WRAP INSULATION-R7.5 MIN. |
| 64 | ROOF INSULATION R38 MIN. |
| 65 | FLOOR INSULATION R30 MIN. |
| 66 | 26 GAUGE MCI 'S' R PANEL WITH CLOSURE STRIPS |
| 68 | FLOOR SUPPORT STRUCTURE |
| 70 | 1/8" 4 WAY STEEL ROOF-CONTINUOUS WELDED SEAMS COATED WITH METAL PRIMER AND 36 MILS OF WHITE ELASTOMETRIC ROOF COATING |
| 71 | ALUMINUM DECK SYSTEM |
| 72 | WINDOWS DOUBLE GLAZED WITH A SHGC VALUE LESS OR EQUAL TO 0.38, & U-VALUE OF LESS OR EQUAL TO 0.33 FOR FIXED PANES, AND LESS OR EQUAL TO 0.35 FOR SLIDING PANES. |
| 80 | 24"X24"X5/8" ACOUSTICAL CEILING TILES |
| 81 | 1/2" VINYL SURFACED GYPSUM PANELS |
| 82 | 4" VINYL COVE BASE |
| 83 | METAL COUNTER ATTACHEMENT |
| 84 | ANODIZED ALUMINUM COUNTER TOP |
| 85 | STRAIGHT EDGE FASCIA TO ATTACH HUDL CAMERA |


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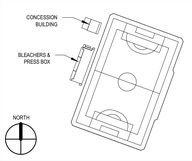
KEY PLAN:




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

## PRESS BOX SECTIONS & DETAILS

DRAWN BY: Author

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DRAWING NO.

**AE403**

SHEET PLOT DATE: 10/2/2023 8:39:36 AM
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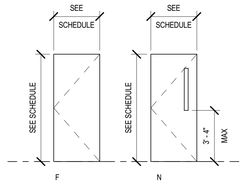
| DOOR AND FRAME SCHEDULE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | DOOR | | | | FRAME | | | | |
| | SIZE | | | | | | | | |
| MARK | WIDTH | HEIGHT | TYPE | MATL | TYPE | MATL | GLAZING | HARDWARE | COMMENTS |
| 101A | 3' - 0" | 6' - 8" | N | STEEL | FS1 | STEEL | IG-1T | SET 4.0 | DOOR BY PRESS BOX MFG |
| 101B | 3' - 0" | 6' - 8" MIN. | N | STEEL | FS1 | STEEL | IG-1T | SET 5.0 | DOOR BY PRESS BOX MFG |
| G101 | 3' - 0" | 7' - 2" MIN. | F | ALUM | FS1 | ALUM | | SET 3.0 | MEN'S RESTROOM |
| G102 | 3' - 0" | 7' - 2" MIN. | F | ALUM | FS1 | ALUM | | SET 2.0 | SINGLE RESTROOM |
| G103 | 3' - 0" | 7' - 2" MIN. | F | ALUM | FS1 | ALUM | | SET 3.0 | WOMEN'S RESTROOM |
| G104 | 3' - 0" | 7' - 2" | F | ALUM | FS1 | ALUM | | SET 1.0 | CUSTODIAL |

GLAZING LEGEND

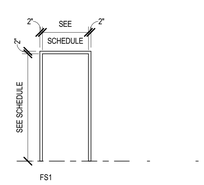
INSULATED

IG-1T TEMPERED
IG-1F FROSTED



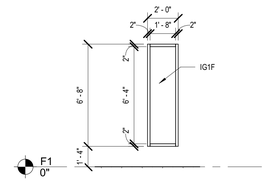

## DOOR LEGEND

SCALE: 1/4" = 1'-0"




## FRAME LEGEND

SCALE: 1/4" = 1'-0"




## WINDOW ELEVATIONS

SCALE: 1/4" = 1'-0"

| ROOM FINISH SCHEDULE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | WALLS | | | | | | |
| ROOM # | ROOM NAME | FLOOR | BASE | NORTH | EAST | SOUTH | WEST | CEILING | COMMENTS | |
| F1 | | | | | | | | | | |
| 104 | GATOR | BR. CONC | - | | | | | NOT PAINTED | | |
| 104A | STORAGE | BR. CONC | - | | | | | NOT PAINTED | | |
| J106 | CUSTODIAL | S. CONC | RB-1 | P-1 | P-1 | P-1 | P-1 | NOT PAINTED | | |
| R101 | MENS | S. CONC | RB-1 | P-1 | P-1 | P-1 | P-1 | P-2 | 1 | |
| R102 | SINGLE | S. CONC | RB-1 | P-1 | P-1 | P-1 | P-1 | P-2 | 1 | |
| R103 | WOMENS | S. CONC | RB-1 | P-1 | P-1 | P-1 | P-1 | P-2 | 1 | |

**FINISH LEGEND: (REFERENCE SPECIFICATIONS)**

P-1: A.CMU Substrates: SPEC 09 91 23
P-2: A. Wood Substrates: SPEC 09 91 23

RB-1: Runner wall base, Cove 4" high: SPEC 09 65 13

**FINISH COMMENTS LEGEND:**

1. WOOD BEAMS, BOTTOM OF ROOF PLYWOOD SHEATHING, DUCTS, CONDUIT AND PIPES WILL ALL BE PAINTED

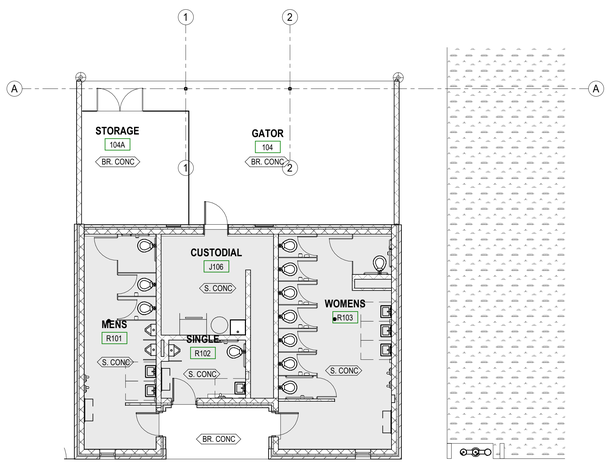
**FINISH LEGEND**

**BASE**
CTB - CERAMIC TILE BASE
PTB - PORCELAIN TILE BASE
RB - RESILENT BASE

**FLOORING**
S. CONC - SEALED CONCRETE
BR. CONC - BROOM FINISHED CONCRETE

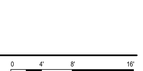
**WALL**
EP - EPOXY PAINT
P - PAINT

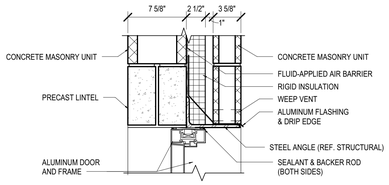
**CEILING**
P- PAINT



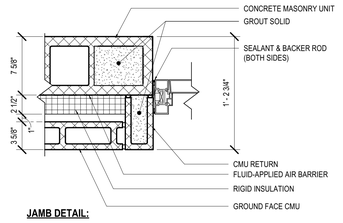

## FINISH PLAN

SCALE: 1/8" = 1'-0"




**HEAD DETAIL:**




**JAMB DETAIL:**

## F8 DOOR HEAD & JAMB DETAIL

SCALE: 1 1/2" = 1'-0"

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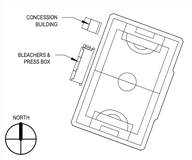


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## SCHEDULES, LEGENDS & DETAILS

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DRAWING NO.

# AE601

SHEETFILE/PLOT DATE: 10/2/2023 8:19:51 AM C:\Revit Local Files\A_RCT - PSU\A Stadium Seating and Restrooms Bldg_Central_detailed.rvt

# PLUMBING SYMBOLS SCHEDULE

| SYMBOL | ABBREV | DESCRIPTION |
|---|---|---|
| | CW | COLD WATER |
| | HW | HOT WATER |
| | HWR | HOT WATER RECIRCULATION |
| TW | TW | TEMPERED WATER |
| | SAN | SANITARY SEWER |
| PSAN | PSAN | PUMPED SANITARY |
| CV | CV | CIRCUIT VENT |
| CW&V | CW&V | COMBINATION WASTE & VENT |
| | V | SANITARY VENT |
| SD | SD | STORM DRAIN, RAINWATER DRAIN |
| PSD | PSD | PUMPED STORM DRAIN |
| OFD | OFD | OVERFLOW ROOF DRAINAGE |
| TP | TP | TRAP PRIMER PIPING |
| G | G | GAS |
| GV | GV | GAS VENT |
| A | A | COMPRESSED AIR |
| [XXX°] | [XXX°] HW | HOT WATER [XXX °] |
| [XXX°] | [XXX°] HWR | HOT WATER RETURN [XXX °] |
| LA | LA | LABORATORY COMPRESSED AIR |
| LV | LV | LABORATORY VACUUM |
| RO | RO | REVERSE OSMOSIS WATER |
| DI | DI | DISTILLED WATER |
| DE | DE | DEIONIZED WATER |
| AW | AW | ACID WASTE |
| AV | AV | ACID VENT |
| GW | GW | GREASE WASTE |
| OW | OW | OIL LADEN WASTE |
| MA | MA | MEDICAL COMPRESSED AIR |
| MV | MV | MEDICAL VACUUM |
| OX | OX | OXYGEN |
| N | N | NITROGEN |
| NO | NO | NITROUS OXIDE |
| WAGD | | WASTE ANESTHESIA GAS DISPOSAL |
| CO2 | | CARBON DIOXIDE |
| F | F | FIRE PROTECTION WATER SUPPLY |
| SP | SP | AUTOMATIC FIRE SPRINKLER |
| ASD | ASD | AUTOMATIC FIRE SPRINKLER SYSTEM DRAIN |
| | | ELBOW TURNED UP |
| | | ELBOW TURNED DOWN |
| | | TEE TURNED UP |
| | | TEE TURNED DOWN |
| | | PIPE UNION |
| | | FLEXIBLE PIPE CONNECTION |
| | | PIPE ANCHOR |
| | | PIPE GUIDE |
| | EXC | EXPANSION COMPENSATOR |
| | | FLOW ARROW |
| | GA | GATE VALVE |
| | BF | BUTTERFLY VALVE |
| | CK | CHECK VALVE |
| | CBL | CALIBRATED BALANCING VALVE |
| | TCBV | THERMOSTATICALLY CONTROLLED BALANCING VALVE |
| | BA | BALL VALVE |
| | PL | PLUG VALVE |
| | R | GAS REGULATOR |

# PLUMBING SYMBOLS SCHEDULE

| SYMBOL | ABBREV | DESCRIPTION |
|---|---|---|
| | | GAS COCK |
| | | BACKFLOW PREVENTER |
| CO | CO | CLEANOUT FLUSH IN FLOOR |
| CO | CO | CLEANOUT IN HORIZONTAL RUN |
| | WHA-() | WATER HAMMER ARRESTER (PDI TYPE) |
| | PRV | PRESSURE REDUCING VALVE |
| | GPR | GAS PRESSURE REGULATOR |
| | PS | PRESSURE SWITCH |
| TS | TS | VALVE WITH TAMPER SWITCH |
| FS | FS | VALVE WITH FLOW SWITCH |
| | | UPRIGHT FIRE SPRINKLER HEADS |
| | | PENDANT FIRE SPRINKLER HEADS |
| | | SIDEWALL FIRE SPRINKLER HEADS |
| | FHR | FIRE HOSE RACK |
| | FHC | FIRE HOSE CABINET (SURFACE MTD.) |
| | FHC | FIRE HOSE CABINET (RECESSED) |
| | FVC | FIRE VALVE CABINET |
| | FH | FIRE HYDRANT |
| | FDC | FIRE DEPARTMENT CONNECTION |
| | | MEDICAL GAS OUTLET |
| VS | VS | MEDICAL VACUUM SLIDE BRACKET |
| | | THERMOMETER |
| | | PRESSURE GAGE |
| | | 'Y' STRAINER WITH BLOWDOWN VALVE |
| | WH | WALL HYDRANT |
| | HB | HOSE BIBB |
| | FD | FLOOR DRAIN |
| | RD | ROOF DRAIN |
| | OFD | OVERFLOW ROOF DRAIN, EMERGENCY ROOF DRAIN |
| | OFDN | OVERFLOW DRAIN NOZZLE |
| C | | CIRCULATOR |
| AP | AP | ACCESS PANEL |
| AD | AD | ACCESS DOOR |
| 0'-0" | | DISTANCE FROM FLOOR TO BOTTOM OF OBJECT |
| | | CONNECT TO EXISTING |
| | | POINT OF DEMOLITION |
| T | TXFR | AUTOMATIC FIXTURE TRANSFORMER |

REFERENCE NUMBER → 1 / P-101 ← SHEET CROSS REFERENCE

SECTION REFERENCE LETTER → A / P-101 DIRECTION OF VIEW ← SHEET CROSS REFERENCE

**GENERAL NOTES (APPLY TO ALL DRAWINGS):**

1. COMPLY WITH LOCAL, STATE, AND NATIONAL CODES AND REGULATIONS.
2. PLAN DOCUMENTS ARE SCHEMATIC TO CONVEY THE DESIGN INTENT. DO NOT SCALE DRAWINGS FOR EXACT PLACEMENT OF EQUIPMENT AND DISTRIBUTION SYSTEMS.
3. COORDINATION BETWEEN DISCIPLINES IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
4. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. IN A CASE OF A CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS, REQUEST A DOCUMENTED INTERPRETATION FROM THE ARCHITECT / ENGINEER.
5. INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND INSURANCE UNDERWRITER REQUIREMENTS.
6. THE LINE-TYPE AND SYMBOLS LEGENDS SHOW ITEMS TYPICALLY INCLUDED WITH THE SPECIFIED SYSTEMS. NOT ALL SYMBOLS AND/OR LINE TYPES ARE UTILIZED.
7. INCLUDE DETAILS IN THE SCOPE OF WORK FOR EVERY SITUATION TO WHICH THAT DETAIL APPLIES EXCEPT WHERE A SPECIFIC DETAIL REFERENCE IS DESIGNATED TO INDICATE OTHERWISE.
8. EXISTING PLUMBING EQUIPMENT, PIPING, AND FIXTURES SHALL REMAIN UNLESS NOTED OTHERWISE.
9. SCHEDULE SYSTEM MODIFICATIONS TO MINIMIZE DISRUPTIONS TO EXISTING BUILDING SERVICES. COORDINATE SHUTDOWN REQUESTS PER SPECIFICATIONS AND OWNER REQUIREMENTS.
10. LOCATE PIPING AS HIGH AS POSSIBLE, UNLESS NOTED OTHERWISE.
11. SEAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS WITH AN APPROVED SYSTEM TO MAINTAIN THE INTEGRITY OF THE BARRIER AND SHALL BE MARKED APPROPRIATELY IN ACCORDANCE WITH SPECIFICATIONS.
12. INSTALL EXTERIOR FUEL GAS REGULATORS AND METERS AT LEAST 10 FT FROM DOORS, OPERABLE WINDOWS, FRESH AIR OPENINGS, ETC.
13. COORDINATE ROOF PENETRATIONS WITH THE ROOFING CONTRACTOR OR ROOF WARRANTY UNDERWRITER TO MAINTAIN ROOFING SYSTEM INTEGRITY.
14. MINIMUM PLUMBING PIPING SIZE SHALL BE 1/2" UNLESS NOTED OTHERWISE.
15. INSTALL FLEXIBLE CONNECTIONS BETWEEN ALL MOTORIZED EQUIPMENT AND THE CONNECTED SYSTEM. REFER TO SPECIFICATIONS FOR CONNECTION TYPE AND APPLICATION.
16. PROVIDE ALL FUEL GAS PIPING WITH A SHUT OFF VALVE, UNION, AND DRIP LEG AT EACH CONNECTION TO GAS FIRE EQUIPMENT.
17. SANITARY PIPING UNDERGROUND AND BENEATH SLAB ON GRADE SHALL BE NO LESS THAN 2" IN DIAMETER.
18. COORDINATE INSPECTION AND TESTING REQUIREMENTS OF PIPING ENCLOSED IN CMU WALLS WITH AHJ PRIOR TO CONSTRUCTION. DURING CONSTRUCTION, DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT HAS BEEN INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.

# PLUMBING LINETYPE KEY

(APPLIES TO ALL PLUMBING SERVICES OR SYMBOLS)

| SYMBOL | DESCRIPTION |
|---|---|
| ———— | HEAVY LINEWEIGHT INDICATES PIPING AND EQUIPMENT TO BE FURNISHED UNDER THIS PROJECT |
| ———— | THIN LINEWEIGHT INDICATES PIPING AND EQUIPMENT THAT ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE |
| ------------ | DASHED LINEWEIGHT INDICATES PIPING AND EQUIPMENT THAT ARE EXISTING TO BE REMOVED, UNLESS NOTED OTHERWISE |

# PLUMBING ABBREVIATIONS

| | | | |
|---|---|---|---|
| AB CL | ABOVE CEILING | HP | HORSEPOWER |
| AT ST | AT STRUCTURE | KW | KILOWATT |
| BL GD | BELOW GRADE | MC | MECHANICAL CONTRACTOR |
| AFF | ABOVE FINISHED FLOOR | PC | PLUMBING CONTRACTOR |
| AFG | ABOVE FINISHED GRADE | PSIG | POUNDS PER SQUARE INCH GAGE |
| BJ | BETWEEN JOIST | RPM | REVOLUTIONS PER MINUTE |
| CFM | CUBIC FEET PER MINUTE | S & WS | SOIL & WASTE STACK |
| CIP | CAST IRON PIPE | SV | STACK VENT |
| Dia. | DIAMETER | TJ | THRU JOIST |
| EC | ELECTRICAL CONTRACTOR | TR | THROUGH ROOF |
| EX | EXISTING | UN FL | UNDER FLOOR |
| FPM | FEET PER MINUTE | US S | UNDERSIDE STEEL |
| FT HD | FEET OF HEAD | UNO | UNLESS NOTED OTHERWISE |
| GC | GENERAL CONTRACTOR | VTR | VENT THRU ROOF |
| GPM | GALLONS PER MINUTE | WS | WASTE STACK |
| HC | HEATING/HVAC CONTRACTOR | | |

# PLUMBING FIXTURE SCHEDULE

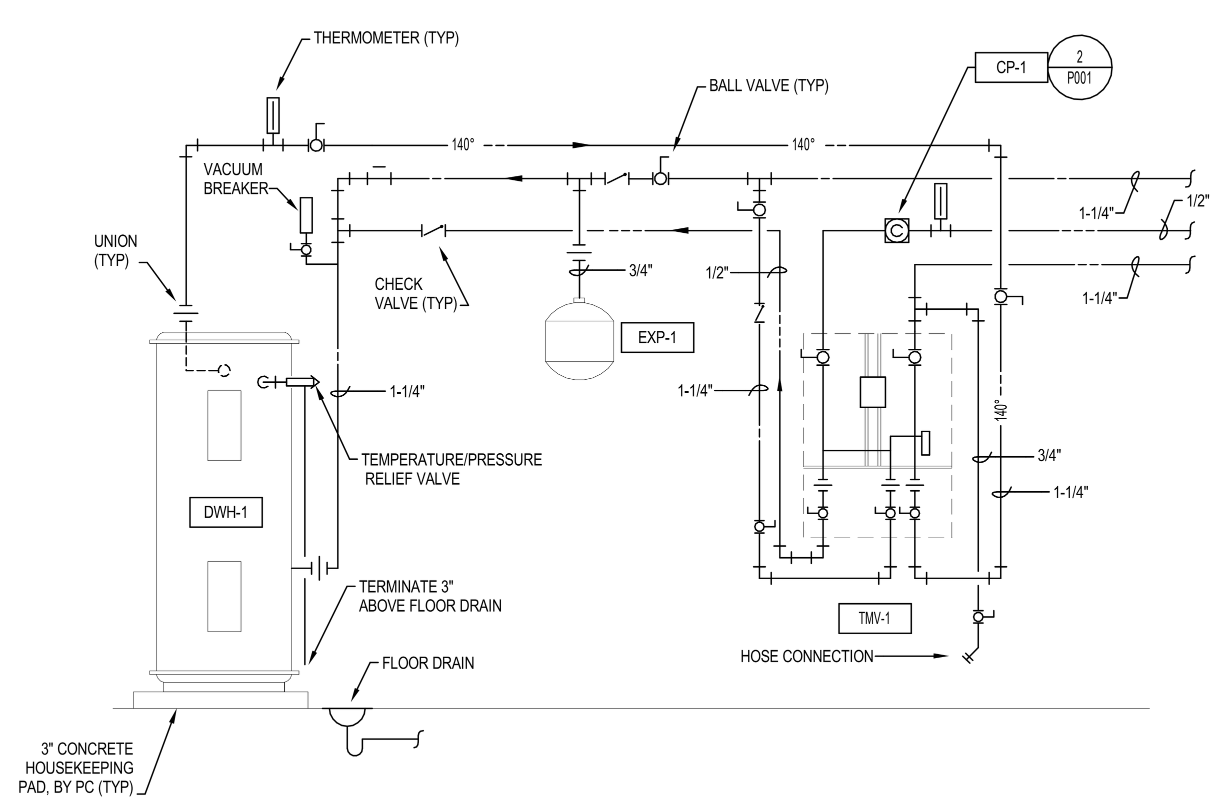
| DESIG | DESCRIPTION | CW | HW | TW | SAN* | VENT |
|---|---|---|---|---|---|---|
| DF-1 | DRINKING FOUTAIN: FREE-STANDING, BI-LEVEL W/ BOTTLE FILLER, ADA COMPLIANT | 1/2" | | | 1-1/2" | 1-1/2" |
| L-1 ** | LAVATORY: WALL HUNG, BATTERY OPERATED FAUCET, ADA COMPLIANT | 1/2" | 1/2" | 3/8" | 1-1/4" | 1-1/4" |
| MR-1 | MOP RECEPTOR: TERRAZZO, 24" X 24" X 12" | 1/2" | 1/2" | | 3" | 2" |
| UR-1 | URINAL: WALL HUNG, WATERLESS | | | | 2" | 1-1/2" |
| UR-2 | URINAL: WALL HUNG, WATERLESS, ADA COMPLIANT | | | | 2" | 1-1/2" |
| WC-1 | WATER CLOSET: WALL HUNG, BATTERY OPERATED FLUSH VALVE | 1" | | | 4" | 2" |
| WC-2 | WATER CLOSET: WALL HUNG, BATTERY OPERATED FLUSH VALVE, ADA COMPLIANT | 1" | | | 4" | 2" |

* SANITARY PIPING BENEATH SLAB ON GRADE SHALL BE NO LESS THAN 2" IN DIAMETER.

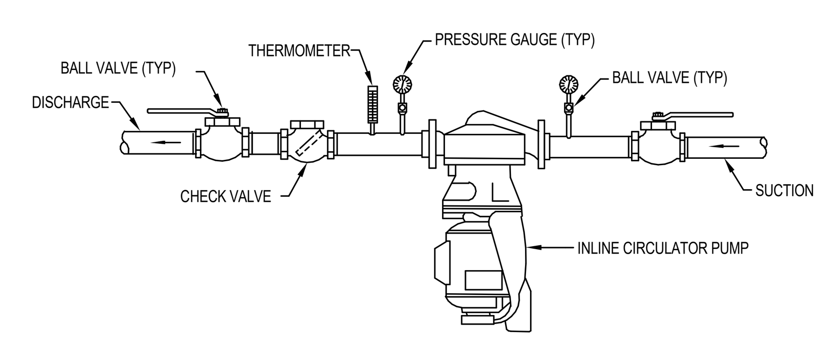
** PROVIDE THEMOSTATIC MIXING VALVE, TMV-2, BELOW LAVATORY/SINK TO PROVIDE A 110° HOT WATER DELIVERY TEMPERATURE TO FAUCET. REFER TO DETAIL ON THIS SHEET.

# PLUMBING EQUIPMENT SCHEDULE

| SYMBOL | DESCRIPTION |
|---|---|
| DWH-1 | ELECTRIC WATER HEATER: 40 GALLONS STORAGE, 10 KW, 41 GPH RECOVERY AT 100° F RISE, 208V/3PH/60 HZ. SET AT 140° F. |
| EXP-1 | DOMESTIC HOT WATER EXPANSION TANK: MAXIMUM ACCEPTANCE VOLUME - 0.9 GALLONS. TOTAL VOLUME 2.0 GALLONS. 8"DIA X 11" HEIGHT. |
| CP-1 | INLINE CIRCULATOR PUMP: PUMP SHALL BE RATED FOR 2.0 GPM AT 4.0 FT HD, 1/12 HP, 3250 RPM, 120V/1PH/60 HZ. |
| TMV-1 | DIGITAL MIXING VALVE: 23 GPM @ 10 PSI PRESSURE DROP ACROSS VALVE. MINIMUM FLOW: 0.5 GPM. SET OUTLET TEMPERATURE @ 130° F |
| TMV-2 | THERMOSTATIC MIXING VALVE: 1.0 GPM @ 15 PSI PRESSURE DROP ACROSS VALVE (FLOW RANGE 0.25-2.25 GPM). SET OUTLET TEMPERATURE @ 110° F |




DETAIL 1
NO SCALE
ELECTRIC WATER HEATER




DETAIL 2
NO SCALE
CIRCULATOR

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| MARK | DATE | DESCRIPTION |
|---|---|---|
| | 01-22-2024 | BID SET |
| | 12-06-2023 | REVISED DRAWINGS |
| | 10-04-2023 | BID SET |
| | 09-27-2023 | PEMIT SET |
| | 09-06-2023 | CD SUBMISSION |

KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg 1855

**STADIUM SEATING & RESTROOMS BLDG**

**PENN STATE UNIVERSITY HARRISBURG CAMPUS**

STREET, CITY, STATE ZIP CODE

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

**SYMBOLS & GENERAL NOTES - PLUMBING**

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CHECKED BY: DAT

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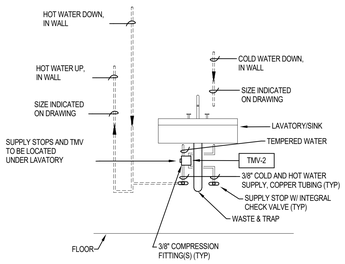
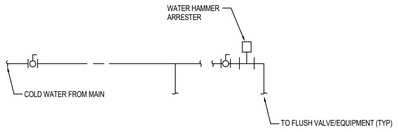
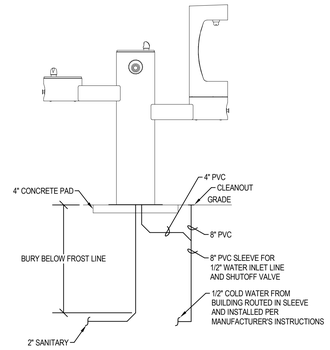



DETAIL 1
NO SCALE
HOT WATER LOOP




| WATER HAMMER ARRESTER SCHEDULE* | |
|---|---|
| NO. OF FIXTURE UNITS | PDI SIZE |
| 1-11 | "A" |
| 12-32 | "B" |
| 33-60 | "C" |
| 61-113 | "D" |
| * FOR FIXTURE UNITS IN EXCESS OF 113, VERIFY SIZE AND NO. PRIOR TO INSTALLATION | |

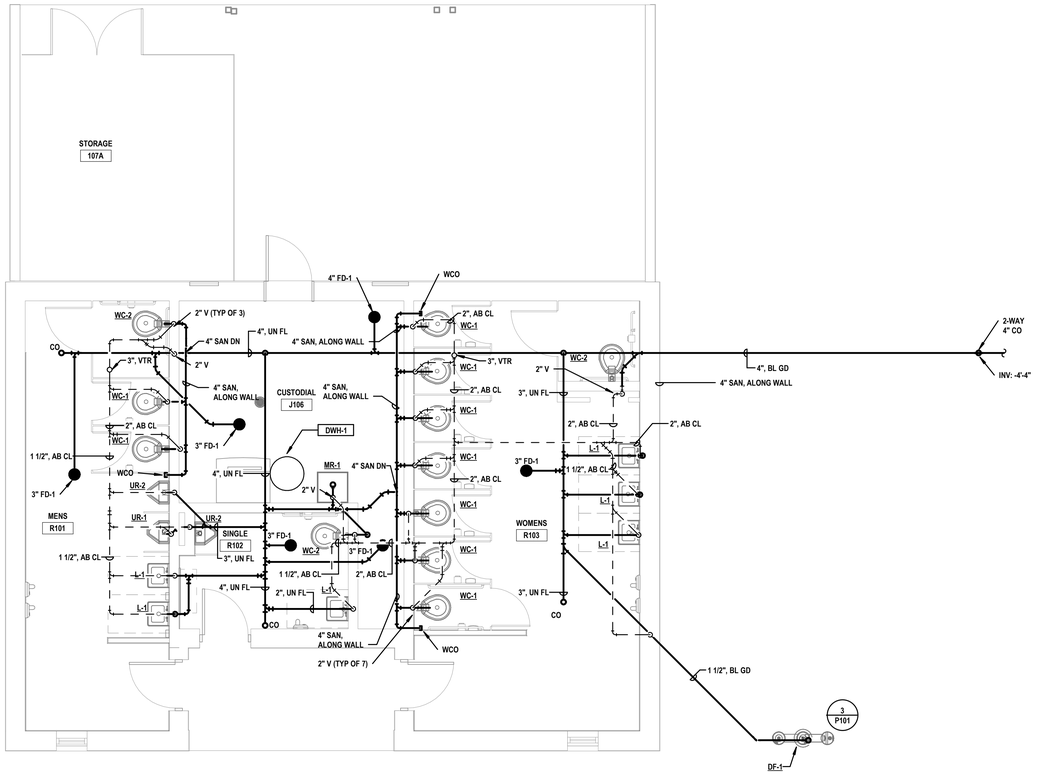
DETAIL 2
NO SCALE
WATER HAMMER ARRESTOR




DETAIL 3
NO SCALE
DRINKING FOUNTAIN ELEVATION

## NOTES

1. SANITARY PIPING 2" AND SMALLER SHALL SLOPE A MINIMUM OF 1/4" FALL/FOOT. SANITARY PIPING 3" AND LARGER SHALL SLOPE A MINIMUM OF 1/8" FALL/FOOT.
2. INSTALL ALL DOMESTIC WATER PEX PIPING IN SUCH A MANNER AS TO ALLOW FOR THE SYSTEM TO BE WINTERIZED. SLOPE ALL PIPING TOWARD OUTLETS TO FACILITATE DRAINAGE OF PIPING AND PROVIDE DRAINS AT ALL LOW POINTS.
3. ROUTE 1/2" COLD WATER DOWN ALONG WALL. VALVE AND CAP 1/2" COLD WATER FOR CONNECTION FROM OWNER FURNISHED EQUIPMENT.
4. PROVIDE ASSE 1024 DUAL CHECK VALVE. WATTS LF7R.
5. PROVIDE PEX MANIFOLD BOX ON WALL AT 4'-0" ABOVE FINISHED FLOOR. PROVIDE COPPER TUBING UPSTREAM OF MANIFOLD BOX AND PEX TUBING DOWNSTREAM OF MANIFOLD BOX.
6. DOMESTIC WATER PIPING ROUTED ALONG PERIMETER WALL SHALL BE INSTALLED ON THE WARM SIDE OF INSULATION.
7. PROVIDE 3/4" HOSE BIBB, HB-1, UNDERNEATH LAVATORY WITH LOOSE KEY FOR MAINTENANCE AND CLEANING.

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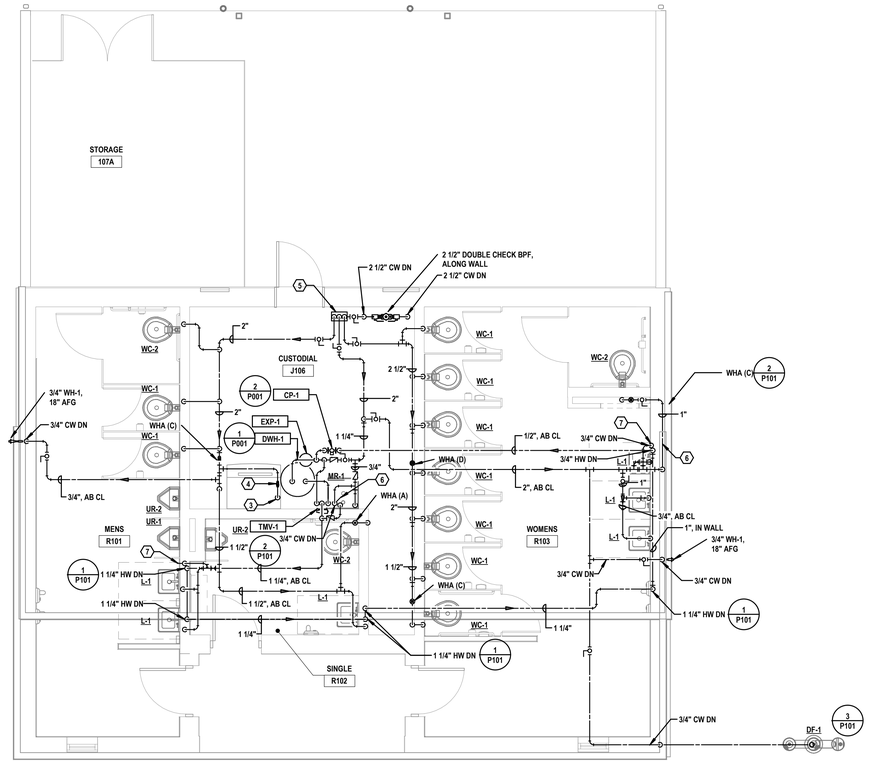
RESTROOMS BUILDING PLAN – SANITARY & VENT 1
SCALE: 1/4" = 1'-0"




N
RESTROOMS BUILDING PLAN – DOMESTIC WATER 2
SCALE: 1/4" = 1'-0"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**FLOOR PLANS - PLUMBING**

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# HVAC SYMBOLS SCHEDULE

| SYMBOL | ABBREV | DESCRIPTION |
|---|---|---|
| CD | CD | CONDENSATE DRAINAGE |
| RL | RL | REFRIGERANT LIQUID |
| RS | RS | REFRIGERANT SUCTION |
| RG | RG | REFRIGERANT HOT GAS |
| | | ELBOW TURNED UP |
| | | ELBOW TURNED DOWN |
| | | TEE TURNED UP |
| | | TEE TURNED DOWN |
| | | PIPE UNION |
| | | FLEXIBLE PIPE CONNECTION |
| | | PIPE ANCHOR |
| | | PIPE GUIDE |
| | EXC | EXPANSION COMPENSATOR |
| | | FLOW ARROW |
| | GA, BF | GATE OR BUTTERFLY VALVE (SEE SPEC) |
| | GL, BF | GLOBE OR BUTTERFLY VALVE (SEE SPEC) |
| | CK | CHECK VALVE |
| | BL | BALANCING VALVE |
| | BA | BALL VALVE |
| | CBL | CALIBRATED BALANCING VALVE |
| | PRV | PRESSURE REDUCING VALVE |
| TO ROOF | S | SAFETY VALVE (STEAM) |
| TO DRAIN | R | SAFETY RELIEF VALVE (WATER) |
| | VFS | VENTURI FLOW STATION |
| | | BACKFLOW PREVENTER |
| | | CAP ON END OF PIPE |
| | | TWO WAY CONTROL VALVE |
| | | THREE WAY CONTROL VALVE |
| | | SHUT-OFF VALVE (SEE SPEC) |
| | | THERMOSTAT |
| | | PRESSURE GAGE |
| | | "Y" STRAINER WITH BLOWDOWN VALVE |
| | F & T | FLOAT & THERMOSTATIC STEAM TRAP |
| | TD | THERMO-DYNAMIC STEAM TRAP |
| CO CO | CO | CLEANOUT IN HORIZONTAL RUN |
| T | T'STAT | THERMOSTAT |
| H | H'STAT | HUMIDISTAT |
| T | DT | DUCT TEMPERATURE SENSOR |
| H | DH | DUCT HUMIDITY SENSOR |
| $TH_S$ | TH | COMBINATION TEMPERATURE & HUMIDITY SENSOR |
| $T_S$ | | TEMPERATURE SENSOR |
| $H_S$ | | HUMIDITY SENSOR |
| $C_S$ | $CO_2$ | CARBON DIOXIDE SENSOR |
| $CO_S$ | CO | CARBON MONOXIDE SENSOR |

# HVAC SYMBOLS SCHEDULE

| SYMBOL | ABBREV | DESCRIPTION |
|---|---|---|
| | SA | SUPPLY AIR DUCT SECTION |
| | RA | RETURN AIR DUCT SECTION |
| | EA | EXHAUST AIR DUCT SECTION |
| | OA | OUTSIDE AIR DUCT SECTION |
| | Rel A | RELIEF AIR DUCT SECTION |
| | TA | TRANSFER AIR |
| | SA | SUPPLY AIR |
| | RA, EA Rel A | RETURN, EXHAUST OR RELIEF AIR |
| | OA | OUTSIDE AIR |
| X/Y | | SQUARE OR RECTANGULAR DUCT SIZE |
| X"Ø | | ROUND DUCT SIZE |
| DL | DL | DOOR LOUVER |
| UC | UC | UNDER CUT |
| VD | VD | VOLUME DAMPER |
| | TV | TURNING VANES |
| FC | FC | FLEXIBLE CONNECTION |
| MOD | MOD | MOTOR OPERATED DAMPER |
| R | | CHANGE OF ELEVATION: RISE - R, DROP - D |
| FR D | FR D | FIRE DAMPER (HORIZ. RUN) |
| FR D | FR D | FIRE DAMPER (VERT. RISE) |
| SFD | SFD | SECONDARY FIRE DAMPER |
| F/S D | F/S D | COMBINATION FIRE/SMOKE DAMPER (HORIZ RUN) |
| F/S D | F/S D | COMBINATION FIRE/SMOKE DAMPER (VERT RISE) |
| SK D | SK D | SMOKE DAMPER |
| DD | DD | DUCT SMOKE DETECTOR |
| AP | AP | ACCESS PANEL |
| AD | AD | ACCESS DOOR |
| 0'-0" | | DISTANCE FROM FLOOR TO BOTTOM OF OBJECT |
| | | CONNECT TO EXISTING |
| | | POINT OF DISCONNECT |

DETAIL REFERENCE NUMBER — 1 / H-101 — SHEET WHERE DRAWN

SECTION REFERENCE LETTER — A / H-101 — DIRECTION OF VIEW — SHEET WHERE DRAWN

# SYMBOLS & IDENTIFICATION OF GRILLES, REGISTERS, & DIFFUSERS

**IDENTIFICATION**

12/12 CD-200-5.2-1

- [LENGTH OR] NECK SIZE
- DESCRIPTION
- CFM
- STYLE (LD ONLY)
- NO. OF SLOTS (LD ONLY) [DEGREE OF DEFLECTION (SR ONLY)]

**DESCRIPTION**

| | | |
|---|---|---|
| SR - SUPPLY REGISTER | RG - RETURN GRILLE | CD - CEILING DIFFUSER |
| RR - RETURN REGISTER | EG - EXHAUST GRILLE | LD - LINEAR DIFFUSER |
| ER - EXHAUST REGISTER | LFD - LAMINAR FLOW DIFFUSER | TG - TRANSFER GRILLE |
| RLR - RELIEF REGISTER | | |

**STYLE**

| SYMBOL | DESCRIPTION |
|---|---|
| | SQUARE DIFFUSER (HATCHED SECTOR INDICATES DIRECTION WITHOUT AIRFLOW) |
| | SIDEWALL REGISTER OR GRILLE |
| | CEILING REGISTER OR GRILLE |

GENERAL NOTES (APPLY TO ALL DRAWINGS):

1. COMPLY WITH LOCAL, STATE, AND NATIONAL CODES AND REGULATIONS.
2. PLAN DOCUMENTS ARE SCHEMATIC TO CONVEY THE DESIGN INTENT. DO NOT SCALE DRAWINGS FOR EXACT PLACEMENT OF EQUIPMENT AND DISTRIBUTION SYSTEMS.
3. COORDINATION BETWEEN DISCIPLINES IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
4. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. IN A CASE OF A CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS, REQUEST A DOCUMENTED INTERPRETATION FROM THE ENGINEER/ARCHITECT.
5. INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION AND INSURANCE UNDERWRITER REQUIREMENTS.
6. THE LINE-TYPE AND SYMBOLS LEGENDS SHOW ITEMS TYPICALLY INCLUDED WITH THE SPECIFIED SYSTEMS. NOT ALL SYMBOLS AND/OR LINETYPES ARE UTILIZED.
7. INCLUDE DETAILS IN THE SCOPE OF WORK FOR EVERY SITUATION TO WHICH THAT DETAIL APPLIES EXCEPT WHERE A SPECIFIC DETAIL REFERENCE IS DESIGNATED TO INDICATE OTHERWISE.
8. EXISTING HVAC EQUIPMENT, PIPING AND DUCTWORK SHALL REMAIN UNLESS NOTED OTHERWISE.
9. SCHEDULE SYSTEM MODIFICATIONS TO MINIMIZE DISRUPTIONS TO EXISTING BUILDING SERVICES. COORDINATE SHUTDOWN REQUESTS PER SPECIFICATION AND OWNER REQUIREMENTS.
10. LOCATE DUCTWORK AND PIPING AS HIGH AS POSSIBLE, UNLESS NOTED OTHERWISE.
11. SEAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS WITH AN APPROVED SYSTEM TO MAINTAIN THE INTEGRITY OF THE BARRIER.
12. INSTALL FIRE DAMPERS, FIRE/SMOKE DAMPERS AND SMOKE DAMPERS TO MAINTAIN THE INTEGRITY OF THE STRUCTURE PER NFPA REQUIREMENTS.
13. MAINTAIN DISTANCE, CONFIGURATION AND NUMBER OF ELBOWS FROM UNIT OR VAV BOXES TO FIRST DIFFUSER AS SHOWN ON PLANS FOR SOUND ATTENUATION. CONTRACTOR SHALL COORDINATE DEVIATIONS WITH THE ENGINEER OF RECORD.
14. PROVIDE TRANSITIONS REQUIRED FROM DUCT SIZE INDICATED ON PLANS TO HVAC EQUIPMENT CONNECTION SIZE. MAINTAIN 30 DEGREE MAXIMUM ANGLE FOR TRANSITION. CONTRACTOR SHALL COORDINATE DEVIATIONS WITH THE ENGINEER OF RECORD.
15. COORDINATE EXACT GRILLE/REGISTER/DIFFUSER LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN BEFORE ROUGH-IN.
16. COORDINATE ROOF PENETRATIONS WITH THE ROOFING CONTRACTOR OR ROOF WARRANTY UNDERWRITER TO MAINTAIN ROOFING SYSTEM INTEGRITY.
17. MINIMUM MECHANICAL PIPING SIZE SHALL BE 3/4" UNLESS NOTED OTHERWISE.
18. INSTALL FLEXIBLE CONNECTIONS BETWEEN ALL MOTORIZED EQUIPMENT AND THE CONNECTED SYSTEM. REFER TO SPECIFICATIONS FOR CONNECTION TYPE AND APPLICATION.

# HVAC LINETYPE KEY

(APPLIES TO ALL HVAC SERVICES OR SYMBOLS)

| SYMBOL | DESCRIPTION |
|---|---|
| ———— | HEAVY LINEWEIGHT INDICATES PIPING AND EQUIPMENT TO BE FURNISHED UNDER THIS PROJECT |
| ———— | THIN LINEWEIGHT INDICATES PIPING AND EQUIPMENT THAT ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE |
| ------------ | DASHED LINEWEIGHT INDICATES PIPING AND EQUIPMENT THAT ARE EXISTING TO BE REMOVED, UNLESS NOTED OTHERWISE |

# HVAC ABBREVIATIONS

| | | | |
|---|---|---|---|
| AB CL | ABOVE CEILING | HC | HEATING/HVAC CONTRACTOR |
| AFF | ABOVE FINISHED FLOOR | FT | HD FEET OF HEAD |
| AFG | ABOVE FINISHED GRADE | HP | HORSEPOWER |
| APD | AIR PRESSURE DROP | HZ | HERTZ |
| ATC | AUTOMATIC TEMPERATURE CONTROL | KW | KILOWATT |
| BJ | BETWEEN JOIST | LAT | LEAVING AIR TEMPERATURE |
| BL GD | BELOW GRADE | LF | LINEAL FEET |
| CFM | CUBIC FEET PER MINUTE | LWT | LEAVING WATER TEMPERATURE |
| DB | DRY BULB | MC | MECHANICAL CONTRACTOR |
| DIA | DIAMETER | PC | PLUMBING CONTRACTOR |
| DIFF | DIFFUSER | PSIG | POUNDS PER SQUARE INCH GAGE |
| EAT | ENTERING AIR TEMP | RPM | REVOLUTIONS PER MINUTE |
| EC | ELECTRICAL CONTRACTOR | TJ | THRU JOIST |
| ESP | EXTERNAL STATIC PRESSURE | TR | THROUGH ROOF |
| EWT | ENTERING WATER TEMPERATURE | TP | TOTAL PRESSURE |
| EX | EXISTING | TSP | TOTAL STATIC PRESSURE |
| FPM | FEET PER MINUTE | TYP | TYPICAL |
| FRP | FIBERGLASS REINFORCED PLASTIC | UNO | UNLESS NOTED OTHERWISE |
| FV | FACE VELOCITY | WB | WET BULB |
| GC | GENERAL CONTRACTOR | IN WG | INCHES WATER GAGE |
| GPM | GALLONS PER MINUTE | WPD | WATER PRESSURE DROP |
| | | V | VOLT |

## Toilet Exhaust Requirement vs Provided

| Toilet Code Exhaust per Fixture (CFM) | Total Fixtures | Total Required Exhaust (CFM) | Total Provided Exhaust (CFM |
|---|---|---|---|
| 70 | 15 | 1050 | 1200 |

# ENERGY RECOVERY VENTILATOR SCHEDULE

| DESIG | CFM | | ESP (IN WG) | | WINTER | | | | | | SUMMER | | | | | | FAN HP | | ELECTRICAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | INDOOR DESIGN | | OA EAT (°F) | | OA LAT (°F) | | INDOOR DESIGN | | OA EAT (°F) | | OA LAT (°F) | | | | | | | |
| | OA | EA | OA | EA | DB (°F) | WB (°F) | DB | WB | DB | WB | DB (°F) | WB (°F) | DB | WB | DB | WB | OA | EA | MCA | MOCP | VOLT | PHASE |
| ERV-1 | 950 | 1200 | 1.0 | 1.0 | 72.0 | 55.8 | 20.0 | 16.6 | 65.6 | 51.5 | 75.0 | 62.5 | 89.0 | 79.0 | 76.7 | 65.7 | 3/4 | 1 | 11.5 | 15 | 208 | 3 |

# FAN SCHEDULE

| DESIG | CFM | ESP (IN WG) | HP (WATTS) | RPM | VOLT | PHASE | TYPE | DRIVE | SPEED | SONES |
|---|---|---|---|---|---|---|---|---|---|---|
| F-1 * | 200 | 0.5 | (60) | 1000 | 120 | 1 | CFD | DIRECT | SINGLE | 3 |

* PROVIDE FAN AS INLINE ORIENTATION

# DUCT COIL SCHEDULE, ELECTRIC

| DESIG | ELECTRICAL | | | CFM | SIZE (LxW) | FACE VELOCITY (FPM) | STEPS | APD (IN WG) | EAT (°F) |
|---|---|---|---|---|---|---|---|---|---|
| | KW | VOLT | PHASE | | | | | | |
| DC-1 | 12 | 208 | 3 | 950 | 14" X 12" | 814 | SCR | 0.1 | 65.6 |

# UNIT HEATER SCHEDULE, ELECTRIC

| DESIG | KW | CFM | HP | RPM | ELECTRICAL | | TYPE | SPEED |
|---|---|---|---|---|---|---|---|---|
| | | | | | VOLT | PHASE | | |
| UH-1 | 3.3 | 350 | 1/125 | 1550 | 208 | 1 | HORIZONTAL | SINGLE |
| UH-2 | 3.3 | 350 | 1/125 | 1550 | 208 | 1 | HORIZONTAL | SINGLE |
| UH-3 | 3.3 | 350 | 1/125 | 1550 | 208 | 1 | HORIZONTAL | SINGLE |
| UH-4 | 3.3 | 350 | 1/125 | 1550 | 208 | 1 | HORIZONTAL | SINGLE |


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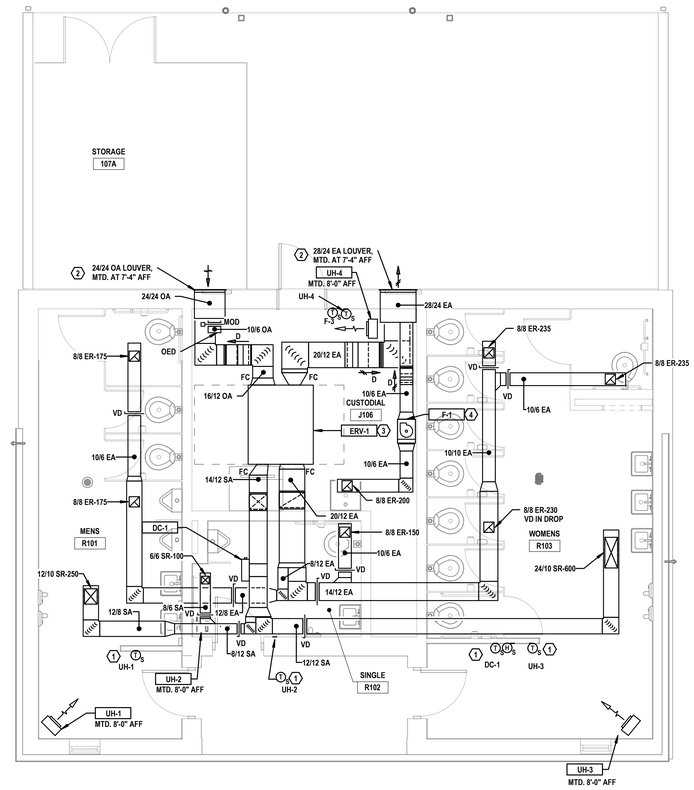
## NOTES

1. PROVIDE SENSOR MANUFACTURER'S ACCESSORY LOCKING GUARD COVER.
2. PLENUM BOX SHALL BE THE FULL SIZE OF THE LOUVER AND AS DEEP AS REQUIRED FOR DUCT CONNECTIONS AND APPURTENANCES INDICATED. PLENUM BOX SHALL BE INSULATED AND THE BOTTOM SHALL PITCH TOWARD THE LOUVER.
3. INSTALL ENERGY RECOVERY VENTILATOR FROM ROOF STRUCTURE ON SUPPORT SYSTEM AS SPECIFIED.
4. INSTALL FAN FROM ROOF STRUCTURE ON SUPPORT SYSTEM AS SPECIFIED. PROVIDE LINE VOLTAGE THERMOSTAT WITH A RELAY AND ASSOCIATED WIRING TO ENERGIZE FAN.
5. EXPOSED DUCTWORK IN MENS, WOMENS, AND SINGLE SHALL BE DEGREASED AND PREPARED FOR PAINTING BY GENERAL CONTRACTOR.

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## RESTROOMS BUILDING PLAN – HVAC

**SCALE: 1/4" = 1'-0"** 5


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| | 01-22-2024 | BID SET |
| | 12-06-2023 | REVISED DRAWINGS |
| | 10-04-2023 | BID SET |
| | 09-27-2023 | PEMIT SET |
| | 09-06-2023 | CD SUBMISSION |

KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg

# STADIUM SEATING & RESTROOMS BLDG

**PENN STATE UNIVERSITY HARRISBURG CAMPUS**

STREET, CITY, STATE ZIP CODE

PSU BUILDING NUMBER: 0985095

PSU PROJECT NUMBER: 00-08713.00

PROJECT NUMBER: 2022.138.00

PROJECT PHASE: CONSTRUCTION DOCUMENTS

## FLOOR PLANS - HVAC

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## SYMBOL SCHEDULE - FIRE ALARM

| SYMBOL | DESCRIPTION |
|---|---|
| F | FIRE ALARM AUDIBLE VISUAL UNIT, WALL MOUNTED |
| SD | FIRE ALARM SMOKE DETECTOR |
| HD | FIRE ALARM HEAT DETECTOR |

## ELECTRICAL SYMBOL SCHEDULE

| SYMBOL | DESCRIPTION |
|---|---|
| | LIGHTING FIXTURE, SURFACE OR PENDANT (AS INDICATED); NORMAL |
| | LIGHTING FIXTURE, WALL MOUNTED; NORMAL |
| | LIGHTING FIXTURE, CEILING MOUNTED UNLESS NOTED OTHERWISE; NORMAL |
| | LIGHTING FIXTURE, WALL MOUNTED; NORMAL |
| | POLE MOUNTED LIGHTING FIXTURE, NUMBER OF HEADS AS INDICATED |
| | GROUND MOUNTED FLOOD LIGHT |
| RAXX a | FIXTURE DESIGNATION INDICATES FIXTURE TYPE, LETTER INDICATES SWITCH ZONE WHERE APPLICABLE (APPLIES TO ALL FIXTURE TYPES) |
| | EMERGENCY LIGHTING BATTERY UNIT, NUMBER OF HEADS AS INDICATED |
| | REMOTE EMERGENCY LIGHTING HEAD, WALL MOUNTED, QUANTITY AS SHOWN |
| | PHOTOCELL, COORDINATE MOUNTING AND AIMING DIRECTION IN FIELD |
| S | SINGLE POLE SWITCH |
| | RECEPTACLE, SINGLE NEMA 5-20R, UNLESS NOTED OTHERWISE |
| | RECEPTACLE, DUPLEX NEMA 5-20R |
| | RECEPTACLES, TWO DUPLEX MOUNTED IN A DOUBLE GANG BOX (APPLIES TO ALL RECEPTACLE TYPES) |
| C | INDICATES RECEPTACLE TO BE MOUNTED ABOVE COUNTER |
| GFI | INDICATES GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE |
| 48" | INDICATES MOUNTING HEIGHT OF RECEPTACLE, 18" AFF IF NOT NOTED |
| XX-XX | NUMBER INDICATES SOURCE PANEL AND BREAKER. CONNECT ADJACENT DEVICES INDICATED ON SAME CIRCUIT. PROVIDE BRANCH CIRCUIT FROM DEVICE NEAREST PANEL TO PANELBOARD (APPLIES TO ALL RECEPTACLES AND JUNCTION BOXES) |
| 14-20R | SPECIAL RECEPTACLE, NEMA CONFIGURATION AS INDICATED |

## SYMBOL SCHEDULE - SECURITY

| SYMBOL | DESCRIPTION |
|---|---|
| C | FIXED CAMERA, CEILING MOUNTED, NUMBER OF LENSES AS INDICATED |
| C | FIXED CAMERA, WALL MOUNTED, NUMBER OF LENSES AS INDICATED |

## SYMBOL SCHEDULE - TELECOM

| SYMBOL | DESCRIPTION |
|---|---|
| Y | WALL OUTLET, DATA - 'Y' INDICATES QUANTITY OF JACKS, NO NUMBER INDICATES TWO JACKS. |
| WA | WIRELESS ACCESS POINT OUTLET, CEILING MOUNTED |

## ELECTRICAL SYMBOL SCHEDULE

| SYMBOL | DESCRIPTION |
|---|---|
| $S_{Tx}$ | MOTOR STARTER, MANUAL WITH OVERLOADS; "X" INDICATES NUMBER OF POLES, NO NUMBER INDICATES ONE POLE |
| T | TRANSFORMER, FLOOR OR PAD MOUNTED UNLESS NOTED OTHERWISE |
| J | JUNCTION BOX, WALL MOUNTED, RECESSED UNLESS NOTED |
| J | JUNCTION BOX |
| P | PULL BOX, SIZED AS REQUIRED |
| G | GROUND ROD |
| | PANELBOARD - 120/208V, 3PH, 4W |
| | PANELBOARD - 277/480V, 3PH, 4W |
| T | THERMOSTAT, LINE VOLTAGE |
| | CONNECT TO EXISTING |
| | POINT OF DISCONNECT |

REFERENCE NUMBER → 1 / P-101 ← SHEET CROSS REFERENCE

SECTION REFERENCE LETTER → A / P-101 DIRECTION OF VIEW ← SHEET CROSS REFERENCE

## ELECTRICAL LINETYPE KEY

(APPLIES TO ALL ELECTRICAL SERVICES OR SYMBOLS)

| SYMBOL | DESCRIPTION |
|---|---|
| ——— | HEAVY LINEWEIGHT INDICATES PIPING AND EQUIPMENT TO BE FURNISHED UNDER THIS PROJECT |
| ——— | THIN LINEWEIGHT INDICATES PIPING AND EQUIPMENT THAT ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE |
| ------------ | DASHED LINEWEIGHT INDICATES PIPING AND EQUIPMENT THAT ARE EXISTING TO BE REMOVED, UNLESS NOTED OTHERWISE |

### GENERAL ELECTRICAL DEMOLITION NOTES

A. EXISTING ELECTRICAL ITEMS SHALL REMAIN AND BE MAINTAINED IN SERVICE, UNLESS NOTED OTHERWISE.

B. VERIFY EXISTING CONDITIONS IN FIELD. DOCUMENT DISCREPANCIES BETWEEN INFORMATION SHOWN ON DRAWINGS AND ACTUAL FIELD CONDITIONS AND SUBMIT TO DESIGN PROFESSIONAL BEFORE COMMENCING WITH WORK.

C. DEMOLITION DRAWINGS INDICATE GENERAL DEMOLITION SCOPE AND INTENT OF DEMOLITION WORK REQUIRED. DEMOLITION DRAWINGS DO NOT PROVIDE EXACT QUANTITIES AND SPECIFIC TYPES OF MATERIALS AND EQUIPMENT TO BE REMOVED.

D. REFER TO DEMOLITION AND CONSTRUCTION DRAWINGS OF OTHER TRADES FOR ADDITIONAL CLARIFICATION OF DEMOLITION SCOPE. DISCONNECT AND MAKE SAFE ANY POWERED EQUIPMENT SCHEDULED FOR REMOVAL BY OTHER TRADES. REMOVE LINE VOLTAGE CONTROLS, WIRING, CONDUIT, AND ASSOCIATED ELECTRICAL ITEMS.

E. ONLY TRADE RESPONSIBLE FOR WORK OF DIVISIONS 26-28 SHALL PERFORM ELECTRICAL DEMOLITION WORK.

F. TRACE ENTIRETY OF ANY EXISTING CIRCUIT TO BE PARTIALLY REMOVED. BEFORE REMOVAL, MARK, LABEL OR TAG REMAINING PORTIONS OF THAT CIRCUIT INDICATING TYPE OF CIRCUIT (NORMAL, EMERGENCY, ETC.) AND AREA OR ITEMS SERVED.

G. EXISTING CONDUITS REMAINING IN PLACE MAY BE REUSED, PROVIDED CONDUIT IS IN SATISFACTORY CONDITION AND IS RUN IN DIRECT MANNER BETWEEN INTENDED SOURCE AND LOAD. THOROUGHLY CLEAN EXISTING CONDUITS BEFORE INSTALLATION OF WIRE.

H. DO NOT REUSE REMOVED CONDUIT AND WIRE.

I. WHERE EXISTING ELECTRICAL ITEM TO BE REMOVED IS LOCATED IN THE MIDDLE OF EXISTING CIRCUIT WITH OTHER EXISTING ITEMS ON THAT CIRCUIT TO REMAIN, MAKE REMAINING EXISTING CIRCUIT CONTINUOUS.

J. WHERE EXISTING ELECTRICAL ITEM TO BE REMOVED IS LOCATED AT THE END OF EXISTING CIRCUIT, REMOVE EXISTING WIRE AND EXPOSED CONDUIT BACK TO THE NEXT ACTIVE ITEM ON THAT CIRCUIT.

K. WHERE EXISTING ELECTRICAL ITEM TO BE REMOVED IS THE ONLY ITEM ON EXISTING CIRCUIT, REMOVE EXISTING WIRE AND EXPOSED CONDUIT BACK TO EXISTING PANELBOARD. LABEL ABANDONED EXISTING BREAKER AS SPARE AND REVISE EXISTING PANEL SCHEDULE ACCORDINGLY.

L. WHERE EXISTING CONDUIT RUN, OR PORTION OF AN EXISTING CONDUIT RUN, TO BE REMOVED IS PARTIALLY EXPOSED AND PARTIALLY CONCEALED, REMOVE EXPOSED PORTION TO CONCEALED POINT BEYOND THE SURFACE (WALL, CEILING, FLOOR, ETC), PATCH ADJACENT SURFACE, AND REFINISH TO MATCH SURROUNDINGS.

M. REQUIREMENTS FOR EXPOSED CONDUITS ALSO APPLY TO CONDUIT RUNS LOCATED ABOVE EXISTING ACCESSIBLE CEILINGS OR EXISTING CONDUIT RUNS THAT WILL BE LOCATED ABOVE ACCESSIBLE CEILINGS.

N. WHERE REMOVAL OF EXISTING WIRING, OR EXISTING ASSOCIATED WIRING, IS INDICATED ON THE DRAWINGS, INCLUDE REMOVAL OF ASSOCIATED RACEWAYS.

O. IN AREAS OF WORK (INCLUDING AREAS WHERE CEILINGS WILL BE REMOVED), REMOVE EXISTING EXPOSED UNUSED SYSTEMS CABLES IN THEIR ENTIRETY IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. VERIFY WITH UNIVERSITY THAT CABLES ARE UNUSED AND OBTAIN UNIVERSITY'S WRITTEN APPROVAL PRIOR TO REMOVAL.

P. SALVAGE AND TURN OVER ITEMS OF VALUE AS IDENTIFIED BY UNIVERSITY. LEGALLY DISPOSE OF EQUIPMENT AND MATERIAL THAT UNIVERSITY DOES NOT WISH TO RETAIN.

## CABLES, RACEWAY AND WIRING SCHEDULE

### CABLES

| DESIG | TYPE | LOCATIONS ALLOWED |
|---|---|---|
| MC | METAL CLAD CABLE | EXTERIOR: NOT PERMITTED. INTERIOR: PERMITTED ONLY IN SPECIFIC AREAS AS DEFINED IN THE SPECIFICATIONS AND WITH WRITTEN PERMISSION OF UNIVERSITY. |

### RACEWAYS

| DESIG | TYPE | LOCATIONS ALLOWED |
|---|---|---|
| ERMC | RIGID METAL CONDUIT | EXTERIOR: EXPOSED, CONCEALED ABOVEGROUND. INTERIOR: EXPOSED LESS THAN FOUR FEET (4') AFF, AREAS SUBJECT TO PHYSICAL DAMAGE, UNDERGROUND BENEATH CONCRETE SLABS, HAZARDOUS LOCATIONS, CABLING OVER 600V, FIRE PUMP ROOM. |
| FMC | FLEXIBLE METAL CONDUIT | EXTERIOR: NOT PERMITTED. INTERIOR: FINAL CONNECTION TO RECESSED LIGHTING FIXTURES, FISHING VOIDS IN EXISTING MASONRY WALLS. |
| LFMC | LIQUIDTIGHT FLEXIBLE METAL CONDUIT | EXTERIOR: FINAL CONNECTIONS MOTORS AND VIBRATING EQUIPMENT. INTERIOR: FINAL CONNECTIONS MOTORS AND VIBRATING EQUIPMENT. |
| PVC | RIGID PVC CONDUIT | EXTERIOR: UNDERGROUND. INTERIOR: WITHIN OR BENEATH CONCRETE SLABS; EXPOSED IN DAMP OR WET LOCATIONS WHERE NOT SUBJECT TO PHYSICAL DAMAGE. |
| EMT | ELECTRICAL METAL TUBING | EXTERIOR: NOT PERMITTED. INTERIOR: CONCEALED IN WALLS AND CEILINGS; EXPOSED MORE THAN FOUR FEET (4') AFF; WITHIN CONCRETE SLABS ON AND ABOVE GRADE; SECONDARY SIDE OF ISOLATION PANELS. |

### WIRING

| | |
|---|---|
| CONDUCTOR | COPPER, COMPLY WITH ASTM B 3 FOR BARE COPPER AND ASTM B 8 FOR STRANDED CONDUCTORS. LISTED AND LABELED AS DEFINED BY NEC. STRANDED FOR #8 AWG AND LARGER, SOLID FOR #10 AWG AND SMALLER. ALUMINUM CONDUCTORS NOT PERMITTED. |
| WIRING INSULATION | THW, THHN/THWN, XHHW, OR XHHW-2 |
| MINIMUM SIZE | #12 AWG FOR POWER, #14 FOR CONTROL |

### WIRING LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | HATCH MARKS INDICATE QUANTITY OF #12 PHASE (SHORT HATCH) AND NEUTRAL (LONG HATCH) CONDUCTORS IN CONDUIT. PROVIDE ADDITIONAL #12G IN EACH CONDUIT. PROVIDE 2#12 AND #12G WHERE HATCH MARKS ARE NOT INDICATED, UNLESS NOTED OTHERWISE. |
| ——— | CONDUIT / WIRING RUN CONCEALED IN WALL OR CEILING |
| — — — — | CONDUIT / WIRING RUN UNDERFLOOR OR UNDERGROUND |
| —— - —— | CONDUIT / WIRING RUN EXPOSED |
| ———→ | BRANCH CIRCUIT TO PANEL |

SEE ADDITIONAL REQUIREMENTS IN ELECTRICAL SPECIFICATIONS

### GENERAL ELECTRICAL NOTES

A. COMPLY WITH APPLICABLE LOCAL, STATE, NATIONAL, AND INTERNATIONAL CODES AND REGULATIONS.

B. PLAN DOCUMENTS ARE SCHEMATIC TO CONVEY DESIGN INTENT. DO NOT SCALE DRAWINGS FOR EXACT PLACEMENT OF EQUIPMENT AND DEVICES.

C. COORDINATION BETWEEN DIVISIONS IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

D. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. IN A CASE OF A CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS, REQUEST A DOCUMENTED INTERPRETATION FROM THE ARCHITECT / ENGINEER.

E. INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND INSURANCE UNDERWRITER'S REQUIREMENTS.

F. THE LINE-TYPE AND SYMBOLS LEGENDS SHOW ITEMS TYPICALLY INCLUDED WITH THE SPECIFIED SYSTEMS. NOT ALL SYMBOLS AND/OR LINETYPES ARE NECESSARILY UTILIZED.

G. INCLUDE DETAILS IN THE SCOPE OF WORK FOR EVERY SITUATION TO WHICH THAT DETAIL APPLIES EXCEPT WHERE A SPECIFIC DETAIL REFERENCE IS DESIGNATED TO INDICATE OTHERWISE.

H. COORDINATE UNDERGROUND SITE ELECTRICAL WORK WITH BOTH EXISTING AND PROPOSED UNDERGROUND UTILITIES AND WORK OF OTHER DISCIPLINES.

I. PROVIDE MINIMUM 1" CONDUIT FOR UNDERFLOOR, IN SLAB, AND BELOW GRADE APPLICATIONS.

J. PROVIDE 2#8, #10G, 1"C FOR SITE LIGHTING FIXTURES, UNLESS NOTED OTHERWISE.

K. PROVIDE 2#10, #10G, 3/4"C FOR NORMAL/EMERGENCY, CORRIDOR, AND BUILDING-MOUNTED EXTERIOR LIGHTING CIRCUITS, UNLESS NOTED OTHERWISE.

L. CONNECT LIGHTING FIXTURES, WIRING DEVICES, EQUIPMENT, ETC TO CIRCUIT INDICATED ON PLANS. PROVIDE 2#12, #12G, 3/4"C FOR BRANCH CIRCUITS, UNLESS NOTED OTHERWISE.

M. PROVIDE INCREASED WIRE SIZE WHERE REQUIRED TO LIMIT VOLTAGE DROP FOR BRANCH CIRCUITS TO THREE PERCENT AND TOTAL VOLTAGE DROP FOR ENTIRE CIRCUIT (FEEDERS AND BRANCH CIRCUITS) TO FIVE PERCENT.

N. REFER TO TYPICAL RECESSED LUMINAIRE INSTALLATION DETAILS FOR INSTALLATION REQUIREMENTS OF RECESSED FIXTURES.

O. CONNECT EXIT SIGNS TO UNSWITCHED LEG OF LOCAL NORMAL LIGHTING CIRCUIT UNLESS OTHERWISE NOTED.

P. CONNECT LIGHTING FIXTURES IN EACH ROOM TO INDICATED NORMAL LIGHTING CIRCUIT IN THAT SPACE. PROVIDE SWITCHING AS INDICATED AND SWITCH WIRING AS REQUIRED. WHERE NO SWITCH LEGS ARE INDICATED, LOCAL SWITCHING SHALL CONTROL ALL FIXTURES IN ROOM. WHERE SWITCH LEGS ARE INDICATED, SWITCHES SHALL CONTROL ONLY THOSE FIXTURES NOTED WITH SAME LABEL AS SWITCH.

Q. PROVIDE 0-10V CONTROL CABLING TO LIGHTING FIXTURES INDICATED WITH DIMMABLE CONTROLS.

R. COORDINATE EXACT FIXTURE MOUNTING HEIGHTS OF WALL-MOUNTED AND SUSPENDED FIXTURES WITH ARCHITECTURAL BUILDING ELEVATIONS BEFORE ROUGH-IN.

S. COORDINATE EXACT MOUNTING LOCATION OF SERVICE RECEPTACLES, DISCONNECTS, AND STARTERS FOR MECHANICAL AND UNIVERSITY FURNISHED EQUIPMENT IN FIELD WITH EQUIPMENT INSTALLER BEFORE ROUGH-IN. DO NOT INSTALL DEVICES WHERE LOCATION IMPEDES REQUIRED EQUIPMENT CLEARANCES AND SERVICE ACCESS POINTS.

T. MECHANICAL EQUIPMENT IS INDICATED ON POWER PLANS FOR LOCATION REFERENCE ONLY. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR SPECIFIC WIRING, DISCONNECT, AND CONTROLS REQUIREMENTS.

U. AMPERE INTERRUPTING CAPACITY (AIC), WITHSTAND CLOSE RATINGS (WCR), AND SHORT CIRCUIT CURRENT RATINGS (SCCR) SHOWN ON DRAWINGS ARE SYMMETRICAL, MINIMUM VALUES AT VOLTAGE OF THE RESPECTIVE EQUIPMENT. PROVIDE EQUIPMENT WITH FINAL RATINGS THAT MEET OR EXCEED VALUE NOTED ON DRAWINGS.

V. PROVIDE INNERDUCT IN TELECOMMUNICATIONS CONDUIT RUNS PER SPECIFICATIONS.

W. PROVIDE PULL STRING IN EMPTY CONDUITS/INNERDUCT.

X. FIELD VERIFY EXISTING CIRCUITS BEING REUSED OR MODIFIED. WHERE BRANCH CIRCUIT IS INDICATED TO BE WIRED TO EXISTING BREAKER THAT IS IN USE, CONNECT CIRCUIT TO NEXT AVAILABLE BREAKER WHERE NECESSARY, PROVIDE COMPATIBLE CIRCUIT BREAKER WITH AMPERE RATING AS INDICATED AND AIC RATING TO MATCH EXISTING PANELBOARD. UPDATE EXISTING PANELBOARD DIRECTORY TO REFLECT ANY PANEL REVISIONS AND NOTE CHANGES ON RECORD DRAWINGS.

## ELECTRICAL ABBREVIATIONS

A AMPERE
AB CL ABOVE CEILING
AF AMP FRAME
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AIC AMPERE INTERRUPTING CAPACITY
AT AMP TRIP
ATS AUTOMATIC TRANSFER SWITCH
BFC BELOW FINISHED CEILING
BFF BELOW FINISHED FLOOR
BFG BELOW FINISHED GRADE
BKR BREAKER
C CONDUIT
CKT CIRCUIT
CMH COMMUNICATIONS MANHOLE
DIA DIAMETER
E EMERGENCY
EA EACH
EC ELECTRICAL CONTRACTOR
EMH ELECTRICAL MANHOLE
EMT ELECTRICAL METALLIC TUBING
EWC ELECTRIC WATER COOLER
EXR EXISTING TO BE REMOVED
EX EXISTING TO REMAIN
FAAP FIRE ALARM ANNUNCIATOR PANEL
FACP FIRE ALARM CONTROL PANEL
FM FLEXIBLE METAL CONDUIT
GC GENERAL CONTRACTOR
GFI/GFCI GROUND FAULT CIRCUIT INTERRUPTER
G GROUND
HC HVAC CONTRACTOR
HT HEIGHT
ISO ISOLATION
KVA KILOVOLT AMPERE
KW KILOWATT
LFMC LIQUID-TIGHT FLEXIBLE METAL CONDUIT
LSI LONG TIME, SHORT TIME AND INSTANTANEOUS (CIRCUIT BREAKER TRIP FUNCTIONS)
LSIA LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT ALARM (CIRCUIT BREAKER TRIP FUNCTIONS)
LSIA LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT ALARM (CIRCUIT BREAKER TRIP FUNCTIONS)
LSIG LONG TIME, SHORT TIME , INSTANTANEOUS AND GROUND FAULT (CIRCUIT BREAKER TRIP FUNCTIONS)
MC METAL-CLAD CABLE
MCB MAIN CIRCUIT BREAKER
MFR MANUFACTURER
MH MOUNTING HEIGHT
MIN MINIMUM
MLO MAIN LUG ONLY
MTD MOUNTED
NE NORMAL/EMERGENCY
NEC NATIONAL ELECTRICAL CODE, NFPA 70
NL NIGHT LIGHT
NC NORMALLY CLOSED
NO NUMBER OR NORMALLY OPEN
OC ON CENTER
OE OVERHEAD ELECTRIC
OT OVERHEAD TELECOMMUNICATIONS
P POLE
PC PLUMBING CONTRACTOR
PH PHASE
REX RELOCATED EXISTING
RMC RIGID METAL CONDUIT
SCCR SHORT CIRCUIT CURRENT RATING
TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP TYPICAL
UE UNDERGROUND ELECTRIC
UG UNDERGROUND
UN FL UNDER FLOOR
UT UNDERGROUND TELECOMMUNICATIONS
V VOLTS
WCR WITHSTAND CLOSE RATING
WG WITH WIRE GUARD
WP WEATHERPROOF
WH WALL HUNG
XFMR TRANSFORMER


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KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg 1855

# STADIUM SEATING & RESTROOMS BLDG

PENN STATE UNIVERSITY HARRISBURG CAMPUS

STREET, CITY, STATE ZIP CODE

PSU BUILDING NUMBER: 0985095

PSU PROJECT NUMBER: 00-08713.00

PROJECT NUMBER: 2022.138.00

PROJECT PHASE: CONSTRUCTION DOCUMENTS

# SYMBOLS & GENERAL NOTES - ELECTRICAL

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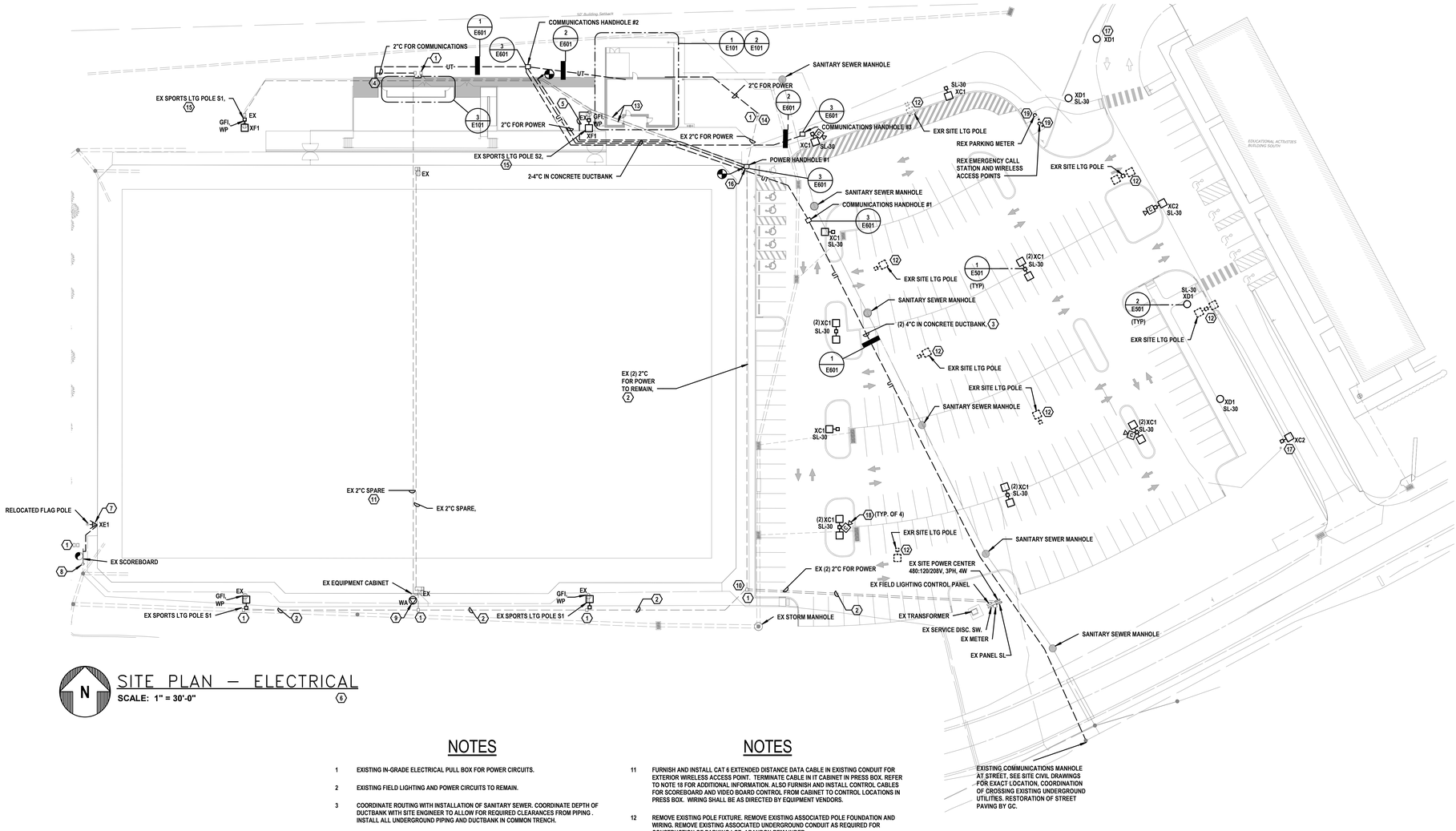


# SITE PLAN – ELECTRICAL

**SCALE: 1" = 30'-0"**

## NOTES

1. EXISTING IN-GRADE ELECTRICAL PULL BOX FOR POWER CIRCUITS.
2. EXISTING FIELD LIGHTING AND POWER CIRCUITS TO REMAIN.
3. COORDINATE ROUTING WITH INSTALLATION OF SANITARY SEWER. COORDINATE DEPTH OF DUCTBANK WITH SITE ENGINEER TO ALLOW FOR REQUIRED CLEARANCES FROM PIPING . INSTALL ALL UNDERGROUND PIPING AND DUCTBANK IN COMMON TRENCH.
4. EXTEND CONDUITS UP ABOVE GRADE TO IT CABINET IN PRESS BOX ABOVE. COORDINATE EXACT ROUTING IN FIELD. SECURE CONDUITS TO PRESS BOX STRUCTURAL STEEL.
5. FURNISH AND INSTALL 2#6, #8G, 1"C FOR RE-ROUTED SITE RECEPTACLE CIRCUIT. FURNISH AND INSTALL (2) SETS OF 3#6, 3#8, #8G, 1-1/2"C FOR FIELD LIGHTING POLE CIRCUITS. VERIFY ACTUAL WIRING AND CONDUIT SIZES BEFORE INSTALLATION.
6. CAREFULLY EXCAVATE AND BACKFILL CONDUIT TRENCHES WHEN NEAR AND/OR CROSSING EXISTING UNDERGROUND PIPING AND CONDUITS. HAND EXCAVATE ONLY IN THIS AREA. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
7. LOCATE FIXTURE 3'-0" FROM EDGE OF POLE BASE. VERIFY EXACT LOCATION WITH ARCHITECT AND UNIVERSITY BEFORE ROUGH-IN. FIXTURE OUTLET BOX OR CONDUIT STUB-UP TO BE ANCHORED IN EXPANDED POLE BASE FOUNDATION. COORDINATE INSTALLATION WITH GC BEFORE ROUGH-IN.
8. CONNECT WIRING FOR LIGHTING FIXTURE TO LOAD SIDE OF DISCONNECT SWITCH FOR SCOREBOARD (CKT. RP-13). FURNISH AND INSTALL 2#10, #10G, 3/4"C FROM DISCONNECT, THROUGH PHOTOCELL LOCATED ON REAR OF SCOREBOARD, TO SCOREBOARD'S SUPPORTING COLUMN, THEN TO BELOW GRADE TO FIXTURE. PROVIDE SUPPORTING HARDWARE AS REQUIRED.
9. MOUNT TO TOP OR SIDE OF EXISTING EQUIPMENT CABINET AS DIRECTED BY UNIVERSITY. PROVIDE ACCESSORY SUPPORT BRACKETS AND/OR STRUCTURAL STEEL AS REQUIRED. COORDINATE EXACT LOCATION WITH UNIVERSITY.
10. RAISE JUNCTION BOX SO THAT THE TOP OF THE BOX IS LEVEL WITH FINAL SIDEWALK ELEVATION. FURNISH AND INSTALL ADDITIONAL MANUFACTURER'S COLLARS AS REQUIRED.

## NOTES

11. FURNISH AND INSTALL CAT 6 EXTENDED DISTANCE DATA CABLE IN EXISTING CONDUIT FOR EXTERIOR WIRELESS ACCESS POINT. TERMINATE CABLE IN IT CABINET IN PRESS BOX. REFER TO NOTE 18 FOR ADDITIONAL INFORMATION. ALSO FURNISH AND INSTALL CONTROL CABLES FOR SCOREBOARD AND VIDEO BOARD CONTROL FROM CABINET TO CONTROL LOCATIONS IN PRESS BOX. WIRING SHALL BE AS DIRECTED BY EQUIPMENT VENDORS.
12. REMOVE EXISTING POLE FIXTURE. REMOVE EXISTING ASSOCIATED POLE FOUNDATION AND WIRING. REMOVE EXISTING ASSOCIATED UNDERGROUND CONDUIT AS REQUIRED FOR CONSTRUCTION OF PARKING LOT. ABANDON REMAINDER.
13. REMOVE EXISTING ABANDONED PORTION OF WIRING AND CONDUITS AFTER CIRCUITS AND CONDUITS ARE RE-ROUTED.
14. ADJUST TOP OF PULL BOX AS REQUIRED SO THAT TOP OF BOX IS LEVEL WITH FINAL GRADE ELEVATION. TRIM EXISTING BOX OR ADD MANUFACTURER'S COLLARS AS REQUIRED.
15. MOUNT LIGHTING FIXTURE FOR BLEACHERS AT MOUNTING HEIGHT INDICATED. CONNECT TO EXISTING BLEACHER LIGHTING CIRCUIT IN POLE. COORDINATE EXACT LOCATION AND ORIENTATION ON POLE WITH FIELD LIGHTING SYSTEM MANUFACTURER.
16. INTERCEPT EXISTING FIELD LIGHTING AND SITE POWER CONDUITS AT PULL BOX. SPLICE CIRCUITS AND EXTEND AS NOTED. EXTEND 2" CONDUITS FOR POWER TO REST ROOMS AND PRESS BOX AS INDICATED.
17. REMOVE EXISTING POLE FIXTURE AND EXISTING ASSOCIATED FOUNDATION. REMOVE EXISTING WIRING BACK TO SAFE POINT. INSTALL REPLACEMENT POLE FIXTURE INDICATED AND CONNECT TO EXISTING LIGHTING CIRCUIT.
18. FURNISH AND INSTALL CAT 6 EXTENDED DISTANCE DATA CABLE FROM CAMERA OUTLET, DOWN POLE AND THROUGH UNDERGROUND CONDUIT SYSTEM AND COMMUNICATIONS HANDHOLES, TO IT CABINET IN PRESS BOX. CABLE SHALL BE BY PAIGE DATACOM "GAME CHANGER", OR APPROVED EQUAL.
19. TEMPORARILY REMOVE DEVICES DURING CONSTRUCTION AND STORE FOR FUTURE INSTALLATION. REMOVE EXISTING ASSOCIATED FOUNDATIONS AND BOLLARDS. PULL ASSOCIATED WIRING BACK TO A POINT AT THE EDGE OF CONSTRUCTION, THEN RE-ROUTE CONDUITS TO NEW LOCATIONS. REINSTALL AND RECONNECT EQUIPMENT.


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| | 10-04-2023 | BID SET |
| | 09-27-2023 | PEMIT SET |
| | 09-06-2023 | CD SUBMISSION |

KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg

**STADIUM SEATING & RESTROOMS BLDG**

**PENN STATE UNIVERSITY HARRISBURG CAMPUS**

STREET, CITY, STATE ZIP CODE

PSU BUILDING NUMBER: 0985095

PSU PROJECT NUMBER: 00-08713.00

PROJECT NUMBER: 2022.138.00

PROJECT PHASE: CONSTRUCTION DOCUMENTS

**SITE PLAN - ELECTRICAL**

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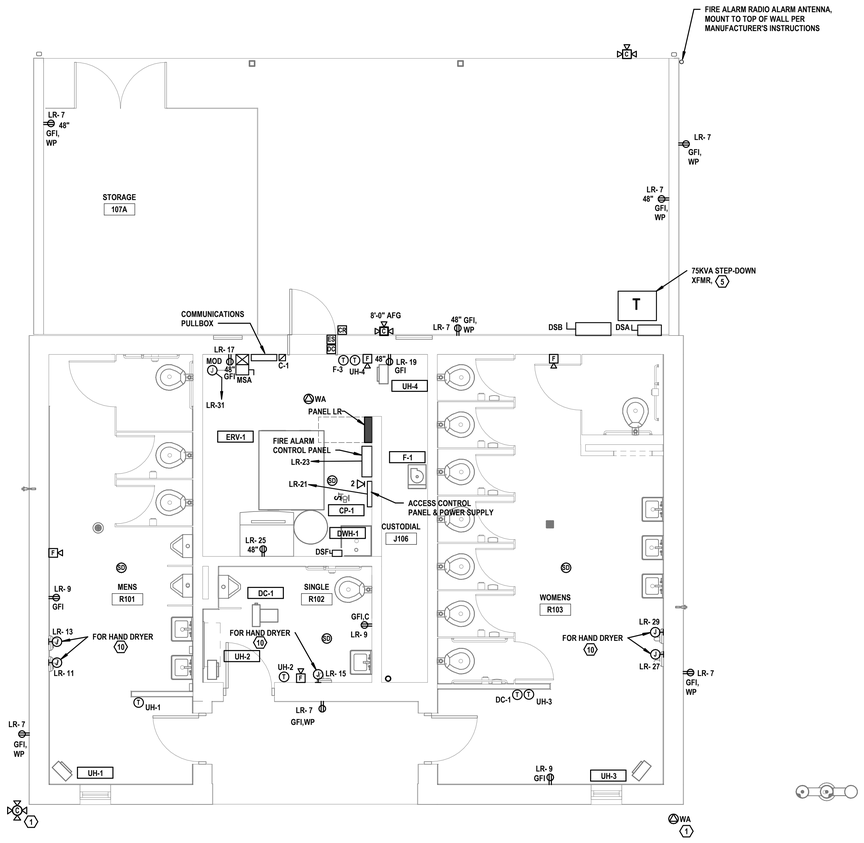
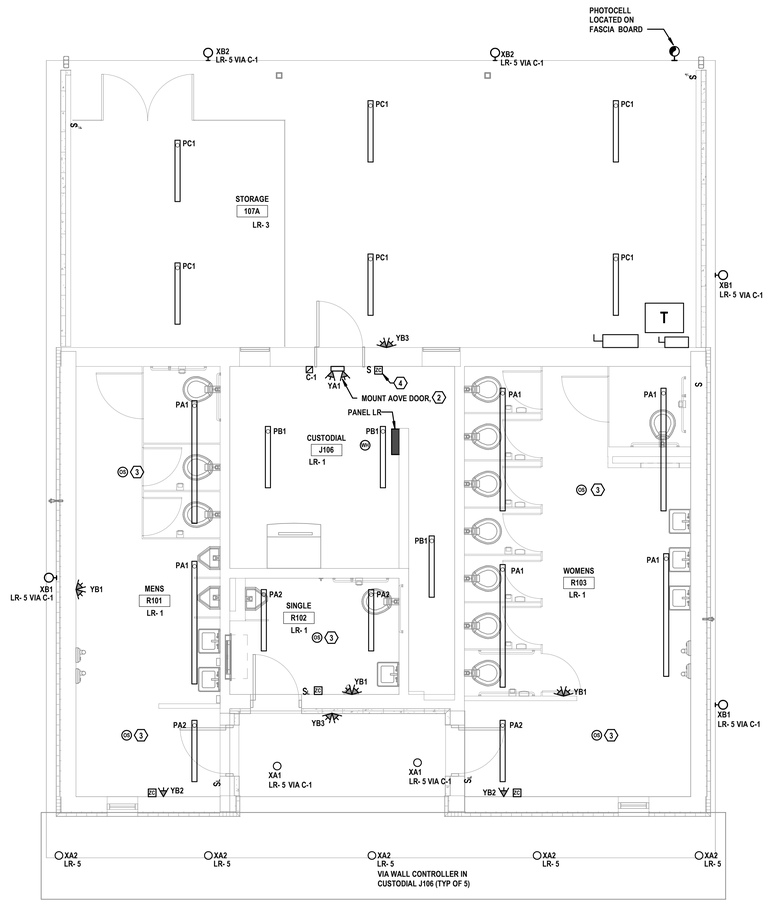
## NOTES

1. INSTALL DEVICE IN SOFFIT. COORDINATE EXACT FINAL LOCATION WITH UNIVERSITY AND GC BEFORE ROUGH-IN.
2. UNIT SHALL POWER ALL REMOTE HEADS SERVING AREAS WITH SAME NORMAL LIGHTING CIRCUIT AS THIS ROOM, INCLUDING ASSOCIATED EXTERIOR REMOTE HEADS. UNIT SHALL HAVE SUFFICIENT CAPACITY TO POWER ALL REMOTE HEADS PLUS 10% SPARE CAPACITY.
3. INSTALL OCCUPANCY SENSOR ON BOTTOM CHORD OF CEILING TRUSS. COORDINATE EXACT FINAL LOCATION IN FIELD BEFORE ROUGH-IN.
4. ZONE CONTROLLER FOR EXTERIOR XA2 FIXTURES IN FRONT CANOPY.
5. INSTALL TRANSFORMER ON WALL, AS HIGH AS POSSIBLE BELOW ROOF TRUSSES. PROVIDE WALL SUPPORT BRACKETS AS REQUIRED.
6. HUDL TYPE CAMERA FOR UNIVERSITY ATHLETICS USE, FURNISHED BY THE UNIVERSITY. INSTALL ON CANOPY FASCIA, VERIFY EXACT LOCATION WITH UNIVERSITY BEFORE ROUGH-IN.
7. SMOKE AND HEAT DETECTORS SHALL BE LOCATED ON CEILINGS. ADJUST FINAL LOCATIONS AS REQUIRED TO COORDINATE WITH OTHER BUILDING SYSTEMS SO DETECTORS ARE NOT OBSTRUCTED.
8. TO AVAILABLE SPARE OR SPACE IN PANEL LP. FURNISH AND INSTALL 20 AMP, 1 POLE CIRCUIT BREAKER, TYPE AND RATINGS TO MATCH EXISTING BREAKERS IN PANEL.

## NOTES

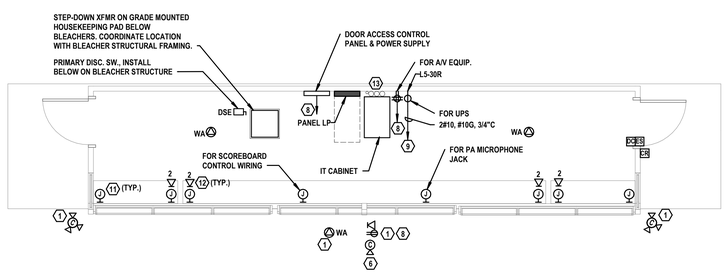
9. TO AVAILABLE SPACE IN PANEL LP. FURNISH AND INSTALL 30 AMP, 1 POLE CIRCUIT BREAKER, TYPE AND RATINGS TO MATCH EXISTING BREAKERS IN PANEL.
10. COORDINATE EXACT LOCATION OF OUTLET BOX WITH ARCHITECT BEFORE ROUGH-IN.
11. JUNCTION BOX SHOWN AND ASSOCIATED 3/4"C STUB OUT WILL BE PROVIDED RECESSED IN PRESS BOX WALL AS PART OF PRESS BOX. PROVIDE AN ADDITIONAL PULL BOX BELOW PRESS BOX FLOOR AT THE END OF THE STUB OUT. EXTEND 1" C FROM PULL BOX TO BELOW IT CABINET, THEN STUB UP ABOVE PRESS BOX FLOOR OR CONSOLIDATE ALL SIMILAR CONDUITS INTO ONE LARGER PULL BOX, THEN PROVIDE A COMMON STUB UP TO ABOVE PRESS BOX FLOOR, PULL BOXES AND COMMON STUB UPS SIZED AS REQUIRED. INSTALL OUTLET JACKS AND FACEPLATES FOR PA SYSTEM AND SCOREBOARD CONTROL TO BE FURNISHED BY SYSTEMS MANUFACTURER, FURNISH AND INSTALL BLANK COVERS ON OTHER JUNCTION BOXES.
12. JUNCTION BOX SHOWN AND ASSOCIATED 3/4"C STUB OUT WILL BE PROVIDED RECESSED IN PRESS BOX WALL AS PART OF PRESS BOX. PROVIDE AN ADDITIONAL PULL BOX BELOW PRESS BOX FLOOR AT THE END OF THE STUB OUT. EXTEND 1" C FROM PULL BOX TO BELOW IT CABINET, THEN STUB UP ABOVE PRESS BOX FLOOR OR CONSOLIDATE ALL SIMILAR CONDUITS INTO ONE LARGER PULL BOX, THEN PROVIDE A COMMON STUB UP TO ABOVE PRESS BOX FLOOR, PULL BOXES AND COMMON STUB UPS SIZED AS REQUIRED. FURNISH AND INSTALL DATA JACKS AND FACEPLATES AS SHOWN, ALONG WITH ASSOCIATED CAT 6 CABLING.
13. EXTEND SITE COMMUNICATIONS CONDUITS ABOVE GRADE BELOW PRESS BOX, SECURED TO BLEACHERS STRUCTURE, THEN STUB UP THROUGH PRESS BOX FLOOR AT REAR OF IT CABINET. COORDINATE EXACT STUB UP LOCATIONS WITH UNIVERSITY AND PRESS BOX INSTALLER BEFORE ROUGH-IN. REFER TO SITE PLAN AND COMMUNICATIONS RISER DIAGRAM FOR QUANTITIES AND SIZES OF CONDUITS.




## RESTROOMS BUILDING PLAN – POWER & SYSTEMS 7

**SCALE: 1/4" = 1'-0"**




## RESTROOMS BUILDING PLAN – LIGHTING

**SCALE: 1/4" = 1'-0"**

## PRESS BOX PLAN – POWER & SYSTEMS

**SCALE: 1/4" = 1'-0"**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NORTH

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PENNSTATE Harrisburg

# STADIUM SEATING & RESTROOMS BLDG

**PENN STATE UNIVERSITY HARRISBURG CAMPUS**

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PROJECT PHASE: CONSTRUCTION DOCUMENTS

## FLOOR PLANS - ELECTRICAL

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# LIGHTING CONTROL SYSTEM - COMPONENT SCHEDULE (LUTRON VIVE)

| SYMBOL | DESCRIPTION | BASIS OF DESIGN MANUFACTURER / SERIES | NOTES |
|---|---|---|---|
| S (timer) | LINE VOLTAGE TIMER SWITCH, MANUAL | HUBBELL DT2000W | AUDIBLE ALERT AT 1 MINUTE TO 'OFF' |
| $S_L$ | DIGITAL 1-BUTTON CONTROL STATION, TOGGLE | VIVE MRF2S-8S-DV-SW | - |
| $S_{LD2}$ | DIGITAL 2-BUTTON CONTROL STATION, DIMMER | (2) VIVE MRF2S-6CL-SW (GANGED) | - |
| OS | CEILING-MOUNTED DUAL TECH OCCUPANCY SENSOR, DIGITAL | VIVE LRF2-OCR2B-P-WH | - |
| WH | WIRELESS NETWORK HUB | VIVE HJS-0-FM | - |
| ZC | ZONE CONTROLLER, DIGITAL | VIVE RMJS-8T-DV-B (DIMMING)<br>VIVE RMJS-16R-DV-B (ON/OFF) | PROVIDE CONTROLLER WITH CONTROL TYPE (TOGGLE / DIMMING) REQUIRED PER ROOM BASED ON LIGHTING CONTROL SEQUENCE OF OPERATIONS MATRIX & APPROVED LIGHTING FIXTURES TO BE CONTROLLED. MOUNT IN AN ACCESSIBLE LOCATION. PROVIDE LABEL INDICATING ZONE / CIRCUIT CONTROLLED. |
| $S_{LX_}$ | TYPICAL MANUAL CONTROL STATION | - | 'X' INDICATES CONTROL TYPE. '_' INDICATES MANUAL CONTROL ZONE. WHERE NO MANUAL CONTROL ZONE INDICATED, STATION SHALL CONTROL ALL LIGHTING IN THE SPACE. |
| OS_ | TYPICAL SENSOR | - | '_' INDICATES ZONES OPERATED BY THE DEVICE. IF ZONE(S) ARE NOT DESIGNATED, DEVICE SHALL OPERATE ALL LIGHT FIXTURES IN THE AREA. |
| ZC_ | TYPICAL CONTROLLER | - | '_' INDICATES THE LIGHTING ZONE OPERATED BY ZONE CONTROLLER. IF LIGHTING ZONE IS NOT INDICATED, DEVICE SHALL CONTROL ALL LIGHTING IN THE ROOM. |

# LIGHTING FIXTURE SCHEDULE (LED)

VOLTS: UNV = UNIVERSAL 100V TO 277V
LIGHT ENGINE: CCT = CORRELATED COLOR TEMPERATURE (K); CRI - COLOR RENDERING INDEX; LUM MAINT = LUMEN MAINTENANCE (% OUTPUT @ NUMBER OF HOURS)
DRIVER TYPE: 0-10V = 0-10 VOLT DIMMING; CC = CONSTANT CURRENT; HA = HIGH AMBIENT; ND = NON-DIMMING; R - REMOTE DRIVER; STD = STANDARD LINE VOLTAGE; STEP = STEP DIMMING TO X%
ENVIRONMENT: CR = CORROSIVE; DL = DAMP LOCATION; HD = HOSE DOWN (HIGH PRESSURE): HZ HAZARDOUS LOCATION; IN = INDOOR; WL = WET LOCATION
MOUNTING: AHAP = AS HIGH AS POSSIBLE; CLG HT = CEILING HEIGHT; P = PENDANT; PL = POLE; R = RECESSED; SC = SURFACE CEILING; SR = SEMI-RECESSED; SW = SURFACE WALL; UC = UNDER CABINET; W = WALL

| FIXTURE TYPE | MANUFACTURER / CATALOG NUMBER | FIXTURE DESCRIPTION | VOLT | WATTS | DELIVERED LUMENS | CCT (K) | CRI | LUM MAINT | DRIVER TYPE | ENVIRON | MOUNTING TYPE | MOUNTING HEIGHT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PA1 | LUMENWERX VIA4PD-HLO-FH-LED-80-500-40-8'-UNV-D1-1, OR APPROVED EQUAL | 8' PENDANT FIXTURE, 4" X4" NOMINAL CROSS-SECTION, EXTRUDED ALUMINUM HOUSING, FINISH COLOR AS DIRECTED BY ARCHITECT, FLAT HIGH EFFICIENCY ACRYLIC DIFFUSER, AIRCRAFT CABLE SUSPENSION. | UNV | 40 | 4000 | 4000 | 80 | 80% @ 60,000 HRS | 0-10V, 1% | IN | P | 9'-0" AFF | |
| PA2 | LUMENWERX VIA4PD-HLO-FH-LED-80-500-40-4'-UNV-D1-1, OR APPROVED EQUAL | SAME AS PA1, EXCEPT 4' LENGTH. | UNV | 20 | 2000 | 4000 | 80 | 80% @ 60,000 HRS | 0-10V, 1% | IN | P | 9'-0" AFF | |
| PB1 | LITHONIA CLX-L48-4000LM-HEF-RDL-MVOLT-GZ10-40K-80CRI-WH-ZACVH M100-WGCLX48, OR APPROVED EQUAL | 4' PENDANT STRIP FIXTURE, COLD ROLLED STEEL HOUSING, WHITE POLYESTER POWDER FINISH, ROUND DIFFUSE LENS, WITH WIREGUARD, AIRCRAFT CABLE SUSPENSION. | UNV | 25 | 4262 | 4000 | 80 | 70% @ 100,000 HRS | 0-10V | IN | P | 9'-0" AFF | |
| PC1 | LITHONIA CSVT-L48-4000LM-MVOLT-40K-80CRI-STSL-SBOR10, OR APPROVED EQUAL | 4' VAPOR TIGHT LED STRIP LIGHT | UNV | 34 | 4163 | 4000 | 80 | 80% @ 90,000 HRS | 0-10V | WL | SC | CLG HT | |
| XA1 | GOTHAM EV0-40/4000K-10-AR-MWD-LSS-MVOLT-GZ10, OR APPROVED EQUAL | 4-IN APERTURE ROUND RECESSED EXTERIOR LED DOWNLIGHT, SEMI-SPECULAR CLEAR REFLECTOR, MEDIUM WIDE DISTRIBUTION | UNV | 8.8 | 1001 | 4000 | 80 | 70% @ 60,000 HRS | 0-10V, 1% | WL | R | CLG HT | |
| XA2 | GOTHAM EV0-40/4000K-15-AR-MWD-LSS-MVOLT-GZ10, OR APPROVED EQUAL | SAME AS XA1, EXCEPT LUMEN OUTPUT | UNV | 13.7 | 1527 | 4000 | 80 | 70% @ 60,000 HRS | 0-10V, 1% | WL | R | CLG HT | |
| XB1 | LITHONIA WDGE3-LED-P1-40K-80CRI-R4-MVOLT-SRM-DMG-PIR-XXXX, OR APPROVED EQUAL | WALL MOUNTED LED AREA LIGHT, DIE-CAST ALUMINUM HOUSING AND DOOR FRAME, FINISH COLOR AS DIRECTED BY ARCHITECT, TEMPERED GLASS LENS, DIRECT CUT-OFF, TYPE 4 DISTRIBUTION. INTEGRAL MOTION SENSOR FOR BI-LEVEL ILLUMINATION. | UNV | 52 | 7753 | 4000 | 80 | | 0-10V | WL | SW | 9'-6" AFG | |
| XB2 | LITHONIA WDGE3-LED-P1-40K-80CRI-R4-MVOLT-SRM-PBBW-DMG-PIR-XXXX, OR APPROVED EQUAL | SAME AS XB1, EXCEPT PROVIDE SUFACE MOUNTED BACK BOX ACCESSORY, CONDUIT TO ENTER TOP OF BACK BOX | UNV | 52 | 7753 | 4000 | 80 | | 0-10V | WL | SW | * | *MOUNT TO FACE OF WOOD BEAM, APPROX. 7'-9" |
| XC1 | COOPER LIGHTING STREETWORKS RDG E04 LED E U T4 4; OA/RA1016 PHOTOCELL; POLE: SHAKESPEARE AR SERIES (HEAVY DUTY WITH METAL SLEEVE INSIDE POLE BASE) | POLE MOUNTED AREA LIGHT, DIE-CAST ALUMINUM HOUSING, FINISH COLOR AS DIRECTED BY OWNER, DIRECT TYPE IV DISTRIBUTION, ARM MOUNTED W/POLE ADAPTER, PHOTOCELL; POLE 22', 5" SQUARE, NON-TAPERED FIBERGLASS W/HANDHOLE AT BASE, W/BASE BOLT COVER | UNV | 97 | 11,754 | 4000 | MIN 70 | 80% @ 100,000 HRS | STD | WL | PL | 25' AFG | * PROVIDE POLE HEIGHT TO MATCH EXISTING CAMPUS FIXTURES |
| XC2 | COOPER LIGHTING STREETWORKS RDG E04 LED E U T3 4; OA/RA1016 PHOTOCELL; POLE: SHAKESPEARE AR SERIES (HEAVY DUTY WITH METAL SLEEVE INSIDE POLE BASE) | POLE MOUNTED AREA LIGHT, DIE-CAST ALUMINUM HOUSING, FINISH COLOR AS DIRECTED BY OWNER, DIRECT TYPE III DISTRIBUTION, ARM MOUNTED W/POLE ADAPTER, PHOTOCELL; POLE 22', 5" SQUARE, NON-TAPERED FIBERGLASS W/HANDHOLE AT BASE, W/BASE BOLT COVER | UNV | 97 | 11,943 | 4000 | MIN 70 | 80% @ 100,000 HRS | STD | WL | PL | 25' AFG | * PROVIDE POLE HEIGHT TO MATCH EXISTING CAMPUS FIXTURES |
| XD1 | PENN GLOBE PARKLANE 845 SERIES F9A1-GX993-PS924, OR APPROVED EQUAL; POLE: PENN GLOBE DOVER P604-PS210-2000 W/JX30-EZA72-0275-0400 | POST TOP AREA LIGHT, TYPE III DISTRIBUTION, BUTTON PHOTOCELL, ACORN FINIAL, FINISH COLOR AS DIRECTED BY ARCHTECT, PROVIDE 14', 4" DIA POLE, BASE COVER. TO MATCH EXISTING CAMPUS FIXTURES. | UNV | 60 | 7902 | 4000 | MIN 70 | 70% @ 100,000 HRS | STD | WL | PL | APPROX. 15' AFG | * PROVIDE POLE HEIGHT TO MATCH EXISTING CAMPUS FIXTURES |
| XE1 | HYDREL SAF14-LED-P3-80CRI-50K-MVOLT-40DEG-CWL-KM-CSM12-TPH-ZT-FGS-XXX | GROUND MOUNTED ADJUSTABLE FLOODLIGHT, DIE-CAST ALUMINUM HOUSING, POWDER COAT FINISH, TEMPERED GLASS LENS, ADJUSTABLE KNUCKLE MOUNT ON 12" HOGH STANCHION, 40 DEGREE BEAM SPREAD, FULL GLARE SHIELD | UNV | 115 | 8975 | 5000 | 80 | 80% @ 100,000 HRS | 0-10V | WL | GRADE | - | |
| XF1 | MUSCO TLC-LED-600, NO SUBSTITUTIONS | HIGH PERFORMANCE FLOODLIGHT, DIE-CAST ALUMINUM HOUSING, POWDER COAT FINISH, ADJUSTABLE KNUCKLE MOUNTING, TOP VISOR, IP 65 RATED | 400 | 600 | 52,000 | 5700 | 75 | 70% @ 81,000 HRS | STEP-DIM | WL | PL | 50' AFG | |
| YA1 | LITHONIA ELT180-W-H212, OR APPROVED EQUAL | ARCHITECTURAL LED EGRESS FIXTURE WITH SELF-DIAGNOSTICS, WHITE FINISH | UNV | 12 | - | - | - | - | - | IN | SW | * | *MOUNT 7' AFF IN TOILET ROOMS AND 8' CORRIDORS; MOUNT 9' ALL OTHER CORRIDORS |
| YB1 | LITHONIA ERE-W-T-SQ, OR APPROVED EQUAL | ARCHITECTURAL LED EGRESS REMOTE HEADS, WHITE FINISH | UNV | 2 | - | - | - | - | - | IN | SW | * | *MOUNT 7' AFF IN TOILET ROOMS AND 8' CORRIDORS; MOUNT 9' ALL OTHER CORRIDORS |
| YB2 | LITHIONIA ERE-W-SGL-SQ, OR APPROVED EQUAL | ARCHITECTURAL LED EGRESS SINGLE HEAD, WHITE FINISH | UNV | 2 | - | - | - | - | - | IN | SW | * | *MOUNT 7' AFF IN TOILET ROOMS AND 8' CORRIDORS; MOUNT 9' ALL OTHER CORRIDORS |
| YB3 | LITHONIA ERE-W-T-SQ, OR APPROVED EQUAL | ARCHITECTURAL LED EGRESS REMOTE HEADS, GREY FINISH, WEATHER PROOF | UNV | 4 | - | - | - | - | - | WL | SW | * | *MOUNT 7' AFF IN TOILET ROOMS AND 8' CORRIDORS; MOUNT 9' ALL OTHER CORRIDORS |

**LIGHTING FIXTURE SCHEDULE NOTES:**

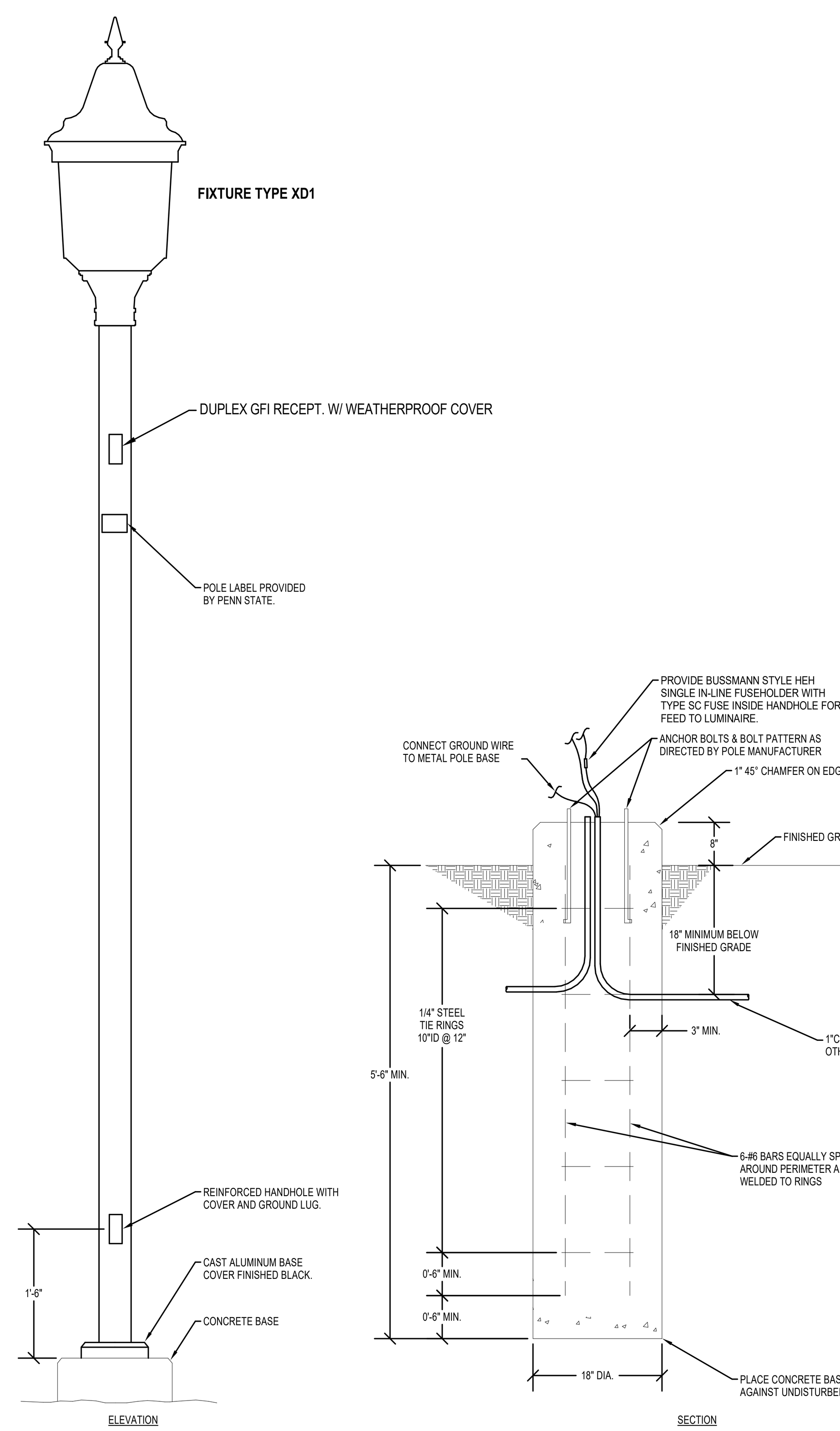
A. PRODUCT INFORMATION LISTED IS FOR THE FIRST NAMED MANUFACTURER. THIS MANUFACTURER AND FIXTURE CONSTITUTES THE 'BASIS OF DESIGN'. LISTING OF ALTERNATE MANUFACTURER'S NAMES DOES NOT IMPLY ACCEPTANCE OF THEIR STANDARD PRODUCT. MANUFACTURERS ARE RESPONSIBLE FOR PROVIDING FIXTURES THAT ARE EQUAL IN ALL RESPECTS TO THE 'BASIS OF DESIGN' FIXTURE.

B. SUBSTITUTIONS OR FIXTURES PROVIDED BY MANUFACTURERS NOT LISTED IN THE SCHEDULE ARE NOT ACCEPTABLE. WHERE 'OR APPROVED EQUAL' IS LISTED, A FIXTURE SUBMITTED FROM A MANUFACTURER NOT LISTED IN THE SCHEDULE WILL BE REQUIRED TO MATCH ALL ASPECTS OF THE 'BASIS OF DESIGN' FIXTURE. BRING QUESTIONS ON SUBSTITUTE PRODUCT EQUIVALENCY TO THE ATTENTION OF THE DESIGN TEAM A MINIMUM OF SEVEN (7) DAYS PRIOR TO BID FOR RESOLUTION.

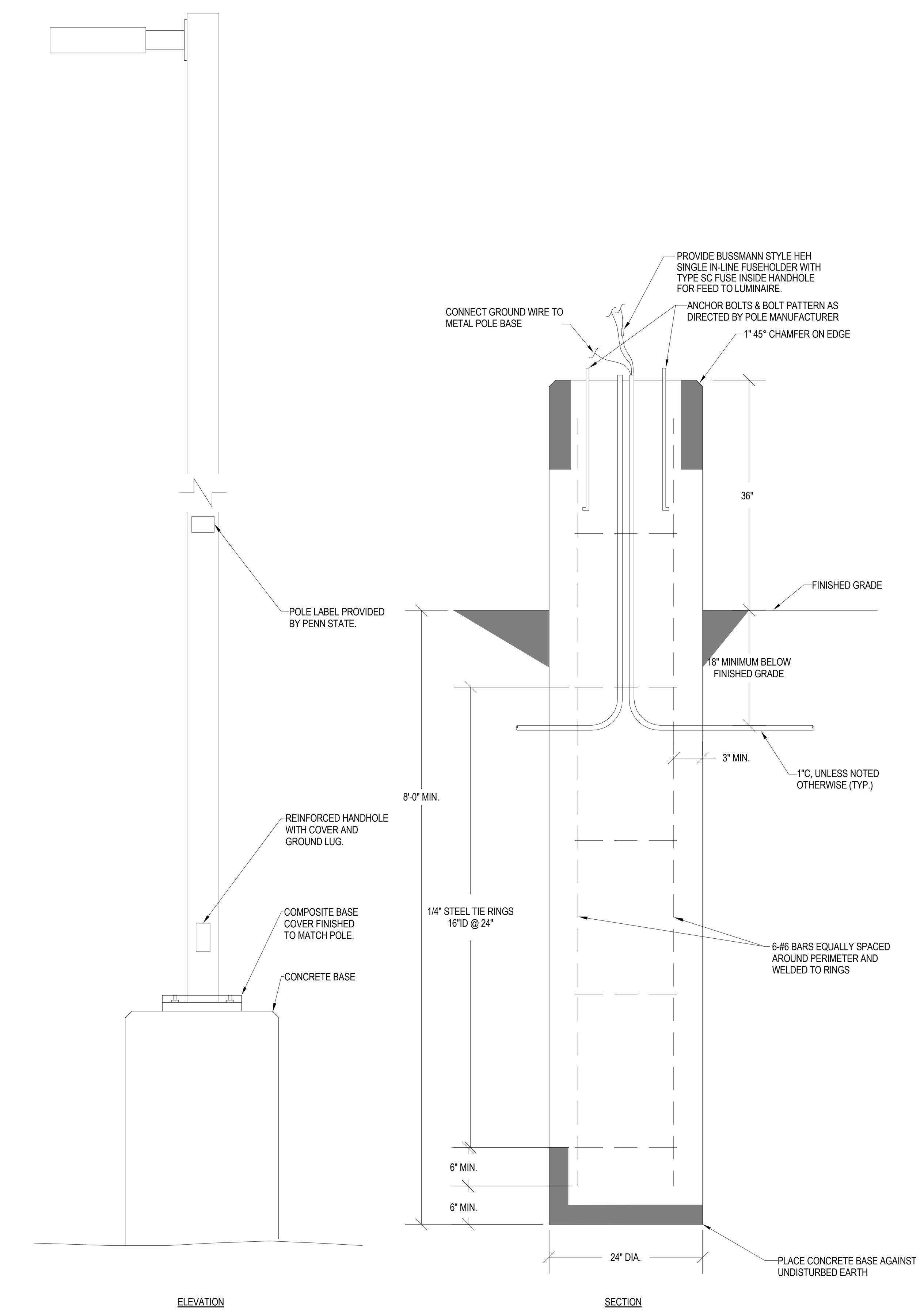
C. AS A MINIMUM, INCLUDE THE FOLLOWING INFORMATION FOR EACH FIXTURE TYPE OF THE LIGHTING FIXTURE SHOP DRAWING SUBMITTALS: 1) FIXTURE TYPE, DIMENSIONS, AND FINISH; 2) LAMP/LED DATA FOR EACH FIXTURE TYPE INCLUDING TYPE, QUANTITY, WATTAGE, LUMEN OUTPUT (DELIVERED PREFERRED), CORRELATED COLOR TEMPERATURE (CCT), COLOR RENDERING INDEX (CRI); 3) DRIVER DATA INCLUDING DIM LEVEL AND TYPE.

D. VERIFY FIXTURE VOLTAGES AND CEILING TRIM COMPATIBILITY PRIOR TO ORDERING FIXTURES.

E. PROVIDE LABOR AND EQUIPMENT FOR AIMING OF ADJUSTABLE FIXTURES. AIM LIGHTING IN THE PRESENCE OF THE ARCHITECT AND/OR UNIVERSITY.




DETAIL 2
NO SCALE
WALKWAY FIXTURE BASE




DETAIL 1
NO SCALE
AREA POLE LIGHT BASE

# LIGHTING CONTROL SYSTEM - SEQUENCE OF OPERATIONS

ABBREVIATIONS: OCC = OCCUPANCY MODE (AUTOMATIC ON); VAC = VACANCY MODE (MANUAL ON)

| AREA NAME (NAME / NUMBER) | GENERAL: LIGHTING ZONES | GENERAL: TARGET MAINTAINED AVERAGE (FC) | GENERAL: CONTROL FUNCTION: ON/OFF OR DIM | GENERAL: TIME-OUT SETTINGS (MINUTES) | LINE VOLTAGE CONTROLS: TOGGLE CONTROL SWITCH | LINE VOLTAGE CONTROLS: WALL SWITCH SENSOR CONTROL (OCC/VAC) | DIGITAL CONTROLS: MANUAL CONTROLS | DIGITAL CONTROLS: SENSOR CONTROL (OCC/VAC) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| CUSTODIAL | SINGLE | 20 | ON/OFF | - | YES | - | - | - | |
| MENS / SINGLE / WOMENS | SINGLE | 15 | ON/OFF | 15 | - | - | YES | OCC | |

**GENERAL NOTES:**

A. MATRIX INDICATES DESIRED CONTROL SCHEME AND PROGRAMMING FOR EACH SPACE. REFER TO LIGHTING FLOOR PLANS FOR LOCATIONS, TYPES, AND QUANTITIES OF FIXTURES AND CONTROL DEVICES.

B. BASIS OF DESIGN: LUTRON VIVE SYSTEM, NO SUBSTITIONS.

C. DURING CONTROLS SYSTEM PROGRAMMING AND COMMISSIONING, COORDINATE AND CONDUCT A WALK-THROUGH OF THE BUILDING WITH THE SYSTEM PROGRAMMING TECHNICIAN/INTEGRATOR, OWNER'S REPRESENTATIVE(S), GENERAL CONTRACTOR, AND THE DESIGN TEAM TO CONFIRM PREFERRED CONTROL PROGRAMMING AND ADJUST LIGHTING LEVELS AS REQUESTED FOR EACH SPACE. LIGHTING LEVEL PERCENTAGES LISTED IN THIS MATRIX SHALL BE CONSIDERED AS A STARTING POINT FOR INITIAL PROGRAMMING. PROVIDE MINIMUM 10 DAYS NOTICE PRIOR TO WALK-THROUGH.

D. LIGHTING CONTROL SYSTEM START-UP, COMMISSIONING, AND OWNER-TRAINING SHALL BE PROVIDED BY A MANUFACTURER-TRAINED REPRESENTATIVE.

E. PROVIDE FUNCTIONAL TESTING OF THE LIGHTING CONTROL SYSTEM AS DEFINED BY SECTION C408 OF IECC 2018. FUNCTIONAL TESTING CONFIRMS THE LIGHTING CONTROL SYSTEM MEETS THE PERFORMANCE CRITERIA DEFINED BY THE GOVERNING ENERGY CODE ALONG WITH THE DESIGN INTENT OUTLINED IN THE SEQUENCE OF OPERATIONS MATRIX. PRIOR TO FINAL INSPECTION, SUBMIT FUNCTIONAL TESTING REPORT TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL. ONCE APPROVED, SUBMIT TO THE OWNER[ AND COMMISSIONING AGENT] WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY. INCLUDE A COPY OF THE APPROVED REPORT IN THE FACILITY'S O&M MANUAL. FUNCTIONAL TESTING REPORT TEMPLATE WILL BE PROVIDED BY ENGINEER AS PART OF THEIR COMPLETED SHOP DRAWING REVIEW COMMENTS ON THE LIGHTING CONTROL SYSTEM FOR CONTRACTOR USE DURING TESTING.

F. LIGHTING FIXTURES AND DEVICES PROVIDED AS PART OF THIS PROJECT SHALL BE COMPATIBLE WITH AND WIRED TO ACCEPT THE APPROVED DIGITAL LIGHTING CONTROL SYSTEM.

G. PROVIDE MANUFACTURER ENGRAVED PUSH-BUTTON STATIONS. DIRECTION ON WORDING OF ENGRAVINGS SHALL BE PROVIDED BY UNIVERSITY.

H. UNLESS OTHERWISE NOTED, ANY ZONE THAT IS DIMMABLE AND TO BE CONTROLLED VIA OCCUPANCY SENSOR OR VACANCY SENSOR SHALL FADE DOWN OVER 3 SECOND PERIOD AFTER TIMEOUT SETTING IS REACHED.

I. ASSUME INDICATED TARGET LIGHTING LEVELS MEASURED AT 30" AFF, UNLESS NOTED OTHERWISE.

J. UNLESS NOTED OTHERWISE, TAKE A SIMILAR APPROACH TO LOCATING ZONE CONTROLLERS, LOCAL NETWORK BRIDGES, AND OTHER SIMILAR "BACK OF HOUSE" DEVICES WITHIN ROOMS/SPACES THROUGHOUT THE PROJECT. WHERE ROOMS HAVE ACCESSIBLE CEILING, INSTALL ZONE CONTROLLERS CONCEALED ABOVE THE CEILING RIGHT INSIDE THE DOORWAY OF THE ROOM THAT THEY SERVE. WHERE NETWORK DEVICES ARE REQUIRED, INSTALL ADJACENT TO ROOM CONTROLLERS THAT THEY SERVE. IF DEVICE LOCATION IS REQUIRED IN AN UNCOMMON OR SPECIAL PLACE, PROVIDE LAMINATED TYPED LABEL ON GRID NOTING EQUIPMENT LOCATED ABOVE. COORDINATE DESIRED LABELING CHARACTERISTICS WITH ARCHITECT PRIOR TO INSTALLATION.

K. PROVIDE LABELING OF ALL LINE VOLTAGE CONDUCTOR BRANCH CIRCUITRY AT THE LIGHTING CONTROL EQUIPMENT TERMINALS. LABEL SHALL INDICATE PANELBOARD AND CIRCUIT NUMBER SERVING DEVICE.

L. PROVIDE MANUFACTURER-APPROVED LIGHTING CONTROL SYSTEM DEVICE LAYOUT PLANS AND WIRING DETAILS (TYPICAL DETAILS FOR SIMILAR SPACE TYPES ARE ACCEPTABLE) AS PART OF THE LIGHTING CONTROL SYSTEM SHOP DRAWING SUBMISSION. ADJUSTMENTS TO DEVICE QUANTITY OR DEVICE LOCATIONS SHOWN ON THE CONSTRUCTION DOCUMENTS THAT ARE NEEDED TO MEET MANUFACTURER-SPECIFIC CONTROL SYSTEM REQUIREMENTS OR OVERCOME SYSTEM LIMITATIONS WILL BE AT NO ADDITIONAL COST TO THE PROJECT.

M. COORDINATE CEILING OCCUPANCY SENSOR LOCATION TO MOUNT AT LEAST MANUFACTURER-RECOMMENDED MINIMUM DISTANCE TO SUPPLY AIR DIFFUSERS IN AN EFFORT TO AVOID FALSE TRIGGERING OF SENSOR. SENSORS WITH ULTRASONIC TECHNOLOGY WILL NOT BE PERMITTED TO BE 'PROGRAMMED OFF' WHERE SENSOR INSTALLATION IS NOT PER MANUFACTURER RECOMMENDATIONS. RELOCATION OF DETECTORS DUE TO NON-ADEQUATE DISTANCE TO SUPPLY AIR DIFFUSERS WILL BE AT THE EXPENSE OF THE CONTRACTOR.

N. TEST DIGITAL CONTROL SYSTEM INTERFACE CABLING (CAT5 OR 6 AS SPECIFIED) PRIOR TO THE SYSTEM START-UP. PERFORM REQUIRED CORRECTIVE ACTIONS (REPAIRS/REPLACEMENTS) OF DAMAGED/DEFECTIVE CABLING TO MINIMIZE ON-SITE DELAYS. PROVIDE CABLE RINGING TESTING REPORTS SEVEN DAYS PRIOR TO START-UP DATE TO LIGHTING CONTROLS ON-SITE FIELD SERVICES TECHNICIAN.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| MARK | DATE | DESCRIPTION |
|---|---|---|
| | 01-22-2024 | BID SET |
| | 12-06-2023 | REVISED DRAWINGS |
| | 10-04-2023 | BID SET |
| | 09-27-2023 | PEMIT SET |
| | 09-06-2023 | CD SUBMISSION |

KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg

## STADIUM SEATING & RESTROOMS BLDG

PENN STATE UNIVERSITY HARRISBURG CAMPUS

STREET, CITY, STATE ZIP CODE

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

## LIGHTING DETAILS & SCHEDULES

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CHECKED BY: WLS


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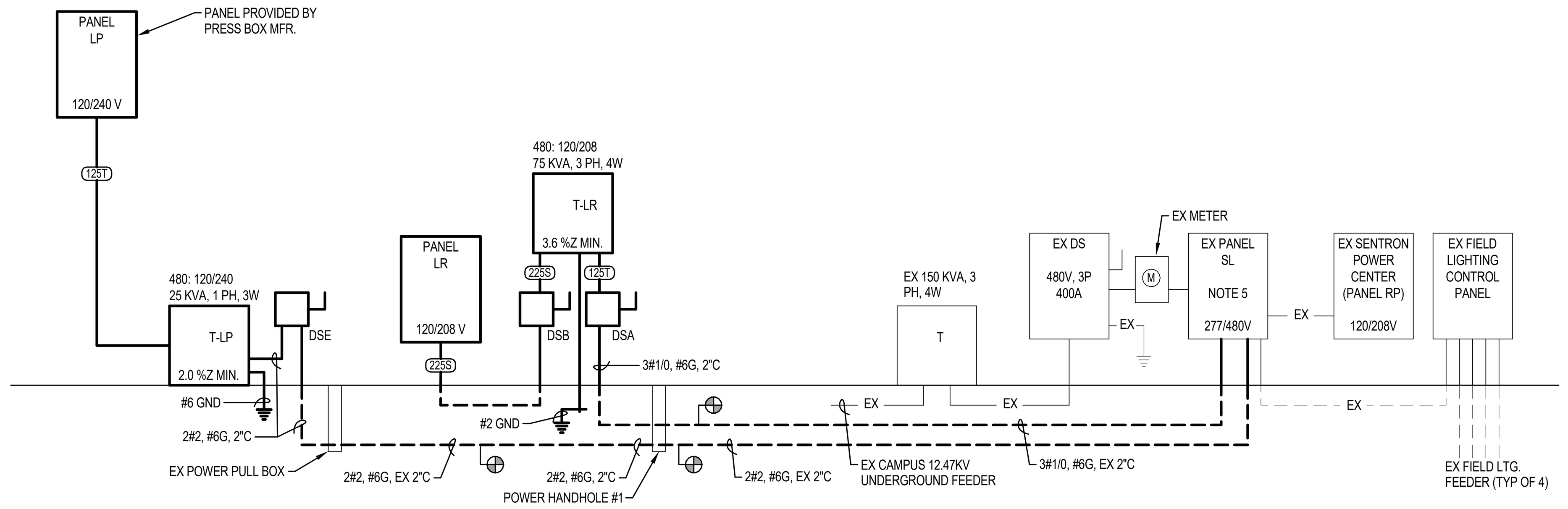
## FEEDER SCHEDULE

| | |
|---|---|
| 30 | 4#10, #10G, 1"C |
| 30T | 3#10, #10G, 1"C |
| 60 | 4#6, #8G, 1"C |
| 60T | 3#6, #8G, 1"C |
| 70T | 3#4, #8G, 1"C |
| 100 | 4#2, #8G, 1 1/4"C |
| 125 | 4#1, #6G, 1 1/2"C |
| 125T | 3#1, #6G, 1 1/2"C |
| 150 | 4#1/0, #6G, 2"C |
| 175 | 4#2/0, #6G, 2"C |
| 175T | 3#2/0, #6G, 2"C |
| 200 | 4#3/0, #6G, 2 1/2"C |
| 225 | 4#4/0, #4G, 2 1/2"C |
| 225S | 4#4/0, #2G, 2 1/2"C |
| 250 | 4-250KCMIL, #4G, 2 1/2"C |
| 250T | 3-250KCMIL, #4G, 2 1/2"C |
| 275 | 4-300KCMIL, #4G, 3"C |
| 300 | 4-350KCMIL, #4G, 3"C |
| 350 | 4-400KCMIL, #3G, 3"C |
| 350T | 3-400KCMIL, #3G, 3"C |
| 400 | 4-500KCMIL, #3G, 3 1/2"C |
| 400S | 4-600KCMIL, #1/0G, 4"C |
| 500 | 2 SETS [4-250KCMIL, #2G, 2 1/2"C] |
| 500T | 2 SETS [3-250KCMIL, #2G, 2 1/2"C] |
| 600 | 2 SETS [4-350KCMIL, #1G, 3"C] |




## RISER DIAGRAM

NO SCALE

## MECHANICAL-ELECTRICAL COORDINATION SCHEDULE

| DESIG | DESCRIPTION | ELECTRICAL NAMEPLATE INFORMATION: VOLTS | PHASE | HP | KW | FLA | MCA | MOCP | CIRCUIT INFORMATION: PANEL | BREAKER | WIRING | MAX AVAIL. FAULT | DISC TYPE | STARTER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CP-1 | CIRCULATING PUMP | 120 | 1 | 1/8 | - | - | 4.0 | 15 | LR | 20 | 2#12, #12G, 3/4"C | | - | MANUAL | |
| DC-1 | ELECTRIC DUCT COIL | 208 | 3 | - | 12 | - | 41.7 | 50 | LR | 2,4,6 | 3#6, #10G, 1"C | | INTEGRAL | - | |
| DWH-1 | DOMESTIC WATER HEATER | 208 | 3 | - | 10 | - | 34.7 | 40 | LR | 8,10,12 | 3#8, #10G, 1"C | | DSF | - | |
| ERV-1 | ENERGY RECOVERY UNIT | 208 | 3 | - | - | - | 11.5 | 15 | LR | 14,16,18 | 3#12, #12G, 3/4"C | 1237A | - | MSA | |
| F-1 | FAN | 120 | 1 | - | .060 | - | 1.0 | 15 | LR | 22 | 2#12, #12G, 3/4"C | | INTEGRAL | * | * WIRE THROUGH LINE VOLTAGE T'STAT BY HC |
| UH-1 | UNIT HEATER | 208 | 1 | - | 3.3 | 15.9 | 19.8 | 20 | LR | 24,26 | 2#12, #12G, 3/4"C | | INTEGRAL | ** | ** LOW VOLTAGE T'STAT BY HC |
| UH-2 | UNIT HEATER | 208 | 1 | - | 3.3 | 15.9 | 19.8 | 20 | LR | 28,30 | 2#12, #12G, 3/4"C | | INTEGRAL | ** | ** LOW VOLTAGE T'STAT BY HC |
| UH-3 | UNIT HEATER | 208 | 1 | - | 3.3 | 15.9 | 19.8 | 20 | LR | 32,34 | 2#12, #12G, 3/4"C | | INTEGRAL | ** | ** LOW VOLTAGE T'STAT BY HC |
| UH-4 | UNIT HEATER | 208 | 1 | - | 3.3 | 15.9 | 19.8 | 20 | LR | 36,38 | 2#12, #12G, 3/4"C | | INTEGRAL | ** | ** LOW VOLTAGE T'STAT BY HC |

## PANEL LR

RATINGS: 120/208V, 3PH, 4W
MOUNTING: SURFACE
MIN A.I.C. RATING: 22,000
BUS RATING: 225A
MAINS: MLO

| CKT NO | CIRCUIT DESCRIPTION | BREAKER P | BREAKER TRIP | LOAD (KVA) A | B | C | LOAD (KVA) A | B | C | BREAKER TRIP | BREAKER P | CIRCUIT DESCRIPTION | CKT NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LIGHTING | 1 | 20 A | 0.31 | | | 4.00 | | | 50 A | 3 | DC-1 | 2 |
| 3 | LIGHTING | 1 | 20 A | | 0.16 | | | 4.00 | | | | | 4 |
| 5 | LIGHTING | 1 | 20 A | | | 0.39 | | | 4.00 | | | | 6 |
| 7 | REC - EXTERIOR | 1 | 20 A | 1.26 | | | 3.33 | | | 40 A | 3 | DWH-1 | 8 |
| 9 | REC - ROOMS R101, R102, R103 | 1 | 20 A | | 0.54 | | | 3.33 | | | | | 10 |
| 11 | HAND DRYER MENS R101 | 1 | 20 A | | | 2.00 | | | 3.33 | | | | 12 |
| 13 | HAND DRYER MENS R101 | 1 | 20 A | 2.00 | | | 1.10 | | | 15 A | 3 | ERV-1 | 14 |
| 15 | HAND DRYER SINGLE R102 | 1 | 20 A | | 2.00 | | | 1.10 | | | | | 16 |
| 17 | REC - CUSTODIAL J110 | 1 | 20 A | | | 0.18 | | | 1.10 | | | | 18 |
| 19 | REC - CUSTODIAL J110 | 1 | 20 A | 0.18 | | | 0.25 | | | 15 A | 1 | CP-1 | 20 |
| 21 | ACCESS CONTROL & POWER SUPPLY | 1 | 20 A | | 0.00 | | | 0.06 | | 15 A | 1 | F-1 | 22 |
| 23 | FIRE ALARM CONTROL PANEL | 1 | 20 A | | | 0.50 | | | 1.65 | 20 A | 2 | UH-1 | 24 |
| 25 | * REC - CUSTODIAL J110 | 1 | 20 A | 0.18 | | | 1.65 | | | | | | 26 |
| 27 | HAND DRYER WOMENS R103 | 1 | 20 A | | 2.00 | | | 1.65 | | 20 A | 2 | UH-2 | 28 |
| 29 | HAND DRYER WOMENS R103 | 1 | 20 A | | | 2.00 | | | 1.65 | | | | 30 |
| 31 | BA - MTR CUSTODIAL J106 | 1 | 20 A | 0.18 | | | 1.65 | | | 20 A | 2 | UH-3 | 32 |
| 33 | SPARE | 1 | 20 A | | 0.00 | | | 1.65 | | | | | 34 |
| 35 | SPARE | 1 | 20 A | | | 0.00 | | | 1.65 | 20 A | 2 | UH-4 | 36 |
| 37 | PROVISIONAL SPACE | 1 | -- | -- | | | 1.65 | | | | | | 38 |
| 39 | PROVISIONAL SPACE | 1 | -- | | -- | | | -- | | -- | 1 | PROVISIONAL SPACE | 40 |
| 41 | PROVISIONAL SPACE | 1 | -- | | | -- | | | -- | -- | 1 | PROVISIONAL SPACE | 42 |

TOTAL CONNECTED LOAD PHASE A: 17.02 kVA
TOTAL CONNECTED LOAD PHASE B: 15.96 kVA
TOTAL CONNECTED LOAD PHASE C: 17.72 kVA
TOTAL CONNECTED LOAD: 50.7 kVA

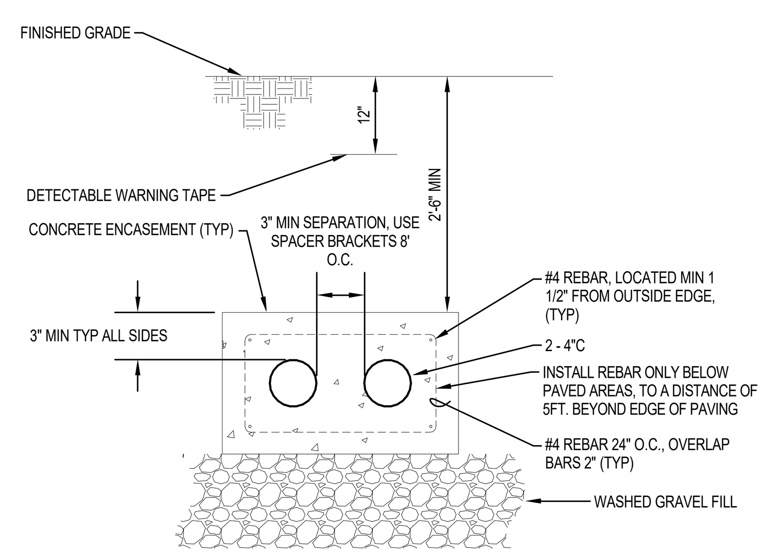
NOTES:
PROVIDE INTEGRAL SURGE PROTECTION DEVICE.
* PROVIDE GFCI BREAKER

96.88% :DEMAND FACTOR
49.1 kVA :DEMAND LOAD
136.3 A :DEMAND AMPS
170 A :DEMAND * 1.25

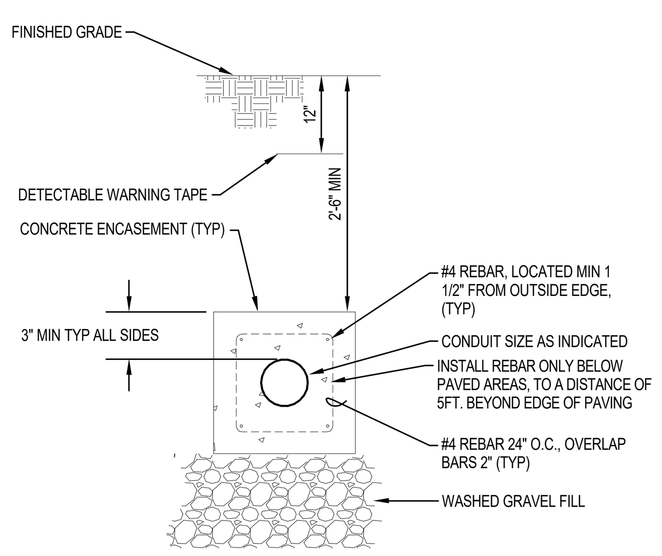
## DISCONNECT SWITCH SCHEDULE

* FUSE TO BE DETERMINED IN FIELD FROM UNIT FULL LOAD AMPS

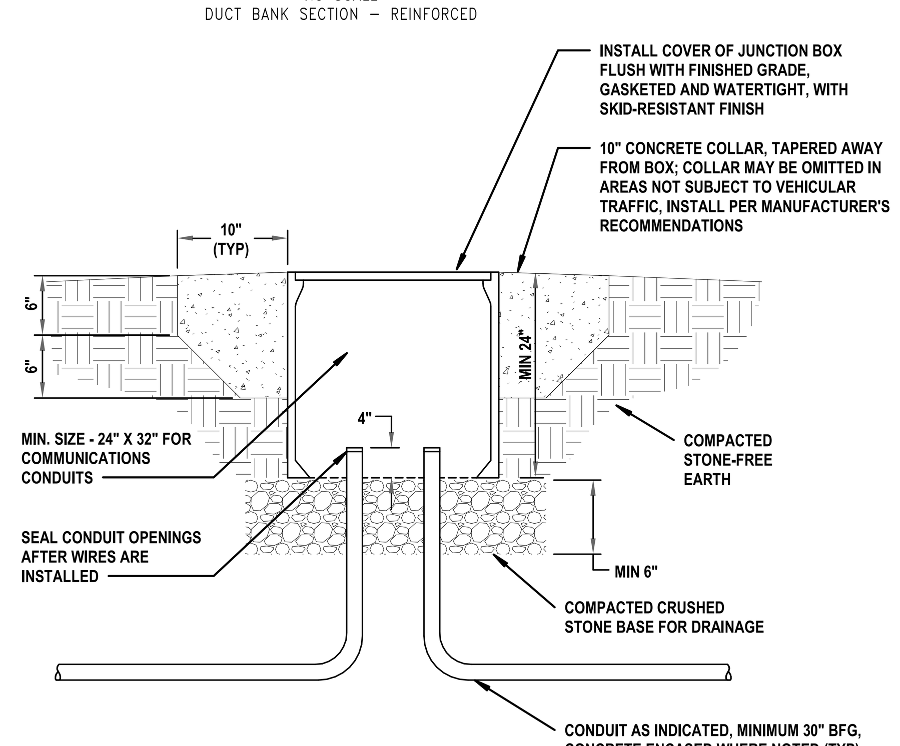
| DESIG | DESCRIPTION | VOLTS | AMPS | POLES | FUSE AMPS | FUSE TYPE | NEMA ENCLOSURE | REMARKS |
|---|---|---|---|---|---|---|---|---|
| DSA | TRANSFORMER PRIMARY DISCONNECT | 480 | 200 | 3 | - | ** | 3R | ** NON-FUSED |
| DSB | TRANSFORMER SECONDARY DISCONNECT | 208 | 400 | 3 | 225 | RK1 | 3R | |
| DSE | PRIMARY DISCONNECT SWITCH | 480 | 100 | 3 | - | ** | 3R | ** NON-FUSED |
| DSF | DWH-1 | 208 | 60 | 3 | - | ** | 1 | ** NON-FUSED |




DETAIL 1
NO SCALE
DUCT BANK SECTION – REINFORCED




DETAIL 2
NO SCALE
DUCT BANK SECTION – REINFORCED

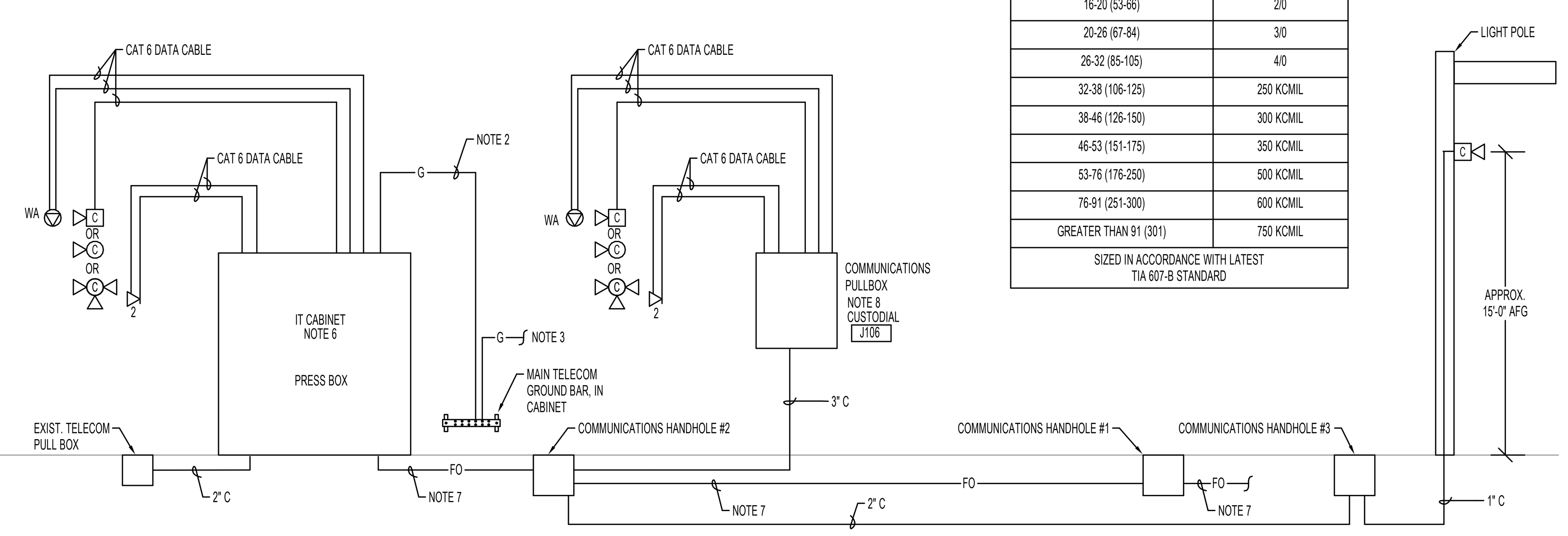



DETAIL 3
NO SCALE
EXTERIOR PULL / JUNCTION BOX – OPEN BOTTOM

## TELECOM GROUNDING

| TBB/GE LINEAR LENGTH m (ft) | TBB/GE SIZE (AWG) |
|---|---|
| LESS THAN 4 (13) | 6 |
| 4-6 (14-20) | 4 |
| 6-8 (21-26) | 3 |
| 8-10 (27-33) | 2 |
| 10-13 (34-41) | 1 |
| 13-16 (42-52) | 1/0 |
| 16-20 (53-66) | 2/0 |
| 20-26 (67-84) | 3/0 |
| 26-32 (85-105) | 4/0 |
| 32-38 (106-125) | 250 KCMIL |
| 38-46 (126-150) | 300 KCMIL |
| 46-53 (151-175) | 350 KCMIL |
| 53-76 (176-250) | 500 KCMIL |
| 76-91 (251-300) | 600 KCMIL |
| GREATER THAN 91 (301) | 750 KCMIL |

SIZED IN ACCORDANCE WITH LATEST TIA 607-B STANDARD




## TELECOMMUNICATIONS RISER DIAGRAM

NO SCALE
NOTE 1

**NOTES:**

1. SYMBOLS SHOWN ARE TYPICAL OF OUTLET TYPES. REFER TO SITE PLAN AND FLOOR PLANS FOR QUANTITIES AND LOCATIONS OF ALL DEVICES AND EQUIPMENT.
2. FURNISH AND INSTALL GROUNDING CONDUCTORS FROM GROUND BAR TO OWNER'S EQUIPMENT IN RACKS,AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS.
3. EXTEND GROUNDING CONDUCTOR TO MAIN ELECTRICAL GROUND BUS.
4. SIZE GROUNDING CONDUCTORS PER TIA STANDARD 607B. REFER TO GROUNDING CONDUCTOR SIZING CHART ON THIS SHEET.
5. EXISTING PANEL IS MANUFACTURED BY SIEMENS, TYPE P1. REMOVE (2) EXISTING 100 AMP, 2 POLE SPARE CIRCUIT BREAKERS AND TURN OVER TO UNIVERSITY. REPLACE WITH 70 AMP, 2 POLE CIRCUIT BREAKER FOR PANEL LP IN PRESS BOX AND AND 125 AMP, 3 POLE CIRCUIT BREAKER FOR PANEL LR IN RESTROOMS BUILDING. BREAKERS SHALL BE SAME TYPE AND HAVE SAME RATINGS AS EXISTING BREAKERS IN PANEL. CONNECT FEEDER WIRING TO CIRCUIT BREAKERS.
6. CABINET, INCLUDING INTERNAL SWITCHES, POWER DISTRIBUTION UNITS, UPS, PATCH PANELS, WILL BE FURNISHED BY UNIVERSITY, INSTALLED BY GC. MAKE ALL CABLE TERMINATIONS IN APPROPRIATE CABINET COMPONENTS.
7. CONDUIT DUCTBANK FURNISHED AND INSTALLED BY EC. PROVIDE 4- 1" INNERDUCTS IN EACH CONDUIT. FIBER OPTIC CABLING WILL BE FURNISHED AND INSTALLED BY UNIVERSITY.
8. CABINET SHALL BE 24" X 24" X 6" MIN. W/ HINGED, LOCKABLE FRONT DOOR. NEMA 1 RATING.

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| MARK | DATE | DESCRIPTION |
|---|---|---|
| | 01-22-2024 | BID SET |
| | 12-06-2023 | REVISED DRAWINGS |
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| | 09-27-2023 | PEMIT SET |
| | 09-06-2023 | CD SUBMISSION |

KEY PLAN:

NORTH

PROJECT TITLE:

PENNSTATE Harrisburg 1855

# STADIUM SEATING & RESTROOMS BLDG

PENN STATE UNIVERSITY HARRISBURG CAMPUS
STREET, CITY, STATE ZIP CODE

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

# POWER DETAILS & SCHEDULES

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