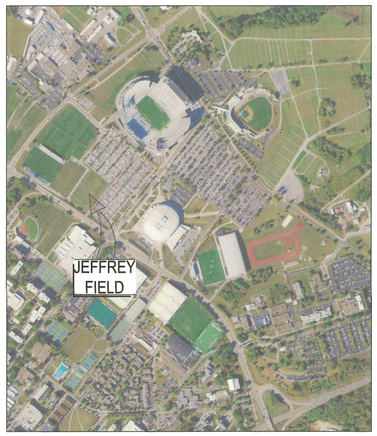
PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
INDOOR PRACTICE AIR SUPPORTED STRUCTURE
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK CAMPUS
COLLEGE TOWNSHIP
CENTRE COUNTY, PENNSYLVANIA
FEBRUARY 15, 2024
⚠ REVISED: APRIL 15, 2024



KEY MAP — SCALE: 1"=500' (500' 0' 500')

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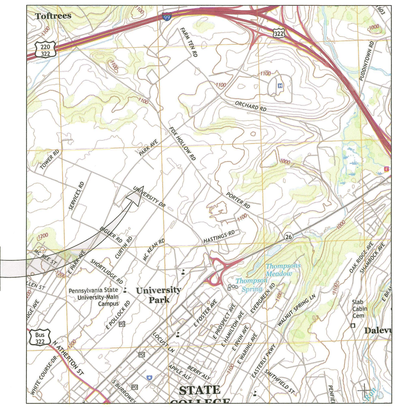

LOCATION MAP — USGS STATE COLLEGE QUAD — SCALE: 1"=2000' (2000' 0' 2000')

GENERAL NOTES:

1. THIS PLAN DEPTICTS THE CONSTRUCTION OF THE INDOOR PRACTICE AIR SUPPORTED STRUCTURE TO THE JEFFREY FIELD SOCCER FIELD COMPLEX. SEE PROJECT NARRATIVE INCLUDED WITH THE PLAN SUBMISSION.
2. NO FLOODPLAINS EXIST ON OR NEAR THE PROJECT SITE PER FEMA FIRM PANEL #42027C0636F.
3. UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THIS PLAN ARE BASED ON ABOVE GROUND APPURTENANCES AND SUPPLEMENTAL INFORMATION SUPPLIED BY THE UTILITY PROVIDERS. NO LOCATION BY EXCAVATION WAS COMPLETED.
4. PROJECT BENCHMARKS FOR THIS PROJECT ARE MAGNAILS SET AT THE FOLLOWING LOCATIONS:
   POINT #1(CP) LOCATED EAST OF SOCCER FIELD LOT; N:234520.8141 E:1938564.0512 ELEV.: 1158.20'
   POINT #2 (CP) LOCATED EAST OF SOCCER FIELD LOT; N:234463.0638 E:1938515.0102 ELEV: 1157.69'
   POINT #3 (CP) LOCATED SOUTH EAST OF SOCCER FIELD LOT; N:234013.3262 E:1938416.1683 ELEV: 1169.09'
5. NO CONSTRUCTION MATERIALS, DEBRIS, CLEANING SOLUTIONS, WASH WATER OR OTHER FORMS OF ILLICIT DISCHARGES SHALL ENTER THE STORM SEWER SYSTEM.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION.
7. WORK SITE SHALL BE PROTECTED AT ALL TIMES. BARRICADES, WARNING SIGNS, GUARDS, LIGHTS, ETC. SHALL BE ERECTED AS REQUIRED. NO TRENCHES OR EXCAVATIONS MAY REMAIN OPEN OVERNIGHT OR BE LEFT UNPROTECTED.
8. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF PENN D.O.T. PUBLICATION 408, THESE DRAWINGS, UNIVERSITY DESIGN AND CONSTRUCTION STANDARDS AND THE CONTRACT SPECIFICATIONS. WHERE THESE DOCUMENTS CONFLICT, THE MOST RESTRICTIVE SHALL APPLY.
9. ALL WORK RELATING TO THIS PROJECT SHALL BE SUBJECT TO ALL FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS REGARDING OCCUPATIONAL SAFETY AND HEALTH, ENVIRONMENTAL PROTECTION, AND CONSTRUCTION STANDARDS. NOTHING CONTAINED IN THE SPECIFICATIONS OR THE DRAWINGS SHALL BE CONSTRUED TO CONFLICT WITH SUCH LAWS, CODES, ORDINANCES, OR REGULATIONS, AND IN THE EVENT OF SUCH CONFLICT ANY REQUIREMENT IMPOSED BY LAW, ORDINANCE, OR REGULATION SHALL BE DEEMED CONTROLLING.
10. CONTRACTOR SHALL NOT DISTURB ANY GROUND BEYOND THE IMMEDIATE AREA REQUIRED FOR THE EX. DEMOLITION AND THE NEW CONSTRUCTION. CONTRACTOR SHALL MINIMIZE EXCAVATION, DISTURBANCE AND COMPACTION WITHIN THE IMMEDIATE CONSTRUCTION AREA. ALL DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS.
11. ALL EXISTING CONCRETE, ASPHALT PAVEMENT, ETC, THAT IS NOT SPECIFIED FOR REPLACEMENT SHALL BE PROTECTED DURING CONSTRUCTION (SPECIFICALLY, CONSTRUCTION VEHICLES ENTERING THE SITE).
12. NO UTILITIES, OTHER THAN THOSE INDICATED, SHALL BE INTERRUPTED OR DISTURBED FOR THIS PROJECT.
13. FURNISH BACKFILL AND FILL SOIL MATERIALS FREE OF CLAY, ROCK, OR GRAVEL LARGER THAN 2 INCHES IN ANY DIMENSION; DEBRIS; WASTE; FROZEN MATERIALS; VEGETATION; AND OTHER DELETERIOUS MATTER. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. DO NOT PLACE BACKFILL OR FILL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR ICE.
14. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE, TEMPORARY EXCAVATIONS AND SHOULD SHORE, SLOPE, OR BENCH THE SIDES OF THE EXCAVATIONS AS REQUIRED TO MAINTAIN STABILITY OF BOTH THE EXCAVATION SIDES AND BOTTOM. THE CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING THE GUIDELINES PRESENTED IN FEDERAL REGISTER, VOLUME 54, NO. 209 (OCTOBER 1989), THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SECTION TITLED "CONSTRUCTION STANDARDS FOR EXCAVATION, 29 CFR, PART 1926, SUBPART P."
15. LOCATION MAP AN INDICATOR THAT EXHIBITS THE DIRECTION AND APPROXIMATE DISTANCE TO THE RECEIVING WATER(S) IDENTIFIED IN NPDES MODULE 1 OF THE APPLICATION.

SITE INFORMATION

A.	OWNER OF RECORD:	THE PENNSYLVANIA STATE UNIVERSITY FACILITIES AND REAL ESTATE 107 PARK AVENUE BUILDING UNIVERSITY PARK, PA 16802
B.	TAX PARCEL:	19-003-,100-,0000-
C.	DEED BOOK/PAGE NUMBER:	DB 2087 PG 0819
D.	PROPERTY SIZE:	1607.06 AC.
E.	ZONING:	UNIVERSITY PLANNED DISTRICT, SUBDISTRICT 9
F.	SITE USE EXISTING:	ATHLETIC FACILITY - SOCCER FIELD AND ADJACENT PARKING LOTS
G.	SITE USE PROPOSED:	ATHLETIC FACILITY - SOCCER FIELD, ADJACENT PARKING LOTS, AND BUILDING
IMPERVIOUS CHANGE:		1.97 ACRES

⚠ SUBDISTRICT DEVELOPMENT DATA TABLE

UNIVERSITY PLANNING DISTRICT (UPD) SUBDISTRICT 9		
TOTAL DISTRICT SIZE	448.8 ACRES	19,549,728 S.F.
ALLOWABLE F.A.R.	F.A.R.	GROSS FLOOR AREA
MAXIMUM ALLOWABLE F.A.R.	0.17	3,323,154 S.F.
EXISTING F.A.R.	0.10	1,965,010 S.F.
PROPOSED F.A.R.	0.01	99,450 S.F.
F.A.R. (TOTAL)	0.11	2,064,460 S.F.
DESIGNATED USE	F.A.R.	GROSS FLOOR AREA
MAXIMUM ALLOWABLE DESIGNATED USE	0.17	3,323,154 S.F.
EXISTING DESIGNATED USE	0.11	2,198,034 S.F.
PROPOSED DESIGNATED USE	0.01	99,450 S.F.
DESIGNATED USE	0.12	2,297,484 S.F.
IMPERVIOUS SURFACE	% OF SUBDISTRICT	AREA
MAXIMUM ALLOWABLE IMPERVIOUS SURFACE	50%	9,275,356 S.F.
EXISTING IMPERVIOUS SURFACE	60%	5,608,775 S.F.
PROPOSED CHANGE	1%	85,813 S.F.
TOTAL IMPERVIOUS SURFACE	61%	5,694,588 S.F.
OPEN SPACE	% OF SUBDISTRICT	AREA
MINIMUM ALLOWABLE OPEN SPACE	50%	9,455,613 S.F.
EXISTING OPEN SPACE	71%	13,302,450 S.F.
PROPOSED CHANGE IN OPEN SPACE	1%	134,357 S.F.
TOTAL OPEN SPACE	72%	13,168,093 S.F.

BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA I CALL 1-800-242-1776 NON-MEMBERS MUST BE CONTACTED DIRECTLY

GENERAL UTILITY & PA ONE CALL INFORMATION

ALL UTILITY INFORMATION AND LOCATIONS SHOWN ON THIS PLAN SHOULD BE CONSIDERED APPROXIMATE. ALL UTILITY LOCATIONS SHOULD BE VERIFIED IN THE FIELD. CONTRACTOR SHALL NOTIFY PA ONE CALL (1-800-242-1776) AT LEAST 3 DAYS PRIOR TO ANY EXCAVATION.

ELECTRIC - PENN STATE UNIVERSITY
152R PHYSICAL PLANT BUILDING
UNIVERSITY PARK, PA 16802
CONTACT: MARIE MAYOTTE
PHONE: 814-865-1583

WATER - PSU WATER SERVICES
209 WATER TREATMENT PLANT
UNIVERSITY PARK, PA 16802
CONTACT: CHARLES STOVER
PHONE: 814-863-5536

GAS - PENN STATE UNIVERSITY
113 PHYSICAL PLANT BUILDING
UNIVERSITY PARK, PA 16802
CONTACT: RON PRISTASH
PHONE: 814-863-0978

CABLE - COMCAST
60 DECIBEL ROAD
STATE COLLEGE, PA 16801
PHONE: 800-266-2278

SANITARY SEWER - PENN STATE UNIVERSITY
WASTEWATER TREATMENT BUILDING
501 UNIVERSITY DRIVE STATE COLLEGE, PA 16801
CONTACT: DAVE SWISHER
PHONE: 814-867-6123

TELEPHONE - VERIZON PENNSYLVANIA, INC.
303 WALNUT STREET STRAWBERRY SQUARE, 11TH FLOOR
HARRISBURG, PA 17101
PHONE: 717-255-5113

COMMUNICATIONS - PENN STATE UNIVERSITY-TELECOMMUNICATIONS
112 UNIVERSITY SUPPORT BUILDING 2
UNIVERSITY PARK, PA 1680
PHONE: 814-865-3988

STORMWATER MANAGEMENT ACCESS & MAINTENANCE EASEMENT INFORMATION

1. COLLEGE TOWNSHIP, ITS AGENTS AND ASSIGNS HAVE THE UNIMPEDED RIGHT TO ENTER ONTO AND UPON THE PROPERTY FOR THE PURPOSE OF INSPECTION AND/OR MAINTENANCE OF THE STORMWATER FACILITIES. THIS NOTE APPLIES TO THE ENTIRE SITE SHOWN ON THESE PLANS AND SHALL BE IN EFFECT FOR PERPETUITY.
2. COLLEGE TOWNSHIP AND/OR THE CENTRE COUNTY CONSERVATION DISTRICT MAY REQUIRE THE OWNER TO MAINTAIN A RECORD OF ALL INSPECTIONS, REPAIRS, AND MAINTENANCE ACTIVITIES ASSOCIATED WITH THE PROPOSED STORMWATER MANAGEMENT, AND PERMANENT EROSION AND SEDIMENT POLLUTION CONTROL FACILITIES AT THIS PROJECT SITE. THE OWNER SHALL IMMEDIATELY NOTIFY COLLEGE TOWNSHIP AND THE CENTRE COUNTY CONSERVATION DISTRICT PRIOR TO INITIATING ANY MAJOR REPAIR ACTIVITIES.
3. THE OWNER HEREBY ACKNOWLEDGES COLLEGE TOWNSHIP'S RIGHT TO PERIODICALLY ACCESS THE PROJECT SITE TO INSPECT THE PERMANENT STORMWATER MANAGEMENT FACILITIES THAT ARE PART OF THIS PROJECT. THE OWNER ALSO HEREBY ACKNOWLEDGES COLLEGE TOWNSHIP'S RIGHT TO ACCESS THE PROJECT SITE WITH NOTICE TO REPAIR AND/OR MAINTAIN THE PERMANENT STORMWATER MANAGEMENT FACILITIES IN ACCORDANCE WITH THIS MAINTENANCE PLAN. ANY MAINTENANCE AND/OR REPAIR ACTIVITIES CONDUCTED BY COLLEGE TOWNSHIP SHALL BE AT THE EXPENSE OF THE OWNER.

STORMWATER FACILITIES POST-CONSTRUCTION MAINTENANCE PROGRAM

THE OWNER SHALL BE RESPONSIBLE FOR ENSURING THE PROPER OPERATION AND FUNCTION OF THE STORMWATER FACILITIES LOCATED ON THE PROPERTY. THIS PLAN INCLUDES THE DESIGN AND SPECIFICATIONS OF THE ASSOCIATED POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) NARRATIVE. THE OPERATION AND MAINTENANCE PROGRAM SHALL INCLUDE THE FOLLOWING:

1. STORMWATER FACILITIES SHOULD BE INSPECTED BY THE LAND OWNER OR THE OWNER'S DESIGNATED RESPONSIBLE ENTITY ON THE FOLLOWING BASIS:
   A. ANNUALLY
   B. DURING OR IMMEDIATELY AFTER EVERY TEN-YEAR OR GREATER STORM EVENT.
2. DOCUMENTATION OF INSPECTIONS MUST BE MAINTAINED BY THE OWNER AND SUBMITTED TO THE TOWNSHIP UPON REQUEST. MAINTENANCE INSPECTIONS MAY BE PERFORMED BY THE TOWNSHIP TO ENSURE PROPER FUNCTIONING OF ALL STORMWATER FACILITIES.
3. THE STORMWATER MANAGEMENT FACILITIES SHALL BE KEPT FREE OF DEBRIS AND LEAVES.
4. THE OWNER IS RESPONSIBLE FOR MAINTAINING THE STORMWATER MANAGEMENT IN ACCORDANCE WITH THE APPROVED DESIGN. IF THE TOWNSHIP DETERMINES AT ANY TIME THAT ANY PERMANENT STORMWATER FACILITY HAS BEEN ELIMINATED, ALTERED OR IMPROPERLY MAINTAINED, THE OWNER OF THE PROPERTY SHALL BE ADVISED OF CORRECTIVE MEASURES REQUIRED AND GIVEN 7 DAYS TO INITIATE APPROPRIATE ACTION IN ACCORDANCE WITH A TIME SCHEDULE DICTATED BY THE TOWNSHIP. IF SUCH ACTION IS NOT TAKEN BY THE PROPERTY OWNER, THE TOWNSHIP MAY CAUSE THE WORK TO BE DONE AND CHARGE ALL COSTS TO THE PROPERTY OWNER.

OWNER'S CERTIFICATION
T.P. 19-003-,100-,0000-

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF CENTRE
ON THIS 7th DAY OF August, 2024, BEFORE ME THE UNDERSIGNED OFFICER PERSONALLY APPEARED, ANDREW GUTBERLET, MANAGER OF ENGINEERING SERVICES FOR THE PENNSYLVANIA STATE UNIVERSITY, WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSED AND STATES THAT THE UNIVERSITY IS THE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, THAT HE IS AUTHORIZED TO EXECUTE SAID PLAN ON BEHALF OF THE UNIVERSITY, AND THAT THE UNIVERSITY ACKNOWLEDGES THE SAME TO BE THEIR ACT AND DEED, AND THAT THE UNIVERSITY DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

SIGNATURE OF LAND OWNER REPRESENTATIVE

WITNESS MY HAND AND SEAL THIS 7th DAY OF August, 2024.

Lisa A. Serafina — Sep 30, 2027
NOTARY PUBLIC — COMMISSION EXPIRES

Commonwealth of Pennsylvania - Notary Seal
Lisa A. Serafina, Notary Public
Centre County
My commission expires September 30, 2027
Commission number 1235539
Member, Pennsylvania Association of Notaries

STORMWATER FACILITIES ACKNOWLEDGEMENT
I, THE LANDOWNER, ACKNOWLEDGE THAT THE STORMWATER MANAGEMENT SYSTEM IS TO BE MAINTAINED IN ACCORDANCE WITH THE APPROVED OWNERSHIP AND MAINTENANCE PROGRAM AND TO BE A PERMANENT FIXTURE WHICH CAN BE ALTERED OR REMOVED AFTER APPROVAL OF A REVISED PLAN BY COLLEGE TOWNSHIP COUNCIL.

SIGNATURE OF LAND OWNER REPRESENTATIVE — 07/31/24 DATE

DESIGN ENGINEER
I, JEFFERY R. BAUGHMAN, PE, DO HEREBY CERTIFY THAT THIS LAND DEVELOPMENT PLAN MEETS ALL DESIGN CRITERIA OF THE COLLEGE TOWNSHIP ZONING AND LAND DEVELOPMENT/SUBDIVISION REGULATIONS.

DESIGN ENGINEER STORMWATER CERTIFICATION
I, JEFFERY R. BAUGHMAN, PE, HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE COLLEGE TOWNSHIP STORMWATER ORDINANCE.

FIRE DIRECTOR CERTIFICATION
THE FIRE DIRECTOR HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH APPLICABLE FIRE PROTECTION STANDARDS AND DOES HEREBY CERTIFY THE COMPLIANCE WITH THOSE STANDARDS HAS BEEN DEMONSTRATED.

FIRE DIRECTOR — 08/08/2024 DATE

MUNICIPAL STORMWATER CERTIFICATION
I, _____, HAVE REVIEWED THE STORMWATER MANAGEMENT PLAN IN ACCORDANCE WITH THE DESIGN STANDARDS AND CRITERIA OF THE COLLEGE TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

COLLEGE TOWNSHIP PLANNING COMMISSION
COLLEGE TOWNSHIP PLANNING COMMISSION APPROVED:

CHAIR — 8/14/24 DATE

SECRETARY — 8/16/2024 DATE

COLLEGE TOWNSHIP COUNCIL
COLLEGE TOWNSHIP COUNCIL APPROVED:

CHAIR — 8/15/2024 DATE

SECRETARY — 8/15/2024 DATE

RECORDER OF DEEDS
RECORDER OF DEEDS
P 00099-0122 Aug 19, 2024
INDOOR PRACTICE AIR SUPPORTED STRUCT
COLLEGE TOWNSHIP
08-19-2024
09:26:31
PLAN 23 pcs
RECORDER OF DEEDS

CLIENT
The Pennsylvania State University
University Park, PA 16802

CRAWFORD

ARCHITECT
Crawford Architects, LLC
1801 McGee Street, Suite 200
Kansas City, MO 64108
tel:
816-421-2640

CIVIL
Stahl Sheaffer Engineering
800 Leonard Street
Clearfield, PA 16830
tel:
814-205-4012

STRUCTURE
Thornton Tomasetti
2323 Grand Boulevard, Suite 900
Kansas City, MO 64108
tel:
816-221-7771

MEP | FP
Reese Hackman
2021 Pine Hall Road
State College, PA 16801
tel:
814-234-2548

IT | SECURITY | AV | BROADCAST
WJHW
3424 Midcourt Road, Suite 124
Carrollton, TX 75006
tel:
972-934-3700

TURF DESIGNER
D.A. Hogan
1450 114th Ave, Suite 225
Bellevue, WA 98004
tel: 206-285-0400

INDOOR PRACTICE AIR SUPPORTED STRUCTURE
building number:
crawford project number:
PSU project number:
00-09025.00
The Pennsylvania State University, University Park, PA

Seal :
COMMONWEALTH OF PENNSYLVANIA
REGISTERED
JEFFERY R. BAUGHMAN
ENGINEER
PE083227
PENNSYLVANIA

No.	Rev.	Date
01	COLLEGE Twp REVISIONS	2024/03/08
02	ADDENDUM NO. 1	2024/03/13

04/15/24
ISSUED FOR BID

Title :
COVER

C100
sheet no.

LEGEND

- 600 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT-OF-WAY
- PROPERTY LINE
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- UE — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER LINE
- UT — EXISTING UNDERGROUND TELEPHONE LINE
- (ST) EXISTING STORM MANHOLE
- EXISTING STORM PIPE
- (JB) EXISTING JUNCTION BOX
- EXISTING FENCE
- EXISTING LIGHT POLE
- (S) EXISTING SEWER MANHOLE
- EXISTING POST

STORM SEWER MANHOLE (MANHOLE HAS A SANTIARY LID)
RIM EL = 1149.93'
INV 36" HDPE OUT(NE) = 1144.73'

STORM INLET
RIM EL = 1149.22'
INV 6" CPP IN(NW) = 1144.27'
INV 8" HDPE IN(SE) = 1146.87'
INV 8" HDPE OUT(NE) = 1144.15'

STORM INLET
RIM EL = 1151.93'
INV 12" HDPE OUT(S) = 1149.63'

STORM SEWER MANHOLE
RIM EL = 1150.66'
FULL OF STONE

STORM INLET
RIM EL = 1152.41'
INV 12" HDPE IN(N) = 1149.46'
INV 12" HDPE OUT(SE) = 1149.41'

STORM SEWER MANHOLE
(MANHOLE HAS A SANTIARY LID)
RIM EL = 1153.26'
INV 8" CMP IN(NW) = 1147.11'
INV 15" HDPE IN(NE) = 1147.41'
INV 24" CMP IN(SE) = 1146.86'
INV 42" CMP OUT(N) = 1144.86'
INV 48" RCP OUT(SW) = 1145.16'

STORM INLET
RIM EL = 1162.45'
INV 24" CMP OUT(NE) = 1157.65'

STORM INLET
RIM EL = 1153.06'
INV 12" HDPE IN(NW) = 1148.76'
INV 15" HDPE OUT(SW) = 1148.56'

STORM INLET
RIM EL = 1152.32'
INV 15" HDPE OUT(NE) = 1149.83'

STORM INLET
BURIED (LOCATION PER PSU GIS)

STORM SEWER MANHOLE
RIM EL = 1164.29'
INV 60" RCP IN(NE) = 1154.19'
INV WEIR OUT(NW) = 1159.64'
INV 12" ORFICE OUT(NW) = 1156.89'
INV 4" ORFICE OUT(NW) = 1154.64'

STORM SEWER MANHOLE
RIM EL = 1158.82'
INV 16" DIP IN(NE) = 1152.10'

STORM SEWER MANHOLE
RIM EL = 1164.53'
INV 60" RCP = 1156.03'

STORM INLET
RIM EL = 1161.18'
INV 6" CPP IN(SW) = 1158.29'
INV 24" HDPE IN(SE) = 1157.65'
INV 24" HDPE OUT(NW) = 1157.42'

INV 6" CPP IN(SW) = 1153.01'
INV 24" HDPE IN(SE) = 1152.19'
INV 24" HDPE OUT(NW) = 1151.98'

STORM INLET
RIM EL = 1165.90'
INV 12" HDPE IN(SE) = 1162.15'
INV 24" HDPE IN(NE) = 1162.10'
INV 24" HDPE OUT(NW) = 1161.55'

STORM SEWER MANHOLE
RIM EL = 1165.41'
INV 18" HDPE IN(SW) = 1159.91'
INV 60" RCP = 1156.01'

STORM INLET
RIM EL = 1165.96'
INV 15" HDPE IN(SE) = 1162.85'
INV 15" HDPE IN(SW) = 1161.30'
INV 18" HDPE OUT(NE) = 1161.16'

STORM INLET
RIM EL = 1165.97'
INV 15" HDPE IN(SE) = 1162.47'
INV 15" HDPE OUT(NE) = 1162.44'

STORM INLET
RIM EL = 1166.04'
INV 15" HDPE IN(SE) = 1162.32'
INV 18" HDPE OUT(SW) = 1162.30'

STORM SEWER MANHOLE
RIM EL = 1166.96'
INV 18" HDPE IN(SW) = 1163.41'
INV 18" HDPE IN(NE) = 1160.86'
INV 18" HDPE OUT(NW) = 1156.86'

STORM SEWER MANHOLE
RIM EL = 1165.82'
INV 18" HDPE IN(SE) = 1156.52'
INV 60" RCP = 1154.32'

STORM INLET
RIM EL = 1168.09'
INV 15" HDPE IN(SE) = 1164.26'
INV 18" HDPE OUT(NE) = 1164.20'

INV 15" HDPE (NW) = 1164.97'

WEIR AND 12" ORFICE BETWEEN STORM MANHOLES

COMMUNICATION MANHOLE
RIM EL=1153.69'
WIRES EL=1147.18'

"STOP/4-WAY" SIGN
"BIKE LANE" SIGN
"SHARE THE ROAD" SIGN

*TO I-80 IPSBURG 2 LEWISTOWN 31 MI E

UNIVERSITY DRIVE SR-3022

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1"=30'

CLIENT
The Pennsylvania State University
University Park, PA 16802

CRAWFORD

ARCHITECT
Crawford Architects, LLC
1801 McGee Street, Suite 200
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1450 114th Ave, Suite 225
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tel:
206-285-0400

INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number:
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The Pennsylvania State University, University Park, PA

Seal :

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
JEFFERY R. BAUGHMAN
ENGINEER
PE083227
PENNSYLVANIA

Rev.	Date
COLLEGE Twp. REVISIONS	2024/03/08
ADDENDUM NO. 1	2024/03/13

No.	
01	
02	

04/15/24
ISSUED FOR BID

Title :

EXISTING CONDITIONS PLAN

C101

sheet no.

LEGEND

- 600 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT-OF-WAY
- PROPERTY LINE
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- (ST) EXISTING STORM MANHOLE
- EXISTING STORM PIPE
- (JB) EXISTING JUNCTION BOX
- X EXISTING FENCE
- EXISTING LIGHT POLE
- (S) EXISTING SEWER MANHOLE
- EXISTING POST
- DEMOLITION AREA

INLET TO BE REMOVED

INLET TO REMAIN

INLET TO REMAIN

PIPE TO REMAIN

REMOVE LPOLE

REMOVE INLET

REMOVE LPOLE

REMOVE PIPE

REMOVE FENCE

REMOVE LPOLE

REMOVE LPOLE

REMOVE JB

REMOVE LPOLE

REMOVE FENCE

REMOVE LPOLE

STORM SEWER MANHOLE (MANHOLE HAS A SANTIARY LID)
RIM EL = 1149.93'
INV 36" HDPE OUT(NE) = 1144.73'

12" SLOPP

STORM INLET
RIM EL = 1149.22'
INV 6" CPP IN(NW) = 1144.27'
INV 8" HDPE IN(SE) = 1146.97'
INV 8" HDPE OUT(NE) = 1144.15'

6" COPPER PSU GIS

APPROX. UNDGERGROUND WATER LINE (PER PSU GIS)

STORM INLET
BURIED (LOCATION PER PSU GIS)

STORM INLET
RIM EL = 1152.32'
INV 15" HDPE OUT(NE) = 1149.83'

STORM SEWER MANHOLE
RIM EL = 1164.53'
INV 60" RCP = 1156.03'

STORM SEWER MANHOLE
RIM EL = 1165.41'
INV 18" HDPE IN(SW) = 1159.91'
INV 60" RCP = 1156.01'

STORM INLET
RIM EL = 1165.96'
INV 15" HDPE IN(SE) = 1162.85'
INV 15" HDPE IN(SW) = 1161.30'
INV 18" HDPE OUT(NE) = 1161.16'

STORM INLET
RIM EL = 1165.97'
INV 15" HDPE IN(SE) = 1162.47'
INV 15" HDPE OUT(NE) = 1162.44'

STORM INLET
RIM EL = 1166.04'
INV 15" HDPE IN(SE) = 1162.32'
INV 18" HDPE OUT(SW) = 1162.30'

STORM SEWER MANHOLE
RIM EL = 1166.96'
INV 18" HDPE IN(SW) = 1163.41'
INV 18" HDPE IN(NE) = 1160.86'
INV 18" HDPE OUT(NW) = 1156.86'

STORM SEWER MANHOLE
RIM EL = 1165.82'
INV 18" HDPE IN(SE) = 1156.52'
INV 60" RCP = 1154.32'

STORM INLET
RIM EL = 1169.09'
INV 15" HDPE IN(SE) = 1164.26'
INV 18" HDPE OUT(NE) = 1164.20'

INV 15" HDPE (NW) = 1164.97'

STORM INLET
RIM EL = 1165.90'
INV 12" HDPE IN(SE) = 1162.15'
INV 24" HDPE IN(NE) = 1162.10'
INV 24" HDPE OUT(NW) = 1161.55'

INV 6" CPP IN(SW) = 1153.01'
INV 24" HDPE IN(SE) = 1152.19'
INV 24" HDPE OUT(NW) = 1151.96'

STORM INLET
RIM EL = 1161.18'
INV 6" CPP IN(SW) = 1158.29'
INV 24" HDPE IN(SE) = 1157.65'
INV 24" HDPE OUT(NW) = 1157.42'

STORM SEWER MANHOLE
RIM EL = 1150.66'
FULL OF STONE

STORM SEWER MANHOLE
RIM EL = 1151.93'
INV 12" HDPE OUT(S) = 1149.63'

STORM INLET
RIM EL = 1152.41'
INV 12" HDPE IN(N) = 1149.46'
INV 12" HDPE OUT(SE) = 1149.41'

STORM SEWER MANHOLE
(MANHOLE HAS A SANTIARY LID)
RIM EL = 1153.26'
INV 8" CMP IN(NW) = 1147.11'
INV 15" HDPE IN(NE) = 1147.41'
INV 24" CMP IN(SE) = 1146.86'
INV 42" CMP OUT(N) = 1144.86'
INV 48" RCP OUT(SW) = 1145.16'

STORM INLET
RIM EL = 1162.45'
INV 24" CMP OUT(NE) = 1157.65'

STORM INLET
RIM EL = 1153.06'
INV 12" HDPE IN(NW) = 1148.76'
INV 15" HDPE OUT(SW) = 1148.56'

COMMUNICATION MANHOLE
RIM EL=1153.69'
WIRES EL=1147.18'

STORM SEWER MANHOLE
RIM EL = 1164.29'
INV 60" RCP IN(NE) = 1154.19'
INV WEIR OUT(NW) = 1159.64'
INV 12" ORFICE OUT(NW) = 1156.89'
INV 4" ORFICE OUT(NW) = 1154.64'

STORM SEWER MANHOLE
RIM EL = 1164.29'
INV WEIR IN(SE) = 1159.64'
INV 12" ORFICE IN(SE) = 1156.89'
INV 4" ORFICE IN(SE) = 1154.64'
INV 16" DIP OUT(SW) = 1154.39'

WEIR AND 12" ORFICE BETWEEN STORM MANHOLES

STORM SEWER MANHOLE
RIM EL = 1158.82'
INV 16" DIP IN(NE) = 1152.10'

UNDERGROUND DETENTION FACILITY

UNIVERSITY DRIVE
SR-3022

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1"=30'

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number:
crawford project number:
PSU project number:
00-09025.00

The Pennsylvania State University, University Park, PA

Seal :

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
JEFFERY R. BAUGHMAN
ENGINEER
PE083227
PENNSYLVANIA

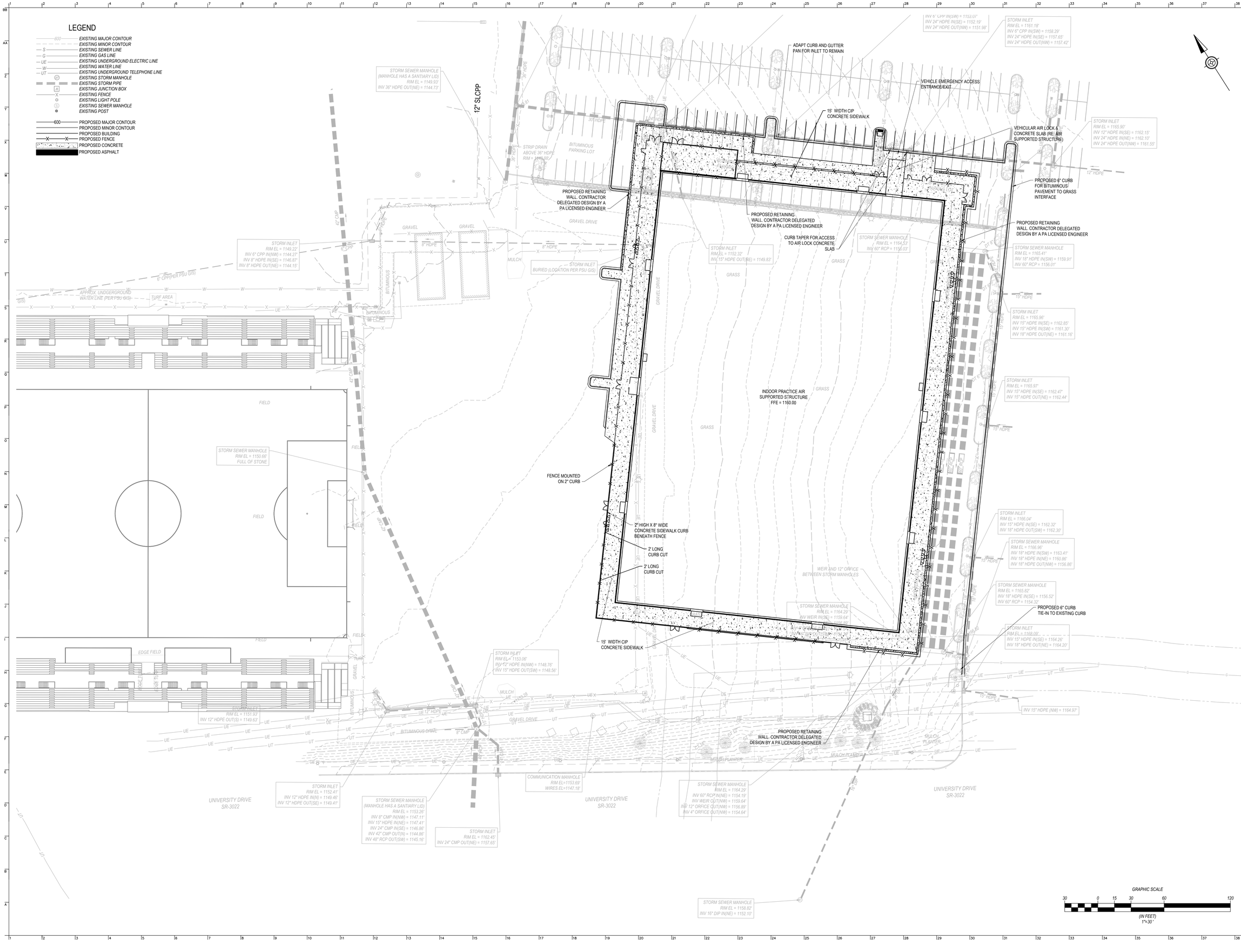
No.	Rev.	Date
01	COLLEGE Twp. REVISIONS	2024/03/08
02	ADDENDUM NO. 1	2024/03/13

04/15/24
ISSUED FOR BID

Title :

DEMOLITION PLAN

C102
sheet no.



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04/15/24
ISSUED FOR BID

Title :

SITE PLAN

C103

sheet no.

LEGEND

- 600 — EXISTING MAJOR CONTOUR
- 600 — EXISTING MINOR CONTOUR
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- UE — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER LINE
- UT — EXISTING UNDERGROUND TELEPHONE LINE
- (ST) — EXISTING STORM MANHOLE
- EXISTING STORM PIPE
- (JB) — EXISTING JUNCTION BOX
- X — EXISTING FENCE
- EXISTING LIGHT POLE
- (S) — EXISTING SEWER MANHOLE
- EXISTING POST
- 600 — PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BUILDING
- PROPOSED FENCE
- PROPOSED CONCRETE
- PROPOSED ASPHALT

ADAPT CURB AND GUTTER PAN FOR INLET TO REMAIN

15' WIDTH CIP CONCRETE SIDEWALK

PROPOSED RETAINING WALL. CONTRACTOR DELEGATED DESIGN BY A PA LICENSED ENGINEER

PROPOSED RETAINING WALL. CONTRACTOR DELEGATED DESIGN BY A PA LICENSED ENGINEER

PROPOSED RETAINING WALL. CONTRACTOR DELEGATED DESIGN BY A PA LICENSED ENGINEER

INDOOR PRACTICE AIR SUPPORTED STRUCTURE FFE = 1160.00

2' HIGH X 8" WIDE CONCRETE SIDEWALK CURB BENEATH FENCE

2' LONG CURB CUT

2' LONG CURB CUT

WEIR AND 12" ORFICE BETWEEN STORM MANHOLES

PROPOSED RETAINING WALL. CONTRACTOR DELEGATED DESIGN BY A PA LICENSED ENGINEER

12" SLOPE

STORM SEWER MANHOLE (MANHOLE HAS A SANTIARY LID) RIM EL = 1149.93' INV 36" HDPE OUT(NE) = 1144.73'

STORM INLET RIM EL = 1149.22' INV 6" CPP IN(NW) = 1144.27' INV 8" HDPE IN(SE) = 1146.97' INV 8" HDPE OUT(NE) = 1144.15'

STORM SEWER MANHOLE RIM EL = 1150.66' FULL OF STONE

STORM SEWER MANHOLE RIM EL = 1151.93' INV 12" HDPE OUT(S) = 1149.63'

STORM INLET RIM EL = 1152.41' INV 12" HDPE IN(N) = 1149.46' INV 12" HDPE OUT(SE) = 1149.41'

STORM SEWER MANHOLE (MANHOLE HAS A SANTIARY LID) RIM EL = 1153.26' INV 8" CMP IN(NW) = 1147.11' INV 15" HDPE IN(NE) = 1147.41' INV 24" CMP IN(SE) = 1146.86' INV 42" CMP OUT(N) = 1144.86' INV 48" RCP OUT(SW) = 1145.16'

STORM INLET RIM EL = 1162.45' INV 24" CMP OUT(NE) = 1157.65'

STORM INLET RIM EL = 1153.01' INV 24" HDPE IN(SE) = 1152.19' INV 24" HDPE OUT(NW) = 1151.96'

STORM INLET RIM EL = 1161.18' INV 6" CPP IN(SW) = 1158.29' INV 24" HDPE IN(SE) = 1157.65' INV 24" HDPE OUT(NW) = 1157.42'

STORM INLET RIM EL = 1165.90' INV 12" HDPE IN(SE) = 1162.15' INV 24" HDPE IN(NE) = 1162.10' INV 24" HDPE OUT(NW) = 1161.55'

STORM INLET RIM EL = 1152.33' INV 15" HDPE OUT(NE) = 1149.83'

STORM SEWER MANHOLE RIM EL = 1164.53' INV 60" RCP = 1156.03'

STORM SEWER MANHOLE RIM EL = 1165.41' INV 18" HDPE IN(SW) = 1159.91' INV 60" RCP = 1156.01'

STORM INLET RIM EL = 1165.96' INV 15" HDPE IN(SE) = 1162.85' INV 15" HDPE IN(SW) = 1161.30' INV 18" HDPE OUT(NE) = 1161.16'

STORM INLET RIM EL = 1165.97' INV 15" HDPE IN(SE) = 1162.47' INV 15" HDPE OUT(NE) = 1162.44'

STORM INLET RIM EL = 1166.04' INV 15" HDPE IN(SE) = 1162.32' INV 18" HDPE OUT(SW) = 1162.30'

STORM SEWER MANHOLE RIM EL = 1166.96' INV 18" HDPE IN(SW) = 1163.41' INV 18" HDPE IN(NE) = 1160.86' INV 18" HDPE OUT(NW) = 1156.86'

STORM SEWER MANHOLE RIM EL = 1165.82' INV 18" HDPE IN(SE) = 1156.52' INV 60" RCP = 1154.32'

STORM INLET RIM EL = 1166.09' INV 15" HDPE IN(SE) = 1164.26' INV 18" HDPE OUT(NE) = 1164.20'

INV 15" HDPE (NW) = 1164.97'

STORM SEWER MANHOLE RIM EL = 1164.29' INV WEIR IN(NE) = 1159.64' INV WEIR OUT(NW) = 1159.64' INV 12" ORFICE OUT(NW) = 1156.89' INV 4" ORFICE OUT(NW) = 1154.64'

STORM SEWER MANHOLE RIM EL = 1164.29' INV 60" RCP IN(NE) = 1154.19' INV WEIR OUT(NW) = 1159.64' INV 12" ORFICE OUT(NW) = 1156.89' INV 4" ORFICE OUT(NW) = 1154.64'

STORM SEWER MANHOLE RIM EL = 1158.82' INV 16" DIP IN(NE) = 1152.10'

UNIVERSITY DRIVE SR-3022

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1"=30'

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University Park, PA 16802

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number:
crawford project number:
PSU project number:
00-09025.00

The Pennsylvania State University, University Park, PA

Seal :

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
JEFFERY R. BAUGHMAN
ENGINEER
PE083227

Rev.	Date
COLLEGE Twp. REVISIONS	2024/03/08
ADDENDUM NO. 1	2024/03/13

No.	
01	
02	

04/15/24
ISSUED FOR BID

Title :

GRADING PLAN

C104

sheet no.

LEGEND

- 600 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- EU — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER LINE
- EA — EXISTING OVERHEAD ELECTRIC LINE
- ST — EXISTING STORM MANHOLE
- EXISTING STORM PIPE
- JB — EXISTING JUNCTION BOX
- X — X — EXISTING FENCE
- EXISTING LIGHT POLE
- 600 — PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BUILDING
- PROPOSED STORM LINE
- PROPOSED STORMWATER VAULT PIPE
- PROPOSED TYPE M INLET
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- SOILS BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- INLET PROTECTION
- EROSION CONTROL BLANKET AREA
- CFS — COMPOST FILTER SOCK
- NPDES PERMIT BOUNDARY
- ROCK CONSTRUCTION ENTRANCE

NOTE:
1. TOPSOIL AND EXCESS MATERIAL TO BE MOVED IMMEDIATELY OFF SITE AS NO SOIL STOCKPILE WILL BE LOCATED AT PROJECT SITE DURING CONSTRUCTION.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1"=30'

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University Park, PA 16802

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number:
crawford project number:
PSU project number: 00-09025.00
The Pennsylvania State University, University Park, PA

Seal :

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
JEFFERY R. BAUCHMAN
ENGINEER
PE083227

Date 4/1/24

Rev. NPDES BOUNDARY

No. 4
3/1/24
NPDES SUBMISSION

Title :

EROSION & SEDIMENT CONTROL PLAN

C105

sheet no.

LEGEND

- 600 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- UE — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER LINE
- UT — EXISTING UNDERGROUND TELEPHONE LINE
- EXISTING STORM MANHOLE
- EXISTING STORM PIPE
- EXISTING JUNCTION BOX
- X — EXISTING FENCE
- EXISTING LIGHT POLE
- EXISTING SEWER MANHOLE
- EXISTING POST

- 600 — PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BUILDING
- PROPOSED STORM LINE/DRAIN
- X X — PROPOSED FENCE
- S — PROPOSED SANITARY LINE
- TU — PROPOSED UNDERGROUND TELE
- EU — PROPOSED UNDERGROUND ELECTRIC
- G — PROPOSED GAS LINE
- PROPOSED STORM INLET
- PROPOSED STORM MANHOLE
- PROPOSED TELE MANHOLE
- PROPOSED ELECTRIC MANHOLE
- PROPOSED CONCRETE
- PROPOSED ASPHALT

I-3 CATCH BASIN WITH CLEARSTREAM INLET BASKET FILTER
RIM ELE.: 1159.60
INV. IN (15" HDPE): 1150.00
INV. IN (15" HDPE): 1150.00
INV. OUT (15" HDPE): 1149.75

RELOCATED INLET TO AVOID WALL

STORM SEWER MANHOLE (MANHOLE HAS A SANTIARY LID)
RIM EL = 1149.93'
INV. 36" HDPE OUT(NE) = 1144.73'

PROPOSED STORMWATER TIE IN POINT
INV. IN (18" HDPE): 1147.00

12" SLOPP

STORM DRAIN
24" HDPE

BITUMINOUS PARKING LOT

TW: 1159.70
BW: 1154.00

15' WIDTH CIP CONCRETE SIDEWALK

MRC WATER QUALITY AREA #3
INV. OUT (15" HDPE): 1157.00

TW: 1159.70
BW: 1159.70

4" PVC UNDERDRAIN
INV.: 1155.00

MRC OUTLET #3
RIM ELEV.: 1158.60
INV. IN (MRC ORIFICE): 1156.00
INV. OUT (15" HDPE): 1155.00

TW: 1165.00
BW: 1160.00

I-2 CATCH BASIN
RIM ELE.: 1159.40
INV. OUT (15" HDPE):1157.65

STORM INLET
RIM EL = 1165.90'
INV 12" HDPE IN(SE) = 1162.15'
INV 24" HDPE IN(NE) = 1162.10'
INV 24" HDPE OUT(NW) = 1161.55'

STORM INLET
RIM EL = 1161.18'
INV 6" CPP IN(SW) = 1158.29'
INV 24" HDPE IN(SE) = 1157.65'
INV 24" HDPE OUT(NW) = 1157.42'

INV 6" CPP IN(SW) = 1153.01'
INV 24" HDPE IN(SE) = 1152.19'
INV 24" HDPE OUT(NW) = 1151.96'

TRENCH DRAIN #1
50' LENGTH
RIM ELE.: 1159.50

CLEANOUT AT JUNCTION WITH TRENCH DRAIN

RIM ELE.: 1155.58
BROAD CRESTED WEIR: 1151.75
INV. OF PRINC. SPILLWAY : 1149.00
INV. OF LOW FLOW ORIFICE: 1147.75
INV. OUT (18" HDPE): 1147.70

RIM ELEV.: 1156.78
INV. IN (15" HDPE): 1148.00

STORM INLET
RIM EL = 1149.22'
INV 6" CPP IN(NW) = 1144.27'
INV 8" HDPE IN(SE) = 1146.97'
INV 8" HDPE OUT(NE) = 1144.15'

6" COPPER PSU GIS

APPROX. UNDERGROUND WATER LINE (PER PSU GIS)

TURF AREA

GRAVEL

BITUMINOUS

MULCH

ACCESS PORTS (TYP.)
50' IN FROM VAULT WEIR

ACCESS PORTS (TYP.)
100' FROM VAULT WEIR

GRAVEL DRIVE

GRASS

STORM SEWER MANHOLE
RIM EL = 1164.53'
INV 60" RCP = 1156.03'

STORM INLET
RIM EL = 1152.32'
INV 15" HDPE OUT(NE) = 1149.83'

STORM SEWER MANHOLE
RIM EL = 1165.41'
INV 18" HDPE IN(SW) = 1159.91'
INV 60" RCP = 1156.01'

STORM INLET
RIM EL = 1165.96'
INV 15" HDPE IN(SE) = 1162.85'
INV 15" HDPE IN(SW) = 1161.30'
INV 18" HDPE OUT(NE) = 1161.16'

STORM INLET
RIM EL = 1165.97'
INV 15" HDPE IN(SE) = 1162.47'
INV 15" HDPE OUT(NE) = 1162.44'

INDOOR PRACTICE AIR SUPPORTED STRUCTURE
FFE = 1160.00

I-1 CATCH BASIN
RIM ELE.: 1159.77
INV. OUT (15" HDPE): 1158.00

I-5 CATCH BASIN
RIM ELE.: 1159.75
INV. IN (15" HDPE): 1157.20
INV. OUT (15" HDPE): 1157.00

I-7 CATCH BASIN
RIM ELE.: 1159.40
INV. IN (15" HDPE): 1155.40
INV. OUT (15" HDPE): 1155.20

STORM INLET
RIM EL = 1166.04'
INV 15" HDPE IN(SE) = 1162.32'
INV 18" HDPE OUT(SW) = 1162.30'

STORM SEWER MANHOLE
RIM EL = 1166.96'
INV 18" HDPE IN(SW) = 1163.41'
INV 18" HDPE IN(NE) = 1160.86'
INV 18" HDPE OUT(NW) = 1156.86'

STORM SEWER MANHOLE
RIM EL = 1165.82'
INV 18" HDPE IN(SE) = 1156.52'
INV 60" RCP = 1154.32'

STORM INLET
RIM EL = 1159.09'
INV 15" HDPE IN(SE) = 1164.26'
INV 18" HDPE OUT(NE) = 1164.20'

INV 15" HDPE (NW) = 1164.97'

IPASS UNDERGROUND STORMWATER MANAGEMENT
4 X 48" CONCRETE PIPES
260' LENGTH
SLOPED TOWARD OUTLET 0.5%

RIM ELEV.: 1159.00
INV. IN (15" HDPE): 1149.50
INV. OUT (15" HDPE): 1157.40

2' LONG CURB CUT

4" PVC UNDERDRAIN
INV.: 1155.05

MRC WATER QUALITY AREA #2

MRC OUTLET #2
RIM ELEV.: 1158.25
INV. IN (MRC ORIFICE): 1156.00
INV. OUT (15" HDPE): 1155.80

JUNCTION MANHOLE
RIM ELEV.: 1157.64
INV. IN (15" HDPE): 1151.00
INV. IN (15" HDPE): 1151.00
INV. OUT: 1150.73

FIELD DRAINAGE MANHOLE (SEE FIELD DRAINAGE PLANS)
RIM ELEV.: 1159.86
INV. IN: 1152.10
INV. OUT: 1151.90

FIELD DRAINAGE MANHOLE (SEE FIELD DRAINAGE PLANS)
RIM ELEV.: 1159.86
INV. OUT: 1154.70

WEIR AND 12" ORIFICE BETWEEN STORM MANHOLES

STORM SEWER MANHOLE
RIM EL = 1164.25'
W/V WEIR IN(SE) = 1159.64'

TW: 1160.00
BW: 1160.00

TW: 1165.00
BW: 1160.00

4" PVC UNDERDRAIN
INV.: 1152.00

MRC OUTLET #1
RIM ELEV.: 1154.50
INV. IN (MRC ORIFICE): 1153.00
INV. OUT (15" HDPE): 1152.00

INV. OUT (15" HDPE): 1154.00

MRC WATER QUALITY AREA #1

STORM INLET
RIM EL = 1153.08'
INV 12" HDPE IN(NW) = 1149.08'
INV 15" HDPE OUT(SE) = 1148.98'

STORM SEWER MANHOLE
RIM EL = 1150.66'
FULL OF STONE

STORM INLET
RIM EL = 1151.93'
INV 12" HDPE OUT(S) = 1149.63'

STORM INLET
RIM EL = 1162.41'
INV 12" HDPE IN(N) = 1149.46'
INV 12" HDPE OUT(SE) = 1149.41'

STORM SEWER MANHOLE
(MANHOLE HAS A SANTIARY LID)
RIM EL = 1153.26'
INV 8" CMP IN(NW) = 1147.11'
INV 15" HDPE IN(NE) = 1147.41'
INV 24" CMP IN(SE) = 1146.86'
INV 42" CMP OUT(N) = 1144.86'
INV 48" RCP OUT(SW) = 1145.16'

STORM INLET
RIM EL = 1162.45'
INV 24" CMP OUT(NE) = 1157.65'

COMMUNICATION MANHOLE
RIM EL=1153.69'
WIRES EL=1147.18'

STORM SEWER MANHOLE
RIM EL = 1164.29'
INV 60" RCP IN(NE) = 1154.19'
INV WEIR OUT(NW) = 1159.64'
INV 12" ORFICE OUT(NW) = 1156.89'
INV 4" ORFICE OUT(NW) = 1154.64'

STORM SEWER MANHOLE
RIM EL = 1158.82'
INV 16" DIP IN(NE) = 1152.10'

UNIVERSITY DRIVE
SR-3022

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1"=30'

CLIENT
The Pennsylvania State University
University Park, PA 16802

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TURF DESIGNER
D.A. Hogan
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Bellevue, WA 98004
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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number:
crawford project number:
PSU project number:
00-09025.00

The Pennsylvania State University, University Park, PA

Seal :

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
JEFFERY R. BAUGHMAN
ENGINEER
PE083227
PENNSYLVANIA

No.	Rev.	Date
01	COLLEGE Twp. REVISIONS	2024/03/08
02	ADDENDUM NO. 1	2024/03/13

04/15/24
ISSUED FOR BID

Title :

UTILITY PLAN

C106
sheet no.

LEGEND

- 600 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- EU — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER LINE
- EA — EXISTING OVERHEAD ELECTRIC LINE
- ST — EXISTING STORM MANHOLE
- EXISTING STORM PIPE
- JB — EXISTING JUNCTION BOX
- X — X — EXISTING FENCE
- EXISTING LIGHT POLE
- 600 — PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BUILDING
- PROPOSED STORM LINE
- PROPOSED STORMWATER VAULT PIPE
- PROPOSED TYPE M INLET
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- SOILS BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- NPDES PERMIT BOUNDARY

STORM INLET
RIM EL = 1148.87'
INV 30" HDPE IN(SE) = 1144.52'
INV UNDER DRAIN IN(SW) = 1148.22'
INV 36" HDPE IN(SW) = 1143.95'
INV 36" HDPE OUT(NE) = 1143.62'

STORM INLET
RIM EL = 1151.34'
INV 4" CPP IN(NE) = 1148.54'
INV 4" CPP IN(SW) = 1148.44'
INV 24" HDPE IN(SE) = 1147.74'
INV 30" HDPE OUT(NW) = 1147.49'

STORM INLET
RIM EL = 1151.91'
INV 6" CPP IN(SW) = 1148.41'
INV 24" HDPE IN(SE) = 1148.27'
INV 24" HDPE OUT(NW) = 1148.35'

STORM INLET
RIM EL = 1155.66'
INV 6" CPP IN(SW) = 1153.07'
INV 24" HDPE IN(SE) = 1152.19'
INV 24" HDPE OUT(NW) = 1151.95'

STORM INLET
RIM EL = 1161.18'
INV 6" CPP IN(SW) = 1158.29'
INV 24" HDPE IN(SE) = 1157.65'
INV 24" HDPE OUT(NW) = 1157.42'

STORM INLET
RIM EL = 1165.90'
INV 12" HDPE IN(SE) = 1162.15'
INV 24" HDPE IN(NE) = 1162.10'
INV 24" HDPE OUT(NW) = 1161.55'

STORM SEWER MANHOLE
(MANHOLE HAS A SANITARY LID)
RIM EL = 1149.93'
INV 36" HDPE OUT(NE) = 1144.73'

STORM INLET
RIM EL = 1149.22'
INV 6" CPP IN(NW) = 1144.27'
INV 8" HDPE IN(SE) = 1146.87'
INV 8" HDPE OUT(NE) = 1144.15'

STORM SEWER MANHOLE
RIM EL = 1150.66'
FULL OF STONE

STORM INLET
RIM EL = 1151.93'
INV 12" HDPE OUT(S) = 1149.63'

STORM INLET
RIM EL = 1153.08'
INV 12" HDPE IN(NW) = 1149.46'
INV 12" HDPE OUT(SE) = 1149.41'

STORM SEWER MANHOLE
(MANHOLE HAS A SANITARY LID)
RIM EL = 1153.26'
INV 8" CMP IN(NW) = 1147.11'
INV 15" HDPE IN(NE) = 1147.41'
INV 24" CMP IN(SE) = 1146.66'
INV 42" CMP OUT(N) = 1144.86'
INV 48" RCP OUT(SW) = 1145.16'

STORM INLET
RIM EL = 1152.45'
INV 24" CMP OUT(NE) = 1157.65'

STORM INLET
RIM EL = 1152.32'
INV 15" HDPE OUT(NE) = 1149.83'

STORM SEWER MANHOLE
RIM EL = 1164.55'
INV 60" RCP = 1156.03'

STORM SEWER MANHOLE
RIM EL = 1165.41'
INV 18" HDPE IN(SW) = 1159.91'
INV 60" RCP = 1156.01'

STORM INLET
RIM EL = 1165.96'
INV 15" HDPE IN(SE) = 1162.85'
INV 15" HDPE IN(SW) = 1161.30'
INV 18" HDPE OUT(NE) = 1161.16'

STORM INLET
RIM EL = 1165.97'
INV 15" HDPE IN(SE) = 1162.47'
INV 15" HDPE OUT(NE) = 1162.44'

STORM INLET
RIM EL = 1166.04'
INV 15" HDPE IN(SE) = 1162.32'
INV 18" HDPE OUT(SW) = 1162.30'

STORM SEWER MANHOLE
RIM EL = 1166.96'
INV 18" HDPE IN(SW) = 1163.41'
INV 18" HDPE IN(NE) = 1160.86'
INV 18" HDPE OUT(NW) = 1156.86'

STORM SEWER MANHOLE
RIM EL = 1165.82'
INV 18" HDPE IN(SE) = 1156.52'
INV 60" RCP = 1154.32'

STORM INLET
RIM EL = 1169.02'
INV 15" HDPE IN(SE) = 1164.26'
INV 18" HDPE OUT(NE) = 1164.20'

INV 15" HDPE (NW) = 1164.97'

COMMUNICATION MANHOLE
RIM EL=1153.69'
WIRES EL=1147.18'

STORM SEWER MANHOLE
RIM EL = 1164.29'
INV 60" RCP IN(NE) = 1154.19'
INV WEIR OUT(NW) = 1159.64'
INV 12" ORFICE OUT(NW) = 1156.89'
INV 4" ORFICE OUT(NW) = 1154.64'

DP 002

DP 001

12" SLOPP

I-3 CATCH BASIN
WITH CLEARSTREAM INLET
BASKET FILTER
RIM ELE.: 1159.60
INV. IN (12" HDPE): 1150.00
INV. IN (4"S" HDPE): 1150.00
INV. OUT (15" HDPE): 1149.75

RELOCATED INLET TO
AVOID WALL

ADAPT CURB AND GUTTER
PAN FOR INLET TO REMAIN

15' WIDTH CIP
CONCRETE SIDEWALK

MRC WATER
QUALITY AREA #3

INV. OUT (15" HDPE): 1157.00

PROPOSED STORMWATER
TIE IN POINT
INV. IN (18" HDPE): 1147.00

PROPOSED RETAINING
WALL CONTRACTOR
DELEGATED DESIGN BY A
PA LICENSED ENGINEER

4" PVC UNDERDRAIN
INV.: 1155.00

MRC OUTLET #3
RIM ELEV.: 1158.60
INV. IN (MRC ORIFICE): 1156.00
INV. OUT (15" HDPE): 1155.00

I-2 CATCH BASIN
RIM ELE.: 1159.40
INV. OUT (15" HDPE):1157.65

PROPOSED RETAINING
WALL, CONTRACTOR DELEGATED
DESIGN BY A PA LICENSED ENGINEER

TRENCH DRAIN #1
50' LENGTH
RIM ELE: 1159.50

CLEANOUT AT JUNCTION
WITH TRENCH DRAIN

RIM ELEV.: 1156.78
INV. IN (15" HDPE): 1148.00

RIM ELE.: 1155.58
BROAD CRESTED WEIR: 1157.75
INV. OF PRINC. SPILLWAY: 1149.00
INV. OF LOW FLOW ORIFICE: 1147.75
INV. OUT (18" HDPE): 1147.70

ACCESS PORTS (TYP.)
50' IN FROM VAULT WEIR

ACCESS PORTS (TYP.)
100' FROM VAULT WEIR

LIMIT OF DISTURBANCE
243,457 SF
5.59 ACRES

TRENCH DRAIN #2
50' LENGTH

IPASS UNDERGROUND
STORMWATER MANAGEMENT
4 X 48" CONCRETE PIPES
260' LENGTH
SLOPED TOWARD OUTLET 0.5%

CLEANOUT AT JUNCTION
WITH TRENCH DRAIN

RIM ELEV.: 1159.00
INV. IN (15" HDPE): 1149.50
INV. OUT (15" HDPE): 1157.00

2" HIGH X 8" WIDE
CONCRETE SIDEWALK CURB
BENEATH FENCE

2' LONG
CURB CUT

2' LONG
CURB CUT

4" PVC UNDERDRAIN
INV.: 1155.00

MRC WATER
QUALITY AREA #2

MRC OUTLET #2
RIM ELEV.: 1158.25
INV. IN (MRC ORIFICE): 1156.00
INV. OUT (15" HDPE): 1155.00

JUNCTION MANHOLE
RIM ELEV.: 1157.54
INV. IN(15" HDPE): 1151.00
INV. IN(15" HDPE): 1151.00
INV. OUT: 1150.75

4" PVC UNDERDRAIN
INV.: 1152.00

MRC OUTLET #1
RIM ELEV.: 1154.50
INV. IN (MRC ORIFICE): 1153.00
INV. OUT (15" HDPE): 1152.00

MRC WATER
QUALITY AREA #1

FIELD DRAINAGE MANHOLE
(SEE FIELD DRAINAGE PLANS)
RIM ELEV.: 1159.86
INV. IN: 1152.10
INV. OUT: 1151.90

FIELD DRAINAGE MANHOLE
(SEE FIELD DRAINAGE PLANS)
RIM ELEV.: 1159.86
INV. OUT: 1154.70

WEIR AND 12" ORFICE
BETWEEN STORM MANHOLES

STORM SEWER MANHOLE
RIM EL = 1164.23'
INV WEIR IN(SE) = 1159.64'

INV. OUT (15" HDPE): 1154.00

I-1 CATCH BASIN
RIM ELE.: 1159.77
INV. OUT (15" HDPE): 1158.00

INDOOR PRACTICE AIR
SUPPORTED STRUCTURE
FFE = 1160.00

I-5 CATCH BASIN
RIM ELE.: 1159.75
INV. IN (15" HDPE): 1157.20
INV. OUT (15" HDPE): 1157.00

LIMIT OF DISTURBANCE
243,457 SF
5.59 ACRES

I-7 CATCH BASIN
RIM ELE.: 1159.40
INV. IN (15" HDPE): 1155.40
INV. OUT (15" HDPE): 1155.20

PROPOSED RETAINING
WALL. CONTRACTOR DELEGATED
DESIGN BY A PA LICENSED ENGINEER

HaA

HaB

HcB

TW: 1159.70
BW: 1154.00

TW: 1159.70
BW: 1155.75

TW: 1159.70
BW: 1157.00

TW: 1165.00
BW: 1160.00

TW: 1165.00
BW: 1160.00

TW: 1165.00
BW: 1160.00

TW: 1165.00
BW: 1160.00

TW: 1165.00
BW: 1160.00

TW: 1160.00
BW: 1160.00

TW: 1159.70
BW: 1158.50

TURF AREA

APPROX. UNDERGROUND
WATER LINE (PER PSU GIS)

6" CPP(PER PSU GIS)

42" CMP

BITUMINOUS

GRAVEL

GRASS

GRAVEL DRIVE

BITUMINOUS DRIVE

BURIED ELOGATION PIPE

FIELD

EDGE FIELD

TURF

MULCH PLANTER

UNIVERSITY DRIVE
SR-3022

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1"=30'

CLIENT
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TURF DESIGNER
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tel:
206-285-0400

INDOOR PRACTICE AIR
SUPPORTED STRUCTURE
building number:
crawford project number:
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00-09025.00
The Pennsylvania State University, University Park, PA

Seal :

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
JEFFERY R. BAUCHMAN
ENGINEER
PE083227

Rev.	Date
COLLEGE Twp REVISIONS	2024/03/08
ADDENDUM NO. 1	2024/03/13

No.	
01	
02	

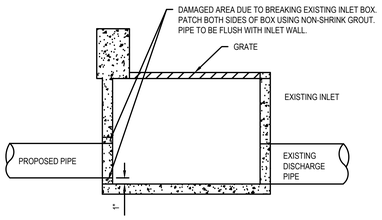
04/15/24
ISSUED FOR BID

Title :

PCSM PLAN

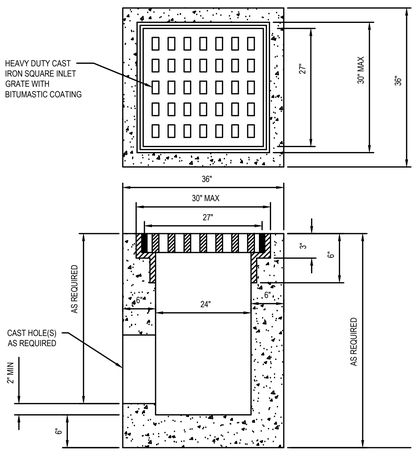
C107

sheet no.



INLET CONNECTION DETAIL

NOT TO SCALE

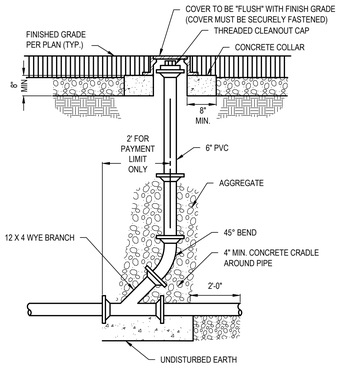


NOTES:

1. PLACE INLET BOXES ON LEVEL SURFACE UNLESS OTHERWISE DIRECTED. CONSTRUCT OR PLACE INLET BOXES ON A SUBBASE CONSTRUCTED OF COMPACTED NO. 2A COARSE AGGREGATE. PLACE AND COMPACT IN 4" LAYERS TO PROVIDE 1'-0" MINIMUM DEPTH.
2. CONNECT PIPES TO INLET BOXES WITH MORTAR OR WATERTIGHT RUBBER FLEXIBLE CONNECTORS.
3. FORM BOTTOM OF INLET USING CLASS A CEMENT CONCRETE TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE .
4. BACKFILL EXCAVATED SPACES AROUND THE STRUCTURE WITH ACCEPTABLE FILL MATERIAL.
5. INLET SPECIFICATIONS AND INSTALLATIONS SHALL COMPLY WITH PUBLICATION 72, RC45-M, SHEET 1 & 2.

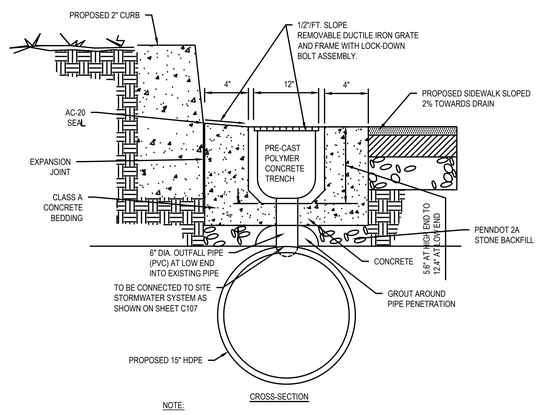
CATCH BASIN DETAIL

NOT TO SCALE



CLEANOUT - PAVED SURFACES DETAIL

NOT TO SCALE

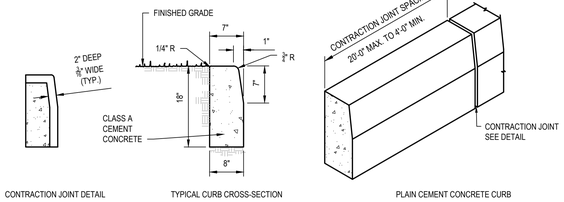


NOTE:

1. INSTALL IN ACCORDANCE WITH TRENCH MANUFACTURER'S RECOMMENDATIONS

TRENCH DRAIN DETAIL

NOT TO SCALE



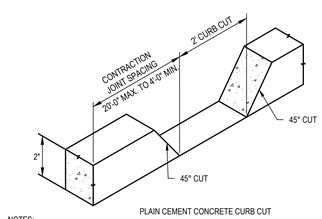
CONTRACTION JOINT DETAIL — TYPICAL CURB CROSS-SECTION — PLAIN CEMENT CONCRETE CURB

NOTES:

1. CONSTRUCT ALL CURBING IN ACCORDANCE WITH PENNDOT ROADWAY CONSTRUCTION DRAWING (RC-64).PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUB. 408, SECTION 630 FOR PLAIN CONCRETE CURB.
2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
3. PLACE 3/4-INCH PREMOLDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.

CONCRETE CURB DETAIL

NOT TO SCALE



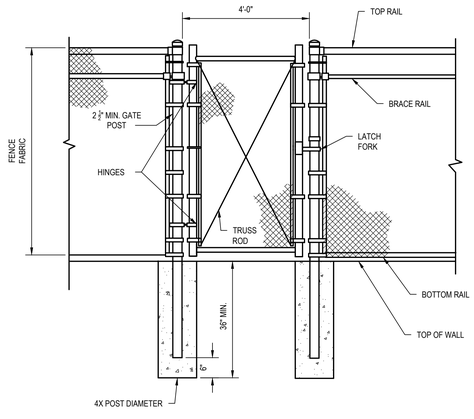
PLAIN CEMENT CONCRETE CURB CUT

NOTES:

1. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.

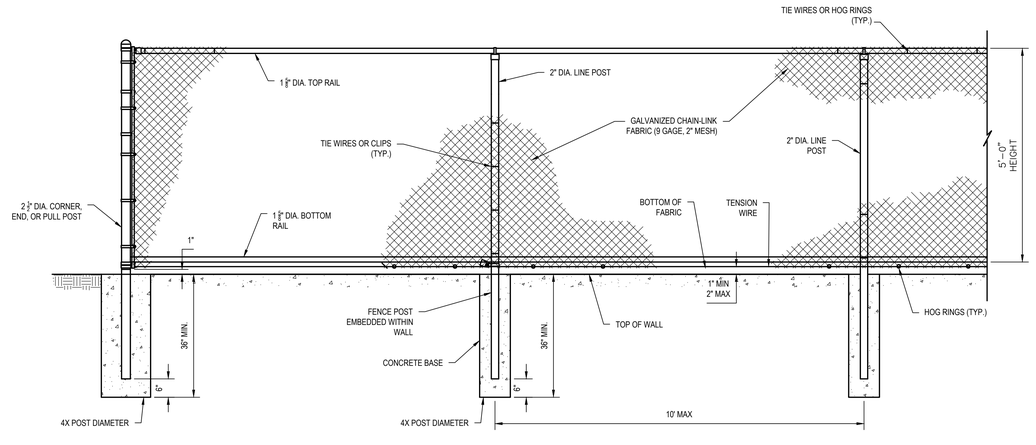
CONCRETE CURB CUT DETAIL

NOT TO SCALE



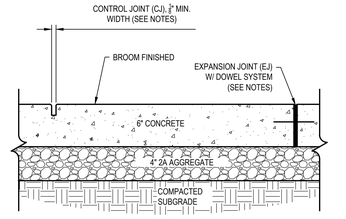
FENCE GATE

NOT TO SCALE



CHAIN LINK FENCE SECTION

NOT TO SCALE

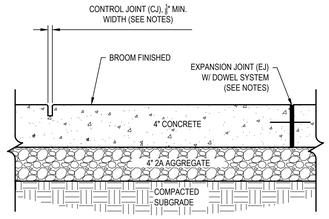


NOTES:

1. PLACE EXPANSION JOINTS (EJ) AT 20'-0" O/C MAX, OR AS SHOWN ON PLAN, FOLLOWING THE GUIDELINES BELOW:
   - 1.1. 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 EJ)
   - 1.2. INSTALL ASPHALT IMPREGNATED MATERIAL, CLOSED-CELL BACKER ROD AND POLYURETHANE SEALANT.
     - 1.2.1. FOR JOINTS 1/4" TO 1/2" WIDE, THE SEALANT WIDTH TO DEPTH RATIO SHALL BE EQUAL.
     - 1.2.2. JOINTS GREATER THAN 1/2" WIDE, SEALANT DEPTH SHALL BE 1/2".
   - 1.3. PROTECT JOINT SEALANT FROM PEDESTRIAN AND VEHICULAR TRAFFIC UNTIL IT COMPLETELY CURES.
2. SCORE LINES BETWEEN EXPANSION JOINTS TO BE 1-1/4" DEEP TOOLED CONTROL JOINTS (CJ) UNLESS OTHERWISE NOTED. SEE PLANS AND SPECS FOR SPACING.
3. FINISH WITH COARSE STILL BRISTLE BROOM PERPENDICULAR TO LINE OF TRAFFIC,

STANDARD AIR LOCK CONCRETE SLAB

NOT TO SCALE

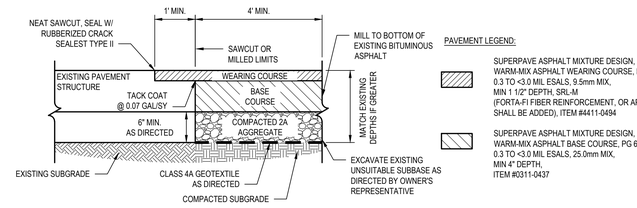


NOTES:

1. PLACE EXPANSION JOINTS (EJ) AT 20'-0" O/C MAX, OR AS SHOWN ON PLAN, FOLLOWING THE GUIDELINES BELOW:
   - 1.1. 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 EJ)
   - 1.2. INSTALL ASPHALT IMPREGNATED MATERIAL, CLOSED-CELL BACKER ROD AND POLYURETHANE SEALANT.
     - 1.2.1. FOR JOINTS 1/4" TO 1/2" WIDE, THE SEALANT WIDTH TO DEPTH RATIO SHALL BE EQUAL.
     - 1.2.2. JOINTS GREATER THAN 1/2" WIDE, SEALANT DEPTH SHALL BE 1/2".
   - 1.3. PROTECT JOINT SEALANT FROM PEDESTRIAN AND VEHICULAR TRAFFIC UNTIL IT COMPLETELY CURES.
2. SCORE LINES BETWEEN EXPANSION JOINTS TO BE 1-1/4" DEEP TOOLED CONTROL JOINTS (CJ) UNLESS OTHERWISE NOTED. SEE PLANS AND SPECS FOR SPACING.
3. FINISH WITH COARSE STILL BRISTLE BROOM PERPENDICULAR TO LINE OF TRAFFIC,

STANDARD CONCRETE SIDEWALK

NOT TO SCALE



PAVEMENT LEGEND:

- SUPERPAVE ASPHALT MIXTURE DESIGN, WARM-MIX ASPHALT WEARING COURSE, PG 64-22, 0.3 TO <3.0 MIL ESALS, 9.5mm MIX, MIN 1 1/2" DEPTH, SRL-M (FORTA-FI FIBER REINFORCEMENT, OR APPROVED EQUAL, SHALL BE ADDED), ITEM #4411-0494
- SUPERPAVE ASPHALT MIXTURE DESIGN, WARM-MIX ASPHALT BASE COURSE, PG 64-22, 0.3 TO <3.0 MIL ESALS, 25.0mm MIX, MIN 4" DEPTH, ITEM #0311-0437

PAVEMENT RECONSTRUCTION

NOT TO SCALE

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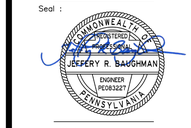
INDOOR PRACTICE AIR SUPPORTED STRUCTURE
building number:
crawford project number:
PSU project number:
00-09025.00
The Pennsylvania State University, University Park, PA

Seal :



Rev.	Date
COLLEGE Twp REVISIONS	2024/03/08
ADDENDUM NO. 1	2024/03/13

No.	
01	
02	

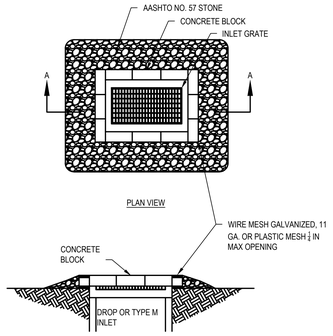
04/15/24
ISSUED FOR BID

Title :

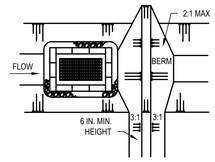
CONSTRUCTION DETAILS

C108

sheet no.



SECTION A-A

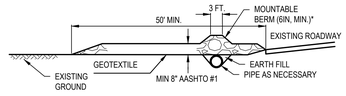


NOTES:

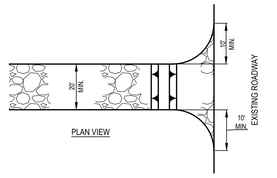
1. MAXIMUM DRAINAGE AREA =1 ACRE.
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.
3. ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET 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 TO REMAIN PERMANENTLY.
4. TOP OF BLOCK SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
5. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
6. A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL
STONE AND CONCRETE BLOCK INLET PROTECTION - TYPE M INLET

NOT TO SCALE



PROFILE



PLAN VIEW

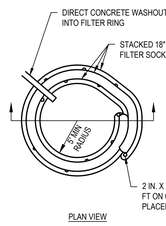
* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

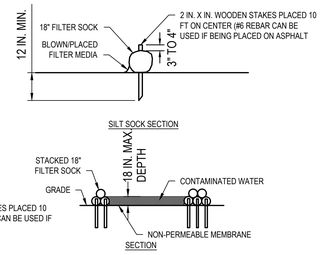
1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
3. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE 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.
4. 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.

STANDARD CONSTRUCTION DETAIL
ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE



PLAN VIEW

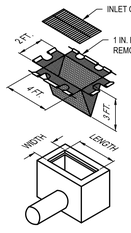


NOTES:

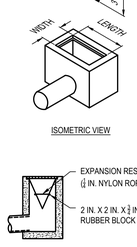
1. TO BE PLACED AT THE DISCRETION OF THE CONTRACTOR IN A LEVEL AREA DURING CONSTRUCTION. CAN BE RELOCATED AS NEEDED BASED UPON THE PROJECT PHASE.

CONCRETE WASHOUT

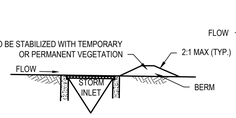
NOT TO SCALE



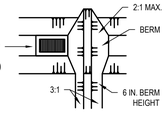
ISOMETRIC VIEW



INSTALLATION DETAIL



SECTION VIEW



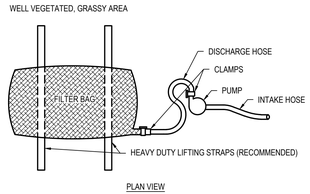
PLAN VIEW

NOTES:

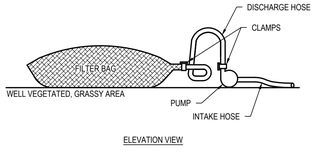
1. MAXIMUM DRAINAGE AREA = 1/2 ACRE.
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
3. ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.
4. 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.
5. 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.
6. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL
FILTER BAG INLET PROTECTION - TYPE M INLET

NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTES:

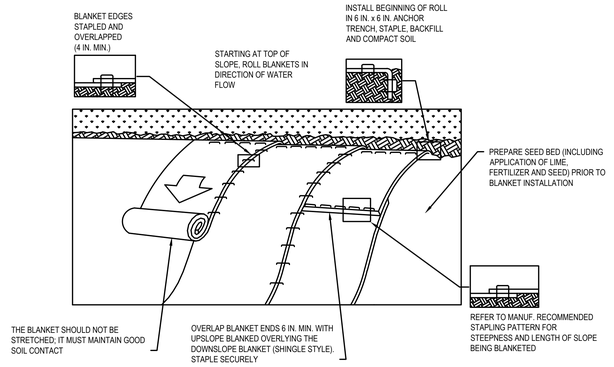
1. LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

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

2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL
PUMPED WATER FILTER BAG

NOT TO SCALE

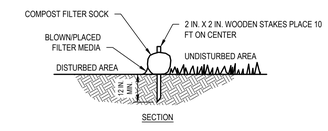


NOTES:

1. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
2. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
4. 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.
5. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. 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.

STANDARD CONSTRUCTION DETAIL
EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE



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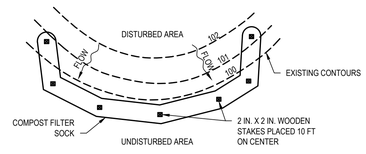

PLAN VIEW

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.

COMPOST FILTER SOCK MINIMUM SPECIFICATIONS (TABLE 4.1)					
MATERIAL TYPE MATERIAL CHARACTERISTICS	3 MIL HDPE	5 MIL HDPE	5 MIL HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
SOCK DIAMETER	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"	3/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 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	1 YEAR
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 AN NON-WOVEN FLEECE) MECHANICALLY FUSED (VIA NEEDLE PUNCH) 3/16" MAX. APERTURE SIZE				
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LESS THAN 6 MONTHS					

COMPOST STANDARDS (TABLE 4.2)	
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 ¾" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 DS/M(MMHOS/CM) MAXIMUM

COMPOST FILTER SOCK

NOT TO SCALE

CLIENT
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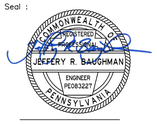
INDOOR PRACTICE AIR SUPPORTED STRUCTURE
building number:
crawford project number:
PSU project number:
00-09025.00
The Pennsylvania State University, University Park, PA

Seal :



Rev.	Date
COLLEGE Twp. REVISIONS	2024/03/08
ADDENDUM NO. 1	2024/03/13

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04/15/24
ISSUED FOR BID

Title :

EROSION & SEDIMENT CONTROL DETAILS

C109

sheet no.

EROSION AND SEDIMENT POLLUTION CONTROL PLAN GENERAL NOTES

IN ADDITION TO THE SPECIFIC PROCEDURES FOR EROSION AND SEDIMENT CONTROL OUTLINED IN SUBSEQUENT SECTIONS, ADHERE TO THE FOLLOWING GENERAL REQUIREMENTS.

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY AND PTC REPRESENTATIVE SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.

2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF THE CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.

3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBING ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE CENTRE COUNTY CONSERVATION DISTRICT PRIOR TO IMPLEMENTATION.

5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.

6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING, AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THE E&S PLAN.

7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.

8. TOPSOIL AND EXCESS MATERIAL TO BE REMOVED FROM SITE IMMEDIATELY AS THERE IS NO LOCATION FOR SOIL AND MATERIAL STOCKPILING ON SITE.

9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.

10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE § 260A, 271, AND 287. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN, APPROVED BY THE LOCAL CONSERVATION DISTRICT DEP, FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.

12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON THE SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.

13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.

14. VEHICLES AND EQUIPMENT MUST ENTER AND EXIT THE PROPOSED SITE VIA THE ROCK CONSTRUCTION ENTRANCE ONLY.

15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING, AND RE-NETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

16. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.

17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

18. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.

19. AREAS WHICH ARE TO BE TOP SOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES (6 TO 12 INCHES ON COMPACTED SOILS) PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM OF 6 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUT SLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.

20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9-INCHES IN THICKNESS.

22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.

23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

24. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.

25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISH GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.

27. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISH GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.

28. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.

29. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT DEP.

30. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.

31. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMP'S SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID RE-VEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATION SEASON.

32. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.

33. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

PRE CONSTRUCTION SEQUENCE STANDARD PLAN NOTES

1. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES (INCLUDING CLEARING AND GRUBBING), THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, A REPRESENTATIVE OF PSU ENGINEERING SERVICES, AND A REPRESENTATIVE FROM THE CENTRE COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.

2. UPON INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMPS AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT.

3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED BY THE CENTRE COUNTY CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION. EACH STEP OF THE DEQUENCE SHALL BE COMPLETED BEFORE PROCEEDING TO THE NEXT STEP, EXCEPT WHERE NOTED.

SEQUENCE OF CONSTRUCTION FOR EROSION AND SEDIMENT CONTROL

1. MARK OUT THE LIMIT OF DISTURBANCE AS SHOWN ON THE PLAN.

2. INSTALL THE ROCK CONSTRUCTION ENTRANCE AND STONE INLET PROTECTION ON THE INLET ADJACENT TO THE ROCK CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN.

3. INSTALL COMPOST FILTER SOCK PERIMETER CONTROLS PRIOR TO MASS GRADING THE PROJECT SITE. INSTALL INLET FILTER MATS, AND STONE INLET PROTECTION AS DIRECTED ON THE EXISTING PERIMETER INLETS PRIOR TO SITE GRADING.

4. MASS GRADE THE PROJECT SITE TO LIMITS SHOWN ON PLAN. BEGIN BY CONSTRUCTING THE INDOOR PRACTICE AIR SUPPORTED STRUCTURE PAD SLOPES AS SHOWN ON THE PLANS. PRESERVE EXISTING VEGETATION IN AREAS OUTSIDE OF THE LIMIT OF DISTURBANCE TO SERVE AS VEGETATED FILTER STRIP.

5. INSTALL AND UTILIZE THE CONCRETE WASHOUT AREA DURING ALL CONCRETE INSTALLATION ACTIVITIES. MAINTAIN THE CONCRETE WASHOUT AREA A MINIMUM DISTANCE OF 50 FEET FROM ALL EXISTING OR PROPOSED INLETS.

6. IMMEDIATELY STABILIZE SLOPES BY APPLYING EROSION CONTROL BLANKET ON ALL SLOPES 3:1 OR STEEPER, AS SLOPE IS BEING CONSTRUCTED. SEED AND SOIL AMENDMENTS, IF NECESSARY, SHALL BE APPLIED PRIOR TO INSTALLATION OF THE BLANKET. TEMPORARILY SEED SLOPES UTILIZING THE SEED MIX IN ACCORDANCE WITH THE PLAN SPECIFICATIONS UPON CESSATION OF WORK EXCEEDING 4 DAYS.

7. FERTILIZE, SEED, AND MULCH ALL DISTURBED AREAS WITH PERMANENT SEEDING MIX IN ACCORDANCE WITH SEEDING SPECIFICATION ON PLAN. LONG, STEEP CUTS AND FILL SLOPES SHOULD BE SEEDED AND MULCHED IN 15' VERTICAL INCREMENTS. ALL CUT AND FILL SLOPES SHOULD BE STABILIZED BY SEEDING AND MULCHING WITHIN 24 HOURS OF REACHING FINAL GRADE. AS GRADED AREAS APPROACH FINAL GRADE, PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN. IN NO CASE SHOULD AN AREA EXCEEDING 15,000 SQUARE FEET REACH FINAL GRADE WITHOUT BEING SEEDED AND MULCHED.

8. ALL BMPS ARE TO REMAIN OPERATIONAL. THEY ARE TO BE INSPECTED WEEKLY, AND IMMEDIATELY AFTER EACH RUNOFF EVENT EXCEEDING 0.25 INCHES IN 24 HOURS. REPAIR OR REPLACEMENT OF THE BMPS WILL BE DONE TO ENSURE EFFECTIVE AND EFFICIENT OPERATION. DOCUMENTATION MUST BE KEPT ON EACH BMP INSPECTION, REPAIRS, REPLACEMENTS, AND ALL MAINTENANCE ACTIVITIES.

9. ONCE PERMANENT STABILIZATION IS ACHIEVED, REMOVE ALL TEMPORARY E&S BMPS INCLUDING BUT NOT LIMITED TO COMPOST FILTER SOCKS AND INLET FILTER MATS. WHERE THE COMPOST FILTER SOCKS WERE UTILIZED THEY DO NOT NEED TO BE REMOVED UNLESS REQUESTED BY THE LAND OWNER. THEY SHOULD BE ACCESSED ON FOOT AND CUT OPEN BY HAND. THE FILLING MATERIAL SHALL BE SPREAD OUT TO BE NO GREATER THAN 3 INCHES IN DEPTH. VEGETATED AREAS ARE CONSIDERED STABILIZED WHEN A UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES HAS BEEN ACHIEVED.

10. IMMEDIATELY SEED AND MULCH ANY AREA DISTURBED DURING THE REMOVAL OF ANY BMPS.

SITE STABILIZATION

THE SITE SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF RAIN FALL EVENT OF 0.25 INCHES. IF ANY SIGNS OF RUTTING OCCUR FROM RAINFALL, THESE AREAS SHALL BE REPAIRED ACCORDING TO PTC SPECIFICATIONS AND RE-GRADED. AS SOON AS SLOPES AND DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED. ALSO, UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED.

STABILIZE ALL DISTURBED AREAS IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUB-AREA OF THE PROJECT. DURING NON-GERMINIZING MONTHS, APPLY MULCH OR PROTECTIVE BLANKET AS DESCRIBED IN THE PLAN. STABILIZE AREAS NOT AT FINISHED GRADE THAT WILL BE REACTIVATED WITHIN ONE YEAR IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.

GENERAL EROSION AND SEDIMENTATION CONTROL METHODS/PROCEDURES

IN ALL CASES THE SMALLEST PRACTICAL AREA OF LAND SURFACES SHALL BE DISTURBED.

EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS.

ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY EXISTING STORM DRAIN OR DITCH THROUGH USE OF COMPOST FILTER SOCK, EROSION CONTROL MATTING, AND SITE STABILIZATION MEASURES.

ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THE PROPOSED ROCK CONSTRUCTION ENTRANCES.

MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL FACILITIES

ALL EROSION AND SEDIMENTATION CONTROL FACILITIES MUST BE MAINTAINED IN OPERATING CONDITION INCLUDING REPLACEMENT OF PLUGGED SEDIMENT SOCK, UNTIL UPSTREAM AREAS ARE STABILIZED WITH A MINIMUM OF 70% PERENNIAL UNIFORM VEGETATED GROUND COVER.

EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RUNOFF EVENT EXCEEDING 0.25 INCHES IN 24 HOURS, AND ON A WEEKLY BASIS. SEDIMENT SOCK SHALL BE INSPECTED FOR SEDIMENT BUILDUP, PROPER PLACEMENT AND OPERATION, AND SOCK CONDITION. IF THE SOCK IS FOUND TO BE DAMAGED, TORN, OR MALFUNCTIONING, REPAIRS SHALL BE COMPLETED WITHIN 1 WORK DAY. ROCK CONSTRUCTION ENTRANCES AND WASH RACKS SHALL BE INSPECTED TO ENSURE ROCK PLACEMENT REMAINS EFFECTIVE, WASH RACK GRATE IS OPERABLE, AND WASH RACK RUNOFF COLLECTION AREA IS FUNCTIONING TO EFFECTIVELY COLLECT, FILTER, AND DISCHARGE WATER.

SEDIMENT AT SEDIMENT SOCK MUST BE REMOVED WHEN ACCUMULATIONS REACH ½ THE ABOVE GROUND HEIGHT OF THE SOCK.

SEDIMENT AT WEIGHTED COMPOST SEDIMENT FILTER TUBES MUST BE REMOVED WHEN ACCUMULATIONS REACH ½ THE ABOVE GROUND HEIGHT OF THE TUBE WITHIN THE CHANNEL.

SEDIMENT REMOVED FROM SEDIMENT SOCK SHALL BE PLACED IN A DESIGNATED TOPSOIL STOCKPILE AREA.

EROSION CONTROL MATTING SHALL BE INSPECTED TO ENSURE PROPER PLACEMENT, ADEQUATE ADHERENCE TO SOIL, AND EFFECTIVE GROWING RATES PER MANUFACTURERS INSTRUCTIONS. REPAIRS TO TORN, MISSING, OR DAMAGED BLANKET SHALL BE REPLACED, ALONG WITH RESEEDING, WITHIN 4 CALENDAR DAYS.

SEEDING AND MULCHING

SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS WITHIN 24 HOURS OF REACHING FINAL GRADE.

TEMPORARY SEED MIXTURE SHALL BE AS FOLLOWS:

FORMULA AND SPECIES	% BY MASS	MINIMUM % PURITY	MINIMUM % GERMINATION	SEED	WEED LB/1000 S.Y.	SEEDING RATE
FORMULA E----------						20.0 TOTAL
ANNUAL RYEGRASS (LOLIUM MULTIFLORUM)	100	98	90		0.15	20.0

PERMANENT MOWED SEED MIXTURE SHALL BE AS FOLLOWS (ALL LAWN AREAS WITH LESS THAN 3:1 SLOPE):

FORMULA AND SPECIES	% BY MASS	MINIMUM % PURITY	MINIMUM % GERMINATION	SEED	WEED LB/1000 S.Y.	SEEDING RATE
FORMULA B----------						20.0 TOTAL
PERENNIAL RYEGRASS MIXTURE (LOLIUM PERENNE). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL RYEGRASS COMPONENT.	20	98	90		0.15	8.0
CREEPING RED FESCUE OR CHEWINGS FESCUE	30	98	85		0.15	12.0
KENTUCKY BLUEGRASS MIXTURE (POA-PRATENSIS). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 25% OF THE TOTAL BLUEGRASS COMPONENT.	50	98	80		0.20	22.0

SITE SOILS TESTING IS RECOMMENDED TO DETERMINE SOIL AMENDMENT NEEDS AND RATES. SOIL AMENDMENTS INCLUDING LIME AND FERTILIZER SHALL BE APPLIED IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 804.

MULCHING SHALL CONSIST OF STRAW AND IS TO BE APPLIED IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 805, APPLIED AT A RATE OF 140 LBS/1000 SF. STRAW MULCH SHOULD BE ANCHORED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. STRAW MULCH MAY BE UTILIZED AS TEMPORARY STABILIZATION OF DISTURBED AREAS IN NON-GERMINATING SEASONS.

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Rev.	Date
COLLEGE Twp REVISIONS	2024/03/08
ADDENDUM NO. 1	2024/03/13

No.	
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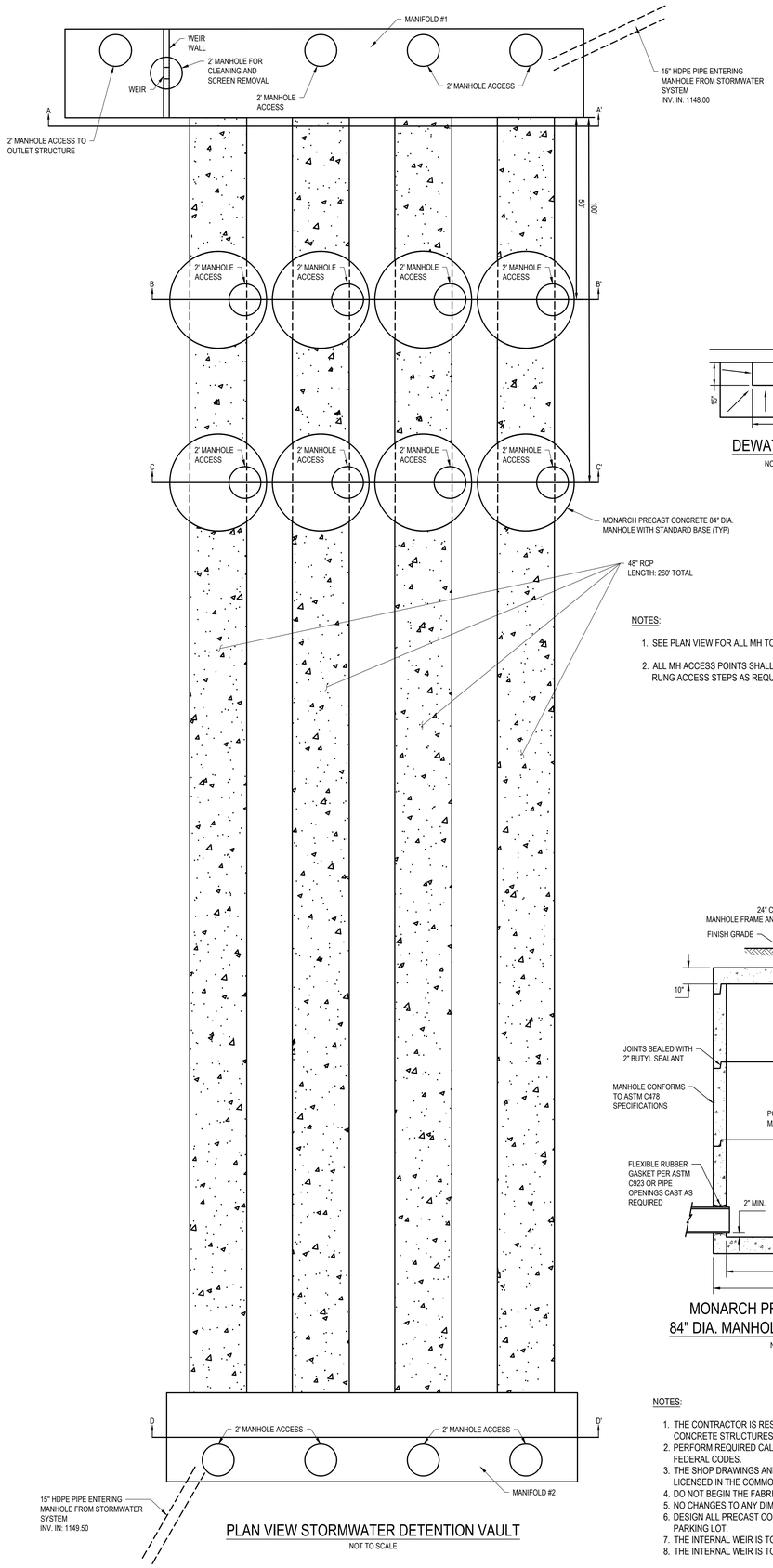
04/15/24
ISSUED FOR BID

Title :

EROSION & SEDIMENT CONTROL NOTES

C110

sheet no.

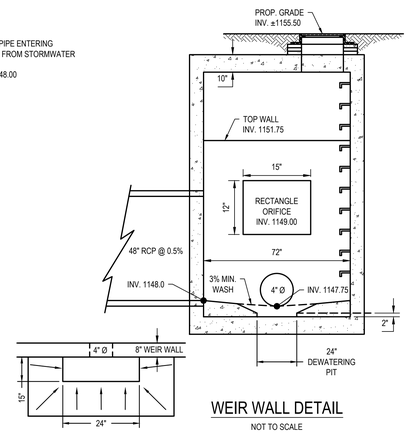


PLAN VIEW STORMWATER DETENTION VAULT

NOT TO SCALE

NOTES:

1. SEE PLAN VIEW FOR ALL MH TOP ELEVATION.
2. ALL MH ACCESS POINTS SHALL ALSO HAVE LADDER RUNG ACCESS STEPS AS REQUIRED.*

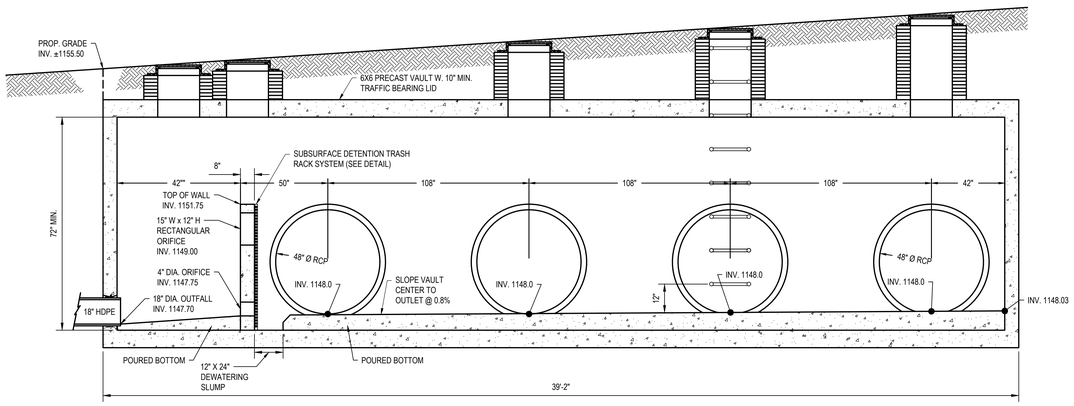


DEWATERING PIT

NOT TO SCALE

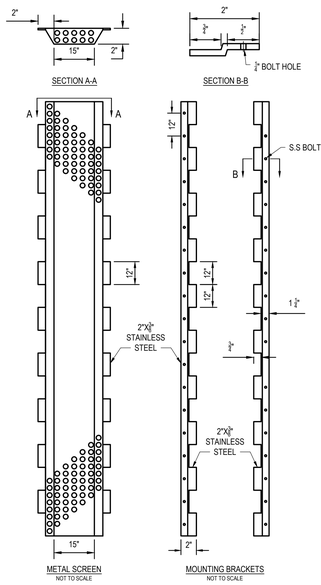
WEIR WALL DETAIL

NOT TO SCALE



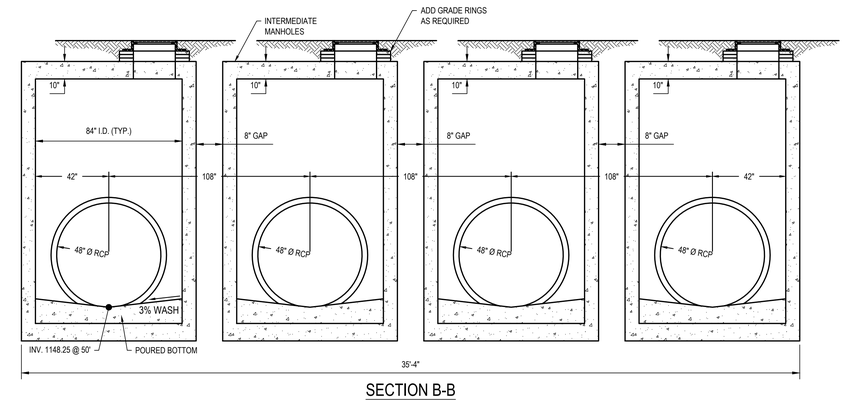
SECTION A-A (MANIFOLD #1 / CONTROL STRUCTURE

NOT TO SCALE



SUBSURFACE DETENTION TRASH RACK SYSTEM

NOT TO SCALE



SECTION B-B

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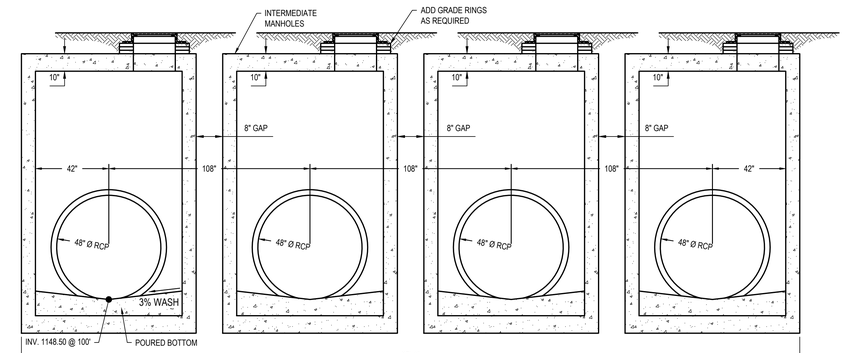

SECTION C-C

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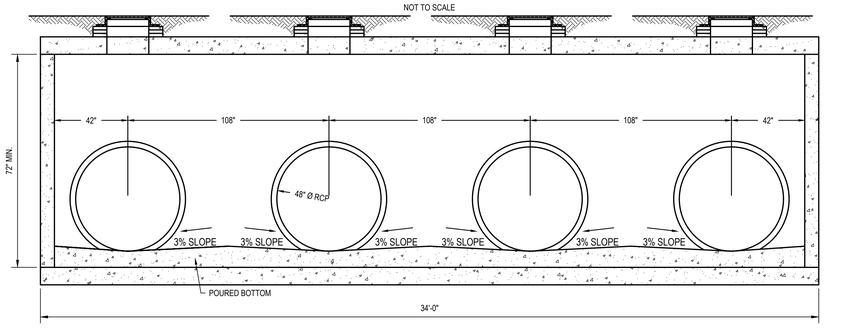
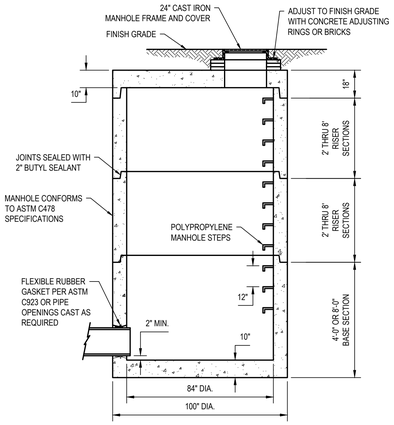


SECTION D-D (MANIFOLD #2)

NOT TO SCALE



MONARCH PRECAST CONCRETE 84" DIA. MANHOLE W/ STANDARD BASE

NOT TO SCALE

NOTES:

1. THE CONTRACTOR IS RESPONSIBLE TO SUBMIT SHOP DRAWINGS AND CALCULATIONS TO THE CLIENT REPRESENTATIVE FOR ALL PRECAST CONCRETE STRUCTURES.
2. PERFORM REQUIRED CALCULATIONS IN ACCORDANCE WITH ALL APPLICABLE CODES INCLUDING ANY APPROPRIATE LOCAL, STATE, AND FEDERAL CODES.
3. THE SHOP DRAWINGS AND CALCULATIONS ARE REQUIRED TO BE COMPLETED, SIGNED, SEALED, AND DATED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA.
4. DO NOT BEGIN THE FABRICATION PROCESS UNTIL APPROVED SHOP DRAWINGS ARE RECEIVED FROM THE CLIENT REPRESENTATIVE.
5. NO CHANGES TO ANY DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS WILL BE PERMITTED.
6. DESIGN ALL PRECAST CONCRETE STRUCTURES USING ALL APPLICABLE LOADS, INCLUDING THE FUTURE ADDITION OF AN OVERLAYING PARKING LOT.
7. THE INTERNAL WEIR IS TO BE CAST-IN-PLACE CONCRETE ALL OTHER CONCRETE IS TO BE PRECAST CONCRETE.
8. THE INTERNAL WEIR IS TO BE DESIGNED AND DETAILED ON THE SHOP DRAWINGS.

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00-09025.00

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Seal :

COMMONWEALTH OF PENNSYLVANIA
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Title :

PCSM DETAILS

C111

sheet no.

IPASS STORMWATER SYSTEM OPERATIONS AND MAINTENANCE PLAN/PROGRAM

THE OWNER SHALL BE RESPONSIBLE FOR ENSURING THE PROPER OPERATION AND FUNCTION OF THE STORMWATER FACILITIES LOCATED ON THE PROPERTY. THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING THE STORMWATER FACILITIES ON THE PROPERTY IN PERPETUITY. THIS PLAN INCLUDES DESIGN AND SPECIFICATIONS FOR POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) NARRATIVE. THE OPERATION AND MAINTENANCE PROGRAM SHALL INCLUDE THE FOLLOWING:

1. SCHEDULE OF INSPECTIONS

   DURING THE FIRST YEAR OF OPERATION, THE OWNER SHALL COMPLETE QUARTERLY INSPECTIONS AS WELL AS INTERMITTENT INSPECTIONS WITHIN 24 HOURS OF SIGNIFICANT STORM EVENTS EXCEEDING THE 10 YR. STORM, (I.E. 3.83" OR MORE OF RAIN IN A 24 HR. PERIOD) OF THE FOLLOWING DEVICES:

   - ABOVE GROUND STORAGE DEVICES SHALL BE CHECKED FOR PROPER STABILIZATION, EROSION, PONDING, TRASH, AND THE ACCUMULATION OF SEDIMENT AND DEBRIS.
   - ALL INLETS CONTRIBUTING TO THE UG PCSM STORAGE DEVICE SHALL BE INSPECTED FOR FILTER SCREEN CONDITION. INLETS SHALL BE INSPECTED FOR PONDING AS A RESULT OF THE ACCUMULATION OF SEDIMENT AND DEBRIS. ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED.
   - IN LINE MANHOLES (MH) SHALL BE INSPECTED FOR PONDING, AND THE ACCUMULATION OF SEDIMENT AND DEBRIS. A VISUAL INSPECTION OF THE MH STRUCTURES SHALL ALSO BE CONDUCTED FROM THE SURFACE.
   - UG PCSM STORAGE DEVICE/CONTROL STRUCTURE INCLUDING BOTH MANIFOLDS (VAULTS) SHALL BE INSPECTED FOR PONDING, CONDITION OF THE TRASH RACK, FUNCTIONING OF THE ORIFICE OPENINGS AND THE ACCUMULATION OF SEDIMENT AND DEBRIS ABOVE AND BELOW THE WEIR WALL. A VISUAL INSPECTION OF THE VAULT STRUCTURES SHALL ALSO BE CONDUCTED FROM THE SURFACE.

   RECORDS OF THE ABOVE INSPECTIONS SHALL BE KEPT, AND ANY DEFICIENCIES FOUND REFERRED TO THE APPROPRIATE QUALIFIED PERSONNEL FOR ACTION. PHYSICAL ENTRY INTO THE MH'S OR VAULTS SHALL BE CONSIDERED AS CONFINED SPACE ENTRY, AND SHALL BE EXECUTED UNDER STRICT GUIDANCE AND SAFETY PROTOCOLS AS REQUIRED BY THE PSU OPP OR THEIR RESPONSIBLE DESIGNEE.

   UPON COMPLETION OF THE FIRST YEAR, AND DEPENDING ON FUNCTIONING OF THE SYSTEM COMPONENTS, THE ROUTINE INSPECTION FREQUENCY MAY BE ADJUSTED TO BI-ANNUAL. AND THEN ANNUAL AS SYSTEM PERFORMANCE IS BETTER UNDERSTOOD. INSPECTIONS FOLLOWING SIGNIFICANT STORM EVENTS SHALL CONTINUE TO BE COMPLETED WITHIN THE 24HR PERIOD FOLLOWING THE STORM EVENT.

2. THE OWNER SHALL BE RESPONSIBLE TO REMOVE ANY ACCUMULATION OF DEBRIS FROM THE UNDERGROUND STORMWATER MANAGEMENT AREAS AND KEEP THE OUTLET ORIFICES FREE OF DEBRIS. THE TRASH RACKS IN THE CONTRIBUTING INLETS SHALL ALSO BE INSPECTED FOR OPERABILITY AND CLEANED OR REPLACED IF TRASH/DEBRIS BUILDUP EXISTS. THE STORMWATER VAULT SYSTEM IS SLOPED AT 0.5% TOWARDS THE OUTLET STRUCTURE AND CAN BE ACCESSED BY MANHOLES LOCATED AT EACH END OF THE STORMWATER SYSTEM, 50 FEET FROM THE OUTLET, AND 100 FEET FROM THE OUTLET. AT LEAST ONCE YEARLY, SEDIMENT SHALL BE VACUUMED FROM THE SYSTEM UTILIZING VAC-TRUCK OR SIMILAR SEDIMENT/DEBRIS REMOVAL SERVICES.

3. DETENTION AREAS THAT DO NOT DRAIN WITHIN THE EXPECTED DETENTION TIME FRAME SHALL BE EVALUATED BY A QUALIFIED ENGINEER PRIOR TO INITIATING ANY REPAIR AND/OR RECONSTRUCTION ACTIVITIES.

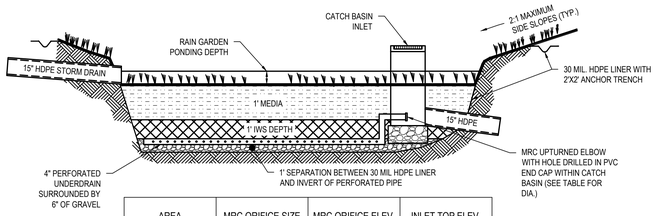
4. THE OWNER SHALL REMOVE TRASH AND/OR LITTER FROM SUCH OUTLETS DURING PERIODS BETWEEN STORM EVENTS. MAN-MADE TRASH REMOVED FROM ANY FACILITY SHALL BE DISPOSED OF PROPERLY IN CONTAINERS COLLECTED BY A LICENSED COMMERCIAL TRASH HAULER. AN UNDERDRAIN IS FITTED TO THE MRC OUTLET STRUCTURE CONSISTING OF 4" PERFORATED PIPE. THIS UNDERDRAIN SHALL BE INSPECTED AT LEAST ONCE YEARLY FOR CRACKS OR OTHER ORIFICES CAUSING CLOGGING OR INHIBITION OF THE MRC OUTLET. THE MRC OUTLET CONSISTING OF A PVC CAP ON THE OUTLET SIDE OF THE WEIR PLATE SHALL ALSO BE INSPECTED AT LEAST ONCE YEARLY FOR CRACKING OR CLOGGING, WHICH WOULD PREVENT THE SYSTEM FROM DEWATERING SMALLER STORM EVENTS THROUGH THE UNDERDRAIN.

5. A WRITTEN REPORT DOCUMENTING EACH INSPECTION SHALL BE RETAINED BY THE DESIGNEE, INCLUDING THE DATE OF INSPECTION, LIST OF ITEMS INSPECTED, NAME AND ORGANIZATION OF THE PERSON DOING THE INSPECTION, AND A LIST OF MAINTENANCE CORRECTION TASKS PERFORMED.

6. ANY STRUCTURAL DEFICIENCIES FOUND WITHIN THE FACILITY MUST BE REPAIRED OR REPLACED IN A TIMELY MANNER. THE OWNER SHALL KEEP A RECORD OF ANY REPAIRED OR REPLACED FACILITY INCLUDING COSTS, DATES, MATERIALS REMOVED, AND THE CONTRACTOR INFORMATION.

7. THE DESIGNEE SHALL IMMEDIATELY NOTIFY THE CENTRE COUNTY CONSERVATION DISTRICT PRIOR TO INITIATING ANY "MAJOR" REPAIR ACTIVITIES (SUCH AS REPAIRS THAT EXCEED 72 HOURS THAT INVOLVE THE FACILITY TO NOT FUNCTION AS DESIGNED WITHIN THE REPAIR PERIOD). ALL "MAJOR" REPAIRS SHALL BE CONDUCTED UNDER THE DIRECTION AND SUPERVISION OF A QUALIFIED ENGINEER.

8. ALL IMPERVIOUS SURFACES SHALL BE MAINTAINED CLEAN OF OIL, FUEL, OR OTHER TOXIC SPILLS, IN ACCORANCE WITH STATE, FEDERAL, AND LOCAL REGULATIONS.

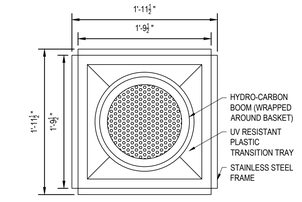


AREA	MRC ORIFICE SIZE	MRC ORIFICE ELEV.	INLET TOP ELEV.
#1	0.5"	1153.00'	1154.50'
#2	0.5"	1156.00'	1158.25'
#3	0.5"	1156.00'	1158.60'

MRC WATER QUALITY AREA

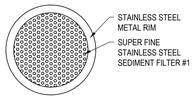
NOT TO SCALE

CLEARSTREAM STORMWATER SYSTEMS



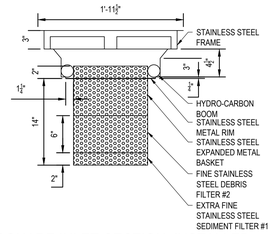
24" SQUARE INLET-PLAN VIEW: INSTALLED

NOT TO SCALE



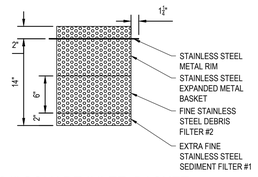
24" SQUARE INLET: BASKET - TOP VIEW

NOT TO SCALE



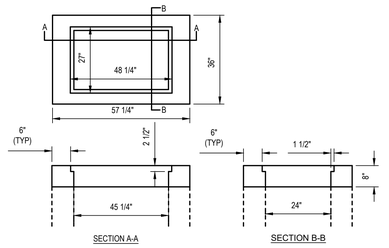
24" SQUARE INLET-SECTION: INSTALLED

NOT TO SCALE

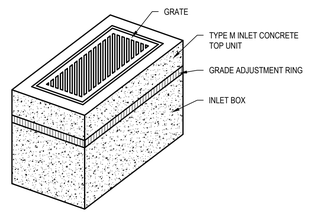


24" SQUARE INLET: BASKET

NOT TO SCALE



PENNDOT TYPE "M" INLET TOP



NOTES:

1. PLACE INLET BOXES ON LEVEL SURFACE UNLESS OTHERWISE DIRECTED. CONSTRUCT OR PLACE INLET BOXES ON A SUBBASE CONSTRUCTED OF COMPACTED NO. 2A COARSE AGGREGATE. PLACE AND COMPACT IN 4" LAYERS TO PROVIDE 1'-0" MINIMUM DEPTH.
2. CONNECT PIPES TO INLET BOXES WITH MORTAR OR WATERTIGHT RUBBER FLEXIBLE CONNECTORS.
3. FORM BOTTOM OF INLET USING CLASS A CEMENT CONCRETE TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE.
4. BACKFILL EXCAVATED SPACES AROUND THE STRUCTURE WITH ACCEPTABLE FILL MATERIAL.
5. INLET SPECIFICATIONS AND INSTALLATIONS SHALL COMPLY WITH PUBLICATION 72, RC45-M, SHEET 1 & 2.
6. INLET 1 TO HAVE HEEL PROOF GRATE. INLET 2 TO HAVE PA DOT BICYCLE SAFE GRATE.
7. ALL INLETS TO HAVE PENNDOT TYPE BICYCLE SAFE GRATES.

PENNDOT TYPE "M" INLET

NOT TO SCALE

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number:
crawford project number:
PSU project number: 00-09025.00

The Pennsylvania State University, University Park, PA

Seal :

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
JEFFERY R. BAUGHMAN
ENGINEER
PE083227
COMMONWEALTH OF PENNSYLVANIA

No.	Rev.	Date
01	COLLEGE Twp. REVISIONS	2024/03/08
02	ADDENDUM NO. 1	2024/03/13

04/15/24
ISSUED FOR BID

Title :

PCSM DETAILS 2

C112

sheet no.

GENERAL PLANTING NOTES:

1. LAYOUT OF PLANTS PRIOR TO PLANTING SHALL BE VERIFIED BY LANDSCAPE ARCHITECT.
2. PRIOR TO PLANTING, TREES SHALL BE INSPECTED BY LANDSCAPE ARCHITECT FOR INJURY TO TRUNKS, EVIDENCE OF INSECT INFESTATION, OR IMPROPER PRUNING.
3. ALL ROPES, STAVES, OR OTHER BINDINGS SHALL BE CUT OFF THE TOPS AND SIDES OF THE BALLS AND REMOVED FROM PITS. ALL ROT-PROOF, ROT-RESISTANT, PLASTIC BURLAP AND TOP HALF OF WIRE BASKET (MINIMUM) BALL COVERINGS SHALL BE REMOVED BEFORE PLANTING.
4. DIAMETER OF PITS FOR TREES AND B&B SHRUBS SHALL BE AT LEAST 2 FEET GREATER THAN THE DIAMETER OF THE BALL OR SPREAD OF ROOTS. DIAMETER OF PITS FOR BARE-ROOTED TREES AND SHRUBS SHALL BE AT LEAST 1 FOOT GREATER THAN THE SPREAD OF ROOTS.
5. NEVER CUT LEADER. PRUNE TOP OF BARE-ROOTED SHRUBS AND LATERAL BRANCHES OF TREE TO BALANCE LOSS OF ROOTS RESULTING FROM DIGGING.
6. TOWNSHIP AS WELL AS LANDSCAPE ARCHITECT SHALL APPROVE SUBSTITUTIONS TO PLANT MATERIAL.
7. MAINTENANCE: THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE FOLLOWING MAINTENANCE ON ALL NEWLY PLANTED VEGETATION DURING THE ONE-YEAR GUARANTEE PERIOD:
   a. WATERING - DURING PERIODS OF INADEQUATE RAINFALL, ALL PLANT MATERIAL SHALL BE WATERED TO MAINTAIN A CONSTANT SUITABLE MOISTURE LEVEL FOR ADEQUATE PLANT GROWTH. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WATER HOSES. THE OWNER WILL SUPPLY THE WATER SOURCE.
   b. WEEDING - WEED CONTROL SHALL BE BY MECHANICAL MEANS. HERBICIDE USE IS ACCEPTABLE WITH OWNER APPROVAL.
   c. INSECT, DISEASE, AND WEED CONTROL - NO SPRAYING OF HERBICIDES, INSECTICIDES, FUNGICIDES, NEMATICIDES, FUMIGANTS OR OTHER CHEMICALS SHALL BE DONE WITHOUT FIRST SUBMITTING A SPRAY PROGRAM TO THE OWNER FOR APPROVAL. AFTER APPROVAL, APPLICATION WILL ONLY BE PERMITTED BY LICENSED APPLICATORS, APPLICATORS SHOULD FOLLOW NOTIFICATION REQUIREMENTS AND CONSULT ANY CHEMICAL HYPERSENSITIVITY REGISTRIES FOR THE AREA.
8. PLANT GUARANTEE AND REPLACEMENT:
   a. GUARANTEE - PLANTS SHALL BE GUARANTEED FOR ONE (1) YEAR AFTER PLANTING, AND SHALL BE ALIVE AND IN SATISFACTORY GROWTH AT THE END OF THE GUARANTEE PERIOD. PLANTS WHICH DIE WITHIN THE GUARANTEE PERIOD WILL BE REMOVED BY THE CONTRACTOR WITHIN TEN (10) DAYS OF NOTICE OR THE OWNER WILL REMOVE THE PLANTS AND BILL CONTRACTOR ACCORDINGLY. REPLACEMENT MATERIAL MAY BE INSTALLED DURING THE NEXT APPROPRIATE PLANTING SEASON. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED AND PLANTED AS SPECIFIED UNDER PLANTING. THE COST SHALL BE BORNE BY THE CONTRACTOR, EXCEPT FOR POSSIBLE REPLACEMENTS RESULTING FROM REMOVAL, LOSS OR DAMAGE DUE TO VANDALISM, OR ACT OF NEGLECT ON THE PART OF OTHERS.
9. FINAL INSPECTION AND ACCEPTANCE:
   a. AT THE END OF THE GUARANTEE PERIOD, INSPECTION WILL BE MADE BY THE LANDSCAPE ARCHITECT AND THE CONTRACTOR. ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR NOT IN SATISFACTORY GROWTH, AS DETERMINED BY THE LANDSCAPE ARCHITECT, SHALL BE REMOVED FROM THE SITE AND REPLACED AT THE CONTRACTOR'S EXPENSE, THESE PLANTS SHALL BE REPLACED AS SOON AS CONDITIONS PERMIT, BUT DURING THE NORMAL PLANTING SEASON.
10. ALL PLANTINGS LOCATED NEAR ELECTRICAL EQUIPMENT SHALL COMPLY WITH ALL PPL REQUIREMENTS.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING SCOPE FOR THE ENTIRE DURATION OF THE PROJECT:
   a. WATER PLANT MATERIALS WEEKLY.
   b. WEED PLANTING AREAS BI-WEEKLY. GRASS & WEEDS ARE NOT ALLOWED IN PLANTING AREAS.
12. PLANTING HOLE SHALL BE A MINIMUM OF FOUR TIMES (4X) WIDER AND THREE TIMES (3X) DEEPER THAN THE ROOT BALL IF SOLID ROCK IS ENCOUNTERED WHEN DIGGING THE HOLE. IF POSSIBLE, THE ROCK SHOULD BE FRACTURED TO ALLOW WATER TO DRAIN FROM THE ROOT SYSTEM.

PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	NATIVE
Gt	1	*Gleditsia triacanthos var. Inermis (Gt)*	HONEY LOCUST	2.5" CAL. 6' HT.	B&B	AS SHOWN	YES
Ls	1	*Liquidambar styraciflua Hapoldaze (Ls)*	SWEETGUM (FRUITLESS)	2.5" CAL. 6' HT.	B&B	AS SHOWN	YES
Bn	5	*Betula Nigra (Bn)*	RIVER BIRCH	2.5" CAL. MULTI STEM 6' HT.	B&B	AS SHOWN	YES
Po	1	*Plantanus occidentalis (Po)*	AMERICAN SYCAMORE	2.5" CAL. 6' HT.	B&B	AS SHOWN	YES
Qm	1	*Quercus montana (Qm)*	CHESTNUT OAK	2.5" CAL. 6' HT.	B&B	AS SHOWN	YES
J	41	*Juniperus x pfitzeriana sea green*	SEE GREEN JUNIPER	#5 CONT.	CONT.	AS SHOWN	YES
G	54	*Karl Foester Grass calamagrostis x acutiflora*	KARL FOESTER GRASS	1 GOL.	CONT.	AS SHOWN	NO
V	39	*Viburnum x Burkwoodii*	VIBURNUM BURKWOODII	3 GOL.	CONT.	AS SHOWN	YES
R	49	*Rose 'Radtko*	DOUBLE KNOCKOUT ROSE	2 GOL.	CONT.	AS SHOWN	YES

EXISTING LEGEND

EXISTING TREES TO REMAIN

EXISTING TREES TO REMAIN

MRC WATER QUALITY AREA

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENT
CS	27	CORNUS SERICEA 'FLAVIMAREA'	YELLOW TWIG DOGWOOD	2 GAL	48" OC	
SP	41	SALIX PURPUREA 'NANA'	PURPLE WILLOW	2 GAL	36" OC	
LS	24	LIATRIS SPICATA	MARSH BLAZING STAR	2 GAL	18" OC	
AH	36	AMSONIA HUBRICHTIL	THREAD LEAFED BLUESTAR	2 GAL	18" OC	
SR	41	SOLIDAGO RUGOSA 'FIREWORKS'	GOLDENROD	2 GAL	24" OC	
AL	31	ASTER LEAVIS	SMOOTH BLUE ASTER	2 GAL	18" OC	
EP	26	ECHINACEA PURPUREA	PURPLE CONEFLOWER	2 GAL	18" OC	
GROUNDCOVER GRASS MIX A (UPLAND)						
CV	4,800 SF	CAREX VULPINOIDEA	FOX SEDGE	2 GAL	12" OC	50% RANDOM DISTRIBUTION
EV	4,800 SF	ECHINACEA PURPUREA	PURPLE CONEFLOWER	2 GAL	12" OC	50% RANDOM DISTRIBUTION
GROUNDCOVER GRASS MIX B (LOWLAND)						
JE	2,885 SF	JUNCUS EFFUSUS	SOFT RUSH	2 GAL	12" OC	50% RANDOM DISTRIBUTION
JT	2,885 SF	JUNCUS TENUIS	PATH RUSH	2 GAL	12" OC	50% RANDOM DISTRIBUTION

CS CORNUS SERICEA
SP SALIX PURPUREA
LS LIATRIS SPICATA
AH AMSONIA HUBRICHTII
SR SOLIDAGO RUGOSA
AL ASTER LAEVIS
EP ECHINACEA PURPUREA
GRASS MIX A (UPLAND)
GRASS MIX B (LOWLAND)

LEGEND

PROPOSED BUILDING
SOCCER FIELD
G GAS
UE UNDERGROUND ELECTRIC
T UNDERGROUND TELECOMMUNICATION
FENCE
PROPOSED STROMWATER
STORM MANHOLE

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 INCH = 40 FT.

LS LANDSCAPE PLAN
1" = 40'-0"

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE
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The Pennsylvania State University, University Park, PA

Seal :

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Date

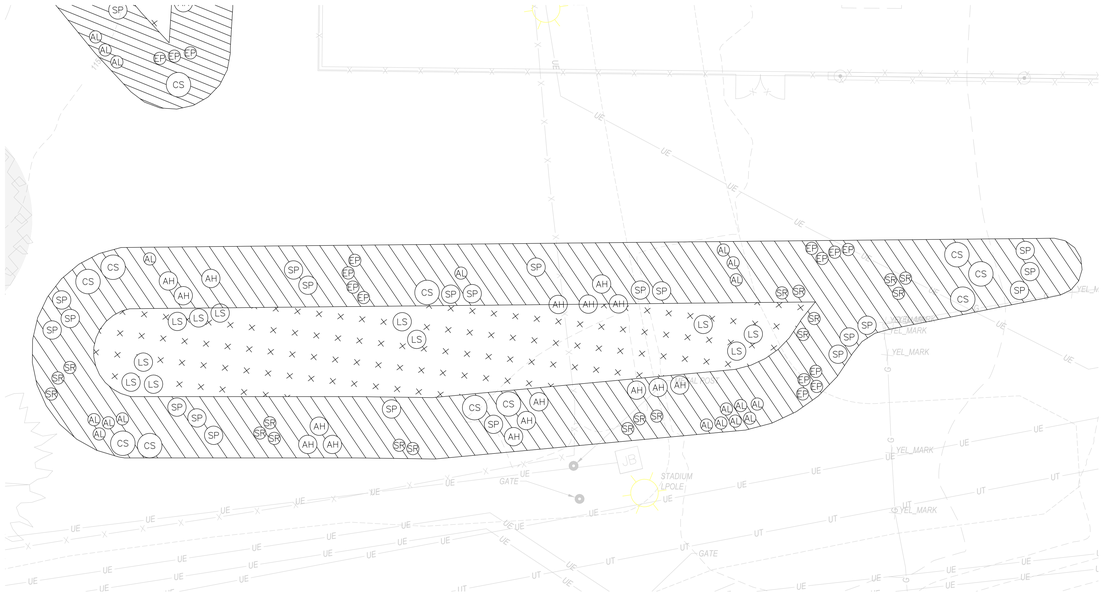
Rev.

No.

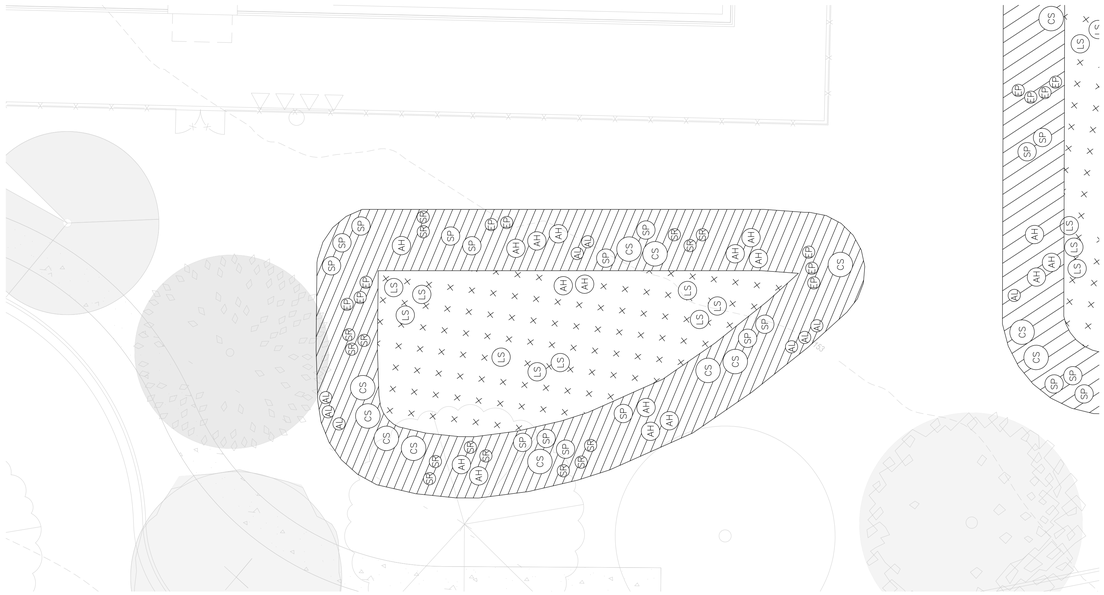
09/01/23
95% SCHEMATIC DESIGN

Title :
LANDSCAPE PLAN

LS-100
sheet no.



MRC WATER QUALITY AREA #1



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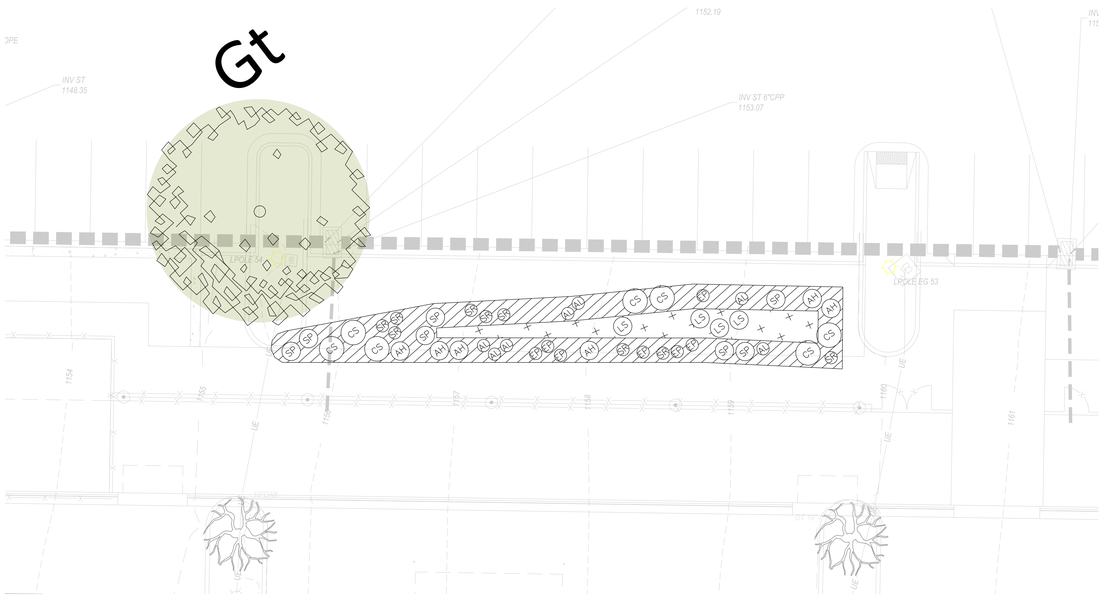

MRC WATER QUALITY AREA #3

MRC WATER QUALITY AREA						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENT
CS	27	CORNUS SERICEA 'FLAVIMAREA'	YELLOW TWIG DOGWOOD	2 GAL	48" OC	
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SR	41	'SOLIDAGO RUGOSA 'FIREWORKS'	GOLDENROD	2 GAL	24" OC	
AL	31	ASTER LEAVIS	SMOOTH BLUE ASTER	2 GAL	18" OC	
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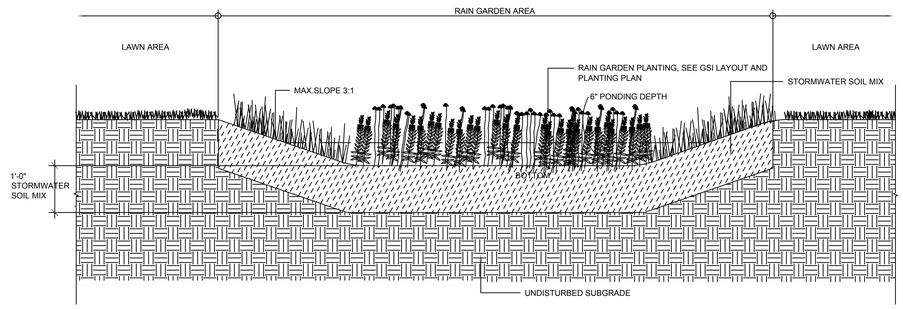
- (CS) CORNUS SERICEA
- (SP) SALIX PURPUREA
- (LS) LIATRIS SPICATA
- (AH) AMSONIA HUBRICHTII
- (SR) SOLIDAGO RUGOSA
- (AL) ASTER LAEVIS
- (EP) ECHINACEA PURPUREA
- GRASS MIX A (UPLAND)
- GRASS MIX B (LOWLAND)



SOIL PROFILE AT RAIN GARDEN - SECTION
NOT TO SCALE

LS LANDSCAPE PLAN
1" = 40'-0"

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Title
LANDSCAPE PLAN

LS-101
sheet no.

SEEDING NOTES

1. ALL TOPSOIL SHALL BE FREE OF STONES, LUMPS, PLANTS, ROOTS, AND OTHER DEBRIS OVER 1–1/2". TOPSOIL SHALL BE FREE OF WEEDS, WEED SEEDS, AND TOXIC SUBSTANCES THAT ARE HARMFUL TO PLANT GROWTH.

2. TOPSOIL SHALL BE FRIABLE LOAMY SOIL (AS CLASSIFIED BY THE U.S. DEPARTMENT OF AGRICULTURE, HANDBOOK NO. 18, SOIL SURVEY MANUAL), FREE OF SUBSOIL, ROOTS, GRASS, AND FOREIGN MATTER WITH AND ACIDITY RANGE OF 5.5 TO 7.5 AND CONTAINING A MINIMUM OF 3% AND A MAXIMUM OF 10% ORGANIC MATTER. NO MORE THAN 15% BY WEIGHT SHALL BE LARGER THAN A NO. 10 U.S. STANDARD SIEVE. TO THE EXTENT THAT ON–SITE MATERIAL MEETS THE REQUIREMENTS, SUCH MATERIAL MAY BY USED FOR TOPSOIL.

3. SOIL AMENDMENTS: TOPSOIL AMENDMENTS SHALL BE DETERMINED BY SOIL TESTS AND SHALL BE MADE BASED UPON THE DOMINANT VARIETY IN THE SEED MIX. WHERE SOIL TESTS INDICATE THAT THE TOPSOIL IS SUITABLE AS TESTED, NO ADDITIONAL AMENDMENTS ARE REQUIRED.

4. FERTILIZER: ALL FERTILIZER SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING, AND SUITABLE FOR APPLICATION BY MECHANICAL SPREADERS. ALL FERTILIZERS SHALL BE ORGANIC IN COMPOSITION.

5. LIME: LIME MATERIAL SHALL BE GROUND OR PULVERIZED LIMESTONE CONTAINING AT LEAST 50% TOTAL OXIDES, CALCIUM OXIDE PLUS MAGNESIUM OXIDE. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A 100–MESH SIEVE AND NOT LESS THAN 98% WILL PASS THROUGH A 20–MESH SIEVE.

6. MULCHING MATERIALS:
   A. STRAW: FREE OF ROT, MILDEW, NOXIOUS WEED SEEDS, AND SHALL BE SMALL GRAINED, SUCH AS WHEAT OR BARLEY. APPLY AT A RATE TO LIGHTLY COVER SOIL, APPROXIMATELY 100 LBS. PER 1,000 SF.

   B. CELLULOSE FIBER: PREPARED CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. THE MATERIAL SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE CELLULOSE FIBER MULCH WILL REMAIN UNIFORM IN SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER, AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. OTHER MULCHES, SUCH AS RECYCLED PAPER AND WOOD BLEND, RECYCLED PAPER, AND BINDING ACCESSORIES MAY BE UTILIZED AT THE CONTRACTOR'S DISCRETION.

LAWN MAINTENANCE

FERTILIZATION

EARLY SPRING:	1/2 LB. OF NITROGEN PER 1,000 S.F.
LATE SPRING:	3/4 LB. OF NITROGEN PER 1,000 S.F. 1/4 LB. OF POTASH PER 1,000 S.F.
EARLY FALL:	3/4 LB. OF NITROGEN PER 1,000 S.F. 1/4 LB. OF PHOSPHORUS PER 1,000 S.F. 1/2 LB. OF POTASH PER 1,000 S.F. (50% OF FERTILIZER COMPOSITION SHALL BE SLOW RELEASE)
LATE FALL:	1 LB. OF NITROGEN PER 1,000 S.F. 1/4 LB. OF PHOSPHORUS PER 1,000 S.F. 1/2 LB. OF POTASH PER 1,000 S.F.

WEED CONTROL
1. APPLY PRE–EMERGENT CRABGRASS CONTROL WITH EARLY SPRING FERTILIZATION.
2. APPLY BROADLEAF WEED CONTROL AND PRE–EMERGENT WEED CONTROL (AT 1/2 RATE) WITH LATE SPRING FERTILIZATION.

MOWING
1. DO NOT CUT NEW LAWNS LESS THAN 3–INCHES. GRASS SHOULD NEVER BE CUT (LAWNS) AT LESS THAN 2 1/2–INCHES. BLADES SHALL BE SHARP TO AVOID TEARING GRASS LEAF.

WARRANTY

CONTRACTOR SHALL FOR A PERIOD OF ONE YEAR, REBUILD, REPAIR, OR REPLACE AND AREAS OF LAWN THAT ARE DEFECTIVE IN ANY WAY.

PLANTING NOTES

STANDARD
1. ALL PLANT MATERIAL SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI 260.1–NURSERY STOCK.

2. ALL PLANT MATERIAL SHALL BE PROVIDED FROM NURSERIES THAT HAVE BEEN STATE CERTIFIED BY STATE PLANT INSPECTORS.

MUNICIPAL STANDARDS
1. DECIDUOUS TREES SHALL HAVE A MINIMUM CALIPER MEASUREMENT OF 2 1/2" MEASURED SIX–INCHES ABOVE THE SOIL LINE.

2. CONIFEROUS TREES SHALL HAVE A MINIMUM HEIGHT OF 6'.

3. EVERGREEN SHRUBS, EXCEPT FOR THOSE USED AS LOW GROUND COVERS, SHALL HAVE AN AVERAGE HEIGHT OF 20".

4. DECIDUOUS SHRUBS SHALL HAVE AN AVERAGE HEIGHT OF 30".

5. TREES WITH LESS THAN 3" CALIPER SHALL BE PROPERLY STAKED OR TREES WITH MORE THAN 3" CALIPER SHALL BE GUYED AND PROPERLY PROTECTED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF PLANTING.

6. ANY NYLON ROPE USED IN BALLING THE TREE MUST BE CUT AND REMOVED FROM THE ROOT BALL.

7. SCREENING MATERIALS PLACED IN REQUIRED BUFFER YARDS SHALL CONFORM TO SECTION 200–36 OF COLLEGE TOWNSHIP ORDINANCE.

PRUNING AND TRIMMING
1. CONIFEROUS EVERGREENS: JULY 1st TO AUGUST 15th–NEVER CUT THE LEADER OFF THE TREE.
2. EVERGREEN SHRUBS: TRIM ONLY WHEN NEW GREEN GROWTH IS THE SAME COLOR AS THE OLDGREEN GROWTH. REMOVE ONLY NEW GROWTH IN LATE JUNE AND THE END OF JULY AND THE SECOND CUTTING SHOULD BE DONE IN SEPTEMBER AND OCTOBER.
3. LEAF PLANTS: PRUNE AS NEEDED AFTER THE BLOOM IS OVER. REMOVE 1/2 OF THE NEW GROWTH IN LATE MAY OR JUNE.
4. SHADE & FLOWERING TREES: REMOVE DEAD LIMBS AT ANY TIME. PRUNE OR CUT BACK TO KEEP THE SIZE AFTER THE LEAVES HAVE DROPPED OFF OF THE TREE AROUND LATE OCTOBER TO EARLY MARCH.

FERTILIZER
1. ALL FERTILIZER SHALL BE GRANULAR PILL, PACKET, OR PELLET WITH 35% TO 80% OF THE TOTAL NITROGEN IN SLOW RELEASE FORM.
2. FERTILIZER SHALL BE COMPLETE WITH A MINIMUM ANALYSIS OF 10% NITROGEN, 6% PHOSPHORUS, AND 4% POTASSIUM.
3. FERTILIZER SHALL BE ADDED, EXCEPT WHEN COMPOST IS USED TO AMEND SOIL, DEPENDING ON THE SIZE OF THE PLANT AND THE MANUFACTURER'S RECOMMENDATION. THE FOLLOWING ARE RECOMMENDED APPLICATION RATES:
   A. TREES: 1 TO 3 LBS. OF ACTUAL NITROGEN IN COMPLETE FERTILIZER PER 100 S.F. OF TREATED AREA.
   B. SHRUBS: 1/2 LB. OF ACTUAL NITROGEN CONTAINED IN COMPLETE FERTILIZER PER 100 S.F. OF BED AREA.

PLANT MAINTENANCE

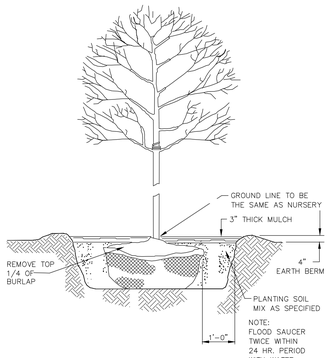
1. NEWLY PLANTED TREES AND SHRUBS SHALL BE WATERED EVERY TWO (2) DAYS FOR 1/2 HOUR. THE RATE OF APPLICATION SHOULD BE THAT EACH TREE 2 1/2"–CAL. OR GREATER RECEIVES APPROXIMATELY 10 GALLONS OF WATER. SHRUBS SHALL RECEIVE APPROXIMATELY 2–3 GALLONS OF WATER.

2. ALL LEAF SHRUBBERY, SUCH AS AZALEAS, RHODODENDRON, EUONYMUS, VIBURNUM, HOLLYS (ETC.) SHALL BE WATERED EVERY DAY WHEN THE TEMPERATURE IS ABOVE 80° FOR APPROXIMATELY 15–MINUTES PER PLANT.

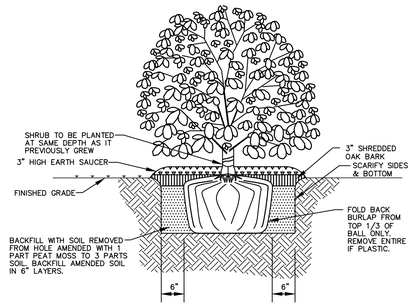
   ALL SHORT NEEDLE PLANTS, SUCH AS YEWS, JUNIPERS, SPRUCE (ETC.) SHALL BE WATERED EVERY THIRD DAY WHEN THE TEMPERATURE IS ABOVE 80° FOR ABOUT 15–MINUTES PER PLANT.

WARRANTY

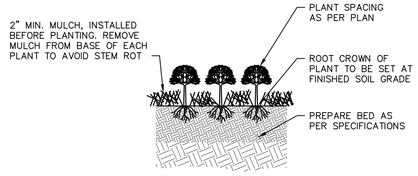
CONTRACTOR SHALL WARRANTY ALL PLANT MATERIALS FOR A PERIOD OF ONE (1) YEAR FOLLOWING THE DATE OF INSTALLATION. REPLACEMENTS SHALL BE OF THE SAME SIZE, TYPE, AND QUALITY OF THE ORIGINAL PLANT BEING REPLACED. REPLACEMENTS SHALL BE MADE DURING THE NEXT PLANTING PERIOD.



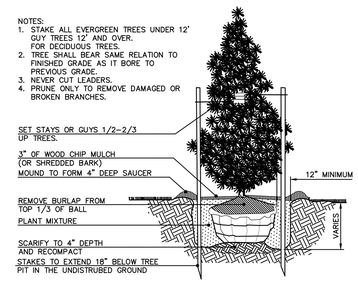
DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



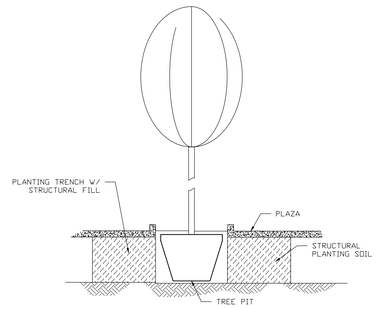
SHRUB PLANTING DETAIL
NOT TO SCALE



GROUND COVER PLANTING
NOT TO SCALE



EVERGREEN PLANTING DETAIL
NOT TO SCALE



PLAZA TREE PIT DETAIL
NOT TO SCALE

CLIENT
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University Park, PA
16802

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number:
crawford project number:
PSU project number: 00–09025.00

The Pennsylvania State University, University Park, PA

Seal :

NOT FOR CONSTRUCTION

Date

Rev.

No.

09/01/23
95% SCHEMATIC DESIGN

Title
LANDSCAPE DETAILS

LS–102
sheet no.

ELECTRICAL LEGEND AND ABBREVIATIONS

ABBREVIATIONS

A	AMPERE(S)
AC	ABOVE COUNTER
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FAULT CIRCUIT INTERRUPTER
AIC	AMPERES INTERRUPTING CURRENT
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CKT	CIRCUIT
DISC	DISCONNECT
DIST	DISTRIBUTION
(E)	EXISTING TO REMAIN: MAINTAIN CIRCUIT CONTINUITY TO EXISTING DEVICES. PROTECT ITEMS INDICATED TO REMAIN FROM DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY THE UNIVERSITY REPRESENTATIVE, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION AND THEN CLEANED AND REINSTALLED IN THEIR ORIGINAL LOCATIONS.
EC	ELECTRICAL CONTRACTOR OR EMPTY CONDUIT
EF	EXHAUST FAN
EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
(EX)	REMOVE EXISTING: REMOVE AND LEGALLY DISPOSE OF ITEMS EXCEPT THOSE INDICATED TO BE REINSTALLED, SALVAGED OR TO REMAIN THE UNIVERSITY'S PROPERTY.
(EXR)	REMOVE EXISTING AND SALVAGE: ITEMS INDICATED TO BE REMOVED AND SLAVAGED REMAIN PENN STATE'S PROPERTY. REMOVE, CLEAN AND PACK OR CRATE ITEMS TO PROTECT AGAINST DAMAGE. IDENTIFY CONTENTS OF CONTAINERS AND DELIVER TO PENN STATE'S DESIGNATED STORAGE AREA. IF REJECTED BY PENN STATE, ITEM BECOMES THE PROPERTY OF THE EC TO DISPOSE OF AS IF MARKED (EX).
F	FUSE
FLA	FULL LOAD AMPS
G	GROUND
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
HORIZ	HORIZONTAL
HP	HORSEPOWER
IDF	INTERMEDIATE DATA FRAME
IG	ISOLATED GROUND
KV	KILOVOLTS
KVA	KILOVOLT AMPERE(S)
KW	KILOWATT(S)
LTG	LIGHTING
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MDC	MAIN DISTRIBUTION CENTER
MDF	MAIN DATA FRAME
MLO	MAIN LUGS ONLY
MV	MEDIUM VOLTAGE
NL	NIGHT LIGHT/SECURITY LIGHT, CONNECT LIGHTS AHEAD OF LOCAL SWITCHING TO OPERATE CONTINUOUSLY
OAE	OR APPROVED EQUAL
OH	OVERHEAD
P	POLE
PH	PHASE
PNL	PANEL
REC	RECEPTACLE
SW	SWITCH
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
UC	UNDERCOUNTER/CABINET
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
VA	VOLT AMPERES
W	WATT(S) OR WIRE
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER

REFERENCE SYMBOLS

- ??:? — EQUIPMENT DESIGNATION
- # — REVISION DESIGNATION
- ?? — KEY NOTE DESIGNATION
- ? / ??? — ENLARGED PLAN DESIGNATION
- NORTH ARROW

COMMUNICATIONS SYMBOLS

- TELECOMMUNICATIONS OUTLET
  A - (1) VOICE
  B - (1) DATA / (1) COAX / (1) VOICE
  C - (1) VOICE / (1) DATA
  D - (1) VOICE / (2) DATA
  E - (2) VOICE / (2) DATA
  W - (1) VOICE, WITH WALL MOUNT COVER
- IN-FLOOR TELECOMMUNICATIONS OUTLET (VOICE/DATA/OTHER AS DEFINED ABOVE)
- CEILING SPEAKER
- WALL MOUNTED SPEAKER
- INTERCOM STATION
- VOLUME CONTROL STATION
- MICROPHONE JACK
- AMPLIFIER
- CCTV — CLOSED-CIRCUIT TELEVISION CAMERA
- AC_XX — CENTRALLY ACCESS CONTROLLED DOOR
- CR — ACCESS CONTROL SYSTEM CARD READER
- CR_K — ACCESS CONTROL SYSTEM CARD READER/ KEYPAD COMBINATION DEVICE
- DC — DOOR CONTACT
- EL — ELECTRIC LOCK
- K — KEY PAD
- ML — MAGNETIC LOCK
- B — DOOR BELL CHIME
- WIRELESS ACCESS POINT. PROVIDE (1) DATA CABLE TERMINATED ABOVE CEILING (SEE DETAIL)

FIRE ALARM SYSTEM SYMBOLS

- FIREMAN'S PHONE JACK
- BT — BEAM DETECTOR TRANSMITTER
- BR — BEAM DETECTOR RECEIVER
- REMOTE INDICATOR LIGHT (T = WITH TEST SWITCH)
- S — SMOKE DETECTOR
- SR — SMOKE DETECTOR IN RESIDENT ROOM, WITH INTEGRAL SOUNDER BASE
- SS — SINGLE STATION SMOKE DETECTOR (TANDEM-WIRED)
- S — WALL MOUNTED SMOKE DETECTOR
- T — THERMAL DETECTOR
- SCO — SMOKE DETECTOR WITH INTEGRAL CARBON MONOXIDE DETECTION
- D — DUCT DETECTOR
- AUDIBLE/VISUAL NOTIFICATION DEVICE
- AUDIBLE NOTIFICATION DEVICE
- V — VOICE/VISUAL NOTIFICATION DEVICE
- V — VOICE NOTIFICATION DEVICE
- V — VISUAL NOTIFICATION DEVICE
- MANUAL PULL STATION
- FS — FLOW SWITCH
- TS — TAMPER SWITCH
- PS — PRESSURE SWITCH
- MH — MAGNETIC DOOR HOLDER
- FS — SMOKE DAMPER OR FIRE/SMOKE DAMPER
- FA — FIRE ALARM INTERLOCK
- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM ANNUNCIATOR
- CEILING MOUNTED AUDIBLE/VISUAL NOTIFICATION DEVICE
- CEILING MOUNTED VISUAL NOTIFICATION DEVICE
- CEILING MOUNTED VOICE NOTIFICATION DEVICE
- CEILING MOUNTED VOICE/VISUAL DEVICE
- RA — RESCUE ASSISTANCE COMMUNICATION STATION

LEGEND NOTES

A. NOT ALL SYMBOLS SHOWN ON THIS LEGEND WILL NECESSARILY BE USED ON THE ELECTRICAL DRAWINGS.

B. INDICATED MOUNTING HEIGHTS ARE FROM FINISHED FLOOR (OR FINISHED GRADE).

C. FOR DEVICES INDICATED AS ABOVE COUNTER ('AC' ON THE DRAWINGS), COORDINATE MOUNTING HEIGHT WITH THE ARCHITECT.

D. SPECIFIC MOUNTING HEIGHTS SHOWN ON THE DRAWINGS SUPERSEDE MOUNTING HEIGHTS SHOWN ON DETAIL.

E. DEVICES AND SYMBOLS ARE NOT NECESSARILY SHOWN TO SCALE.

LIGHTING SYMBOLS

- CEILING LUMINAIRE - SURFACE MOUNT
- CEILING LUMINAIRE - RECESS MOUNT
- CEILING LUMINAIRE - RECESS MOUNT
- WALL MOUNT LUMINAIRE
- PENDANT MOUNT LUMINAIRE
- WALL WASH LUMINAIRE - SURFACE MOUNT
- WALL WASH LUMINAIRE - RECESS MOUNT
- TROFFER LUMINAIRE - SURFACE MOUNT
- TROFFER LUMINAIRE - RECESS MOUNT
- LINEAR PENDANT LUMINAIRE - FILLED CIRCLE INDICATES POWER FEED END (LENGTH AS SHOWN ON DRAWINGS)
- STRIP LUMINAIRE / UNDER CABINET LUMINAIRE (LENGTH AS SHOWN ON DRAWINGS)
- COVE OR SLOT LUMINAIRE (LENGTH AS SHOWN ON DRAWINGS)
- SINGLE FACE EXIT LUMINAIRE - CEILING MOUNTED
- DUAL FACE EXIT LUMINAIRE - CEILING MOUNTED
- SINGLE FACE EXIT LUMINAIRE - WALL MOUNTED
- DUAL FACE EXIT LUMINAIRE - WALL MOUNTED
- EGRESS ARROWS
- TRACK LIGHTING (NUMBER OF HEADS AS SHOWN ON DRAWING)
- EMERGENCY LUMINAIRE WITH INTEGRAL BATTERY PACK
- REMOTE EMERGENCY LIGHTING HEAD
- NIGHT-LIGHT LUMINAIRE
- NIGHT-LIGHT LUMINAIRE, THROUGH THE WALL MOUNTING
- POLE MOUNTED LUMINAIRE
- POST-TOP LUMINAIRE
- POST-TOP TWIN HEAD LUMINAIRE
- BOLLARD LUMINAIRE
- IN-GRADE FLOOD LUMINAIRE
- ABOVE-GRADE FLOOD LUMINAIRE
- STEP-LIGHT LUMINAIRE
- SHADING DENOTES EMERGENCY FIXTURE, UON

LIGHTING CONTROL SYMBOLS

$_ SWITCH, TYPE AS NOTED BELOW
(BLANK) - SINGLE POLE
2 - DOUBLE POLE
3 - THREE-WAY SWITCH
4 - FOUR-WAY SWITCH
B - PROVIDE BOX AND BLANK COVER PLATE
D - ANALOG DIMMER SWITCH - (LUTRON 'DIVA' OR 'MAESTRO' SERIES, OAE. PROVIDE DIMMER TYPE COMPATIBLE WITH LAMP SOURCE PER DIMMER MANUFACTURER COMPATIBILITY TESTING AND RATED FOR CONNECTED LOAD.)
F - FAN AND/OR FAN/LIGHT SWITCH
K - KEY OPERATED SWITCH
L - SINGLE POLE ILLUMINATED SWITCH - ILLUMINATED WHEN OFF
LV - LOW VOLTAGE SWITCH
P - SWITCH WITH PILOT LIGHT - ILLUMINATED WHEN ON
T_ TIMER SWITCH (NUMBER REFERS TO TIMEOUT PER SPECS)

$W_ WIRELESS DIGITAL LIGHTING WALL STATION:
1 - ZONE DIMMER, 2-BUTTON RAISE/LOWER
2 - ON/OFF SWITCH
3 - ZONE DIMMER, 3-BUTTON RAISE/LOWER
4 - SCENE SWITCH, 4-BUTTON WITH CUSTOM ENGRAVING

POWER SYMBOLS

- CIRCUIT BREAKER
- FUSE
- SWITCH
- DRAW-OUT CIRCUIT BREAKER
- CIRCUIT BREAKER WITH GROUND FAULT PROTECTION
- FUSED SWITCH WITH GROUND FAULT PROTECTION
- M — METER
- A — AMMETER
- V — VOLTMETER
- CURRENT TRANSFORMER (CT)
- POTENTIAL TRANSFORMER (PT)
- G — ENGINE GENERATOR SET
- AUTOMATIC TRANSFER SWITCH
- ENCLOSED CIRCUIT BREAKER
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- MOTOR STARTER
- COMBINATION MOTOR STARTER / DISCONNECT SWITCH
- T — DRY TYPE TRANSFORMER
- CT — CURRENT TRANSFORMER (CT)
- UTILITY POLE
- GROUNDING ELECTRODE
- GROUND BUSS
- GROUND ROD
- MH — MAN HOLE
- HH — HAND HOLE
- 000 — FEEDER SIZE TAG, SEE FEEDER SCHEDULE
- PANEL ? — PANELBOARD; LOAD CENTER ? — LOAD CENTER
- SURFACE MOUNTED PANELBOARD OR LOAD CENTER
- FLUSH MOUNTED PANELBOARD OR LOAD CENTER
- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE (T = TVSS)
- GFCI PROTECTED DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- GFCI PROTECTED DOUBLE DUPLEX RECEPTACLE
- SPLIT WIRED AND/OR SWITCHED RECEPTACLE
- CEILING MOUNTED RECEPTACLE (CR = CORD REEL DEVICE)
- IN-FLOOR DUPLEX RECEPTACLE
- IN-FLOOR DOUBLE DUPLEX RECEPTACLE
- IN-FLOOR COMBINATION RECEPTACLE/COMMUNICATIONS DEVICE
- SPECIAL PURPOSE RECEPTACLE
- JUNCTION BOX
- WALL MOUNTED JUNCTION BOX
- $TO — TOGGLE SWITCH WITH INTEGRAL THERMAL OVERLOADS
- PUSH BUTTON, TYPE AS NOTED
- GA — GENERATOR ANNUNCIATOR
- PLUGMOLD (LENGTH AS SHOWN ON DRAWING)
- SURFACE RACEWAY
- CABLE TRAY (LENGTH AS SHOWN ON DRAWING)
- CONDUIT END BUSHING
- CONDUIT UP
- CONDUIT DOWN
- CONDUIT BREAK SYMBOL

ELECTRICAL GENERAL NOTES

A. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE PRIOR TO BID TO VERIFY DIMENSIONS AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS. NO EXTRAS WILL BE GIVEN FOR ADDITIONAL WORK WHICH IS REQUIRED RESULTING FROM CONTRACTOR'S FAILURE TO BECOME FAMILIARIZED WITH THE SITE AND FACILITIES.

B. COORDINATE LOCATIONS OF MECHANICAL EQUIPMENT WITH DOME MANUFACTURER AND CONSTRUCTION MANAGER PRIOR TO BEGINNING ROUGH-IN. PANELBOARD AND CIRCUIT INFORMATION FOR MECHANICAL EQUIPMENT ARE SHOWN ADJACENT TO MECHANICAL EQUIPMENT TAGS ON DRAWINGS OR ON E601.

C. THE CONTRACTOR SHALL VERIFY ALL ROUGH-IN REQUIREMENTS FOR ELECTRICALLY OPERATED EQUIPMENT WITH THE EQUIPMENT SUPPLIERS.

D. COORDINATE ALL POWER OUTAGES WITH THE OWNER AT LEAST TWO WEEKS IN ADVANCE. WRITTEN CONFIRMATION IS REQUIRED. ACTIVITIES PLANNED BY THE OWNER SHALL TAKE PRECEDENCE OVER THE CONTRACTOR'S WORK. NO EXTRA TIME WILL BE ALLOCATED DUE TO CONTRACTOR'S FAILURE TO COORDINATE AND SCHEDULE WORK ACCORDINGLY.

E. GFI 'FEED-THROUGH' DEVICES SHALL NOT BE USED TO PROTECT DOWN-STREAM DEVICES ON THE SAME CIRCUIT. PROVIDE SEPARATE GROUND FAULT RECEPTACLES AT EACH LOCATION INDICATED, UON.

F. WHERE RECEPTACLES ARE SHOWN BELOW OR IN CLOSE PROXIMITY TO LIGHT SWITCHES, THE CENTERLINES OF THE DEVICES SHALL BE ALIGNED VERTICALLY.

G. COORDINATE FINAL LIGHT FIXTURE LOCATIONS WITHIN MECHANICAL AND ELECTRICAL SPACES WITH EQUIPMENT, DUCTWORK, PIPING, CONDUITS, ETC. FOR BEST POSSIBLE LIGHTING UNIFORMITY.

H. WHEN GENERATOR TRANSFORMER DEVICE (GTD) IS NOTED, EC SHALL BRING UNSWITCHED NORMAL, SWITCHED NORMAL, AND EMERGENCY POWER TO EACH UNIT.

I. ALL WORK SHALL COMPLY WITH PSU-OPP DESIGN AND CONSTRUCTION STANDARDS.

J. ALL WORK SHALL COMPLY WITH PSU-UTILITIES.

ELECTRICAL PHASING NOTES

A. INFORMATION REGARDING THE EXISTING CONDITIONS WAS GATHERED FROM AVAILABLE EXISTING DRAWINGS, SURVEY AND CORRESPONDENCE WITH OPP STAFF. THERE ARE NO GUARANTEES AS TO THE ACCURACY OF THIS INFORMATION AND IT IS OFFERED FOR INFORMATION ONLY.

B. THE ITEMS INDICATED ON THE DEMOLITION DRAWINGS HIGHLIGHT SOME OF THE CRITICAL DEMOLITION ISSUES, BUT THE DRAWINGS ARE NOT INTENDED TO BE AN ALL-INCLUSIVE DEMOLITION PLAN. THE CONTRACTOR IS RESPONSIBLE FOR ALL ELECTRICAL DEMOLITION WORK. THEREFORE, IT IS IMPERATIVE THAT THE CONTRACTOR THOROUGHLY EXAMINE THE SITE PRIOR TO SUBMITTING A BID FOR THE WORK. DUE TO THE NATURE OF THIS PROJECT AND THE STATE OF THE EXISTING SITE, THESE DRAWINGS CANNOT COMPLETELY RELATE THE SCOPE OF THE DEMOLITION REQUIRED. FAILURE TO VISIT THE SITE OR THOROUGHLY REVIEW ALL PROJECT DRAWINGS AND SPECIFICATIONS WILL NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO DETERMINE AND COORDINATE THE EXACT CONTENT OF THE DEMOLITION NECESSARY.

C. UNLESS OTHERWISE INDICATED, ALL ITEMS SHOWN TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY, INCLUDING ALL ASSOCIATED CONDUIT, WIRE, BOXES, ETC. BACK TO POINT OF ORIGIN OR NEAREST EXISTING ITEM TO REMAIN. THIS INCLUDES UNUSED/ABANDONED UNDERGROUND CONDUIT.

D. THE OWNER RESERVES THE RIGHT TO SALVAGE ANY OR ALL OF THE DEMOLISHED ELECTRICAL MATERIALS, INCLUDING WIRING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF ANY MATERIALS NOT SALVAGED BY THE OWNER.

E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL CONNECTIONS TO EXISTING AND NEW SYSTEMS AS NECESSARY TO FACILITATE PROPER CONTINUAL OPERATION OF ALL SYSTEMS AND EQUIPMENT, EXISTING OR NEW, EXCEPT WHERE IN CURRENT AREA OF CONSTRUCTION.

F. DO NOT REMOVE ITEMS SUPPORTING OTHER ITEMS WITHOUT PROVIDING TEMPORARY OR PERMANENT SUPPORT AS REQUIRED. SEE DRAWINGS FOR AREAS AND EXTENT OF DEMOLITION. PROPERLY SUPPORT ALL EXISTING ITEMS TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED SUPPORTS FOR AFFECTED ITEMS.

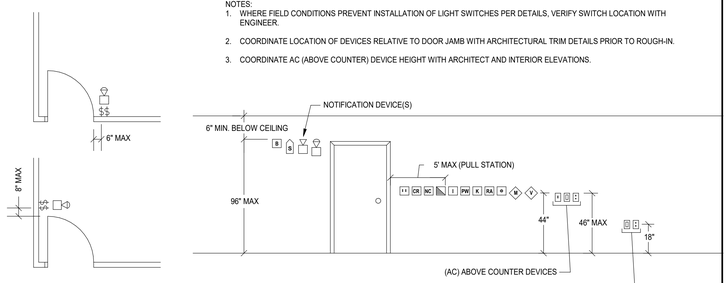
G. VERIFY EXTENT OF CONDUITS, WIRING, EQUIPMENT COMPONENTS AND FIXTURES TO BE RETAINED OR REUSED PRIOR TO THE DEMOLITION OF SPECIFIC SYSTEM. PROTECT ITEMS WHICH ARE TO BE REUSED ON SITE. ANY ITEMS WHICH ARE DAMAGED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.

H. ELECTRICAL SYSTEMS PASSING THROUGH AREA TO BE DEMOLISHED TO AREAS OUTSIDE THE SCOPE OF THIS PROJECT SHALL BE MAINTAINED. CONTRACTOR SHALL RELOCATE THE WIRING AND CONDUIT FOR ANY SUCH SYSTEMS AS NECESSARY FOR THE COMPLETION OF THIS PROJECT AT NO ADDITIONAL COST. IN ADDITION, CONTRACTOR SHALL MAINTAIN CONTINUITY DURING CONSTRUCTION FOR ALL CIRCUITS AND SYSTEMS NOT SCHEDULED FOR DEMOLITION.

I. RECONNECT ALL DOWNSTREAM DEVICES THAT ARE AFFECTED BY DEMOLITION AS REQUIRED TO KEEP THEM FULLY AND PERMANENTLY OPERATIONAL.

J. CONTRACTOR SHALL MINIMIZE SHUTDOWN TIME DURING ELECTRICAL SYSTEM SWITCHOVERS.

K. THE CONTRACTOR SHALL BE AWARE THAT THE ADJACENT SITES WILL BE OCCUPIED AND IN USE DURING THE LENGTH OF THE CONTRACT 24 HOURS PER DAY, 7 DAYS A WEEK. THE CONTRACTOR SHALL CONDUCT OPERATIONS SO THAT THERE WILL BE MINIMUM INTERFERENCE WITH THE CONTINUED OPERATIONS. ANY INTERFERENCE OR INCONVENIENCE WITH THE CONTINUED OPERATIONS OF THE BUILDING(S) SHALL BE REVIEWED WITH THE ARCHITECT AND OWNER PRIOR TO APPROVAL.



1 / E001 **DEVICE MOUNTING LOCATION DETAIL** SCALE: NONE

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE
building number: xxxxxx
crawford project number: 40423
PSU project number: 00-080825.00
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ELECTRICAL LEGEND AND GENERAL NOTES

E001
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GENERAL NOTES

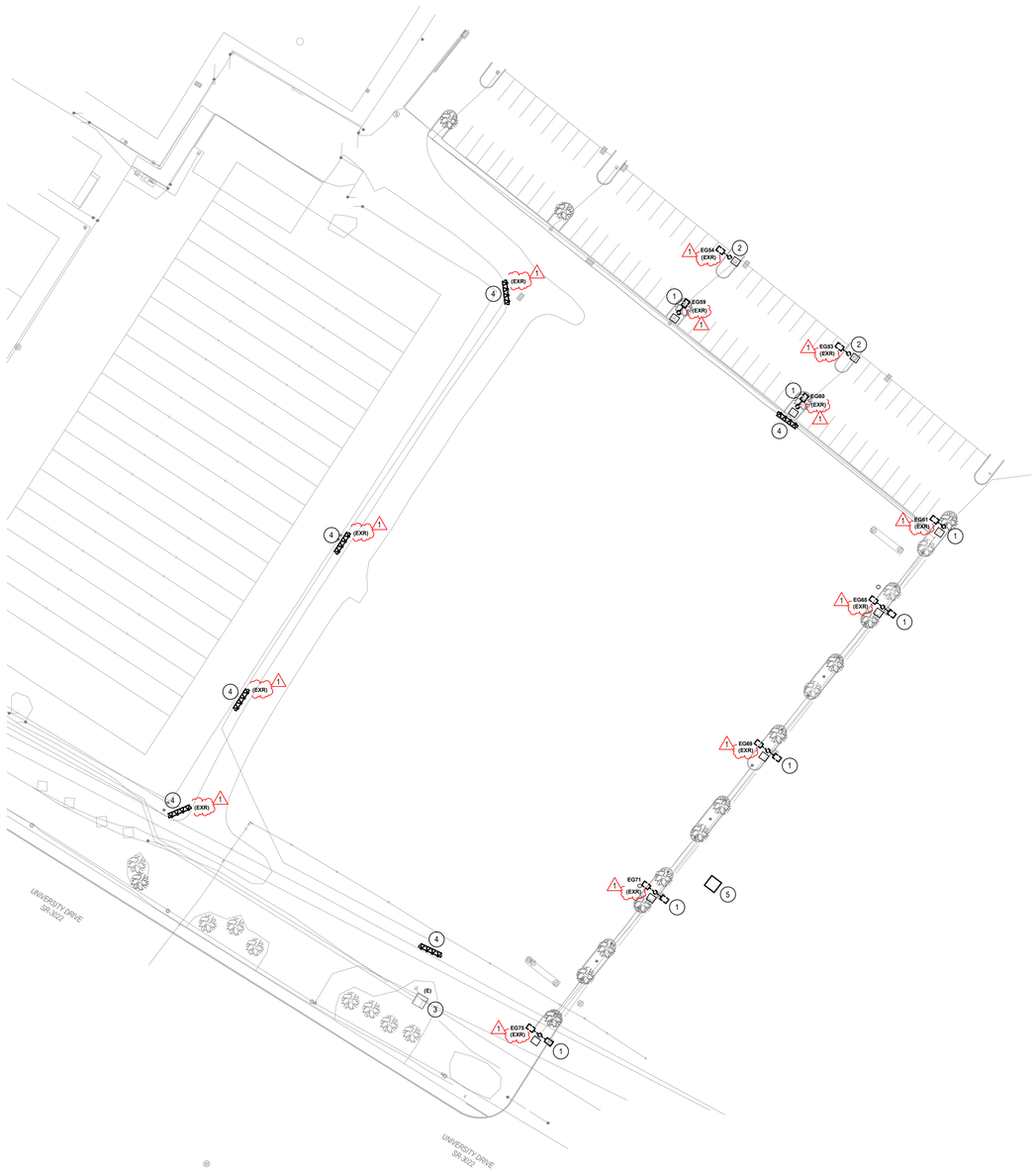
(THIS SHEET ONLY)

A. REFER TO E001 FOR GENERAL NOTES THAT APPLY TO ALL ELECTRICAL DRAWINGS.

B. DEMOLISHED FIBERGLASS POLES AND LED HEADS SHALL BE OFFERED TO PENN STATE TO SALVAGE, CONTACT JEFF MCDONALD (jam86@psu.edu; 814-865-7701) TO CONFIRM WHETHER PSU WANTS ANY OR ALL OF THEM AND WHERE TO DELIVER THEM. IF REJECTED BY PENN STATE, ITEM BECOMES THE PROPERTY OF THE EC TO DISPOSE OF AS IF MARKED (EX).

KEY NOTES

1. DEMOLISH EXISTING LUMINAIRE, EXISTING CONCRETE BASE, AND EXISTING HANDHOLE. REMOVE CONDUCTORS AND CONDUIT BACK TO JUNCTION BOX THAT IS OUTSIDE OF THE CONSTRUCTION AREA AND IS TO REMAIN. CAP WIRES WITH SILICONE FILLED CONNECTORS. REWORK WIRING AS REQUIRED TO KEEP ADJACENT LUMINAIRES ILLUMINATED.
2. DEMOLISH EXISTING LUMINAIRE AND EXISTING CONCRETE BASE. EXISTING HANDHOLE SHALL REMAIN FOR EXTENSION OF LIGHTING CIRCUIT AS NEEDED FOR FUTURE USE. CAP WIRES WITH SILICONE FILLED CONNECTORS.
3. EXISTING ELECTRICAL EQUIPMENT IN THIS AREA TO REMAIN.
4. DEMOLISH EXISTING LUMINAIRE. SALVAGE LUMINAIRES AND POLE AND TURN OVER TO PENN STATE. REMOVE CONDUCTORS BACK TO NEAREST JUNCTION BOX THAT IS TO REMAIN. CAP WIRES WITH SILICONE FILLED CONNECTORS.
5. EXISTING PARKING ATTENDANT SHACK TO REMAIN. CONFIRM ROUTING OF EXISTING WIRING AND REARRAGE AS NECESSARY DUE TO DEMOLTION.



1 E101 **SITE ELECTRICAL DEMOLITION PLAN**

SCALE: 1" = 40'-0"

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number: xxxxxxx
crawford project number: 40423
PSU project number: 00-090251.00

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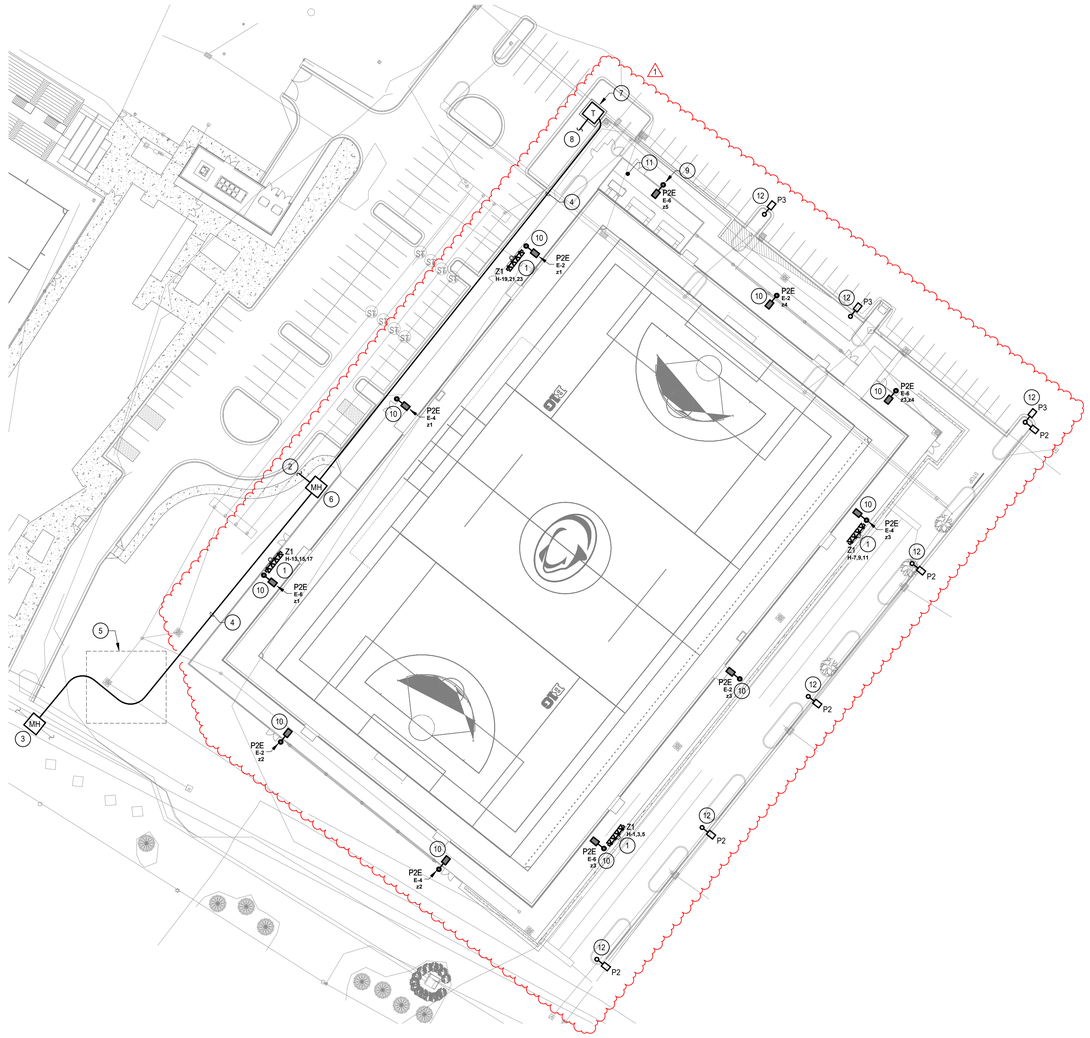

1 E102 **SITE ELECTRICAL PLAN**

SCALE: 1" = 40'-0"

GENERAL NOTES

(THIS SHEET ONLY)

A. REFER TO E001 FOR GENERAL NOTES THAT APPLY TO ALL ELECTRICAL DRAWINGS.

B. SITE PLAN DOES NOT INDICATE ALL OF THE UNDERGROUND UTILITY LINES. REFER TO THE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION. CONTRACTOR TO FIELD VERIFY EXACT LOCATIONS OF ALL UNDERGROUND UTILITY LINES OF ALL TRADES PRIOR TO ANY SITE WORK. 1

C. PSU TO PROVIDE NEW LABELS AFFIXED TO EACH NEW LIGHT POLE. EC SHALL USE THE "PSU SITE LIGHTING NAMING CONVENTION" DOCUMENT AND COORDINATE ALL POLE NUMBER TAGS IN WRITING WITH PSU UTILITIES GROUP. CONTACT ELECTRICAL SERVICES SUPERVISOR JEFF MCDONLAND (814-865-7701) WHEN INSTALLING OR REMOVING ANY POLE.

D. COORDINATE THE LOCATION OF POLE BASE WITH PENN STATE PRIOR TO EXCAVATION. THERE ARE UNDERGROUND UTILITIES THROUGHOUT THE CAMPUS, DAMAGE TO THESE PIPES MUST BE AVOIDED.

E. LIGHTING BRANCH CIRCUITS: ALWAYS RUN THREE (3) PHASES, WHETHER EMERGENCY OR NORMAL POWER, AND CONNECT EVERY THIRD FIXTURE TO A DIFFERENT PHASE TO REDUCE AREAS OF DARKNESS DUE TO BREAKER FAILURE. MINIMUM CONDUIT SIZE SHALL BE 1.25" AND MINIMUM CONDUCTOR SIZE SHALL BE #8 AWG. MINIMUM BURIAL DEPTH SHALL BE 24" BELOW FINISHED GRADE.

F. REFER TO SPECIFICATIONS FOR VOLTAGE DROP LIMITATIONS ON BRANCH CIRCUITS, INCREASE CONDUCTOR SIZE AS NECESSARY TO COMPLY WITH REQUIREMENTS.

G. SITE LIGHTING: ALL LIGHTING FOR AREAS OPEN DURING CONSTRUCTION SHALL BE KEPT OPERATIONAL. PROVIDE TEMPORARY CONNECTIONS AS REQUIRED. CONNECT NEW SITE LUMINAIRES TO EXISTING CIRCUITRY OR AS SHOWN.

H. ALL CONDUITS FOR SERVICES SHALL BE 4" SCHEDULE 40 PVC WITH SCHEDULE 80 PVC BENDS, UNLESS OTHERWISE NOTED. MINIMUM BURIAL DEPTH FOR POWER CONDUITS SHALL BE 3'-6" BELOW GRADE. PHONE/DATA AND CABLE TV CONDUITS SHALL BE AT LEAST 30" BELOW GRADE.

I. REFER TO POLE BASE DETAILS ON E800 SERIES DRAWINGS FOR CONCRETE POLE BASE REQUIREMENTS.

KEY NOTES

1. PROVIDE NEW FIELD LIGHTING: FIXTURE AND POLE INSTALLATION BY MUSCO, COORDINATE PRICING AND SCOPE OF EC WORK WITH DAN SHALLOO (732-539-4329). LOCATE THE POLES THE FROM THE CENTER OF THE PITCH, PLACE EACH ONE 126' ALONG THE FIELD LENGTH AND 146' ALONG THE FIELD WIDTH. LIGHTS ARE REMOTELY CONTROLLED BY PSU, FOR USE WHEN THE AIR SUPPORTED STRUCTURE IS REMOVED. 1
2. REFER TO JEFFREY FIELD SOCCER COMPLEX DOCUMENTS FOR CONTINUATION OF SERVICE TO JEFFREY FIELD TRANSFORMER.
3. APPROXIMATE LOCATION OF EXISTING PSU UTILITIES MANHOLE ALONG UNIVERSITY DRIVE. CONFIRM LOCATION WITH PSU UTILITIES PRIOR TO BID.
4. APPROXIMATE ROUTING OF MEDIUM VOLTAGE DUCTBANK. REFER TO 1/E802 FOR DUCTBANK DETAIL. COORDINATE WITH NEW AND EXISTING UNDERGROUND UTILITIES AND UNDERGROUND STORM DETENTION SYSTEM.
5. DUCTBANK ROUTING IN THIS AREA REQUIRES CAREFUL COORDINATION WITH EXISTING UTILITY CORRIDOR ALONG UNIVERSITY DRIVE. COORDINATE WITH THE SITE CONTRACTOR AND PSU UTILITIES PRIOR TO COMMENCEMENT OF WORK.
6. REFER TO 2/E802 FOR MANHOLE DETAIL.
7. REFER TO 3/E802 FOR PRECAST TRANSFORMER FOUNDATION DETAIL.
8. REFER TO E301 FOR CONTINUATION OF ELECTRICAL SECONDARY FEEDERS TO SERVICE DISCONNECT MEANS. 1
9. FIELD CONFIRM EXACT LOCATION BASED ON THE EQUIPMENT YARD LAYOUT AND GATE PLACEMENT.
10. RUN THREE (3) CIRCUITS FROM THE EXTERIOR LIGHTING CONTROL SYSTEM 1/E602 TO THE HAND HOLE AT EACH FIXTURE. MOUNT FIXTURES JUST OUTSIDE THE FENCE EXCEPT FOR THE THREE (3) FIXTURES ALONG THE RETAINING WALL. COORDINATE PLACEMENT WITH THE FENCE INSTALLER, THE RETAINING WALL INSTALLER, AND THE ARCHITECT IN WRITING.
11. PROVIDE NLIGHT RSBOR SENSOR MOUNTED TO NORMAL POWER PANEL 'HL' PROGRAM SENSOR TO THE P2E FIXTURES AS THE NORMAL POWER SENSING. IF NORMAL POWER IS LOST THE P2E FIXTURES SHALL REVERT TO 100% OUTPUT UNTIL NORMAL POWER IS RESTORED.
12. RECONNECT TO EXISTING LIGHTING CIRCUIT "EG" IN THE EXISTING PARKING LOT. CONNECT EVERY THIRD FIXTURE TO A DIFFERENT PHASE.

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

building number: xxxxxxx
crawford project number: 40423
PSU project number: 00-090625.00

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SITE ELECTRICAL PLAN

E102
sheet no.

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LIGHT FIXTURE SCHEDULE

KEY NOTES:

1. IF ALTERNATE MANUFACTURER IS SUBMITTED FOR SITE LIGHTING LUMINAIRES, PROVIDE POINT-BY-POINT ILLUMINANCE CALCULATIONS WITH THE SHOP DRAWING SUBMITTAL (USE 0.90 LLF). CALCULATIONS MUST MEET OR SLIGHTLY EXCEED THOSE OF THE BASE BID EQUIPMENT AND TOTAL WATTAGE MUST BE THE SAME OR LESS. CONTRACTOR MAY SUGGEST ALTERNATE LUMINAIRE LAYOUT TO MEET OR EXCEED THE BASE MANUFACTURER LAYOUT; IF THAT INCLUDES A REDUCTION OF FIXTURES IT SHALL ALSO INCLUDE A PROPOSED CREDIT. IT IS CRITICAL TO PROVIDE SEPARATE CALCULATIONS OF ANY LUMINAIRES THAT PROVIDE EGRESS ILLUMINATION FROM THE BUILDING TO THE PUBLIC WAY TO COMPLY WITH NFPA 101.
2. PROVIDE ONE (1) 40A/3P FEEDER AND ONE (1) 20A/1P CIRCUIT TO EACH MUSCO POLE LOCATION.
3. MOUNT SENSOR AT 14' ABOVE THE BASE OF THE POLE FACING THE SAME DIRECTION AS THE LUMINAIRE, UON ON THE PLANS. WIRE TO CONTROL THE LUMINAIRE PER MANUFACTURER'S INSTRUCTIONS.

KEY	DESCRIPTION	LAMP OR LUMEN DELIVERED (MINIMUM)	(VA)	MANUFACTURER	MODEL	ALTERNATE MANUFACTURER	VOLTAGE	KEY NOTES	MOUNTING	OAH
P2	SHOEBOX HEAD, TYPE 2, 4000K, BI-LEVEL W/ SENSOR (95%-30%), 10% DIM/0-10V, 5° STRAIGHT SQUARE 24' FIBERGLASS POLE	12000	90	LITHONIA	DSX0-LED-P5-40K-T2M-MVOLT-SPA-NLTAIR2 PIRHN-FAO-DBLXD; WHATLEY SS-5-25-AB-BLK-19 (CUT TO 24')	BEACON VIPER, COOPER GALLEON 2, EATON RIDGEVIEW, GARDCO OPTIFORM,	277	1	CONCRETE BASE	25'
P2E	SAME AS P2, FIELD-INSTALL UL924 +LIGHT AIR WIRELESS MESH NETWORK SENSOR	12000	90	LITHONIA	DSX0-LED-P5-40K-T2M-MVOLT-SPA-DBLXD-G1; NLIGHT RSBOR-10-EM-(BRACKET)-IM-BK-G2 (SENSOR); WHATLEY SS-5-25-AB-BLK-19 (CUT TO 24')	BEACON VIPER, COOPER GALLEON 2, EATON RIDGEVIEW, GARDCO OPTIFORM,	277	1, 3	CONCRETE BASE	25'
P3	SHOEBOX HEAD, TYPE 3, 4000K, BI-LEVEL W/ SENSOR (95%-30%), 10% DIM/0-10V, 5° STRAIGHT SQUARE 24' FIBERGLASS POLE	17000	137	LITHONIA	DSX0-LED-P6-40K-T3M-MVOLT-SPA-NLTAIR2 PIRHN-FAO-DBLXD; WHATLEY SS-5-25-AB-BLK-19 (CUT TO 24')	BEACON VIPER, COOPER GALLEON 2, EATON RIDGEVIEW, GARDCO OPTIFORM,	277	1	CONCRETE BASE	25'
Z1	POLE-MOUNT, PRE-AIMED PRACTICE FIELD LIGHTING. TURNKEY INSTALLATION, 8-HEADS/POLE, 4-POLES, INCLUDES MFG WIRELESS REMOTE MONITORING, 25-YEAR PARTS AND LABOR WARRANTY	181000/HEAD	1410/HEAD	MUSCO	TLC-LED-1500	NONE	480	2	PIER DRILL	PER MFG

P2-P5 HEADS

D-Series Size 0
LED Area Luminaire

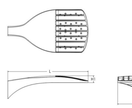
d-series

Catalog Number
Notes
Type

Shown with fully articulated arm (for graphic clarity not all mounting hardware shown).

Specifications

EPA: 0.44 ft² (0.04 m²)
Length: 26.18" (665 mm)
Width: 14.06" (351 mm)
Height H1: 2.26" (57 mm)
Height H2: 7.46" (190 mm)
Weight: 23 lbs (10 kg)



Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometery aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

P2: DSX0-LED-P5-40K-T2M-MVOLT-SPA-NLTAIR2 PIRHN-FAO-DBLXD
P2E: DSX0-LED-P5-40K-T2M-MVOLT-SPA-DBLXD; NLIGHT RSBOR-10-EM-(BRACKET)-IM-BK-G2 (SENSOR)
P3: DSX0-LED-P6-40K-T3M-MVOLT-SPA-NLTAIR2 PIRHN-FAO-DBLXD

Series	LEDs	Color temperature	Color Rendering Index	Distribution		Voltage	Mounting
DSX0 LED	**Forward optics** P1 P5 P2 P6 P3 P7 P4 **Rotated optics** P10¹ P12¹ P11¹ P13¹	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 80CRI 90CRI 80CRI 90CRI 80CRI 90CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare² T4M Type IV medium T4LG Type IV low glare² TFTM Forward throw medium T5M Type V medium T5LG Type V low glare T5W Type V wide BLC3 Type III backlight control² BLC4 Type IV backlight control² LCCO Left corner cutoff² RCCO Right corner cutoff²	MVOLT 120V-277V³,⁴ HVOLT 347V-480V³,⁴ XVOLT 277V-480V³,⁴	**Shipped included** SPA Square pole mounting (3G drilling, 5.13" min. SQ pole) RPA Round pole mounting (4G drilling, 3" min. RND pole) SPA5 Square pole mounting (4G drilling, 3" min. SQ pole)⁵ RPA5 Round pole mounting (4G drilling, 3" min. RND pole)⁵ SPA5IN Square narrow pole mounting (4G drilling, 3" min. SQ pole) WBA Wall bracket⁶ WA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options		Other options		Finish (required)	
Shipped installed NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc⁷,⁸,⁹,¹⁰,¹¹ PIR High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc⁷,⁸,⁹,¹⁰ PER NEMA twist-lock receptacle only (controls ordered separate)¹⁰ PERS Five-pin receptacle only (controls ordered separate)⁸,⁹,¹⁰	PE5Y Seven-pin receptacle only (controls ordered separate)⁸,⁹,¹⁰ FAO Field adjustable output⁷,⁹,¹⁰ BL30 Bi-level switched dimming, 30%⁸,⁹,¹⁰ BL50 Bi-level switched dimming, 50%⁸,⁹,¹⁰ DMG 0-10v dimming wires pulled outside fixture for use with an external control, ordered separately⁹,¹⁰	**Shipped installed** HS Houseside shield (Black finish standard)¹² LWI Left rotated optics⁹ RWI Right rotated optics⁹ CCI Coastal Construction¹³ HA 50°C ambient operation¹³ **Shipped separately** EGSR External Glare Shield (reversible, field install required, matches housing finish) BSSR Bird Spikes (field install required)	DDBXD Dark Bronze DBLXD Black DNAXD Natural Aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white		

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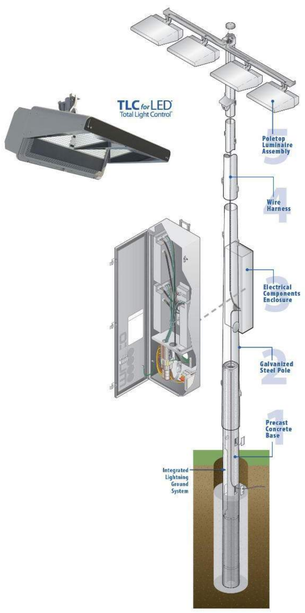
DSX0 LED
Rev. 04/25/23
Page 1 of 4

FIXTURE TYPE 'P2' & 'P3'



FIXTURE TYPE 'Z1'

Whatley

A valmont BRAND

WHATLEY POLE
P2-P3: SS-5-25-AB-BLK-19 (CUT TO 24')

19845 US Highway 76
Newberry, SC 29108
T: 877-959-7678
F: 803-276-8940
www.whatley.com

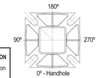
SS4: Straight Square Composite Pole 4" Profile						Anchor Base (SS4_AB)		Direct Embedded (SS4_DE)	
Anchor Base (AB) or Direct Embedded (DE)	Mounting Height (ft)	Effective Projected Area (EPA) (sq ft) ANSI 136.20-2012				Anchor Base		Direct Embedded	
		90 MPH	100 MPH	110 MPH	120 MPH	Bolt Hole Circle (in)	Weight (lbs)	Shaft Length (ft)	Weight (lbs)
SS410	10'	21.5	17.0	13.7	11.1	8" - 12.5"	27#	13'	28#
SS415	15'	12.9	9.8	7.5	5.7	8" - 12.5"	37#	19'	40#
SS420	20'	7.4	5.2	3.5	2.3	8" - 12.5"	47#	25'	55#
SS425	25'	3.8	2.1	0.8	-	8" - 12.5"	57#	30'	70#
SS5: Straight Square Composite Pole 5" Profile						**Anchor Base (SS5_AB)**		**Direct Embedded (SS5_DE)**	
SS515	15'	28.7	22.1	17.3	13.6	10" - 12.5"	99#	19'	93#
SS520	20'	17.5	12.7	9.2	6.5	10" - 12.5"	125#	25'	123#
SS525	25'	10.2	6.5	3.8	1.7	10" - 12.5"	150#	30'	154#
SS530	30'	5.0	2.0	-	-	10" - 12.5"	176#	35'	180#

Product improvements may be made without prior notice.

- Reduced Lead Time (higher quantities may require longer lead time - consult factory)
- 30' Poles require shipment by flatbed and will ship first available flatbed.
- Freight Allowed $2,000.00, Prepaid & add under $2,000.00 SS4_AB and SS5_AB
- Include anchor bolts and base cover
- SS4_AB and SS5_AB - Pre-shipped Anchor Bolts are prepaid and add
- Standard colors are Black, Bronze, and Grey
- Standard tenon sizes are 2 3/8" and 3"
- For cut down poles use full length pole price (Ex. SS522AB use SS525AB price)
- Contact factory for pricing regarding options or modifications
- Advise Size, Location and Orientation of Drilling Requirements (Ref. Drawings)

4 x 4 Anchor Base

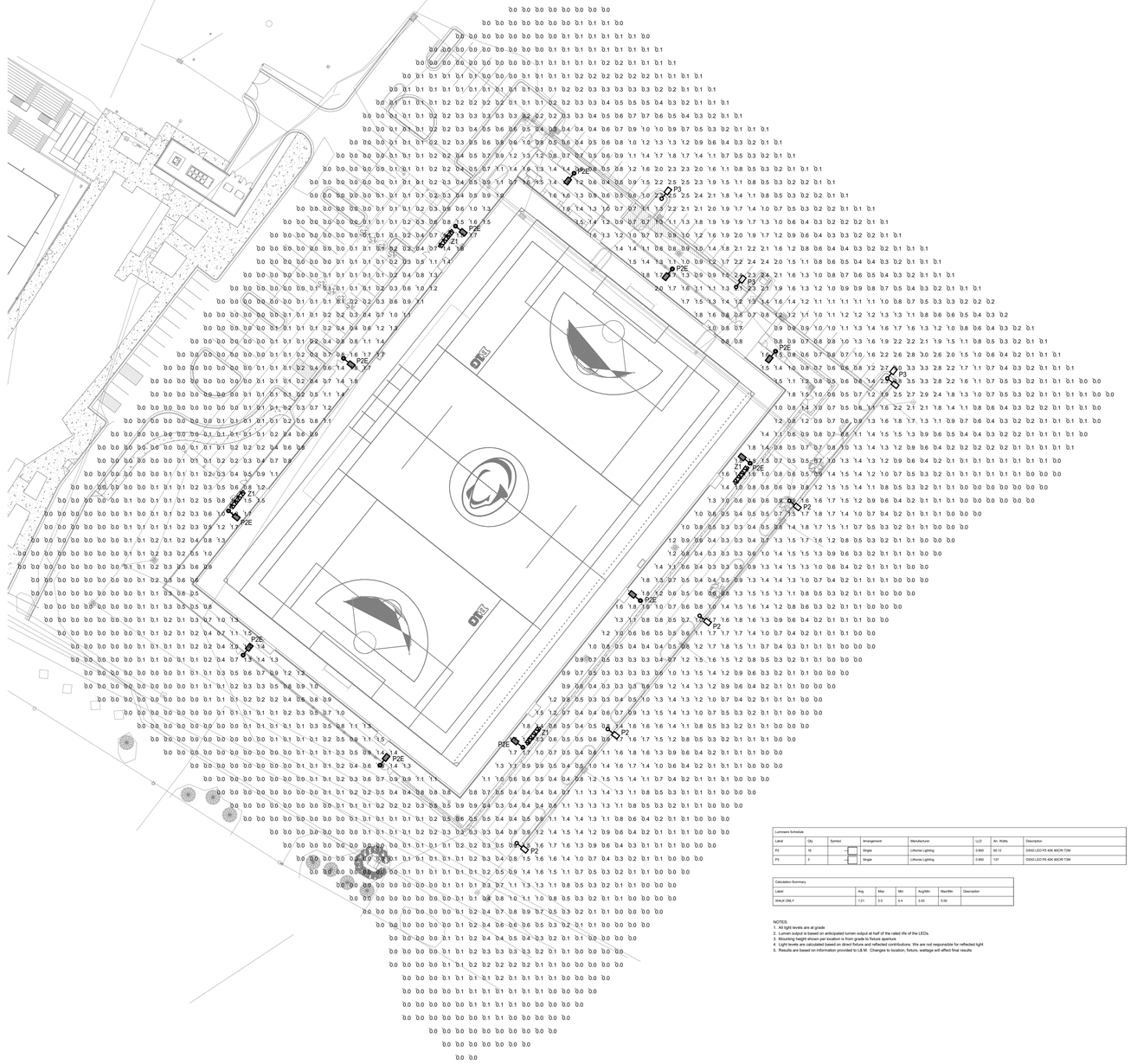
5 x 5 Anchor Base



SS 5 20 AB DBZ 3T

STRAIGHT SQUARE	SERIES	MOUNTING HEIGHT	AB = Anchor Base DE = Direct Embedded	COLOR	POLE TOP CONFIGURATION
	5 = 5" Square 4 = 4" Square	10 = 10' * 15 = 15' 20 = 20' 25 = 25' 30 = 30' ** *Available in 4" only **Available in 5" only		BLK = Black GRY = Grey DBZ = Bronze *Other Colors Available. Contact factory for charge and may require longer lead time.	2T = 2 3/8" x 3 1/4" Tenon 3T = 3" x 3 3/4" Tenon 1S = 1 @ 90 Degree 2S = 2 @ 90 Degree 3S = 3 @ 90 Degree 4S = 4 @ 90 Degree 2R = 2 @ 180 Degree ND = Capped (No Drilling)

Version 2 2016



Luminaire Schedule

Label	Qty	Symbol	Arrangement	Manufacturer	LLD	Arr. Watts	Description
P2	16		Single	Lithonia Lighting	0.850	90.12	DSX0 LED P5 40K 80CRI T2M
P3	3		Single	Lithonia Lighting	0.850	137	DSX0 LED P6 40K 80CRI T3M

Calculation Summary

Label	Avg	Max	Min	Avg/Min	Max/Min	Description
WALK ONLY	1.21	2.3	0.4	3.03	5.00	

NOTES:
1. All light levels are at grade
2. Lumen output is based on anticipated lumen output at half of the rated life of the LEDs.
3. Mounting height shown per location is from grade to fixture aperture
4. Light levels are calculated based on direct fixture and reflected contributions. We are not responsible for reflected light
5. Results are based on information provided to L& M. Changes to location, fixture, wattage will affect final results

1 E102P
SITE PHOTOMETRICS PLAN
SCALE: 1" = 40'-0"

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

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crawford project number: 40423
PSU project number: 00-0026-5.00

The Pennsylvania State University, University Park, PA

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SITE PHOTOMETRIC PLAN

1
E102P
sheet no.

GENERAL NOTES

(THIS SHEET ONLY)

A. REFER TO E001 FOR GENERAL NOTES THAT APPLY TO ALL ELECTRICAL DRAWINGS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING AND CABLE ROUTING DETAILS.

C. PROVIDE WHITE "SO" CORD WITH 2#12, 1#12G BETWEEN EACH LUMINAIRE AND TO THE GRADE-MOUNT JUNCTION BOX. PROVIDE WITH 277V RATED TWIST LOCK RECEPTACLE (LUMINAIRE END) AND PLUG (GRADE BOX END). UTILIZE RED PLUG/RECEPTACLE TO DENOTE EMERGENCY POWER.

D. SPLICE THE LUMINAIRE DAISY-CHAIN POINTS USING UL RATED PLASTIC CASE WITH ROUNDED CORNERS AND NO MOUNTING TABS. POLYCASE SK-17 ENCLOSURE OR APPROVED EQUAL. PROVIDE 3-WAY STRAIN RELIEF ON THE SO CABLES AROUND THE JUNCTION BOX.

E. ILLUMINATION LEVEL SHALL BE 50 FC AVERAGE MAINTAINED (USE A 0.90 LLF).

F. COORDINATE EXACT LOCATION OF ALL EQUIPMENT WITH ALL TRADES PRIOR TO INSTALLATION.

G. WIRING IS SHOWN SCHEMATICALLY, CONFIRM EXACT ROUTING WITH DOME SUPPLIER.

H. REFER TO AIR DOME MANUFACTURER DETAILS FOR MOUNTING OF THE LUMINAIRES AND EXIT SIGNS, ROUTING OF "SO" CORD WITHIN THE STRUCTURE, ETC.

I. LUMINAIRES SHALL INCLUDE NLIGHT AIR WIRELESS DIGITAL DIMMING CONTROLS SYSTEM FOR ALL LIGHTING (NORMAL AND EMERGENCY). EMERGENCY POWER FIXTURES SHALL INCLUDE UL924 COMPLIANT NLIGHT CONTROLS TO BRING EGRESS LIGHTS TO 100% OUTPUT DURING NORMAL POWER FAILURE. PROGRAM THE LIGHTS AND WIRELESS WALL STATIONS PER THE LIGHTING CONTROL SCHEDULE.

KEY NOTES

1. EXIT SIGNS SHALL BE INSTALLED SEASONALLY DURING INFLATABLE DOME INSTALLATION. PROVIDE "SO" CORD THAT IS HARD-WIRED TO SIGN WITH A LOCKING 20A PLUG TO CONNECT TO THE DEDICATED JUNCTION BOX.
2. PROVIDE WEATHER-PROOF IN-GRADE HANDHOLE, MOUNT FLUSH WITH THE ARTIFICIAL TURF. COORDINATE FINAL INSTALLATION WITH F-SERIES PLANS. HANDHOLE SHALL BE SPORTSFIELD SPECIALTIES CBIT1830, NO EQUALS. TERMINATE CONDUIT AND WIRING WITHIN EACH HANDHOLE, PROVIDE WEATHERPROOF RECEPTACLE BOX(ES) WITH WEATHERPROOF COVER AND NEMA L7-20R RECEPTACLE(S) WITHIN THE HANDHOLE. CONNECT POWER TO LIGHTS DURING DOME INSTALLATION.
3. CONNECT EMERGENCY POWER LIGHTS TO IN-FLOOR JUNCTION BOXES DEDICATED FOR EMERGENCY LIGHTING.
4. PROVIDE SNOW SWITCH ON INFLATION AND HEATING UNITs. COORDINATE WIRING AND CONDUIT REQUIREMENTS WITH DOME SUPPLIER. CIRCUIT TO LRG-17*.
5. PAINT THE UNDERSIDE OF THE HANDHOLE COVER RED. PROVIDE RED ENGRAVED NAMEPLATE TO READ "EMERGENCY POWER" IN 1" LETTERS, MOUNT WITH RUSTPROOF SCREWS ON THE INSIDE WALL OF THE BOX, ADJACENT TO THE RECEPTACLE(S).
6. DOME MANUFACTURER SHALL PROVIDE 6" SQUARE RED FABRIC PATCH ADJACENT TO THE EMERGENCY LUMINAIRE MOUNTING POINT.
7. REFER TO E101 FOR SECONDARY SERVICE CONTINUATION AND LOCATION OF PAD-MOUNTED TRANSFORMER.
8. PROVIDE CONCRETE PAD (4" HIGH) ON TOP OF MAINTENANCE YARD PAD.
9. DOME HEATER ELECTRICAL INFORMATION.
   - (2) 7.5HP FANS
   - (1) CONTROL PANEL
   - INTEGRAL DISCONNECT SWITCH
   - ONE POINT OF CONNECTION
10. INFLATION UNIT ELECTRICAL INFORMATION.
    - (1) 5HP FAN
11. PSU EVENTS TRANSFORMER AND CIRCUIT BREAKER.
12. PROVIDE 120V, 20A CONNECTION TO PERMANENT SCOREBOARD. CIRCUIT WITH (2#6, 1#10G) 2"C. CONFIRM FINAL LOCATION AND CONNECTION METHOD PRIOR TO ROUGH-IN. CIRCUIT TO LRG-25.
13. REFER TO TELECOM CONSULTANT DRAWINGS FOR INFORMATION ON ENCLOSURES TE2 AND TE3. PROVIDE THE FOLLOWING AT EACH LOCATION.

    TE2:

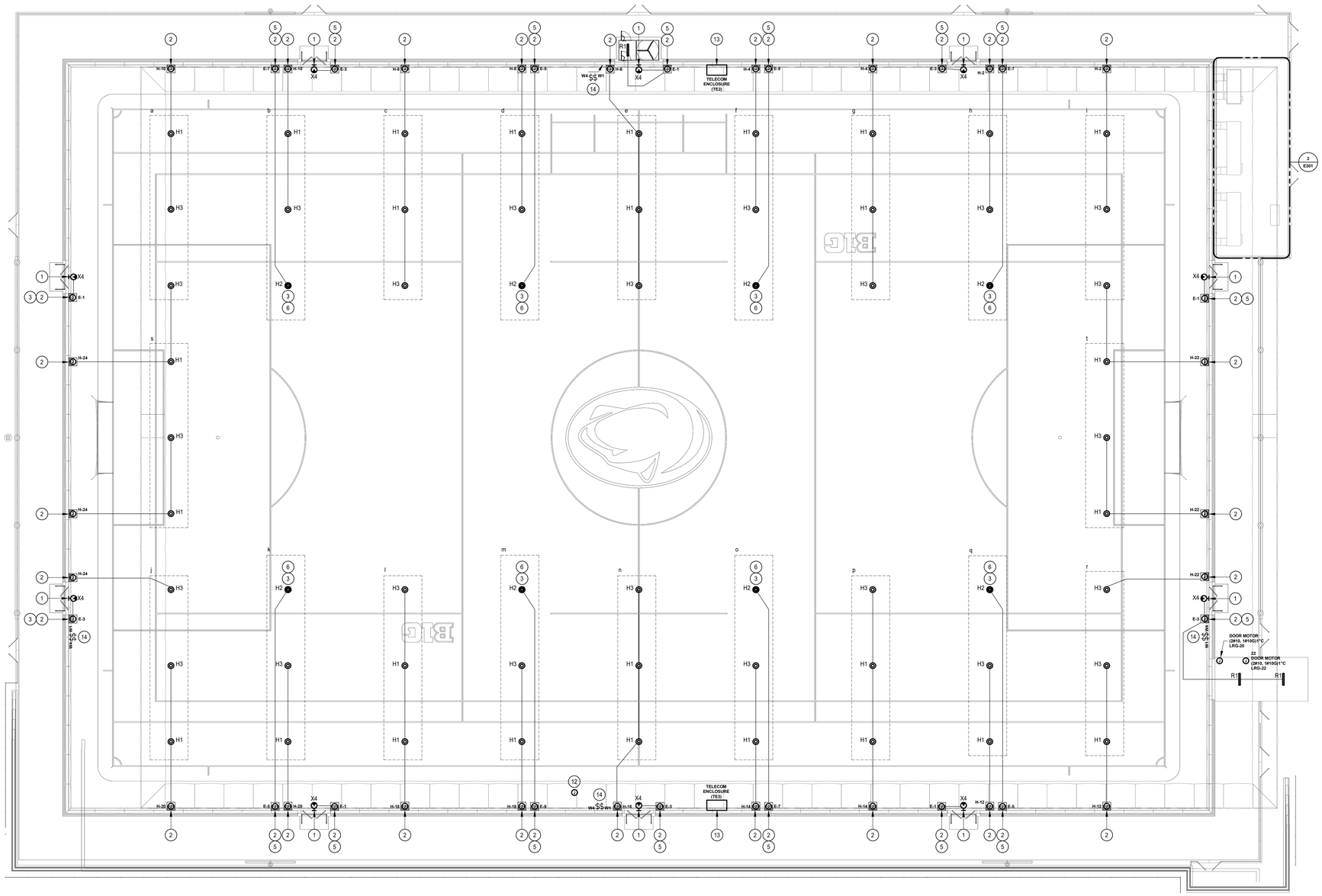
    a. PROVIDE ONE QUAD OUTLET MOUNTED IN ENCLOSURE FOR BROADCAST. CIRCUIT WITH (2#6, 1#10G) TO LRG-2 AND ONE HARDWARE CONNECTION TO THE INTEGRAL A/C UNIT. CIRCUIT WITH (2#6, 1#10G) TO LRG-4. RUN LRG-2 AND LRG-4 IN 2" C.

    b. PROVIDE TWO QUAD OUTLETS MOUNTED IN ENCLOSURE FOR IT. CIRCUIT EACH WITH (2#6, 1#10G) IN COMMON 2"C. CIRCUIT TO LRG-6,8.

    TE3:

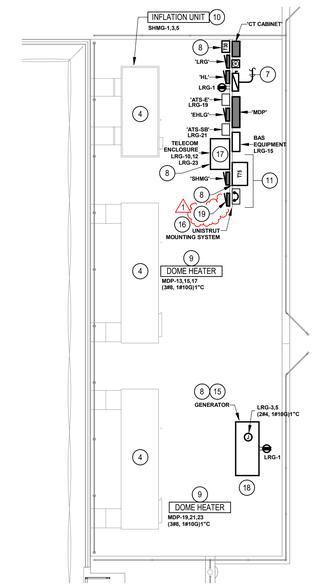
    a. PROVIDE ONE QUAD OUTLET MOUNTED IN ENCLOSURE FOR BROADCAST. CIRCUIT WITH (2#6, 1#10G) TO LRG-7 AND ONE HARDWARE CONNECTION TO THE INTEGRAL A/C UNIT. CIRCUIT WITH (2#6, 1#10G) TO LRG-9. RUN LRG-7 AND LRG-9 IN 2" C.

    b. PROVIDE TWO QUAD OUTLETS MOUNTED IN ENCLOSURE FOR IT. CIRCUIT EACH WITH (2#6, 1#10G) IN COMMON 2"C. CIRCUIT TO LRG-11,13.
14. PROVIDE NLIGHT AIR WIRELESS BATTERY POWERED CONTROLS, ONE (1) SD2: RPODBA-DX-(FINISH), AND ONE (1) SD4: RPODBA-4S-DX-(FINISH). MOUNT IN JUNCTION BOX WITH WEATHERPROOF SEE-THROUGH COVER, TAYMAC ML2450, OAE. CONFIRM EXACT LOCATION WITH OWNER AND COORDINATE MOUNTING WITH DOME SUPPLIER.
15. CONFIRM CIRCUIT BREAKER AND WIRING REQUIREMENTS OF THE BATTERY CHARGER AND BLOCK HEATER WITH SELECTED GENERATOR PRIOR TO COMMENCEMENT OF WORK.
16. PROVIDE UNISTRUT MOUNTING FOR EQUIPMENT INDICATED. LENGTH TO BE CONFIRMED AFTER FINAL APPROVAL OF EQUIPMENT SUBMITTALS. PROVIDE SHOP DRAWINGS OF UNISTRUT SYSTEM FOR REVIEW AND APPROVAL BY OPP, CRAWFORD & REESE HACKMAN.
17. REFER TO TELECOM CONSULTANT DOCUMENTS FOR INFORMATION ON ENCLOSURE (TE1). PROVIDE 2 QUAD OUTLETS (MOUNTED IN ENCLOSURE) EACH WITH DEDICATED CIRCUIT AND DEDICATED NEUTRAL. PROVIDE 120V CONNECTION TO INTEGRAL A/C UNIT. EACH CIRCUIT SHALL BE RUN IN 1"C.
18. COORDINATE GENERATOR EXHAUST LOCATION WITH AIR INTAKE ON HEATERS TO CONFIRM A MINIMUM OF 10'-0".
19. PROVIDE EXTERIOR LIGHTING CONTROL EQUIPMENT PER 1/E602. /1



1 E301 **GROUND LEVEL ELECTRICAL PLAN**

SCALE: 1/16" = 1'-0"



2 E301 **ENLARGED ELECTRICAL PLAN**

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

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INDOOR PRACTICE AIR SUPPORTED STRUCTURE

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crawford project number: 40423
PSU project number: 00-09025.00

The Pennsylvania State University, University Park, PA

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OVERALL ELECTRICAL PLAN

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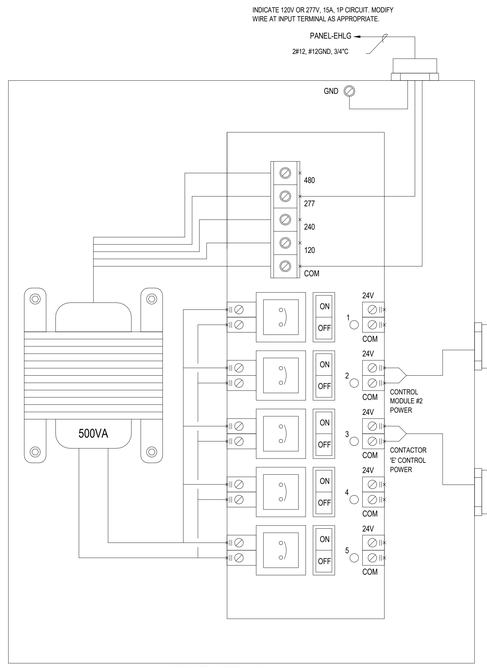
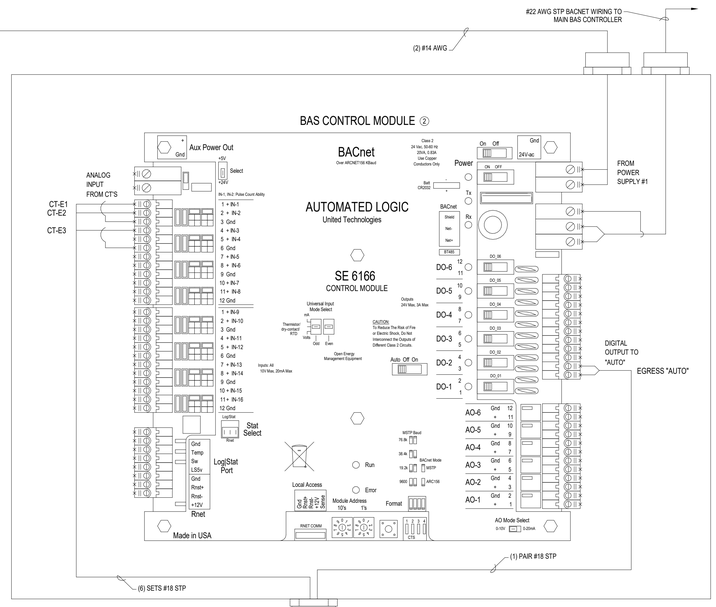
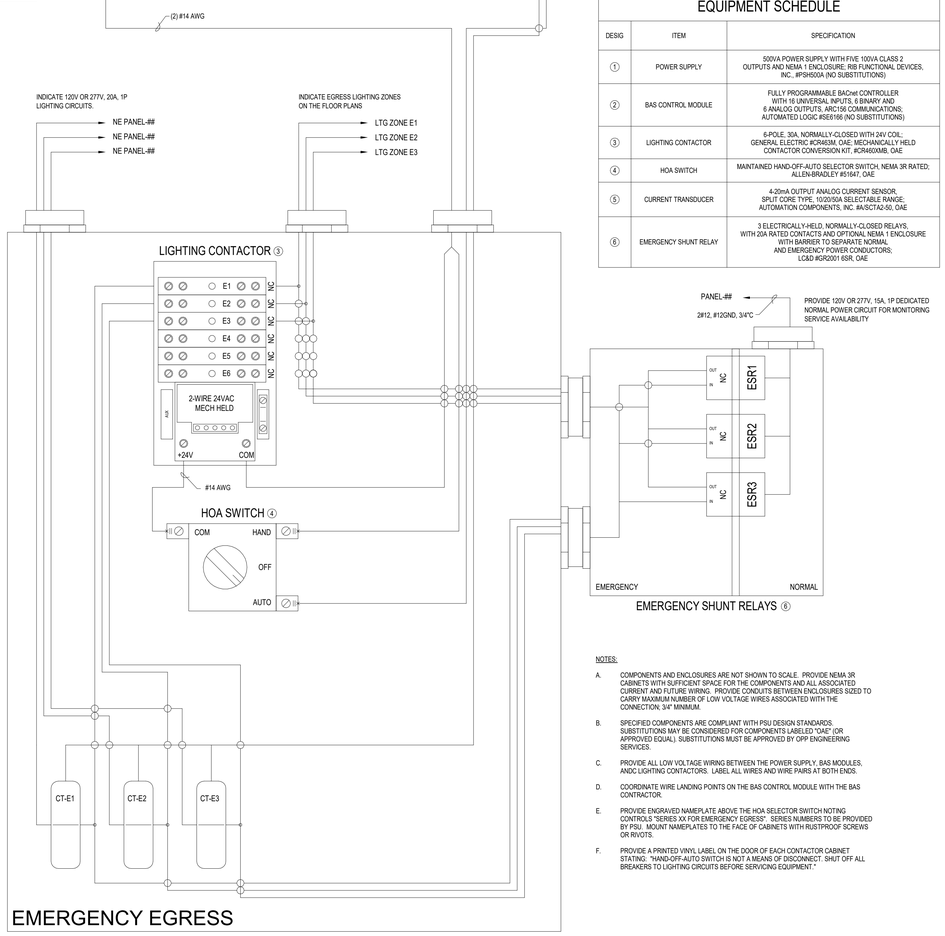


POWER SUPPLY ①





EQUIPMENT SCHEDULE

DESIG	ITEM	SPECIFICATION
①	POWER SUPPLY	500VA POWER SUPPLY WITH FIVE 100VA CLASS 2 OUTPUTS AND NEMA 1 ENCLOSURE; RIB FUNCTIONAL DEVICES, INC., #PSH500A (NO SUBSTITUTIONS)
②	BAS CONTROL MODULE	FULLY PROGRAMMABLE BACnet CONTROLLER WITH 16 UNIVERSAL INPUTS, 6 BINARY AND 6 ANALOG OUTPUTS, ARC156 COMMUNICATIONS; AUTOMATED LOGIC #SE6166 (NO SUBSTITUTIONS)
③	LIGHTING CONTACTOR	6-POLE, 30A, NORMALLY-CLOSED WITH 24V COIL; GENERAL ELECTRIC #CR463M, OAE. MECHANICALLY HELD CONTACTOR CONVERSION KIT, #CR460XMB, OAE
④	HOA SWITCH	MAINTAINED HAND-OFF-AUTO SELECTOR SWITCH, NEMA 3R RATED; ALLEN-BRADLEY #51647, OAE
⑤	CURRENT TRANSDUCER	4-20mA OUTPUT ANALOG CURRENT SENSOR, SPLIT CORE TYPE, 10/20/50A SELECTABLE RANGE; AUTOMATION COMPONENTS, INC. #A-SCTA2-50, OAE
⑥	EMERGENCY SHUNT RELAY	3 ELECTRICALLY-HELD, NORMALLY-CLOSED RELAYS, WITH 20A RATED CONTACTS AND OPTIONAL NEMA 1 ENCLOSURE WITH BARRIER TO SEPARATE NORMAL AND EMERGENCY POWER CONDUCTORS; LC&D #GR2001 6SR, OAE

NOTES:

A. COMPONENTS AND ENCLOSURES ARE NOT SHOWN TO SCALE. PROVIDE NEMA 3R CABINETS WITH SUFFICIENT SPACE FOR THE COMPONENTS AND ALL ASSOCIATED CURRENT AND FUTURE WIRING. PROVIDE CONDUITS BETWEEN ENCLOSURES SIZED TO CARRY MAXIMUM NUMBER OF LOW VOLTAGE WIRES ASSOCIATED WITH THE CONNECTION, 3/4" MINIMUM.

B. SPECIFIED COMPONENTS ARE COMPLIANT WITH PSU DESIGN STANDARDS. SUBSTITUTIONS MAY BE CONSIDERED FOR COMPONENTS LABELED "OAE" (OR APPROVED EQUAL). SUBSTITUTIONS MUST BE APPROVED BY OPP ENGINEERING SERVICES.

C. PROVIDE ALL LOW VOLTAGE WIRING BETWEEN THE POWER SUPPLY, BAS MODULES, ANDC LIGHTING CONTACTORS. LABEL ALL WIRES AND WIRE PAIRS AT BOTH ENDS.

D. COORDINATE WIRE LANDING POINTS ON THE BAS CONTROL MODULE WITH THE BAS CONTRACTOR.

E. PROVIDE ENGRAVED NAMEPLATE ABOVE THE HOA SELECTOR SWITCH NOTING CONTROLS "SERIES XX FOR EMERGENCY EGRESS". SERIES NUMBERS TO BE PROVIDED BY PSU. MOUNT NAMEPLATES TO THE FACE OF CABINETS WITH RUSTPROOF SCREWS OR RIVOTS.

F. PROVIDE A PRINTED VINYL LABEL ON THE DOOR OF EACH CONTACTOR CABINET STATING: "HAND-OFF-AUTO SWITCH IS NOT A MEANS OF DISCONNECT. SHUT OFF ALL BREAKERS TO LIGHTING CIRCUITS BEFORE SERVICING EQUIPMENT."

EXTERIOR LIGHTING CONTROL DIAGRAM

1 / E602 — SCALE: NONE

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building number: xxxxxx
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PSU project number: 00-09025.00

The Pennsylvania State University, University Park, PA

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Title
LIGHTING DIAGRAM

E602
sheet no.

SCENE SCHEDULE

			4-BUTTON SCENE SWITCH "LIGHTING SCENES" ($W4)						2-BUTTON SWITCH "ALL LIGHTS" ($W1)	
ZONE	ZONE NAME	DIMMING	HIGH	EAST	WEST	EVENT	ON	OFF	ON	OFF
a	NORTHWEST 1 (ENDLINE)	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
b	NORTHWEST 2	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
c	NORTHWEST 3	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
d	NORTHWEST 4	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
e	NORTH CENTERLINE	0-10	95%	95%	95%	10%	85%	OFF	85%	OFF
f	NORTHEAST 1	0-10	95%	95%	OFF	10%	85%	OFF	85%	OFF
g	NORTHEAST 2	0-10	95%	95%	OFF	10%	85%	OFF	85%	OFF
h	NORTHEAST 3	0-10	95%	95%	OFF	80%	85%	OFF	85%	OFF
i	NORTHEAST 4 (ENDLINE)	0-10	95%	95%	OFF	80%	85%	OFF	85%	OFF
j	SOUTHWEST 1 (ENDLINE)	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
k	SOUTHWEST 2	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
l	SOUTHWEST 3	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
m	SOUTHWEST 4	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
n	SOUTH CENTERLINE	0-10	95%	95%	95%	10%	85%	OFF	85%	OFF
o	SOUTHEAST 1	0-10	95%	95%	OFF	10%	85%	OFF	85%	OFF
p	SOUTHEAST 2	0-10	95%	95%	OFF	10%	85%	OFF	85%	OFF
q	SOUTHEAST 3	0-10	95%	95%	OFF	80%	85%	OFF	85%	OFF
r	SOUTHEAST 4 (ENDLINE)	0-10	95%	95%	OFF	80%	85%	OFF	85%	OFF
s	WEST GOAL	0-10	95%	OFF	95%	10%	85%	OFF	85%	OFF
t	EAST GOAL	0-10	95%	95%	OFF	80%	85%	OFF	85%	OFF

NOTES:

1. EMERGENCY LIGHTS TO DIM TO OFF OVER 1 MINUTE PERIOD.
2. SCENE TRANSITION SHALL OCCUR OVER A 5 SECOND PERIOD.
3. CONFIRM ALL ZONES, OUTPUTS, AND TRANSITION TIMES WITH OWNER WHEN ON SITE.
4. LOCK THE SCENE BUTTONS SO THAT THE SETTINGS CAN'T BE CHANGED ACCIDENTALLY. TRAIN OWNER HOW TO UNLOCK THE BUTTONS AND MODIFY THE SCENES IN THE FUTURE.
5. CONFIRM THE SCENE NAMES NOTED ABOVE IN WRITING WITH THE OWNER AND ENGINEER PRIOR TO ORDERING THE ENGRAVING.
6. PROVIDE CUSTOM ENGRAVING OF THE BUTTONS AS WELL AS THE COVER PLATE.

LIGHTING CONTROL SCHEDULE

AREA	LOCAL CONTROL ($__)	ZONE	DESCRIPTION	ENGRAVE/ LABEL	DIM	OUTPUT SETTINGS		NOTES
						OCC.	UNOCC.	
INDIRECT LIGHTING								TIMEOUT: 20M
SCENE STATION	W4		LIGHTING SCENES	Y		REFER TO SCENE SCHED.		NOTE 1
ENTRY STATION	W1		ALL LIGHTS	Y				
		a	NORTHWEST 1 (ENDLINE)		0-10	85%	OFF	
		b	NORTHWEST 2		0-10	85%	OFF	NOTE 2, 3
		c	NORTHWEST 3		0-10	85%	OFF	
		d	NORTHWEST 4		0-10	85%	OFF	NOTE 2, 3
		e	NORTH CENTERLINE		0-10	85%	OFF	
		f	NORTHEAST 1		0-10	85%	OFF	NOTE 2, 3
		g	NORTHEAST 2		0-10	85%	OFF	
		h	NORTHEAST 3		0-10	85%	OFF	NOTE 2, 3
		i	NORTHEAST 4 (ENDLINE)		0-10	85%	OFF	
		j	SOUTHWEST 1 (ENDLINE)		0-10	85%	OFF	
		k	SOUTHWEST 2		0-10	85%	OFF	NOTE 2, 3
		l	SOUTHWEST 3		0-10	85%	OFF	
		m	SOUTHWEST 4		0-10	85%	OFF	NOTE 2, 3
		n	SOUTH CENTERLINE		0-10	85%	OFF	
		o	SOUTHEAST 1		0-10	85%	OFF	NOTE 2, 3
		p	SOUTHEAST 2		0-10	85%	OFF	
		q	SOUTHEAST 3		0-10	85%	OFF	NOTE 2, 3
		r	SOUTHEAST 4 (ENDLINE)		0-10	85%	OFF	
		s	WEST GOAL		0-10	85%	OFF	
		t	EAST GOAL		0-10	85%	OFF	
SITE LIGHTING								TIMEOUT: 20M
		z1	SHOESBOXES: NORTH EGRESS		0-10	85%	20%	NOTE 2, 4
		z2	SHOEBOXES: EAST EGRESS		0-10	85%	20%	NOTE 2, 4
		z3	SHOEBOXES: SOUTH EGRESS		0-10	85%	20%	NOTE 2, 4
		z4	SHOEBOX: WEST EGRESS		0-10	85%	20%	NOTE 2, 4
		z5	SHOEBOX: WEST EQ YARD		0-10	50%	OFF	NOTE 2, 4 (10M DELAY)

KEY NOTES:

1. REFER TO SCENE SCHEDULE FOR SPECIFIC BUTTON SETTINGS, ENGRAVING, ETC.
2. ZONE CONTAINS EMERGENCY LIGHTING.
3. PROGRAM THE UL924 FEATURE TO MONITOR A NORMAL-POWER SENSOR TO BRING ALL LIGHTS TO 100% OUTPUT LEVEL WHEN NORMAL POWER IS LOST. FIXTURES SHALL REVERT TO HIGH/LOW WHILE ON EMERGENCY POWER.
4. PROGRAM LIGHTS WITHIN EACH ZONE SO THAT IF ONE FIXTURE SENSES MOTION, ALL FIXTURES COME TO PROGRAMMED FULL OUTPUT TOGETHER. PROGRAM THE UL924 FEATURE TO MONITOR THE NORMAL-POWER EXTERIOR SENSOR TO BRING ALL LIGHTS TO 100% OUTPUT LEVEL WHEN NORMAL POWER IS LOST. FIXTURES SHALL REVERT TO HIGH/LOW WHILE ON EMERGENCY POWER.

GENERAL NOTES:

A. FIELD VERIFY LIGHTING OUTPUT LEVEL (UPPER TRIM AND DIM SETTINGS) OF ALL ZONES WITH THE ENGINEER AND OWNER.
B. REFER TO PLANS FOR DIMMING ZONES.
C. FADE RATE SHALL BE 5 SECONDS FOR NORMAL LIGHTS. WHEN "OFF" IS SELECTED, THE FADE RATE OF THE EMERGENCY LIGHTS SHALL BE 1 MINUTE.
D. CONTROLLED EMERGENCY LIGHTING SHALL BE VIA A UL 924 FIXTURE SENSOR/CONTROLLER THAT MONITORS THE NORMAL POWER FIXTURE SENSORS.
E. PROVIDE CUSTOM ENGRAVING OF SWITCH COVER, ON SCENE SCHEDULES, OR ON DRAWINGS, COORDINATE NAMING WITH ENGINEER AND OWNER.

LIGHT FIXTURE SCHEDULE

GENERAL NOTES:

A. DIMMING TECHNOLOGY DEFINITIONS: 0-10V (2-WIRE DC, PURPLE/GRAY W/RED); MLV = MAGNETIC LOW VOLTAGE (FORWARD PHASE, LEADING EDGE, TRIAC); ELV = ELECTRONIC LOW VOLTAGE (REVERSE PHASE, TRAILING EDGE); DALI (DIGITAL ADDRESSABLE LIGHTING INTERFACE); DMX (DIGITAL MULTIPLEX); L = LUTRON ECOSYSTEM; NA = NON-DIM.

B. LUMINAIRE FINISHES SHALL BE SELECTED FROM MANUFACTURERS STANDARD (UNLESS NOTED AS A CUSTOM FINISH), AS SELECTED BY THE ARCHITECT DURING SUBMITTAL REVIEW. CONFIRM ALL SELECTIONS IN WRITING PRIOR TO RELEASING ANY ORDER.

C. COORDINATE WITH ARCHITECTURAL PLANS, ELEVATIONS, AND DETAILS FOR MOUNTING HEIGHTS OF ALL WALL-MOUNT AND PENDANT-MOUNT LUMINAIRES. IF HEIGHT IS NOT INDICATED ON THOSE DOCUMENTS, COORDINATE HEIGHT WITH THE ARCHITECT IN WRITING PRIOR TO ROUGH-IN.

D. LUMINAIRE MOUNTING: CONFIRM MOUNTING TYPE WITH THE DOME SUPPLIER BEFORE ORDERING LUMINAIRES, CONTRACTOR IS RESPONSIBLE TO ORDER THE CORRECT MOUNTING HARDWARE. PROVIDE FIXTURE THAT HAS THE APPROPRIATE ACCESORIES TO COMPLY WITH DOME MANUFACTURER REQUIREMENTS.

E. FURNISH ALL NECESSARY LUMINAIRE COMPONENTS TO FACILITATE A COMPLETE AND FUNCTIONAL LIGHTING SYSTEM.

F. FIXTURE ALTERNATE: ALTERNATE FIXTURE SUBMITTED SHALL PROVIDE EQUAL OR BETTER DELIVERED LUMEN OUTPUT, EFFICACY, DISTRIBUTION, WARRANTY, ETC. THAN THE SPECIFIED MODEL. INCLUSION OF MANUFACTURER NAME IN ALTERNATE MANUFACTURER COLUMN DOES NOT IMPLY THAT ALL MANUFACTURERS LISTED OFFER AN ACCEPTABLE ALTERNATE TO THE SPECIFIED FIXTURE.

G. EC SHALL PROVIDE ALL LIGHTING PLANS, LIGHT FIXTURE SCHEDULE, LIGHTING CONTROL DIAGRAM(S), AND LIGHTING CONTROLS SCHEDULE(S), LIGHTING SPECIFICATIONS, AND RELEVANT LIGHTING DETAILS TO ALL DISTRIBUTORS PROVIDING PRICING.

H. REFER TO SPECIFICATIONS FOR FURTHER LIGHTING REQUIREMENTS.

I. PROVIDE SILICONE FILLED WATERPROOF CONNECTORS FOR ALL EXTERIOR LUMINAIRES.

J. INSTALL LUMINAIRES SO THAT DIFFUSER, LAMP/SOURCE ORIENTATION, OR OTHER DEFINING FEATURE OF ADJACENT FIXTURES IS ALIGNED, WHERE APPLICABLE.

K. REFER TO E800 DRAWINGS FOR CONCRETE BASE DETAIL.

KEY NOTES:

1. IF ALTERNATE MANUFACTURER IS SUBMITTED FOR SITE LIGHTING LUMINAIRES, PROVIDE POINT-BY-POINT ILLUMINANCE CALCULATIONS WITH THE SHOP DRAWING SUBMITTAL (USE 0.90 LLF). CALCULATIONS MUST MEET OR SLIGHTLY EXCEED THOSE OF THE BASE BID EQUIPMENT AND TOTAL WATTAGE MUST BE THE SAME OR LESS. CONTRACTOR MAY SUGGEST ALTERNATE LUMINAIRE LAYOUT TO MEET OR EXCEED THE BASE MANUFACTURER LAYOUT; IF THAT INCLUDES A REDUCTION OF FIXTURES IT SHALL ALSO INCLUDE A PROPOSED CREDIT. IT IS CRITICAL TO PROVIDE SEPARATE CALCULATIONS OF ANY LUMINAIRES THAT PROVIDE EGRESS ILLUMINATION FROM THE BUILDING TO THE PUBLIC WAY TO COMPLY WITH NFPA 101.
2. PROVIDE ONE (1) 40A/3P FEEDER AND ONE (1) 20A/1P CIRCUIT TO EACH MUSCO POLE LOCATION. ALTERNATE MANUFACTURER SHALL PROVIDE THE SAME TURNKEY INSTALLATION, AIMING, AND ILLUMINANCE VERIFICATION, ALONG WITH 25-YEAR WARRANTY.
3. IF ALTERNATE MANUFACTURER IS SUBMITTED FOR HIGH BAY LUMINAIRES, PROVIDE POINT-BY-POINT ILLUMINANCE CALCULATIONS WITH THE SHOP DRAWING SUBMITTAL (USE 0.90 LLF). CALCULATIONS MUST MEET OR SLIGHTLY EXCEED THOSE OF THE BASE BID EQUIPMENT AND TOTAL WATTAGE MUST BE THE SAME OR LESS. CONTRACTOR MAY SUGGEST ALTERNATE LUMINAIRE LAYOUT TO MEET OR EXCEED THE BASE MANUFACTURER LAYOUT; IF THAT INCLUDES A REDUCTION OF FIXTURES IT SHALL ALSO INCLUDE A PROPOSED CREDIT. IT IS CRITICAL TO PROVIDE SEPARATE CALCULATIONS OF ANY LUMINAIRES THAT PROVIDE EGRESS ILLUMINATION FROM THE BUILDING TO COMPLY WITH NFPA 101. PROPOSED LUMINAIRE WEIGHT SHALL BE APPROVED BY DOME MANUFACTURER, PROVIDE DUAL MOUNTING PROVISIONS FOR THE LUMINAIRE AS WELL AS A CONFORMANCE LETTER WITH SUBMITTAL.
4. PROVIDE EMERGENCY POWER FIXTURE WITH NLIGHT AIR WIRELESS UL924 RELAY
5. EXIT SIGNS: COORDINATE AND PROVIDE MOUNTING TYPE PER DOME MANUFACTURER REQUIREMENTS.
6. MOUNT SENSOR AT 14' ABOVE THE BASE OF THE POLE FACING THE SAME DIRECTION AS THE LUMINAIRE, UON ON THE PLANS. WIRE TO CONTROL THE LUMINAIRE PER MANUFACTURER'S INSTRUCTIONS.

KEY	DESCRIPTION	LAMPS OR LUMEN DELIVERED (MINIMUM)	(VA)	MANUFACTURER	MODEL	ALTERNATE MANUFACTURER	VOLTAGE	KEY NOTES	MOUNTING	OAH
H1	HIGH BAY, DUAL-HEAD INDIRECT RATED HIGH-OUTPUT FIXTURE WITH TWO (2) WHITE "SO" CORDS. ONE (1) CORD WITH NEMA L7-20P TWIST-LOCK PLUG, AND THE OTHER WITH ONE (1) NEMA L7-20R RECEPTACLE. WEIGHT IS 22 LB/HEAD, FACTORY INSTALL NLIGHT WIRELESS SENSOR/CONTROLS (RBOR) WITH CUSTOM SENSOR WIRE GUARD, 10% DIM/0-10V	118000	772	BRITE COURT	(TWO) DID-HEX24IF-8400 INDIRECT-50K-U-WCP-2PDM-*SX14 (14' WHITE SO CORD AND L7-20P PLUG, 14' WHITE SO CORD AND L7-20R RECP.); NLIGHT AIR RSBOR-40-(BRACKET)-IM-WH-G2; CUSTOM SENSOR GUARD	DUAL ALBEO ABV4-0-60-58, LUX DYNAMICS IK10E, AS APPROVED OF SIMILAR OUTPUT AND WEIGHT; MUST INCLUDE NLIGHT CONTROLS	277	3	PENDANT	14"
H2	SAME AS H1, WITH UL924 COMPLIANT SENSOR AND SINGLE "SO" CORD WITH RED NEMA L7-20P PLUG.	118000	772	BRITE COURT	(TWO) DID-HEX24IF-8400 INDIRECT-50K-U-WCP-2PDM-*14 (14' WHITE SO CORD AND L7-20P RED PLUG); NLIGHT AIR RMSOD-45-ZT-EM-(WHIP)-(ANGLE)-G2; CUSTOM SENSOR GUARD	DUAL ALBEO ABV4-0-60-58, LUX DYNAMICS IK10E, AS APPROVED OF SIMILAR OUTPUT AND WEIGHT; MUST INCLUDE NLIGHT CONTROLS	277	3,4	PENDANT	14"
H3	SAME AS H1, WITH SINGLE "SO" CORD WITH NEMA L7-20P PLUG, CABLE SHALL BE WHITE.	118000	772	BRITE COURT	(TWO) DID-HEX24IF-8400 INDIRECT-50K-U-WCP-2PDM-*14 (14' WHITE SO CORD AND L7-20P PLUG); NLIGHT AIR WIRELESS CONTROL; CUSTOM SENSOR GUARD	DUAL ALBEO ABV4-0-60-58, LUX DYNAMICS IK10E, AS APPROVED OF SIMILAR OUTPUT AND WEIGHT; MUST INCLUDE NLIGHT CONTROLS	277	3	PENDANT	14"
P2	SHOEBOX HEAD, TYPE 2, 4000K, BI-LEVEL W/ SENSOR (95%-30%), 10% DIM/0-10V, 5" STRAIGHT SQUARE 24' FIBERGLASS POLE	12000	90	LITHONIA	DSX0-LED-P5-40K-T2M-MVOLT-SPA-NLTAIR2 PIRHN-FAO-DBLXD; WHATLEY SS-5-25-AB-BLK-19 (CUT TO 24')	BEACON VIPER, COOPER GALLEON 2, EATON RIDGEVIEW, GARDCO OPTIFORM,	277	1	CONCRETE BASE	N/A
P2E	SAME AS P2, FIELD-INSTALL UL924 nLIGHT AIR WIRELESS MESH NETWORK SENSOR	12000	90	LITHONIA	DSX0-LED-P5-40K-T2M-MVOLT-SPA-DBLXD-G1; NLIGHT RSBOR-10-EM-(BRACKET)-IM-BK-G2 (SENSOR); WHATLEY SS-5-25-AB-BLK-19 (CUT TO 24')	BEACON VIPER, COOPER GALLEON 2, EATON RIDGEVIEW, GARDCO OPTIFORM,	277	1,6	CONCRETE BASE	N/A
P3	SHOEBOX HEAD, TYPE 3, 4000K, BI-LEVEL W/ SENSOR (95%-30%), 10% DIM/0-10V, 5" STRAIGHT SQUARE 24' FIBERGLASS POLE	17000	137	LITHONIA	DSX0-LED-P5-40K-T3M-MVOLT-SPA-NLTAIR2 PIRHN-FAO-DBLXD; WHATLEY SS-5-25-AB-BLK-19 (CUT TO 24')	BEACON VIPER, COOPER GALLEON 2, EATON RIDGEVIEW, GARDCO OPTIFORM,	277	1	CONCRETE BASE	N/A
R1	AIRLOCK LIGHT: LENSED, 4"W x 48"L x 3.5"T, ADA, BI-LEVEL W/ SENSOR: SET TO 5 MINUTE/10% OUTPUT. PROVIDE CUSTOM MOUNT FOR DOME AIRLOCK.	4000	29	ILP	DSC4-4L-HE-U-930-FFLGR-NEKO-USBD	HUBBELL MPS, KENALL MLHA5, LITHONIA WL4, METALUX SRL	277		SURFACE CEILING	MAX 3.9" OAH
X4	EXIT SIGN: VANDAL RESISTANT, SINGLE FACE, GREEN LED.	LED INCLUDED	1410/POLE-5	WILLIAMS	WW-SVX-1-G-4X-(MOUNT)	COOPER, HUBBELL, LITHONIA, SIGNIFY	277	5	SURFACE	11" OAH
Z1	POLE-MOUNT, PRE-AIMED PRACTICE FIELD LIGHTING. TURNKEY INSTALLATION, 8-HEADS/POLE, 4-POLES, INCLUDES MFG WIRELESS REMOTE MONITORING, 25-YEAR PARTS AND LABOR WARRANTY.	181000/POLE		MUSCO	TLC-LED-1500	NONE	480	2	PIER DRILL	PER MFG.

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