MSE of Kentucky, Inc.

Engineers/Architects/Planners

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Addendum No. 2
Russell County Industrial Development Authority
The SEED Academy Project
Bid Date: August 22, 2024
Addendum Issue Date: August 12, 2024

The Contractor shall conform to the following changes, as same shall become binding upon the Contract to be issued in response to this invitation.

Item 1: Roof Live load 20 pounds, reducible to 16 pounds

Item 2: Roof. Standard structural standing seam, mechanically fastened. The finish on the Galvalume roof drawings is dark bronze.

Item 3: Exterior Hollow Metal Frames and Hollow Metal Doors are NOT to be provided by the PEMB supplier.

The following items are addressed in the revised attached drawings:

Item 4: No bleachers in contract.

Item 5: No animal stalls in contract.

Item 6: No Greenhouse in project, as well as the sidewalks, foundation and associated site elements.

Item 7: Equipment in labs is noted as (NIC) not in contract, except the pet washing station, which is specified on plumbing sheets.

Item 8: Solid surface on countertops has been eliminated and changed to plastic laminate at all areas.

Item 9: 3 sets of legs on the peninsula tables in labs. Space underneath to be left open for mobile storage bins used in the classes.

Item 10: The auditorium and all labs, offices, etc. will be stud walls with gypsum board. Liner panels are only used in the Livestock Training Area.

Item 11: A detail for concrete paving at the livestock and overhead door areas has been added to the civil detail sheets.

Item 12: Tackable surface in the reception desk can be cork board or a standard fabric covered material.

Item 13: Plastic laminate window stools located at all windows within the offices and labs. Auditorium windows may be finished, painted drywall returns. Windows in Livestock area shall be trimmed with metal material from PEMB mfr.

Item 14: TMI Systems Corporation laminate cabinetry is acceptable for bids.

Item 15: Engineered Lighting Sales and Lumenation lighting packages are acceptable when meeting "equal" specifications.

Item 16: Engineer is still doing revisions to MEP sheets which will be sent out Tuesday, August 13. There are clarifications on exterior pole lights, and some light fixtures are updated to current models. A couple of plumbing fixtures were not labeled or were specified incorrectly, and those will be addressed. Fire alarm specs will be included, as well as information on the location of MD panel and site service details.

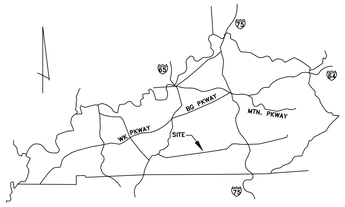
END OF ADDENDUM NO. 1

THE SEED ACADEMY

LAKE CUMBERLAND REGIONAL

AGRITECH CENTER

RUSSELL SPRINGS, KENTUCKY



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CODE INFORMATION:

Building Code: 2018 Kentucky Building Code, Second Edition

Project: Seed Academy - Russell Springs AgriTech

Project Site Address: 531 French Valley Rd., Russell Springs, KY 42642.

Brief Description: New Construction Agriculture Technology Education Facility, with an Auditorium, 1 training classrooms, 4 training lab/classrooms, Administrative area, including livestock barn adjacent to Auditorium, and a greeenhouse.

Use Group: Business Group B (Training and Skill Development)

Heights and Areas: Table 504.3 Allowable Building Height in Feet above grade plane

Table 504.3 Construction Type II-B fully sprinklered 75 feet allowed. 25 feet actual height.

Table 504.4 Allowable number of stories above grade plane 3 stories allowed. 1 story actual.

Table 506.2 Allowable Area Factor Type II-B (S1) 92,000 SF allowed. 19,147 SF actual.

Section 1004 Occupant Load:

Training & Skill Development Areas - Classroom area: 20 net
Shops & Vocational areas: 50 net

6,210 SF of Training Lab/Classrooms = divided by 20 net = 312 Occupants.

Per Table 1006.2.1 Maximum Common Path of Egress Travel is 100 feet.

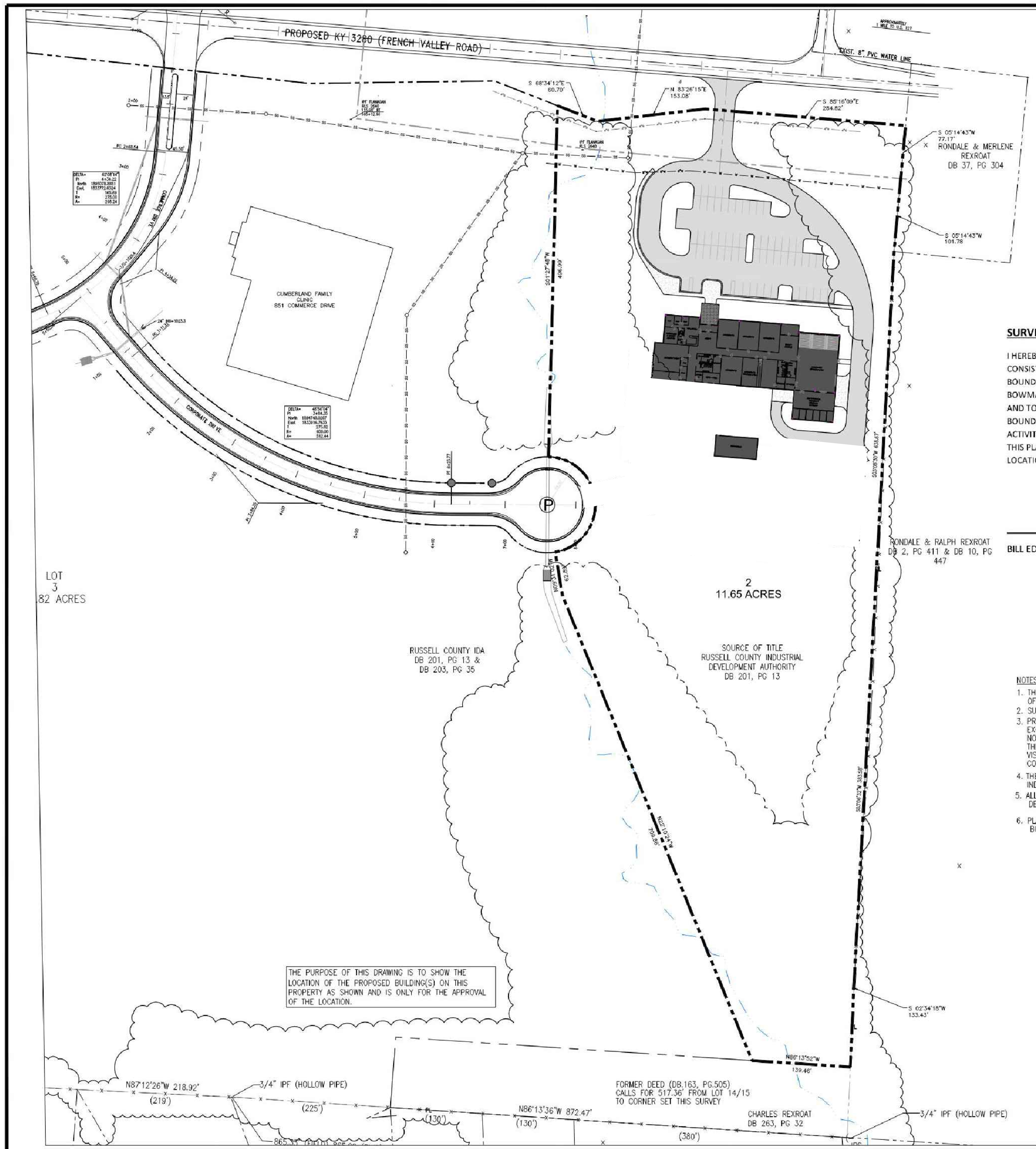
Accessibility Codes:

i. American's with Disabilities Act (ADA) 2010.
ii. Architectural Barriers Act Accessibility Standards (ABAAS) 2015.

DATE: AUGUST 2024

SCHEDULE OF DRAWINGS

SET NO.



VICINITY MAP
NTS

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE TRACT DEPICTED BY THIS PLAT IS ENCLOSED BY BOUNDARIES WHICH CONSIST OF ONE SIDE OF EXISTING PUBLIC ROADWAY RIGHTS OF WAY AND THREE SIDES BY EXISTING BOUNDARY LINES PREVIOUSLY SURVEYED AND MONUMENTED (DB 201,PG 13, 11-6-2002)BY WALTER BOWMAN, L.S. SUFFICIENT IRON PINS WERE FOUND TO COMPLETE THE SOUTHWEST BOUNDARY LINE AND TO ALLOW LOACTION OF THE PROPOSED BUILDING. THIS PLAT DOES NOT REPRESENT A NEW BOUNDARY SURVEY PER 201 KAR 18:150; NO NEW MONUMENTS WERE SET AS A RESULT OF FIELD ACTIVITIES. THE BOUNDARIES REPRESENT A CLOSED FIGURE ENCOMPASING THE ACERAGE INDICATED. THIS PLAT IS NOT FOR RECORDING OR TRANSFER OF PROPERTY. THE PURPOSE IS TO INDICATE THE LOCATION OF A PROPOSED NEW STRUCTURE(S) ON SAID TRACT.

June 22, 2022

BILL ED CANNON, PLS KY 2130 DATE

STATE OF KENTUCKY
WILLIAM E CANNON
2130
LICENSED PROFESSIONAL LAND SURVEYOR

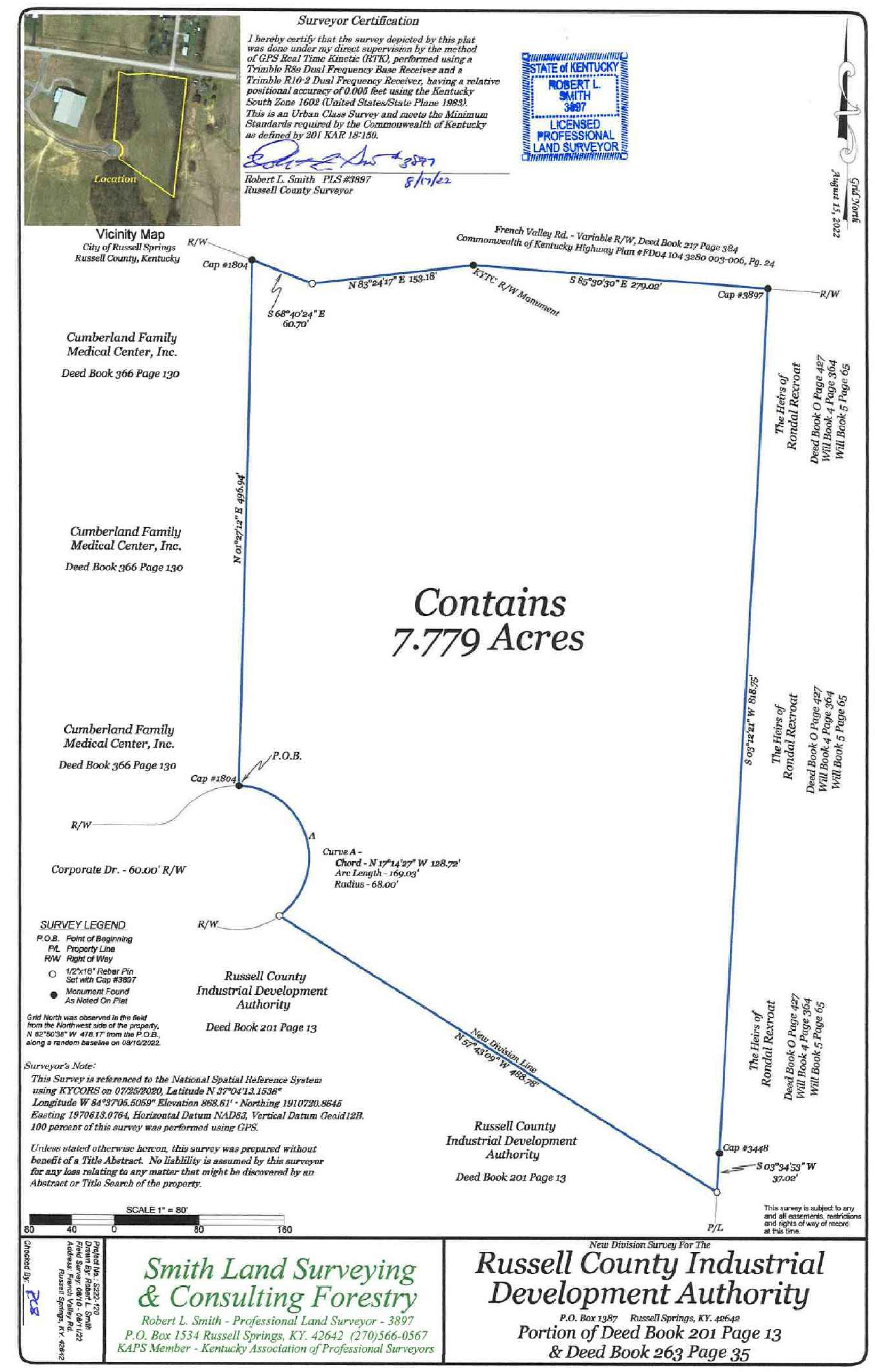
NOTES:

1. THE PROPERTY SHOWN HEREON IS SUBJECT TO ALL EASEMENTS AND RIGHT-OF-WAYS OF RECORD AND IN EXISTENCE.
2. SURVEY IS VALID ONLY IF PRINT HAS ORIGINAL SEAL AND SIGNATURE OF SURVEYOR.
3. PROPERTY IS SUBJECT TO PROTECTIVE COVENANTS. EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS PLAT, THIS PLAT DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT REAL ESTATE: EASEMENTS, OTHER THAN POSSIBLE EASEMENTS THAT WERE VISIBLE AT THE TIME OF MAKING THIS SURVEY; BUILDING SETBACK LINES; RESTRICTIVE COVENANTS; SUBDIVISION RESTRICTIONS; ZONING AND OTHER LAND USE REGULATIONS;
4. THE PURPOSE OF THIS PLAT IS TO DEPICT THE PROPERTY OWNED BY RUSSELL COUNTY INDUSTRIAL DEVELOPMENT AUTHORITY.
5. ALL BEARINGS SHOWN HEREON ARE TIED TO STATE PLANE COORINATES DETERMINED BY GPS CONTROL POINTS SUPPLIED BY PHOTO SCIENCE CONTROL.
6. PLAT REPRESENTS A PORTION OF AN ORIGINAL SURVEY OF THE PARCEL IDENTIFIED AS BOUNDARY RETRACEMENT SURVEY FOR RUSSELL COUNTY IDA, 11-06-2002, DB 201, PG-13.

LEGEND
EX. GAS LINE
EX. SANITARY SEWER
EX. WATER LINE
PROPERTY LINE PER WLB SURVEY
ADJOINING PROPERTY
EX. FENCE
FOUND PK NAIL
IRON PIN FOUND (IPF) TYPE NOTED
EXISTING UTILITY POLE

GRAPHIC SCALE
100' 0 50' 100' 200'
SCALE: 1" = 100'

NOT FOR RECORDING, SALE OR TRANSFER OF PROPERTY



SITE SURVEY

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

PROJECT NO.	2078-34
DESIGNED BY	
DRAWN BY	
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

DATE | REVISION | BY

DESIGN DOCUMENTS
The design professional waives any and all responsibility and liability for problems which arise from failure to follow these plans, specifications and the design intent they convey.
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DRAWING NO.
SS1
SHEET OF

GENERAL NOTES:

1. PRIOR TO ANY CONSTRUCTION OR DEMOLITION ACTIVITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATIONS OF ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL MAINTAIN UNINTERRUPTED UTILITY SERVICE TO ADJACENT FACILITIES DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WORK WITH UTILITY OWNERS. SHOULD DAMAGE OCCUR TO EXISTING OR NEW UTILITY SERVICES DURING CONSTRUCTION, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR AND/OR REPLACE SAID DAMAGE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER. NEW UTILITY WORK, REPAIRS, REPLACEMENTS AND/OR RELOCATIONS SHALL MEET THE APPROVAL OF THE UTILITY OWNER.

2. CONTRACTOR TO MARK AND PROTECT ALL UNDERGROUND UTILITIES AND OVERHEAD OBSTRUCTIONS.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS NOTING THE OWNER HAS OBTAINED AND PROVIDED THE KY TRANSPORTATION CABINET ENCROACHMENT PERMIT. SEE OWNER PERMIT DOCUMENTS IN DIVISION 0 OF THE PROJECT MANUAL WHICH SPECIFIC REQUIREMENTS WHICH THE CONTRACTOR MUST FOLLOW. THE CONTRACTOR WILL BE REQUIRED TO COMPLETE AND SUBMIT A NOTICE ON INTENT (NOI) FOR STORMWATER DISCHARGE WITH THE KENTUCKY DEPARTMENT OF WATER PRIOR TO ANY CONSTRUCTION ACTIVITY. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (NOT) TO THE KENTUCKY DIVISION OF WATER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A COPY OF ALL PERMITS OBTAINED BY THE CONTRACTOR.

4. VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE "KENTUCKY BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES" DATED AUGUST 1994 AS PREPARED BY THE DIVISION OF CONSERVATION AND DIVISION OF WATER, NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET AND/OR THE KENTUCKY TRANSPORTATION CABINET (KYTC) STANDARDS. CONTRACTOR SHALL USE THE "KENTUCKY EROSION PREVENTION AND SEDIMENT CONTROL FIELD GUIDE" AS THE DEFINITION OF REQUIREMENTS FOR CONSTRUCTION ACTIVITY.

5. EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN AND MUST BE PROPERLY MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY OWNER OR THE GOVERNING AGENCY. CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RUN-OFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MADE IMMEDIATELY WITHIN 24 HOURS.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING CONSTRUCTION ENTRANCES AND SHALL KEEP ALL ROADS AND STREETS FREE ROM MUD, DIRT AND DEBRIS.

7. THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES AND THE KENTUCKY DEPARTMENT OF HIGHWAYS GUIDANCE MANUAL.

8.THE CONTRACTOR MUST MAINTAIN ACCESS TO EXISTING BUSINESSES AND EXISTING ROADS.

9. IN ADDITION TO PREVENTING SEDIMENT AND EROSION CONTROL DURING CONSTRUCTION, THE CONTRACTOR MUST MINIMIZE OR ELIMINATE THE POTENTIAL FOR CHEMICAL CONTAMINANTS TO ENTER THE SOIL OR BE CARRIED ACROSS THE SITE BY STORM WATER. POTENTIAL CONTAMINANTS NORMALLY ASSOCIATED WITH CONSTRUCTION ACTIVITY INCLUDE GASOLINE AND DIESEL FUEL, OIL, GREASE, ANTIFREEZE, TERMITE SOIL TREATMENT CHEMICALS, FERTILIZER, ASPHALT OILS, EMULSIONS AND SMALL PARTICLE SIZE CONSTRUCTION DEBRIS. THE CONTRACTOR MUST EMPLOY VARIOUS BEST MANAGEMENT PRACTICES TO ELIMINATE OR MINIMIZE THE POTENTIAL FOR THESE CONTAMINANTS TO REACH THE SOIL AND/OR DRAINAGE SYSTEMS.

10. ALL SURFACE RUNOFF SHALL BE DIRECTED AWAY FROM ROADWAYS AND BUILDINGS AND DIRECTED TO DRAINAGE STRUCTURES, DITCHES OR SWALES.

11. CONTRACTOR SHALL ACCURATELY RECORD ALL UTILITIES CONSTRUCTED OR ENCOUNTERED ON "AS-BUILT" DRAWINGS AND PROVIDE TO OWNER AND ENGINEER.

12. MATERIALS AND METHODS OF CONSTRUCTION FOR GRADING AND DRAINAGE STRUCTURES INCLUDING PIPING AND HEADWALLS SHALL BE IN ACCORDANCE WITH KENTUCKY TRANSPORTATION CABINET (KYTC) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.

13. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY AREAS WHERE UNACCEPTABLE SOILS, SINKHOLES, WET AREAS OR OTHER CONDITIONS ARE ENCOUNTERED WHICH MAY ADVERSELY AFFECT THE SITE. IF DIRECTED BY ENGINEER, REMOVE UNSUITABLE SOILS AND REPLACE THEM WITH ACCEPTABLE SOILS.

14. EARTH AND ROCK WORK IS UNCLASSIFIED. NO EXTRA PAYMENT WILL BE MADE FOR ROCK EXCAVATION.

15. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN GRADING PLAN AS NECESSARY TO PROVIDE FOR SMOOTH TRANSITION FOR EXISTING ENTRANCES.

16. ALL SPOT ELEVATIONS INDICATE FINISH GRADE OF SURFACE. CONTRACTOR SHALL MAKE ADJUSTMENTS TO ESTABLISH GRADES OF SUB-BASE OR SUBGRADE.

17. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE EARTHWORK (EXCAVATION AND EMBANKMENT) QUANTITIES.

18. AREAS TO BE FILLED, EXCAVATED, LANDSCAPED, OR REGRADED SHALL BE STRIPPED OF ALL VEGETATION AND TOPSOIL. ALL TOPSOIL SHALL BE STOCKPILED FOR REDISTRIBUTION. STOCKPILE AREAS SHALL HAVE SOIL EROSION PROTECTION IN THE FORM OF SILT FENCING INSTALLED AROUND THE PERIMETER OR OTHER SUCH ACCEPTABLE MEASURES.

19. ALL SOIL FILL MATERIAL PLACED ON THIS PROJECT SHOULD BE COMPACTED WITH APPROPRIATE EQUIPMENT IN UNIFORM LAYERS TO THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557) AS RECOMMENDED IN THE GEOTECHNICAL REPORT FOR THIS PROJECT.

20. FILL MATERIAL SHALL BE PROPERTY MONITORED USING FIELD DENSITY TEST CHECKS. IN ACCORDANCE WITH SPEC SECTION 01410, ALL TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PROVIDED BY A QUALIFIED INDEPENDENT TESTING AGENCY. SHOULD REPORTS INDICATE SPECIFIED COMPACTION IS NOT ACHIEVED, THE CONTRACTOR SHALL REMOVE MATERIAL, REPLACE, AND RETEST AT NO ADDITIONAL COST TO THE OWNER UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. COPIES OF TEST REPORTS SHALL BE PROVIDED TO THE ENGINEER.

21. CONTRACTOR SHALL PROVIDE REDISTRIBUTION OF STOCKPILED OR IMPORT TOPSOIL AS REQUIRED OVER ALL FINISHED GRADE SOIL ARES TO A MINIMUM OF 12 INCHES AND PROVIDE FINAL SITE GRADING TO INSURE POSITIVE DRAINAGE AWAY FROM ROADWAYS AND BUILDINGS. AFTER FINAL GRADING, ANY LOW SPOTS WHICH ALLOW WATER TO POND SHALL MAKE ANY NECESSARY MINOR GRADE ADJUSTMENTS AS REQUIRED TO BEST FIT THE ACTUAL SITE CONDITIONS. CONTRACTOR SHALL PROVIDE BORROW MATERIAL AS REQUIRED FOR FILLING EXCAVATIONS, HOLES AND OTHER SUCH OPENINGS.
22. ALL EARTH GRADED AREAS SCARRED OR DENUDED BY THE CONSTRUCTION ACTIVITY SHALL BE SEEDED AND PROTECTED IN ADDITION TO THE PROVISIONS OF OTHER EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED.

23. ALL SURPLUS AND WASTE MATERIALS SHALL BE TRANSPORTED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS AND CODES UNLESS OTHERWISE APPROVED BY OWNER. NO BURNING OR BURYING OF TREES, BRUSH, CONSTRUCTION DEBRIS, RUBBISH, ETC. SHALL BE ALLOWED ON SITE UNLESS OWNER APPROVAL IS OBTAINED. THESE REGULATIONS INCLUDE BUT ARE NOT LIMITED TO KENTUCKY DIVISION FOR AIR QUALITY REGULATION 401 KAR 63:010 FUGITIVE EMISSIONS STATES THAT NO PERSON SHALL CAUSE, SUFFER, OR ALLOW ANY MATERIAL TO BE HANDLED, PROCESSED, TRANSPORTED, OR STORED WITHOUT TAKING REASONABLE PRECAUTION TO PREVENT PARTICULATE MATTER FROM BECOMING AIRBORNE. ADDITIONAL REQUIREMENTS INCLUDE THE COVERING OF OPEN BODIED TRUCKS, OPERATING OUTSIDE THE WORK AREA TRANSPORTING MATERIALS LIKELY TO BECOME AIRBORNE, AND THAT NO ONE SHALL ALLOW EARTH OR OTHER MATERIAL BEING TRANSPORTED BY TRUCK OR EARTH MOVING EQUIPMENT TO BE DEPOSITED ONTO A PAVED STREET OR ROADWAY. ALL SOLID WASTE GENERATED BY THIS PROJECT MUST BE DISPOSED AT A PERMITTED FACILITY.

24. NO BURNING OR BURYING OF TREES, BRUSH, CONSTRUCTION DEBRIS, RUBBISH, ETC. SHALL BE ALLOWED ON SITE UNLESS OWNER APPROVAL IS OBTAINED. KENTUCKY DIVISION FOR AIR QUALITY REGULATION 401 KAR 63:005 STATES THAT OPEN BURNING IS PROHIBITED. OPEN BURNING IS DEFINED AS THE BURNING OF ANY MATTER IN SUCH A MANNER THAT THE PRODUCTS OF COMBUSTION RESULTING FROM THE BURNING ARE EMITTED DIRECTLY INTO THE ATMOSPHERE WITHOUT PASSING THROUGH A STACK OR CHIMNEY.

25. IF UNDERGROUND STORAGE TANKS ARE ENCOUNTERED, THEY MUST BE PROPERLY ADDRESSED. IF ASBESTOS, LEAD PAINT, AND/OR OTHER CONTAMINANTS ARE ENCOUNTERED DURING THIS PROJECT, THEY MUST BE PROPERLY ADDRESSED. PLEASE ARCHITECT/ENGINEER IMMEDIATELY IF ANY O F THESE ARE ENCOUNTERED TO COORDINATE THESE BEING PROPERLY ADDRESSED.

STORM DRAINAGE FACILITIES NOTES

1. STORM SEWER PIPE SHALL BE AS DESIGNATED ON THE APPROVED CONSTRUCTION PLANS, AND SHALL CONFORM TO THE GENERAL SPECIFICATIONS.

2. BEDDING AND BACKFILL SHALL CONSIST OF THE FOLLOWING:
   A. WHEN THE TRENCH EXCAVATION IS IN ROCK, THE PIPE SHALL BE BEDDED ON AT LEAST 6 INCHES OF NO. 9 OR NO. 68 CRUSHED STONE, AND SHALL BE BACKFILLED WITH NO. 9 OR NO. 68 CRUSHED STONE FOR A MINIMUM OF 12 INCHES ABOVE THE TOP OF THE PIPE. BACKFILL ABOVE THIS CUSHION SHALL NOT CONTAIN PIECES OF ROCK LARGER THAN 12 INCHES IN ANY DIMENSION.
   B. WHEN THE TRENCH EXCAVATION IS IN SOIL, THE PIPE SHALL BE BEDDED ON AT LEAST 6 INCHES OF NO. 9 OR NO. 68 CRUSHED STONE, AND SHALL BE BACKFILLED WITH NO. 9 OR NO. 68 CRUSHED STONE TO THE SPRINGLINE OF THE PIPE. THE REMAINING PORTION OF THE TRENCH, NOT LOCATED WITHIN A STREET, CAN BE BACK FILLED WITH SELECT SOIL CONTAINING ROCKS NO LARGER THAN 1 1/2 INCH IN SIZE.

   C. WHEN THE TRENCH EXCAVATION IS WITHIN A STREET (I.E., BACK OF CURB TO BACK OF CURB), THEN THE ENTIRE TRENCH SHALL BE BACKFILLED WITH NO. 9 OR NO. 68 CRUSHED STONE.

3. MANHOLES SHALL BE CONSTRUCTED OF PRECAST CONCRETE AND SHALL CONFORM TO THE GENERAL SPECIFICATIONS. ALL MANHOLE TOPS SHALL BE ECCENTRIC IN DESIGN. CONICAL TOPS SHALL BE USED FOR ALL MANHOLES WITH DEPTHS SUFFICIENT FOR THEIR USE. MINOR GRADE ADJUSTMENTS (THROUGH THE USE OF GRADE RINGS) TO THE RIM ELEVATION SHALL NOT EXCEED 12 INCHES. NO MORE THAN 2 GRADE RINGS SHALL BE PERMITTED. BITUMINOUS MASTIC SEALANT SHALL BE USED AT EACH JOINT OF THE MANHOLE AND BETWEEN ALL GRADE RINGS AND/OR CASTINGS. NON-SHRINK (HYDRAULIC) GROUT SHALL BE REQUIRED INSIDE THE MANHOLES WHERE THE PIPES ENTER AND EXIT.

4. HEADWALLS AND OTHER CONCRETE STRUCTURES SHALL BE AS DESIGNATED ON THE APPROVED CONSTRUCTION PLANS, AND SHALL CONFORM TO THE GENERAL SPECIFICATIONS.

5. DRAINAGE SWALES SHALL CONFORM TO THE GENERAL SPECIFICATIONS. DRAINAGE SWALES SHALL BE SODDED OR HAVE VEGETATION BLANKETS USED TO THE ELEVATION OF THE 25-YEAR FREQUENCY STORM.

6. MINIMUM 3 FOOT HIGH CHAIN LINK FENCING SHALL BE REQUIRED ALONG THE PERIMETER OF THE HEADWALL IF THE DISTANCE FROM THE PIPE INVERT TO THE TOP OF THE HEADWALL EXCEEDS 3.5 FEET.

UTILITY CONSTRUCTION WITHIN ROADWAY AREA

NO ADDITIONAL FUNDS WILL BE PAID TO CONTRACTOR FOR SPECIAL CONSTRUCTION NECESSARY TO COMPLY WITH THE FOLLOWING REQUIREMENTS:

UTILITY CONTRACTOR SHALL INSURE THAT FINISHED PIPELINES, BOTH WATER AND SEWER, HAVE SPECIFIED DEPTH OF COVER FROM FINISHED GRADES, INCLUDING ROADWAY AND ROADWAY DITCHES. CAREFUL ATTENTION SHALL BE PAID TO AVOID CONFLICT WITH PROPOSED DITCHES, STORM DRAINS AND ROADWAY EXCAVATION. BACKFILL IN PIPELINES WITHIN THE ROADWAY LIMITS (PAVEMENT AND SHOULDERS) SHALL BE CRUSHED STONE AS SPECIFIED. UTILITY CONTRACTORS SHALL INCLUDE EXTRA DEPTH TRENCHING IF NECESSARY TO YIELD REQUIRED COVER AFTER ROADWAY EXCAVATION AND USE CRUSHED STONE TO THE ELEVATION NECESSARY TO YIELD A CRUSHED STONE TRENCH BACKFILL UNDER PAVEMENT AND SHOULDERS.

ROADWAY CONSTRUCTION NOTES

1. SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GENERAL SPECIFICATIONS. COMPACTION TESTS AT SPECIFIED INTERVALS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO PLACING THE FIRST LIFT OF STONE.

2. CONCRETE CURB SHALL CONFORM TO THE DETAILS IN THE GENERAL SPECIFICATIONS. CONSTRUCTION JOINTS SHALL BE INSTALLED AT 500 FOOT INTERVALS AND CONTROL JOINTS SHALL BE SAWED TRANSVERSELY AT 25 FOOT INTERVALS TO A MINIMUM DEPTH OF 2 INCHES. DGA BACKFILL SHALL BE PLACED BEHIND THE CURB PRIOR TO PAVING ROADWAY.

SPECIFICATIONS FOR GEOTEXTILE FABRIC

GRAB TENSILE STRENGTH 220 LBS. (MIN.)
(ASTM D1682)
ELONGATION FAILURE 60% (MIN.)
(ASTM D1682)
MULLEN BURST STRENGTH 430 LBS. (MIN.)
(ASTM D3768)
PUNCTURE STRENGTH 125 LBS. (MIN.)
(ASTM D751)
(MODIFIED)
EQUIVALENT OPENING SIZE 40-80
(US STD SIEVE)
(CW-02215)

NOTES

1. A STABILIZED ENTRANCE PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.

2. SOIL STABILIZATION FABRIC SHALL BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE.

3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT AND REPAIR OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.

4. ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

5. WHEN APPROPRIATE, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.

Call 811 Before you Dig

GENERAL NOTES

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

PROJECT NO.	2078-34
DESIGNED BY	C.A.R.
DRAWN BY	J.R.M.
CHECKED BY	C.A.R.
REVIEWED BY	C.A.R.
DATE	JANUARY 2024
SCALE	AS NOTED

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Fax: (859)223-2607

DRAWING NO.
GEN
SHEET OF

EROSION CONTROL NOTES:

THE EROSION CONTROL MEASURES NOTED BELOW ARE MINIMUMS AND DO NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY FOR COMPLIANCE WITH ANY AND ALL U.S. EPA , KENTUCKY DIVISION OF WATER AND/OR LOCAL REQUIREMENTS.

CONTRACTOR SHALL ESTABLISH EROSION CONTROL MEASURES BEFORE DISTURBING SITE.

ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED.

ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION, IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETED AND THE SITE IS STABILIZED.

IT IS THE CONTRACTOR`S RESPONSIBILITY TO PREVENT EROSION ONTO ADJACENT PROPERTY. ANY REMEDIAL MEASURES REQUIRED TO CORRECT DAMAGE CREATED BY EROSION SHALL BE AT THE CONTRACTOR`S EXPENSE.

TOPSOIL STOCKPILES THAT ARE NOT BEING UTILIZED FOR A PERIOD OF 14 DAYS TO BE SURROUNDED BY SILT FENCE.

SILT FENCES TO BE CLEANED OUT WHEN THEY BECOME ONE-THIRD FULL.

WHEN SEASONAL CONDITIONS PROHIBIT THE APPLICATION OF TEMPORARY OR PERMANENT SEEDING, NON-VEGETATIVE SOIL STABILIZATION PRACTICES SUCH AS MULCHING AND MATTING SHALL BE USED, UNTIL SUCH TIME AS CONDITIONS PERMIT.

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. A FIELD LOG OF INSPECTIONS SHALL BE MADE AND A COPY GIVEN TO THE OWNER.

ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL SOIL STABILIZATION HAS BEEN OBTAINED.

STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT NO MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PART OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED UNLESS THAT ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN 21 DAYS.

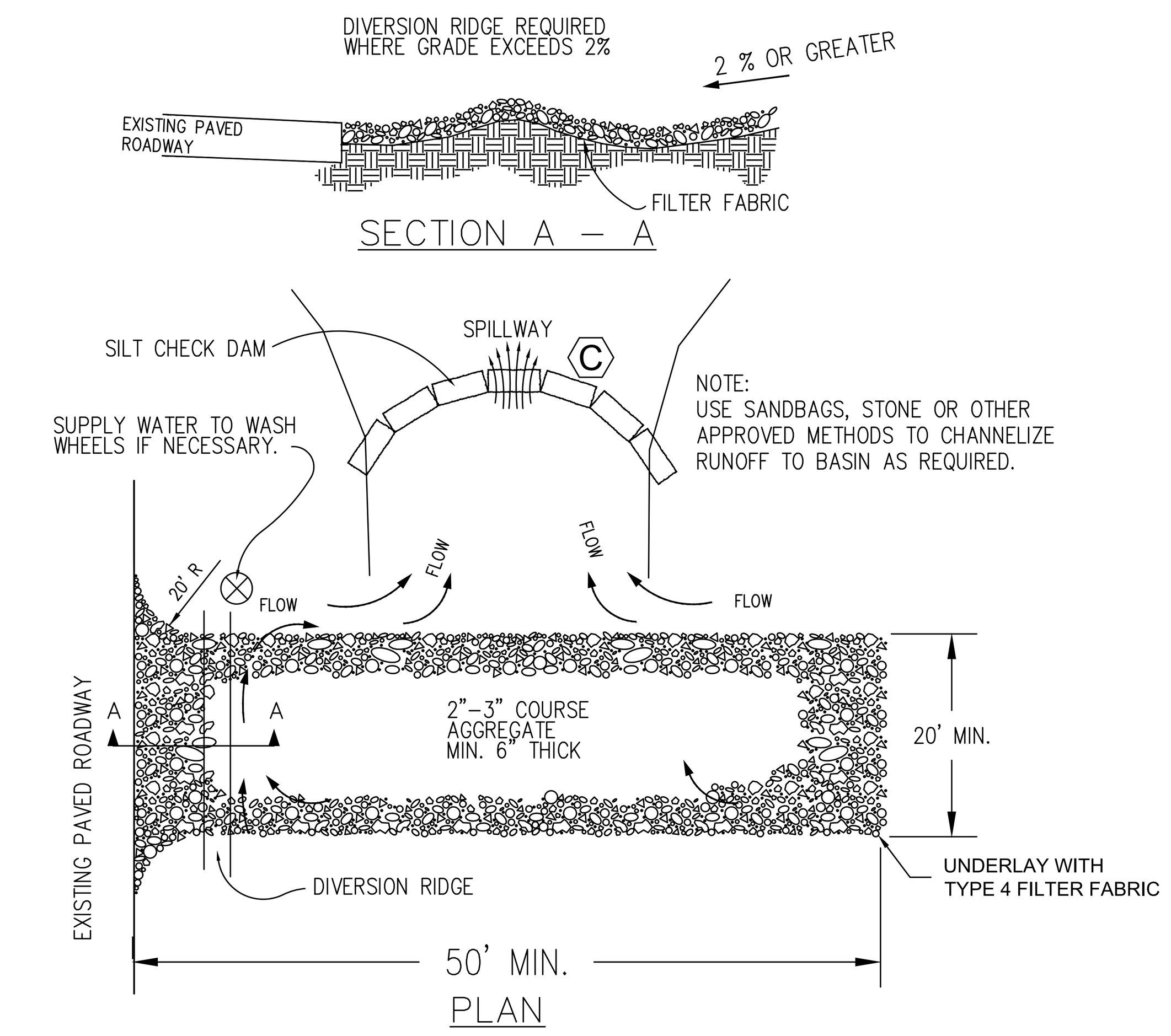
THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE TRACKING OF MUD ONTO PAVED ROADWAY FROM CONSTRUCTION AREAS. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED

PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES AND THE KENTUCKY DEPARTMENT OF HIGHWAYS GUIDANCE MANUAL.

MAINTAIN ACCESS TO EXISTING BUSINESSES AND EXISTING ROADS.

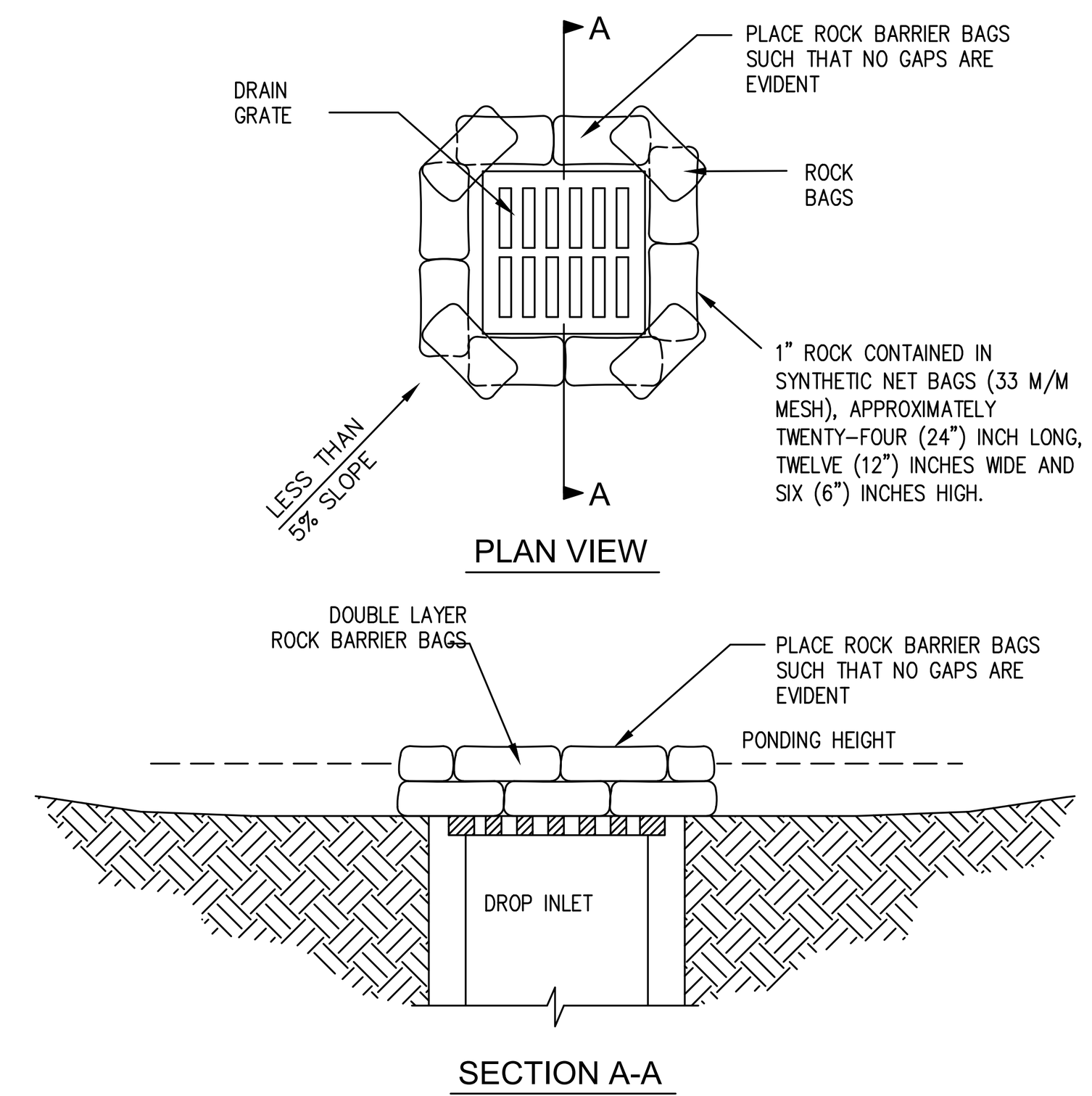
ALL EARTHWORK TO COMPLY WITH KENTUCKY DEPT. OF HIGHWAYS (KY-DOH SECTION 400) SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, EDITION OF 2000 AND ANY AMENDMENTS.

THE CONTRACTOR SHALL SHALL LIMIT ACCESS TO THE SITE TO THE CONSTRUCTION ENTRANCES. THE LOCATION OF THE CONSTRUCTION ENTRANCES SHALL BE APPROVED BY THE ENGINEER AND DESIGNATED ON THE SWPPP. THE CONTRACTOR SHALL INSTALL STONE SURFACE AT THE LOCATION WHERE CONSTRUCTION TRAFFIC LEAVES AND ENTERS THE SITE. THESE ACCESS POINTS SHALL BE MIN. 20' WIDE, 50' LONG, 0.5' DEEP AND USE NO 7 STONE OVER GEOTEXTILE FABRIC. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND PARKING AREAS FREE FORM MUD, DIRT, DEBRIS, AND ROCK. DUST SHALL BE KEPT TO A MINIMUM BY UTILIZING SPRINKLING, CALCIUM CHLORIDE, VEGETATIVE COVER, SPRAY ON ADHESIVES OR OTHER APPROVED METHODS. THIS ENTRANCE SHALL BE MAINTAINED UNTIL THE STREET HAS BEEN CONSTRUCTED.



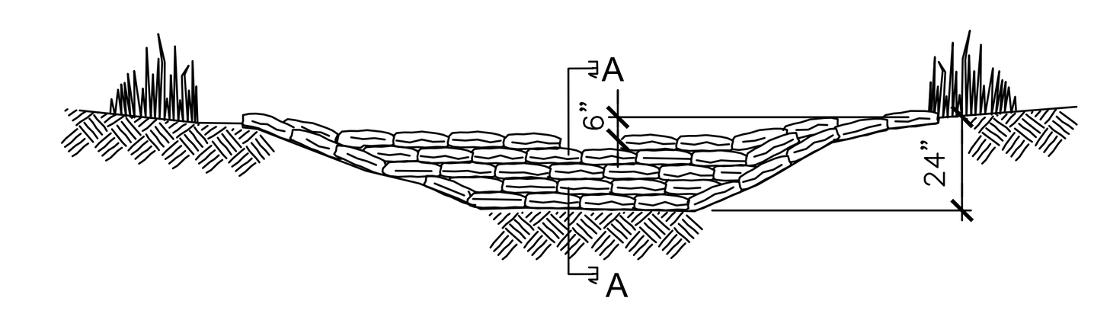
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABLIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT
N.T.S.



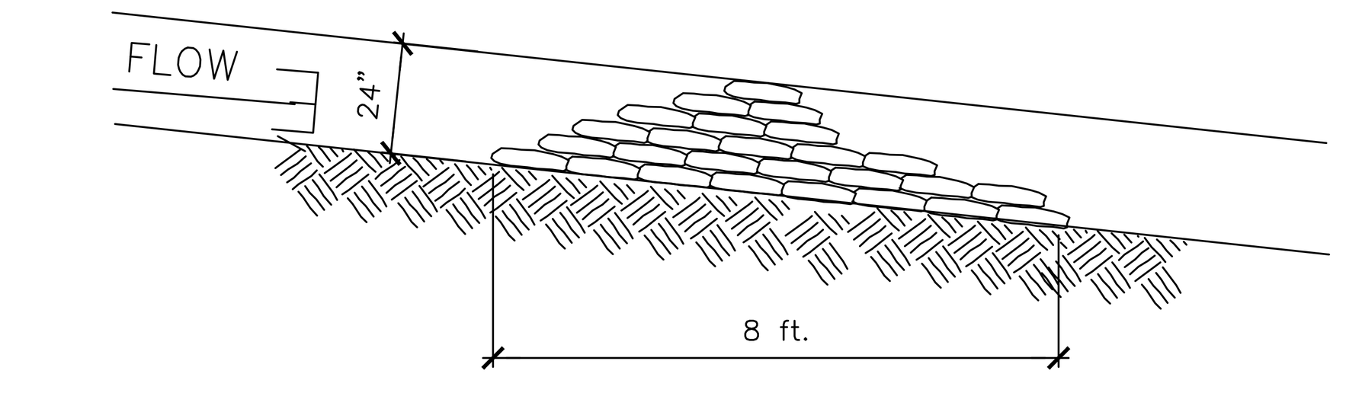
DROP BOX INLET PROTECTION NOTE:
ALL INLET & OUTLET PROTECTION TO BE IN CONFORMANCE
WITH THE "KENTUCKY EROSION PREVENTION AND SEDIMENT CONTROL FIELD GUIDE"

C SILT TRAP TYPE 'C"
N.T.S.

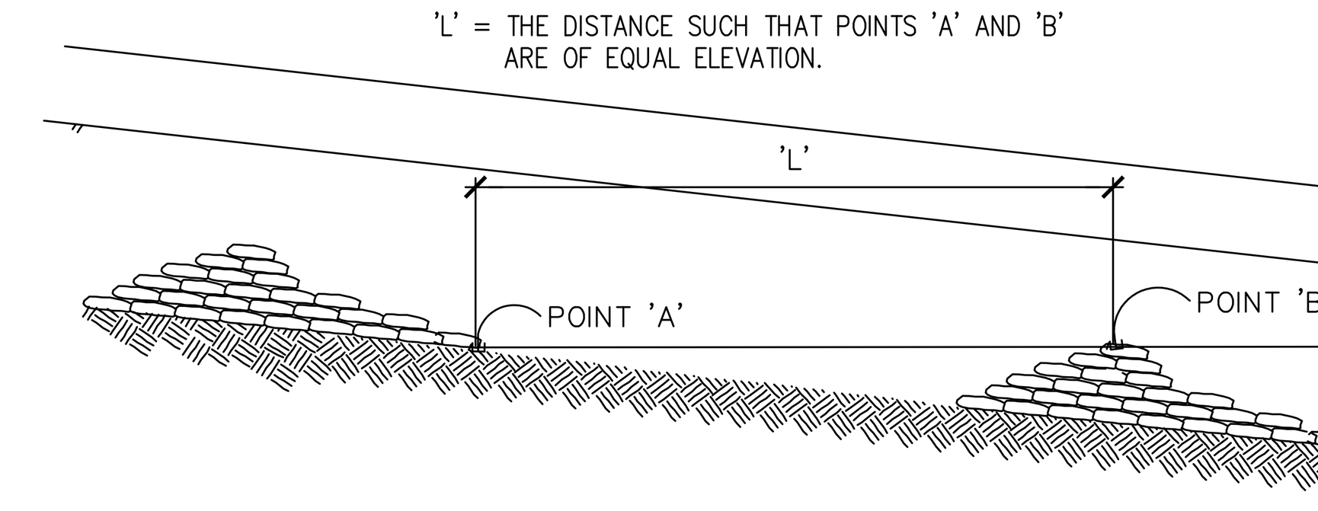


VIEW LOOKING UPSTREAM

STONE FILLED BAG CHECK DAMS MUST BE PLACED IN CHANNEL BY HAND, WITH THE TIED ENDS OF THE BAGS POINTING UPSTREAM AND THE CENTER OVERFLOW AREA AT LEAST 6" LOWER THAN THE OUTER EDGE. THE HIGHER ENDS OF THE CHECK DAM MUST TIE TO THE CHANNEL TO PREVENT BYPASS.

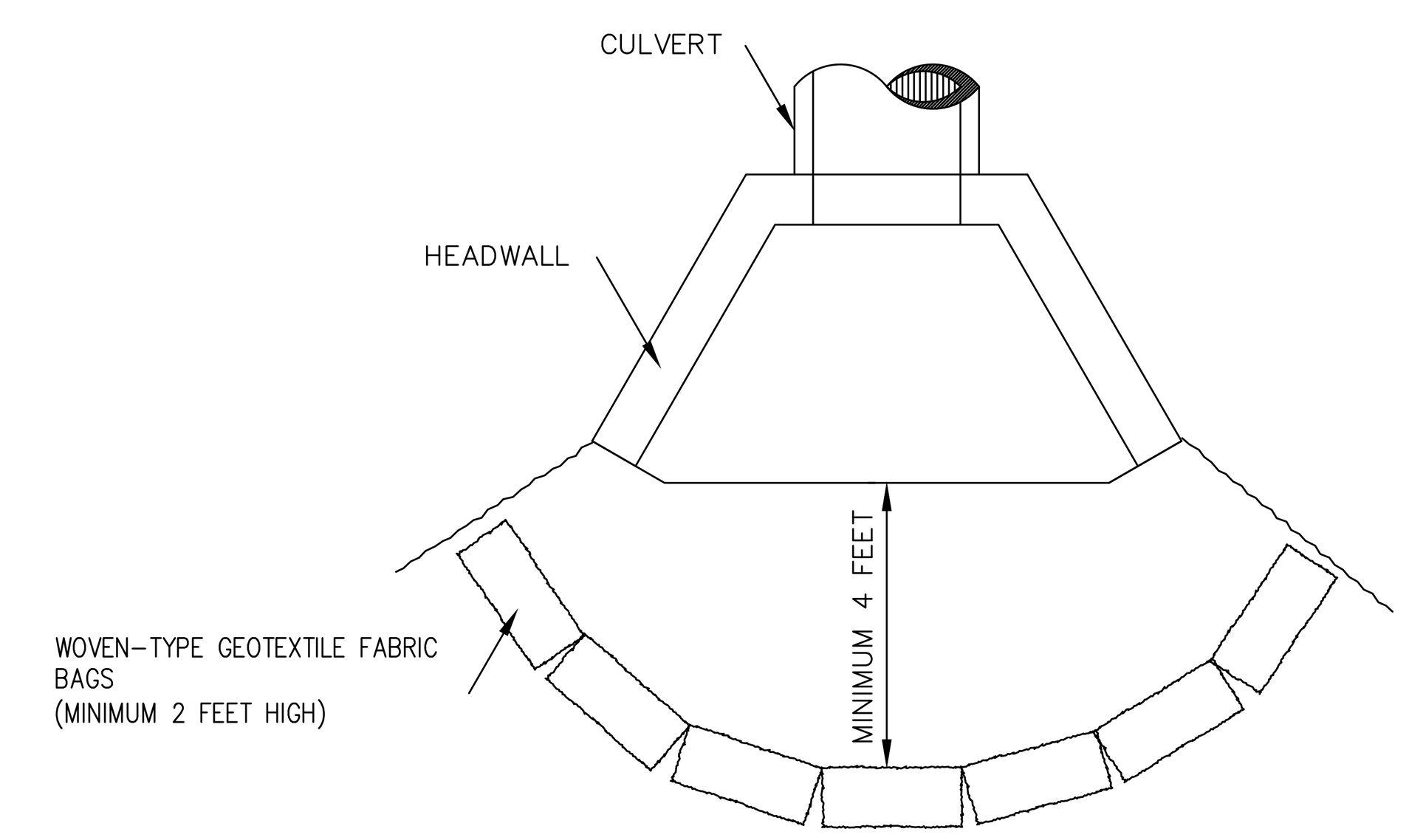


SECTION A – A
'L' = THE DISTANCE SUCH THAT POINTS 'A' AND 'B' ARE OF EQUAL ELEVATION.

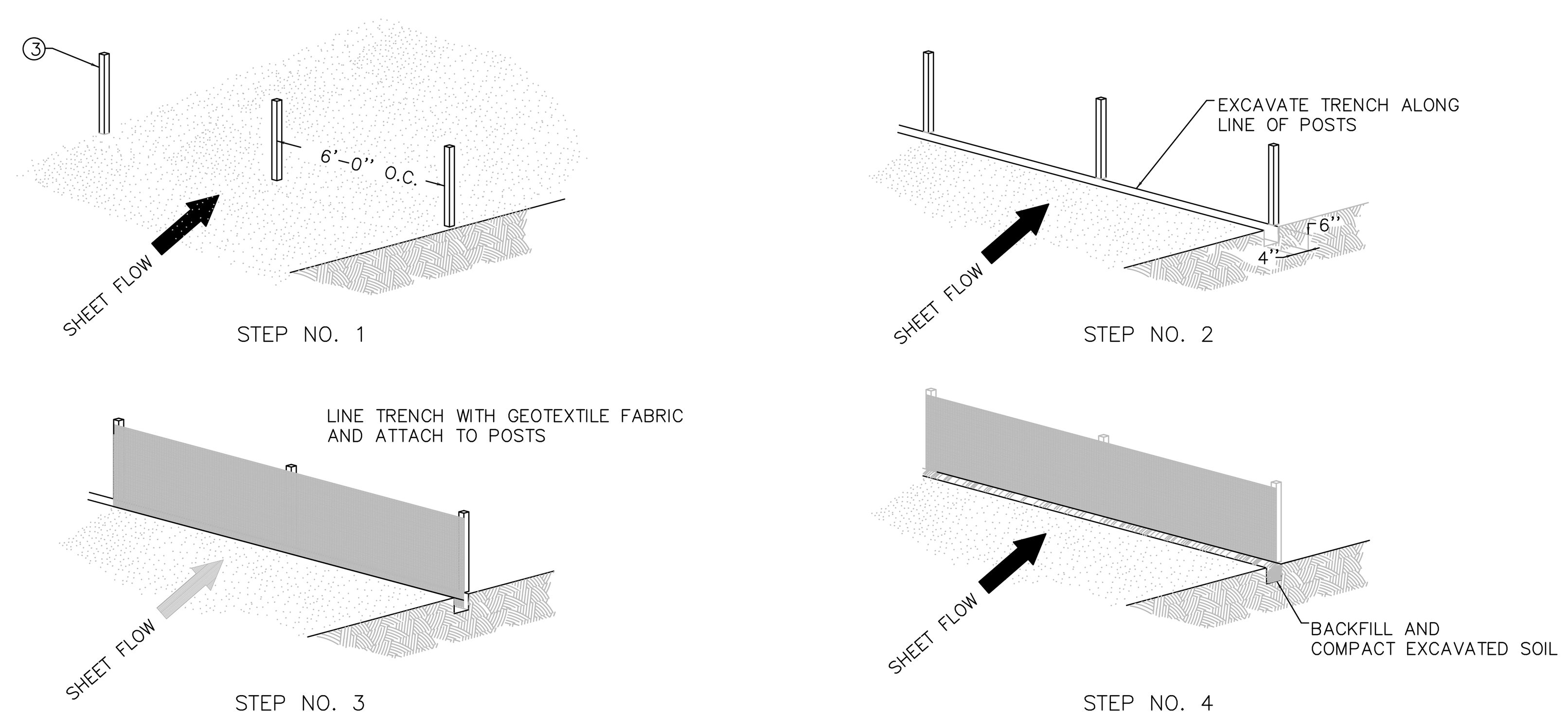


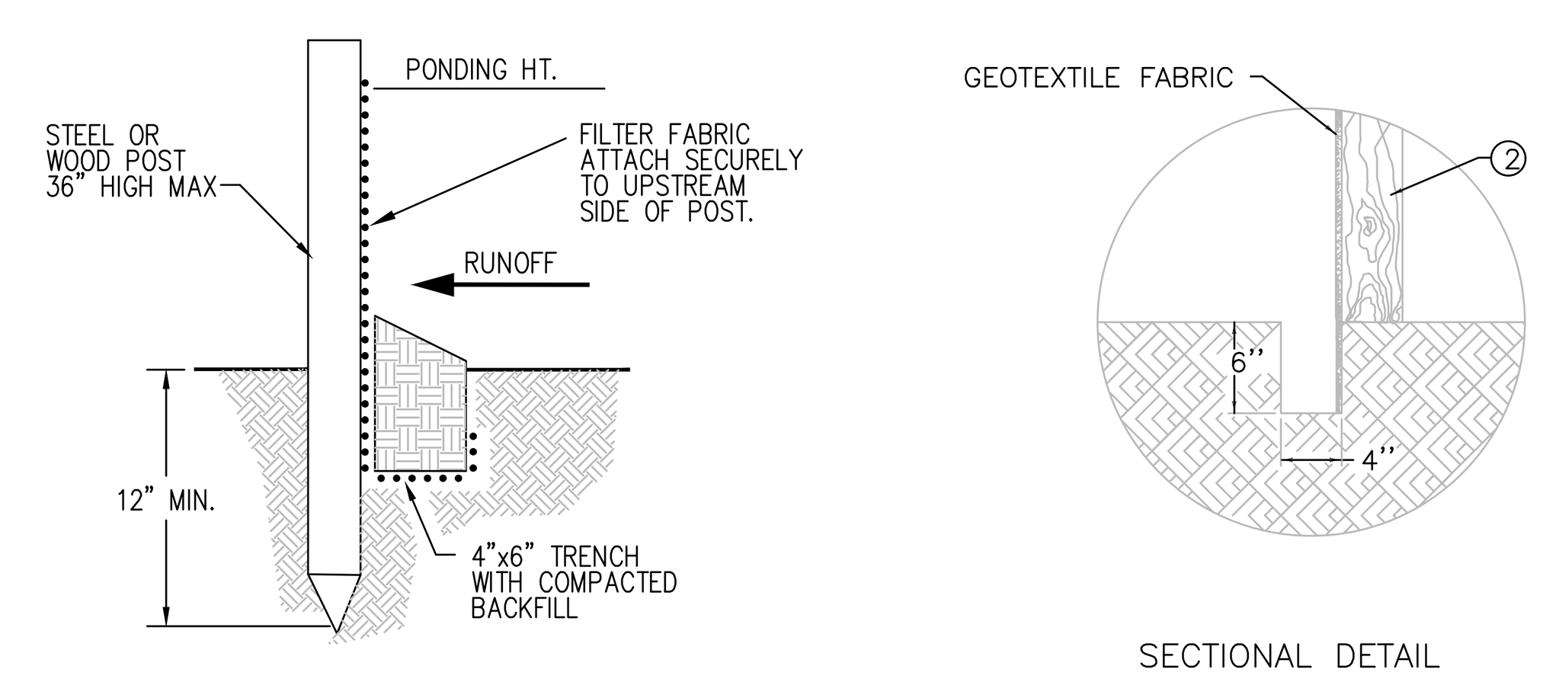
SPACING BETWEEN CHECK DAMS

D SILT CHECK DAM TYPE "D"
NTS



B CULVERT INLET SEDIMENT BARRIER TYPE "B"
NTS

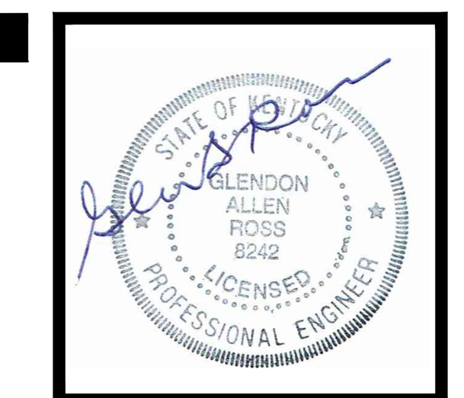




NOTES
1. SEE STANDARD SPECIFICATIONS FOR POST SIZE, GEOTEXTILE FABRIC, WIRE STAPLES AND ALL OTHER PERTINENT INFORMATION.
2. POSTS MAY BE WOODEN OR METAL T–SECTION.
3. POSTS SHALL BE SET 1'–4" DEEP.
4. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
5. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF–SITE AND CAN BE PERMANENTLY STABILIZED.
6. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

TEMP. SILT FENCE DETAILS
N.T.S.

Call 811 Before you Dig



EROSION CONTROL NOTES

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

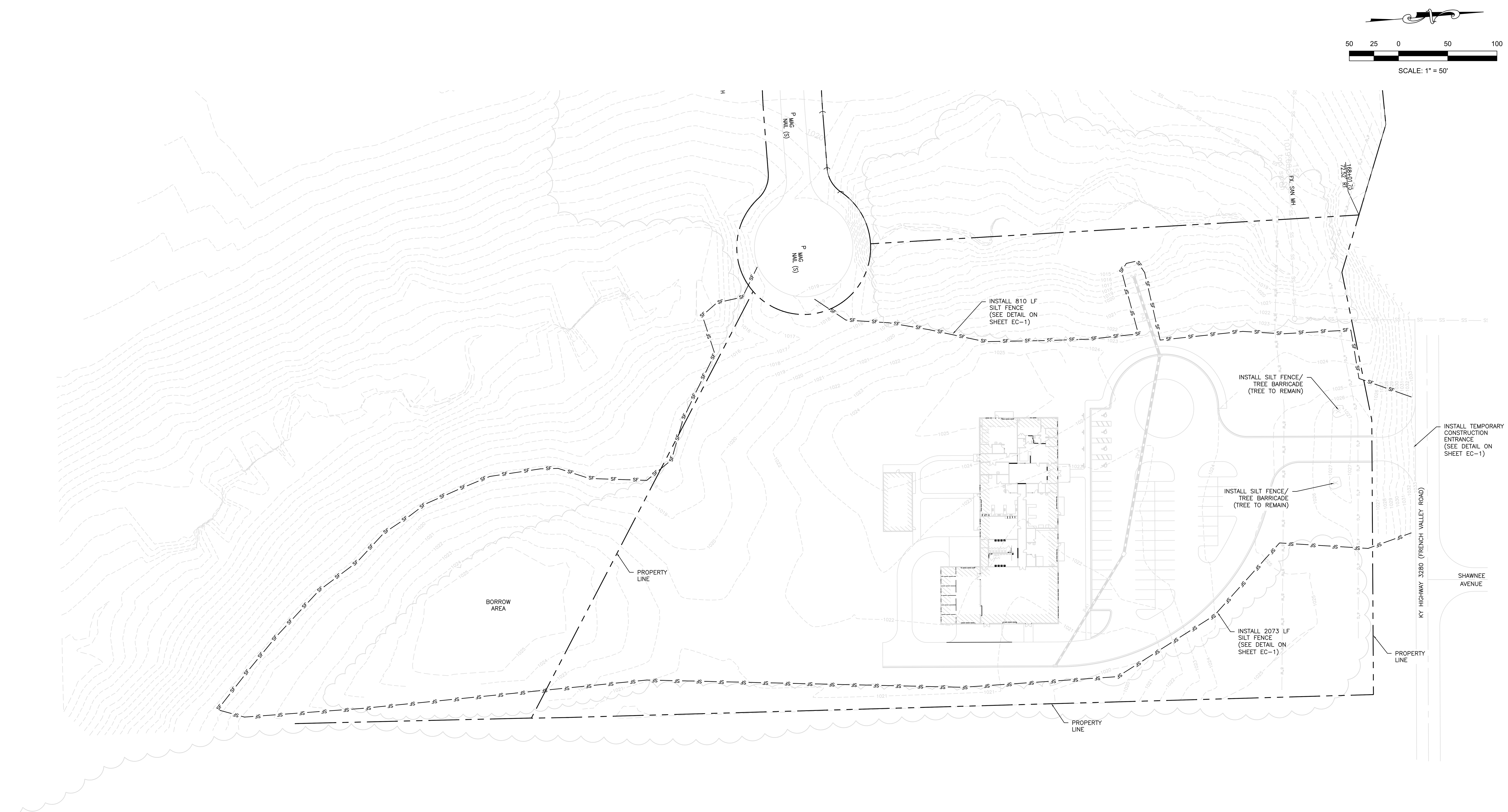
DATE	REVISION	BY

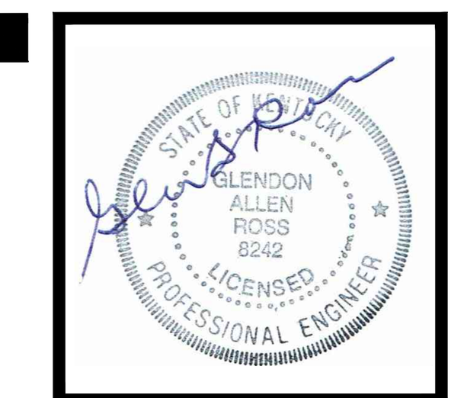
DESIGN DOCUMENTS:
The design professional waves any and all responsibility and liability for problems which arise from failure to follow these plans, specifications and the design intent they convey.

PROJECT NO.	2078–34
DESIGNED BY	G.A.R.
DRAWN BY	J.R.M.
CHECKED BY	G.A.R.
REVIEWED BY	G.A.R.
DATE	JANUARY 2024
SCALE	AS NOTED

MSE OF KENTUCKY, INC.
Engineers Architects Planners
624 Wellington Way
Lexington, KY 40503
www.msektx.com
Phone: (859)223-5694
Fax: (859)223-2607

DRAWING NO.
EC-1
SHEET OF





EROSION CONTROL PLAN

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

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DRAWING NO.

EC-2

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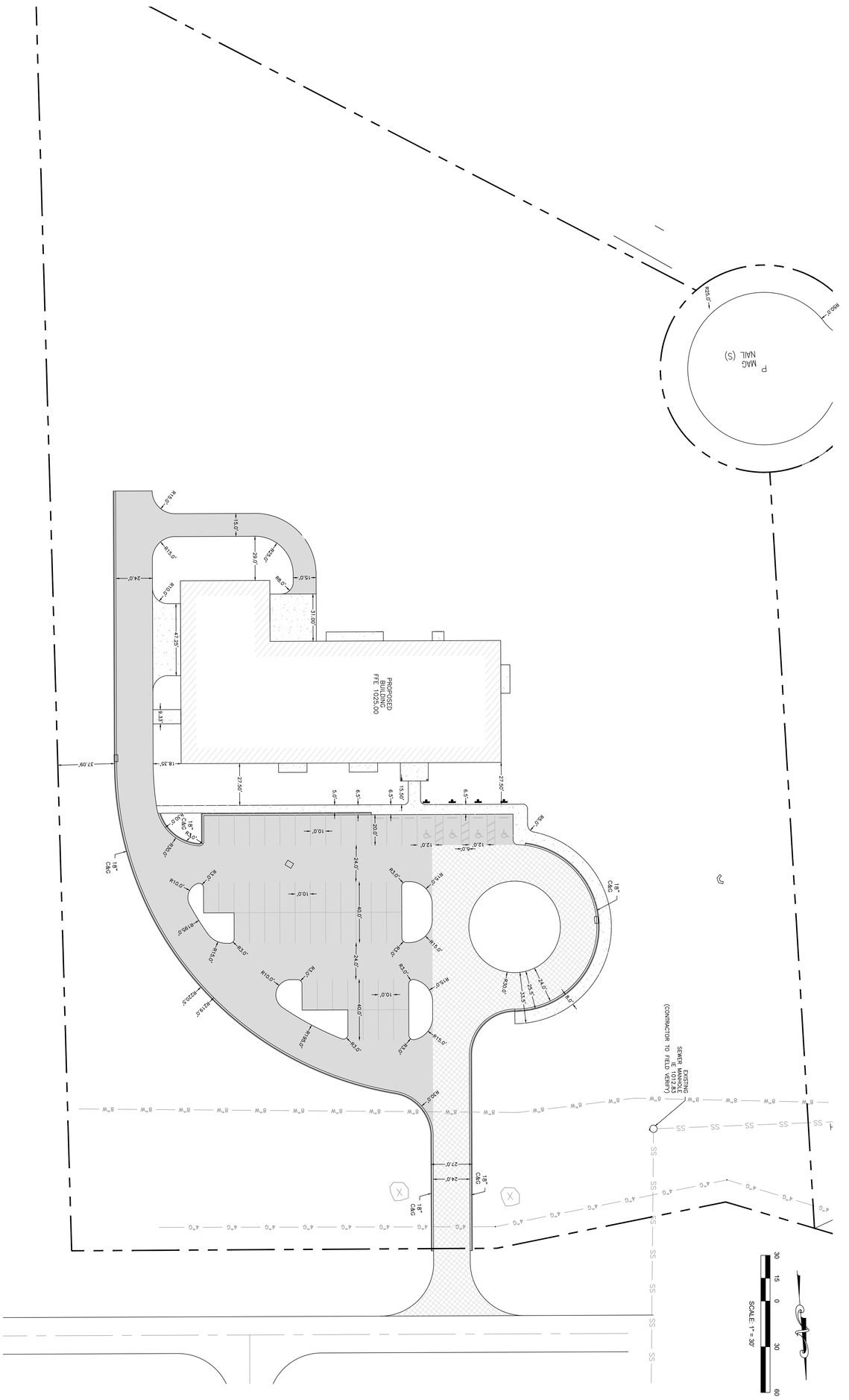

SHEET OF

DRAWING NO. C-1

Engineers
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DATE	REVISION	BY
7/23	HC AREA REVISIONS	JRM

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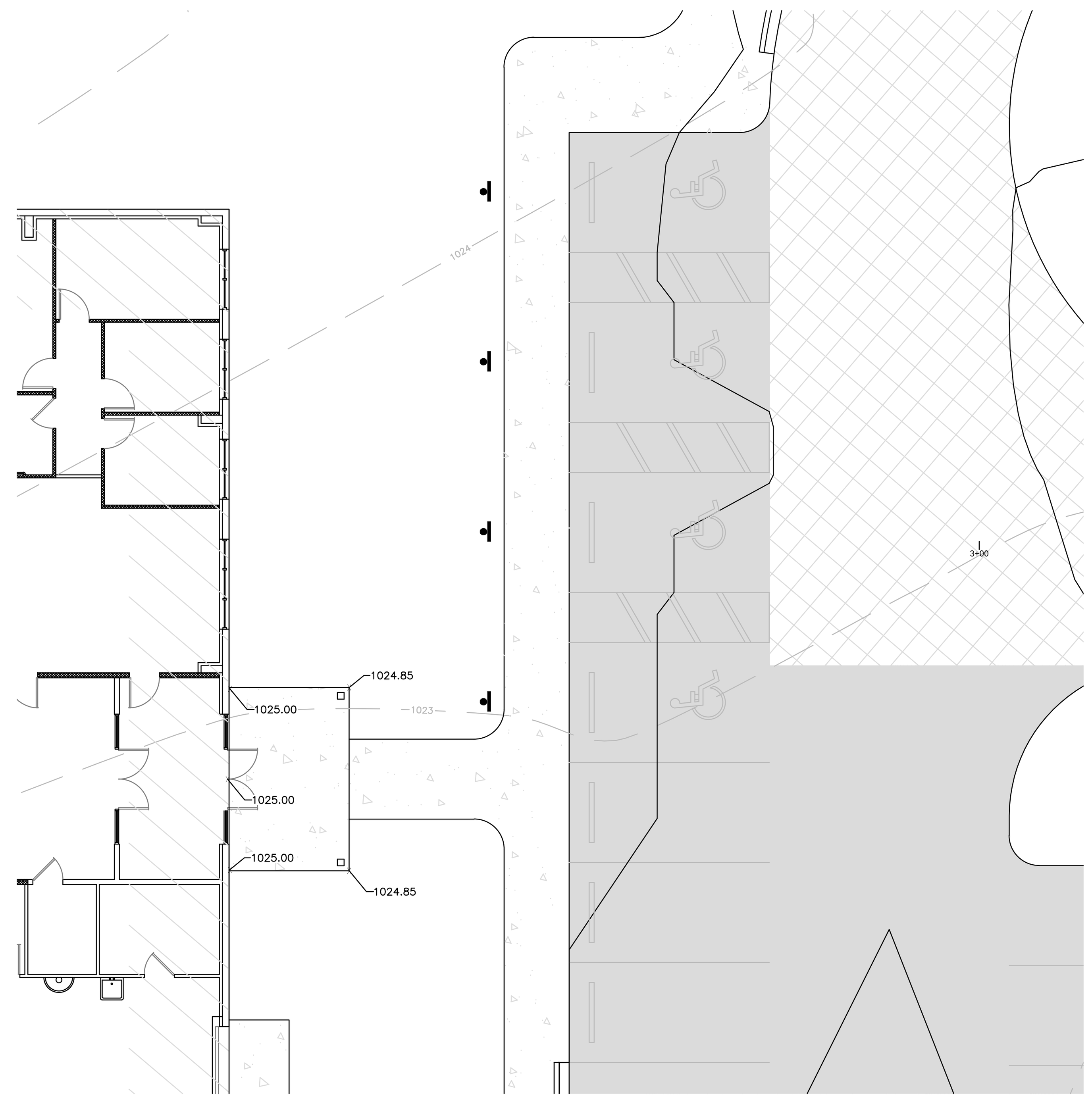
The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

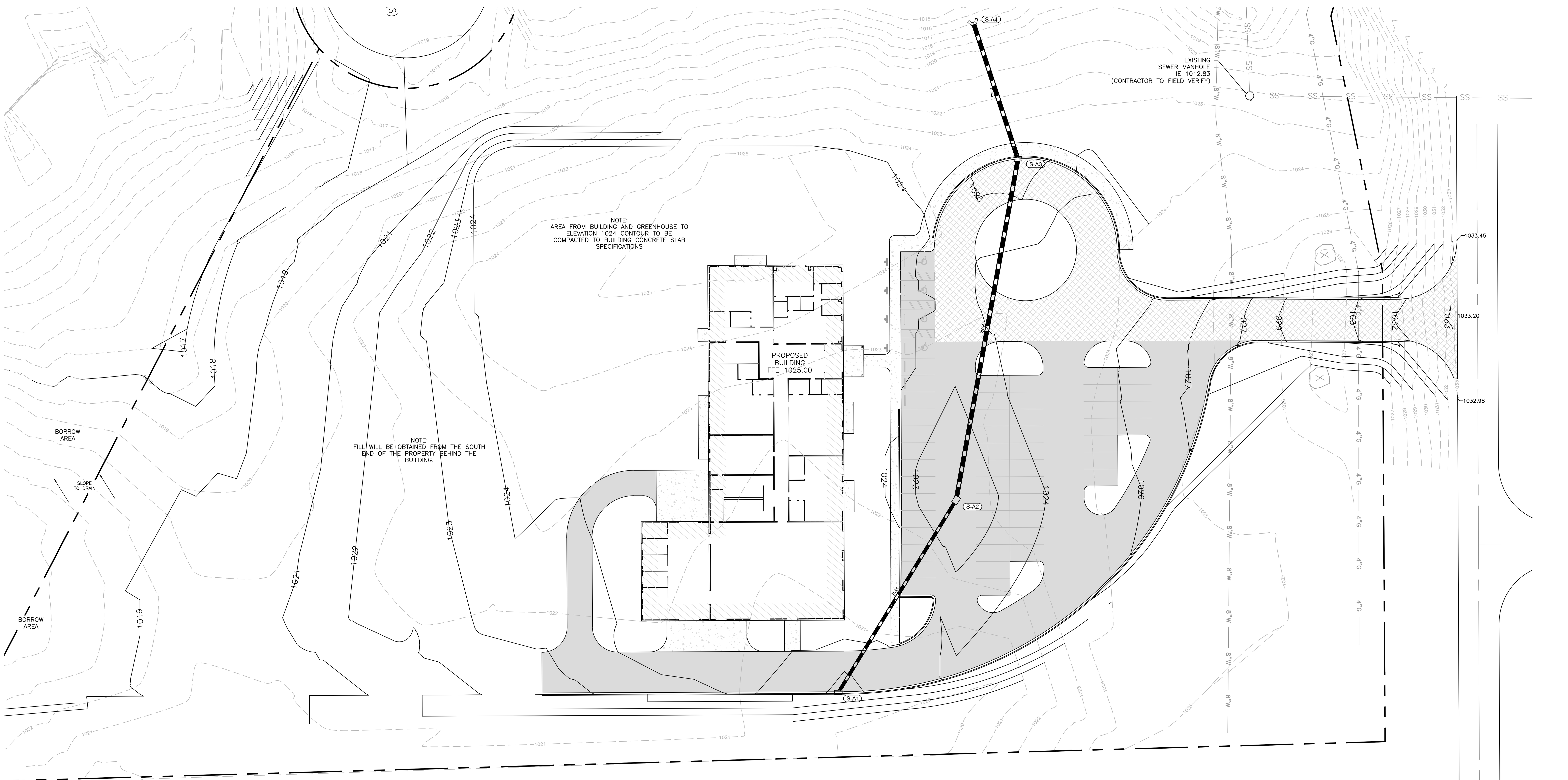
SITE PLAN

STATE OF KENTUCKY
LICENSED
PROFESSIONAL
ENGINEER



FRONT BUILDING ENTRANCE AND HANDICAP PARKING AREA DETAIL
SCALE 1: = 10'

30 15 0 30 60
SCALE: 1" = 30'



STRUCTURE TABLE			
Structure Name	RIM	IE	Type
S-A1	1022.96	P-A1 1019.75	CURB INLET TYPE 'A' RDB-270-09
S-A2	1022.29	P-A1 1019.08 P-A2 1019.08	DROP INLET TYPE '6F' RDB-006-08
S-A3	1022.50	P-A2 1018.05 P-A3 1018.05	CURB INLET TYPE 'A' RDB-270-09
S-A4	1019.75	P-A3 1017.00	HEADWALL RDH-020-03

PIPE TABLE				
Pipe Name	Size	Length	Slope	Material
P-A1	18"	133.4	0.50%	ADS N12-WT
P-A2	24"	204.9	0.50%	ADS N12-WT
P-A3	24"	84.3	1.24%	ADS N12-WT

GRADING AND DRAINAGE PLAN

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

DATE		REVISION	BY
7/23		HC AREA REVISIONS	JRM

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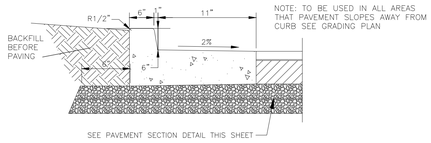
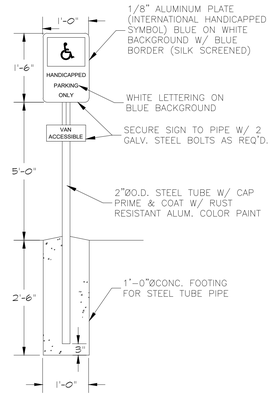
DRAWING NO.
C-2
SHEET OF

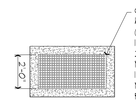
STANDARD CURB & GUTTER DETAIL
NTS



ALTERNATE CURB & GUTTER DETAIL
NTS

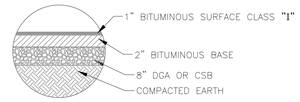


HANDICAPPED VAN PARKING SIGN
NTS DET17V

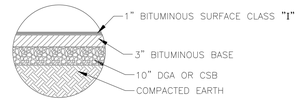


DETECTABLE (TACTILE) WARNINGS
NTS

PAVEMENT REQUIREMENTS



LIGHT DUTY PAVEMENT SECTION
NTS



HEAVY DUTY PAVEMENT SECTION
NTS

NOTE:
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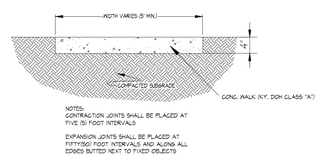

CONCRETE WALK DETAIL
N.T.S.

NOTE:
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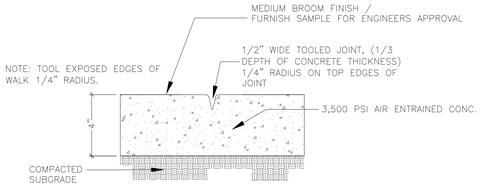
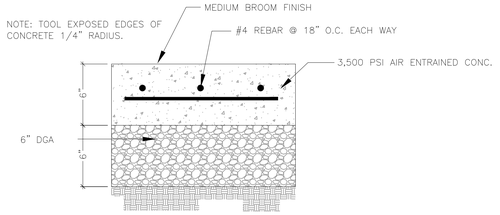
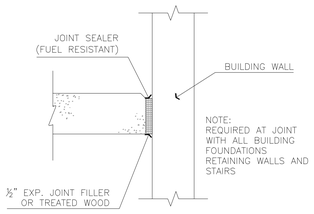


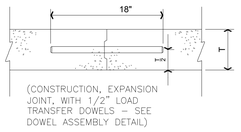
CONCRETE WALK / TOOLED CONTROL JOINT
N.T.S.



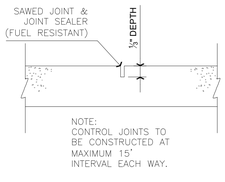
EXTERIOR CONCRETE PAVEMENT AT LIVESTOCK TRAINING AREA
N.T.S.



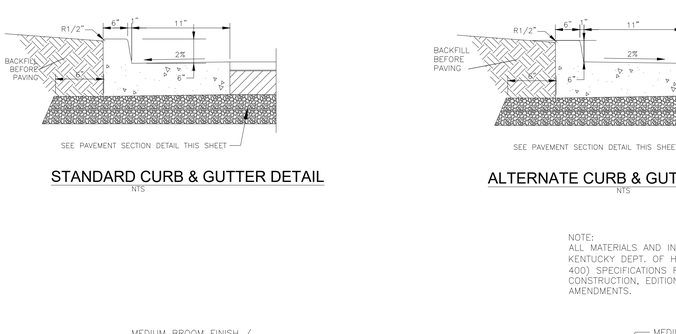
CONCRETE PAVEMENT EXPANSION JOINT
N.T.S.



CONCRETE PAVEMENT CONTROL JOINT
N.T.S.



CONCRETE PAVEMENT TRANSVERSE JOINT
N.T.S.

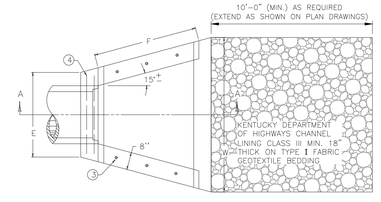


⚠ HANDICAP PARKING STRIPING DETAILS
SCALE 1/8"-1'-0"

HANDICAPPED ACCESSIBILITY PAVEMENT MARKING
NTS

⚠ HANDICAP AREA SIDEWALK TRANSITION TO ASPHALT DETAIL
NTS

⚠ HANDICAP AREA SIDEWALK TRANSITION TO CURB & GUTTER DETAIL (TYP)
NTS



PIPE DIA. OR EQUIV. DIA.	PIPE SHAPE (9)	DIMENSIONS C	E	F	L	W	T	CLASS A CONC. C. Y.	REINF. STEEL LBS.
12"	○	1'-9"	2'-6"	2'-3"	3'-6"	4'-0"	2"	0.58	7
15"	○	2'-0"	2'-9"	2'-9"	4'-0"	4'-9"	2-1/4"	0.75	
	⬭	1'-9"	3'-0"	2'-6"	3'-6"	4'-9"		0.68	
18"	○	2'-3"	3'-0"	3'-6"	4'-6"	5'-3"	2-1/2"	0.93	8
	⬭	2'-0"	3'-6"	3'-0"	4'-0"	5'-6"	2-3/4"	0.89	
21"	○	2'-6"	3'-3"	4'-0"	5'-0"	6'-0"		1.14	
	⬭	2'-3"	3'-0"	3'-6"	4'-6"	6'-0"		1.07	9
24"	○	2'-9"	3'-6"	4'-6"	5'-6"	6'-6"	3"	1.35	8
	⬭	2'-6"	4'-0"	4'-0"	5'-0"	6'-9"	3-1/4"	1.30	9
27"	○	3'-0"	3'-9"	5'-0"	6'-0"	7'-0"		1.57	
	⬭	2'-9"	4'-6"	4'-3"	5'-3"	7'-3"	3-1/2"	1.51	10

NOTES
1. DIMENSIONS AND QUANTITIES ARE BASED ON CONCRETE PIPE AND WILL VARY INSIGNIFICANTLY FOR CORRUGATED METAL PIPE.
2. REINFORCING STEEL - MINIMUM GRADE 40, BARS EVENLY SPACED.
3. 6 – NO. 4 x 1'-0" DOWEL BARS.
4. 2 – NO. 4 x (E DIMENSION MINUS 4").
5. SLOPES SHALL BE WARPED TO FIT HEADWALL WHEN PIPE IS SKEWED AND/OR NORMAL SLOPE VARIES FROM 2:1.
6. VOLUME DISPLACED BY PIPE COMPUTED USING INSIDE DIAMETER OF PIPE.
7. WING ANGLES AND/OR DIMENSIONS MAY BE ALTERED DURING CONSTRUCTION TO ACCOMMODATE FLOW OF WATER.
8. APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW EQUAL TO SLOPE OF PIPE. FRONT FACE OF HEADWALL SHALL REMAIN VERTICAL.
9. HEADWALLS ARE FOR CIRCULAR, ARCH, AND HORIZONTAL ELLIPTICAL 12" – 27" EQUIVALENT PIPE SIZES. SEE CURRENT STD. DWG. RDI-016, FOR NON-CIRCULAR PIPE EQUIVALENT SIZES.

SLOPED & FLARED HEADWALLS FOR 12" TO 27" PIPE
DOH STD. DWG#: RDH-020-03

STATE OF KENTUCKY
GLENDON ALLEN ROSE
32412
LICENSED PROFESSIONAL ENGINEER

The Seed Academy

Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

SITE DETAILS

BY	REVISION	DATE
JAM	ADDED HC AREA DETAILS	7/23

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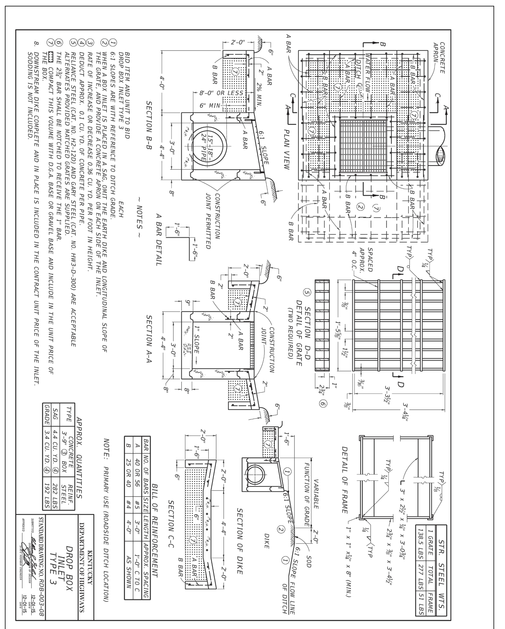
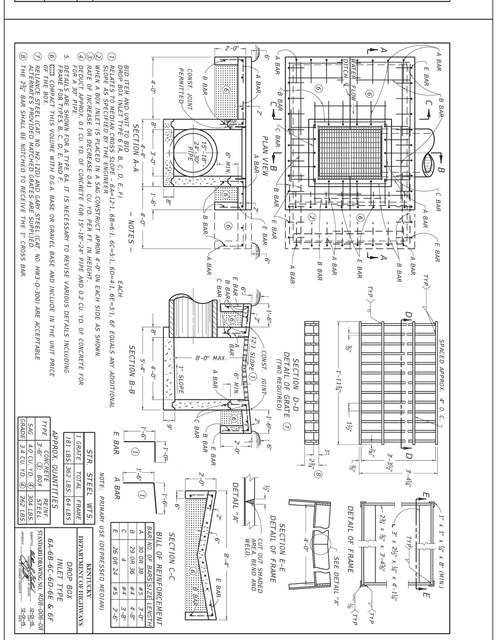
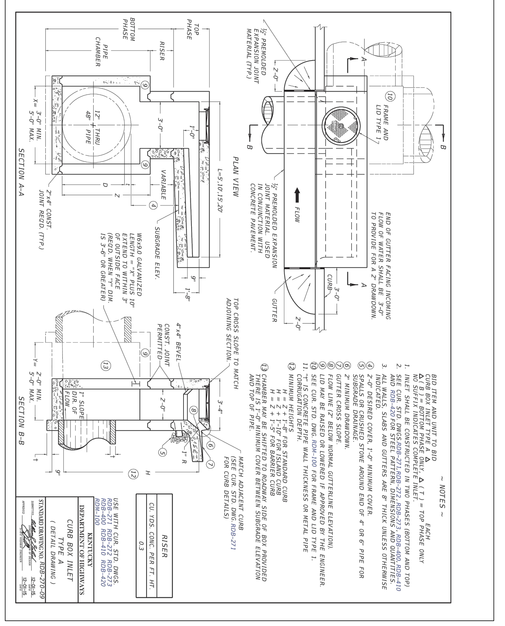
DRAWING NO.
C-3
SHEET OF







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The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

SITE DETAILS

DRAWING NO. C-4

SHEET OF

GENERAL NOTES

DESIGN DATA:

a.) Applicable Code: 2018 Kentucky Building Code

b.) Design Loads

1. Roof Loads

Self Weight (min)	5 psf
Collateral - Primary	8 psf
Collateral - Secondary	8 psf

Reference M-Sheets for suspended Mechanical Loads.

Live Load	16 psf

2. Elevated Floor Loads — Not Applicable

3. Wind Loads:

Basic Wind Speed	115 mph
Wind Importance Factor (Iw)	1.00
Building Occupancy Category	II
Wind Exposure Class	C
Internal Pressure Coefficient (GCpi)	±0.18

Components and Cladding (Non-Professional Design)

Wind Pressure - Walls	
Field	-39.2 psf
Corner	-40.6 psf
Wind Pressure - Roof	
Field	-39.2 psf
Edge	-44.6 psf
Corner	-44.6 psf

4. Seismic:

Seismic Importance Factor (Ie)	1.0
Seismic Use Group	2
Mapped Spectral Response Accelerations	
S_s	0.196g
S_1	0.106g
Spectral Response Coefficients	
S_{DS}	0.187g
S_{D1}	0.101g
Site Class	D
Seismic Design Category	B
Basic Seismic-Force-Resisting System	OSMF
Design Base Shear	0.046 x Dead Load
Seismic Response Coefficient (Cs)	0.046
Response Modification Factor (R)	3.5
Analysis Procedure	Equivalent Lateral Force

5. Roof Snow:

Ground Snow Load (Pg)	15 psf
Flat Roof Snow Load (Pf)	15.0 psf
Snow Exposure Factor (Ce)	0.09
Snow Load Importance Factor (Is)	1.0
Thermal Factor (Ct)	1.0

6. Rain Loads:

Water Depth	7 in

Note:
The water depth is defined as the depth of water above the roof surface at the location of the primary roof drains. Increased water depth resulting from member deflection has been considered in the structural design.

SOIL PROPERTIES:

a.) Geotechnical Data: Allowable pressures for design.

Allowable Bearing Pressure Columns	2,000 psf
Allowable Bearing Pressure Walls	2,000 psf

b.) Modulus of Subgrade Reaction (k value) — 100 psi/in

c.) The Frost Depth of the project site area is 24 inches.

CONCRETE:

a.) Concrete at interior slabs on grade shall have a minimum compressive strength of 3,500 psi at 28 days unless noted. All other concrete shall have a minimum compressive strength of 3,000 psi at 28 days unless noted.

b.) Design and construction shall conform to the "Building Code Requirements for Structural Concrete - ACI 318-056 - Strength Design Method" and details shall conform to the "Manual of Standard Practive for Detailing Reinforced Concrete Structures" both the lastest editions by the American Concrete Institute unless otherwise shown or specified.

c.) Concrete subject to freezing and thawing shall have maximum water - cement (WC) ratio of 0.50.

d.) Concrete for interior slabs-on-grade shall have coarse aggregates graded such that not more than 18 percent or less than 8 percent of the total aggregate is retained on the $\frac{3}{4}$", $\frac{1}{2}$", $\frac{3}{8}$" and number 4 sieves.

REINFORCING STEEL:

a.) All reinforcing steel to be ASTM A615 Grade 60.

b.) All reinforcing steel shall conform with CRSI Standards.

c.) Reinforcing in concrete steel shall have development lengths and splice lengths as shown in the following tables unless otherwise shown on the drawings.

Bar Size	3,000 psi Concrete Development Length (inches)	3,000 psi Concrete Splice Length (inches)	4,000 psi Concrete Development Length (inches)	4,000 psi Concrete Splice Length (inches)
3	12	17	12	16
4	13	23	12	20
5	17	28	15	24
6	20	34	17	29
7	33	55	28	48
8	41	70	36	60

STRUCTURAL STEEL:

a.) All wide flange structural steel to be ASTM A992, grade 50. All other structural steel, plates and bars to be ASTM A36, unless noted otherwise, Bolts A325.

b.) Design and construction shall conform to the "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings" of the AISC unless otherwise shown or specified.

c.) Connections: Unless otherwise detailed shall be standard connections using $\frac{3}{4}$" diameter fasteners made in accordance with the latest edition of Steel Construction Manual of the American Institute of Steel Construction. Unless otherwise detailed all bolted connections shall contain pre-tensioned bolts.
Shop Connections: May be welded or high tensile bolted, ASTM A325.
Field Connections: Shall be bolted with high tensile bolts, ASTM A325.

Bolted connections shall be assembled and inspected in accordance with RCSC-2004 (Specification for Structural Joints using ASTM A325 or ASTM A490 Bolts).

d.) All bolted connections are to be pre-tensioned unless noted otherwise.

e.) All structural steel tubing to be ASTM A500, grade B.

f.) All welded connections shall satisfy the requirements of AWS D1.1.1/ D.1.M and shall be made with low hydrogen E70XX electrodes.

POST INSTALLED ANCHORS

a.) Post-installed anchors and rebar secured with adhesive shall only be used where specified on the construction documents. The Contractor shall obtain approval from the architect or engineer of record prior to installing post-installed anchors in place of missing or misplaced cast-in-place anchors.

b.) Acceptable post installed anchor products are listed below. Anchor products specified on the structural drawings must be used unless an alternate product is approved by the architect or engineer of record.

1. Adhesive to Concrete
   a. Adhesive Anchors
      (1) Hilti HIT-RE 500-SD Epoxy Adhesive Anchoring System with HAS-E Threaded Rod.
      (2) Simpson Strong-Tie SET-XP with Threaded Rod

   b. Mechanical Anchors
      (1) Hilti Kwik Bolt-TZ Expansion Anchors
      (2) Simpson Strong-Tie Strong Bolt

2. Rebar Doweling into Concrete
   a. Hilti RE 500-SD Epoxy Adhesive Anchoring System with continuously deformed rebar.
   b. Simpson Strong-Tie SET-XP with continuously deformed rebar.

c.) Substitution requests for alternate products must be approved in writing by the architect or structural engineer of record prior to use. Contractor shall provide calculations demonstrating that the substituted product is capable of achieving the performance values of the specified product. Substitutions will be evaluated by their having ICC ESR showing compliance with the relevant building code for seismic uses, load resistance, installation category, and availability of comprehensive installation instructions. Adhesive anchor evaluation will also consider creep, in-service temperature and installation temperature.

d.) Post installed anchors must be installed in accordance with the manufacturer's printed installation instructions.

e.) The Contractor shall arrange an anchor manufacturer's representative to provide onsite installation training for all of their anchoring products specified unless installer provides proof of prior training. The Contractor must receive documented confirmation that all personnel who install anchors are trained prior to the commencement of installing anchors.

f.) Anchor capacity is dependent upon spacing between adjacent anchors and proximity of anchors to edge of concrete. Install anchors in accordance with spacing and edge clearances indicated on the drawings.

g.) Existing reinforcing bars in concrete structure may conflict with specific anchor locations. Unless noted on the drawings that the bars can be cut, the Contractor shall review the existing structural drawings and shall undertake to locate the position of the reinforcing bars at the locations of the concrete anchors, by GPR, X-Ray, chipping or other means.

h.) Adhesive Anchor Requirements
1. Anchors must not be installed until concrete is 21 days of age.
2. Concrete temperature during anchor installation must not exceed 110F (short term) and 80F (long term).
3. Concrete must be dry at the time of anchor installation.
4. Holes must be drilled with a hammer drill and carbide bit.
5. For horizontal, upwardly inclined and overhead installations, installer must be certified by an ACI/CRSI Adhesive Anchor Installer Certification Program or equivalent.

GENERAL:

a) All high strength bolted connections are to contain pre-tensioned bolts unless noted. Connections of joists to joist girders and joist girders to columns do not require pre-tensioned bolts and need only be snug tight.

b) The use of Alternate Design Fasteners is required, use the type that shears the splined end to indicate adequate tightness. Each fastener shall be tightened until the splined end shears off. Fasteners with splined ends intact are not acceptable.

c) All bolts must be manufactured in North America.

d) All bolts must be installed. No empty bolt holes are permitted unless directed by the design engineer.

e) All high strength bolts (A325 and A490) require hardened washers under the turned element.

f) Bolt tensioning verification is required through the use of a Skidmore direct tension-indicating device or equivalent. This verification must be accomplished prior to tensioning the bolts in the building. This verification must be performed by the same persons as those who will tension the bolts in the structure.

g) A bazooka level furnished by the erector will be required at the jobsite to be utilized by the erector in the verification that columns are plumb. The level is to be made available to the special steel inspector.

h) The enlarging of holes or modification of members is permitted only with the documented direction of the design engineer.

i) Burning to create new holes or enlarge existing holes is not permitted.

j) All X-bracing must be straight

k) Temporary bracing of the building is required. Temporary bracing to remain in place until all permanent bracing and roof deck is installed and all connections are completed including roof deck fastening. The bracing sizes and locations are the responsibility of the erector.

l) Fastening of steel roof deck shall provide resistance to design wind loads through diaphragm action and shall conform with Steel Roof Deck Institute Design Manual including side lap fastening.

m) The structure has been designed to meet the deflection criteria specified in "Serviceability Design Considerations for Low-Rise Buildings" published by American Institute of Steel Construction, Inc.

n) All structural welded joints shall conform to the provisions of AWS D1.1 Structural Welding Code by the American Welding Society.

o) Check mechanical and electrical drawings for exact location and size of openings for equipment.

SPECIAL INSPECTIONS:

a) Engaging the Special Inspectors
The Owner and/or Architect must engage special inspectors to perform special inspections.

b) Steel Fabricator
The steel fabricator shall maintain written procedural and quality control manuals. The steel fabricator must be engaged with an approved special inspection agency that is performing periodic audits of the steel fabricator's operations. Upon completion of the fabrication, the fabricator must submit a "certificate of compliance" to the building official stating that the work was performed in accordance with approved construction documents.

c) Special Steel Inspector
The special steel inspector must be a AWS D1.1 Certified Welding Inspector (CWI) and a ASNT TC1A Level Two Certified Technician.

d) Submittal of Field Welding Information
The steel erector must submit the welding materials, welding procedures, and welder qualifications to the special inspector for his approval. This approval must be made prior to any steel erection.

e) Periodic Inspection of Field Welds
The special steel inspector must provide periodic inspection of:
10% of all field welds
First 10% of all metal deck welds
10% of all field welds of cold formed steel members

Should any welds, other than deck welds, be found to be inadequate, then 100% of all similar welds must be inspected at the expense of the subcontractor.

f) Continuous Inspection of Field Welds
The special inspector must be present and provide continuous inspection of:
All fillet welds exceeding $\frac{5}{16}$" size.
All multi-pass fillet welds
All complete and partial penetration welds

Continuous inspections shall be visual inspections unless noted on drawings or specifications.

g) High Strength Bolts (A325 or A490)
The erector shall provide a "tension measuring device" (Skidmore or equal) and schedule the bolting technique verification with special inspector. The special inspector shall observe the pre-installation testing and calibration procedures. The erector shall use the turn-of-the-nut method with "matchmarking" techniques, direct tension indicator washers, or alternate design fasteners to tension the bolts. During this pre-installation testing, the steel inspector shall obtain calibrated torque wrench values for later inspection.

The Special Inspector must utilize a calibrated torque wrench to inspect the following:
10% of all bolted connection (of all bolts).

h) Concrete Inspector Requirements
The Special Concrete Inspector must be an ACI Level 1 technician.

i) Concrete Foundations
The Special Concrete Inspector shall inspect all foundations. This inspection shall include:
Confirmation of adequate soil condition
Verification of the use of the design mix
Sample fresh concrete as indicated in the specifications

j) Slabs on Grade
The Special Concrete Inspector shall inspect all slabs on grade. This inspection shall include:
Verification of adequate soil condition by observation of proof rolling
Verification of the use of the design mix
Sample fresh concrete as indicated in the specifications

k) Adhesive Anchors
All horizontal, upwardly inclined and overhead adhesive anchor installations must be continuously inspected for compliance with the adhesive system manufacturer's printed installation instructions (MPII).

l) Contractor's Statement of Responsibility
The Contractors responsible for any work requiring special inspection shall submit in a written statement to the prime design professional for submittal to the code officials:
Acknowledging the awareness of special requirements
Acknowledging that control will be exercised to obtain conformance with construction documents.
Defining procedures for exercising control.
Identifying the persons exercising control and stating their qualifications.

ERIC N. LOY
8052
COMMONWEALTH OF KENTUCKY
ARCHITECT

GENERAL NOTES

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

DESIGN DOCUMENTS:
The design professional waves any and all responsibility and liability for problems which arise from failure to follow these plans, specifications and the design intent they convey.

PROJECT NO.	2078-34
DESIGNED BY	ENL
DRAWN BY	ENL
CHECKED BY	
REVIEWED BY	ENL
DATE	JANUARY 2024
SCALE	AS NOTED

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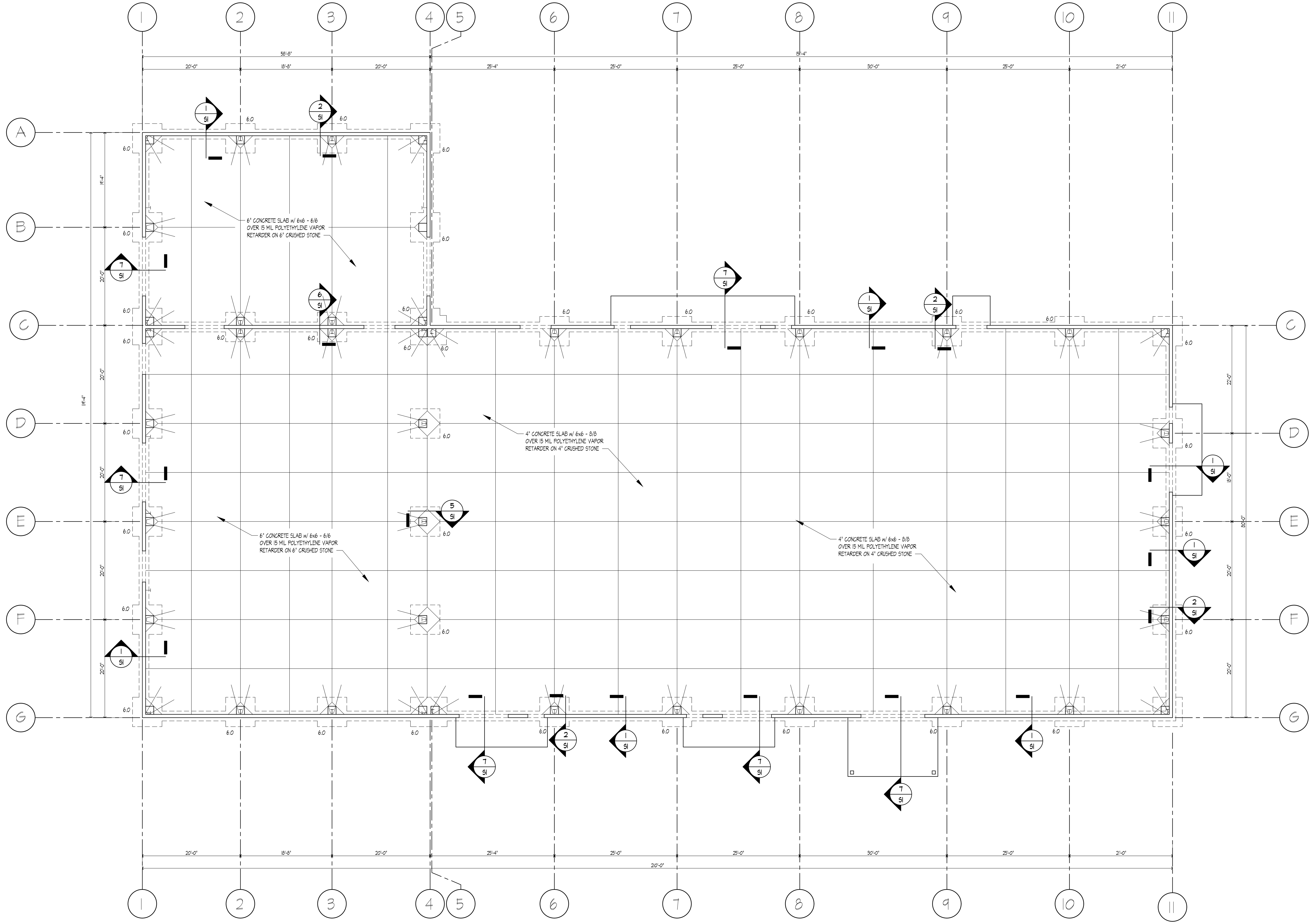
DRAWING NO.

S0

SHEET OF



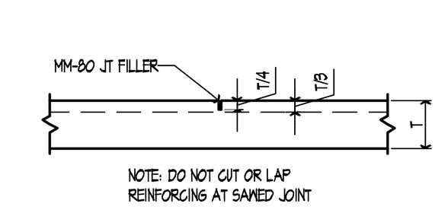
FOUNDATION PLAN (A / S1)

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

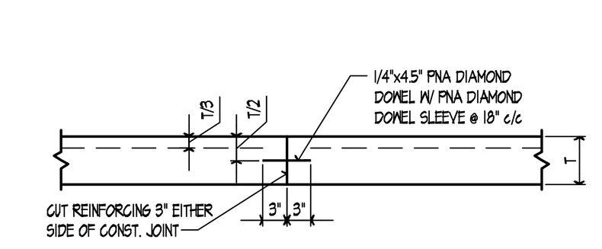
T.F. EXTERIOR/INTERIOR FOOTINGS = (-)2'-0" U.N.O.
FLOOR FLATNESS SHALL BE: Ff=35 Fl=25 OVERALL
Ff=24 Fl=16 LOCAL
NOTE: FINAL PEMB REACTIONS AND DRAWINGS WILL DICTATE ACTUAL FOOTING SIZE, PIER SHAPE AND LAYOUT.

FOOTING SCHEDULE

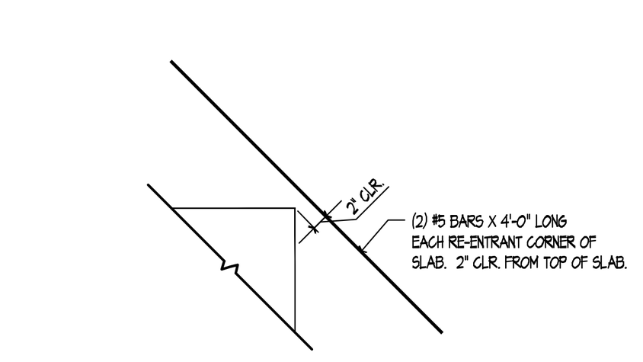
MARK	SIZE	REINFORCING	REMARK
3.0	3'-0" X 3'-0" X 16"	(4) #5 BARS EA. WAY	
6.0	6'-0" X 6'-0" X 16"	(6) #5 BARS EA. WAY	



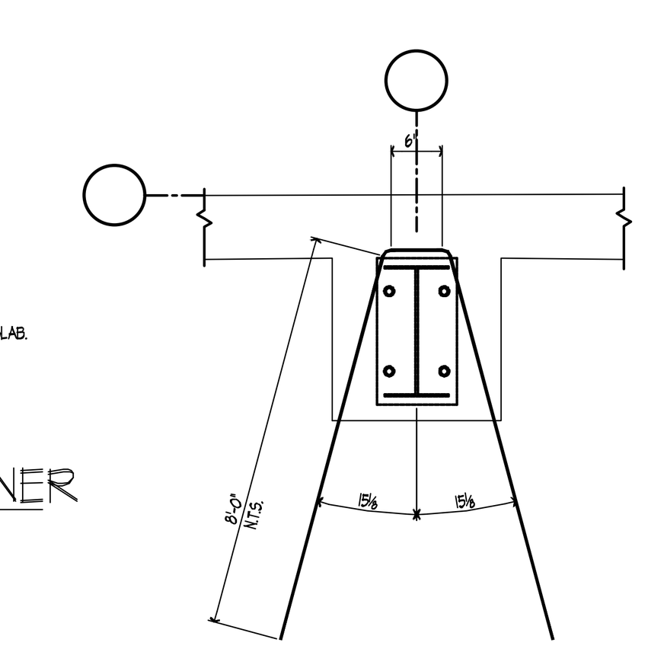
SLAB SAWED JOINT



SLAB CONSTRUCTION JOINT



SLAB RE-ENTRANT CORNER



FOUNDATION PLAN

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY
MAY '23	UPDATED DEDUCTIVE ALTS.	

DESIGN DOCUMENTS:
The design professional waves any and all responsibility and liability for problems which arise from failure to follow these plans, specifications and the design intent they convey.

PROJECT NO.	2078-34
DESIGNED BY	ENL
DRAWN BY	ENL
CHECKED BY	
REVIEWED BY	ENL
DATE	JANUARY 2024
SCALE	AS NOTED

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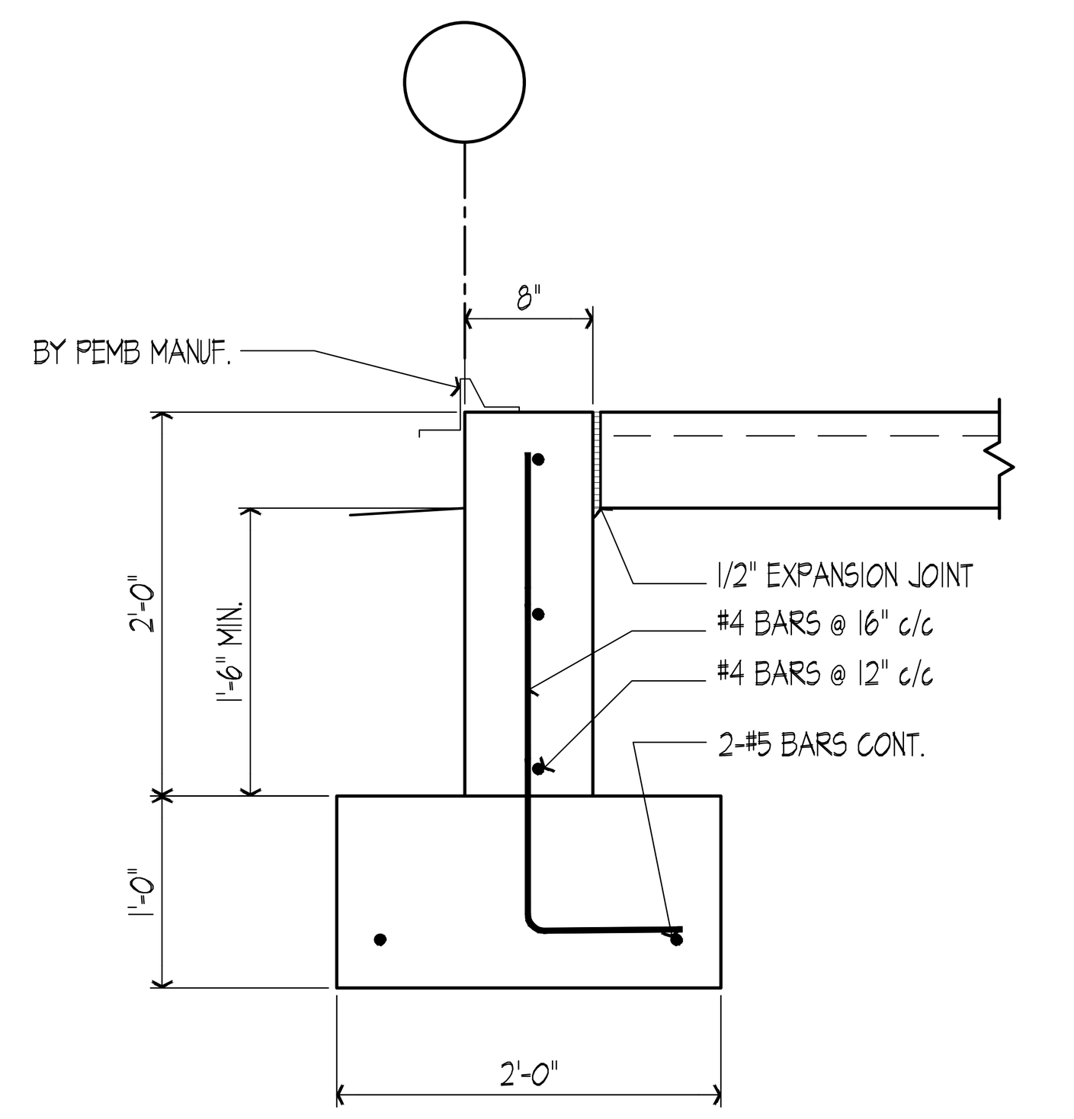
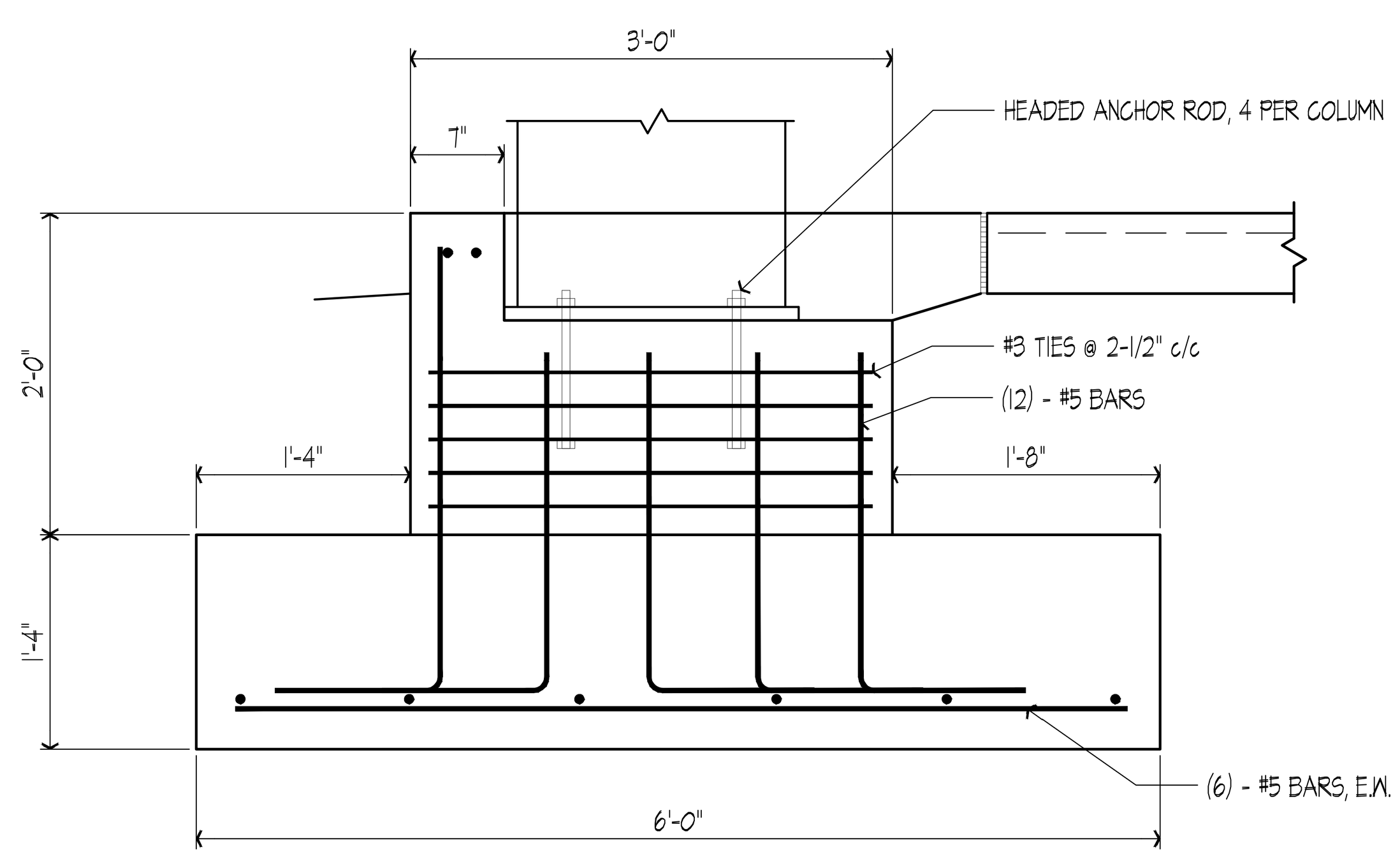
DRAWING NO.

S1

SHEET OF



SECTION 1/S1
SCALE: 1" = 1' - 0"



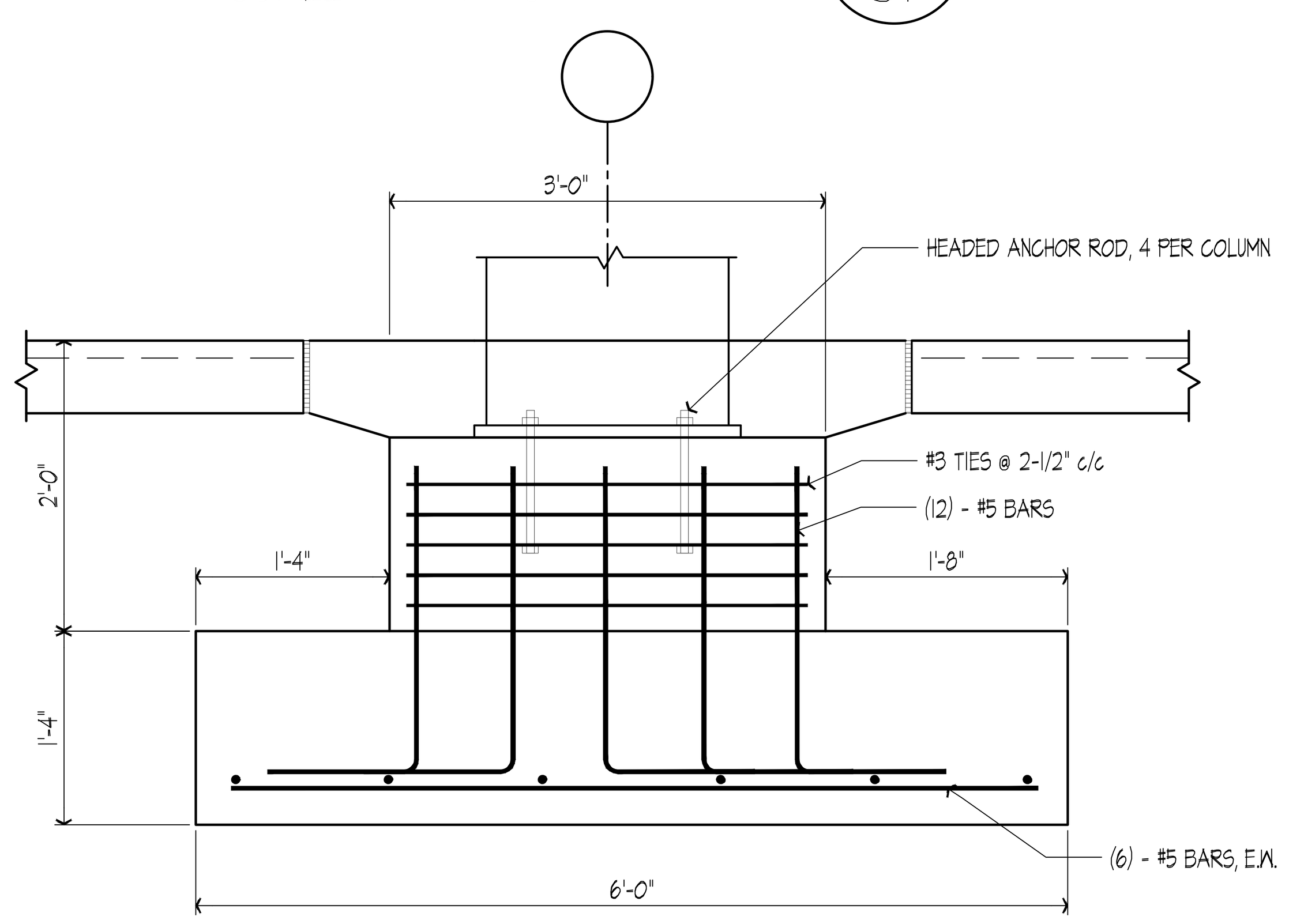
SECTION 2/S1
SCALE: 1" = 1' - 0"

NOT USED

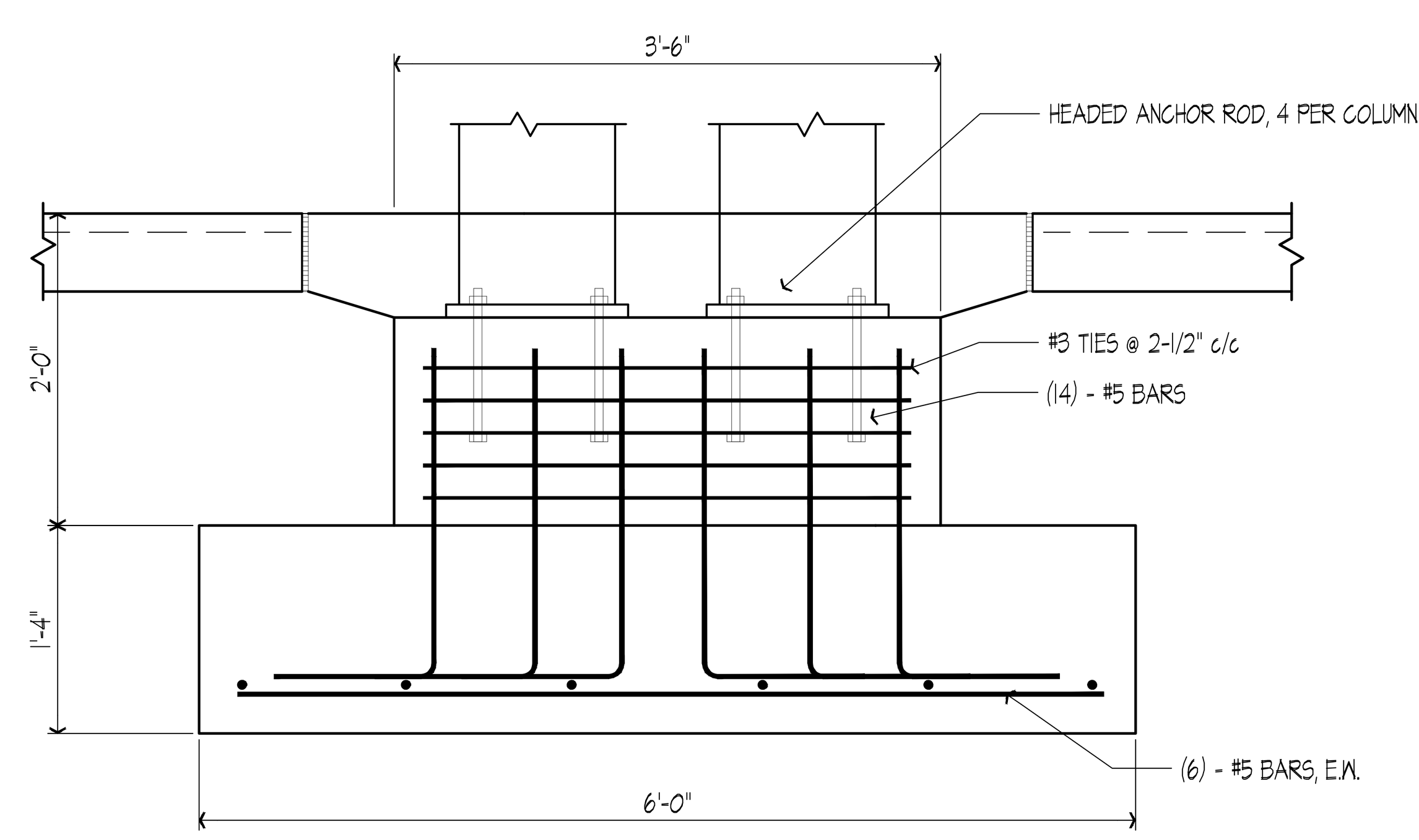
SECTION 3/S1
SCALE: 1" = 1' - 0"

NOT USED

SECTION 4/S1
SCALE: 1" = 1' - 0"



SECTION 5/S1
SCALE: 1" = 1' - 0"



SECTION 6/S1
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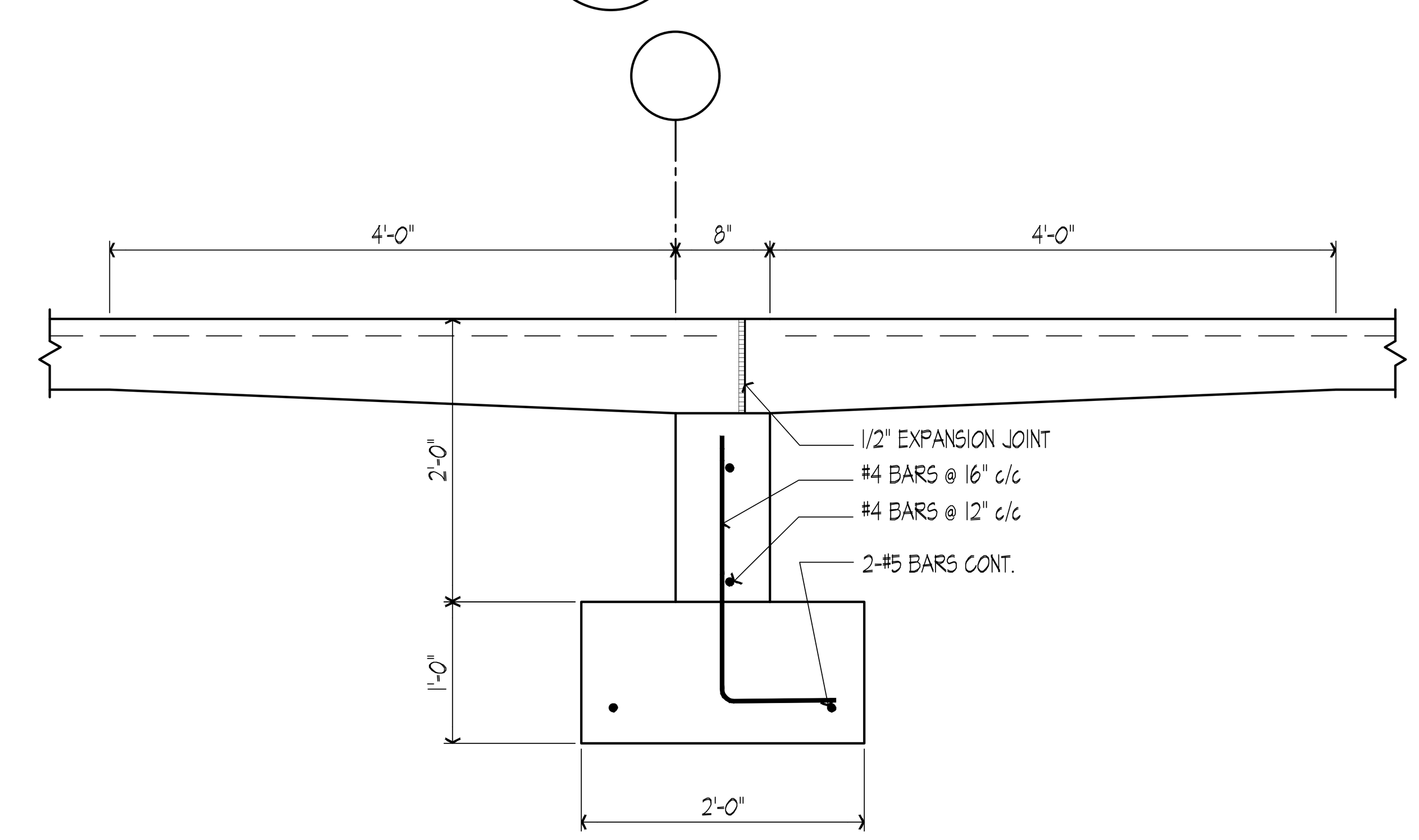

SECTION 7/S1
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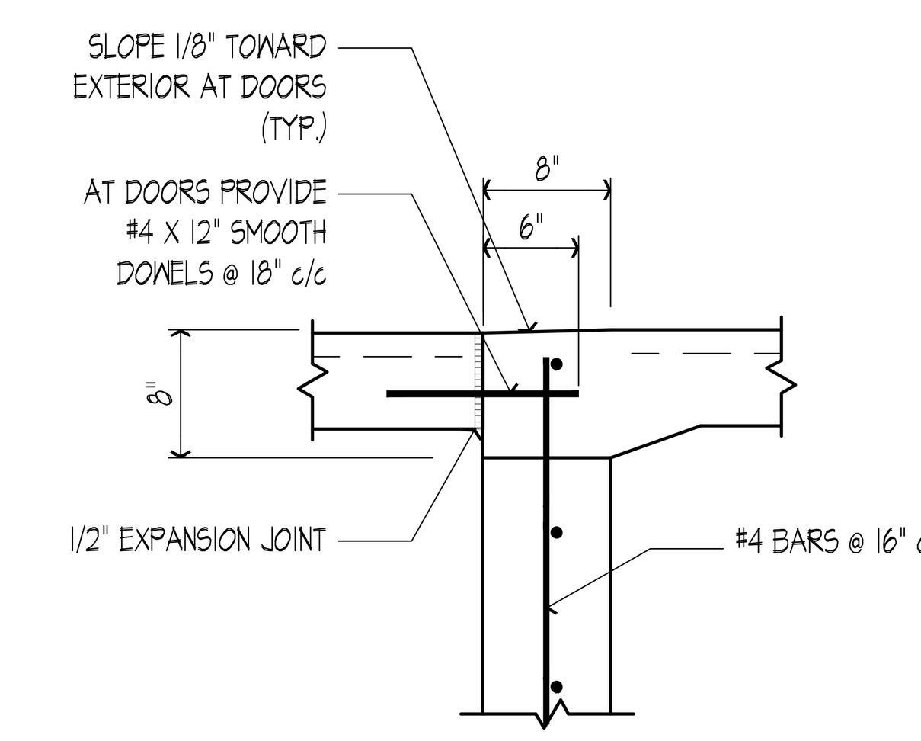
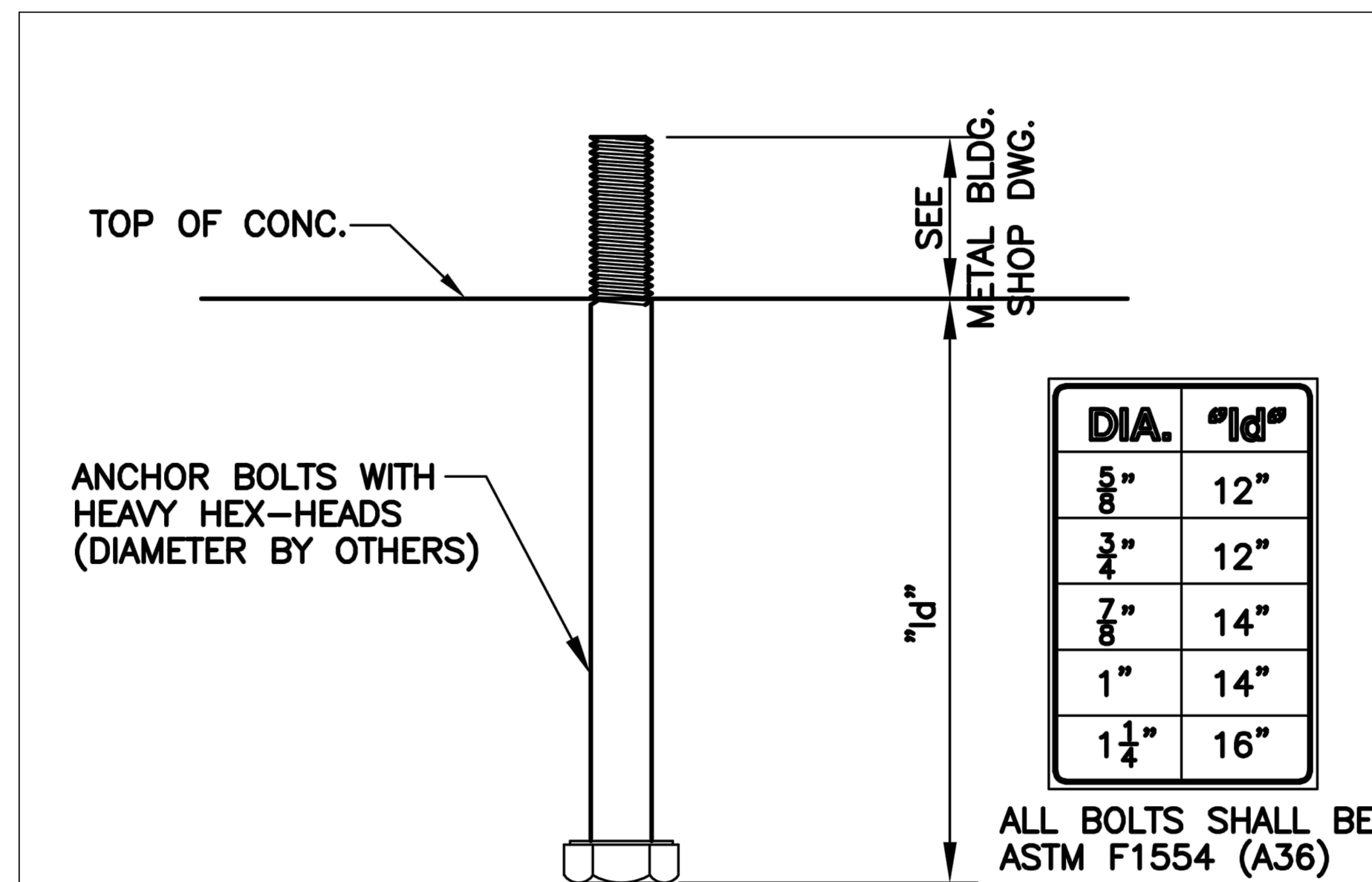


TYPICAL @ 3'-0"X7'-0" DOORS

TYP. DETAIL



DIA.	"ld"
5/8"	12"
3/4"	12"
7/8"	14"
1"	14"
1 1/4"	16"

TYPICAL ANCHOR BOLT EMBEDMENT DETAIL

ERIC N. LOY
8052
COMMONWEALTH OF KENTUCKY
ARCHITECT

Sections

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

PROJECT NO.	2078-34
DESIGNED BY	ENL
DRAWN BY	ENL
CHECKED BY	
REVIEWED BY	ENL
DATE	JANUARY 2024
SCALE	AS NOTED

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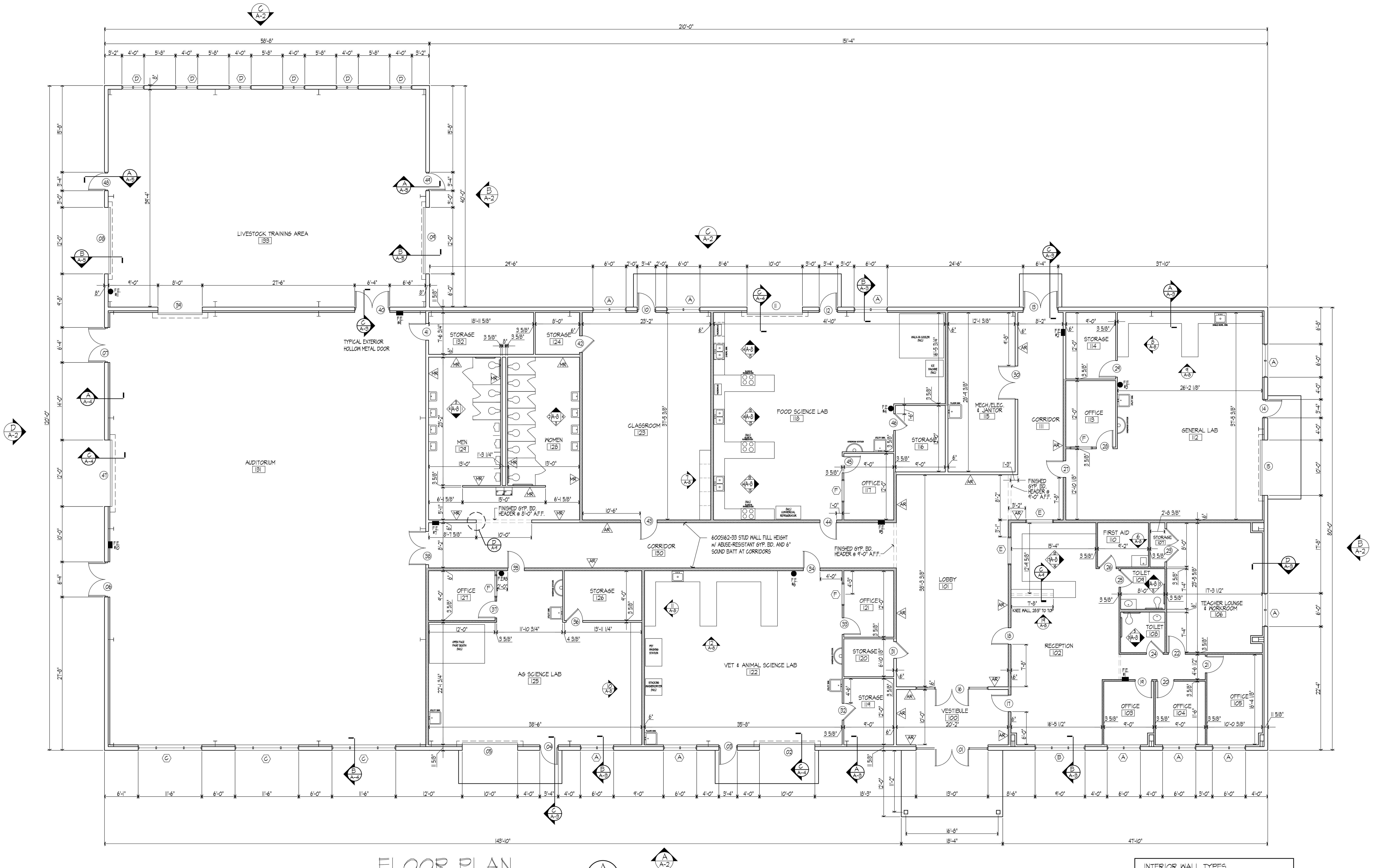
DRAWING NO.
S2
SHEET OF



FLOOR PLAN

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

A / A-1

MAIN BUILDING - 16,800 S.F.
LIVESTOCK AREA - 2,347 S.F.
TOTAL AREA - 19,147 S.F.

NOTE:
ITEMS NOTED AS "NOT IN CONTRACT" (NIC) WILL BE SUPPLIED AND INSTALLED BY THE OWNER. PLANS AND SPECS SHOW THE REQUIRED MECHANICAL, PLUMBING AND ELECTRICAL CONNECTIONS AS REQUIRED AND AS PART OF THIS BID.

INTERIOR WALL TYPES

- 3 5/8" OR 6", 20 GA. METAL STUDS, 16" O.C., w/ 5/8" GYPSUM BOARD EACH SIDE.
- 3 5/8" OR 6", 20 GA. METAL STUDS, 16" O.C., w/ 5/8" GYPSUM BOARD EACH SIDE AND SOUND BATT CONTINUOUS.
- AR / MR: 3 5/8" OR 6", 20 GA. METAL STUDS, 16" O.C., w/ 5/8" GYPSUM BOARD - ABUSE-RESISTANT (AR) OR MOISTURE- RESISTANT (MR) ON SIDE INDICATED.

FLOOR PLAN

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

DATE		REVISION	BY
8-5-24	R-1	ADD DOORS 48 & 49.	BLL

PROJECT NO.	2078-34
DESIGNED BY	ENL/BLL
DRAWN BY	BLL
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

DESIGN DOCUMENTS:
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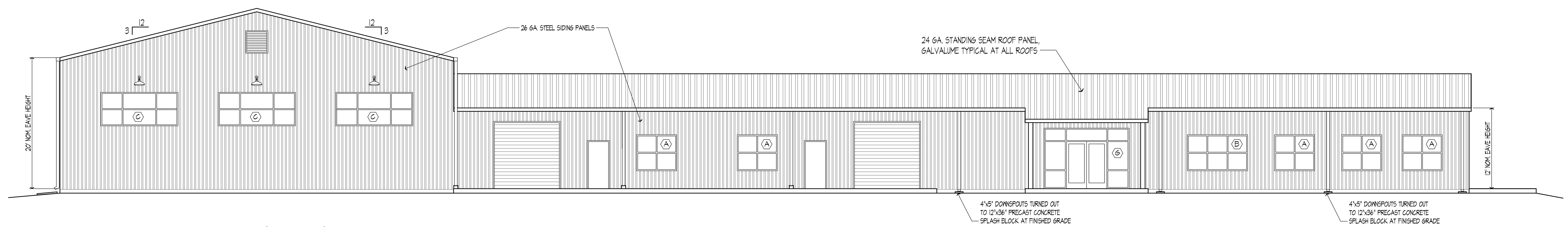
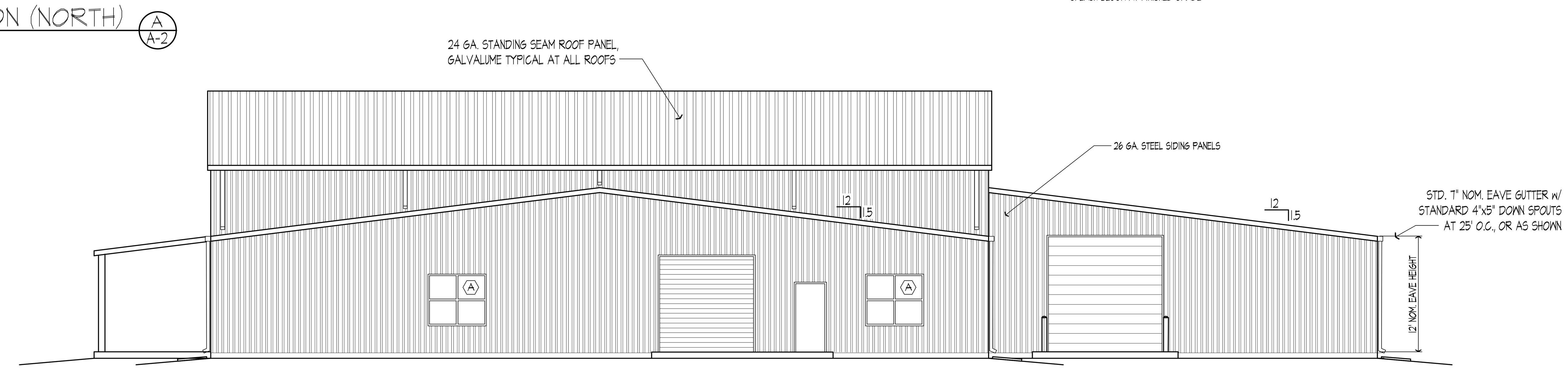
DRAWING NO.

A-1

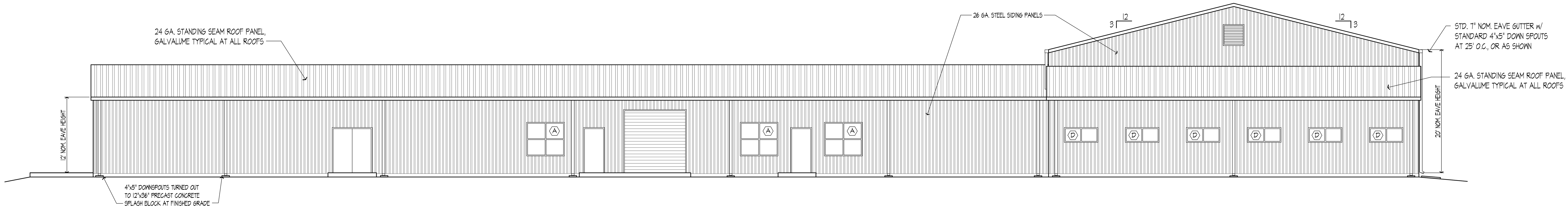
SHEET OF



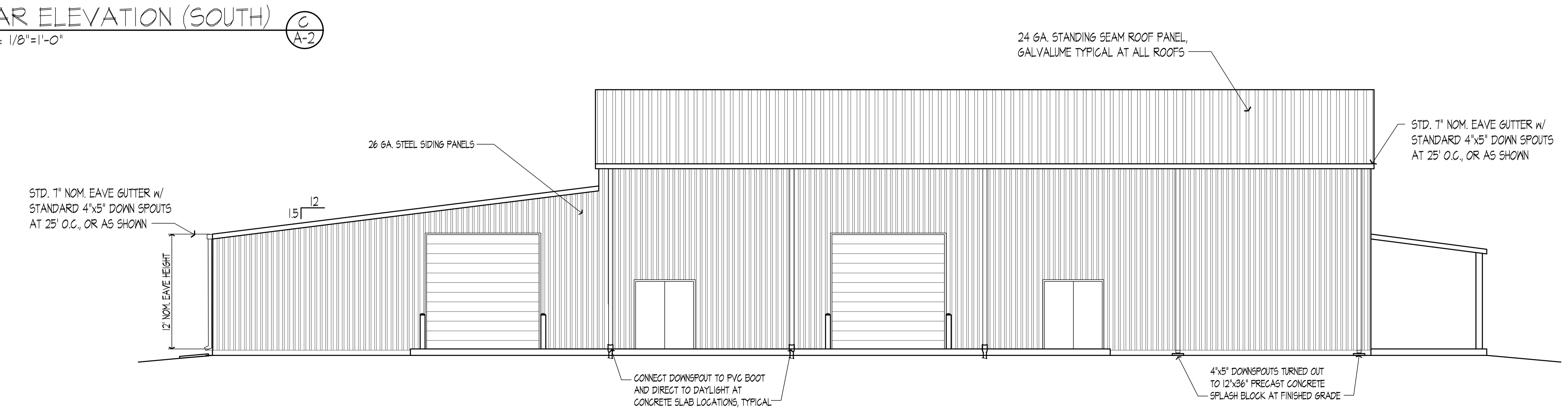
FRONT ELEVATION (NORTH) A / A-2
SCALE: 1/8"=1'-0"



RIGHT SIDE ELEVATION (WEST) B / A-2
SCALE: 1/8"=1'-0"



REAR ELEVATION (SOUTH) C / A-2
SCALE: 1/8"=1'-0"



LEFT SIDE ELEVATION (EAST) F / A-2
SCALE: 1/8"=1'-0"

EXTERIOR BUILDING FINISHES

- WALL PANELS - 26 GA. STEEL SIDING PANELS, COLOR "TERRA COTTA"
- ROOF PANELS - 24 GA. STEEL ROOF PANELS, COLOR "DARK BRONZE"
- ROOF TRIM AND GUTTERS - COLOR "SURREY BEIGE"
- DOWNSPOUTS - COLOR "TERRA COTTA"
- STEEL OVERHEAD DOORS/FRAMES - "DARK BRONZE"
- ALUMINUM DOOR/WINDOW FRAMES - DARK BRONZE
- HOLLOW METAL DOORS/FRAMES - PAINTED SEMI-GLOSS ENAMEL TO MATCH "DARK BRONZE"
- METAL VENTS AND LOUVERS - DARK BRONZE
- EXTERIOR STEEL COLUMNS AND FRONT CANOPY STRUCTURE - PAINTED SEMI-GLOSS ENAMEL TO MATCH "DARK BRONZE"

NOTE: Finish colors noted are brand specific and may be substituted with architect approved equal.

ERIC N. LOY No. 8052 COMMONWEALTH OF KENTUCKY ARCHITECT

EXTERIOR ELEVATIONS

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

DATE		REVISION	BY
8-5-24	R-1	WINDOW "TYPE A" ADDED TO RIGHT SIDE ELEVATION	BLL

DESIGN DOCUMENTS:
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DESIGNED BY	ENL/BLL
DRAWN BY	BLL
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

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Engineers Architects Planners
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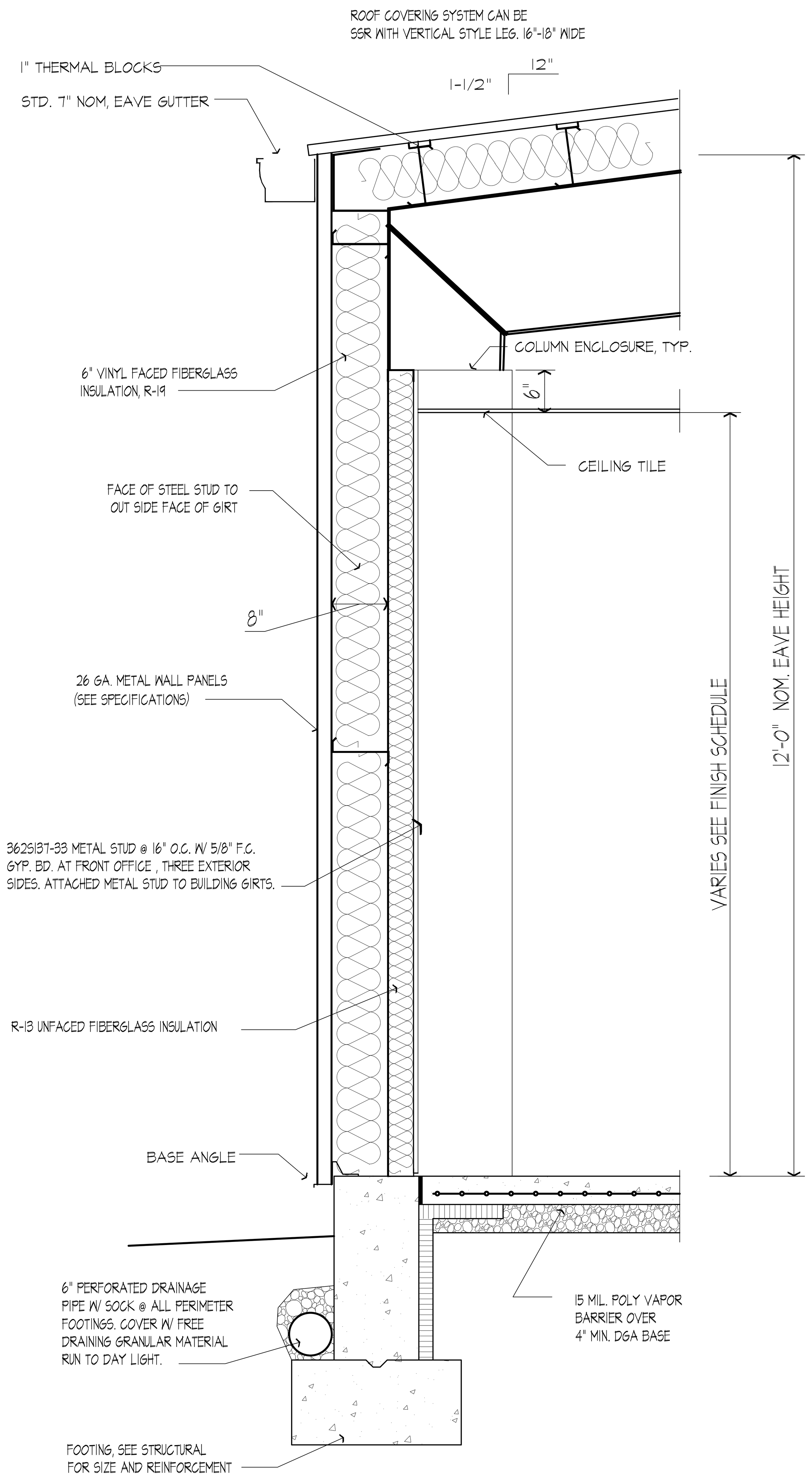
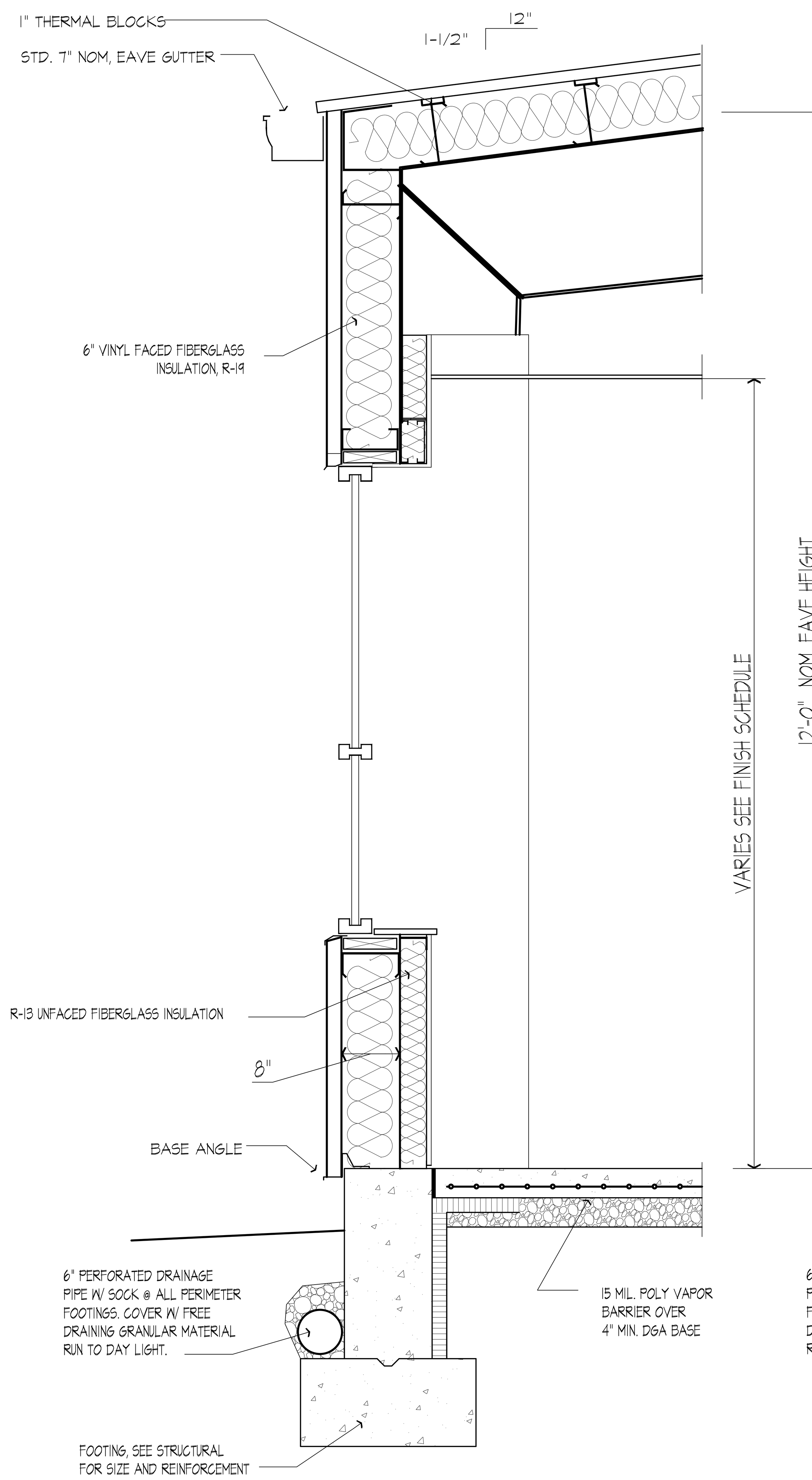
DRAWING NO.
A-2

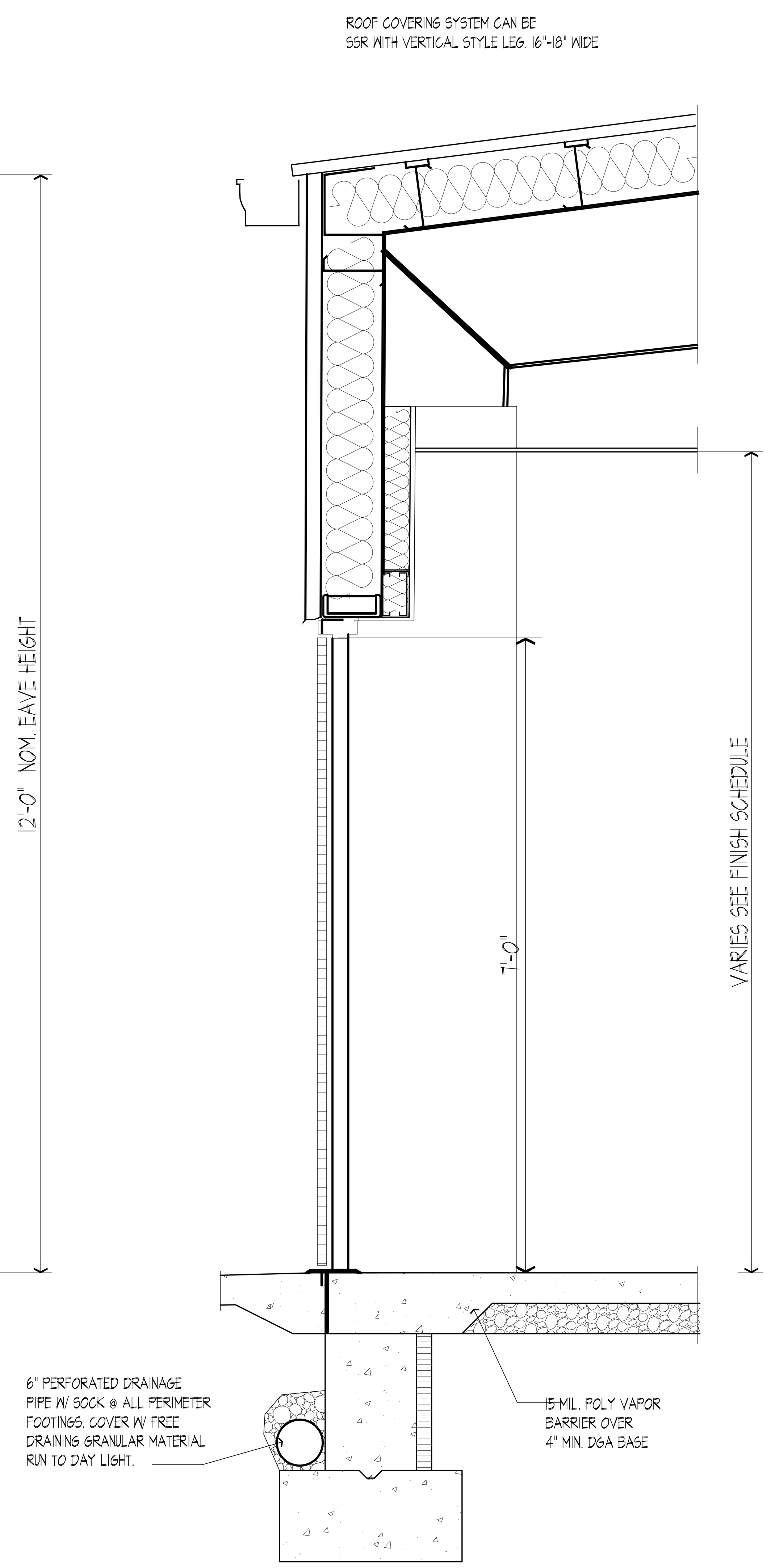
SHEET OF



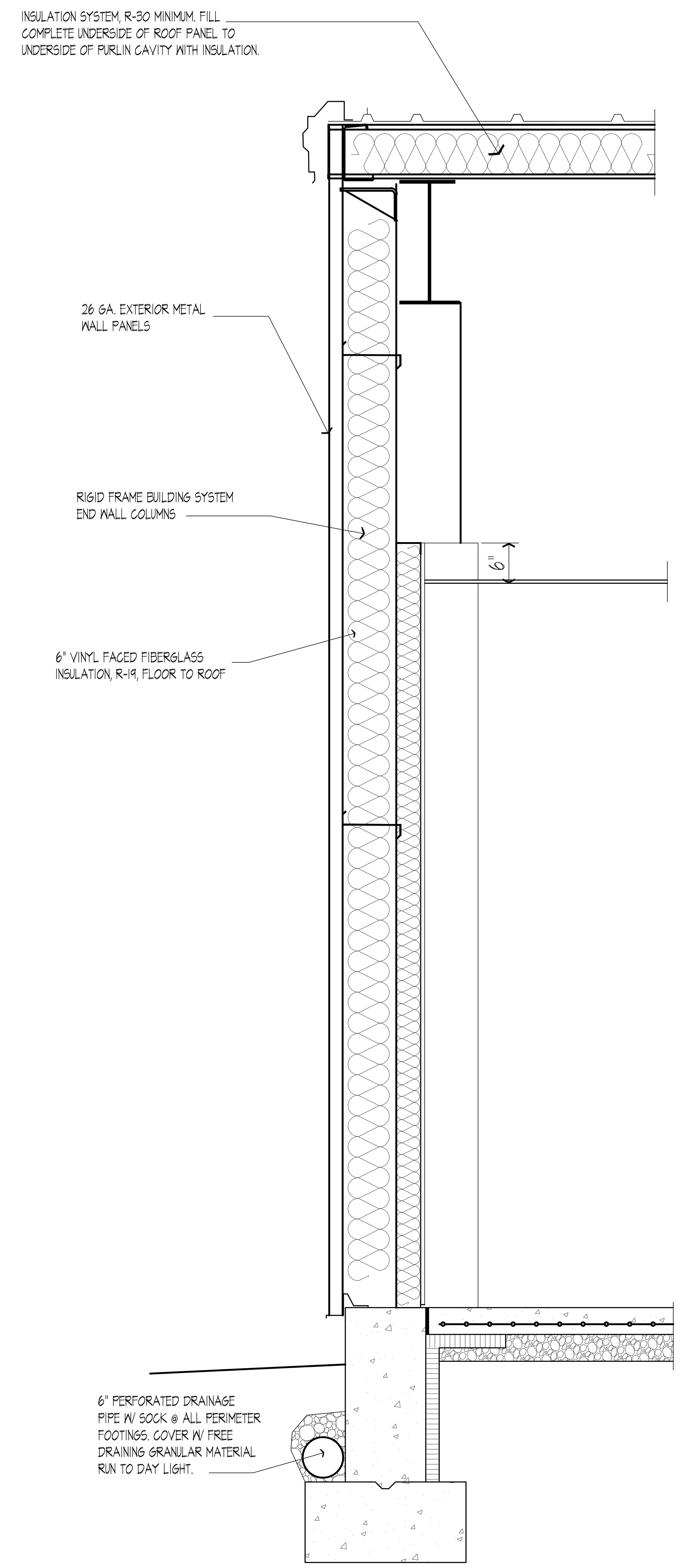
@ LABS & OFFICES
WALL SECTION (A / A-3)
SCALE: 1" = 1'-0"



@ LABS & OFFICES
WALL SECTION (B / A-3)
SCALE: 1" = 1'-0"



@ LABS & OFFICES
WALL SECTION (C / A-3)
SCALE: 1" = 1'-0"



@ LABS & OFFICES
WALL SECTION (D / A-3)
SCALE: 1" = 1'-0"

ERIC N. LOY — COMMONWEALTH OF KENTUCKY — ARCHITECT — 8052

SECTIONS

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY
8-5-24	R-1	

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DATE	JANUARY 2024
SCALE	AS NOTED

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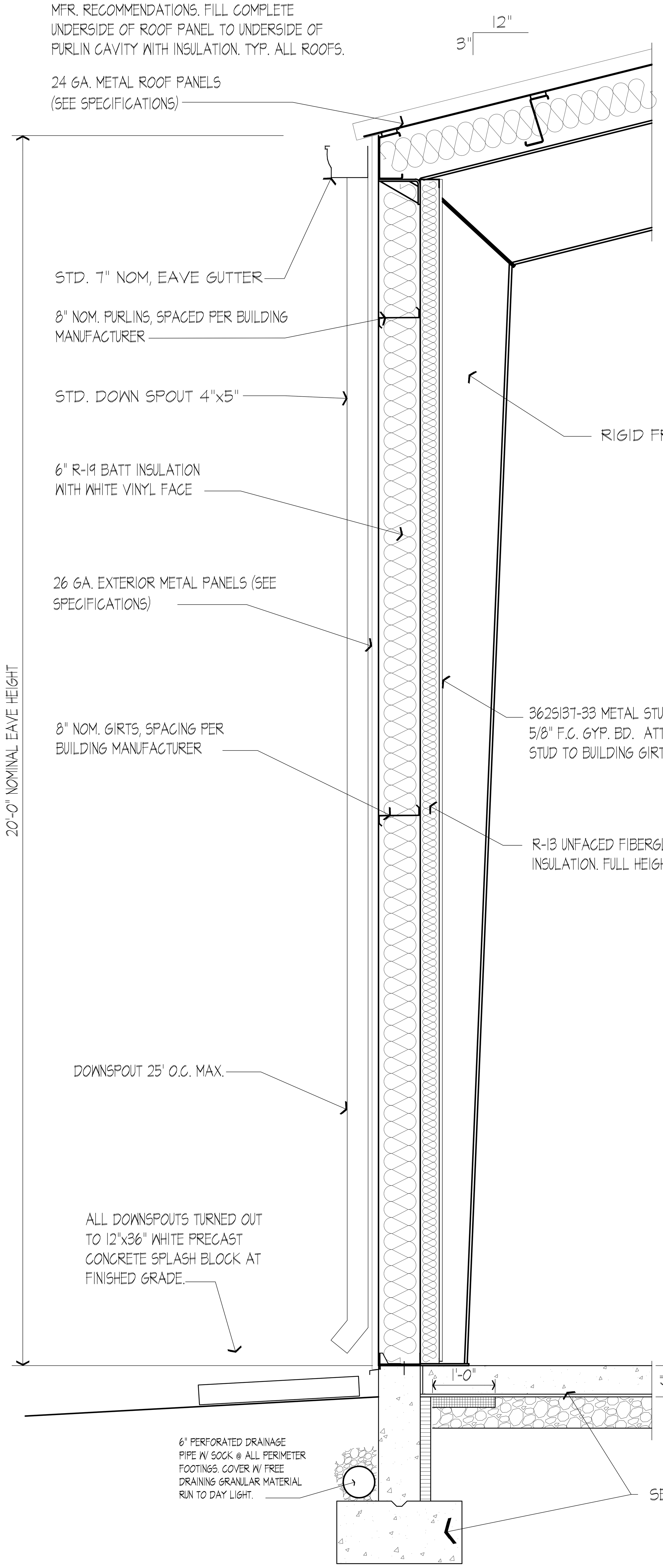
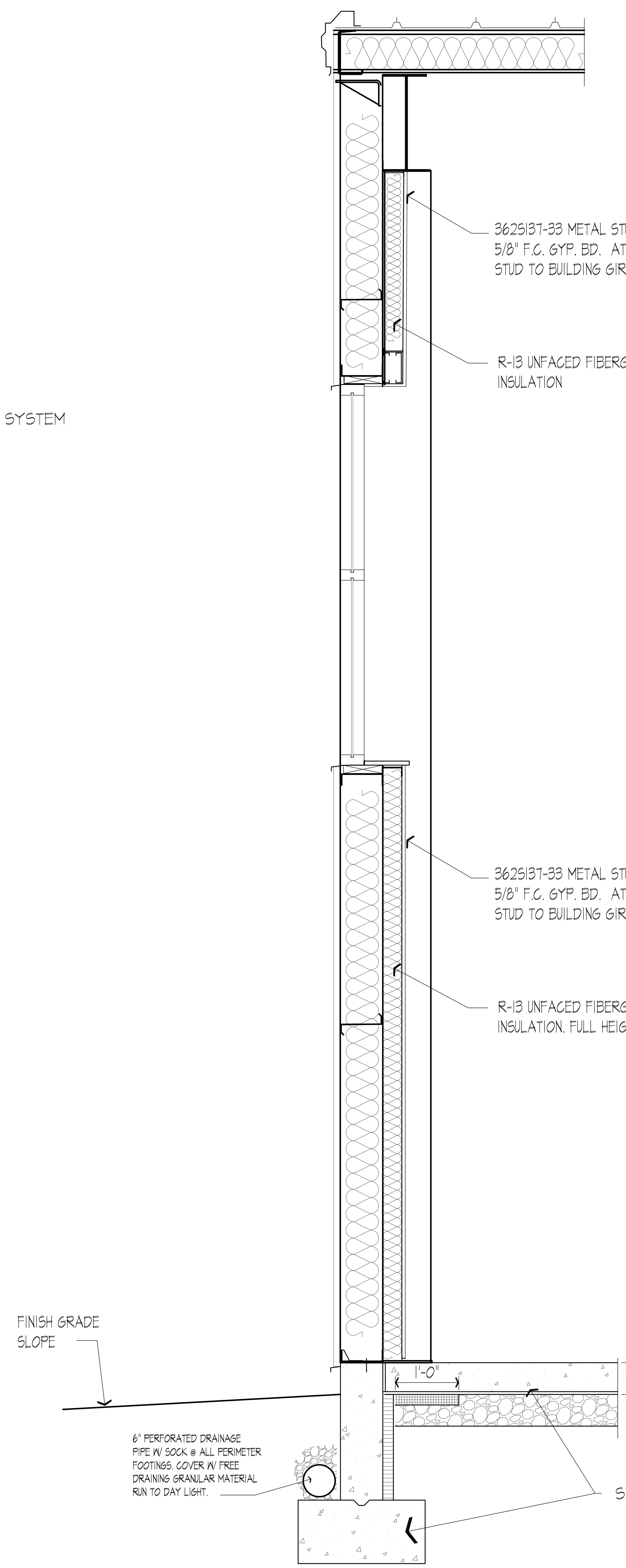
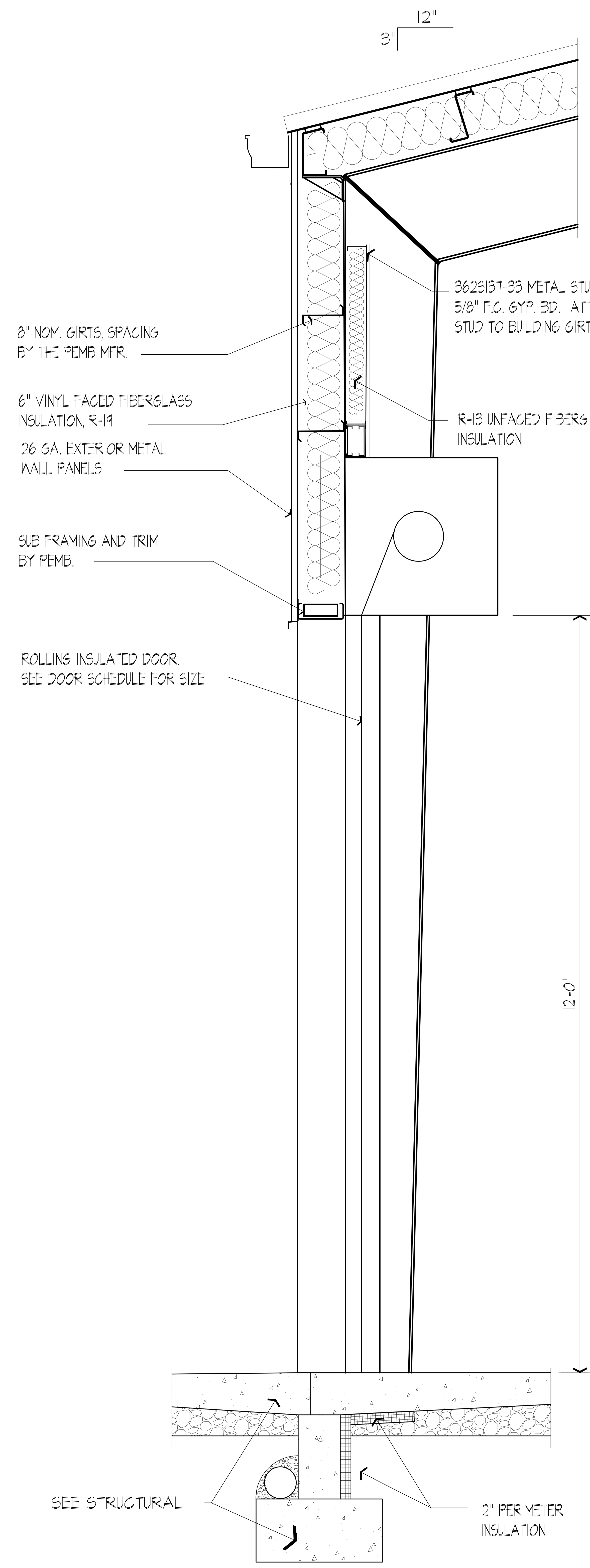
DRAWING NO.
A-3
SHEET OF



@ AUDITORIUM
WALL SECTION A / A-4
SCALE: 1" = 1'-0"



@ AUDITORIUM
WALL SECTION B / A-4
SCALE: 1" = 1'-0"



@ AUDITORIUM
WALL SECTION C / A-4
SCALE: 1" = 1'-0"

SECTIONS

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

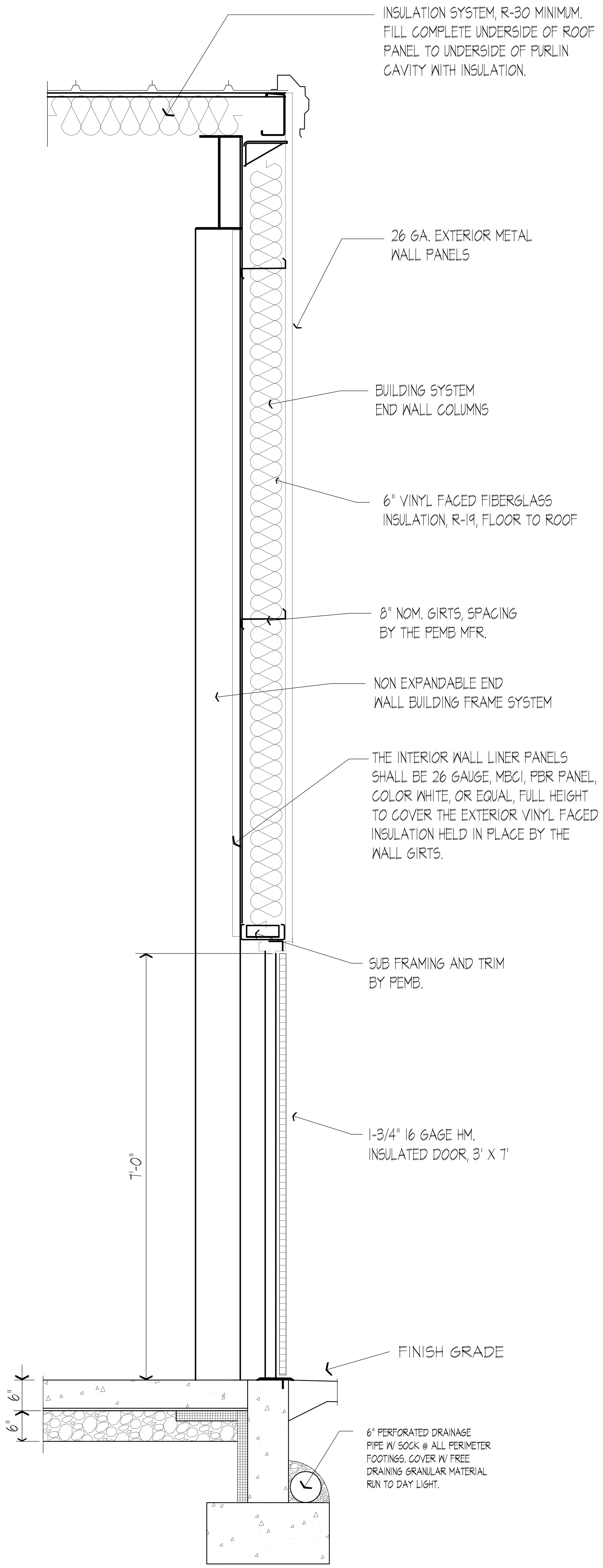
DATE		REVISION	BY
8-5-24	R-1	REVISED	

DESIGN DOCUMENTS:
The design professional waves any and all responsibility and liability for problems which arise from failure to follow these plans, specifications and the design intent they convey.

PROJECT NO.	2078-34
DESIGNED BY	ENL/BLL
DRAWN BY	BLL
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

MSE OF KENTUCKY, INC.
Engineers
Architects
Planners
624 Wellington Way
Lexington, KY 40503
www.mselex.com
Phone: (859)223-5694
Fax: (859)223-2607

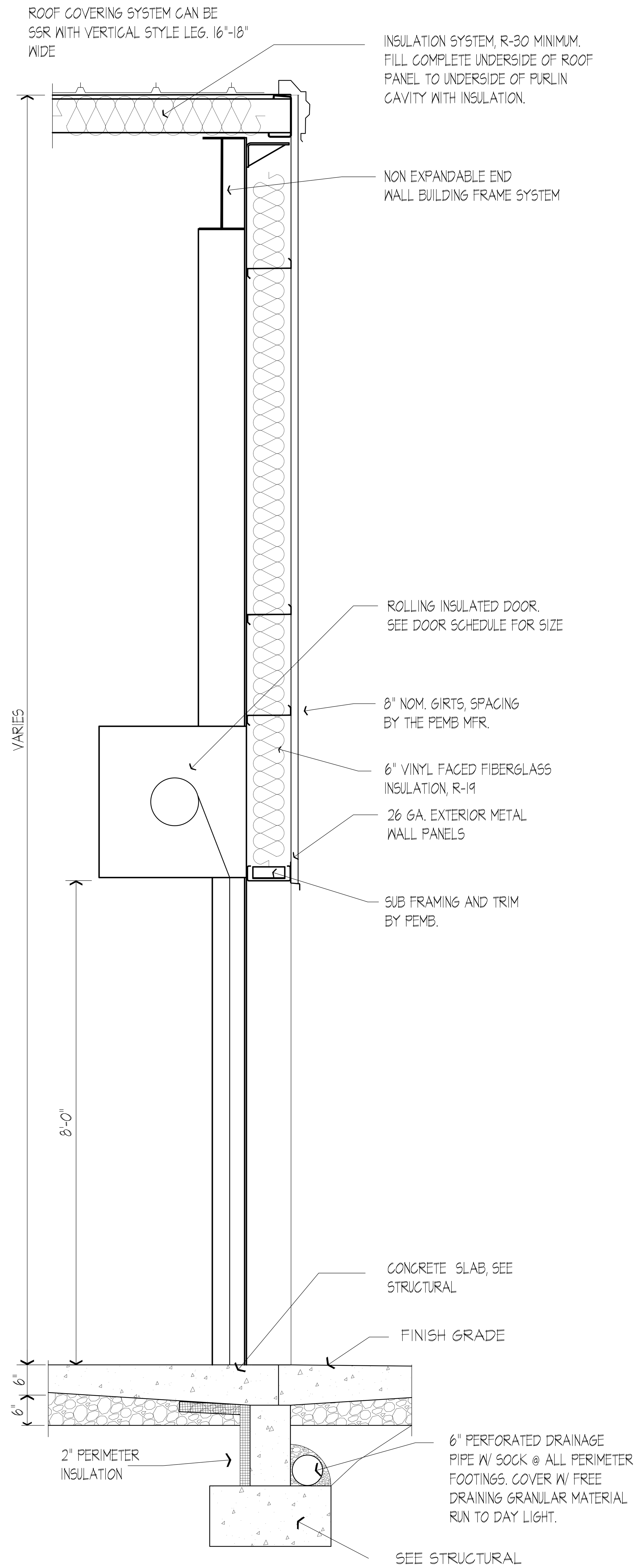
DRAWING NO.
A-4
SHEET OF



@ LIVESTOCK TRAINING

WALL SECTION (A / A-5)

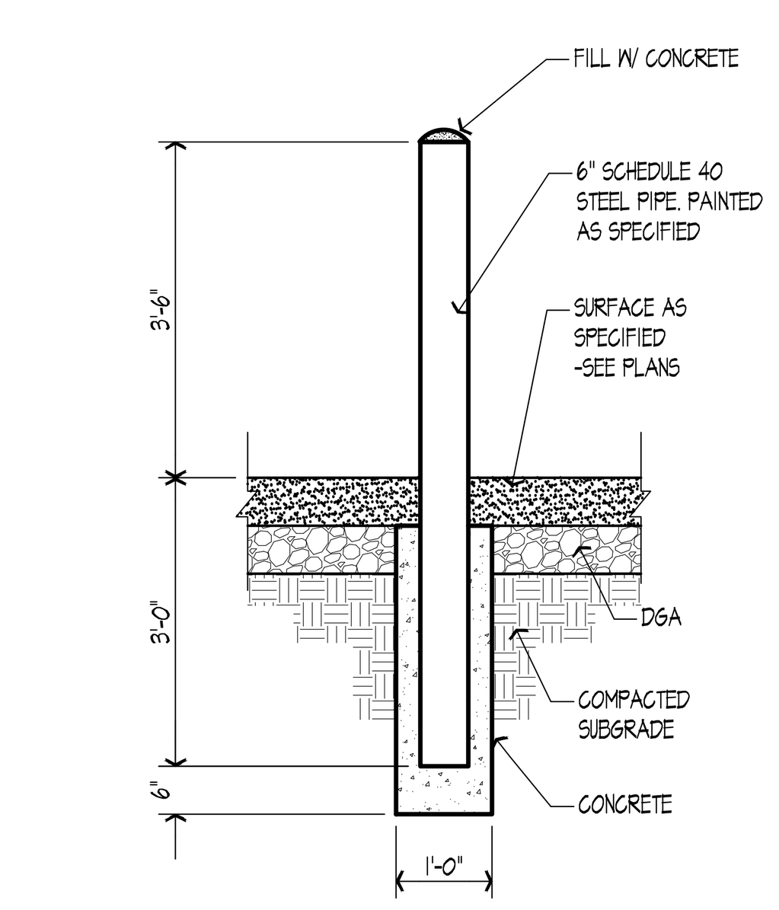
SCALE: 1" = 1'-0"



@ LIVESTOCK TRAINING

WALL SECTION (B / A-5)

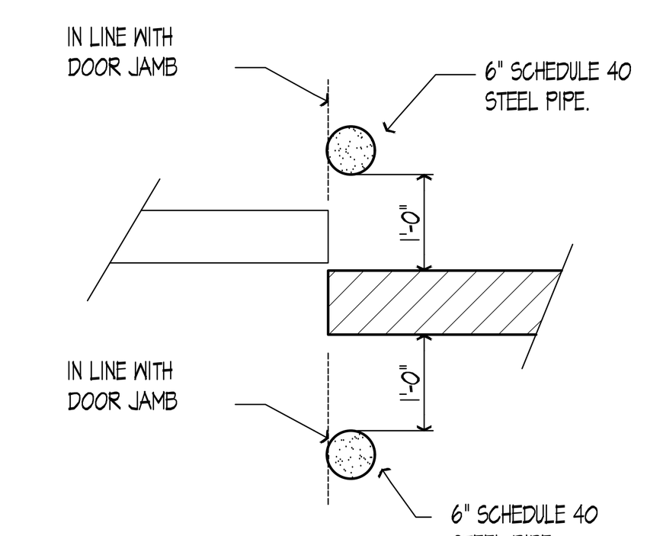
SCALE: 1" = 1'-0"



AT ALL ROLLING DOORS AND NEW OPENING

PIPE BOLLARD DET. (C / A-5)

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



AT ALL ROLLING DOORS

PIPE BOLLARD PLAN (D / A-5)

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

SECTIONS

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

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8-5-24	R-1	REVISED	

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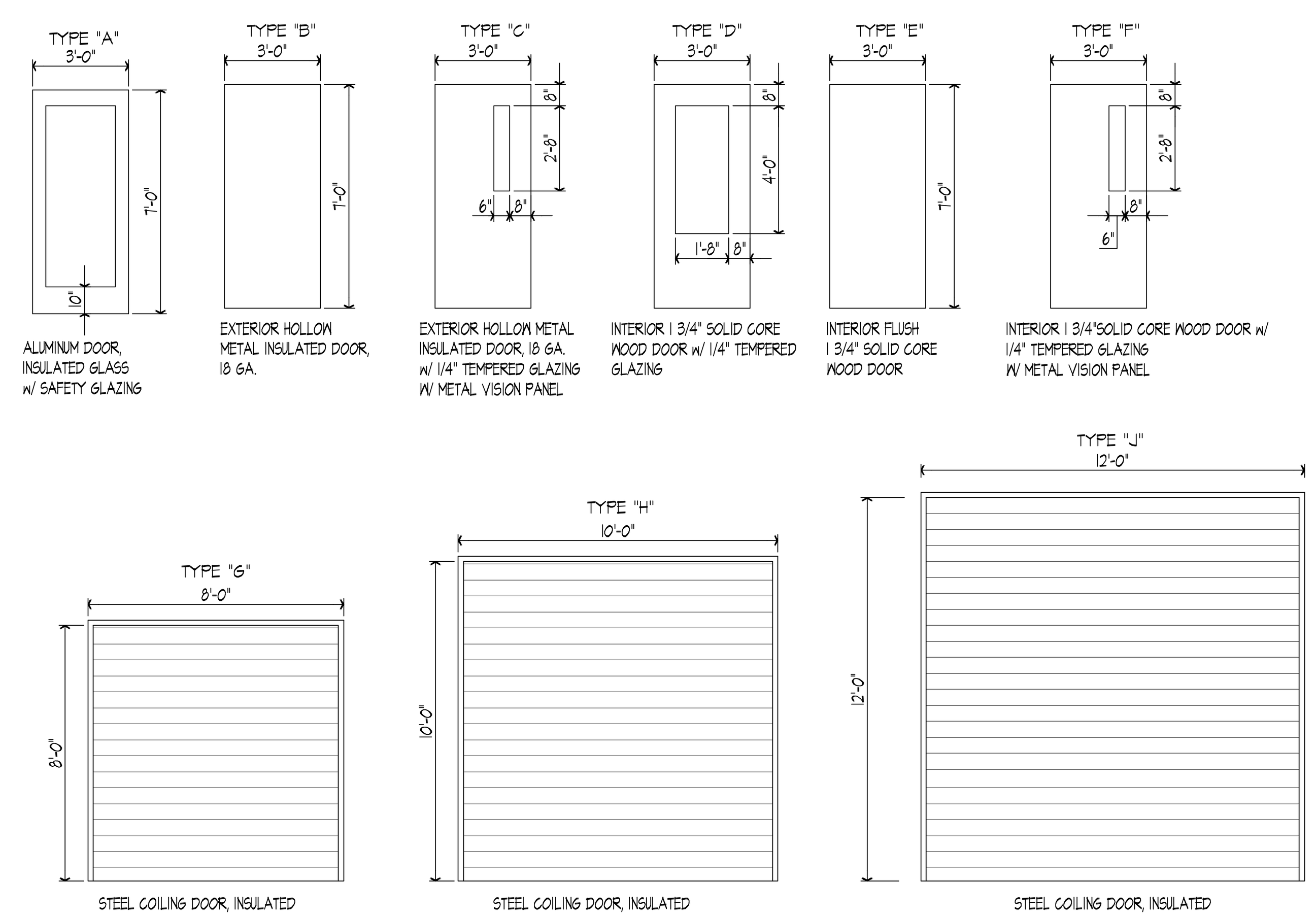
DRAWING NO.

A-5

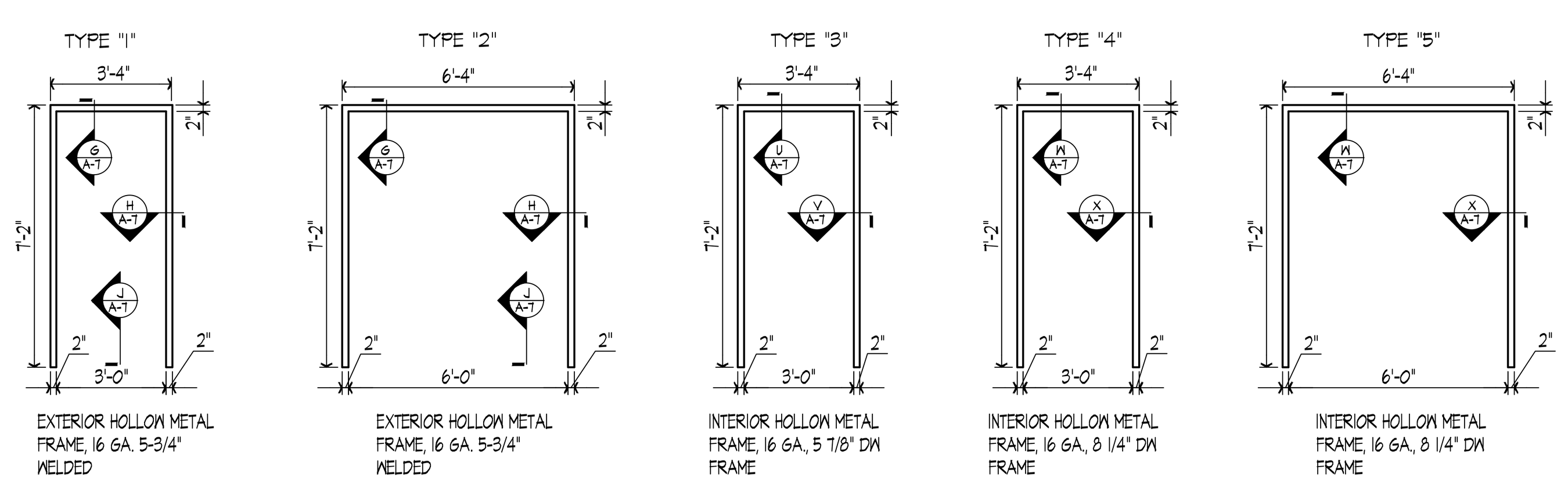
SHEET OF

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

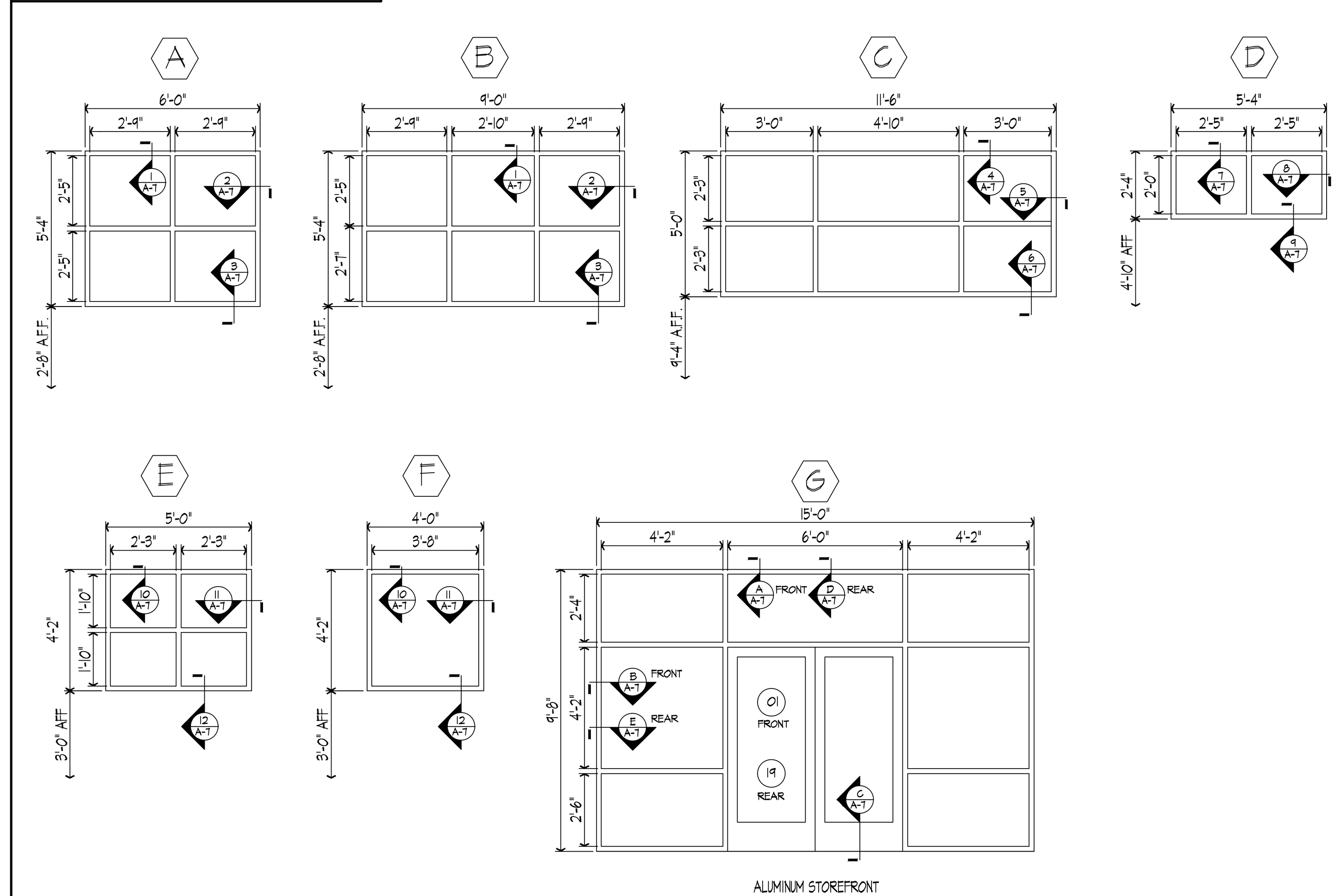


DOOR FRAMES:
SCALE 1/4" = 1'-0"

ALL EXTERIOR HOLLOW METAL DOOR FRAMES SHALL BE GALVANIZED.



WINDOWS & STOREFRONTS:
SCALE 1/4" = 1'-0"



DOOR SCHEDULE

SEE SPEC. SECTION 08710 FOR HARDWARE SETS

DOOR						FRAME				REMARKS
NO.	TYPE	MATERIAL	WIDTH	HEIGHT	THICK.	TYPE	HEAD	JAMB	SILL	
1 PR.	A	ALUM.	3'-0"	7'-0"	-----	----	A	B	C	STORE FRONT "G"
2	H	STEEL SECT.	10'-0"	10'-0"	-----	----	R	S	T	
3	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	1	Y	Z	J	
4	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	1	Y	Z	J	
5	H	STEEL SECT.	10'-0"	10'-0"	-----	----	R	S	T	
6 PR.	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	2	Y	Z	J	
7 PR.	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	2	Y	Z	J	
8	J	STEEL SECT.	12'-0"	12'-0"	-----	----	R	S	T	
9	J	STEEL SECT.	12'-0"	12'-0"	-----	----	R	S	T	
10	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	1	Y	Z	J	
11	H	STEEL SECT.	10'-0"	10'-0"	-----	----	R	S	T	
12	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	1	Y	Z	J	
13 PR.	C	HM INSUL.	3'-0"	7'-0"	1 3/4"	2	Y	Z	J	
14	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	1	Y	Z	J	
15	H	STEEL SECT.	10'-0"	10'-0"	-----	----	R	S	T	
16 PR.	A	ALUM.	3'-0"	7'-0"	-----	----	D	E	F	STORE FRONT "G"
17	D	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
18	D	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
19	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
20	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
21	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
22	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
23 PR.	E	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
24	E	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
25	E	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
26	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
27	F	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
28	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
29	E	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
30 PR.	E	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
31	E	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
32	E	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
33	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
34	F	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
35	F	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
36	E	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
37	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
38 PR.	F	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
39	G	STEEL SECT.	8'-0"	8'-0"	-----	----	R	S	T	
40 PR.	C	HM INSUL.	3'-0"	7'-0"	1 3/4"	2	Y	Z	J	
41	E	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
42	E	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
43	F	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
44	F	SCW	3'-0"	7'-0"	1 3/4"	4	W	X	----	
45	F	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
46	E	SCW	3'-0"	7'-0"	1 3/4"	3	U	V	----	
47	J	STEEL SECT.	12'-0"	12'-0"	-----	----	R	S	T	
48	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	1	G	H	J	HARDWARE SET 4
49	B	HM INSUL.	3'-0"	7'-0"	1 3/4"	1	G	H	J	HARDWARE SET 4

DOOR SCHEDULE

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE		REVISION	BY
8-5-24	R-1	ADD DOORS 48 & 49	BLL

PROJECT NO. 2078-34
DESIGNED BY EN/BLL
DRAWN BY BLL
CHECKED BY
REVIEWED BY
DATE JANUARY 2024
SCALE AS NOTED

MSE OF KENTUCKY, INC.
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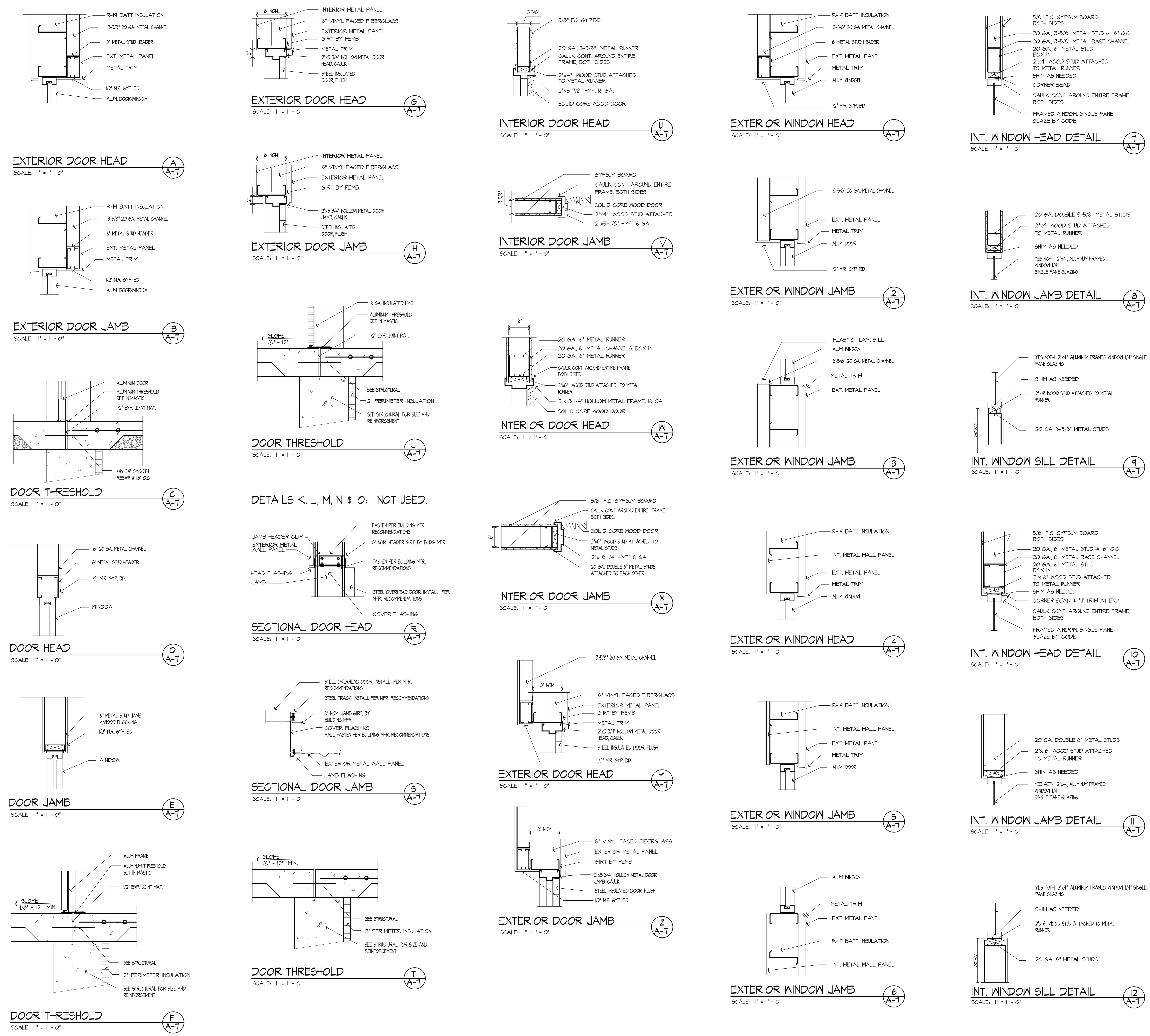
DRAWING NO.
A-6
SHEET OF



DOOR & WINDOW DETAILS

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

DATE	REVISION	BY
8-5-24 R-1		

PROJECT NO. 2023-34
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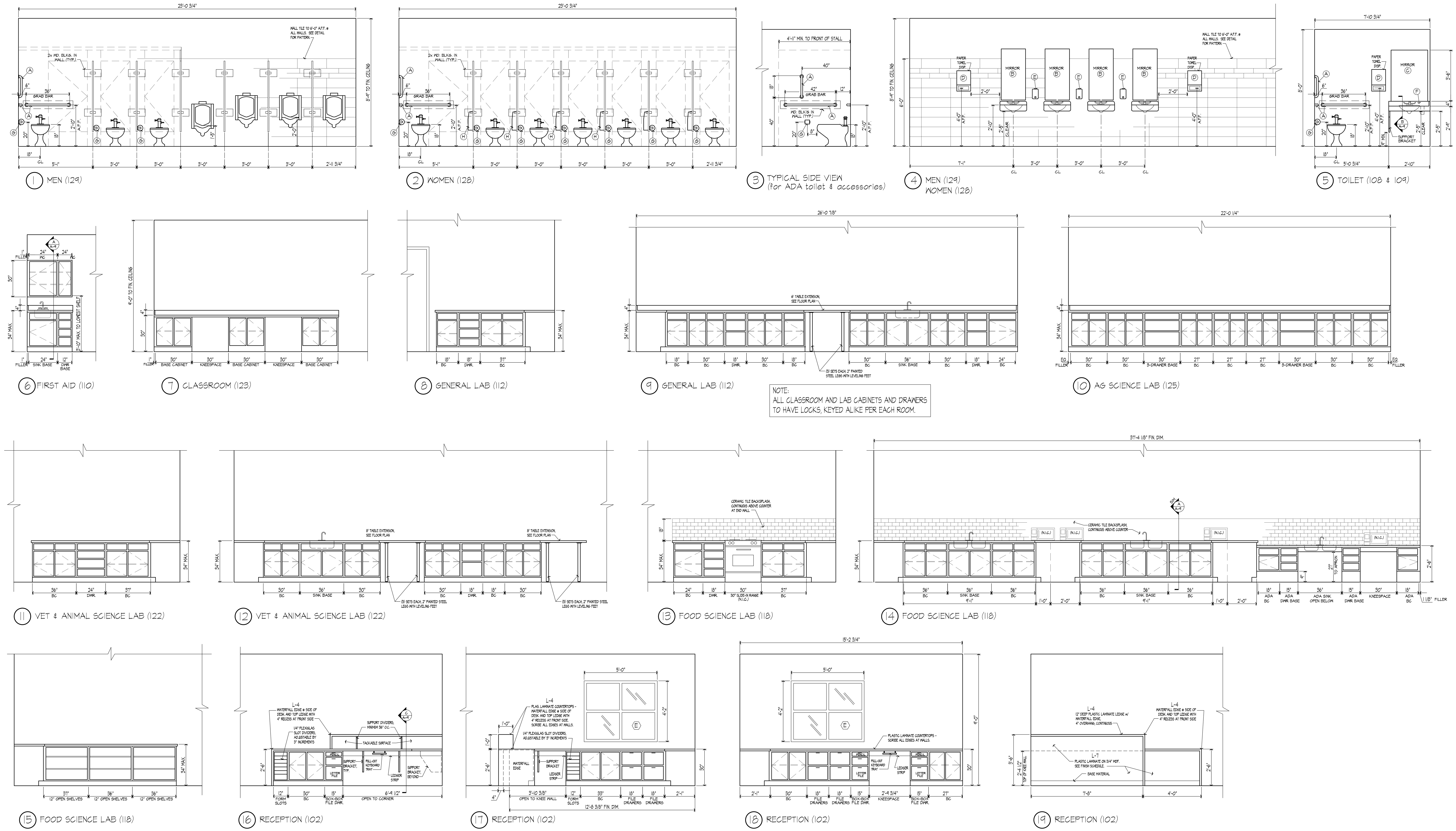
DRAWING NO.

A-7

SHEET OF

INTERIOR ELEVATIONS

3/8" = 1'-0"



1 MEN (129)
2 WOMEN (128)
3 TYPICAL SIDE VIEW (for ADA toilet & accessories)
4 MEN (129) WOMEN (128)
5 TOILET (108 & 109)
6 FIRST AID (110)
7 CLASSROOM (123)
8 GENERAL LAB (112)
9 GENERAL LAB (112)
10 AG SCIENCE LAB (125)
NOTE:
ALL CLASSROOM AND LAB CABINETS AND DRAWERS TO HAVE LOCKS, KEYED ALIKE PER EACH ROOM.
11 VET & ANIMAL SCIENCE LAB (122)
12 VET & ANIMAL SCIENCE LAB (122)
13 FOOD SCIENCE LAB (118)
14 FOOD SCIENCE LAB (118)
15 FOOD SCIENCE LAB (118)
16 RECEPTION (102)
17 RECEPTION (102)
18 RECEPTION (102)
19 RECEPTION (102)

INTERIOR ELEVATIONS

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

DATE	REVISION	BY
8-5-24 R-		

DESIGN DOCUMENTS:

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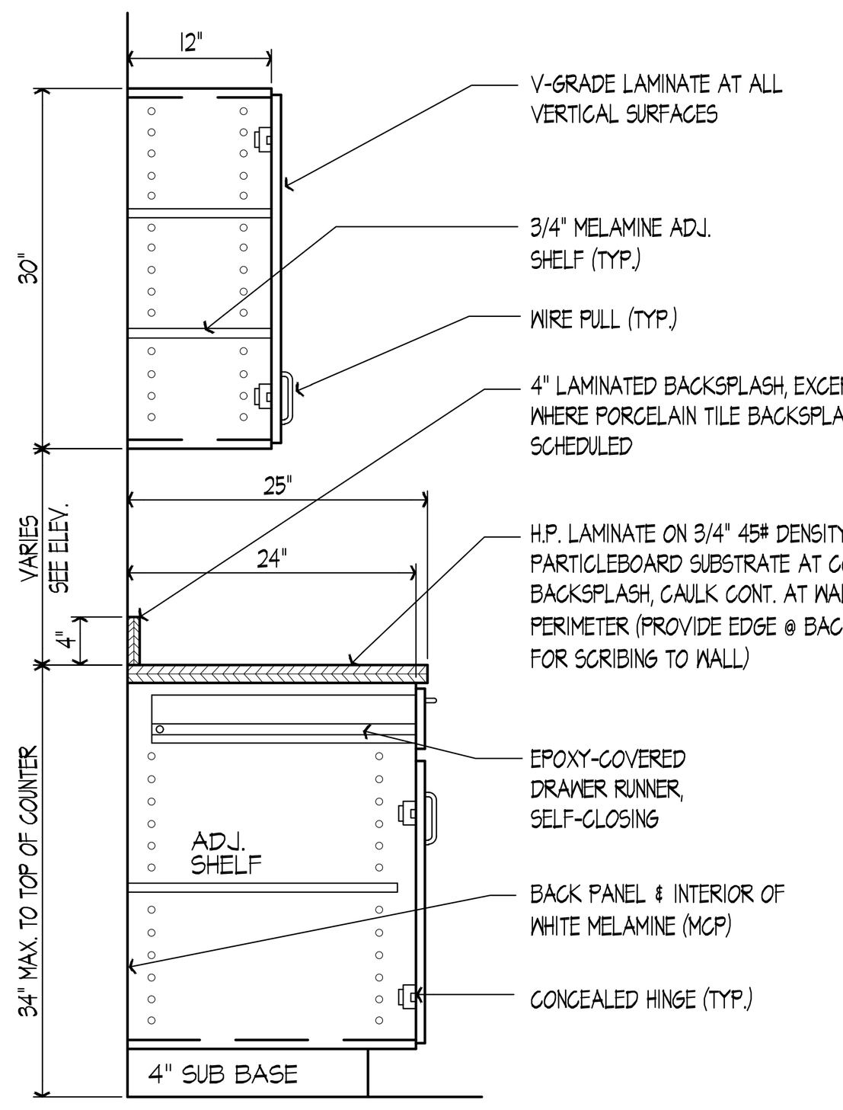
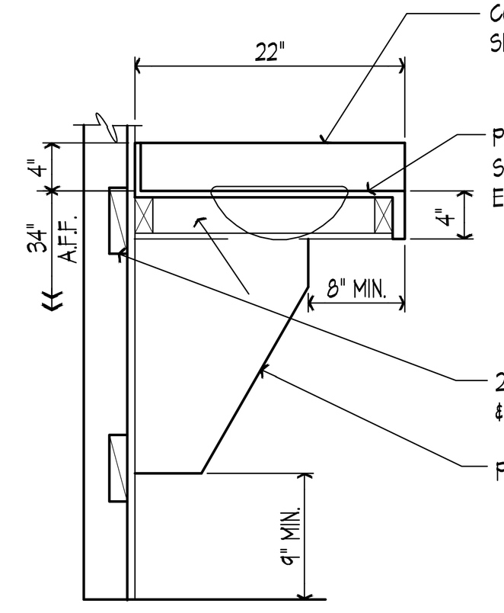
DRAWING NO.

A-8

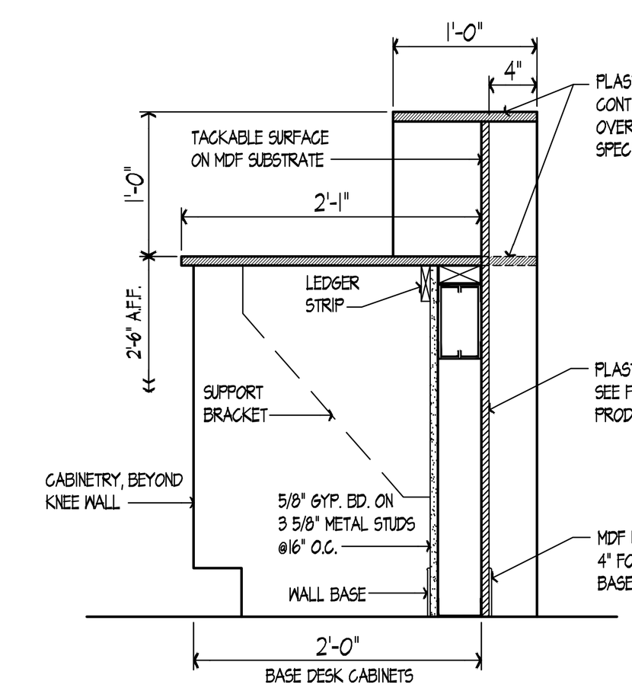
SHEET OF



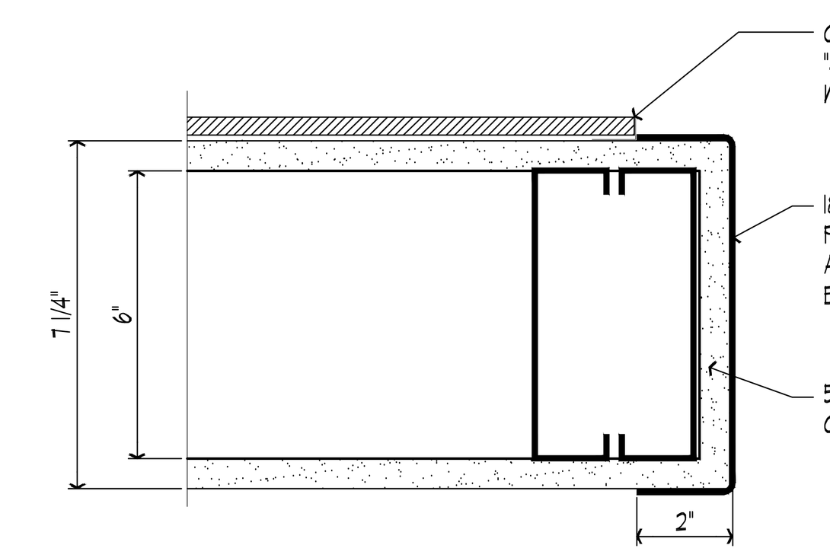
TYPICAL LAMINATE CABINETRY (A / A-9)
SCALE: 3/4"=1'-0"



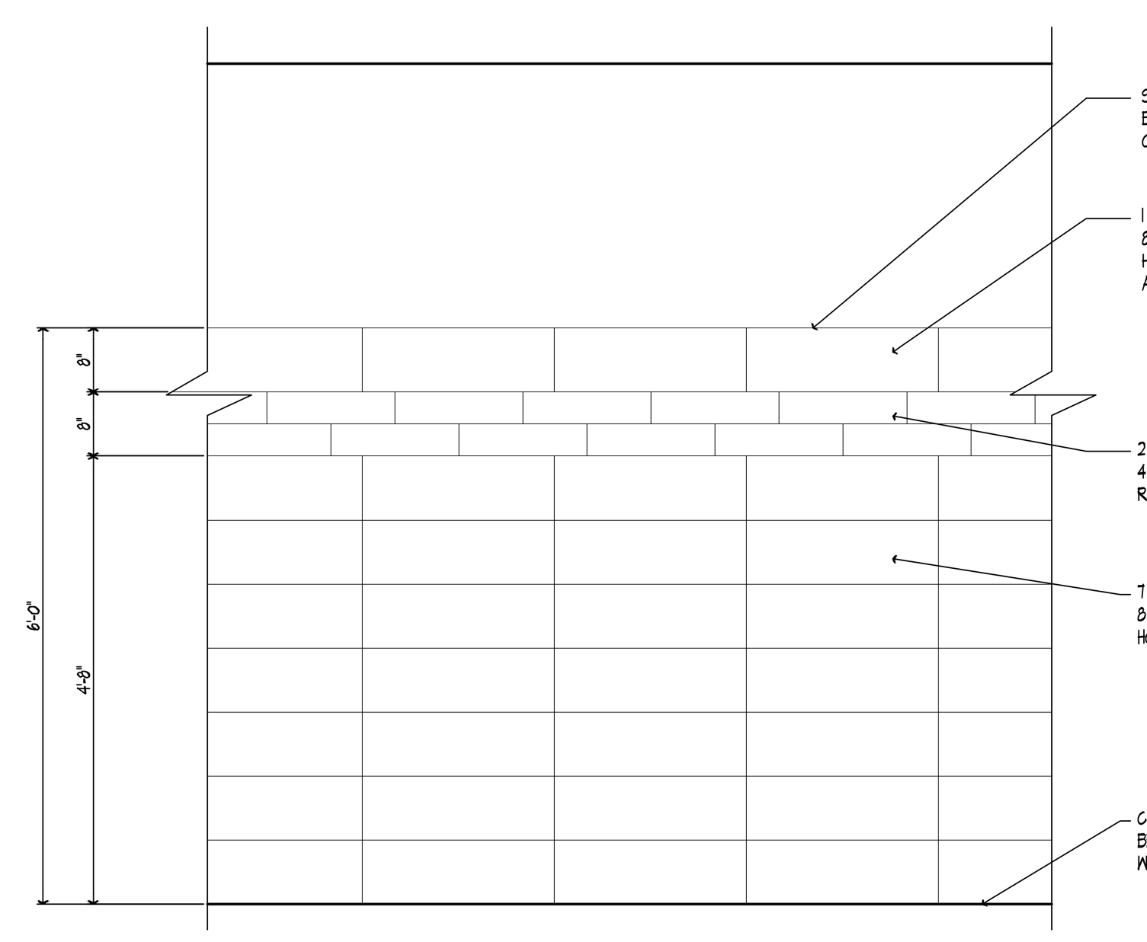
LAVATORY SECTION (B / A-9)
SCALE: 3/4"=1'-0"



RECEPTION COUNTER SECTION (C / A-9)
SCALE: 3/4"=1'-0"



END WALL PROTECTION DETAIL (D / A-9)
SCALE: 3"=1'-0"



RESTROOM WALL TILE DETAIL (E / A-9)
SCALE: 1/2"=1'-0"

FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR: CARPET	FLOOR: SEALED CONCRETE	FLOOR: POLISHED CONCRETE	FLOOR	BASE: 4" VINYL COVE BASE	BASE: 6" VINYL COVE BASE	BASE: ALUMINUM TRANSITION	WALLS: LATEX EGGSHELL WALL PAINT	WALLS: LATEX SEMI-GLOSS WALL PAINT	WALLS: LATEX SEMI-GLOSS ACCENT WALL PAINT	WALLS: SCUFFMASTER PAINT	WALLS: DRY-FALL PAINT @ EXPOSED STR. STEEL	WALLS: PORCELAIN TILE	MISC.: COUNTERTOP	MISC.: CABINETRY	CLG.: PAINTED GYP. BD.	CLG.: 2' x 2' ACOUSTICAL CEILING TILE	CLG.: DRY-FALL PAINT @ EXPOSED STR. STEEL	CLG. HT.
100	VESTIBULE			CON-2			B-2		P-2 H			P-10 I						A-2		9'-6"
101	LOBBY			CON-2			B-2		P-2 H			P-10 I						A-1		11'-0"
102	RECEPTION			CON-2		B-1			P-4						L-4	L-5 L-7 K		A-2		9'-0"
103	OFFICE	C-1				B-1			P-8									A-2		9'-0"
104	OFFICE	C-1				B-1			P-8									A-2		9'-0"
105	OFFICE	C-1				B-1			P-8									A-2		9'-0"
106	TEACHER'S LOUNGE/WORKROOM	C-1				B-1			P-8									A-2		9'-0"
107	STORAGE		CON-1			B-1			P-6									A-2		8'-0"
108	TOILET		CON-1			B-1			P-5						L-6			A-2		8'-0"
109	TOILET		CON-1			B-1			P-5						L-6			A-2		8'-0"
110	FIRST AID		CON-1			B-1			P-8						L-6	L-5		A-2		8'-0"
111	CORRIDOR			CON-2			B-2		P-2 H			P-10 I						A-1		9'-0"
112	GENERAL LAB		CON-1			B-1			P-6		P-7 J		P-9		L-2	L-3			P-9	
113	OFFICE		CON-1			B-1			P-8									A-2		9'-0"
114	STORAGE		CON-1			B-1			P-6									A-2		9'-0"
115	MECH/ELEC/JANITOR		CON-1			B-1			P-6				P-9						P-9	
116	STORAGE		CON-1			B-1			P-6									A-2		9'-0"
117	OFFICE		CON-1			B-1			P-8									A-2		9'-0"
118	FOOD SCIENCE LAB		CON-1			B-1			P-6		P-7 J		P-9	PT-3 G	L-2	L-3			P-9	
119	STORAGE		CON-1			B-1			P-6									A-2		9'-0"
120	STORAGE		CON-1			B-1			P-6									A-2		9'-0"
121	OFFICE		CON-1			B-1			P-8									A-2		9'-0"
122	VET & ANIMAL SCIENCE LAB		CON-1			B-1			P-6		P-7 J		P-9		L-2	L-3				
123	CLASSROOM			CON-2		B-1			P-3						L-4	L-5		A-1		9'-0"
124	STORAGE		CON-1			B-1			P-6									A-2		9'-0"
125	AG SCIENCE LAB		CON-1			B-1			P-6		P-7 J		P-9		L-2	L-3			P-9	
126	STORAGE		CON-1			B-1			P-6									A-2		9'-0"
127	OFFICE		CON-1			B-1			P-8									A-2		9'-0"
128	WOMEN		CON-1					B-3		P-5 D				PT-1 PT-2 E				A-1		8'-9"
129	MEN		CON-1					B-3		P-5 D				PT-1 PT-2 E				A-1		8'-9"
130	CORRIDOR			CON-2			B-2		P-2 H			P-10 I						A-1		9'-0"
131	AUDITORIUM		CON-1										P-9							
132	STORAGE		CON-1			B-1			P-6				P-9						P-9	
133	LIVESTOCK TRAINING AREA		CON-1										P-9						P-9	

FINISH SPECIFICATIONS

FLOORS:

C-1 Mannington Commercial Carpet
Style "Cross Talk" Modular - Color 83407 Data Spike, Horizontal Brick Ashlar installation

CON-1 Sealed Concrete
with Tnemec CT Densifyer Series 629

CON-2 Polished Concrete
Level 2 - Honed
Class B - Fine Aggregate (Salt & Pepper)
with Prosoco Lithium Silicate Hardener/Densifier and Consolideck LSGuard burnished-in sealer

BASE:

B-1 Mannington Vinyl Wall Base
4" Vinyl Cove Base - Color 523 BlackBrown

B-2 Mannington Vinyl Wall Base
6" Vinyl Cove Base - Color 523 BlackBrown

B-2 Schluter-Systems
Schluter-DILEX-AHKA cove, clear anodized aluminum (used only where walls have tile wainscoting)

CEILING:

A-1 Armstrong "Fine Fissured - High NRC" #1754, Square Lay-in, 24"x 24"x 7/8", color White (WH) with Prelude XL 15/16" Exposed Tee grid system, color White (WH)

A-2 Armstrong "Fine Fissured" #1728, Square Lay-in, 24"x 24"x 5/8", White (WH) tiles with White grid

WALLS:

P-1 Sherwin-Williams #SW7069 Iron Ore
P-2 Sherwin-Williams #SW7006 Extra White
P-3 Sherwin-Williams #SW6197 Aloof Gray
P-4 Sherwin-Williams #SW6206 Oyster Bay
P-5 Sherwin-Williams #SW6059 Interface Tan
P-6 Sherwin-Williams #SW7632 Modern Gray
P-7 Sherwin-Williams #SW9129 Jade Dragon
P-8 Sherwin-Williams #SW1015 Skyline Steel
P-9 Sherwin-Williams #SW7006 Extra White (Dry-fall @ Exposed Steel)
P-10 ScuffMaster "Ambient Design" #custom color

PT-1 America Olean
"Color Story - Wall", Color - Matte Stable 0052,
8" x 24", Horizontal Stacked Pattern, field tile

PT-2 America Olean
"Color Story - Wall", Color - Stable 0055 (gloss),
4" x 16", Running Bond Pattern, accent row

PT-3 America Olean
"Color Story - Wall", Color - Ice White 0025 (gloss),
3" x 6", Running Bond Pattern @ Food Scienc Lab 118 backsplash

CABINETS & COUNTERTOPS:

L-1 Formica #6314-58 Neo Cloud
L-2 Wilsonart #4947-38 Raw Cotton
L-3 Wilsonart #4943-38 Classic Linen
L-4 Wilsonart #4813-60 Nickel EV
L-5 Wilsonart #5887-NT Millennium Oak
L-6 Wilsonart #7264-58 Lime Stone
L-7 Wilsonart #3707-58 Patine Bronze

NOTES:

A) All interior plastic laminated window stools to be finished with plastic laminate finish L-1.
B) All interior hollow metal door frames to be painted with finish P-1, Alkyd Semi-Gloss.
C) All interior wood doors to be manufacturer pre-finished plain-sliced Oak with walnut finish.
D) Painted finish above tile wainscot, from 6'-0" a.f.f. to top of wall.
E) Porcelain tile wainscot to 6'-0" a.f.f. at walls of toilet rooms. Schluter "DILEX" aluminum cove trim at bottom edge, and Schluter "JOLLY" straight trim at top. See detail E/A-9 for wall tile pattern.

G) Wall tile backsplash above countertops at Food Science Lab 122. Schluter "JOLLY" at exposed ends.
H) Latex Eggshell finish paint above, from 6'-0" a.f.f. to top of wall.
I) ScuffMaster painted finish below, from floor to 6'-0" a.f.f.
J) Lab side walls of the Office and Storage rooms to be painted with accent color in Latex Semi-Gloss.
K) Front surface of reception counter to be plastic laminate P-7.

FINISH SCHEDULE & DETAILS

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE		REVISION	BY
8-5-24	R-1		

DESIGN DOCUMENTS:
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DRAWN BY	BLL
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

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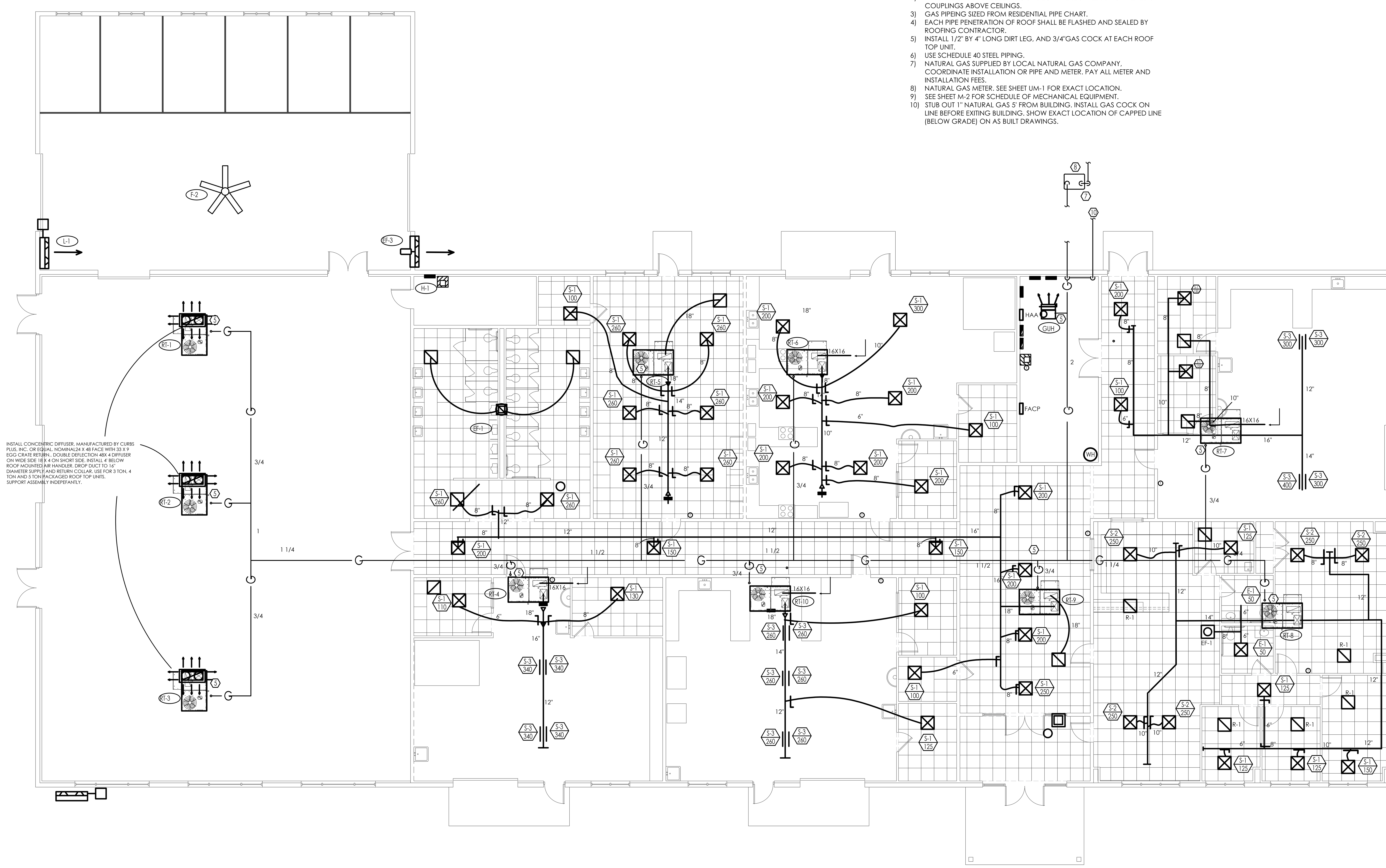
DRAWING NO.
A-9
SHEET OF

SHEET/GENERAL NOTES

1) NATURAL IS GAS SHOWN ON THIS SHEET RATHER THAN SHEET P-1.
2) NATURAL GAS LINES BELOW ROOF DECK. THERE SHALL BE NO VALVES OR COUPLINGS ABOVE CEILINGS.
3) GAS PIPEING SIZED FROM RESIDENTIAL PIPE CHART.
4) EACH PIPE PENETRATION OF ROOF SHALL BE FLASHED AND SEALED BY ROOFING CONTRACTOR.
5) INSTALL 1/2" BY 4" LONG DIRT LEG, AND 3/4"GAS COCK AT EACH ROOF TOP UNIT.
6) USE SCHEDULE 40 STEEL PIPING.
7) NATURAL GAS SUPPLIED BY LOCAL NATURAL GAS COMPANY, COORDINATE INSTALLATION OR PIPE AND METER. PAY ALL METER AND INSTALLATION FEES.
8) NATURAL GAS METER. SEE SHEET UM-1 FOR EXACT LOCATION.
9) SEE SHEET M-2 FOR SCHEDULE OF MECHANICAL EQUIPMENT.
10) STUB OUT 1" NATURAL GAS 5' FROM BUILDING. INSTALL GAS COCK ON LINE BEFORE EXITING BUILDING. SHOW EXACT LOCATION OF CAPPED LINE (BELOW GRADE) ON AS BUILT DRAWINGS.



HVAC FLOOR PLAN

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

HVAC LEGEND

SYMBOL	DESCRIPTION
	SUPPLY AIR DUCTWORK; PLAN, UP AND DOWN
	RETURN AIR DUCTWORK; PLAN, UP AND DOWN
	MANUAL BALANCING DAMPER
FD	FIRE DAMPER (F=FIRE; S=SMOKE; C=COMBO)
	FLEXIBLE DUCTWORK
	SUPPLY DIFFUSER W/ DAMPER & 3' TO 5' OF FLEXIBLE DUCT
	RETURN OR EXHAUST DIFFUSER W/ 1' TO 3' OF FLEXIBLE DUCT
T	THERMOSTAT, MOUNT BOTTOM @ 48" AFF
S-1 240	S-SUPPLY; R-RETURN; E-EXHAUST; CFM, CUBIC FEET PER MINUTE
G	GAS PIPING
	AIR FLOW DIRECTION
1	SHEET NOTE
24x12	RECTANGULAR DUCT SIZE
8"	ROUND DUCT SIZE
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
E-	EQUIPMENT TAG

AFA ENGINEERING, LLC
CONSULTING ENGINEERING
HVAC - PLUMBING - ELECTRICAL

HVAC FLOOR PLAN

The Seed Academy

Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

PROJECT NO.	2078-34
DESIGNED BY	TBW
DRAWN BY	TBW
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

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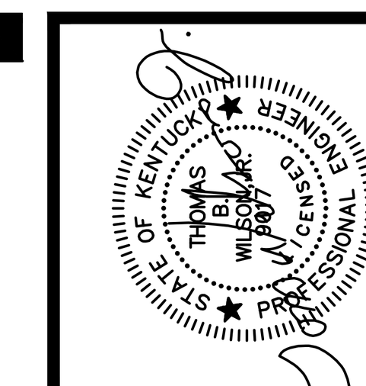
DRAWING NO.

M-1

SHEET OF



REGISTERS, GRILLES, AND DIFFUSER SCHEDULE

MARK	MFGR.	MODEL	TYPE	MAX FLOW (CFM)	NOMINAL SIZE	LEAD IN SIZE	MOUNTING	STATIC PRESSURE MAX	NC MAX	THROW AT 100 FPM	Opposed Blade Damper	FINISH	REMARKS
R-1	PRICE	60	AIRFOIL RETURN GRILLE	1000	24" X 24"	SEE PLANS	LAY-IN	0.036	25	-	NO	CHOSEN BY ARCHITECT	2
S-1	PRICE	SPD	SQUARE PLAQUE DIFFUSER	400	24" X 24"	NECK,DUCT SIZE	LAY-IN	0.023	-	4'	YES	CHOSEN BY ARCHITECT	1,2
S-2	PRICE		DUCT MOUNTED, 4" SLOT AT 120 CFM/LINEAR FOOT.			DUCT DIAMETER	DUCT	0.024	19	5'	-	CHOSEN BY ARCHITECT	1,2

1. PROVIDE DUCT TRANSITION TO GRILLE/DIFFUSER AS REQUIRED.
2. IF ARCHITECT DOES NOT CHOOSE A COLOR, THEN COLOR SHALL BE OFF-WHITE OR AS INDICATED ON PLANS.
3. PROVIDE MARGINS TO FINISH AS A 48" X 18" LAY-IN.
4. PROVIDE PLENUM BOX, FULL SIZE OF AIR DEVICE, 12" DEEP. DUCT TO TAP INTO SIDE, WHEN THE INSIDE OF PLENUM BOXES ARE VISIBLE FROM THE FLOOR, THEY SHALL BE PAINTED FLAT BLACK.
5. PROVIDE MANUFACTURERS INTEGRAL BALANCING DAMPER IN DEVICE TO ALLOW BALANCING OF AIR DEVICE THROUGH FACE OF DEVICE.
6. BLADES PARALLEL TO THE LONG DIMENSION.

PACKAGED ROOFTOP UNIT (GAS/ELECTRIC) SCHEDULE WITH HEAT PUMP CONVERSION

MARK	CARRIER MODEL NUMBER	NOM TONS	FAN/MOTOR CFM	E.S.P.	RPM	BHP	STATIC	OA CFM	COOLING (MBH) TOTAL	SENS	GAS HEATING (BTU) INPUT	OUTPUT	EER	SEER	ELECTRICAL VOLTS	MCA	MOCP	PHYSICAL DATA	REMARKS	MEDIUM GAS HEAT	ELECTRICAL VOLTS	MCA	MOCP
RTU-1	48KC**05	4	1,600	0.41	-	0.69	DD-STD	-	48.7	37.5	90	73.5	12.0	14.0	208/3	26	30	74-3/8" x 46-5/8" x 597 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	26	30
RTU-2	48KC**05	4	1,600	0.41	-	0.69	DD-STD	-	48.7	37.5	90	73.5	12.0	14.0	208/3	30	50	74-3/8" x 46-5/8" x 597 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	26	30
RTU-3	48KC**06	5	2,000	0.41	-	1.01	DD-STD	-	61.8	46.2	120	98	12.0	14.1	208/3	26	30	74-3/8" x 46-5/8" x 725 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	29	40
RTU-4	48KC**05	4	1,600	0.41	-	0.69	DD-STD	-	48.7	37.5	90	73.5	12.0	14.0	208/3	26	30	74-3/8" x 46-5/8" x 597 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	26	30
RTU-5	48KC**05	4	1,600	0.41	-	0.69	DD-STD	-	48.7	37.5	90	73.5	12.0	14.0	208/3	26	30	74-3/8" x 46-5/8" x 597 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	26	30
RTU-6	48KC**05	4	1,600	0.41	-	0.69	DD-STD	-	48.7	37.5	90	73.5	12.0	14.0	208/3	26	30	74-3/8" x 46-5/8" x 597 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	26	30
RTU-7	48KC**06	5	2,000	0.41	-	1.01	DD-STD	-	61.8	46.2	120	98	12.0	14.1	208/3	30	50	74-3/8" x 46-5/8" x 725 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	29	40
RTU-8	48KC**06	5	2,000	0.41	-	1.01	DD-STD	-	61.8	46.2	120	98	12.0	14.1	208/3	30	50	74-3/8" x 46-5/8" x 725 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	29	40
RTU-9	48KC**05	4	1,600	0.41	-	0.69	DD-STD	-	48.7	37.5	90	73.5	12.0	14.0	208/3	26	30	74-3/8" x 46-5/8" x 544 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	26	30
RTU-10	48KC**05	4	1,600	0.41	-	0.69	DD-STD	-	48.7	37.5	90	73.5	12.0	14.0	208/3	26	30	74-3/8" x 46-5/8" x 597 LBS	1,2,3,4,5,6,7,8,9,10,11	90/73.5	208/3Ø	26	30

REMARKS:

1. FURNISH UNIT WITH 7-DAY PROGRAMMABLE THERMOSTAT.
2. FURNISH UNIT WITH 100% ECONOMIZER (ENTHALPY-CONTROLLED WITH BAROMETRIC RELIEF).
3. SINGLE STAGE COOLING
4. FURNISH WITH SMOKE DETECTOR.
5. FURNISH UNIT WITH HAIL GUARDS.
6. FURNISH WITH NON-FUSED DISCONNECT.
7. FURNISH UNIT WITH THRU-THE-BASE ELECTRICAL CONNECTION.
8. FURNISH WITH FAN WITH (VFD).
9. FURNISH UNIT WITH POWERED GFI/WP CONVENIENCE OUTLET.
10. FURNISH WITH 14-INCH ROOF CURB.
11. FURNISH UNIT WITH CO2 SENSOR. (USE FOR ECONOMIZER DAMPER TO CONTROL CO2 LEVELS)

- COOLING CAPACITIES ARE BASED ON 80°/67°F EAT AND 95°F OA.
- HEATING CAPACITIES ARE BASED ON 70°F EAT AND 0°F OA.
- PERFORMANCE DATA BASED ON AHRAE STANDARD 210/240

BASIS OF DESIGN MANUFACTURER IS CARRIER. ADDITIONAL ACCEPTABLE MANUFACTURES ARE AAON, McQUAY, TRANE, JOHNSON CONTROLS, OR EQUAL.

TAG	QTY	RUSKIN MODEL	WIDTH (in)	HEIGHT (in)	DEPTH (in)	AIR FLOW (cfm)	FLOW DIR.	MATERIAL	PRESSURE DROP (w.g.)	REMARKS
L-1	1	ELF6375DX	28	33	6	2100	I	ALUMINUM	0.06	1,2,3

REMARKS:
1. BIRDSCREEN
2. FIXED BLADES, DRAINABLE
3. GRAVITY BACKDRAFT DAMPER

VENTILATING FANS

MARK	ITEM NO.	MANUF.	MOUNTING	FUNCTION	FAN DATA CFM	DRIVE	E.S.P.	SONES	ELECTRIC DATA AMPS	VOLTS/ø	REMARKS
EF-1	VEDK 8	CARNES	ROOF/CURB	EXHAUST AIR	700	DIRECT	0.25	9.5	0.5	120/1	1,2,4,5
EF-2	AER-24-02-0625-VG	GREENHECK	SIDEWALL	EXHAUST AIR AIR	2075	DIRECT	0.0	2.8	0.7	120/1	1,2,5,6,7
EF-3	DC-5-7-13LV-X-QD	GREENHECK	CEILING	HIGH VOLUME LOW SPEED	15100	DIRECT	0.0	X.X	1.9	120/1	2,3,8

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH SPEED CONTROLLER.
3. SPECIFY 1 FT DROP LENGTH.
4. PROVIDE WITH BACKDRAFT DAMPER.
5. PROVIDE WITH DISCHARGE GRAVITY DAMPER.
6. PROVIDE WITH WALL BOX/SLEAVE.
7. PROVIDE WITH OSHA MOTOR GUARD.
8. PROVIDE WITH CHAIN EMERGENCY FAN SHACKLE.

FAN FORCED ELECTRIC WALL HEATER (H-1)

MARK	MFGR.	MODEL	SERIES	STYLE	KW/BTUs	ELECTRICAL FLA	VOLTS/PH	TEMP RISE	REMARKS
EH-1	RAYWALL	-	-	FAN FORCED WALL HEATER	1.5/5120	12.5	120	27 °F	1,2,3,4

REMARKS:

1	FURNISH WITH UL LISTED AND NEC COMPLIANT DISCONNECT MEANS.
2	PROVIDE MANUFACTURER'S INTEGRAL TAMPER PROOF THERMOSTAT.
3	COORDINATE COLOR SELECTION WITH ARCHITECT AND OWNER.
4	HEATERS TO HAVE INTEGRAL THERMAL OVERLOAD PROTECTION.

FAN FORCED NATURAL GAS UNIT HEATER (GUH)

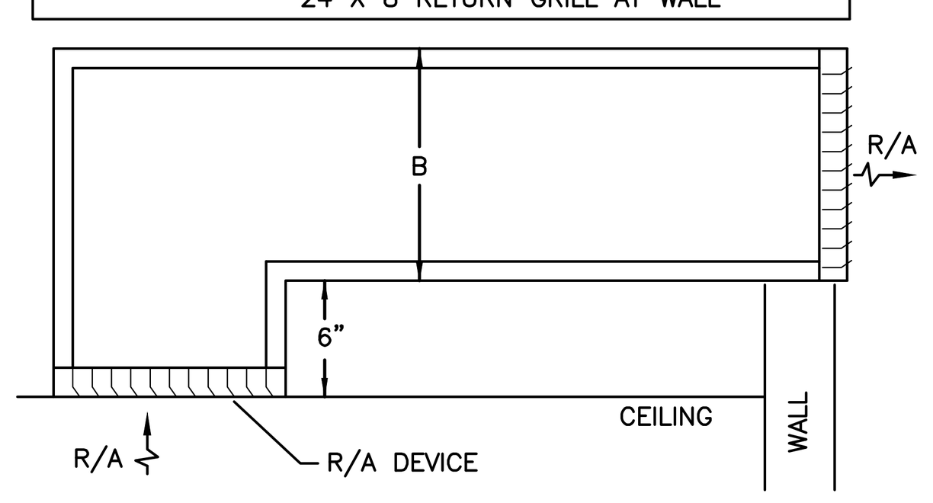
MARK	MFGR.	MODEL	SERIES	STYLE	BTUs	ELECTRICAL FLA	VOLTS/PH	TEMP RISE	REMARKS
GUH	REZNOR	UDX	30	FAN FORCED UNIT HEATER	30,000	1.9	120	52 °F	1,2,3,4

REMARKS:

1	4" STAINLESS STEEL VENT, FLASH AND COUNTER FLASH.
2	LOW VOLTAGE WALL MOUNT THERMOSTAT. MOUNT 28" AFF.
3	DIRECT SPARK IGNITION
4	450 CFM CIRCULATION FAN..

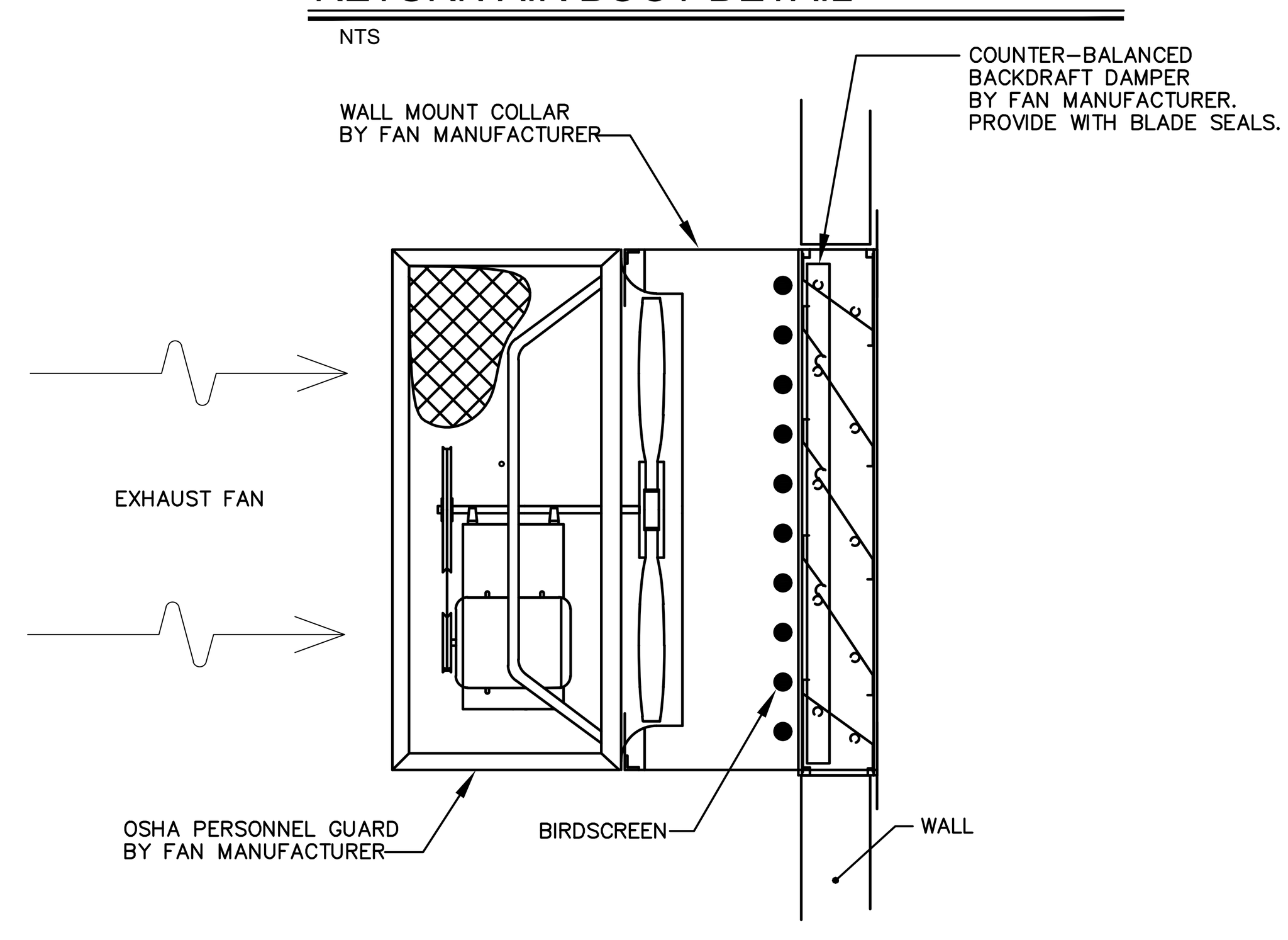
R/A (TRANSFER) BOOT SCHEDULE

R/A DEVICE	A (LENGTH)	B (HEIGHT)	WIDTH
24"x12"	TO WALL	8"	24"
24 X 8 RETURN GRILL AT WALL			



RETURN AIR BOOT DETAIL

NTS

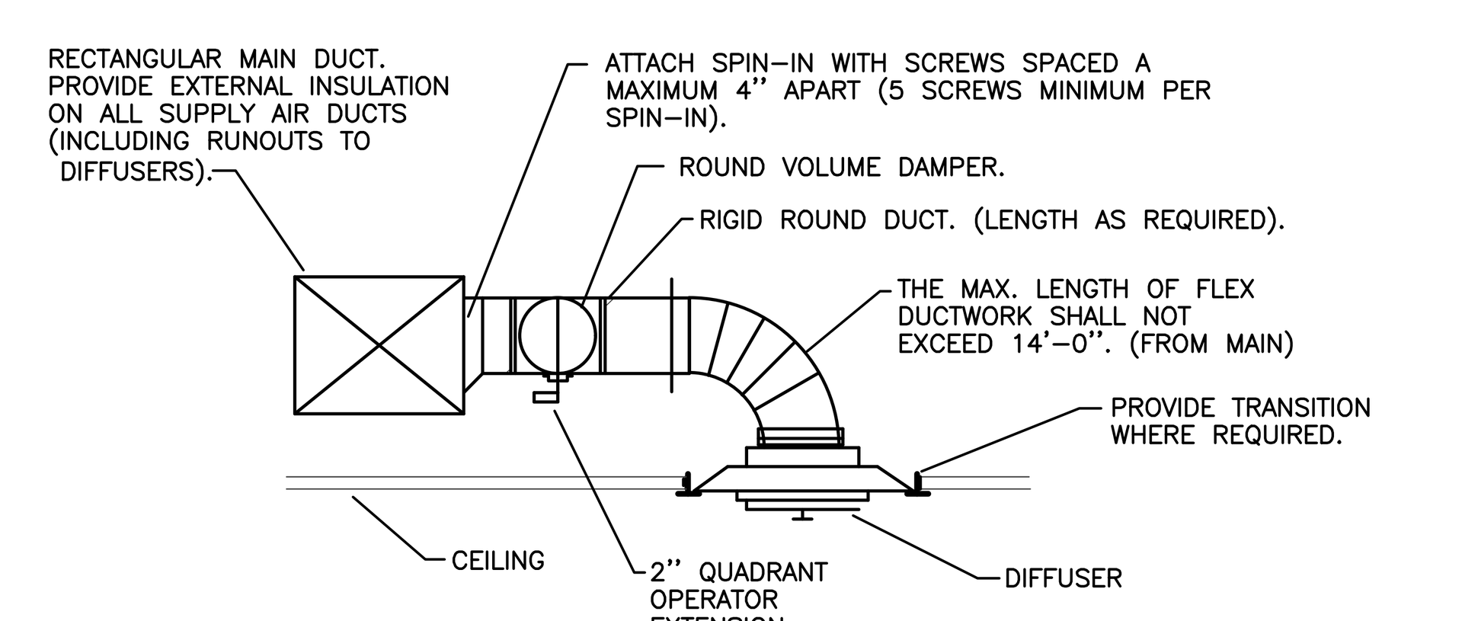


PROPELLER FAN DETAIL

N.T.S.

MECHANICAL GENERAL NOTES

1. EACH CONTRACTOR, PROPOSER, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS.
2. ALL OFFSETS, TURNS, FITTINGS, TRIM-, DETAIL, ETC., MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME IN EACH PROPOSERS BID.
3. INSTALL NO PIPING, CONDUITS, ETC., IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING AND THE COLLECTION OF CONDENSATION THEREON.
4. OBSERVE ALL APPLICABLE CODES, RULES, AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNCIL, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, COMMONWEALTH OF KENTUCKY, ETC.)
5. UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL EQUIPMENT AND/OR MATERIALS WITHIN OCCUPIED SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED WITH COLOR AS CHOSEN BY ARCHITECT.
6. UNLESS OTHERWISE SPECIFIED OR INDICATED, INSTALL DIFFUSERS, REGISTERS, GRILLES, SMOKE DETECTORS AND OTHER CEILING MOUNTED APPURTENANCES IN A SYMMETRICAL PATTERN. UNLESS SPECIFICALLY INDICATED OTHERWISE, REFER TO THE ARCHITECT'S REFLECTED CEILING PLAN AS APPLICABLE.
7. ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE.
8. DEVIATIONS IN SIZES, CAPACITIES, FIT, FINISH, ETC., FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMODATE A DEVIATION, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
9. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPP- LIED TO THE CONTRACTOR.
10. ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LABELED BY UNDERWRITER'S LABORATORIES, OR OTHER APPROVED LISTING AGENCY.
11. ALL SUPPORT FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES OR EQUIPMENT. HOLD ALL ABOVE CEILING EQUIPMENT TIGHT TO STRUCTURAL SUPPORTING ROOF DECK.
12. WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME PROVIDING PREMIUM TIME AS NEEDED.
13. WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATIONS IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING MANUFACTURER.
14. CONTRACTOR TO PROVIDE TURNING VANES IN ALL MAIN DUCT 45\90 DEGREE TURNS. THIS APPLIES TO ALL S.A. & R.A. DUCTS.



DIFFUSER RUNOUT DETAIL

NTS

HVAC SCHEDULES

NOT TO SCALE

AFA ENGINEERING, LLC
CONSULTING ENGINEERING
HVAC - PLUMBING - ELECTRICAL

HVAC SCHEDULES & DETAILS

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

PROJECT NO.	2078-34
DESIGNED BY	TBM
DRAWN BY	TBM
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

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DRAWING NO.

M-2

SHEET OF

SITE SYMBOLS AND ABBREVIATIONS

NOTE:
SOME SYMBOLS SHOWN IN THIS LEGEND MAY NOT NECESSARILY BE USED FOR THIS PROJECT.

SS	EXISTING SOIL AND WASTE PIPING
SAN	NEW SOIL AND WASTE PIPING
	SUMP PUMP DISCHARGE
	DOMESTIC COLD WATER PIPING (CW)
W	WATER PIPING
FP	FIRE PROTECTION PIPING
	NATURAL GAS PIPING
CNDWR	CONDENSER WATER RETURN
CNDWS	CONDENSER WATER SUPPLY
ECO	EXTERIOR CLEAN OUT
	CONNECT TO EXISTING
	POWER TO POLE LIGHTS
TB	THRUST BLOCK
1024	EXISTING CONTOUR LINE WITH ELEVATION
1024	NEW CONTOUR LINE WITH ELEVATION
	STORM WATER HEADWALL

MECHANICAL SITE UTILITY PLAN

SCALE: 1"=20'-0"

1 UM1

AFA ENGINEERING, LLC

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

MECHANICAL SITE
SITE LIGHTING
UTILITY PLAN

DATE	REVISION	BY

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DRAWING NO.

UM-1

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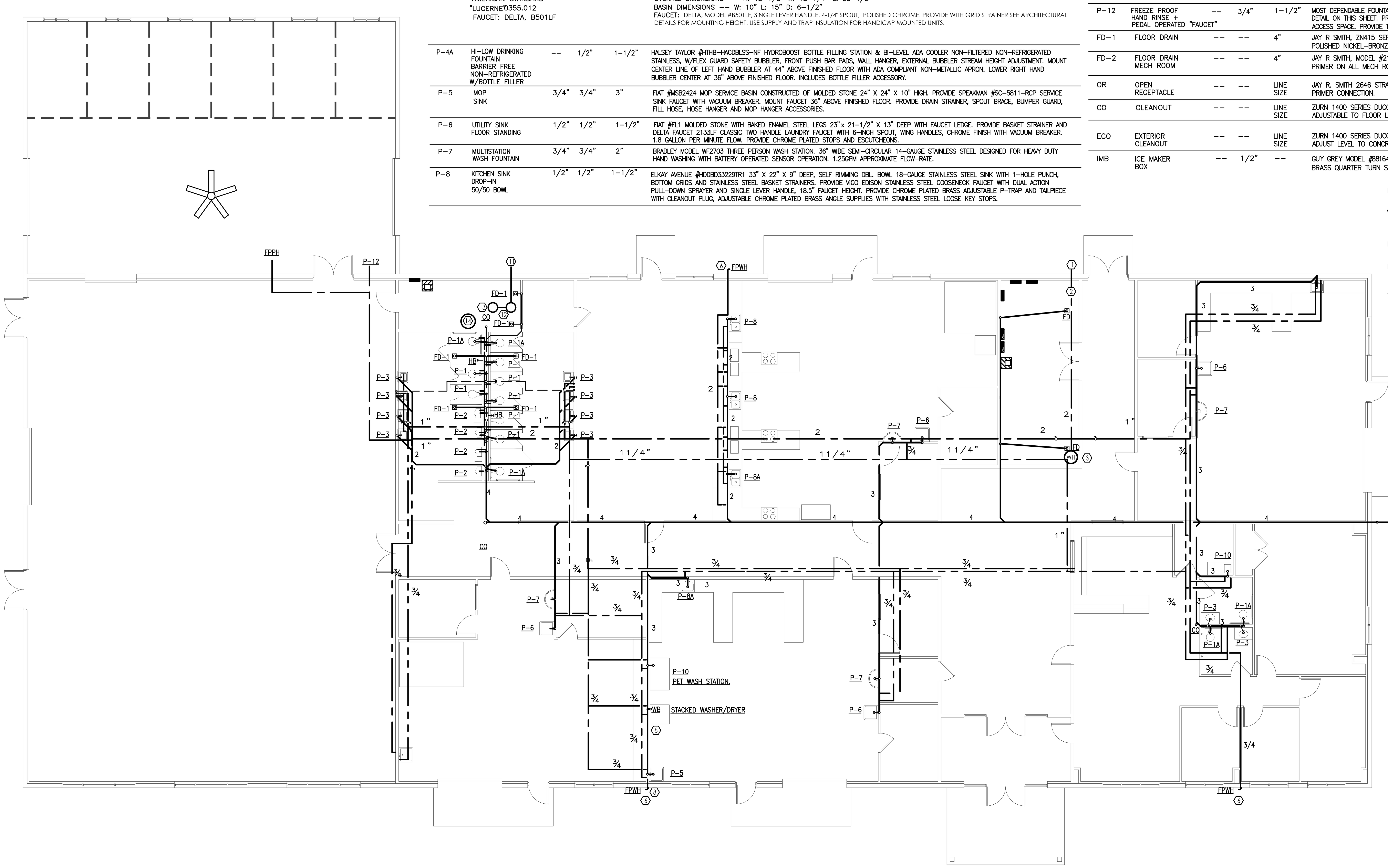
PHONE (859) 255-4437

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	HW	CW	WASTE	DESCRIPTION
P-1	WATER CLOSET FLOOR MOUNT SENSOR FLUSH	--	1-1/2"	4"	AMERICAN STANDARD MADERA #2234.001.020, STANDARD HEIGHT ELONGATED WATER CLOSET, FLOOR MOUNTED WITH EXPOSED TOP SPUD SLOAN OPTIMA SENSOR OPERATED FLUSH VALVE #8111-MC-YBYC, BATTERY POWERED, 1.6 GAL/FLUSH. PROVIDE CHURCH #9500C OPEN FRONT SEAT, NO COVER, PROVIDE CHROME SUPPLY AND ESCUTCHEON.
P-1A	WATER CLOSET FLOOR MOUNT SENSOR FLUSH	--	1-1/2"	4"	AMERICAN STANDARD MADERA #3043.001.020, ADA HEIGHT ELONGATED WATER CLOSET, FLOOR MOUNTED WITH EXPOSED TOP SPUD SLOAN OPTIMA SENSOR OPERATED FLUSH VALVE #8111-MC-YBYC, BATTERY POWERED, 1.6 GAL/FLUSH. PROVIDE CHURCH 9500C OPEN FRONT SEAT, NO COVER, PROVIDE CHROME SUPPLY AND ESCUTCHEON.
P-2	URINAL	--	3/4"	2"	AMERICAN STANDARD WASHBROOK FLOWISE #6590.001 TOP SPUD WALL HUNG URINAL. MOUNT TOP OF LIP AT 24" ABOVE FINISHED FLOOR. PROVIDE 3/4" EXPOSED SELECTRONIC BATTERY OPERATED FLUSH VALVE #6063.151.002 0.5 GAL/ FLUSH. PROVIDE CHROME ESCUTCHEON.
P-2A	URINAL BARRIER FREE	--	3/4"	2"	SIMILAR TO P-2, BUT MOUNT TOP OF LIP AT 17" AFF.
P-3	WALL HUNG LAVATORY AMERICAN STANDARD "LUCERNE"0355.012 FAUCET: DELTA, B501LF	1/2"	1/2"	1-1/2"	WALL HUNG LAVATORY. 4-INCH FAUCET CENTERS. 3 FAUCET HOLES. WHITE VITREOUS CHINA. OVERALL DIMENSIONS -- H: 12-1/8" W: 18-1/4" L: 20-1/2" BASIN DIMENSIONS -- W: 10" L: 15" D: 6-1/2" FAUCET: DELTA, MODEL #B501LF, SINGLE LEVER HANDLE, 4-1/4" SPOUT, POLISHED CHROME. PROVIDE WITH GRID STRAINER SEE ARCHITECTURAL DETAILS FOR MOUNTING HEIGHT. USE SUPPLY AND TRAP INSULATION FOR HANDICAP MOUNTED UNITS.
P-4A	HI-LOW DRINKING FOUNTAIN BARRIER FREE NON-REFRIGERATED W/BOTTLE FILLER	--	1/2"	1-1/2"	HALSEY TAYLOR #HTHB-HACDBLSS-NF HYDROBOOST BOTTLE FILLING STATION & BI-LEVEL ADA COOLER NON-FILTERED NON-REFRIGERATED STAINLESS, W/FLEX GUARD SAFETY BUBBLER, FRONT PUSH BAR PADS, WALL HANGER, EXTERNAL BUBBLER STREAM HEIGHT ADJUSTMENT. MOUNT CENTER LINE OF LEFT HAND BUBBLER AT 44" ABOVE FINISHED FLOOR WITH ADA COMPLIANT NON-METALLIC APRON. LOWER RIGHT HAND BUBBLER CENTER AT 36" ABOVE FINISHED FLOOR. INCLUDES BOTTLE FILLER ACCESSORY.
P-5	MOP SINK	3/4"	3/4"	3"	FIAT #MSB2424 MOP SERVICE BASIN CONSTRUCTED OF MOLDED STONE 24" X 24" X 10" HIGH. PROVIDE SPEAKMAN #SC-5811-RCP SERVICE SINK FAUCET WITH VACUUM BREAKER. MOUNT FAUCET 36" ABOVE FINISHED FLOOR. PROVIDE DRAIN STRAINER, SPOUT BRACE, BUMPER GUARD, FILL HOSE, HOSE HANGER AND MOP HANGER ACCESSORIES.
P-6	UTILITY SINK FLOOR STANDING	1/2"	1/2"	1-1/2"	FIAT #FL1 MOLDED STONE WITH BAKED ENAMEL STEEL LEGS 23"x 21-1/2" X 13" DEEP WITH FAUCET LEDGE. PROVIDE BASKET STRAINER AND DELTA FAUCET 2133LF CLASSIC TWO HANDLE LAUNDRY FAUCET WITH 6-INCH SPOUT, WING HANDLES, CHROME FINISH WITH VACUUM BREAKER. 1.8 GALLON PER MINUTE FLOW. PROVIDE CHROME PLATED STOPS AND ESCUTCHEONS.
P-7	MULTISTATION WASH FOUNTAIN	3/4"	3/4"	2"	BRADLEY MODEL WF2703 THREE PERSON WASH STATION. 36" WIDE SEMI-CIRCULAR 14-GAUGE STAINLESS STEEL DESIGNED FOR HEAVY DUTY HAND WASHING WITH BATTERY OPERATED SENSOR OPERATION. 1.25GPM APPROXIMATE FLOW-RATE.
P-8	KITCHEN SINK DROP-IN 50/50 BOWL	1/2"	1/2"	1-1/2"	ELKAY AVENUE #HDDBD33229TR1 33" X 22" X 9" DEEP, SELF RIMMING DBL. BOWL 18-GAUGE STAINLESS STEEL SINK WITH 1-HOLE PUNCH, BOTTOM GRIDS AND STAINLESS STEEL BASKET STRAINERS. PROVIDE VIGO EDISON STAINLESS STEEL GOOSENECK FAUCET WITH DUAL ACTION PULL-DOWN SPRAYER AND SINGLE LEVER HANDLE, 18.5" FAUCET HEIGHT. PROVIDE CHROME PLATED BRASS ADJUSTABLE P-TRAP AND TAILPIECE WITH CLEANOUT PLUG, ADJUSTABLE CHROME PLATED BRASS ANGLE SUPPLIES WITH STAINLESS STEEL LOOSE KEY STOPS.

PLUMBING FIXTURE SCHEDULE

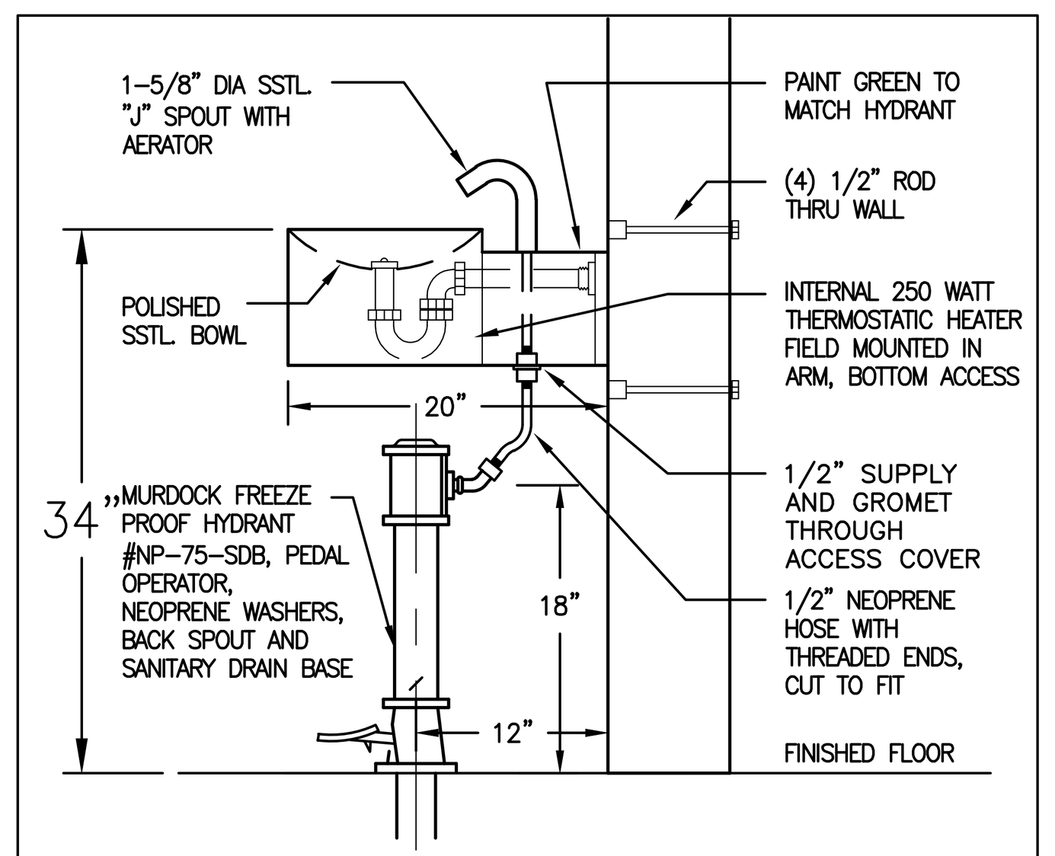
MARK	ITEM	HW	CW	WASTE	DESCRIPTION
P-8A	KITCHEN SINK DROP-IN 50/50 BOWL BARRIER FREE	1/2"	1/2"	1-1/2"	SIMILAR TO P-8 BUT 5-1/2" DEEP AND WITH ADA SINGLE LEVER PULL DOWN FAUCET. WRAP FITTINGS AND TRAP FOR BARRIER FREE PROTECTION.
P-9	LAB SINK	1/2"	1/2"	1-1/2"	ELKAY LUSTERTONE CLASSIC #ELUH2115 STAINLESS STEEL 23-1/2" X 18-1/4" X 7-1/2", SINGLE BOWL UNDERMOUNT SINK 18-GAUGE WITH LKPD1 3-1/2" STAINLESS STEEL STRAINER DRAIN. PROVIDE SPEAKMAN COMMANDER DOUBLE HANDLE LABORATORY FAUCET #SC-7122-E WITH 13-INCH TALL GOOSENECK FAUCET AND 1.2 GPM AERATOR.
P-10	PET WASHING STATION	1/2"	1/2"	1-1/2"	VEVOR 62 INCH LARGE DOG GROOMING TUB STAINLESS STEEL WITH HOSE FAUCET SPRAYER AND WALK UP RAML. REFER TO ARCHITECTURAL DRAWINGS. PLUMBING CONTRACTOR SHALL PROVIDE A IN-DRAIN TOP REMOVAL HAIR TRAP SIMILAR TO SMARTWAY 625 PET HAIR STRAINER AND CONTRACTOR SHALL ALSO PROVIDE A RIDALCO #ENDURA 1.5" ABS DWV IN-LINE DRAIN STRAINER H X H AT THE P_TRAP WITH 10 TIMES THE OPEN AREA OF THE INLET/OUTLET. PROVIDE STAINLESS STEEL SUPPLY STOPS AND ESCUTCHEONS.
P-11	FIRST AID SINK	1/2"	1/2"	1-1/4"	ELKAY LUSTERTONE CLASSIC #ELUH1316 STAINLESS STEEL 16" X 18-1/2" X 7-7/8", SINGLE BOWL UNDERMOUNT SINK WITH GRID DRAIN. PROVIDE ELKAY #LK406GN04T4 4" CENTERSET EXPOSED DECK FAUCET WITH 4" GOOSENECK SPOUT AND 4" WRISTBLADE HANDLES, CHROME FINISH AND 0.5 GPM AERATOR. PROVIDE CHROME PLATED TRAP, STOPS AND ESCUTCHEONS.
P-12	FREEZE PROOF HAND RINSE + PEDAL OPERATED "FAUCET"	--	3/4"	1-1/2"	MOST DEPENDABLE FOUNTAINS 450 WMSP WITH 10 GAUGE STEEL BOWL AND A PEDAL OPERATED HYDRANT FAUCET -SEE DETAIL ON THIS SHEET. PROVIDE A FIELD INSTALLED NELSON THERMOSTATIC 250 WATT PIPE-N-HEAT CONCEALED IN ARM ACCESS SPACE. PROVIDE THROUGH WALL MOUNTING BOLTS AND MOUNT TOP OF RIM AT 34" AFF.
FD-1	FLOOR DRAIN	--	--	4"	JAY R SMITH, ZN415 SERIES, DUCO CAST IRON BODY, 1/2" TRAP PRIMER CONNECTION WITH 6" SQUARE POLISHED NICKEL-BRONZE STRAINER
FD-2	FLOOR DRAIN MECH ROOM	--	--	4"	JAY R SMITH, MODEL #2120 8-1/2" DIA. ROUND HEAVY DUTY CAST IRON DRAIN AND GRATE. PROVIDE A TRAP PRIMER ON ALL MECH ROOM FLOOR DRAINS.
OR	OPEN RECEPTACLE	--	--	LINE SIZE	JAY R. SMITH 2646 STRAIGHT SPIGOT ADAPTER WITH TOP AT 2" AFF OR AS REQUIRED. PROVIDE WITH TRAP PRIMER CONNECTION.
CO	CLEANOUT	--	--	LINE SIZE	ZURN 1400 SERIES DUCO CAST IRON BODY WITH ROUND HEAVY DUTY SCORIATED POLISHED BRONZE TOP. ADJUSTABLE TO FLOOR LEVEL AFTER CONCRETE HAS SET.
ECO	EXTERIOR CLEANOUT	--	--	LINE SIZE	ZURN 1400 SERIES DUCO CAST IRON BODY WITH ROUND HEAVY DUTY ENAMEL COATED DUCTILE IRON TOP. ADJUST LEVEL TO CONCRETE APRON. SEE DETAIL THIS SHEET.
IMB	ICE MAKER BOX	--	1/2"	--	GUY GREY MODEL #88164 RECESSED STAINLESS STL. 10"X8" BOX W/ STAINLESS STL. FACEPLATE AND 1/2-INCH BRASS QUARTER TURN STOP VALVES. INSTALL AT 24" AFF.
HB	HOSE BIBB	--	1/2"	--	WOODFORD MODEL 24P-1/2 WITH REMOVABLE KEY HANDLE, VACUUM BREAKER AND POLISHED CHROME FINISH.
WB	WASHER BOX	1/2"	1/2"	2"	GUY GREY MODEL #82026 11.63" X 9.5" GALVANIZED METAL WASHING MACHINE OUTLET BOX. 1/2" MIP INLET CONNECTION.
FPWH	WALL HYDRANT	--	3/4"	--	WOODFORD MODEL 65C, AUTOMATIC DRAINING, FREEZELESS, WITH VACUUM BREAKER, LOOSE KEY.
FPPH	POST HYDRANT	--	3/4"	--	MURDOCK M75-VB 3/4" CAST IRON FREEZE RESISTANT POST HYDRANT WITH WHEEL HANDLE AND VACUUM BREAKER.
TP-1	TYPE-1 TRAP PRIMER				ZURN Z-1022, TRAP PRIMER SHALL BE INSTALLED IN COLD WATER SUPPLY LINE OF NEAR BY PLUMBING FIXTURE, ONE TRAP PRIMER PER FLOOR DRAIN, ONE TRAP PRIMER PER FIXTURE.



PLUMBING FLOOR PLAN
SCALE: 1/8" = 1'-0"

SHEET/GENERAL NOTES

1) 2" WATER ENTRANCE TO BUILDING. COORDINATE METERING (1 1/4"METER) AND INSTALLATION WITH LOCAL WATER COMPANY. PAY ALL INSTALLATION AND METER FEES.
2) 1 1/2"REDUCED PRESSURE BACKFLOW PREVENTER. DRAIN "DRIP" TO FLOOR DRAIN.
3) RESIDENTIAL STYLE 50 GALLON, 4.5 KW WATER HEATER. PLACE ON 4" HOUSEKEEPING PAD.
4) ALL HOT WATER PIPING, AND, ALL WATER LINES BELOW SLAB SHALL BE INSULATED WITH 1/2"ARMAFLEX.
5) WATER PIPING MAY BE INSTALLED OVERHEAD (CU), OR BELOW SLAB (PEX).
6) 4" HOUSE MAIN INTO BUILDING.
7) NATURAL GAS PIPING IS SHOWN ON SHEET M-1.
8) 4" ALUMINUM DRYER VENT, UP TO 8' AFF, TAKE TO WALL AND TERMINATE IN ALUMINUM DRYER VENT CAP.
9) FREEZE PROOF WALL HYDRANT, 16" ABOVE FINISHED GRADE, INSTALL BALL VALVE BEHIND 12 X 12 ACCESS DOOR AT FLOOR LEVEL.
10) EXTEND 1" WATER LINE (APPROXIMATELY 150') TO FUTURE GREENHOUSE BUILDING AND SET A FPPH AT LOCATION SELECTED BY OWNER.
11) SPRINKLER ENTRANCE TO BUILDING, SIZED BY SPRINKLER CONTRACTOR.
12) WET SPRINKLER SYSTEM VALVE.
13) DRY SPRINKLER SYSTEM VALVE.
14) DRY SPRINKLER AIR COMPRESSOR.



(F) FREEZE PROOF SINK "P-12"
NOT TO SCALE

STATE OF KENTUCKY ★ THOMAS B. WILSON, JR. 9017 ★ LICENSED PROFESSIONAL ENGINEER

PLUMBING FLOOR PLAN

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

DESIGN DOCUMENTS:
The design professional waves any and all responsibility and liability for problems which arise from failure to follow these plans, specifications and the design intent they convey.

PROJECT NO.	2078-34
DESIGNED BY	TBW
DRAWN BY	TBW
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

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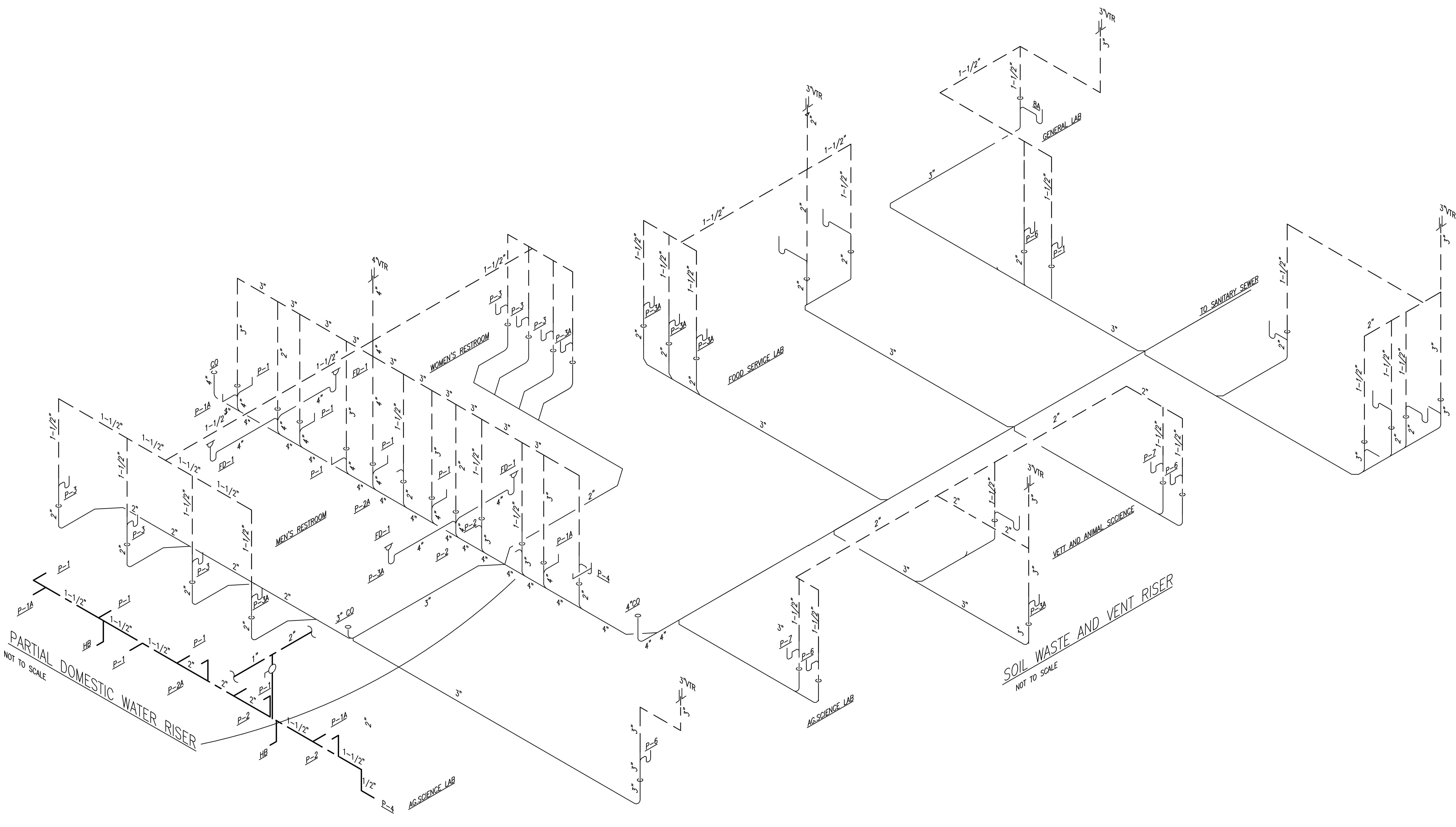
DRAWING NO.
P-1
SHEET OF



PLUMBING RISER DIAGRAM

SCALE: NTS

AFA ENGINEERING, LLC
CONSULTING ENGINEERING
HVAC - PLUMBING - ELECTRICAL

PLUMBING RISERS

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

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PROJECT NO.	2078-34
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DRAWING NO.

P-2

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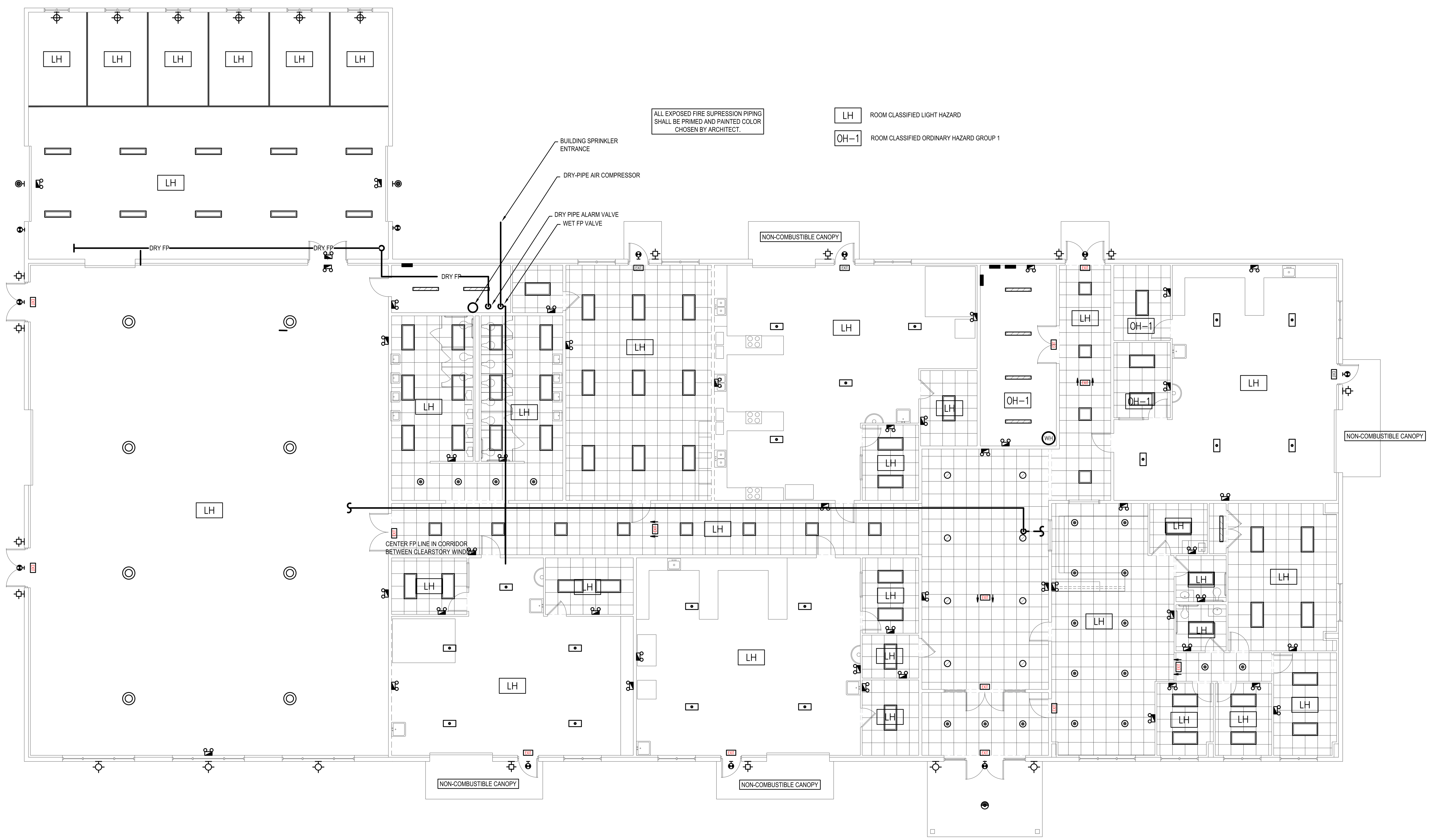

FIRE PROTECTION FLOOR PLAN

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

AFA ENGINEERING, LLC

FIRE SPRINKLER FLOOR PLAN

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

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FP-1

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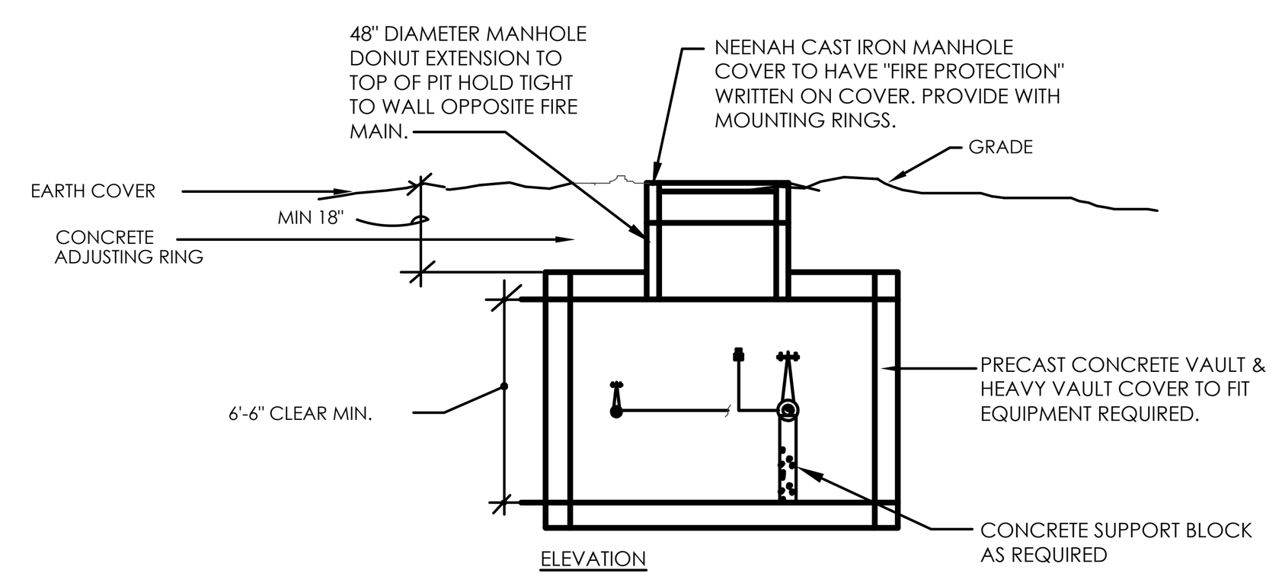
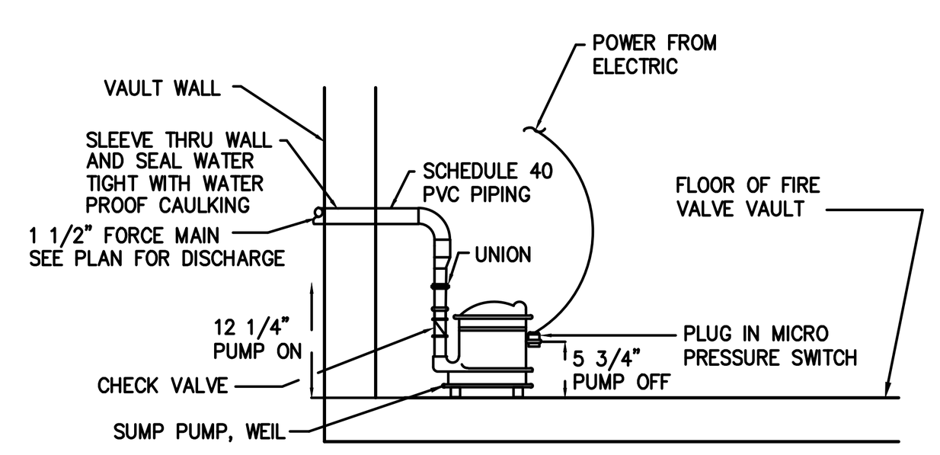
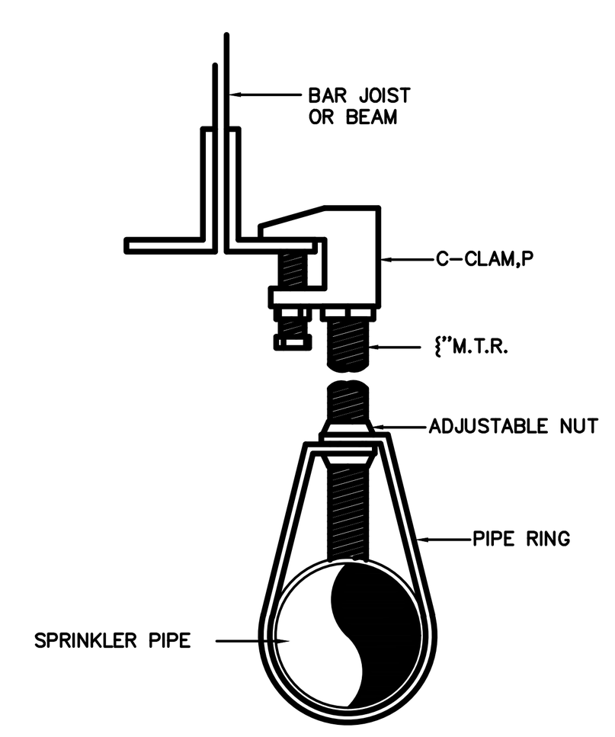


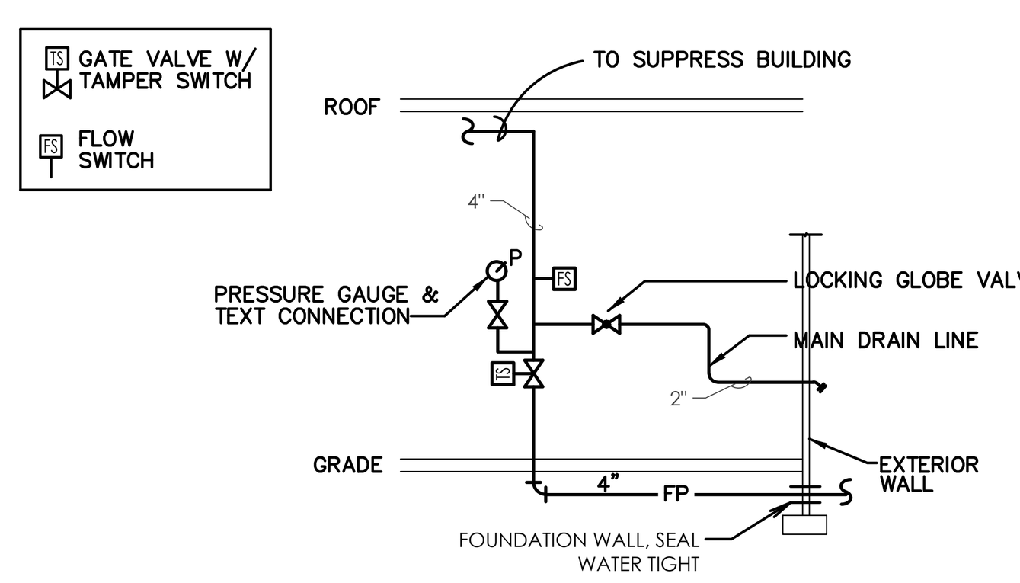
FIRE & DOMESTIC WATER VALVE & METER PIT ELEVATION
NO SCALE



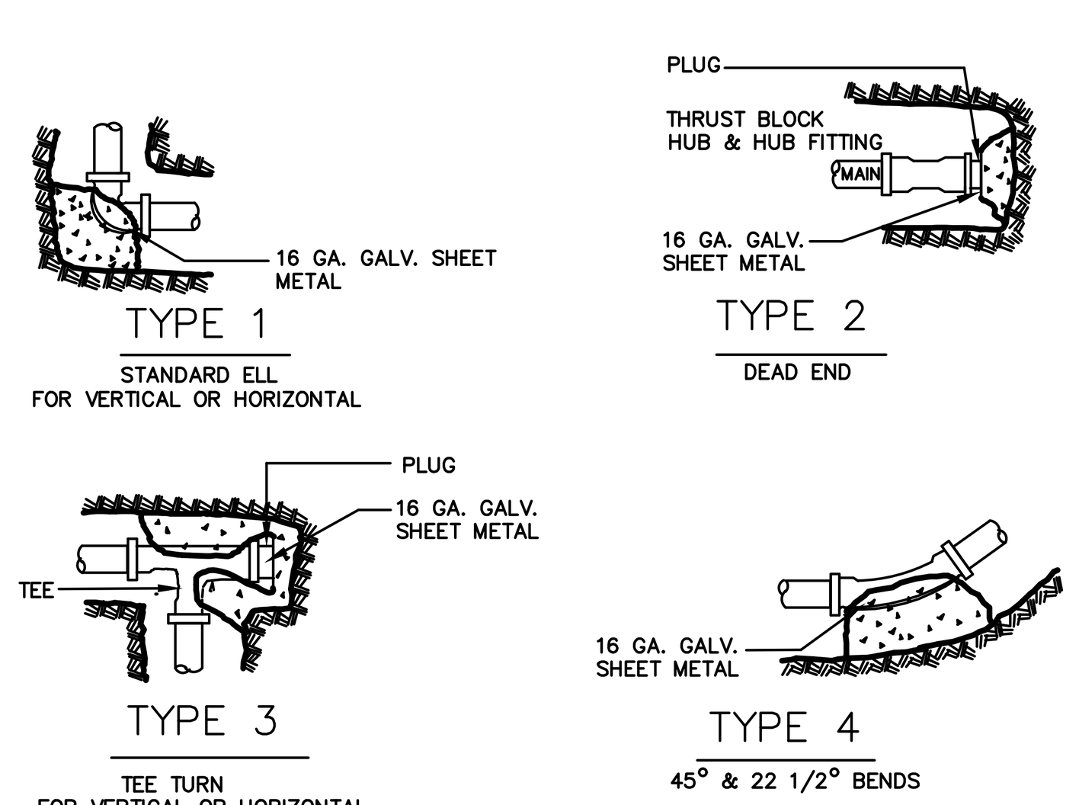
SUMP PUMP DETAIL
NO SCALE



HANGER DETAIL
NO SCALE



FIRE SUPPRESSION RISER WITH DRAIN LINE
NO SCALE



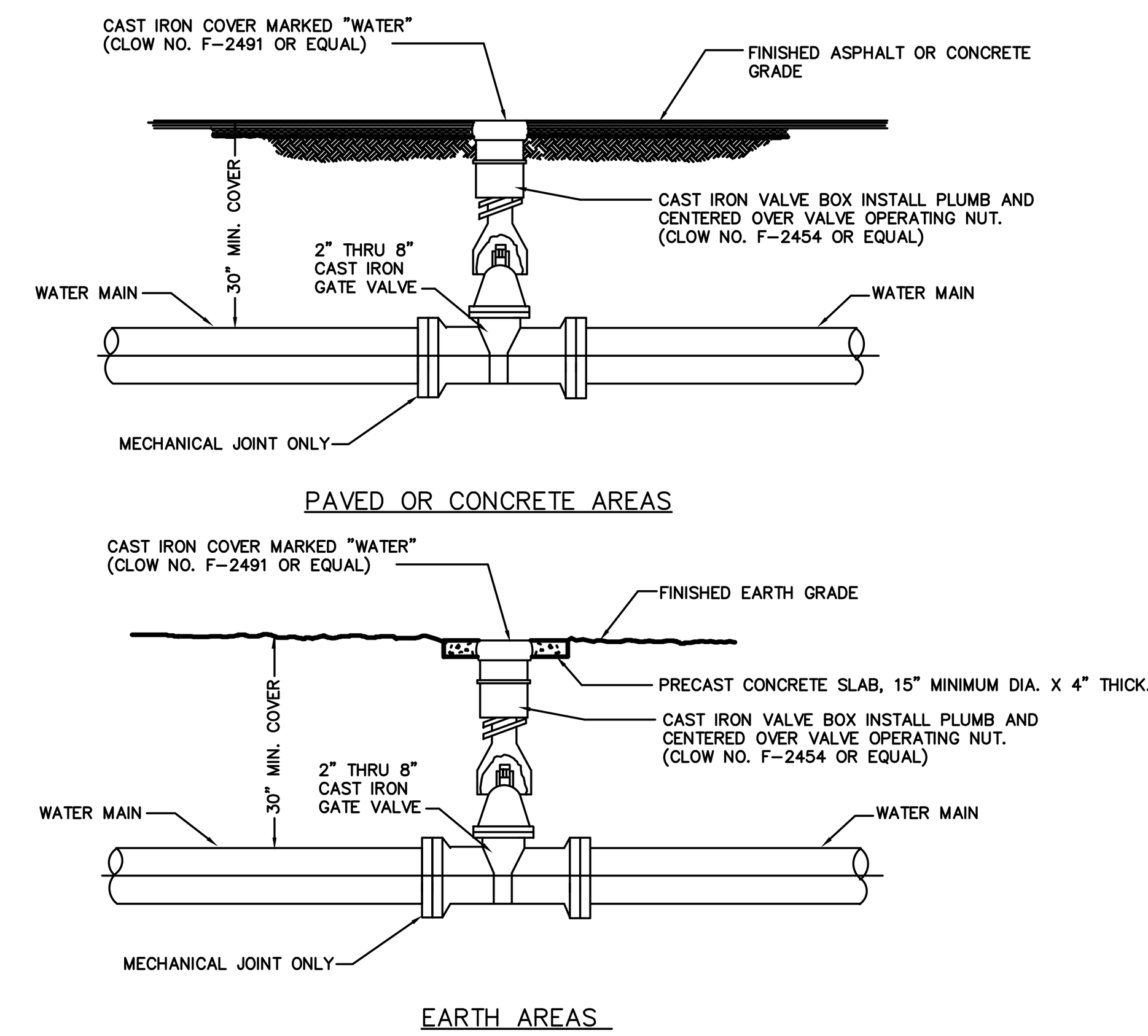
AREAS OF THRUST BLOCK REQUIRED				
PIPE SIZE	TEES AND DEAD ENDS	90° BEND	45° BEND	22 1/2° BEND
3"	1 SQ. FT.	1 SQ. FT.	1 SQ. FT.	.5 SQ. FT.
4"	1 SQ. FT.	1.5 SQ. FT.	1 SQ. FT.	.5 SQ. FT.
6"	2 SQ. FT.	3 SQ. FT.	2 SQ. FT.	1 SQ. FT.
8"	4 SQ. FT.	5 SQ. FT.	3 SQ. FT.	1.5 SQ. FT.

THRUST BLOCK DETAILS FOR FIRE, DOMESTIC WATER MAINS
NO SCALE

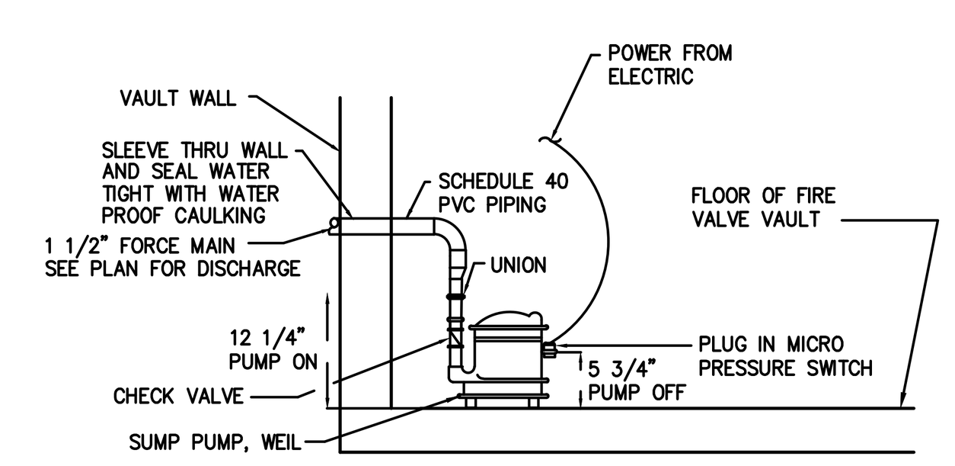
NOTE: LENGTH, WIDTH & MINIMUM THICKNESS OF THRUST BLOCKS SHALL BE EQUAL TO THE DIAMETER OF THE PIPE FOR WHICH THEY ARE INSTALLED.

FIRE PROTECTION DETAILS

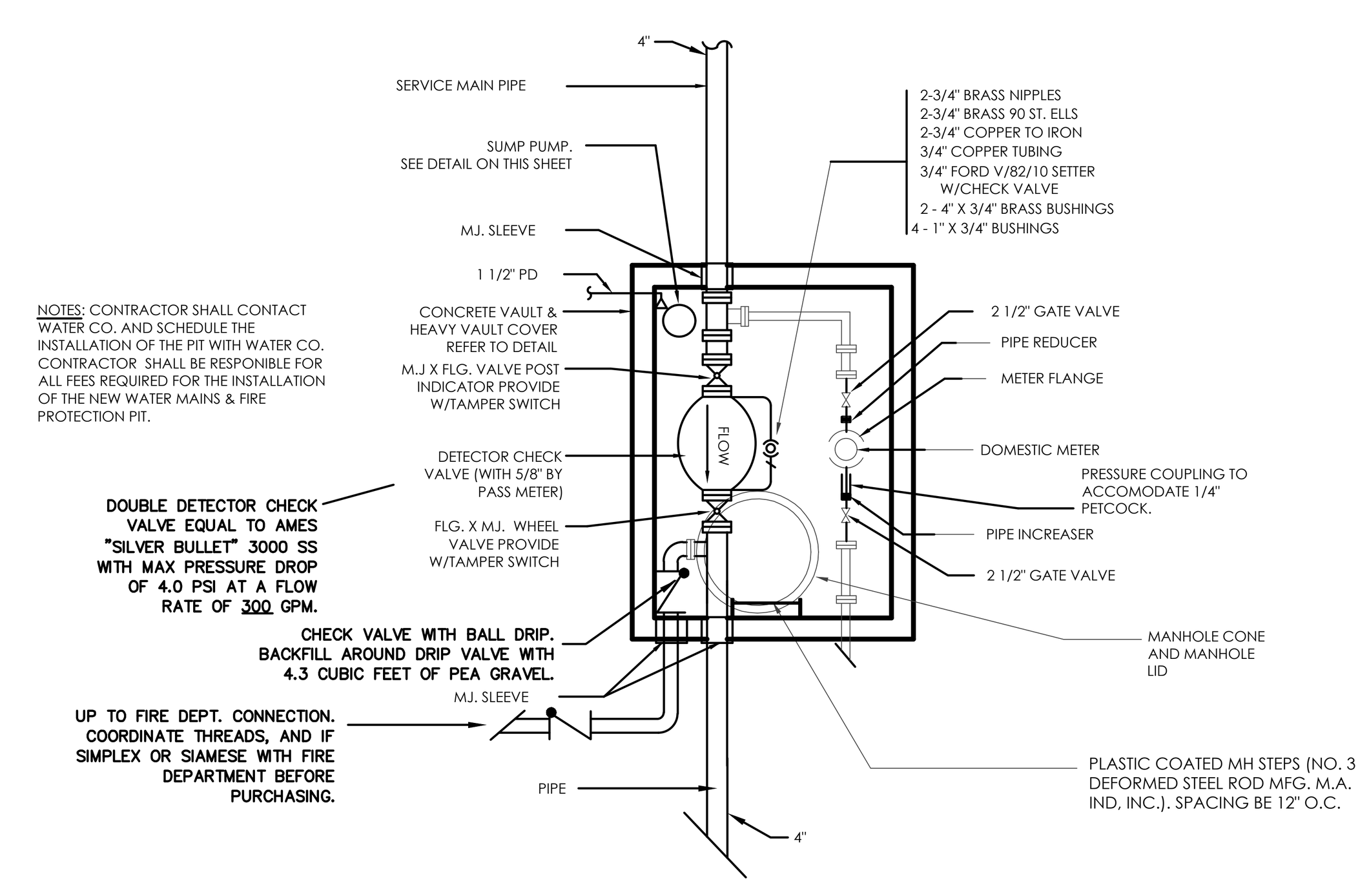
SCALE: NTS



GATE VALVE SETTING DETAIL
NO SCALE



SUMP PUMP DETAIL
NO SCALE



FIRE & DOMESTIC WATER VALVE & METER PIT
NO SCALE

FIRE PROTECTION LEGEND

- NEW FIRE PROTECTION PIPE
- DRY-FP — NEW DRY FIRE PROTECTION PIPE
- NEW AUXILIARY DRAIN
- LH — LIGHT HAZARD ROOM OCCUPANCY
- OH-1 — ORDINARY HAZARD 1 ROOM OCCUPANCY
- SEMI-RECESSED PENDANT SPRINKLER HEADS IN LAY-IN CEILING
- SEMI-RECESSED PENDANT SPRINKLER HEADS IN HARD CEILING
- UPRIGHT BRASS SPRINKLER HEADS
- DRY FP PIPE SYSTEM WITH UPRIGHT BRASS SPRINKLER HEADS

GENERAL FIRE PROTECTION NOTES:

1. INDICATED SPACES SHALL BE PROTECTED 100% BY A WET PIPE FIRE SUPPRESSION SYSTEM DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA-13, THE KENTUCKY BUILDING CODE AND THE PROJECT SPECIFICATIONS.
2. ALL FIRE PROTECTION PIPE SIZES SHALL BE HYDRAULICALLY CALCULATED IN ACCORDANCE WITH NFPA-13.
3. ALL PIPING TO INDIVIDUAL SPRINKLER HEADS, REGARDLESS OF TYPE OF HEAD SHALL BE 1", UNLESS OTHERWISE NOTED.
4. PIPING IN ROOMS WITH SUSPENDED CEILINGS SHALL BE ABOVE CEILING UNLESS OTHERWISE NOTED.
5. LOCATIONS OF PIPING AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.
6. ALL OFFSETS IN PIPING ARE NOT NECESSARY SHOWN, PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.
7. COORDINATE WITH HVAC, PLUMBING, AND ELECTRICAL EQUIPMENT TO AVOID INTERFERENCE WITH PIPING, DUCTS, AND CONDUIT.
8. INSTALL PIPING AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS, NFPA-13, K.B.C. ETC...
9. SEAL AIRTIGHT AROUND ALL PIPING PENETRATIONS THROUGH WALLS, FLOOR AND ROOF. FIRE STOP PROPERLY WHERE REQUIRED BY CODE.
10. PROVIDE DRAINS AT LOW POINTS PER NFPA-13.
11. USE MANUFACTURED FITTINGS OR MECHANICAL TEES, ELLS, ETC. (SEE SPECIFICATIONS). WELDOLETS, SIMILAR WELDED CONNECTIONS AND WELDED PIPING ARE NOT ACCEPTABLE.
12. PITCH ALL SPRINKLER PIPING TO MAIN. IF PIPING CANNOT BE PITCHED TO MAIN, PROVIDE AUXILIARY DRAINS AT LOW POINTS.
13. REFER TO ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR EXACT LOCATION OF CEILINGS, CEILING TYPES AND LIGHT FIXTURES.
14. ALL EXPOSED FIRE SUPPRESSION PIPING SHALL BE PRIMED AND PAINTED COLOR CHOSEN BY ARCHITECT.

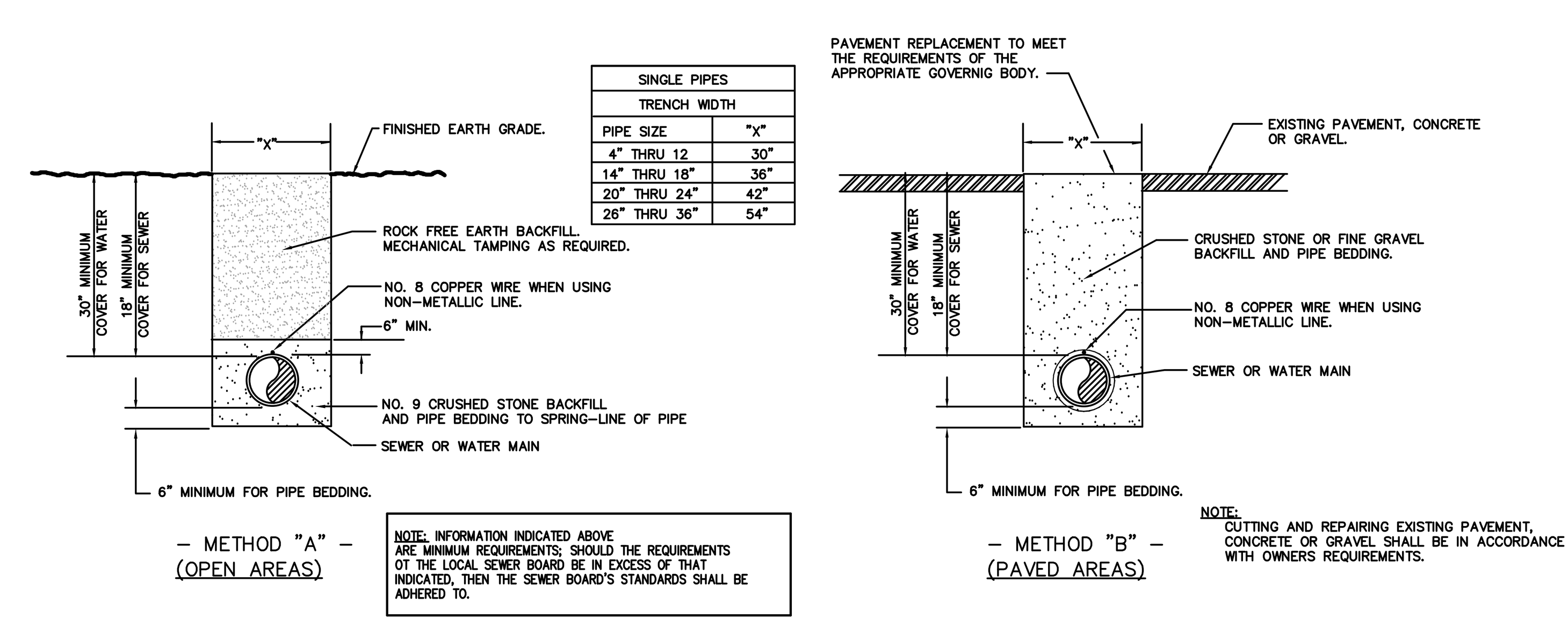
AVAILABLE WATERFLOW

STATIC PSI: 97 PSIG
RESIDUAL PSI: 58 PSIG
FLOW: 1186 GPM
SOURCE OF WATER: ELEVATED TANK, 8" PVC LINE
SOURCE OF DATA: RUSSELL SPRINGS UTILITY (ALEX MCCQUEARY)
REQUIRED DURATION: 60 MINUTES
DATE OF TEST: 09/14/2022

DESIGN REQUIREMENTS:

HAZARD: LIGHT HAZARD WITH SOME ORDINARY GROUP I HAZARD AREAS
OCCUPANCY OF BUILDING: BUSINESS TRAINING/SKILL DEVELOPMENT
GPM REQUIRED: 315 GPM
PRESSURE REQUIRED: 62 PSIG MIN.
(INCLUDE 5% SAFETY FACTOR IN HYDRAULIC CALCULATIONS)

SINGLE PIPES	
PIPE SIZE	TRENCH WIDTH "X"
4" THRU 12	30"
14" THRU 18"	36"
20" THRU 24"	42"
28" THRU 36"	54"



TRENCHING AND BACKFILLING
NO SCALE

AFA ENGINEERING, LLC

FIRE PROTECTION DETAILS

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

PROJECT NO.	2078-34
DESIGNED BY	TEM
DRAWN BY	TEM
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

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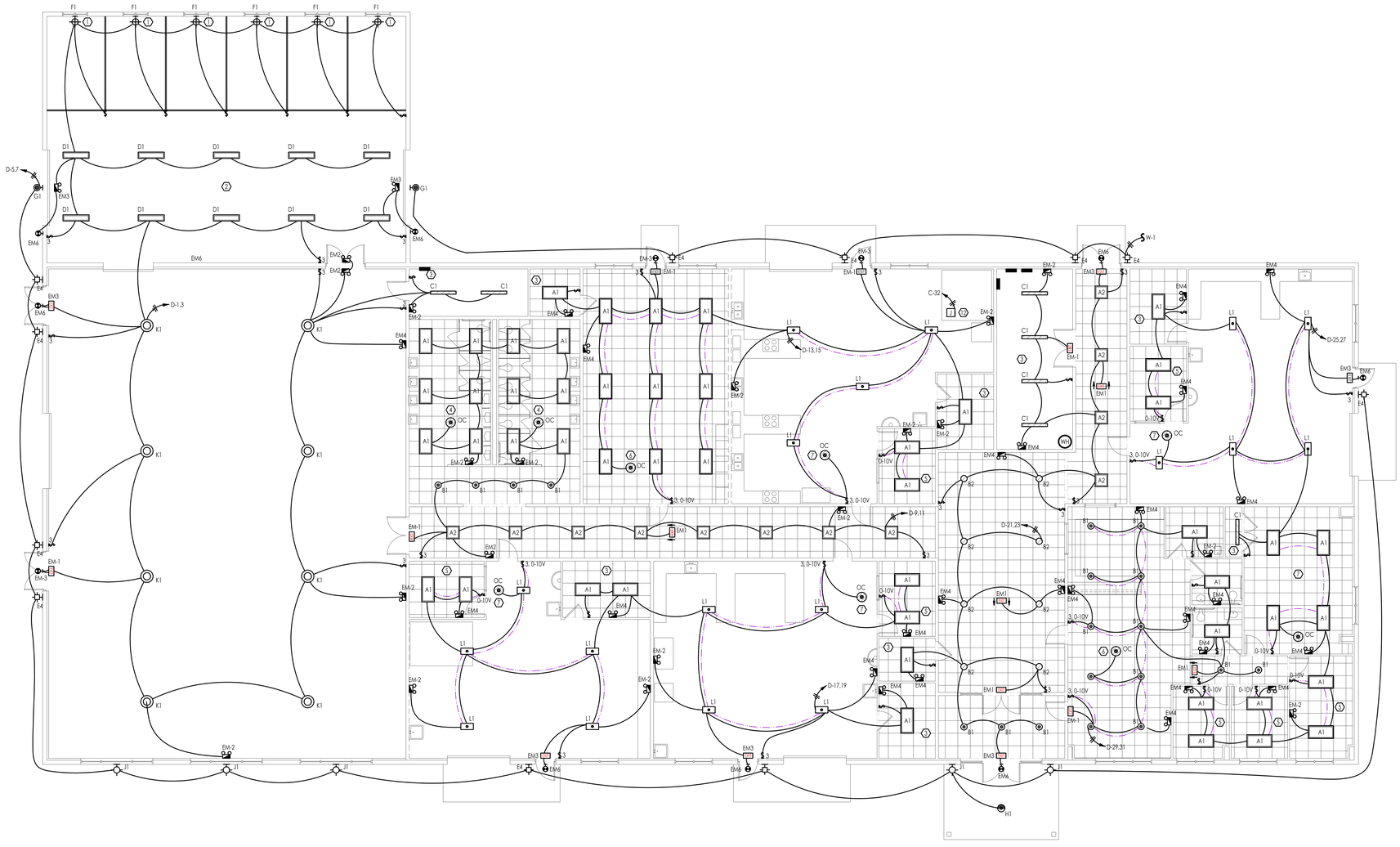
DRAWING NO.
FP-2
SHEET OF



LIGHTING PLAN

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

SHEET NOTES

1. LIGHTS IN STALLS CONTROLLED WITH MANUAL SWITCHES. CIRCUIT WITH STALL RECEPTACLES. PROVIDE SURFACE MOUNTED CONDUIT FROM SWITCH UP STALL POST AND TRAVEL OVERHEAD TO WALL MOUNTED LIGHT.
2. LIGHTING IN THIS AREA CONTROLLED WITH MANUAL SWITCHES
3. LIGHTING IN THIS AREA CONTROLLED WITH MANUAL ON, PUSH BUTTON, LOW VOLTAGE, VACANCY SENSOR AT DOOR.
4. LIGHTING IN THIS AREA CONTROLLED WITH CEILING MOUNTED OCCUPANCY SENSORS.
5. LIGHTING IN THIS AREA CONTROLLED WITH MANUAL ON PUSH BUTTON, LOW VOLTAGE, VACANCY SENSOR, DIMMING SWITCH AT THE DOOR.
6. LIGHTING IN THIS AREA CONTROLLED WITH MANUAL ON PUSH BUTTON, LOW VOLTAGE, DIMMING SWITCH AT DOOR. PROVIDE DUAL TECH, CEILING MOUNTED VACANCY SENSOR IN CEILING.
7. LIGHTING IN THIS AREA CONTROLLED WITH MANUAL ON PUSH BUTTON, LOW VOLTAGE, DIMMING SWITCH AT DOOR. PROVIDE DUEL TECH, CEILING MOUNTED VACANCY SENSOR IN CEILING. SWITCHES AT DOOR CONTROL LIGHTS IDENTIFIED WITH SAME SUBSCRIPT
8. LIGHTING IN CORRIDORS CONTROLLED WITH TIME PROGRAMMABLE CLOCK. TIMER SWITCHES IN CORRIDOR PROVIDE 2 HR ON OV;AND OF LIGHTS AFTER HOURS.
9. LIGHTING IN THIS AREA CONTROLLED WITH DIMMER SWITCHES AT DOORS. SWITCHES CONTROL LIGHTS IDENTIFIED WITH SAME SUBSCRIPT.
10. LIGHTING CONTROLLED WITH TIME CLOCK AND EXTERIOR PHOTOCELL MOUNTED TO NORTH SIDE OF BUILDING.
11. LIGHTING TIME CLOCK AND CONTACTS.
12. ELECTRICAL CONNECTION FOR COOLER LIGHTING AND MISCELLANEOUS DEVICES. COORDINATE EXACT LOCATION AND ELECTRICAL CHARACTERISTICS WITH MANUFACTURE.

GENERAL NOTES

1) CIRCUITING SHOWN IS SCHEMATIC IN NATURE. COORDINATE EXACT ROUTING AND POLE NUMBER IN IDENTIFIED PANEL IN FIELD TO BE MOST EFFICIENT.

2) DIM SWITCH WIRING SHOWN AS DOTTED WIRE. SEE ELECTRICAL LEGEND ON E-2 FOR MORE DETAILS.

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CONSULTING ENGINEERING
HVAC - PLUMBING - ELECTRICAL
700 WESTLAND DRIVE
LEXINGTON, KENTUCKY 40504
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LIGHTING FLOOR PLAN

The Seed Academy

Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

DESIGN DOCUMENTS

PROJECT NO.	2018-34
DESIGNED BY	TBM
DRAWN BY	TBM
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

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DRAWING NO.

E-1

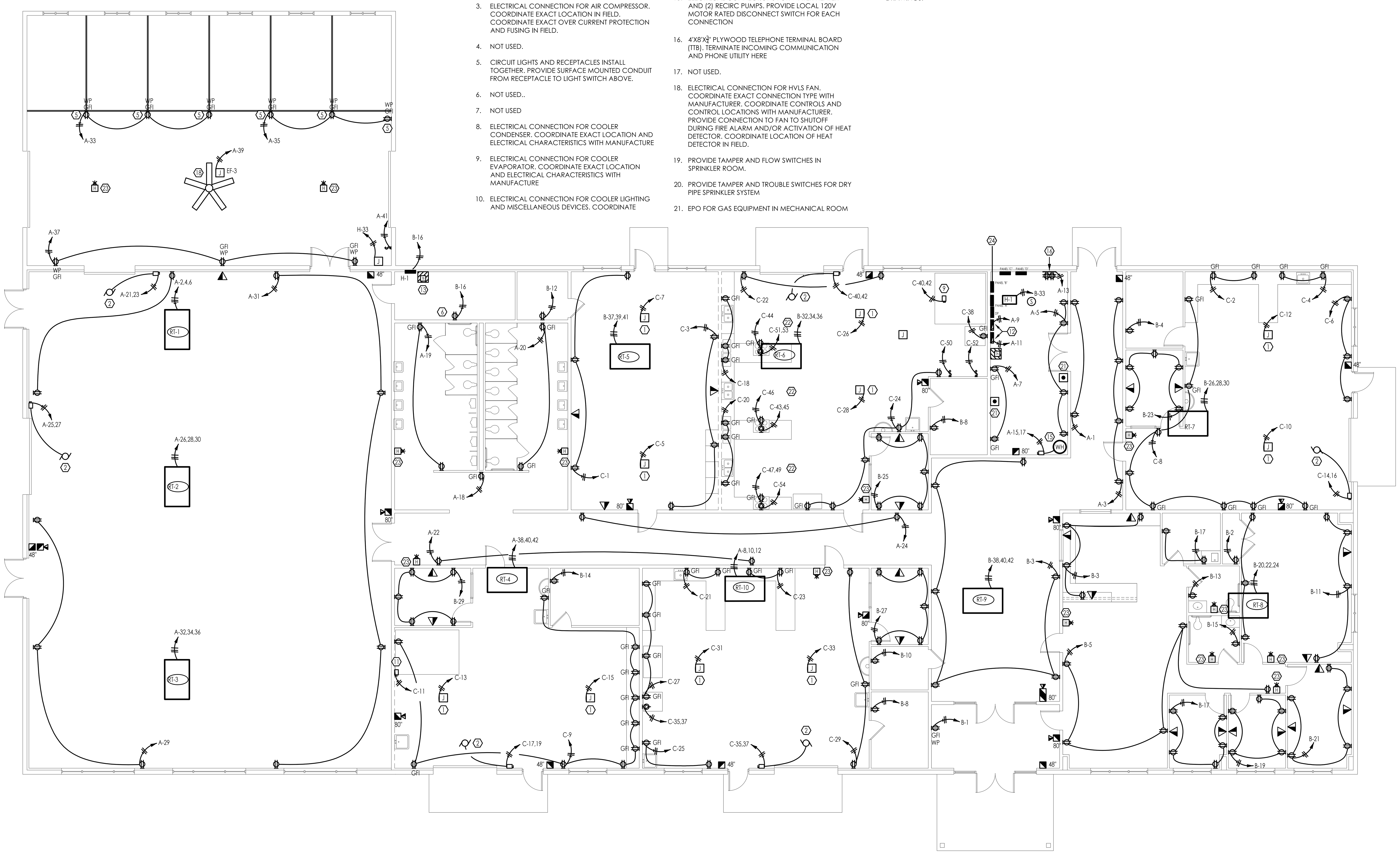
SHEET OF

SHEET NOTES

1. ELECTRICAL CONNECTION FOR CORD REEL. COORDINATE EXACT LOCATION IN FIELD WITH OWNER.
2. ELECTRICAL CONNECTION/DISCONNECT FOR OVERHEAD DOOR. COORDINATE PRODUCT CONNECTION TYPE WITH GARAGE DOOR PROVIDER. EC PROVIDES CONDUIT. BOXES & CONTROL WIRE ONLY. GARAGE DOOR INSTALLER PROVIDES FINAL CONTROL DEVICES & CONNECTIONS.
3. ELECTRICAL CONNECTION FOR AIR COMPRESSOR. COORDINATE EXACT LOCATION IN FIELD. COORDINATE EXACT OVER CURRENT PROTECTION AND FUSING IN FIELD.
4. NOT USED.
5. CIRCUIT LIGHTS AND RECEPTACLES INSTALL TOGETHER. PROVIDE SURFACE MOUNTED CONDUIT FROM RECEPTACLE TO LIGHT SWITCH ABOVE.
6. NOT USED..
7. NOT USED
8. ELECTRICAL CONNECTION FOR COOLER CONDENSER. COORDINATE EXACT LOCATION AND ELECTRICAL CHARACTERISTICS WITH MANUFACTURE
9. ELECTRICAL CONNECTION FOR COOLER EVAPORATOR. COORDINATE EXACT LOCATION AND ELECTRICAL CHARACTERISTICS WITH MANUFACTURE
10. ELECTRICAL CONNECTION FOR COOLER LIGHTING AND MISCELLANEOUS DEVICES. COORDINATE EXACT LOCATION AND ELECTRICAL CHARACTERISTICS WITH MANUFACTURE
11. NOT USED.
12. NOT USED.
13. NOT USED
14. NOT USED
15. ELECTRICAL CONNECTIONS FOR WATER HEATER AND (2) RECIRC PUMPS. PROVIDE LOCAL 120V MOTOR RATED DISCONNECT SWITCH FOR EACH CONNECTION
16. 4'X8'X¾" PLYWOOD TELEPHONE TERMINAL BOARD (TTB). TERMINATE INCOMING COMMUNICATION AND PHONE UTILITY HERE
17. NOT USED.
18. ELECTRICAL CONNECTION FOR HVLS FAN. COORDINATE EXACT CONNECTION TYPE WITH MANUFACTURER. COORDINATE CONTROLS AND CONTROL LOCATIONS WITH MANUFACTURER. PROVIDE CONNECTION TO FAN TO SHUTOFF DURING FIRE ALARM AND/OR ACTIVATION OF HEAT DETECTOR. COORDINATE LOCATION OF HEAT DETECTOR IN FIELD.
19. PROVIDE TAMPER AND FLOW SWITCHES IN SPRINKLER ROOM.
20. PROVIDE TAMPER AND TROUBLE SWITCHES FOR DRY PIPE SPRINKLER SYSTEM
21. EPO FOR GAS EQUIPMENT IN MECHANICAL ROOM
22. ELECTRICAL CONNECTION FOR OVEN/RANGE. COORDINATE EXACT ELECTRICAL CONNECTION AND BREAKER/WIRE SIZE WITH MANUFACTURER.
23. VERIFY CANDELLA OF STROBE WITH CODE & FIRE ALARM VENDOR.
24. EXTEND 1 1/2" CONDUIT 5' FROM BUILDING FOR FUTURE GREENHOUSE. CLEARLY MARK END OF CAPPED UNDERGROUND CONDUIT ON AS BUILT DRAWINGS.

GENERAL NOTES

1) CIRCUITING SHOWN IS SCHEMATIC IN NATURE. COORDINATE EXACT ROUTING AND POLE NUMBER IN IDENTIFIED PANEL IN FIELD TO BE MOST EFFICIENT. RECORD CHANGES & REVISIONS TO PANEL SCHEDULES AND CIRCUITRY SHOWN ON "RECORD DRAWING" SET TO BE INCLUDED IN CLOSE OUT DOCUMENTS.



POWER PLAN

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

ELECTRICAL LEGEND

Symbol	Description
A-1	HOMERUN TO PANEL AND CIRCUIT NUMBER "A-1" INDICATES PANEL "A", CIRCUIT #1
A-1,3,5	3 PHASE HOMERUN TO PANEL AND CKT # "A-1,3,5" = PANEL "A", CIRCUITS #1,3,5
	CIRCUIT, CONDUIT OR WIRING
	CONDUIT BELOW FLOOR
	0-10V DIMMING WIRING (PURPLE/GRAY)
	CONDUIT TURNED: UP, DOWN
	CAPPED CONDUIT/WIRE
J	JUNCTION BOX
	DISCONNECT SWITCH
$	LIGHT SWITCH
$ DIM	DIMMING LIGHT SWITCH (LINE VOLTAGE)
$ 0-10V	DIMMING LIGHT SWITCH (0-10V)
	OCCUPANCY SENSOR TYPE SWITCH
	DUPLEX RECEPTACLE
USB	RECEPTACLE WITH USB
	QUAD RECEPTACLE
	30A/2P, OR 40A/2P RECEPTACLE FOR DRYER OR RANGE AS NOTED
	EQUIPMENT SPECIFIC OUTLET
	ELECTRICAL PANEL
	MOTOR OR EQUIPMENT
1	REFERENCE NUMBER TO SHEET NOTE.
	VOICE / DATA ROUGH-IN
TV	TV ROUGH-IN (SEE ARCH PLANS FOR HEIGHT)
WP	WEATHER PROOF
GFI	GROUND-FAULT INTERRUPTER
	MANUAL FIRE ALARM SWITCH.
	FIRE ALARM HORN.
H	A/V FIRE ALARM W/ HORN & STROBE.
S	SMOKE DETECTOR
	EPO
T	TRANSFORMER

ELECTRICAL FLOOR PLAN

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

DATE	REVISION	BY

PROJECT NO. 2078-34
DESIGNED BY TEM
DRAWN BY TEM
CHECKED BY
REVIEWED BY
DATE JANUARY 2024
SCALE AS NOTED

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AFA ENGINEERING, LLC

DRAWING NO.

E-2

SHEET OF

PANEL "A"

VOLTAGE: 120/208 PHASE: 3Ø WIRE: 4 MAINS: 225 MAIN CKT BRKR: 225 A
TYPE: SQUARE D, NQOD MOUNT: RECESSED LOCATION: ELECTRICAL RM AIC: 20,000

CKT#	CB / POLE	WIRE SIZE	LOAD SERVED	KVA	LOAD A	LOAD B	LOAD C	KVA	LOAD SERVED	WIRE SIZE	CB / POLE	CKT#
1	20		111 NORTH CORRIDOR	0.5	2.0			1.5	RTU-1		30/3	2
3	20		111 NORTH CORRIDOR	0.5		2.0		1.5				4
5	20		115 MECH/ELECTRICAL	2.0			3.5	1.5				6
7	20		115 MECH/ELECTRICAL	2.0	3.5			1.5	RTU-10		30/3	8
9	20		115 HVAC CONTROLLERS	0.5		2.0		1.5				10
11	20		115 HVAC CONTROLLERS	0.5			2.0	1.5				12
13	20		115 TELEPHONE TERMINAL	0.4	0.4			0.0	SPARE		20	14
15	20/2		115 WATER HEATER	1.0		1.0		0.0	SPARE		20	16
17				1.0			1.5	0.5	WATER FOUNTAINS		20	18
19	20		129 MEN'S RR	0.5	1.0			0.5	128 WOMEN'S RR		20	20
21	20/2		131 OVERHEAD DOOR	1.2		1.9		0.7	130 WEST CORRIDOR RECEPTACLES		20	22
23				1.2			1.9	0.7	130 WEST CORRIDOR RECEPTACLES		20	24
25	20/2		131 OVERHEAD DOOR	1.2	2.7			1.5	RTU-2		30/3	26
27				1.2		2.7		1.5				28
29	20		131 AUDITORIUM RECEPTACLES	1.0			2.5	1.5				30
31	20		131 AUDITORIUM RECEPTACLES	1.0	2.8			1.8	RTU-3		50/3	32
33	20		133 LIVESTOCK STALLS	1.0		2.8		1.8				34
35	20		133 LIVESTOCK STALLS	1.0			2.8	1.8				36
37	20		133 LIVESTOCK GEN. RECEP.	1.0	2.5			1.5	RTU-4		30/3	38
39	20		133 EF-2	0.1		1.6		1.5				40
41	20		133 EF-3	0.6			2.1	1.5				42
					14.9	14.0	16.3					

TOTAL CONNECTED 45.2 KVA

PANEL "B"

VOLTAGE: 120/208 PHASE: 3Ø WIRE: 4 MAINS: 225 MAIN CKT BRKR: 225 A
TYPE: SQUARE D, NQOD MOUNT: RECESSED LOCATION: ELECTRICAL RM AIC: 20,000

CKT#	CB / POLE	WIRE SIZE	LOAD SERVED	KVA	LOAD A	LOAD B	LOAD C	KVA	LOAD SERVED	WIRE SIZE	CB / POLE	CKT#
1	20		100 VESTIBULE	1.0	1.5			0.5	107 STORAGE		20	2
3	20		101 LOBBY	1.2		1.7		0.5	114 STORAGE		20	4
5	20		102 RECEPTION	1.5			2.0	0.5	116 STORAGE		20	6
7	20		102 RECEPTION	1.5	2.0			0.5	119 STORAGE		20	8
9	20		106 TEACHER'S LOUNGE	1.0		1.5		0.5	120 STORAGE		20	10
11	20		106 TEACHER'S LOUNGE	1.0			1.5	0.5	124 STORAGE		20	12
13	20		108 RESTROOM	0.5	1.0			0.5	126 STORAGE		20	14
15	20		109 RESTROOM	0.5		1.0		0.5	132 STORAGE		20	16
17	20		110 FIRST AID	1.0			1.0	0.0	SPARE		20	18
19	20		103 OFFICE	1.5	3.0			1.5	RTU-8		20	20
21	20		104 OFFICE	1.5		3.0		1.5				22
23	20		105 OFFICE	1.5			3.0	1.5				24
25	20		113 OFFICE	1.5	3.0			1.5	RTU-7		20	26
27	20		117 OFFICE	1.5		3.0		1.5				28
29	20		121 OFFICE	1.5			1.5	1.5				30
31	20		127 OFFICE	1.5	3.O			1.5	RTU-6		20	32
33	20		H-1	1.5		3.0		1.5				34
35	20		GUH	.2			1.7	1.5				36
37	20		RTU-5	1.5	3.0			1.5	RTU-9		20	38
39	20			1.5		3.0		1.5				40
41	20			1.5			3.0	1.5				42
					9.0	8.7	7.7					

TOTAL CONNECTED 23.7 KVA

PANEL "C"

VOLTAGE: 120/208 PHASE: 3Ø WIRE: 4 MAINS: 225 MAIN CKT BRKR: 225 A
TYPE: SQUARE D, NQOD MOUNT: RECESSED LOCATION: ELECTRICAL RM AIC: 20,000

CKT#	CB / POLE	WIRE SIZE	LOAD SERVED	KVA	LOAD A	LOAD B	LOAD C	KVA	LOAD SERVED	WIRE SIZE	CB / POLE	CKT#
1	20		123 RECEPTACLES	1.5	2.5			1.0	112 SINK RECEPTACLES		20	2
3	20		123 RECEPTACLES	1.5		2.5		1.0	112 SINK RECEPTACLES		20	4
5	20		123 JUNCTION BOX	0.2			0.7	0.5	112 EXIT RECEPTACLES		20	6
7	20		123 JUNCTION BOX	0.2	1.7			1.5	112 RECEPTACLES		20	8
9	20		125 RECEPTACLES	1.5		1.7		0.2	112 JUNCTION BOX		20	10
11	20		125 PAINT BOOTH FAN	1.0			1.2	0.2	112 JUNCTION BOX		20	12
13	20		125 JUNCTION BOX	0.2	1.4			1.2	112 OVERHEAD DOOR		20/2	14
15	20		125 JUNCTION BOX	0.2		1.4		1.2				16
17	20/2		125 OVERHEAD DOOR	1.2			2.2	1.0	118 SINK RECEPTACLES		20	18
19				1.2	2.2			1.0	118 SINK RECEPTACLES		20	20
21	20		122 SINK RECEPTACLES	1.0		2.0		1.0	118 EXIT RECEPTACLES		20	22
23	20		122 SINK RECEPTACLES	1.0			2.5	1.5	118 RECEPTACLES		20	24
25	20		122 EXIT RECEPTACLES	0.5	0.7			0.2	118 JUNCTION		20	26
27	20		122 RECEPTACLES	1.5		1.7		0.2	118 JUNCTION		20	28
29	20		122 RECEPTACLES	1.5			1.5	0.0	SPARE		20	30
31	20		122 JUNCTION	0.2	0.7			0.5	118 COOLER LIGHTING		20	32
33	20		122 JUNCTION	0.2		1.4		1.2	118 COOLER EVAPORATOR		20/2	34
35	20/2		122 OVERHEAD DOOR	1.2			2.4	1.2				36
37				1.2	2.2			1.0	118 EQUIPMENT RECEPTACLE		20	38
39	20		SPARE	0.0		1.2		1.2	118 OVERHEAD DOOR		20/2	40
41	20		SPARE	0.0			1.2	1.2				42
43	40/2		118 OVEN EQUIPMENT RECEPTACLE	1.5	2.5			1.0	118 OVEN RECEPTACLE		20	44
45				1.5		2.5		1.0	118 OVEN RECEPTACLE		20	46
47	40/2		118 OVEN EQUIPMENT RECEPTACLE	1.5			2.5	1.0	118 OVEN RECEPTACLE		20	48
49				1.5	1.5			-	SPARE		20	50
51	40/2		118 OVEN EQUIPMENT RECEPTACLE	1.5		1.5		-	SPARE		20	52
53				1.5			1.5	-	SPARE		20	54
55	20			-	-			-	SPARE		20	56
57	20			-		-		-	SPARE		20	58
59	20			-			-	-	SPARE		20	60
					18.8	14.2	15.7					

TOTAL CONNECTED 55.8 KVA

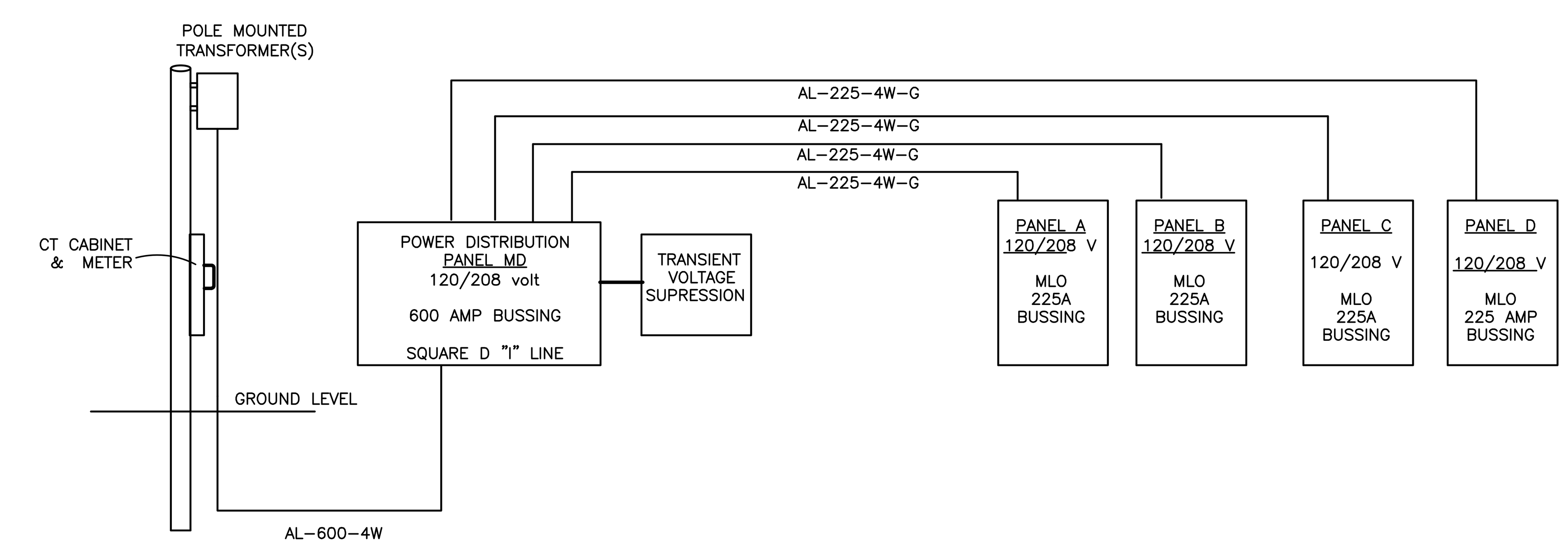
PANEL "D"

VOLTAGE: 120/208 PHASE: 3Ø WIRE: 4 MAINS: 225 MAIN CKT BRKR: 225
TYPE: SQUARE D, NQOD MOUNT: RECESSED LOCATION: ELECTRICAL RM AIC: 20,000

CKT#	CB / POLE	WIRE SIZE	LOAD SERVED	KVA	LOAD A	LOAD B	LOAD C	KVA	LOAD SERVED	WIRE SIZE	CB / POLE	CKT#
1	20		LIVESTOCK & AUDITORIUM LTS	2.0	2.0			0.0	SPARE		20	2
3	20			2.0		2.0		0.0	SPARE		20	4
5	20		OUTDOOR LIGHTS	1.7			1.7	0.0	SPARE		20	6
7	20			1.7	1.7			0.0	SPARE		20	8
9	20		BATHROOM & CORRIDOR LTS	1.5		1.5		0.0	SPARE		20	10
11	20			1.5			1.5	0.0	SPARE		20	12
13	20		CLASSROOM 123 & LAB LTS	1.5	1.5			0.0	SPARE		20	14
15	20			1.5		1.5		0.0	SPARE		20	16
17	20		SCIENCE & VET LAB LTS	1.5			1.5	0.0	SPARE		20	18
19	20			1.5	1.5			0.0	SPARE		20	20
21	20		MECH, LOBBY & CORRIDOR LTS	1.5		1.5		0.0	SPARE		20	22
23	20			1.5			1.5	0.0	SPARE		20	24
25	20		LOUNGE, LAB & OFFICE LTS	1.5	1.5			0.0	SPACE		20	26
27	20			1.5		1.5		0.0	SPACE		20	28
29	20		RECEPTION, AID & TOILET LTS	1.5			1.5	0.0	SPACE		20	30
31	20			1.5	1.5			0.0	SPACE		20	32
33	20		FREEZE PROOF WATER HYDRANT	0.25		0.0		0.0	SPACE		20	34
35	20		SPACE	0.0			0.0	0.0	SPACE		20	36
37	20		SPACE	0.0	0.0			0.0	SPACE		20	38
39	20		SPACE	0.0		0.0		0.0	SPACE		20	40
41	20		SPACE	0.0			0.0	0.0	SPACE		20	42
					9.7	8.0	7.7					

TOTAL CONNECTED 25.4 KVA

PANEL FOR BUILDING EXPANSION



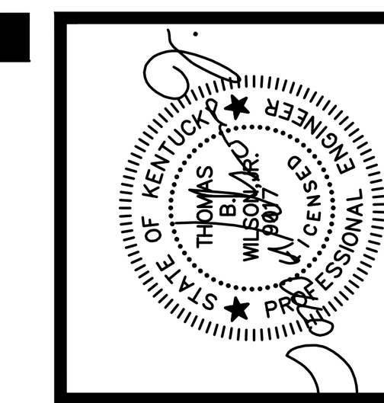
ONE LINE ELCTRICAL DIAGRAM

NOT TO SCALE

ELECTRICAL SCHEDULES

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

AFA ENGINEERING, LLC
CONSULTING ENGINEERING
HVAC - PLUMBING - ELECTRICAL



PANEL SCHEDULES
ONE LINE DIAGRAM

The Seed Academy
Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY

PROJECT NO. 2078-34
DESIGNED BY TBW
DRAWN BY TBW
CHECKED BY
REVIEWED BY
DATE JANUARY 2024
SCALE AS NOTED

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DRAWING NO.
E-3
SHEET OF

LIGHTING FIXTURE SCHEDULE							
TYPE	MANUFACTURER	DESCRIPTION / CATALOG #	LAMP	VOLTAGE	LUMENS	WATTS/FIXTURE	NOTES
A1	TOPAZ	2' x 4' LED FLAT PANEL, #PL24-50WPCTS-D	LED	208	5600	40	PANEL AT LAY-IN CEILING, SELECTABLE LUMENS, COORDINATE EXACT LUMEN/WATTAGE LEVEL IN FIELD
A2	TOPAZ	2' x 2' FLAT PANEL, #PL22-30WPCTS-D	LED	208	4200	30	PANEL AT LAY-IN CEILING, SELECTABLE LUMENS, COORDINATE EXACT LUMEN/WATTAGE LEVEL IN FIELD
B1	NICOR	6" RECESSED DOWNLIGHT, #CDA6HS2A-CDALE2038U408-CDA6TR240SCWH	LED	208	3800	38	RECESSED IN LAY-IN CEILING
B2	NICOR	8" RECESSED DOWNLIGHT, #CDA8HS2A-CDALE2050U408-CDA8TR260SCWH	LED	208	5500	50	RECESSED IN LAY-IN CEILING
C1	NICOR	4' STRIP LIGHT, #LSCS-4-U / ACML110	LED	208	5500	40	SELECTABLE CCT & OUTPUT LINEAR LED STRIP, CABLE HUNG TO MINIMUM 9'-0" A.F.F. (WALL MOUNT @ STORAGE 107)
D1	TOPAZ	4' VAPOR TIGHT, #LVT4-50PCS / F-LED-CABLE-2PK	LED	208	7250	50	POWER & CCT SELECTABLE VAPOR TIGHT LINEAR STRIP, CABLE HUNG AT 12'-6' A.F.F.
EM1	MORRIS	EXIT SIGN, #73152	LED	208		5	COORDINATE NUMBER OF FACES AND ARROWS WITH DRAWINGS
EM2	MORRIS	EXIT SIGN w/ EMERGENCY LIGHTS, #73040	LED	208		5	COORDINATE NUMBER OF FACES AND ARROWS WITH DRAWINGS
EM3	MORRIS	EXIT SIGN w/ EMERGENCY LIGHTS, REMOTE CAPABLE, #73054	LED	208		5	COORDINATE NUMBER OF FACES AND ARROWS WITH DRAWINGS, ENSURE BATTERY HAS CAPACITY FOR REMOTE HEADS
EM4	MORRIS	EMERGENCY EGRESS, #73301	LED	208	1286 AC 350 DC	12	WALL MOUNTED AT 9'-0" A.F.F.
EM6	MORRIS	REMOTE EMERGENCY LIGHT, 2-HEAD, #73127	LED	208	76 PER HEAD	3	SURFACE MOUNTED ABOVE FRONT ENTRY
F1	MORRIS	LED VAPOR TIGHT JELLY JAR, #72108A	LED	208	2632	23	WALL-MOUNTED 12" ABOVE WINDOWS
G1	MORRIS	BARN LIGHT, #71333C / 71305B MOUNTING ARM	LED	208	13870	120	WALL-MOUNTED 12" ABOVE OVERHEAD DOORS
H1	NICOR	8" RECESSED DOWNLIGHT FOR WET LOCATION, #CDA8H2SAE1-CDALE2038U508-CDATR240SCWH	LED	208	3800	38	RECESSED UNDER FRONT CANOPY, EMERGENCY BATTERY BACKUP - 90 MIN.
J1	MORRIS	GOOSENECK EXTERIOR FLOODLIGHT, #75119B	LED	208	4824	35	WALL-MOUNTED 24" ABOVE WINDOWS AT AUDITORIUM, WALL-MOUNTED 8' A.F.F. AND 1'-4" TO SIDES OF FRONT ENTRY
K1	TOPAZ	AUDITORIUM HIGH BAY, #HBC-200W-PCTS-WH	LED	208	30,500	200	BOTTOM OF FIXTURE AT 18' A.F.F., POWER SELECTABLE
L1	NICOR	LAB HIGH BAY, #HML3150SUSAS / ACMK110	LED	208			CABLE MOUNTED, BOTTOM OF FIXTURE AT 10' A.F.F., CCT & POWER SELECTABLE
M1	MORRIS	EXTERIOR WALL PACK, #OWG4100SUNVSBZ	LED	208	15,721	120	SURFACE MOUNTED ON BUILDING, BRONZE, 5K, WITH PHOTOCELL
OL2	NICOR	LED AREA LIGHT;OAL350SUNVSBZ3/OAL3STRAIGHT ARMBZ, TYPE III OPTICS.	LED	208	15,721	150	POLE MOUNTED, 10kA SURGE PROTECTION, 5K, 80 CRI.
OL3	NICOR	LED AREA LIGHT;OAL350SUNVSBZ3/OAL3STRAIGHT ARMBZ, TYPE V OPTICS.	LED	208	15,721	150	POLE MOUNTED, 10kA SURGE PROTECTION, 5K, 80 CRI.
OLP	NICOR	4.5", 20' ROUND POLE. OLP4S 1 RD 20 C BZ	STEEL	-	-	-	STEEL POWDER COATED 4.5" BY 20', FOR MOUNTING OF OL-2 & OL-3

CONTRACTORS WISHING TO USE ALTERNATE FIXTURES SHALL SUBMIT SHOP DRAWING QUALITY MANUFACTURES INFORMATION 14 DAYS BEFORE BID OPENING. SUBMITTAL SHALL BE TO THE ARCHITECT.

LIGHT FIXTURE SCHEDULE

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

LIGHTING FIXTURE SCHEDULE

The Seed Academy

Lake Cumberland Regional AgriTech Center
Russell Springs, Kentucky

DATE	REVISION	BY
8-5-24	R-1 UPDATE MODEL NUMBERS	

PROJECT NO. 2018-34
DESIGNED BY TBA
DRAWN BY TBA
CHECKED BY
REVIEWED BY
DATE JANUARY 2024
SCALE AS NOTED

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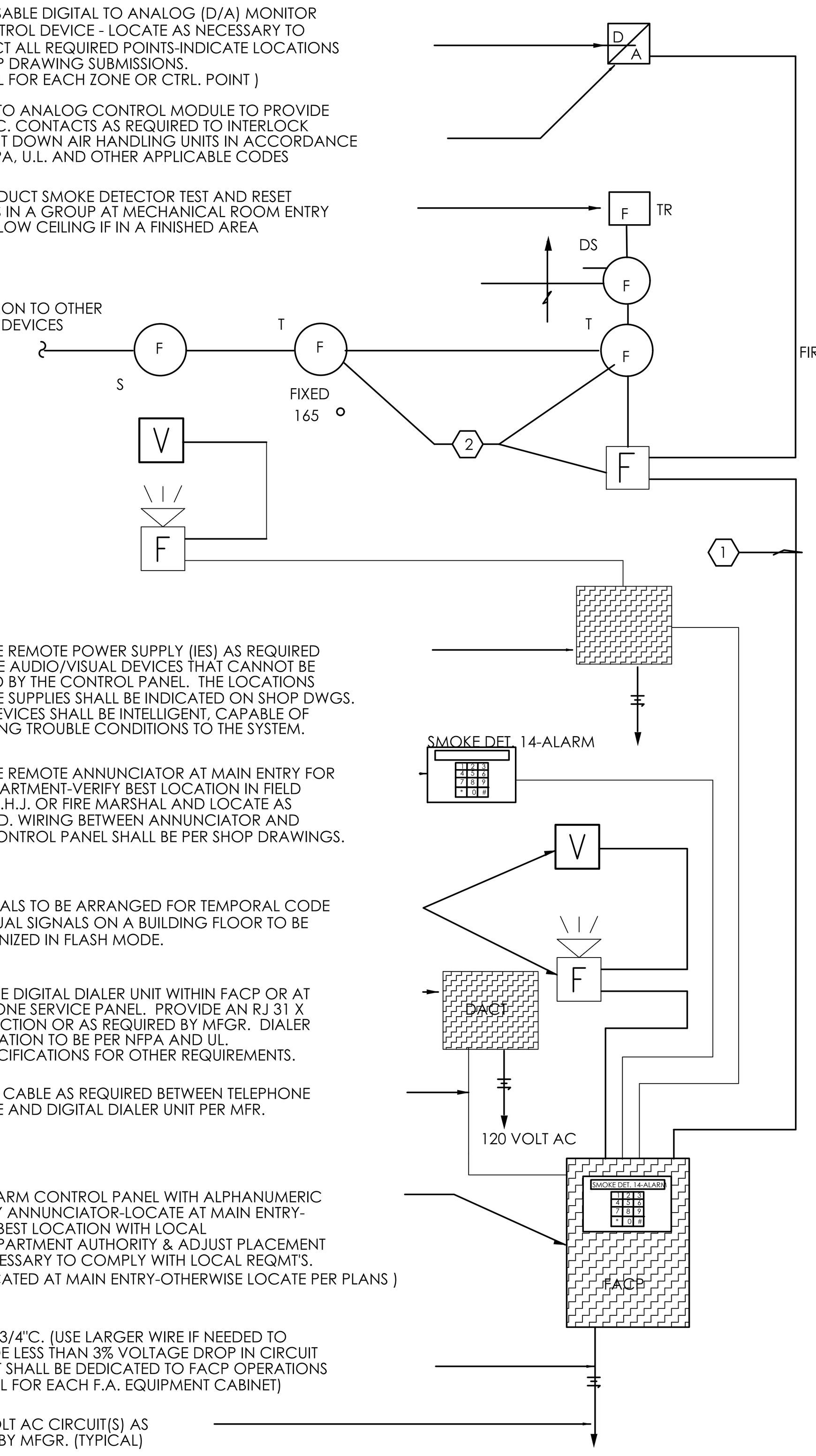
AFA ENGINEERING, LLC

DRAWING NO. E-4
SHEET OF

ADDRESSABLE DIGITAL TO ANALOG (D/A) MONITOR OR CONTROL DEVICE - LOCATE AS NECESSARY TO CONNECT ALL REQUIRED POINTS-INDICATE LOCATIONS ON SHOP DRAWING SUBMISSIONS. (TYPICAL FOR EACH ZONE OR CTRL. POINT)

DIGITAL TO ANALOG CONTROL MODULE TO PROVIDE N.O / N.C. CONTACTS AS REQUIRED TO INTERLOCK AND SHUT DOWN AIR HANDLING UNITS IN ACCORDANCE WITH NFPA, U.L. AND OTHER APPLICABLE CODES

LOCATE DUCT SMOKE DETECTOR TEST AND RESET STATIONS IN A GROUP AT MECHANICAL ROOM ENTRY OR 6" BELOW CEILING IF IN A FINISHED AREA



PROVIDE REMOTE POWER SUPPLY (IES) AS REQUIRED TO DRIVE AUDIO/VISUAL DEVICES THAT CANNOT BE SUPPLIED BY THE CONTROL PANEL. THE LOCATIONS OF THESE SUPPLIES SHALL BE INDICATED ON SHOP DWGS. THESE DEVICES SHALL BE INTELLIGENT, CAPABLE OF REPORTING TROUBLE CONDITIONS TO THE SYSTEM.

PROVIDE REMOTE ANNUNCIATOR AT MAIN ENTRY FOR FIRE DEPARTMENT-VERIFY BEST LOCATION IN FIELD WITH L.A.H.J. OR FIRE MARSHAL AND LOCATE AS DIRECTED. WIRING BETWEEN ANNUNCIATOR AND MAIN CONTROL PANEL SHALL BE PER SHOP DRAWINGS.

ALL SIGNALS TO BE ARRANGED FOR TEMPORAL CODE AND VISUAL SIGNALS ON A BUILDING FLOOR TO BE SYNCHONIZED IN FLASH MODE.

PROVIDE DIGITAL DIALER UNIT WITHIN FACP OR AT TELEPHONE SERVICE PANEL. PROVIDE AN RJ 31 X CONNECTION OR AS REQUIRED BY MFGR. DIALER INSTALLATION TO BE PER NFPA AND UL. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.

SIGNAL CABLE AS REQUIRED BETWEEN TELEPHONE SERVICE AND DIGITAL DIALER UNIT PER MFR.

FIRE ALARM CONTROL PANEL WITH ALPHANUMERIC DISPLAY ANNUNCIATOR-LOCATE AT MAIN ENTRY-VERIFY BEST LOCATION WITH LOCAL FIRE DEPARTMENT AUTHORITY & ADJUST PLACEMENT AS NECESSARY TO COMPLY WITH LOCAL REQMT'S. (IF LOCATED AT MAIN ENTRY-OTHERWISE LOCATE PER PLANS)

#12 W. 3/4"C. (USE LARGER WIRE IF NEEDED TO PROVIDE LESS THAN 3% VOLTAGE DROP IN CIRCUIT CIRCUIT SHALL BE DEDICATED TO FACP OPERATIONS (TYPICAL FOR EACH F.A. EQUIPMENT CABINET)

120 VOLT AC CIRCUIT(S) AS REQ'D BY MFGR. (TYPICAL)

FIRE ALARM SYSTEM SCHEMATIC RISER DIAGRAM

FIRE ALARM SYSTEM TAGGED NOTES:

1. WIRING BETWEEN MULTIPLEX AND D/A ZONE MODULES TO BE #16 TWISTED SHIELDED PAIR. VERIFY EXACT WIRING REQUIREMENTS WITH MANUFACTURER PRIOR TO BID, AND INSTALL ACCORDING TO SHOP DRAWING REQUIREMENTS. IF VOLTAGE DROP WILL BE EXCESSIVE WITH #14 WIRE TO DEVICES, INCREASE WIRE SIZE TO MAINTAIN NO GREATER THAN 3% TOTAL DROP.
2. ZONE AND ANNUNCIATE ALL INDIVIDUAL FIRE ALARM DEVICES, AS WELL AS ALL AUXILIARY FUNCTIONS AT EACH ANNUNCIATOR.

ZONE AND ANNUNCIATE ALL INDIVIDUAL FIREALARM DEVICES, AS WELL AS ALL AUXILIARY FUNCTIONS AT EACH ANNUNCIATOR.

FIRE ALARM SYSTEM RISER DIAGRAM GENERAL NOTES:

A. WIRE SIZING SELECTIONS FOR AUDIBLE/VISUAL UNITS SHALL BE CALCULATED AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

B. RISER DIAGRAM FOR FIRE ALARM SYSTEM IS FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM MANUFACTURER, AND THAT HAVE BEEN APPROVED BY THE STATE FIRE MARSHAL'S OFFICE OR THE LOCAL AUTHORITY HAVING JURISDICTION, AS APPLICABLE.

C. AUTOMATIC FIRE ALARM DETECTORS SHALL BE LOCATED SO AS TO PREVENT SHIELDING BY DUCTWORK, EQUIPMENT AND PIPING ON CEILING. SPACING BETWEEN DETECTORS SHALL BE IN ACCORD WITH MANUFACTURER'S RECOMMENDATIONS, IN ANY CASE. ADDITIONAL DETECTORS SHALL BE PROVIDED IF NEEDED TO INSURE COMPLETE COVERAGE OF THE INDICATED SPACE.

D. END-OF-LINE-RESISTOR (IF REQUIRED BY MANUFACTURER) BOXES SHALL BE 4" SQUARE AND SHALL BE FLUSH-MOUNTED IN ALL FINISHED AREAS, WITH RED LABELED PLATE.

E. ALL CONDUIT IN FIRE ALARM SYSTEM SHALL BE 3/4" SIZE EXCEPT AS OTHERWISE NOTED. PROVIDE LARGER IF REQUIRED TO MAINTAIN CONDUCTORS AT 40% MAXIMUM FILL.

F. FIRE ALARM MANUAL STATIONS SHALL BE DOUBLE-ACTION TYPE, POSITIVE VISUAL INDICATION OF OPERATION, KEY RESET, ALL KEYED ALIKE.

G. FIRE ALARM SIGNALING DEVICES SHALL BE SEMI-FLUSH TYPE AUDIBLE, WITH FLASHING LAMP MOUNTED ON SAME PLATE. SURFACE-MOUNTED UNITS MAY BE USED IN UNFINISHED AREAS.

H. NO SMOKE DETECTORS SHALL BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS, NOR CLOSER THAN 12" TO WALL/CEILING INTERSECTIONS.

I. AVOID PLACEMENT OF HEAT DETECTORS CLOSE TO HEAT-PRODUCING EQUIPMENT WHERE RATE-OF-RISE WILL DEGRADE DETECTOR PERFORMANCE OR PRODUCE NUISANCE ALARMS. USE FIXED TEMPERATURE (165 DEG F TO 190 DEG F) DEVICES IN SUCH AREAS.

J. THE SENSITIVITY OF SMOKE DETECTORS SHALL BE ADJUSTED FOR THE SERVICE DUTY IN THE AREA INDICATED, TO SUIT BUILDING OPERATIONAL CONDITIONS.

K. VERIFY THAT THE FINAL ROOM NAME AND NUMBERING SCHEME USED FOR ENUNCIATOR LEGENDS IS IN ACCORD WITH THE ACTUAL ROOM NAMES AND NUMBERS FINALLY CHOSEN BY THE OWNER.

L. ALL ENUNCIATOR LEGEND WORDING AND/OR ALPHANUMERIC DISPLAY LEGENDS SHALL BE APPROVED BY THE ENGINEER, OWNER AND LOCAL FIRE DEPARTMENT AUTHORITY, AS APPLICABLE. SUBMIT THIS INFORMATION WITH SHOP DRAWINGS.

M. TO PROVIDE FOR MAXIMUM FLEXIBILITY IN INITIAL SYSTEM SET-UP, ZONE ARRANGEMENTS, OPERATOR CODE PATTERNS, ETC., THE SYSTEM SUPPLIER SHALL PROVIDE INITIAL PROGRAMMING OF SYSTEM IN ACCORD WITH THE OWNER'S DIRECTION ON SYSTEM CONFIGURATION. THE SUPPLIER SHALL ALSO ANTICIPATE THE NEED FOR SYSTEM REPROGRAMMING IN HIS BID TO MODIFY THE SYSTEM AS NEEDED TO SUIT CHANGING REQUIREMENTS UP TO THE TIME OF SUBSTANTIAL COMPLETION WITHOUT ADDITIONAL COST TO THE OWNER.

N. THE ENTIRE FIRE ALARM SYSTEM INSTALLATION SHALL BE IN FULL ACCORD WITH THE CURRENT EDITION OF THE AMERICANS WITH DISABILITIES ACT AND ALL OTHER APPLICABLE CODES.

O. PROVIDE ONE YEAR OF FIRE ALARM SYSTEM MONITORING BY A U.L. APPROVED CENTRAL MONITORING SERVICE.

P. PROVIDE LIGHTNING ARRESTORS ON ALL EXTERIOR FIRE ALARM SIGNAL CIRCUITS.

Q. FIRE ALARM SUPPLIER SHALL PREPARE PLANS, SPECS., & SHOP DRAWINGS TO MEET REQUIRED LIFE SAFETY CODES & SUBMIT TO AUTHORITY HAVING JURISDICTION FOR APPROVAL BEFORE BEGINNING ANY ROUGH-IN WORK OF THE FIRE ALARM SYSTEM.

R. FIRE ALARM SUPPLIER SHALL SUBMIT WITH CAD FILE "APPROVED" FIRE ALARM SUBMITTAL, ALONG INDICATING LOCATIONS & WIRING CONNECTIONS TO ALL COMPONENTS OF THE SYSTEM, INCLUDING SPRINKLER RISER MONITORING DEVICES. FIRE ALARM VENDOR SHALL PROVIDE CERTIFICATION OF THE COMPLETED, INSTALLED SYSTEM BY A "CERTIFIED FIRE ALARM INSPECTOR" LICENSED BY THE COMMON WEALTH OF KENTUCKY.

FIRE ALARM DETAILS

NOT TO SCALE

AFA ENGINEERING, LLC

FIRE ALARM DETAILS

The Seed Academy

Lake Cumberland Regional AgriTech Center

Russell Springs, Kentucky

DATE	REVISION	BY

PROJECT NO.	2078-34
DESIGNED BY	TBW
DRAWN BY	TBW
CHECKED BY	
REVIEWED BY	
DATE	JANUARY 2024
SCALE	AS NOTED

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DRAWING NO.

E-5

SHEET OF