Dayton Independent Schools - Athletic Complex

Bid Package #2

200 Greendevil Lane Dayton, Kentucky 41074

Dayton Independent Schools Board of Education

Mr. Jay Brewer, Superintendent

REH&A ARCHITECTS
ROBERT EHMET HAYES & ASSOCIATES, PLLC
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GEOTECHNOLOGY A UES Company

CARDINAL ENGINEERING LAND SURVEYING

REH&A ARCHITECTS

GOP Limited Structural Engineers

KLH ENGINEERS

Vicinity Map

General Notes

1. Dimensions listed shall take precedence over scaled dimensions. If a dimension isn't shown, please ask architect to provide and make no assumptions.

2. Contractor shall be responsible for coordinating all trades to avoid wall mounted items such as fire strobes/markerboards, etc.

3. Openings such as conduits, ductwork, etc. in fire-rated walls, floors shall be sealed/filled with approved UL listed materials to maintain the fire-rating of the wall.

4. All full height metal stud partitions shall have deflection tracks.

5. All partitions shall go full height to underside of metal deck unless noted otherwise.

6. See Structural Drawings for full extent of bond beams, reinforcing, etc.

7. Not used

8. Contractors shall coordinate all recessed electrical/CT boxes to ensure none of them are back-to-back but rather offset to ensure little sound transmittance as possible.

9. All work shall conform to the 2015 International Building Code, 2018 Kentucky Building Code & ANSI a117.1 accessibility code.

10. The word "Typical" applies in all similar cases unless otherwise noted.

11. Any thru-roof penetrations (ductwork, vents, etc.) shall have spray-foam installed around the perimeter to ensure no air leakage.

12. It's the masons responsibility to provide all lintels for HVAC ductwork.

13. All exposed steel, mechanical ductwork, electrical conduits, etc. shall be painted. No painting shall be required in the mechanical mezzanine.

14. All control joints, window perimeters, etc. shall have joint sealants applied to both sides. This includes any area above ceilings so ensure the entire joint is sealed up to the structure.

15. The contractor shall be responsible for furnishing and installing all blocking, bracings, etc. for items such as casework, curtains, wall mounted items, etc. Blocking material shall be fire retardant blocking.

16. Contractor has the option to provide non abuse-resistant drywall once above the acoustical ceiling instead of abuse-resistant drywall on the entire wall.

17. No work of this project shall affect any existing roof warranties.

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MECHANICAL

ELECTRICAL

Code Notes

The project consists of a new sports complex that includes an outdoor synthetic sports field, aluminum grandstands, free-standing concession/restroom building, fieldhouse/ fitness center, pressbox, ticket building, outdoor plaza, sports lighting, etc.

Use Groups:
Aluminum Grandstands - Assembly Group 5 (A-5)
Restroom/Concession Building - ??
Fitness Center/Fieldhouse - Assembly Group 3 (A-3)

General Building Heights and Areas
Restroom/Concession Building - 2,400 Square Feet
Fitness Center/Fieldhouse - 11,520 Square Feet
Pressbox - 425 Square Feet
Buildings is non-sprinklered and single story
Construction Type IIA

Fire-Resistant Ratings
Per Table 602, the exterior walls at the sides and rear of building facing the grandstands shall have a one-hour rating since it's less than 5'-0" away from the grandstands. The roof assembly shall also have a one-hour rating. The exterior of the pressbox is not rated.

Legend / Symbols

- CMU Walls
- CMU wall with brick veneer
- Metal stud/drywall partitions
- Aluminum windows
- Indicates elevation. Bottom number is the sheet on which elevation is drawn
- Indicates section. Bottom number is the sheet on which section is drawn
- Indicates enlarged detail or plan. Bottom number is the sheet on which detail is drawn
- Mech 700 — Room title, Room number
- Control Joint
- FE — Fire extinguisher with cabinet
- 614 — Door Number Notation: see Schedules on Sheet ?
- D — Window Type See Sheet ?

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SHEET TITLE
TITLE SHEET

BG # 23-538
REH # 168-523
DATE 1/24/24

TS

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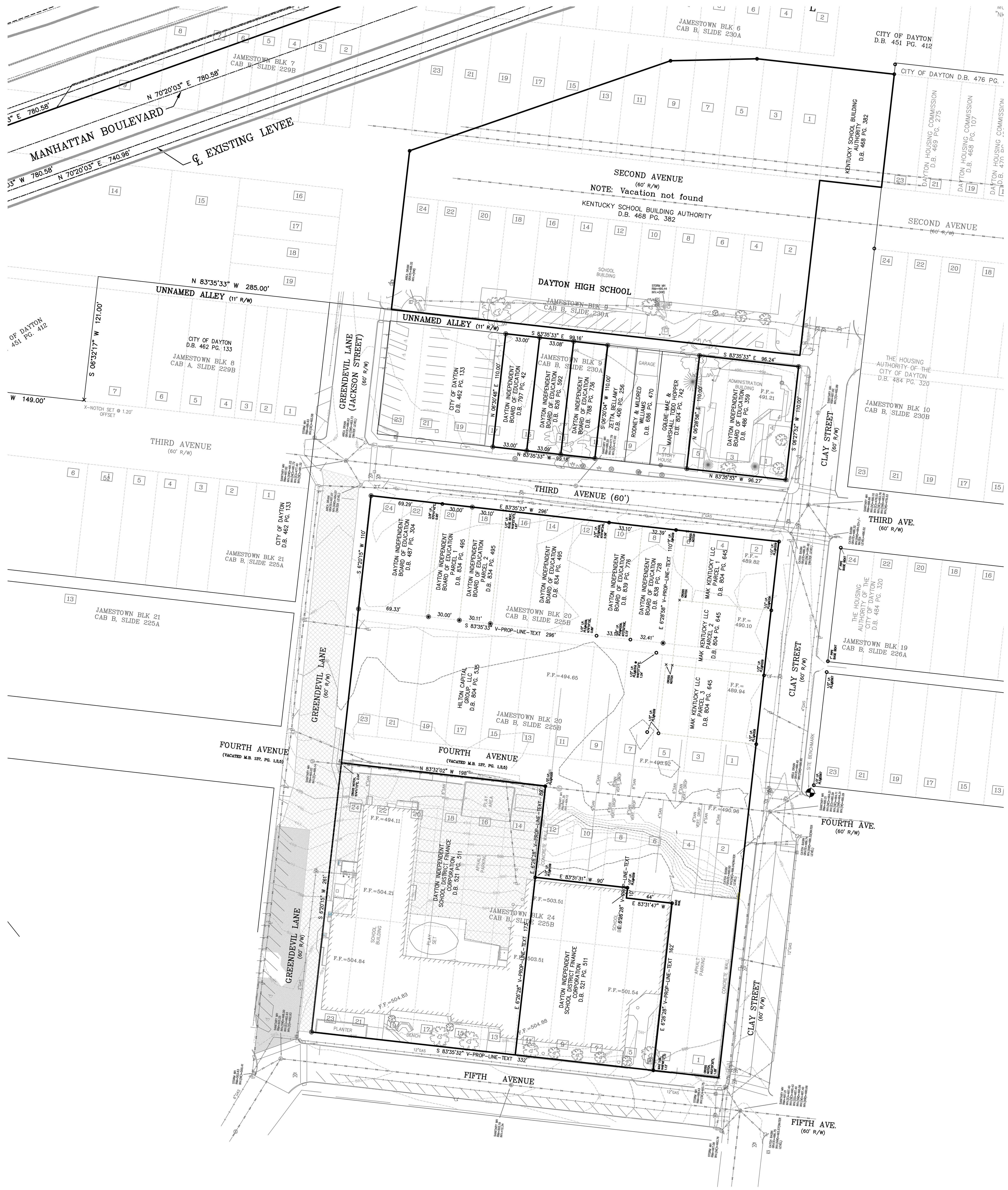
SURVEY NOTES:

1. CONTOURS ARE ACCURATE TO PLUS OR MINUS ONE HALF THE CONTOUR INTERVAL.
2. SURVEY INFORMATION IS PER A FIELD SURVEY BY CARDINAL ENGINEERING ON DECEMBER 28, 2022 AND THE POST DEMOLITION TOPOGRAPHIC SURVEY DATED DECEMBER 18, 2023.
3. SITE BENCHMARK IS A CROSS NOTCH SET IN THE CONCRETE SIDEWALK AT THE SOUTHEAST CORNER OF THE INTERSECTION OF WINSTON ROAD AND EAST 39TH STREET. ELEVATION = 535.62
4. VERTICAL DATUM IS BASED ON NAVD 88.



Dayton Independent Schools - Athletic Complex
200 Greendevil Lane, Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123

REH# 168-523

DATE 11-15-23

EXISTING CONDITIONS
1" = 50'

0 50 100 150

V-100

1/24/2024 2:22 PM H:\SDSKPROJ\2022\22-123\PLANS\SITE DEVELOPMENT PLANS\CD\22-123 REH Dayton Indep Schls_CD.dwg

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKEOUT/LAYOUT.
2. VERIFY EXISTENCE AND LOCATION OF ALL UTILITIES BEFORE STARTING CONSTRUCTION. INFORM OWNER OF ANY DISCREPANCIES.
3. CONTRACTOR TO VISIT SITE & BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.
4. APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO BREAKING GROUND FOR THE PURPOSE OF VERIFYING BY FIELD INSPECTION THE EXACT LOCATION OF UNDERGROUND UTILITIES.
5. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE, AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SANITATION DISTRICT NO. 1'S BEST MANAGEMENT PRACTICES.
6. ALL UNDERGROUND UTILITIES MUST BE INSTALLED PRIOR TO INSTALLATION OF PAVEMENT AND CURB AND GUTTER.
7. CLSM (CONTROLLED LOW STRENGTH MORTAR) SHALL BE PER KYTC SPECIFICATIONS.
8. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH OWNER. PROVIDE BARRICADES, LIGHTING, SIGNS & MARKERS AS REQUIRED TO PROTECT VEHICULAR & PEDESTRIAN TRAFFIC. MAINTAIN FACILITY SECURITY AS DIRECTED BY OWNER.
9. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
10. BOUNDARY INFORMATION BASED ON A SURVEY PREPARED BY VIOX AND VIOX (1985).
11. TOPOGRAPHIC INFORMATION BASED ON A FIELD SURVEY PERFORMED BY CARDINAL ENGINEERING CORPORATION/GIS INFORMATION.

GEOTECHNICAL NOTES

1. THE CONTRACTOR SHALL ADHERE TO ALL GEOTECHNICAL ENGINEER'S RECOMMENDATIONS CONTAINED IN THE GEOTECHNOLOGY REPORT DATED xx/xx/xxxx.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EMPLOY TRENCHING, SHORING, BACKFILLING, AND GENERAL CONSTRUCTION METHODS AS NECESSARY TO PREVENT DAMAGE TO PROPERTY, PAVEMENT, STRUCTURES, AND INFRASTRUCTURE ADJACENT TO THE SITE. UNBACKFILLED TRENCH LENGTHS SHALL BE KEPT TO A MINIMUM AND/OR SHORING SHOULD BE EMPLOYED AS NEEDED TO PREVENT SOIL MOVEMENTS ADJACENT TO UNBACKFILLED TRENCHES. ALL BEDDING AND GRANULAR BACKFILL MATERIAL SHALL BE COMPACTED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

OSHA NOTE

1. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA): IT SHALL BE THE FULL AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO MEET AND COMPLY WITH SAFETY REQUIREMENTS AND REGULATIONS AS ESTABLISHED BY OSHA OR ANY OTHER REGULATORY BODY. THE OWNER AND ENGINEER WILL NOT PERFORM ANY SAFETY COMPLIANCE INSPECTIONS, AS THE CONTRACTOR HAS ACCEPTED FULL AND COMPLETE RESPONSIBILITY FOR PERFORMING SUCH INSPECTIONS FOR COMPLIANCE TO THE REGULATIONS. THE CONTRACTOR SHALL INDEMNIFY AND PROTECT AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY LOSS, EXPENSE, FINE, DAMAGE, OR SUIT, INCLUDING ATTORNEY'S FEES, ARISING OUT OF ANY SAFETY VIOLATION SUITS BROUGHT BY INJURED PERSONS AND/OR FINES LEVIED BY OSHA OR ANY OTHER REGULATORY BODY, AS A RESULT OF THE CONTRACTOR'S WORK.

DEMOLITION/ABANDONMENT NOTES

1. DO NOT BEGIN DEMOLITION WORK IN ANY AREA UNTIL OWNER HAS REMOVED ALL EQUIPMENT AND OTHER APPURTENANCES NOT INCLUDED IN THE SCOPE OF WORK.
2. CONDUCT OPERATIONS IN CONFORMANCE WITH ALL RULES, ORDINANCES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
3. PROVIDE TEMPORARY BARRICADES AND OTHER FORMS OF PROTECTION REQUIRED TO PROTECT OWNER'S PERSONNEL AND GENERAL PUBLIC DURING SELECTIVE DEMOLITION WORK EMPLOY POSITIVE METHODS TO PREVENT DUST AND DIRT FROM RISING INTO AIR.
4. PROVIDE INTERIOR AND EXTERIOR SHORING, BRACING OR SUPPORT TO PREVENT DAMAGE TO PERSONS AND PROPERTY FROM MOVEMENT AND SETTLEMENT OR COLLAPSE.
5. MAINTAIN ALL UTILITIES AND RELATED ITEMS INDICATED TO REMAIN AND PROTECT AGAINST DAMAGE; DURING DEMOLITION OPERATIONS. REMOVE, CAP, ABANDON AND/OR DISCONNECT ALL UTILITIES AS INDICATED. SEQUENCE WORK AS REQUIRED TO MAINTAIN OWNER'S OPERATIONS. DO NOT DISRUPT ANY UTILITY SERVICE WITHOUT 48 HOUR NOTICE TO, AND PRIOR APPROVAL FROM OWNER.
6. CONTRACTOR SHALL COORDINATE ALL UTILITY RELOCATIONS, REMOVALS/ABANDONMENTS, SHUTDOWNS, DISCONNECTS, AND RECONNECTS WITH THE APPROPRIATE UTILITY AGENCY AND THE OWNER PRIOR TO COMMENCING WORK.
6. EXERCISE CARE TO PREVENT DAMAGING EXISTING UTILITIES, STRUCTURES, AND FINISHES TO REMAIN. REPAIR ANY DAMAGED ITEMS TO THE SATISFACTION OF OWNER.
7. COMPLETELY FILL BELOW GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION WORK.
8. PROVIDE SATISFACTORY SOIL MATERIAL AND COMPACTION AS APPROVED BY OWNER'S TESTING AND INSPECTION SERVICE.
9. REMOVE DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS FROM THE PROJECT SITE.
10. ANY POSTS, POLES, WALLS, ETC INCLUDES REMOVAL OF FOOTINGS BELOW GRADE.
11. PROPERLY COORDINATE ALL GAS SERVICE REMOVALS/SHUTOFFS WITH DUKE ENERGY.
12. PIPE ABANDONMENT UNDER NON-PAVED ROADWAYS SHALL BE AS OUTLINED IN SD1 STANDARD DETAIL NO. 107 (SD-107). ENDS OF PIPE SHALL BE FILLED WITH MINIMUM OF 1' OF CONCRETE.
13. PIPE ABANDONMENT UNDER PAVED ROADWAYS SHALL CONSIST OF COMPLETELY FILLING THE DESIGNATED PIPES WITH CONTROLLED DENSITY FILL (CDF), GROUT OR OTHER APPROVED MATERIALS. APPRECIABLE DEPOSITS OF DEBRIS SHALL BE REMOVED FROM OTHER PIPES PRIOR TO PLACEMENT OF CDF, GROUT, OR OTHER APPROVED MATERIALS. PIPES UNDER ROADWAYS SHALL BE FILLED COMPLETELY.
14. STRUCTURE ABANDONMENT SHALL BE PER SD1 STANDARD DRAWINGS AND CONSIST OF REMOVING STRUCTURE FRAMES, COVERS, GRATES, CONE SECTION OF MANHOLES, AND SIMILAR ITEMS. ALL CONNECTING PIPES SHALL BE BULK HEADED. THE WALLS SHALL BE LOWERED TO 2 FEET BELOW FINAL GRADE IF IN EARTH OR TO 12 INCHES BELOW SUBGRADE IF IN PAVEMENT. THE REMAINING STRUCTURE SHALL BE FILLED WITH CRUSHED STONE OR SAND COMPACTED TO MATCH ALL BACKFILL REQUIREMENTS HERE-IN OR SHALL BE FILLED WITH CONTROLLED DENSITY FILL.

PROHIBITED CONSTRUCTION ACTIVITIES:

1. INDISCRIMINATE OR ARBITRARY OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY SURFACE WATER, OR OUTSIDE THE EASEMENT LIMITS IS PROHIBITED.
2. CLEAR CUTTING. CLEARING AND GRUBBING SHALL BE PHASED TO MAINTAIN COVER UNTIL ACTUAL CONSTRUCTION HAS PROGRESSED TO THE AREA. IN PARTICULAR, CLEARING TO ALLOW PIPE STRINGING MORE THAN 500 FEET IN ADVANCE OF INSTALLATION IS NOT PERMITTED.
3. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATION DIRECTLY INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, OR STORM SEWERS IS PROHIBITED; ALL SUCH WATER SHALL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO DISCHARGING INTO ANY DRAIN OR WATERCOURSE.

STORM WATER POLLUTION PREVENTION PLAN NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING BORROW MATERIAL ONSITE AND/OR DISPOSING OF EXCESS EXCAVATED MATERIAL OFF SITE AS REQUIRED TO MEET INDICATED DESIGN ELEVATIONS.
2. COMPACTION REQUIREMENTS, FILL AND BACKFILL, AND GENERAL EARTHWORK/GRADING REQUIREMENTS ARE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
3. ALL EROSION AND SEDIMENTATION CONTROL SHALL BE PERFORMED AS SHOWN ON THE PLANS, AND SHALL BE IN COMPLIANCE WITH THE CURRENT SD1 BEST MANAGEMENT PRACTICES & "NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM" RULES AND REGULATIONS.
4. A COPY OF THE "STORM WATER POLLUTION PREVENTION PLAN" (SWPPP), A COPY OF THE "NOTICE OF INTENT" (NOI), AND A COPY THE SD1 LAND DISTURBANCE PERMIT SHALL BE KEPT ON-SITE.
5. AN AMENDMENT OF THE SWPPP IS REQUIRED WHENEVER A CHANGE IN DESIGN, CONSTRUCTION, AND OPERATION OR MAINTENANCE HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS, OR IF THE SWPPP PROVES TO BE INEFFECTIVE IN ACHIEVING THE GENERAL OBJECTIVES OF THE SWPPP.
6. THE CONTRACTOR SHALL ALSO MAINTAIN THE FOLLOWING RECORDS ON-SITE:
   - A. GENERAL CONTRACTOR AND/OR SUBCONTRACTOR SWPPP CERTIFICATIONS.
   - B. THE DATE, TIME, AND EXACT LOCATION OF THE INSPECTION, AND THE NAME OF THE INSPECTOR.
   - C. AN ASSESSMENT OF THE CONDITION OF THE EROSION CONTROLS.
   - D. A DESCRIPTION OF ANY EROSION CONTROL IMPLEMENTATION AND MAINTENANCE PERFORMED.
   - E. A DESCRIPTION OF THE PRESENT PHASE OF CONSTRUCTION AT THE SITE.
7. A SILT BARRIER FENCE SHALL BE PLACED AROUND THE DOWNSTREAM PERIMETER OF THE SITE AS SHOWN ON THE PLANS. SEE SILT FENCE DETAIL. SEDIMENT CONTROL STRUCTURES SHALL BE FUNCTIONAL AT THE END OF EACH DAY AND SHALL BE INSPECTED WEEKLY OR WITHIN 24 HOURS AFTER A STORM EVENT. WHERE THEY ARE INTENDED TO PROVIDE SEDIMENT CONTROL SILT FENCES MUST BE PLACED ON LEVEL CONTOUR.
8. PERIMETER SEDIMENT BARRIERS SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING WITHIN SEVEN (7) DAYS FROM THE START OF CLEARING AND GRUBBING, AND SHALL CONTINUE TO FUNCTION UNTIL THE SLOPE DEVELOPMENT AREA IS RESTABILIZED.
9. SOIL DISTURBING ACTIVITIES WILL INCLUDE: (1) CLEARING AND GRUBBING; (2) PERIMETER AND OTHER EROSION/SEDIMENT CONTROL MEASURES; (3) GRADING AS SHOWN ON THE PLANS.
10. THE ORDER OF ACTIVITIES WILL BE: (1) CLEAR AND GRUB PROPOSED CONSTRUCTION AREA; (2) INSTALL SILT FENCING AS INDICATED ON THE SITE PLAN; (3) GRADING OPERATIONS.
11. TEMPORARY SOIL STABILIZATION OF DISTURBED AREAS AND TEMPORARY SEEDING SHALL BE COMPLETED PER THE CURRENT SD1 BEST MANAGEMENT PRACTICES.
12. THE FOLLOWING ARE THE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE REQUIRED OF THE CONTRACTOR. THE FOLLOWING WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS: (1) ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT (2) ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT; (3) BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE; (4) SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND; (5) TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH; (6) INSPECTION REPORTS TO BE CREATED BY THE CONTRACTOR AND SENT TO SD1 ON A MONTHLY BASIS.
13. PETROLEUM PRODUCTS
   - A. ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCES OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS, WHICH ARE CLEARLY LABELED. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED AND SHALL BE PREPARED BY THE PROVIDED BY THE CONTRACTOR IF FOR ONE SINGLE ABOVEGROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVEGROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. SOILS THAT HAVE BECOME CONTAMINATED MUST BE DISPOSED OF PROPERLY.
   - B. ANY ASPHALT SUBSTANCES USED ON-SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
14. FERTILIZERS
   - A. FERTILIZERS USED WILL ONLY BE APPLIED IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE OF SAID FERTILIZER WILL BE COMPLETELY COVERED. THE CONTENTS OF ANY PARTIALLY USED BAGS OR CONTAINERS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC CONTAINER TO AVOID SPILLS.
15. DEBRIS
   - A. DEBRIS SHALL BE COLLECTED WITHIN PROPERTY LIMITS WEEKLY OR AS NEEDED FOR PUBLIC SAFETY. SURROUNDING STREETS AFFECTED BY THE CONSTRUCTION SHALL BE CLEANED DAILY OR AS NEEDED FOR PUBLIC SAFETY.
16. CONSTRUCTION ENTRANCE
   - A. THE CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED PER THE DETAIL AND MAINTAINED.
17. BEST MANAGEMENT PRACTICES
   - A. BEST MANAGEMENT PRACTICES (BMPs) AS PRESENTED IN THE CURRENT SD1 BEST MANAGEMENT PRACTICES MANUAL SHALL BE FOLLOWED ON THE SITE AT ALL TIMES. A COPY OF THIS MANUAL SHALL BY ONSITE AT ALL TIMES.
18. TRAFFIC CONTROL
   - A. THE CONTRACTOR IS REQUIRED TO PROVIDE TRAFFIC CONTROL FOR THE EXPORTING OF MATERIAL FROM THE SITE.
19. KENTUCKY KPDES NOTICE OF INTENT
   - A. THE OWNER HAS FILED A "NOTICE OF INTENT" WITH THE KENTUCKY EPA'S OFFICE PRIOR TO CONSTRUCTION.

SITE CONCRETE

1. ALL SITE CONCRETE (OUTSIDE THE BUILDINGS) SHALL BE CONCRETE FOR PAVEMENT: 4000 PSI AT 28 DAYS, 6% +/- 1% ENTRAINED AIR, 4" MAX. SLUMP, MAX. WATER TO CEMENT RATIO = 0.45, 5-1/2 BAG MIX.
2. FIELD QUALIIY CONTROL:
   - A. TESTING AGENCY: OWNER WILL ENGAGE A QUALIFIED TESING AND INSPECTION AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONCRETE PLACEMENT. SAMPLING AND TESTING FOR QUALIIY CONTROL MAY INCLUDE THOSE SPECIFIED IN THIS ARTICLE. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE TESTING AGENCY 24 HOURS PRIOR TO STARTING WORK REQUIRING MATERIAL TESTING. FAILURE TO PROVIDE PROPER NOTIFICATION AS PER ABOVE WILL REQUIRE THE CONTRACTOR TO STOP WORK UNTIL PROPER ARRANGEMENTS HAVE BEEN MADE WITH THE TESTING AGENCY.
   - B. TESTING SERVICES: TESTING SHALL BE PERFORMED ACCORDING TO THE FOLLOWING REQUIREMENTS:
     - a. SAMPLING FRESH CONCRETE: REPRESENTATIVE SAMPLES OF FRESH CONCRETE SHALL BE OBTAINED ACCORDING TO ASTM C 172, EXCEPT MODIFIED FOR SLUMP TO COMPLY WITH ASTM C 94.
     - b. SLUMP: ASTM C 143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPRESSIVE-STRENGTH TEST, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH TYPE OF CONCRETE. ADDITIONAL TESTS WILL BE REQUIRED WHEN CONCRETE CONSISTENCY CHANGES.
     - c. AIR CONTENT: ASTM, C 231. PRESSURE METHOD; ONE TEST FOR EACH COMPRESSIVE-STRENGTH TEST, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH IYPE OF AIR-ENTRAINED CONCRETE.
     - d. COMPRESSIVE TEST SPECIMENS: ASTM C 31/C 31 M; ONE SET OF FIVE STANDARD CYLINDERS FOR EACH COMPRESSIVE-STRENGTH TEST, UNLESS OTHERWISE INDICATED. CYLINDERS SHALL BE MOLDED AND STORED FOR LABORATORY-CURED TEST SPECIMENTS UNLESS FIELD-CURED TEST SPECIMENS ARE REQUIRED.
     - e. COMPRESSIVE-STRENGTH TEST: ASTM C 39; ONE SET FOR EVERY 50 CUBIC YARDS OF CONCRETE WITH A MINIMUM OF ONE SET FOR EACH CASTING OF CON RETE, NO MATTER WHAT THE SIZE. TWO SPECIMENS SHALL BE TESTED AT 7 DAYS AND TWO SPECIMENS AT 28 DAYS; ONE SPECIMEN SHALL BE RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED.
     - f. STRENGTH LEVEL OF CONCRETE WILL BE CONSIDERED SATISFACTORY IF AVERAGES OF SETS OF THREE CONSECUTIVE COMPRESSIVE-STRENGTH TEST RESULTS EQUAL OR EXCEED SPECIFIED COMPRESSIVE STRENGTH AND NO INDIVIDUAL COMPRESSIVE-STRENGTH TEST RESULT FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI (3.4 MPA).
   - C. TEST RESULTS SHALL BE REPORTED IN WRITING TO OWNER, CONCRETE MANUFACTURER, AND CONTRACTOR WITHIN 24 HOURS OF TESTING. REPORTS OF COMPRESSIVE-STRENGTH TESTS SHALL CONTAIN PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AGENCY, CONCRETE IYPE AND CLASS, LOCATION OF CONCRETE BATCH IN PAVEMENT, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND IYPE OF BREAK FOR BOTH 7 AND 28DAY TESTS.
   - D. NONDESTRUCTIVE TESTING: IMPACT HAMMER, SONOSCOPE, OR OTHER NONDESTRUCTIVE DEVICE MAY BE PERMITTED BY ARCHITECT BUT WILL NOT BE USED AS THE SOLE BASIS FOR APPROVAL OR REJECTION.
   - E. ADDITIONAL TESTS: TESTING AGENCY SHALL MAKE ADDITIONAL TESTS OF THE CONCRETE WHEN TEST RESULTS INDICATE SLUMP, AIR ENTRAINMENT, CONCRETE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ARCHITECT. TESTING AGENCY MAY CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C 42, OR BY OTHER METHODS AS DIRECTED. ADDITIONAL TESTING WILL BE AT THE CONTRACTOR'S EXPENSE.

EARTHWORK AND GRADING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR PROVIDING BORROW MATERIAL & DISPOSING OF EXCESS EXCAVATED MATERIAL AS REQUIRED TO MEET INDICATED DESIGN ELEVATIONS.
2. EMPLOY A POSITIVE METHOD TO PREVENT MUD & DEBRIS FROM BEING DEPOSITED ON PUBLIC STREETS & OWNER'S PROPERTY ADJACENT TO CONSTRUCTION AREA.
3. PERFORM WORK IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
4. LOCATE EXISTING UNDERGROUND UTILITIES. PROVIDE ADEQUATE SUPPORT AND PROTECTION DURING EARTHWORK OPERATIONS. REPAIR DAMAGED UTILITIES TO SATISFACTION OF UTILITY OWNER. NOTIFY UTILITY OWNER OF ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES IF ENCOUNTERED DURING EXCAVATION.
5. REMOVE TREES, GRASS, OTHER VEGETATION, EXISTING ABOVE AND BELOW GRADE IMPROVEMENTS AND OTHER OBSTRUCTIONS INTERFERING WITH PROPOSED CONSTRUCTION. PROTECT UTILITIES, PAVEMENTS, AND OTHER STRUCTURES TO REMAIN FROM DAMAGE CAUSED BY SETTLEMENT, UNDERMINING AND OTHER HAZARDS CREATED BY EARTHWORK OPERATIONS.
6. STRIP TOPSOIL TO DEPTHS ENCOUNTERED PREVENTING INTERMINGLING WITH UNDERLYING SUBSOIL.
7. EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO INDICATED SUBGRADE ELEVATIONS, REGARDLESS OF CHARACTER OF MATERIALS AND OBSTRUCTIONS ENCOUNTERED.
8. BARRICADE OPEN EXCAVATIONS AND POST WITH WARNING LIGHTS. SLOPE SIDES OF EXCAVATIONS TO COMPLY WITH LOCAL CODES, ORDINANCES AND REQUIREMENTS OF AGENCIES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE DUE TO SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED.
9. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS OR ON PREPARED SUBGRADES.
10. PROOFROLL AREAS TO RECEIVE FILL. RECOMPACT OR UNDERCUT & REPLACE ANY SOFT OR YIELDING AREAS PRIOR TOPLACING FILL. DO NOT PLACE FILL ON SUBGRADES THAT ARE MUDDY, FROZEN OR REQUIRING ADDITIONAL COMPACTION. REFER TO THE GEOTECHNICAL REPORT FOR COMPLETE REQUIREMENTS.
11. PLACE FILL AND BACKFILL MATERIALS EVENLY ADJACENT TO STRUCTURES, PIPING AND CONDUITS TO PREVENT WEDGING ACTION.
12. USE GRANULAR BACKFILL BENEATH ALL FLOOR SLABS, PAVEMENTS AND OTHER SLAB ON GRADE CONSTRUCTIONS.
13. GRADE AREAS ADJACENT TO BUILDINGS TO DRAIN AWAY FROM STRUCTURES AND TO PREVENT PONDING. FINISH SURFACES FREE FROM IRREGULAR SURFACE CHANGES MEETING INDICATED SUBGRADE AND FINISH GRADE ELEVATIONS.
14. PROVIDE AND MAINTAIN EROSION CONTROL METHODS IN ACCORDANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
15. REMOVE WASTE MATERIALS AND EXCESS EXCAVATED MATERIAL, UNSATISFACTORY SOIL MATERIAL, TRASH AND DEBRIS AND DISPOSE OF IT OFF OWNER'S PROPERTY.
16. COMPACTION: AS REQUIRED BY THE GEOTECHNICAL REPORT.

TOPSOIL, SEEDING, MULCHING, AND FERTILIZING

1. ALL AREAS THAT ARE DISTURBED WITHIN THE LIMITS OF CONSTRUCTION THAT ARE NOT PAVED OR LANDSCAPED SHOULD BE SEEDED AND STRAWED.

WATER DISTRIBUTION (FIRE AND DOMESTIC) NOTES:

QUALITY ASSURANCE

1. REGULATORY REQUIREMENTS:
   - A. COMPLY WITH REQUIRMENTS OF NORTHERN KENTUCKY WATER DISTRICT (NKWD). INCLUDE TAPPING OF WATER MAINS AND BACKFLOW PREVENTION. CERTIFIED AND BONDED PLUMBER TO MAKE APPLICATION TO CWW AND BE RESPONSIBLE.
   - B. COMPLY WITH STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR POTABLE WATER-SERVICE PIPING, INCLUDING MATERIALS, INSTALLATION, TESTING, AND DISINFECTION.
   - C. COMPLY WITH STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR FIRESUPRESSION WATER-SERVICE PIPING, INCLUDING MATERIALS, HOSE THREADS, INSTALLATION, AND TESTING.
2. PIPING MATERIALS SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY.
3. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.
4. COMPLY WITH ASTM F 645 FOR SELECTION, DESIGN, AND INSTALLATION OF THERMOPLASTIC WATER PIPING.
5. COMPLY WITH FM'S "APPROVAL GUIDE" OR UL'S "FIRE PROTECTION EQUIPMENT DIRECTORY' FOR FIRE -SERVICE -MAIN PRODUCTS.
6. NFPA COMPLIANCE:
7. COMPLY WITH NFPA 24 FOR MATERIALS, INSTALLATIONS, TESTS, FLUSHING, AND VALVE AND HYDRANT SUPERVISION FOR FIRE-SERVICE-MAIN PIPING FOR FIRE SUPPRESSION.
8. NSF COMPLIANCE:
   - A. COMPLY WITH NSF 14 FOR PLASTIC POTABLE -WATER-SERVICE PIPING.
   - B. COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
9. PIPE AND FITTINGS
   - A. DOMESTIC PIPING
     - a. 2" COPPER TUBE, TYPE K WITH FLARED TUBE, CAST COPPER FITTINGS
   - B. FIRE LINE
     - a. SEE FIRE PROTECTION PLANS.
10. PIPE INSTALLATION
   - A. PROVIDE 42 INCH MINIMUM COVER ON ALL PIPING.
11. JOINT CONSTRUCTION
   - A. DISSIMILAR MATERIAL PIPING JOINTS: USE ADAPTOR COMPATIBLE WITH BOTH PIPING MATERIALS, WITH OD, AND WITH SYSTEM WORKING PRESSURE.
12. ANCHORAGE INSTALLATION
   - A. INSTALL ANCHORAGES FOR TEES, PLUGS AND CAPS, BENDS, CROSSES, VALVES, AND HYDRANT BRANCHES. THRUST BLOCKS ARE REQUIRED ON FIRE LINE AT ALL BENDS, TEES, AND HYDRANTS PER NKWD STANDARD DRAWINGS AND SPECIFICATIONS.
   - B. FIRE-SERVICE-MAIN PIPING: ACCORDING TO NFPA 24. APPLY FULL COAT OF ASPHALT OR OTHER ACCEPTABLE CORROSION-RESISTANT MATERIAL TO SURFACES OF INSTALLED FERROUS ANCHORAGE DEVICES.
13. VALVE INSTALLATION
   - A. AWWA GATE VALVES: COMPLY WITH AWWA C600 AND AWWA M44 FOR INSTALLATION AND AWWA C515 FOR MATERAILS. INSTALL EACH UNDERGROUND VALVE WITH STEM POINTING UP AND WITH VALVE BOX.
   - B. UL/FM GATE VALVES: COMPLY WITH NFPA 24. INSTALL EACH UNDERGROUND VALVE AND VALVES IN VAULTS WITH STEM POINTING UP AND WITH VERTICAL CAST-IRON INDICATOR POST.
14. FIRE HYDRANT INSTALLATION
   - A. GENERAL: INSTALL ANY FIRE HYDRANT PROPOSED ON PLAN WITH SEPARATE GATE VALVE IN SUPPLY PIPE, ANCHOR WITH RESTRAINED JOINTS OR THRUST BLOCKS, AND SUPPORT IN UPRIGHT POSITION.
   - B. WET-BARREL FIRE HYDRANTS: INSTALL WITH VALVE BELOW FROST LINE. PROVIDE FOR DRAINAGE.
   - C. AWWA-TYPE FIRE HYDRANTS: COMPLY WITH AWWA M17.
15. FIRE DEPARTMENT CONNECTION INSTALLATION
   - A. INSTALL FIRE DEPARTMENT CONNECTIONS OF TYPES AND FEATURES INDICATED.
16. FIELD QUALITY CONTROL
   - A. PIPING TESTS: CONDUCT PIPING TESTS BEFORE JOINTS ARE COVERED AND AFTER THRUST BLOCKS HAVE HARDENED SUFFICIENTLY. FILL PIPELINE 24 HOURS BEFORE TESTING AND APPLY TEST PRESSURE TO STABILIZE SYSTEM. USE ONLY POTABLE WATER.
   - B. HYDROSTATIC TESTS: TEST AT NOT LESS THAN 1-1/2 TIMES THE WORKING PRESSURE FOR 2 HOURS. THE WORKING PRESSURE IS 165 PSI, TEST AT 248 PSI.
     - INCREASE PRESSURE IN 50-PSIG (350-KPA) INCREMENTS AND INSPECT EACH JOINT BETWEEN INCREMENTS. HOLD AT TEST PRESSURE FOR 1 HOUR; DECREASE TO 0 PSIG (0 KPA). SLOWLY INCREASE AGAIN TO TEST PRESSURE AND HOLD FOR 1 MORE HOUR. MAXIMUM ALLOWABLE LEAKAGE IS 2 QUARTS (1.89 L) PER HOUR PER 100 JOINTS. REMAKE LEAKING JOINTS WITH NEW MATERIALS AND REPEAT TEST UNTIL LEAKAGE IS WITHIN ALLOWED LIMITS.
   - C. PREPARE REPORTS TO TESTING ACTIVITIES.
   - D. HYDROSTATIC TESTS FOR FIRELINES:
     - HYDROSTATICALLY TESTS ALL PIPING AND ATTACHED APPURTENANCES SUBJECT TO SYSTEM WORKING PRESSURE AT 200 PSI AND MAINTAIN PRESSURE, WITHOUT LOSS FOR 2 HOURS.
17. CLEANING
   - A. CLEAN AND DISINFECT WATER-DISTRIBUTION PIPING AS FOLLOWS:
     - PURGE NEW WATER-DISTRIBUTION PIPING SYSTEMS AND PARTS OF EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED USE.
     - USE PURGING AND DISINFECTING PROCEDURE PRESCRIBED BY AUTHORITIES HAVING JURISDICTION OR, IF METHOD IS NOT PRESCRIBED BY AUTHORITIES HAVING JURISDICTION, USE PROCEDURE DESCRIBED IN AWWA C651 OR AS DESCRIBED BELOW:
     - a. FILL SYSTEM OR PART OF SYSTEM WITH WATER/CHLORINE SOLUTION CONTAINING AT LEAST 50 PPM OF CHLORINE; ISOLATE AND ALLOW TO STAND FOR 24 HOURS.
     - b. AFTER STANDING TIME, FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL NO CHLORINE REMAINS IN WATER COMING FROM SYSTEM.
     - c. SUBMIT WATER SAMPLES IN STERILE BOTTLES TO AUTHORITIES HAVING JURISDICTION. REPEAT IF BIOLOGICAL EXAMINATION SHOWS EVIDENCE OF CONTAMINATION.
     - d. PREPARE REPORTS OF PURGING AND DISINFECTING ACTIVITIES.

SANITARY SEWER CONSTRUCTION NOTES:

1. WHEN SPECIFIED ON THE PLANS, SANITARY SEWER PIPE SHALL BE PVC, SDR-35 OR SDR-26.5, WITH GASKETED JOINTS THAT CONFORM TO ASTM D-3034.
2. FLEXIBLE THERMOPLASTIC SEWER PIPE INSTALLATION FOR GRAVITY SEWERS SHALL CONFORM TO ASTM D-2321, LATEST REVISION.
3. WHERE PRECAST MANHOLE SECTIONS ARE REQUIRED, THEY SHALL CONFORM TO ASTM C478, WITH SUCH ADDITIONAL REQUIREMENTS AS MAY BE SET FORTH ON THE PLANS, DETAILS OR SPECIAL PROVISIONS. JOINTS BETWEEN SECTIONS SHALL BE BELL AND SPIGOT OR TONGUE AND GROOVE TYPE WITH O-RING GASKETS CONFORMING TO ASTM C443 OR FLEXIBLE BUTYL RUBBER JOINT SEALANT.
4. BASES FOR STANDARD AND DROP MANHOLES SHALL BE PRECAST, REINFORCED CONCRETE SECTIONS. WALL THICKNESS AND REINFORCING SHALL BE THE SAME AS SPECIFIED FOR MANHOLE BARREL SECTIONS. FLOOR THICKNESS SHALL BE A MINIMUM OF SIX (6) INCHES WITH MESH REINFORCEMENT OF 0.40 SQUARE INCHES PER SQUARE FOOT, BOTH WAYS. CONCRETE SHALL BE A MINIMUM OF THREE THOUSAND FIVE HUNDRED (3,500) PSI CLASS "A". MANHOLE BASES SHALL BE AS MANUFACTURED BY ENCORE, K.O.I, OR APPROVED EQUAL. WHEN PRECAST MANHOLE BASES ARE USED, THE SEWER INVERT AND BENCH SHALL BE POURED SEPARATELY TO THE DIMENSIONS SHOWN ON THE STANDARD DETAIL SHEET. PRECAST BASES SHALL HAVE RUBBER OR NEOPRENE OPENINGS TO RECEIVE THE SEWER PIPE. JOINTS SHALL BE STANDARD MANUFACTURERS PRODUCTS SPECIFICALLY DESIGNED FOR THIS PURPOSE.
5. ALL MANHOLE FRAMES AND COVERS SHALL BE OF CAST IRON, CONFORMING TO ASTM A-48, CLASS 30 OR BETTER. NEENAH FOUNDRY COMPANY R-1733 OR EQUAL, SHALL BE CONSIDERED STANDARD, WITH THE WORDS "SANITARY SEWER" CAST IN ALL COVERS, PLAINLY VISIBLE. IN ADDITION, EACH FRAME SHALL HAVE FOUR (4) ONE (1) INCH DIAMETER HOLES EQUALLY SPACED FOR ATTACHMENT OF THE FRAME TO THE MANHOLE. OTHER TYPES OF FRAMES AND COVERS AND OTHER DETAILS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS. ALL LIDS SHALL BE INTERCHANGEABLE WITH EXISTING FRAMES.
6. WHEN WORKING ON EXISTING SEWERS, THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO EFFECTIVELY HANDLE THE SEWAGE IN THE SEWERS WHILE CONSTRUCTION IS UNDERWAY. WHEN IT IS NECESSARY TO BLOCK AN EXISTING SEWER SECTION FOR ANY REASON OF CONSTRUCTION, THE CONTRACTOR MUST PROVIDE ADEQUATE PUMPING EQUIPMENT TO HANDLE THE SEWAGE FLOW FROM A POINT IMMEDIATELY UPSTREAM OF THE BLOCKED SECTION TO A POINT IMMEDIATELY DOWNSTREAM OF THE BLOCKED SECTION. UNLESS OTHERWISE CALLED FOR, THE POINTS REFERRED TO ABOVE MAY BE MANHOLES.
7. SUBGRADE AND BACKFILL FOR SEWERS SHALL BE COMPACTED TO NOT LESS THAN 98% OF DENSITY DETERMINED FROM THE STANDARD PROCTOR TEST, (ASTM D698).
8. INFILTRATION SHALL NOT EXCEED A RATE OF 200 GALLONS PER DAY PER INCH OF PIPE DIAMETER PER MILE OF SEWER FOR ANY SECTION OF THE SYSTEM.
9. ELEVATIONS SHALL BE AS TABULATED HEREON. THE GEOTECHNICAL ENGINEER SHALL APPROVE ALL PIER DEPTHS, SUBGRADE, COMPACTION, AND BACKFILL.
10. CONSTRUCTION SHALL CONFORM TO AT LEAST THE MINIMUM STANDARDS OF THE SANITATION DISTRICT NO. 1 AND TEN STATES STANDARDS.
11. VACUUM TESTING OF MANHOLES: THE CONTRACTOR SHALL TEST FOR WATER TIGHTNESS OF ALL MANHOLES BY MEANS OF SAID VACUUM TEST. NO TEST SHALL BE PERFORMED UNTIL THE BACKFILL IS PLACED AROUND THE MANHOLE AND THE CASTING IS BOLTED TO THE MANHOLE. THE TEST SHALL INCLUDE THE JOINT BETWEEN THE CASTING AND THE MOUNTING SURFACE. THE VACUUM TEST SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN ASTM C1244-93. ALL MANHOLES ADJUSTED TO GRADE BY EITHER THE ADDITION OR REMOVAL OF MANHOLE SECTIONS OR GRADE RINGS WILL BE TESTED IF REQUIRED BY SANITATION DISTRICT NO. 1. ALL TESTS MUST BE WITNESSED AND APPROVED BY A REPRESENTATIVE OF THE THE SANITATION DISTRICT NO. 1. IT IS RECOGNIZED THAT VACUUM TESTING MAY BE IMPRACTICLE FOR SOME MANHOLES. IN THESE CASES, THE USE OF VACUUM TESTING IS SUBJECT TO LIMITATIONS AND CONSIDERATIONS. MANHOLES BUILT OVER LARGE DIAMETER SEWERS ARE AN EXAMPLE OF THIS SITUATION. MANHOLES EXCEPTED FROM TESTING SHALL BE AT THE SOLE DISCRETION OF THE THE SANITATION DISTRICT NO. 1.
12. AIR TEST: THE CONTRACTOR SHALL TEST THE TIGHTNESS OF THE PIPE SECTIONS, JOINTS, AND APPURTENANCES OF THE SEWER SYSTEM BY MEANS OF THE LOW PRESSURE AIR TEST. THE LOW PRESSURE AIR TEST SHALL BE CONDUCTED IN
13. ACCORDANCE WITH PROCEDURES OUTLINED IN UNIBELL SPECIFICATION UNI B-6. ANY LEAKS DETERMINED FROM THE AIR TEST SHALL BE SEALED BY THE CONTRACTOR TO THE SATISFACTION OF THE SANITATION DISTRICT NO. 1, BY BOTH UNCOVERING THE LEAKS AND CORRECTING SAME OR SEALING BY INTERNAL GROUTING CONTROLLED BY TELEVISION OBSERVATION.
14. SANITATION DISTRICT NO. 1 SHALL INSPECT ALL CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE DISTRICT FOR INSPECTIONS.
15. ALL CONCRETE SHALL BE READY-MIXED, MEETING ASTM C94. ALL REINFORCED CONCRETE CONSTRUCTION, MANHOLES, PIERS, AND OTHER SPECIAL ITEMS CALLED FOR ON THE PLANS SHALL BE CLASS "A" CONCRETE AND HAVE A MINIMUM TWENTY-EIGHT (28) DAY COMPRESSIVE STRENGTH OF 3,500 PSI.
16. THE LOCATION OF BOTH SURFACE AND SUB-SURFACE STRUCTURES AND UTILITIES ARE SHOWN FROM THE SURVEY PERFORMED BY CARDINAL ENGINEERING CORPORATION AT THE TIME OF BIDDING AND MAY NOT NECESSARILY BE COMPLETE OR CORRECT. AT LEAST THREE (3) DAYS PRIOR TO THE START OF ANY CONSTRUCTION OR EARTHMOVING OPERATIONS, THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES BY CONTACTING THE KENTUCKY UNDERGROUND PROTECTION INC. AND ALL OTHER AGENCIES THAT HAVE UNDERGROUND UTILITIES NOT COVERED BY KENTUCKY UNDERGROUND PROTECTION INC.
17. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES FROM DAMAGE, REGARDLESS OF WHETHER THEY ARE SHOWN ON THE PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR IS RESPONSIBLE FOR THE REPAIR AND/OR RESTORATION OF SAME TO THE SATISFACTION OF THE ENGINEER AND THE UTILITY OWNER.
18. BEFORE ORDERING ANY MATERIAL OR PERFORMING ANY WORK, EACH CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AND SHALL BE RESPONSIBLE FOR SAME. NO EXTRA CHARGE WILL BE ALLOWED OR COMPENSATION ALLOWED ON ACCOUNT OF DIFFERENCE TO ACTUAL DIMENSIONS AND THE MEASUREMENTS INDICATED ON THE PLANS AND ANY DIFFERENCE WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE DEVELOPER FOR CORRECTION BEFORE PROCEEDING WITH WORK.
19. AS A RESULT OF SUBMITTING PROPOSALS FOR THIS WORK, EACH BIDDER SHALL BE HELD TO HAVE EXAMINED THE PREMISES AND SATISFIED HIMSELF AS TO THE EXISTING CONDITIONS UNDER WHICH HE WILL OPERATE IN PERFORMING HIS PART OF THE WORK, OR THAT WILL IN ANY MANNER AFFECT THE WORK UNDER HIS CONTRACT. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS CONTRACT ON BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.
20. NO CLEAN WATER (DOWNSPOUTS, CATCH BASINS, FOOTING AND FOUNDATION DRAINS, ETC.) ARE TO BE CONNECTED TO THE SANITARY SEWER SYSTEM.
21. ANY EXISTING SANITARY SEWER LATERALS THAT WILL NOT BE USED NEED TO BE PROPERLY ABANDONED AND INSPECTED BY SANITATION DISTRICT NO. 1 (SD1). CONTRACTOR IS RESPONSIBLE FOR CONTACTING SD1 FOR INSPECTIONS. A CERTIFIED TAPPER (PLUMBER CERTIFIED WITH SD1) NEEDS TO COMPLETE AND SUBMIT AN ABANDONMENT APPLICATION AND CONTACT TRACY WATSON WITH SD1 TO SCHEDULE THE INSPECTION.
22. ANY SANITARY SEWER LATERALS THAT WILL BE RE-USED ARE NOT REQUIRED TO BE CONCRETED, ONLY PLUGGED. SANITARY SEWER LATERALS THAT WILL NOT BE RE-USED WILL NEED TO BE CONCRETED.
23. THE CONTRACTOR IS RESPONSIBLE FOR ANY INSPECTION FEES FOR THE ABANDONMENT PROCESS.
24. WHEN THE CONTRACTOR IS READY TO RE-CONNECT TO THE SANITARY LATERALS, THE CONTRACTOR SHALL COMPLETE AND SUBMIT AN SD1 APPLICATION FOR SANITARY SEWER CONNECTION PERMIT WITH A COPY OF THE BUILDING PERMIT AND PROOF OF WATER METER SIZE. CONTRACTOR SHALL NOTE ON THE APPLICATION THAT THIS IS A RE-CONNECTION, SO THAT THE PREVIOUS ABANDONMENT WILL BE CREDITED TO THE PERMIT FEES. CONTRACTOR WILL ALSO NEED TO SUBMIT PROOF OF THE PREVIOUS WATER METER SIZE(S) WHICH SHOULD BE AVAILABLE FROM THE NORTHERN KENTUCKY WATER DISTRICT.
25. SANITARY SEWER CONNNECTIONS TO EXISTING MANHOLES SHALL BE BY A CERTIFIED TAPPER WITH SANITATION DISTRICT NO. 1. CONTRACTOR SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE SANITATION DISTRICT NO. 1 TAPPER MANUAL.
26. CONTRACTOR SHALL SECURE A SANITARY SEWER CONNECTION PERMIT FROM SANITATION DISTRICT NO. 1 FOR ALL SANITARY SEWER CONNNECTIONS.
27. CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE VIA CORE-DRILLING. CORING SHALL BE COMPLETED WITH A NON-IMPACT ROTARY TOOL USING DIAMOND CORE DRILLS.
28. AFTER CORE DRILLING AN EXISTING MANHOLE, CONTRACTOR SHALL INSTALL NEOPRENE BOOT (PIPE-TO-MANHOLE JOINT CONNECTER), MEETING THE REQUIREMENTS OF ASTM C 923. THE SEAL SHALL BE OF A SIZE SPECIFICALLY DESIGNED FOR THE PIPE SIZE AND MATERIAL AND BE AS SPECIFIED HEREIN.

STORM SEWER NOTES

1. PIPES 4", 6", AND 8" IN DIAMETER: PVC PIPE AND FITTINGS, SDR 35, EXCEPT WHERE NOTED OTHERWISE ON THE PLAN. 4" PVC USED FOR DRAINAGE TUBING (PERFORATED AS AN UNDERDRAIN, SOLID AS AN OUTLET PIPE) SHALL CONTAIN A SOCK WRAP WHEN USED AS UNDERDRAINS.
2. PIPE 12 INCHES IN DIAMETER OR LARGER, UNLESS NOTED OTHERWISE ON THE PLANS, MAY BE ANY OF THE FOLLOWING:
   - A. PVC CORRUGATE EXTERIOR, SMOOTH INTERIOR PIPE, EXCEPT WHERE NOTED OTHERWISE ON THE PLAN.
   - B. PVC PROFILE WALL SMOOTH FLOW SEWER PIPE, EXCEPT WHERE NOTED OTHERWISE ON THE PLAN.
   - C. FOR OUTSIDE THE BUILDING ONLY, CORRUGATED POLYETHYLENE SMOOTH LINED PIPE WITH GASKETED SILT TIGHT JOINTS MEETING ASTM F-477, HANCOR SURE-LOK OR ADS PRO LINK OR EQUIVALENT. NO SOIL TIGHT SPLIT COUPLINGS SHALL BE USED.
3. ALL CATCH BASIN GRATES TO BE HEAVY DUTY AND BICYCLE SAFE.
4. ALL PIPES (EXCEPT UNDERDRAINS) SHALL HAVE A SMOOTH INTERIOR
5. FURNISH AND INSTALL ALL FITTINGS NECESSARY TO COMPLETE STORM INSTALLATION ON THE PLANS.
6. INLETS, MANHOLES AND DRAINS - PROVIDE CONCRETE FLOW SHAPING IN THE BOTTOM OF BOTH CAST IN PLACE AND PRECAST STRUCTURES TO IMPROVE HYDRAULICS AND AVOID STANDING WATER.
7. PIPE COLLARS - ALL PIPE CONNECTIONS TO DISSIMILAR MATERIALS SHALL REQUIRE A STANDARD ODOT CONCRETE COLLAR.
8. PIPE SILTING - CONTRACTOR SHALL DELIVER STORM SYSTEM IN CLEAN CONDITION TO OWNER AT END OF PROJECT. ANY CLEANING OF STRUCTURES OF PIPES (NEW OR EXISTING DOWNSTREAM) SHALL BE THE CONTRACTORS RESPONSIBILITY UNDER THIS PROJECT CONTRACT.
9. ALL MANHOLES AND CATCH BASINS TO BE PRECAST, EXCEPT WHERE NOTED OTHERWISE ON THE PLAN.

SPECIFICATIONS

AS NOTED

CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

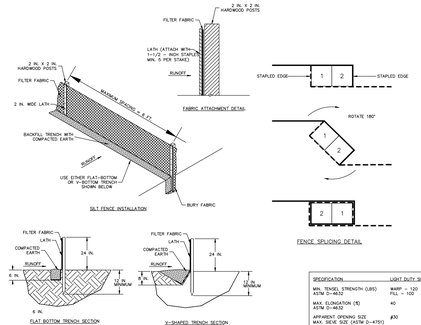
Dayton Independent Schools - Athletic Complex
200 Greendevil Lane, Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123

REH# 168-523

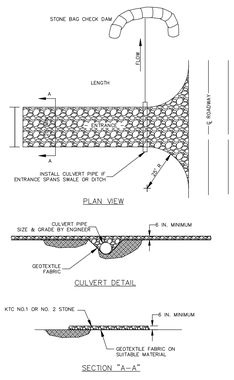
DATE 11-15-23

C-100



SPECIFICATION	LIGHT DUTY SILT FENCE (SF-LD)
MIN. TENSIL STRENGTH (LBS) ASTM D-4632	WARP – 120 FILL – 100
MAX. ELONGATION (%) ASTM D-4632	40
APPARENT OPENING SIZE MAX. SIEVE SIZE (ASTM D-4751)	#30
MAX. FLOW RATE (GAL/MIN/SF) DOT – #7	25
ULTRAVIOLET STABILITY (% STRENGTH AFTER 500 HOURS PER ASTM D-4355 MIN.)	80
BURSTING STRESS (PSI) ASTM D-3786 MIN.	WARP – 120 FILL – 100
FABRIC WIDTH (IN)	36 IN.

1 SILT FENCE DETAIL
C-200 SCALE: NTS



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT 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 STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. CLEANING OF ROADWAY IS REQUIRED IF MUD AND SEDIMENT ENTERS ROADWAY.
5. SIZING NOTES:

   (1) WIDTH: 20 FEET
   (2) LENGTH:
   (a) RESIDENTIAL LOTS 25' OR LESS WITH APPROVAL OF DISTRICT
   (b) COMERICIAL AND SUBDIVISION: 50'

INSTALLATION:
REMOVE ALL VEGETATION AND ANY OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA.

DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM STONES TO A SEDIMENT TRAP OR BASIN.

INSTALL A GEOTEXTILE FABRIC PRIOR TO PLACING ANY STONE.

INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.

THE ENTRANCE SHALL CONSIST OF KTC NO.1 OR NO. 2 AGGREGATE OR LARGER WITH A MINIMUM THICKNESS OF 6-INCHES.

INSPECTION AND MAINTENANCE:
INSPECT ENTRANCES EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCHES OR MORE OF PRECIPITATION, OR AFTER HEAVY USE. CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING PERIODS OF WET WEATHER.

MAINTENANCE IS REQUIRED MORE FREQUENTLY IN WET WEATHER CONDITIONS.

RESHAPE THE STONE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.

MAINTAIN AGGREGATE AS NEEDED AND AS DIRECTED BY THE INSPECTOR. THE STONE IN THE ENTRANCE SHOULD BE MAINTAINED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF-SITE BY VEHICLES. FREQUENT MAINTANCE WILL EXTEND THE USEFUL LIFE OF STONE.

IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.

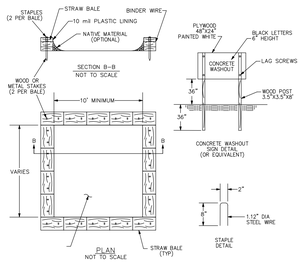
REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

INSPECT AND CLEAN SEDIMENT TRAPS IMMEDIATELY FOLLOWING EACH RAINFALL.

DISPOSE OF SEDIMENT IN A SUITABLE AREA IN SUCH A MATTER THAT IT WILL NOT ERODE.

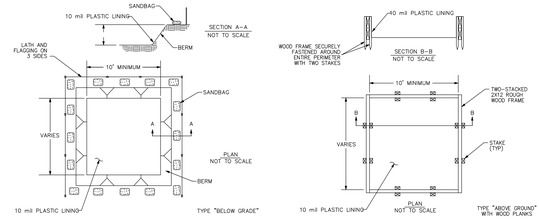
REMOVE STABILIZED CONSTRUCTION ENTRANCES AS SOON AS THEY ARE NO LONGER NEEDED TO PROVIDE ACCESS TO THE SITE. BRING THE DISTURBED AREA TO GRADE, AND STABILIZE IT USING APPROPRIATE PERMANENT STABILIZATION METHODS.

2 CONSTRUCTION EXIT DETAIL
C-200 SCALE: NTS

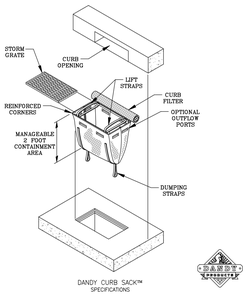


NOTES

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 50' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.



3 CONCRETE WASHOUT
C-200 SCALE: NTS



NOTE: THE DANDY CURB SACK™ WILL BE **MANUFACTURED IN THE U.S.A.** FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

REGULAR FLOW DANDY CURB SACK™ (BLACK)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 x 15
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5508 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m² (gpl/min/ft²)	2852 (70)
Permitivity	ASTM D 4491	Sec⁻¹	0.90

4 DANDY CURB SACK PROTECTION
C-200 SCALE: NTS

CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
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Dayton Independent Schools - Athletic Complex

200 Greendevil Lane, Dayton, Kentucky 41074

Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123

REH# 168-523

DATE 11-15-23

C-200

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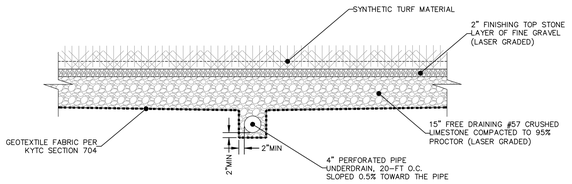
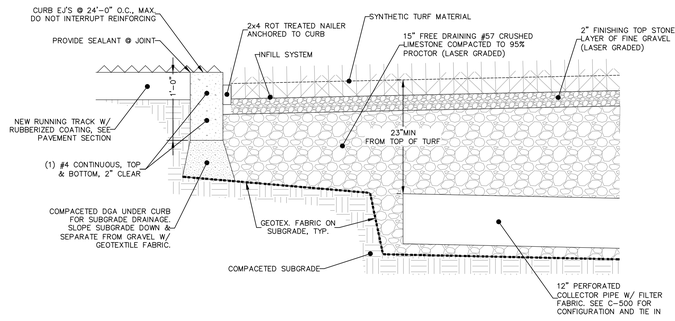
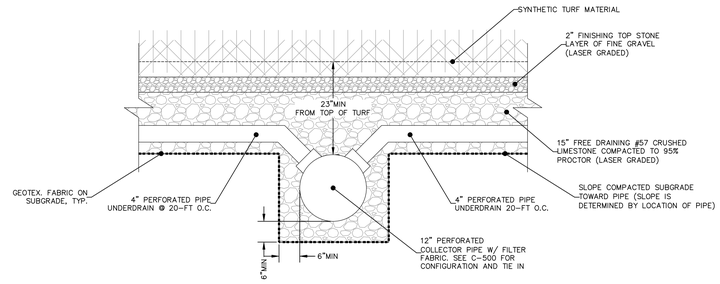


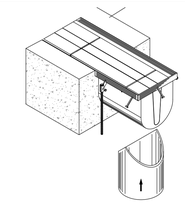
1 C-210 FIELD UNDERDRAIN DETAIL
SCALE: NTS



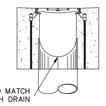
2 C-210 PERFORATED UNDERDRAIN AT TRACK EDGE
SCALE: NTS



3 C-210 FIELD UNDERDRAIN COLLECTOR DETAIL
SCALE: NTS

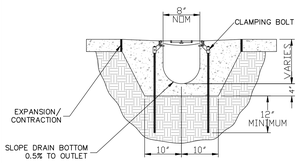


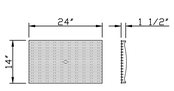
BOTTOM OUTLET



CUT OUTLET PIPE TO MATCH PROFILE OF TRENCH DRAIN

CONSTRUCTION NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. SECURE OUTLET PIPE PRIOR TO CONCRETING OPERATIONS.
3. FOR ILLUSTRATION ONLY - DO NOT SCALE

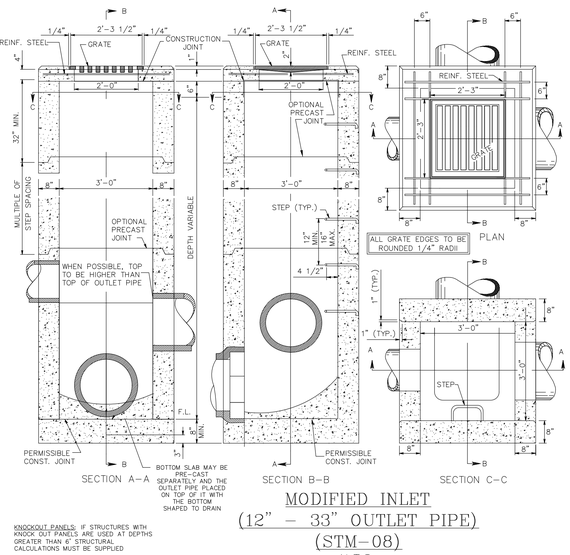




DUCTILE IRON ADA GRATE
#EG-1424-1DI-ADA
33.1% OPEN AREA
55.3 SQ INCHES PER LINEAR FOOT

NOTES TO THE SPECIFIER:
1. ADD REBAR AS REQUIRED
2. TOP OF GRATE ELEVATION IN PLAN VIEW
3. EXPANSION / CONTRACTION JOINT PER LOCAL ENGINEERING REGULATIONS AND GUIDELINES
4. STANDARD CHANNEL LENGTH IS 8'-0" (96")
5. STANDARD CHANNEL SLOPE IS 0.5%

4 C-210 TRENCH DRAIN INSTALLATION DETAILS
SCALE: NTS



MODIFIED INLET
(12" - 33" OUTLET PIPE)
(STM-08)
N.T.S.

KNOCKOUT PANELS: IF STRUCTURES WITH KNOCK OUT PANELS ARE USED AT DEPTHS GREATER THAN 6' STRUCTURAL CALCULATIONS MUST BE SUPPLIED

- NOTES -

GRATES:
GRATES SHALL BE NEENAH NO. R-4859-C OR EAST JORDAN NO. 5110 TYPE M2 OR APPROVED EQUALS.

WALLS: CAST-IN-PLACE WALLS SHALL HAVE A NOMINAL THICKNESS OF 8". PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6" AND BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE. CONCRETE SHALL MEET REQUIREMENTS OF SDI'S SPECIFICATIONS, SECTION 02630, PARAGRAPH 3.1.1.

REINFORCEMENT: REINFORCING IN THE TOP IS TO BE #4 BARS SPACED AT 6" CENTER TO CENTER. USE EIGHT BARS.

INLETS OVER 12 FEET IN DEPTH: SHALL BE PRECAST OR CAST-IN PLACE CONCRETE; REINFORCED WITH #4 BARS ON 12" CENTERS BOTH VERTICALLY AND HORIZONTALLY WITH 2" CLEARANCE FROM INSIDE WALL FACE.

PRECAST BASE: IF A PRECAST BASE IS USED, IT SHALL BE SET DEEP ENOUGH SO THAT THE TOP CAN BE PLACED ON THE BASE TO PROVIDE THE GRATE ELEVATION SPECIFIED IN THE PLANS. GRADE ADJUSTMENTS SHALL BE MADE PER SDI'S SPECIFICATION SECTION 02630, SECTION 3.2.4 AND 3.2.5. CONCRETE SHALL MEET REQUIREMENTS OF SDI'S SPECIFICATIONS, SECTION 02630, PARAGRAPH 3.1.1.

LOCATION AND ELEVATION: WHEN GIVEN ON THE PLANS, THE LOCATION AND THE ELEVATION ARE AT THE TOP CENTER OF THE GRATE. WHEN SIDE OPENINGS ARE PROVIDED, THE ELEVATION SHALL BE AT THE FLOW LINE OF THE SIDE INLET.

MINIMUM DEPTH: THE MINIMUM DEPTH SHALL BE THE OUTSIDE DIAMETER (O.D.) OF THE OUTLET PIPE PLUS 7".

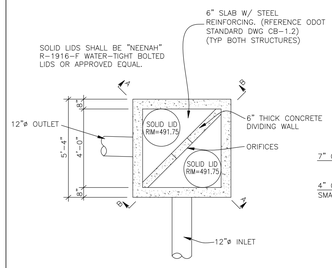
OPENINGS: PIPE OPENINGS SHALL BE THE O.D. OF THE PIPE BEING SUPPLIED PLUS 3" WHEN PREFABRICATED OR FIELD CUT. THE INTERSTITIAL SPACE SHALL BE FILLED WITH GROUT.

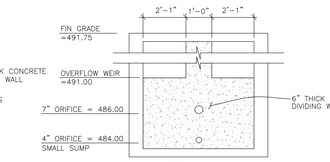
SIDE INLETS: SHALL BE PROVIDED ONLY WHEN SPECIFIED ON THE PLANS.

STEPS: STEPS SHALL BE PROVIDED WHERE THE DEPTH EXCEEDS 4' AND SHALL MEET THE REQUIREMENTS OF SDI'S SPECIFICATIONS, SECTION 02630, PARAGRAPH 3.2.2.

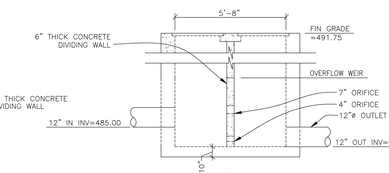
BENCHING: BENCHING SHALL BE REQUIRED IN ALL STRUCTURES AND SHALL MEET THE REQUIREMENTS OF SECTION 02630, PARAGRAPH 3.2.3, OF SDI's STANDARD SPECIFICATIONS

5 C-210 MODIFIED INLET CB 2-3 (12"-33" OUTLET PIPE)
SCALE: NTS



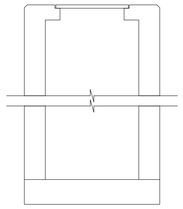


SECTION A-A



SECTION B-B

6 C-210 MODIFIED CB 2-4 DETENTION OUTLET CONTROL STRUCTURE
SCALE: NTS



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Dayton Independent Schools - Athletic Complex
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CARD# 22-123
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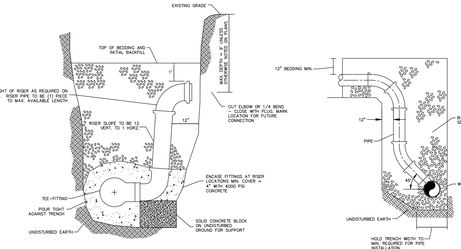
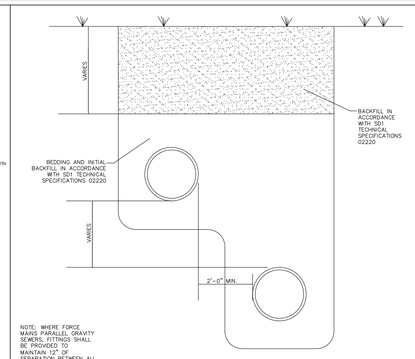
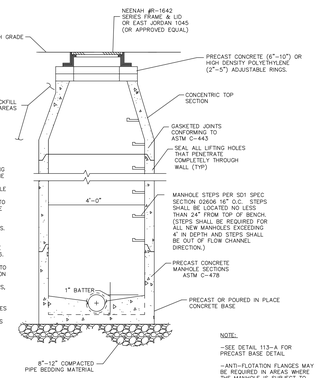


1 C-220 STANDARD AND ALTERNATE DROP STACK
SCALE: NTS



NOTE: WHERE FORCE MAINS PARALLEL GRAVITY SEWERS, FITTINGS SHALL BE PROVIDED TO MAINTAIN 12" OF SEPARATION BETWEEN ALL PIPES AND MANHOLES

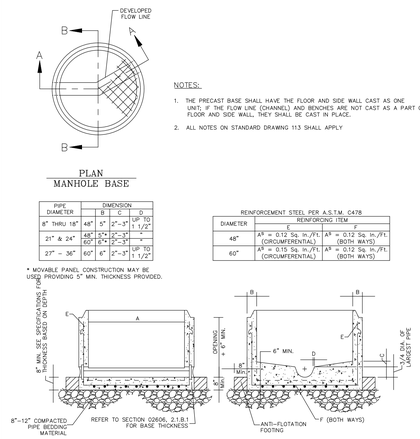
2 C-220 COMBINED TRENCH DETAIL
SCALE: NTS



NOTES:
1. IF THE SLOPE OF THE INCOMING SEWER EXCEEDS 20% FROM THE HORIZONTAL, A FITTING SHALL BE USED OUTSIDE THE MANHOLE WALL TO FACILITATE A MORE PERPENDICULAR CONNECTION TO THE MANHOLE WALL. THE USE OF THIS FITTING IS TO BE EVALUATED ON A CASE BY CASE BASIS BY SDI ENGINEERS.
2. PRECAST MANHOLES SHALL BE INSTALLED PER SECTION 02606.
3. BENCHING SHALL BE SHAPED TO MAINTAIN A SMOOTH TRANSITION OF FLOW FOR PIPE ANGLES BETWEEN 90 AND 180 DEGREES, AS REFERENCED TO THE DOWNSTREAM FLOWLINE. NO ANGLES LESS THAN 90 DEGREES WILL BE ALLOWED BETWEEN INCOMING AND OUTGOING PIPES IN MHS.

NOTE:
-SEE DETAIL 113-A FOR PRECAST BASE DETAIL
-ANTI-FLOTATION FLANGES MAY BE REQUIRED IN AREAS WHERE THE MANHOLE IS SUBJECT TO GROUND WATER PER SDI SPEC. 02606.

3 C-220 STANDARD MANHOLE
SCALE: NTS

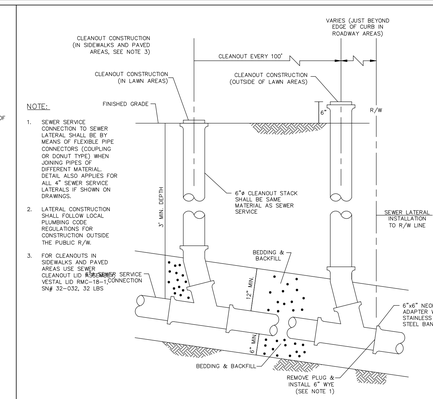


NOTES:
1. THE PRECAST BASE SHALL HAVE THE FLOOR AND SIDE WALL CAST AS ONE UNIT; IF THE FLOW LINE (CHANNEL) AND BENCHES ARE NOT CAST AS A PART OF FLOOR AND SIDE WALL, THEY SHALL BE CAST IN PLACE.
2. ALL NOTES ON STANDARD DRAWING 113 SHALL APPLY

PIPE DIAMETER	DIMENSION		
	B	C	D
8" THRU 18"	48"	5"	2'-3" UP TO 1 1/2"
21" & 24"	48"	6"	2'-3"
	60"	6"	2'-3"
27" – 36"	60"	6"	2'-3" UP TO 1 1/2"

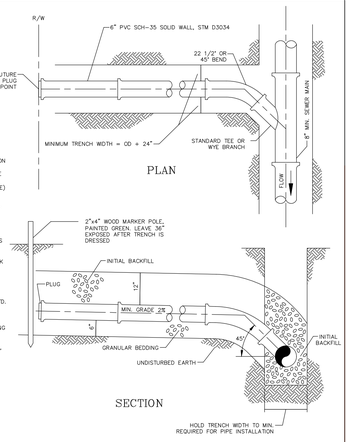
REINFORCEMENT STEEL PER A.S.T.M. C478		
DIAMETER	REINFORCING ITEM	
	E	F
48"	A^2 = 0.12 Sq. In./Ft. (CIRCUMFERENTIAL)	A^2 = 0.12 Sq. In./Ft. (BOTH WAYS)
60"	A^2 = 0.15 Sq. In./Ft. (CIRCUMFERENTIAL)	A^2 = 0.12 Sq. In./Ft. (BOTH WAYS)

4 C-220 PRECAST MANHOLE BASE
SCALE: NTS



NOTE:
1. SEWER SERVICE CONNECTION TO SEWER LATERAL SHALL BE BY MEANS OF FLEXIBLE PIPE CONNECTORS (COUPLING OR DONUT TYPE) WHERE JOINING PIPES OF DIFFERENT MATERIAL. DETAIL ALSO APPLIES FOR ALL 4" SEWER SERVICE LATERALS IF SHOWN ON DRAWINGS.
2. LATERAL CONSTRUCTION SHALL FOLLOW LOCAL PLUMBING CODE REGULATIONS FOR CONSTRUCTION OUTSIDE THE PUBLIC R/W.
3. FOR CLEANOUTS IN SIDEWALKS AND PAVED AREAS USE SERVICE CLEANOUT I.D. INC-18-1 CONNECTION SN# 32-032, 32 LBS

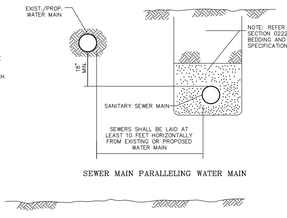
5 C-220 LATERAL CLEANOUT INSTALLATION
SCALE: NTS



NOTE:
1. SEWER SERVICE CONNECTION TO SEWER LATERAL SHALL BE BY MEANS OF FLEXIBLE PIPE CONNECTORS (COUPLING OR DONUT TYPE) WHERE JOINING PIPES OF DIFFERENT MATERIAL. DETAIL ALSO APPLIES FOR ALL 4" SEWER SERVICE LATERALS IF SHOWN ON DRAWINGS.
2. ALL LATERAL CONNECTIONS SHALL BE MADE BETWEEN THE 10 AND 11 O'CLOCK AND THE 1 AND 2 O'CLOCK POSITIONS TO THE SEWER MAIN.
3. FOR ALL SEWER LATERAL CONSTRUCTION BEYOND PUBLIC R/W, REFER TO STD. DWG. 113.
4. LATERAL INSTALLATIONS SHALL FOLLOW ALL BEDDING AND BACKFILL REQUIREMENTS IN SDI STANDARD SPECIFICATIONS, SECTION 02220.

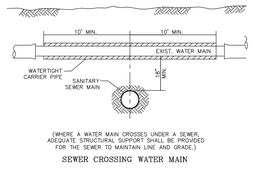
6 C-220 SEWER LATERAL INSTALLATION
SCALE: NTS

NOTE:
1. THE WATER MAIN SHALL MAINTAIN A CLEAR SEPARATION OF AT LEAST 10'.
2. WHERE 10' OF HORIZONTAL SEPARATION IS NOT PRACTICAL, THE SEPARATION MAY BE LESS PROVIDED:
   A. THE WATER MAIN IS CONSTRUCTED IN A SEPARATE TRENCH
   B. THE ELEVATION OF THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE SEWER.
3. WHEN EITHER OF THE FIRST TWO CONDITIONS CANNOT BE MET, CONSULT THE NORTHERN KY WATER DISTRICT FOR RELOCATION REQUIREMENTS.



SEWER MAIN PARALLELING WATER MAIN

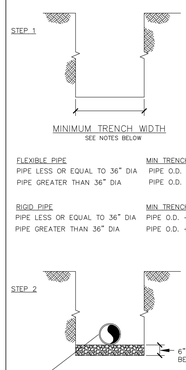
NOTE:
WHEN IT IS IMPOSSIBLE TO OBTAIN A PROPER VERTICAL SEPARATION OF AT LEAST 18" BETWEEN THE WATER MAIN AND GRAVITY SEWER, ONE OF THE FOLLOWING METHODS OF CONSTRUCTION MUST BE ACHIEVED:
1. A. THE WATER MUST BE CONSTRUCTED TO COMPLY WITH THE PUBLIC WATER SUPPLY DESIGN STANDARDS OF THE GOVERNING AGENCY.
   B. GRAVITY SEWER MUST BE CONSTRUCTED OF SDR-26 PVC LINED DUCTILE IRON SLIP-JOINT OR MECHANICAL JOINT PIPE COMPLYING WITH SDI'S REQUIREMENTS.
2. EITHER THE WATER MAIN OR SEWER AS THE MEANS IS A CONCRETE ENCASEMENT EXTENDING 10' ON EACH SIDE OF THE CROSSING MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE CONSTRUCTED OF APPROVED SDI MATERIALS.



(WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.)

SEWER CROSSING WATER MAIN

7 C-220 SEWER PARALLEL-CROSSING WATER
SCALE: NTS



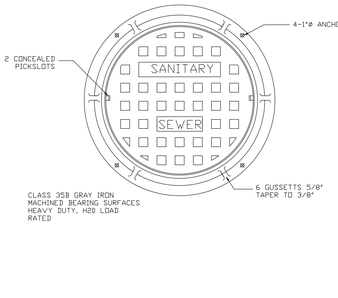
FLEXIBLE PIPE
PIPE LESS OR EQUAL TO 36" DIA — MIN TRENCH WIDTH = PIPE O.D. + 24"
PIPE GREATER THAN 36" DIA — MIN TRENCH WIDTH = PIPE O.D. + 48"

RIGID PIPE
PIPE LESS OR EQUAL TO 36" DIA — MIN TRENCH WIDTH = PIPE O.D. + 24"
PIPE GREATER THAN 36" DIA — MIN TRENCH WIDTH = PIPE O.D. + 2*(O.D./6)

NOTES
* APPLIES TO ALL AREAS, EXCEPT BENEATH STRUCTURES, FOUNDATIONS, AND ROADWAYS WHERE COMPACTION TO AT LEAST 85% RELATIVE DENSITY IS REQUIRED.

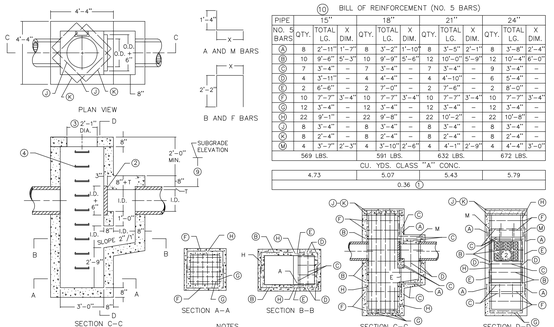
- EXCAVATED TRENCH
- PIPE NOT INSTALLED YET
- EXAMINE TRENCH BOTTOM:
  - IF FIRM & SOLID, PROCEED TO NEXT STEP
  - IF UNSUITABLE SUBGRADE IS ENCOUNTERED, CONTRACTOR SHALL OVER EXCAVATE BOTTOM TO REMOVE UNSUITABLE MATERIAL & REPLACE WITH SUITABLE BACKFILL
- PLACE 6" EMBEDMENT MAT'L IN TRENCH
- COMPACT GRANULAR & SAND DENSITY (ASTM D 4253 AND D 4254).
- PLACE PIPE ON TOP OF COMPACTED MATERIALS TO AT LEAST 75% RELATIVE MATERIAL.
- PLACE EMBEDMENT MATERIAL IN A 6" LIFT MAXIMUM ALONG SIDES OF PIPE.
- HAVE CONTRACTOR SLICE MAT'L UNDER HAUNCHES OF PIPE WITH SHOVEL OR OTHER DEVICE TO FILL IN ALL VOID AREAS.
- COMPACT GRANULAR AND SAND MATERIALS TO AT LEAST 75% RELATIVE DENSITY. SEE STEP 2.
- PLACE NEXT 6" MAXIMUM LIFT OF EMBEDMENT MATERIAL ABOVE PREVOUS LIFT.
- COMPACT EMBEDMENT MAT'L TO AT LEAST 75% RELATIVE DENSITY IN ACCORDANCE WITH STEP 2.
- CONTINUE PLACING EMBEDMENT MAT'L IN 6" LIFTS AND COMPACTING UNTIL REACH TOP OF PIPE.
- CONTINUE PLACING EMBEDMENT MATERIAL IN 6" MAXIMUM LIFTS AND COMPACT SAME AS ABOVE, UNTIL THERE IS 12" EMBEDMENT MATERIAL ABOVE THE TOP OF THE PIPE.
- THEN PROCEED WITH SOIL BACKFILL IN 8" COMPACTED LIFTS ABOVE EMBEDMENT MATERIAL.
- IN NON-ROADWAY AREAS, SUITABLE BACKFILL TO BE COMPACTED TO 95% OF MAXIMUM STANDARD PROCTOR DRY UNIT WEIGHT AS DETERMINED BY ASTM D 698. FOR COMPACTION OF BACKFILL IN OTHER AREAS, SEE SECTION 02220.

8 C-220 SEWER TRENCH COMPACTION
SCALE: NTS



CLASS 35B GRAY IRON
MACHINED BEARING SURFACES
HEAVY DUTY, H20 LOAD RATED

9 C-220 STD MANHOLE FRAME AND COVER
SCALE: NTS

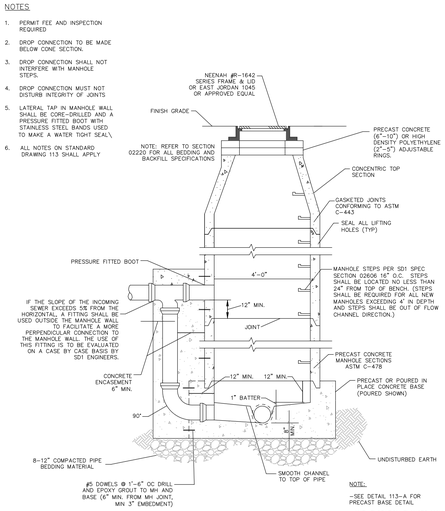


10 BILL OF REINFORCEMENT (NO. 5 BARS)

PIPE NO. 5 BARS	15" QTY.	15" TOTAL L.G.	15" X DIM.	18" QTY.	18" TOTAL L.G.	18" X DIM.	21" QTY.	21" TOTAL L.G.	21" X DIM.	24" QTY.	24" TOTAL L.G.	24" X DIM.
(A)	8	2'-11"	1'-7"	8	3'-2"	1'-10"	8	3'-5"	2'-1"	8	3'-8"	2'-4"
(B)	10	9'-6"	5'-3"	10	9'-9"	5'-6"	12	10'-0"	5'-9"	12	10'-4"	6'-0"
(C)	7	3'-4"	–	7	3'-4"	–	7	3'-4"	–	9	3'-4"	–
(D)	4	3'-11"	–	4	4'-4"	–	4	4'-10"	–	6	5'-4"	–
(E)	2	6'-6"	–	2	7'-0"	–	2	7'-6"	–	2	8'-0"	–
(F)	10	7'-7"	3'-4"	10	7'-7"	3'-4"	10	7'-7"	3'-4"	10	7'-7"	3'-4"
(G)	12	3'-4"	–	12	3'-4"	–	12	3'-4"	–	12	3'-4"	–
(K)	22	9'-1"	–	22	9'-8"	–	22	10'-2"	–	22	10'-8"	–
(L)	8	3'-4"	–	8	3'-4"	–	8	3'-4"	–	8	3'-4"	–
(M)	8	2'-4"	–	8	2'-4"	–	8	2'-4"	–	8	2'-4"	–
(N)	4	3'-7"	2'-3"	4	3'-10"	2'-6"	4	4'-1"	2'-9"	4	4'-4"	3'-0"
		569 LBS.			591 LBS.			632 LBS.			672 LBS.	
					CU. YDS. CLASS "A" CONC.							
		4.73			5.07			5.43			5.79	
					0.36 (I)							

NOTES:
1. CU. YD. PER FOOT INCREASE OR DECREASE WHEN MANHOLE HEIGHT VARIES FROM 7'-1" + 1'-5".
2. REMOVABLE STOPPER-MASONRY, CAST IRON OR OTHER TYPES OF STOPPERS WILL BE PERMITTED IF APPROVED BY THE ENGINEER.
3. SEE CUR. STD. DWG. RDM-100 FOR CASTINGS TO BE USED IN NON-TRAFFIC AREAS AND CUR. STD. DWG. RDM-105 FOR CASTINGS TO BE USED IN TRAFFIC AREAS.
4. SEE CUR. STD. DWG. RDB-430 FOR STEP TYPE, SPACING AND DETAIL.
5. (G) & (G) BARS SPACED APPROXIMATELY 6" O.C. ALL OTHER BARS SPACED APPROXIMATELY 1'-0" O.C.
6. CONSTRUCTION JOINT NOT PERMITTED BELOW FLOW LINE ELEVATION.
7. ENCIRCLED LETTERS, (), INDICATE STEEL BAR LOCATIONS.
8. T= PIPE THICKNESS, I.D.= INSIDE DIA. OF PIPE, O.D.= OUTSIDE DIA. OF PIPE.
9. 2'-0" DESIRED COVER, 1'-0" MINIMUM COVER OVER PIPE.
10. THE (G) BAR SHALL BE INCREASED INCH-FOR INCH WHEN BOX EXCEEDS MINIMUM HEIGHT. ADD TWO (F) BARS FOR EACH 1'-0" INCREASE ABOVE MINIMUM HEIGHT.
11. DIMENSIONS FROM FACE OF CONCRETE TO STEEL SHALL BE 2" CLEAR DISTANCE.

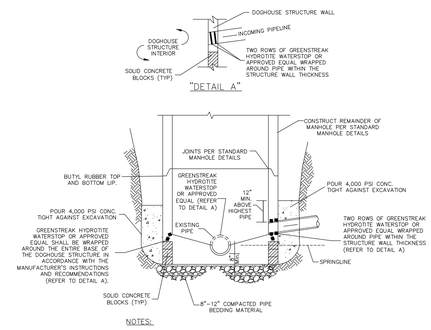
10 C-220 TRAPPED MANHOLE DETAIL
SCALE: NTS



NOTES
1. PERMIT FEE AND INSPECTION REQUIRED
2. DROP CONNECTION TO BE MADE BELOW CONE SECTION.
3. DROP CONNECTION SHALL NOT INTERFERE WITH MANHOLE STEPS.
4. DROP CONNECTION MUST NOT DISTURB INTEGRITY OF JOINTS
5. LATERAL TAP IN MANHOLE WALL SHALL BE CORE-DRILLED AND A PRESSURE FITTED BOOT WITH STAINLESS STEEL BANDS USED TO MAKE A WATER TIGHT SEAL.
6. ALL NOTES ON STANDARD DRAWING 113 SHALL APPLY

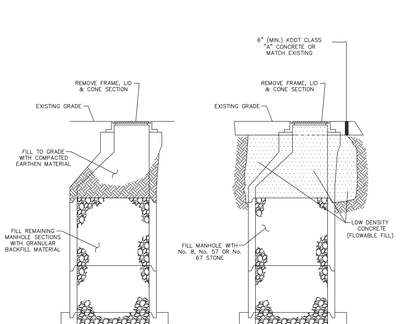
NOTE:
-SEE DETAIL 113-A FOR PRECAST BASE DETAIL
-ANTI-FLOTATION FLANGES MAY BE REQUIRED IN AREAS WHERE THE MANHOLE IS SUBJECT TO GROUND WATER PER SDI SPECIFICATION 02606

11 C-220 DROP MANHOLE DETAIL
SCALE: NTS



NOTES:
1. BEFORE POURING CONCRETE ASSURE DOGHOUSE STABILITY, LEVEL, AND PLUMB.
2. USE SOLID CONCRETE BLOCKING FOR DOGHOUSE SUPPORT.
3. WAIT A MIN. OF 24 HOURS AFTER POUR BEFORE BACKFILL PLACEMENT.
4. BENCH TO HAVE SMOOTH FINISH WITH SLOPE OR FALL TO THE SPRINGLINE.
5. CUT PIPE AT THE SPRINGLINE.
6. POUR/INSTALL 4,000 PSI CONCRETE 12-INCHES ABOVE THE HIGHEST PIPE.
7. TWO ROWS OF GREENSTREAK HYDROTITE WATERSTOP OR APPROVED EQUAL SHALL BE WRAPPED AROUND ALL PENETRATIONS WITHOUT BOOTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
8. BOOT MAY BE USED IF CONCRETE IS POURED A MINIMUM OF 12" BELOW THE INCOMING PIPE

12 C-220 (DOGHOUSE) MANHOLE DETAIL
SCALE: NTS



13 C-220 ABANDONED MANHOLE AND PIPE
SCALE: NTS

CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
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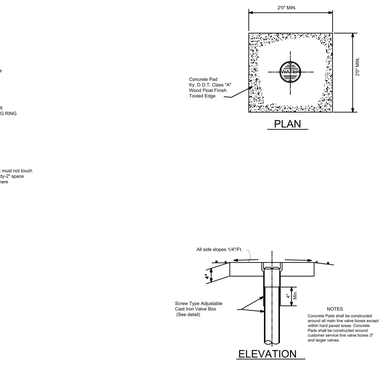
Dayton Independent Schools - Athletic Complex
200 Greendevil Lane, Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123
REH# 168-523
DATE 11-15-23

C-220

1/24/2024 2:22 PM H:\SDSKPROJ\2022\22-123\PLANS\SITE DEVELOPMENT PLANS\C02-123.REH DaytonIndependentSchools_SDP1.dwg 10/20/2023 1:12 PM JASON.PORTER.2015 LAYOUT: C-220 MODEL: II. PLANMANHATTAN HARBOUR II STAGE II



Detail Valve Box Installation

Note:Valve box shall not transmit shock or stress to the valve.

PLAN

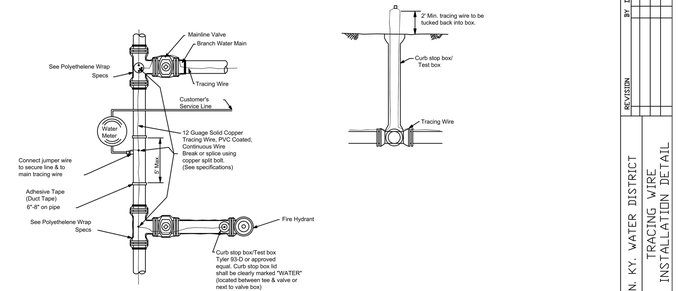
ELEVATION

BY	DATE
SAR	8/2/21
SAR	9/2/21

REVISION
1. Concrete pad around valve box
2. Concrete pad around valve box

N. KY. WATER DISTRICT
VALVE BOX AND VALVE PAD DETAIL

DRAWN BY: SAR
APPROVED:
DATE: 2/1/2021
STANDARD DRAWING NO
105



DUCTILE IRON AND PVC PIPE WITH DUCTILE IRON FITTINGS

Note: Curb stop box/test box shall not be installed in paved areas.

BY	DATE
SAR	8/2/21

REVISION

N. KY. WATER DISTRICT
TRACING WIRE INSTALLATION DETAIL

DRAWN BY: SAR
APPROVED:
DATE: 2/1/2021
STANDARD DRAWING NO
111

PIT CONSTRUCTION SPECIFICATIONS

PART I - GENERAL

1.01 INTRODUCTION Unless modified, deleted, replaced, or otherwise changed, the latest published addition of the following documents shall be the accepted standard for materials and/or procedures for the construction of meter pits:

1. Northern Kentucky Water District's Standard Drawings
2. Natural Resources & Environmental Protection Cabinet, Division of Water
3. Kentucky Public Service Commission Regulations
4. American Water Works Association Standards (AWWA)

If a conflict exists between referenced sources, the more restrictive requirements shall prevail. The District shall provide interpretation as requested.

1.02 REQUIREMENTS FOR METER PIT INSTALLATION The following are guidelines for meter pit installations:

A. Meter pit will not be required to be installed if the following conditions can be met:
Firelines-1. An approved back flow prevention device shall be installed as the first device inside the building on the fire line before any taps or branches -and-
2. The fire department connection shall be located downstream of the approved back flow prevention device -and-
3. The domestic water service is 2" or smaller which will be installed per Standard Drawings #107, 107-A, or 108.
Domestic Services– 2" or smaller domestic water services shall be installed by the District per Standard Drawings #107, 107-A, or 108.

B. Meter pits shall be required to be installed if one or more of the following conditions exists:
Firelines– The fire department connection is required by the authority having jurisdiction to be installed near the public right-of-way. An approved double check assembly shall be required to be installed per Standard Drawing #204, 206, or 207R.
Domestic Services– 3" or larger domestic water services shall be installed per Standard Drawings #205R, 207R, or 208.

1.03 CONTRACTORS RESPONSIBILITY All work performed on any meter pit and/or appurtenances that are owned or anticipated to be owned by the District shall be completed under the direction of the District adhering to an acceptable plan approved by the District. A minimum of 24 hours notice shall be given to the District by the contractor prior to the start of work. If the interruption of service to any customer of the District is necessary, the Contractor shall make arrangements to provide such shutdown and notify District customers at the direction of the District Inspector. One set of District approved plans shall be on the job site during construction. There shall be no deviation from the approved plans without written approval from the District.

1.04 EXISTING PITS Any changes, modifications, or alterations made to an existing pit structure, piping, etc., it shall be brought up to current standards. Compliance subject to the discretion of the Water District.

1.05 PLANS Plans are approved subject to the conditions of compliance with all applicable laws, rules, regulations and standards. The proposed project may be constructed only in accordance with the approved plans. Plans submitted to the District for approval shall have a Ky. Professional Engineer or Certified Fire Suppression Technician stamp and signature. Two sets of plans should be submitted for preliminary review and four sets for final review.

1.06 DESCRIPTION In general the following specifications are minimum requirements as pit design. Construction may be dictated by location, soil conditions, ground water, topography, etc. Additional provisions may be required upon submission for approval.

1.07 ACCESSIBILITY OF PITS Accessibility for maintenance and testing of all meter pits shall be provided. A means of access for maintenance vehicles shall be constructed of a hard, all weather surface at least 10' wide and designed to support the heaviest vehicle, within 15' of the pit.

1.08 WATER MAINS ON PRIVATE PROPERTY Meter pits and appurtenances installed on private property outside of normal conditions which are going to be maintained by the Water District shall have proper documentation provided for all easement areas. See appropriate sections of District's Standards Specifications & Drawings for the Installation of Water Mains for procedures.

1.09 HIGH PRESSURE AREAS Additional requirements may be necessary for high pressure areas (110 psi static pressure or higher) as determined by the District.

1.10 MAINTENANCE PERIOD The Owner shall be responsible for the maintenance of the installed meter pit and appurtenances to District Standards for a period of not less than one (1) year from the date the meter pit is placed in service by the District. Meter pits will be placed in service when the meter pit is 100% completed to District Standards.

1.11 MINIMUM REQUIREMENTS Floor slab shall be 6" thick concrete sloping at 1/8 inch per foot to drain or sump location. Dimensions of slab shall be 4 inches larger all around than outside pit walls. Pit shall be drained by a 4" drain or larger as required, leading to grade or a storm sewer. When a drain is not practical an electric operated sump pump shall be used.

Walls shall be 8" thick concrete. Top slab shall be 8" thick reinforced concrete with #5 bars @6" O.C. maximum, spanning in short direction and #5 bars @18" O.C. maximum, in long direction. Two (2) #5 bars, two (2) feet long are to be placed at 45 degree to each corner of slab openings. Reinforcing shall be placed 1-1/2" clear from the bottom of the slab or inside wall faces. Additional reinforcement may be required.

Pit openings shall have lids as indicated or as approved in traffic areas of a type operable by a single person. Removable aluminum ladders shall be furnished in all pits.

1.12 METER PIT DIMENSIONS Minimum inside pit dimensions shall be: Height - 5 feet; Width - 5 feet; Length - 8 feet.

BY	DATE
SAR	8/2/21
SAR	9/2/21

REVISION
1. Concrete pad around valve box
2. Concrete pad around valve box

N. KY. WATER DISTRICT
MATERIAL SPECIFICATIONS FOR PIT CONSTRUCTION

DRAWN BY: SAR
APPROVED:
DATE: 2/1/2021
STANDARD DRAWING NO
201

1.13 QUALITY ASSURANCE

A. Standards: The following publications shall be hereby made a part of these specifications.
1. "Specifications for Structural Concrete for Buildings ACI 301-72 (Revised 1975) with Selected ACI shall ASTM References. Sp-15/73I" by the American Concrete Institute.
2. "Placing Reinforcing Bars, CRSI-WCRSI Recommended Practices" by the CRSI-WCRSI Committee on Bar Placing.
3. "Standard Specifications for Road and Bridge Construction by the Kentucky Department of Transport ation, Bureau of Hwy. & Specifications for the Design and Construction Load-Bearing Concrete Masonry by the National Concrete Masonry Association.

1.14 Or Equal All materials referenced are for design purpose only. Any other materials that are "equal" can be used with prior approval from the District.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Concrete: Ready mixed type meeting K.D.O.T "Class A", 3,500 psi at 28 days compressive strength, 4" maximum slump.

B. Reinforcing Steel: Deformed #5 bars conforming to ASTM A615, A616, or A617, grade 60.

C. Curing Compound: Acrylic based "non-residual" type meeting ASTM C309 Type 1 not less than 18 % to cure, harden and seal concrete.

D. Lid: 48" x 54" double door, aluminum lid with locking padlock bar, centered over the meters, Halliday Products Model #AA854 or approved equal. If padlock bar creates hazard, other locking mechanisms maybe considered.

E. Removable Metal Ladder: Removable metal ladder shall be an approved OHSA Type 1 Industrial Heavy, 250 pound aluminum ladder. Ladder must reach from the pit floor and extend into the pit opening. The bottom of the ladder shall be blocked to prevent it from kicking out but still be removable.

F. Waterproofing: The exterior side of the pit walls shall be waterproofed with one coat of one of the following materials applied in accordance with the Manufacturer's recommendations: Thoroseal; U.S.S. Chemical Tarmastic #102; Koppers Bitumastic Super Service Black; Damchec; Amercoat #78; or an approved equal.

Voids between pipes and chamber walls shall be grouted with a hydraulic cement such as Waterplug or an approved equal before waterproofing pit.

G. Waterstop: A waterstop shall be provided in the pit floor to the pit walls.

H. Floor Drain: Raised or beehive dome grate, 4" minimum, similar to Wade #1634; Josam #7324-N; or an approved equal.

I. Pit Drain Line: Cast iron, Schedule 40 PVC, Plastic STM #35 or ductile iron, 4" minimum.

J. Alternate To Pit Drain Line: Electric Submersible Sump Pump, Little Giant, Big John, Stock #3P-53BA Model #6-CIA or approved equal. Note: This alternative shall only be used when a drain line is impractical as determined by the District. (See drawing #202 & Part 4 of Pit Specifications)

K. Packaged, Prefab Meter Vaults: Packaged, prefab meter vaults are acceptable with approval from the Water District.

PART 3 - EXECUTION

3.01 WORKMANSHIP Earth cuts may be used for forms of base slab provided vertical sides are kept true and sharp. All embedded items, reinforcing, piping, etc. shall be secured in place prior to placing of the concrete. Concrete shall be protected from loss of moisture for a curing period of at least 7 days. All concrete shall be deposited within 1-1/2 hours following the initial mixing of water and cement. Wall finish may be a rough form finish. Top slab finish shall be wood float with tooled edges.

PART 4 - ELECTRIC SUMP PUMPS

4.01 DESCRIPTION In general the following specifications are a minimum requirements for the design and installation of Electric Submersible Sump Pumps in meter pits where a normal drain line is impractical.

4.02 ELECTRIC WORK All electric work shall be installed according to the National Electric Code and all other applicable codes. All work shall be inspected by an Electrical Inspector and certification provided to the District.

4.03 RESPONSIBILITY The property owner is responsible for providing continuous electric service for the electric sump pump at the owner's expense. The property owner shall be responsible for the maintenance and upkeep of all electrical boxes, conduit, circuit breaker box, circuit breaker, outlet and wiring outside the pit.

4.04 MATERIALS

A. Electric Submersible Sump Pump: Electric sump pump shall be U.L. Listed, Little Giant, Stock #3PE39, Model #6-CIA.

B. Electric Junction Box: Water resistant, U.L. Listed, P.V.C electrical box shall be installed on the inside of the pit on the wall closest to the sump pump nearest the ceiling.

C. Electrical Piping: Electric piping shall be U.L. Listed for underground use, rigid or plastic installed at least 18" below grade.

4.05 INSTALLATION

A. Sump Pump Hole: A 4" deep hole shall be provided in the floor of the pit.

B. Discharge Piping: Piping for the water discharge from the electric sump pump shall be plastic or copper. Minimum piping size shall be 1 1/2". A 1/8" hole shall be bored above the check valve of the discharge pipe if freezing temperatures will affect the pipe.

C. Water Discharge: Water discharge shall be directed into a storm sewer or drainage ditch, if this is impractical, water discharge shall be directed on to a 16" x 16" concrete pad.

D. Electric Service Line: The electric line to the pit shall be only used for the pit sump pump, no other electrical taps shall be made on this line.

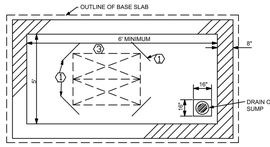
E. Manufacturer Instructions: Manufacturer's instructions should be followed for installation.

BY	DATE
SAR	8/2/21
SAR	9/2/21

REVISION
1. Concrete pad around valve box
2. Concrete pad around valve box

N. KY. WATER DISTRICT
MATERIAL SPECIFICATIONS FOR PIT CONSTRUCTION

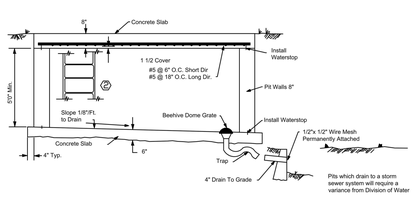
DRAWN BY: SAR
APPROVED:
DATE: 2/1/2021
STANDARD DRAWING NO
201-A



DRAWING NOTES

1. (2) #5 Reinforcing Bars, 2'6" Long @ 45 Each Corner of Lid or Pit Opening.
2. Removable ALuminum Ladder Within Pit.
3. Lid In Top Slab To Be Centered Over Meter(S). Lids Shown Are For Non-Traffic Area Locations.

Lids Within Traffic Areas Shall Be Guarded With Approved Post Surrounding The Pit Or Lid, Or The Lid Shall Be Adequate To Support The Imposed Weight And Be Operated By A Single Person As Approved By K.C.W.D. #1.



BY	DATE
SAR	8/2/21

REVISION
1. 4 & 6 SUMP PUMP

N. KY. WATER DISTRICT
TYPICAL PIT DETAIL

DRAWN BY: SAR
APPROVED:
DATE: 2/1/2021
STANDARD DRAWING NO
202

PART 1 - PRODUCTS

1.01 MATERIALS

A. Underground Piping & Appurtenances: All underground piping and appurtenances shall conforms to appropriate sections of District's "Standard Specifications & Drawings for the Installation of Water Mains". All underground piping 4" and larger shall be polyethylene wrapped Class 50 or higher Ductile Iron Pipe from the public water main to the meter pit.

B. Piping Inside Pits: Pipe installed inside the pit shall be a minimum thickness of Class 53 flanged ductile iron pipe for 3" and larger piping. The pipe shall extend through the pit walls.

C. Fittings: All fittings and accessories shall be Ductile Iron, rated for a minimum of 200 psi working pressure or as specified herein. The fittings and accessories shall be new and unused. (NOTE: Certain areas of the Northern Kentucky Water District require materials used, to be of a higher working pressure than 200 psi.) All pipe fittings inside the meter pit shall be flanged.

D. 2" and Smaller Service Branch Lines: Type K or L copper conforming to ASTM B88. Valves, fittings, and nipples shall be brass.

E. Gate Valves 3" & Larger, Inside Pit: Conforming to AWWA Standard C509. Outside stem and Yoke (OS&Y), ductile iron body, left hand open, resilient wedge, wheel operated, flanged connection, gate valves. Clow Resilient Wedge Gate Valve or approved equal. Valves installed as part of a back flow prevention assembly shall be approved by the F.C.C.C.R., U.S.C.

F. Valves 2" ¾ Smaller: All 2" and smaller valves shall be ball valves.

G. Glands, Gaskets, Bolts & Nuts: Conforming to AWWA C111.

H. Bypass Lines on 3" & Larger Meter Lines: A bypass line of equal or one size less than the domestic line shall be installed on all domestic meter services 3" or larger. Minimum bypass line size is 3".

I. Meters: As purchased from Northern Kentucky Water District.

J. Pressure Reducing Valves: On domestic lines, pressure reducing valve will be required to be installed when the static system pressures is at or above 125 psi. They will be installed before the meter and are installed to protect the meter only. The District will not be liable for any damage due to pressure conditions caused by or arising out of the failure or defective condition of such pressure regulator or for damage that may occur through the installation, maintenance, or use of such equipment. Pressure reducing valves shall be installed at least 5 pipe diameters away from the meter. Cla-Val Model 690-48 shall be installed on 3" and larger lines. This may also include electronic devices, sight gauge, or any other such devices per District requirements.0 thur 300 psi gauges shall be provided on the inlet and outlet sides of the pressure reducing valve.

K. Back flow Prevention Assembly: All assemblies shall be listed and approved by the Foundation for Cross-Connection Control Research, University of Southern California (F.C.C.C.R.,U.S.C.) and the District. The testable assembly consists of the back flow prevention unit and two approved shut-off valves. Valves shall be full port ball valves for 2" and smaller and outside stem and yoke, resilient wedge, left hand open, gate valves for 3" and larger. Assemblies shall be delivered completely assembled by the original manufacturer with all components as approved by F.C.C.C.R.,U.S.C. The assembly shall not be separated or altered in anyway. The type of back flow prevention assembly to be installed shall be determined by the N.K.W.D. (see Back flow Prevention Device Assembly Standard Drawings Figure II-a for general guidelines). All approved back flow devices shall be tested and certified that it works properly after system activation. Special permission must be obtained from the District to install a reduced pressure back flow prevention assembly in a pit.

L. Booster Pumps: Booster pumps 3" and larger installed on water lines shall be equipped with a Pump Suction Control Valve and/or a Low Pressure Cut-off Device which is designed to modulate the pump discharge or shut-off the booster pump when the pressure on the suction-side of the pump drops to 20 psi.

These devices shall be designed to prevent water hammer to the public water system. Pump Suction Control Valve and/or a Low Pressure Cut-off Device shall be inspected and tested for proper operation at the time of installation and at least annually thereafter. The property owner shall maintain a complete record of all test, inspections and repairs to the devices. The devices shall not be bypassed, made inoperative, or removed without authorization from the District.

PART 2 - EXECUTION

2.01 INSTALLATION

A. Pipe Laying: Conforming to AWWA Standard C600. Maintain a minimum pipe cover of 3'-0" with continuous pipe support for entire length. All underground piping and appurtenances shall be installed according to appropriate sections of District's "Standard Specifications & Drawings or the Installation of Water Mains".

B. Pit Components: Adequately supported by solid concrete blocks or supports set on the floor slab. 2" or smaller domestic service lines may be supported by brackets mounted on the pit wall.

C. Anchorage: Inlet valves on 3" or larger piping shall be securely anchored to the pit wall when piping is sleeved through the wall. Additional nodding may be required at the discretion of the District.

D. Disinfection: The interior of all surfaces in contact with the potable water system, tapping sleeve, valves, couplings and pipe shall be swabbed with a 5 % hypochlorite solution prior to installation.

E. Valve Box Protection: The valve box over the tapping sleeve if located outside of a hard paved area shall have a minimum 2'x2'x4" square pad cast around the lid. Refer to standard drawing No. 105.

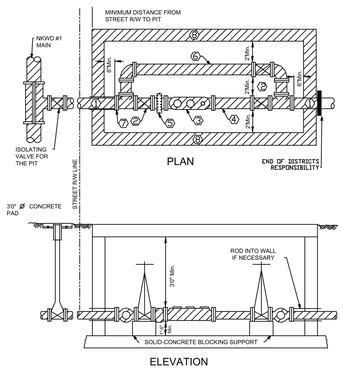
F. Flushing of Mains: Lines shall be flushed at a rate 2.5 ft/s.

BY	DATE
SAR	8/2/21
SAR	9/2/21

REVISION
1. Concrete pad around valve box
2. Concrete pad around valve box

N. KY. WATER DISTRICT
PIPING SPECIFICATIONS FOR PIT CONSTRUCTION

DRAWN BY: SAR
APPROVED:
DATE: 2/1/2021
STANDARD DRAWING NO
203



DRAWING NOTES

1. PIPING CLASS 52 WITH FLANGED END WITHIN PIT.
2. VALVES WITH OUTSIDE SCREW AND YOKE, FLANGED CONNECTIONS. (RESILENT SEATED VALVES)
3. 2.5"" OR LARGER COMPOUND METER
4. FLANGED COUPLING ADAPTER OVER PLAIN END PIPE FLANGED BY PLAIN END PIPE.
5. STRAINER
6. BYPASS LINE SHALL BE EQUALIVANT IN SIZE AS THE FEED LINE OR THE NEXT SIZE SMALLER (3" MINIMUM SIZE)
7. If system pressures exceed 110 psi, a regulator SHALL BE INSTALLED AS SHOWN (DWG NO. 201 item No. 1.09)
8. SHADED AREA DISTRICTS RESPONSIBILITY

GENERAL NOTES

1. SEE DRAWING 202 FOR PIT CONSTRUCTION DETAILS.
2. SEE DRAWING 201 FOR PIT MATERIALS SPECIFICATIONS.
3. SEE DRAWING 203 FOR PIPING SPECIFICATIONS.
4. An approved Double Check Valve Assembly shall be required on Fire Lines by the following governing bodies: Kentucky Public Service Commission, Kentucky Division of Water, and Kentucky Division of Plumbing.

BY	DATE
SAR	8/2/21
SAR	9/2/21
SAR	1/2/24

REVISION
1. ADDED CONTRACTOR NOTE
2. ADDED 2.5" METER NOTE

N. KY. WATER DISTRICT
METER SETTINGS 2.5" AND LARGER

DRAWN BY: SAR
APPROVED:
DATE: 2/1/2021
STANDARD DRAWING NO
205-R

CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9626

Dayton Independent Schools - Athletic Complex
200 Greendevil Lane, Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123

REH# 168-523

DATE 11-15-23

C-230

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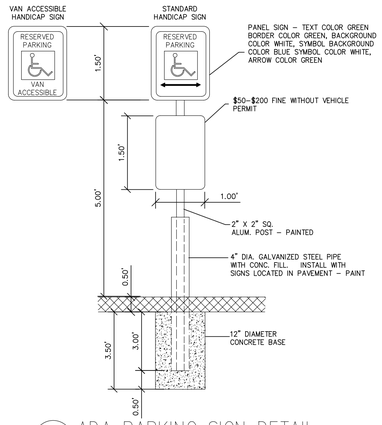
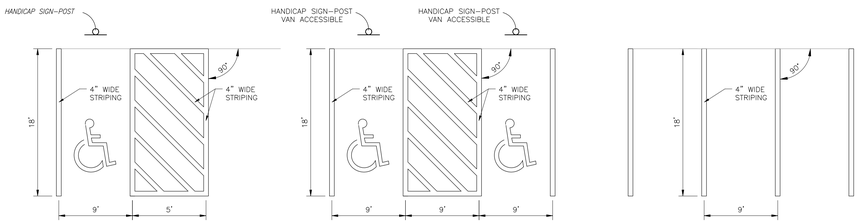


1 C-240 ADA PARKING SIGN DETAIL
SCALE: NTS

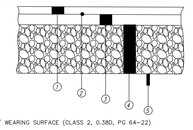


HANDICAPPED PARKING
60" AISLE

HANDICAPPED PARKING
VAN ACCESSIBLE
96" AISLE

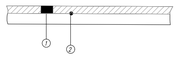
TYPICAL PARKING

2 C-240 PARKING STALL DETAILS
SCALE: NTS



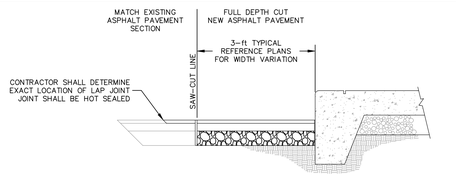
1 1–1/4" WEARING SURFACE (CLASS 2, 0.38D, PG 64–22)
2 TACK COAT, KYDOT 404
3 2" BASE COURSE (CLASS 2, 1.00D, PG–64–22), KTC 403, 404.
4 6" DGA, KTC 303.
5 SUBGRADE PREP AND COMPACTION PER GEOTECHNICAL ENGINEER RECOMMENDATIONS

3 C-240 ASPHALT PVMT
SCALE: NTS

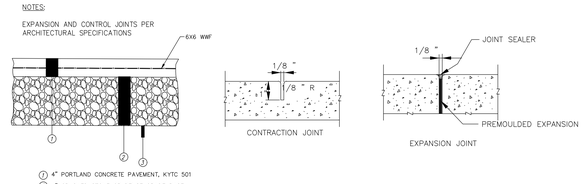


1 MILL EX. ASPHALT 1–1/2". PLACE 1–1/2" WEARING SURFACE (CLASS 2, 0.38D, PG 64–22)
2 TACK COAT, KYDOT 404

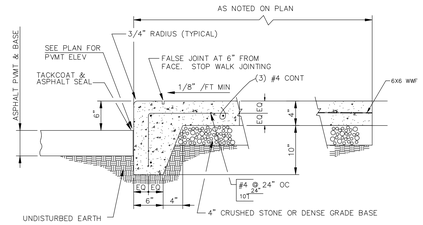
4 C-240 ASPHALT MILL + PAVE
SCALE: NTS



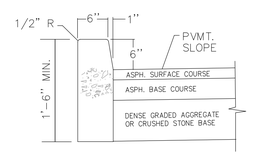
5 C-240 ASPHALT PAVEMENT SAW–CUT DETAIL
SCALE: NTS



6 C-240 SIDEWALK SECTION
SCALE: NTS



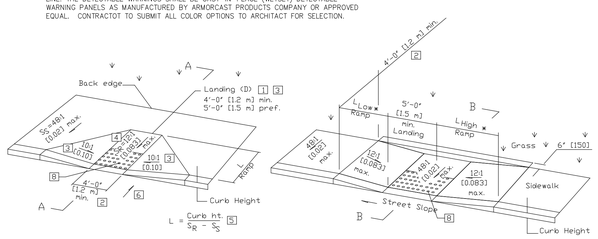
7 C-240 TURNED DOWN CONCRETE CURB/SIDEWALK
SCALE: NTS



8 C-240 STD VERTICAL CURB
SCALE: NTS

ADA DETECTABLE WARNING

THE CONTRACTOR SHALL INSTALL DETECTABLE WARNINGS ON WALKING SURFACES OF EACH CURB RAMP ACCORDING TO ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES. DETECTABLE WARNINGS SHALL BE 2' x 4' AND BE INSTALLED AT THE BACK OF CURB LINE. THE DETECTABLE WARNINGS SHALL BE CAST–IN–PLACE (WETSET) DETECTABLE WARNING PANELS AS MANUFACTURED BY ARMORCAST PRODUCTS COMPANY OR APPROVED EQUAL. CONTRACTOT TO SUBMIT ALL COLOR OPTIONS TO ARCHITACT FOR SELECTION.



PERPENDICULAR CURB RAMP DETAIL

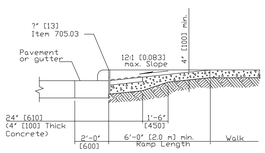
PARALLEL CURB RAMP DETAIL
(DOUBLE)

Street Slope	Ramp Length @ 1"/ft [0.083]	
	L LOW SIDE *	L HIGH SIDE *
0.01	5'–5" [1.6 m]	6'–10" [2.1 m]
0.02	4'–10" [1.5 m]	7'–11" [2.4 m]
0.03	4'–5" [1.3 m]	9'–5" [2.9 m]
0.04	4'–1" [1.2 m]	11'–8" [3.6 m]
0.05	3'–9" [1.1 m]	15'–2" [4.6 m]

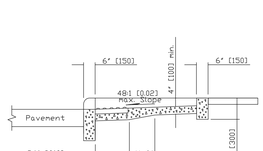
* Measured along the back of a 6" [150] high curb.

$$L_{HIGH} = \frac{\text{Curb ht.}}{0.083 - \text{Street Slope}} \quad [7]$$

$$L_{LOW} = \frac{\text{Curb ht.}}{0.083 + \text{Street Slope}} \quad [7]$$



SECTION A–A
NORMAL DETAIL



SECTION B–B

LEGEND

[1] May be reduced to 3'–0" [915] in existing sidewalks if the landing is unconstrained along the back edge.

[2] May be reduced to 3'–4" [1.02 m] in existing sidewalks to better fit the walk configuration or where site conditions are restricted by narrow walks, pole foundations, drainage inlets, etc. The width may be tapered.

[3] Where landing width (D) has been reduced to 3'–0" [915] the flared sides shall have a maximum slope of 12:1 (0.083).

Flared sides are not required where the edges of a curb ramp are protected by landscaping or other barriers to travel by wheel chair users or pedestrians across the edge of the curb ramp. However, if the flared sides are used in these areas, they may be of any slope.

[4] The slope of the ramp toward the curb is preferred to be 12:1 (0.083) or flatter related to the horizontal, but the maximum slope shall be 12:1 (0.083) relative to the existing or proposed walk slope.

In existing sidewalks, where the maximum ramp slope (S_R) is not feasible, it may be reduced as follows:

A) 10:1 (0.10) for a max. rise of 6" [150].
B) 8:1 (0.125) for a max. rise of 3" [75].
C) 6:1 [0.167] over a max. run of 2'–0" [610] for historic areas where a flatter slope is not feasible.

[5] The minimum length of a perpendicular ramp is 6' [2.0 m] from the back of a 6" [150] curb and may be increased where feasible to obtain a flatter ramp slope or to better blend with the walk configuration.

[6] Gutter counter slopes at the foot of perpendicular curb ramps should not exceed 20:1 (0.05) over a distance of 2'–0" [610] from the curb.

[7] Dimensions derived by equation are nominal. Construct ramps to meet required slopes and existing conditions.

[8] Detectable Warnings (truncated domes) are to be installed in the location shown. Dimensions of the domes are 24" [610] from the back of the curb by the width of the ramp. See NOTES on sheet 3.

9 C-240 CURB RAMP DETAILS
SCALE: NTS

CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
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Dayton Independent Schools - Athletic Complex
200 Greendevil Lane, Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123

REH# 168-523

DATE 11-15-23

C-240

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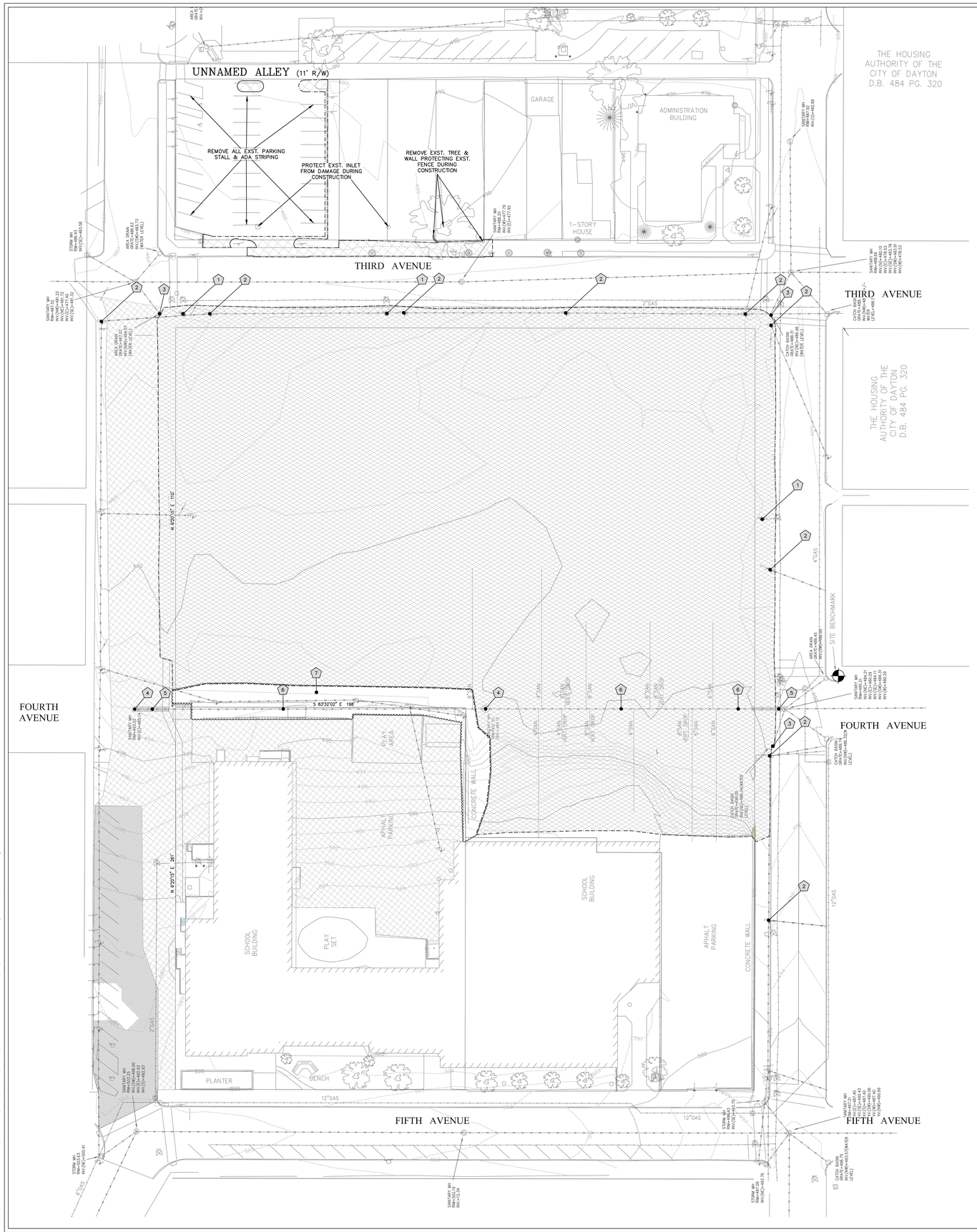

DEMOLITION PLAN LEGEND

- AREA OF RECENT DEMOLITION PAVEMENT/WALK/CURB/PLANTINGS/ BUILDINGS/FOUNDATION AND ASSOCIATED PAVEMENT REMOVED
- ABANDON SANITARY SEWER WITHIN PUBLIC ROAD
- REMOVE EX. PAVEMENT
- MILL EX. ASPHALT 1-1/2 INCHES

KEY NOTES: (#)

1. PROTECT EX. FIRE HYDRANT ASSEMBLY.
2. REFER TO KLH DRAWINGS FOR OVERHEAD ELECTRIC LINES TO UNDERGROUND SERVICE.
3. REMOVE EX. STORMWATER INLET AND SURROUNDING CURB AND SIDEWALK. PROTECT EX. SEWER PIPES DURING CONSTRUCTION.
4. PROPERLY ABANDON EX. SANITARY SEWER MANHOLE PER 13/C-220 AND SPECIFICATIONS ON SHEET C-100.
5. PROPERLY ABANDON SANITARY SEWER PIPELINE UNDER PUBLIC STREET PER SPECIFICATIONS ON SHEET C-100.
6. PROPERLY ABANDON SANITARY SEWER PIPELINE ON PRIVATE PROPERTY PER SPECIFICATIONS ON SHEET C-100.
7. REMOVE EX. FENCING, LANDSCAPING, TREES, AND OTHER APPURTENANCES IN THE CLOUDED AREA.

DEMOLITION PLAN

1" = 30'

0 30 60 90

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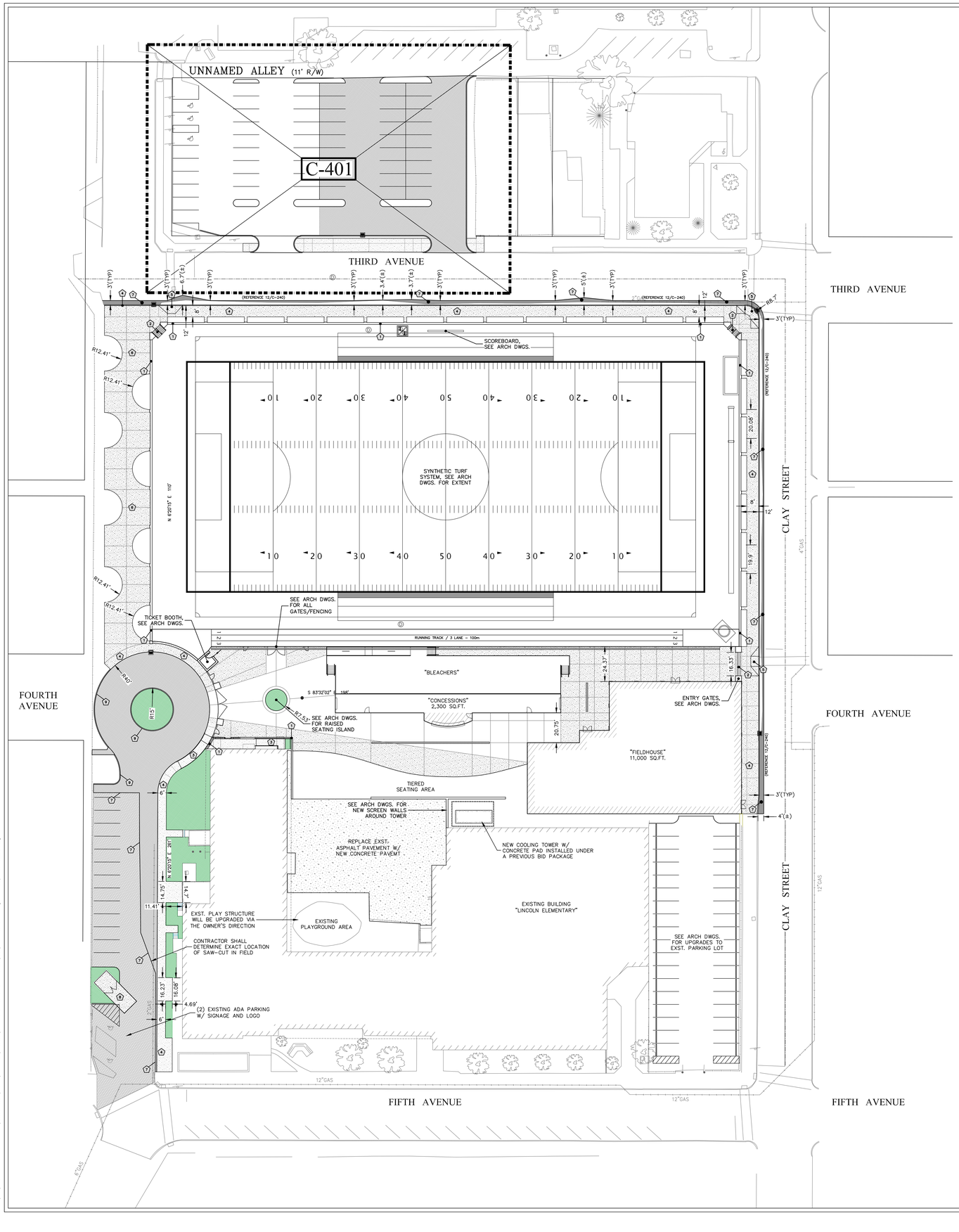

KEY NOTES:

1. RETAINING WALL WITH DECORATIVE FENCE, DESIGN BY OTHERS. REFERENCE ARCHITECT DWGS. FOR MORE SPECIFIC INFORMATION AND DETAILS.
2. STEPS W/ HANDRAILS. REFERENCE ARCHITECTURE DWGS.
3. ADA RAMP W/ HANDRAILS. MAXIMUM 12:1 SLOPE, 2% SLOPE IN ANY DIRECTION FOR LANDINGS AND CHANGE OF DIRECTION.
4. TURNED DOWN CONCRETE CURB AND SIDEWALK. REFERENCE C-601 & C-602 FOR GRADE CHANGES AT MODIFIED CURB AREAS.
5. ADA CURB RAMP W/ TRUNCATED DOMES PER 9/C-240.
6. CONCRETE PAVEMENT. REFERENCE ARCHITECT DWGS. FOR MORE SPECIFIC DETAILS.
7. SAW-CUT, REMOVE, AND SMOOTH EXISTING ASPHALT EDGE NECESSARY TO INSTALL NEW CURB AND/OR ASPHALT PAVEMENT. INSTALL ASPHALT PAVEMENT TO MATCH EXISTING GRADE AND PROFILE. REFER TO 12/C-240 FOR CLAY STREET AND THIRD AVENUE.
8. CONCRETE PAD FOR NEW DUMPSTER ENCLOSURE. REFERENCE ARCHITECTURE DWGS. FOR MORE SPECIFIC DETAILS.
9. 6" CONCRETE VERTICAL CURB PER 8/C-240.

SITE PLAN LEGEND

PROPOSED ASPHALT PAVEMENT PER 3/C-200 (IN 3RD, CLAY, AND GREENDEVIL STREETS MATCH EXISTING PAVEMENT SECTION)

PROPOSED CONCRETE PAVEMENT REFER PAVEMENT AND SIDEWALK DETAILS ON SHEET C-240

SITE LAYOUT PLAN

1" = 30'

0 30 60 90

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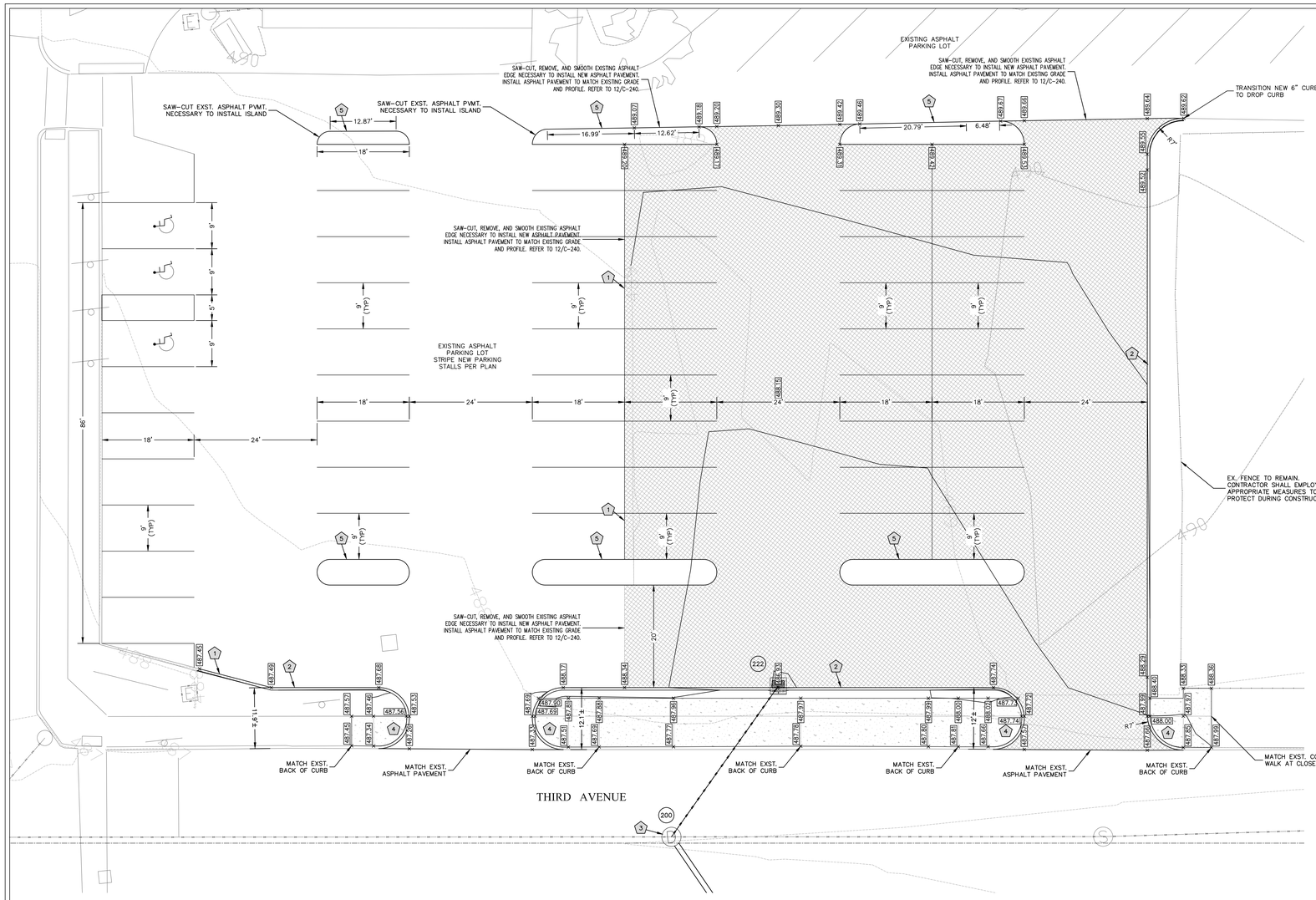

KEY NOTES: (#)

1. SAW-CUT, REMOVE, AND SMOOTH EXISTING ASPHALT EDGE NECESSARY TO INSTALL NEW CURB AND/OR ASPHALT PAVEMENT. INSTALL ASPHALT PAVEMENT TO MATCH EXISTING GRADE AND PROFILE. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF SAW-CUT IN FIELD.
2. 6" CONCRETE VERTICAL CURB.
3. NEW DROP MANHOLE PER 11/C-220. CONTRACTOR SHALL CAREFULLY EXPOSED EX. 12-IN VCP USING A NON-INVASIVE EXCAVATION MEASURE AND CONSTRUCT A DOGHOUSE (12/C-220) AROUND THE EX. 12-IN VCP PRIOR TO CUTTING THE EX. 12-IN.VCP. RIM=487.97, 12-IN.INV(IN)=482.33, 12-IN.INV(IN)=477.65, 12-IN.INV(OUT)= 477.64.
4. ADA CURB RAMP W/ TRUNCATED DOMES PER 9/C-240.
5. NEW LANDSCAPE ISLAND.

SITE PLAN LEGEND

PROPOSED ASPHALT PAVEMENT PER 4/C-200 (IN 3RD, CLAY, AND GREENDEVIL STREETS MATCH EXISTING PAVEMENT SECTION)

PROPOSED CONCRETE PAVEMENT REFER PAVEMENT AND SIDEWALK DETAILS ON SHEET C-240

ENLARGED SITE PLAN

1" = 10'

0 10 20 30

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LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
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FAX: (859) 581-9026

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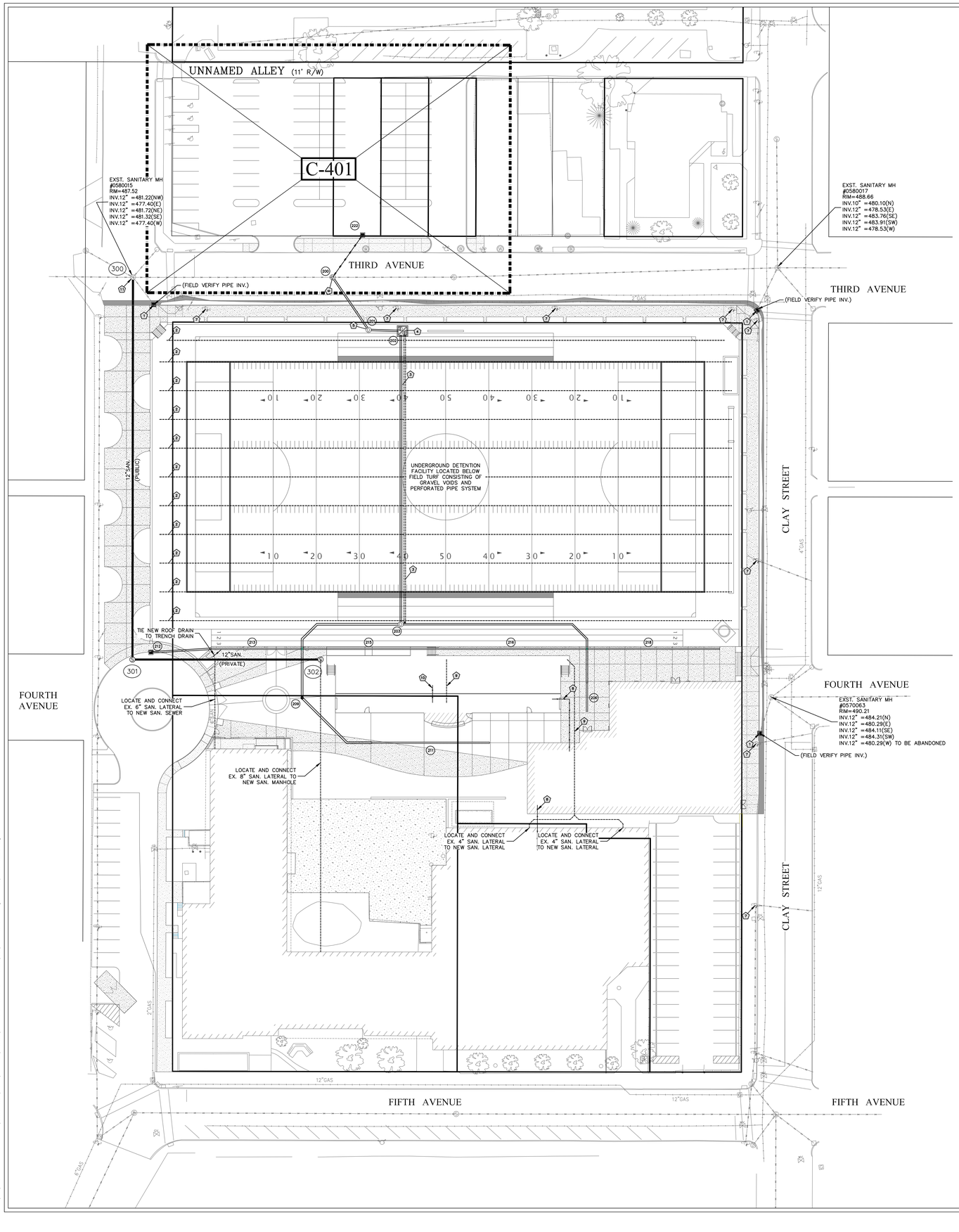

KEY NOTES:

1. REPLACE EX. STORMWATER INLET AND CONNECT EX. SEWER PIPES W/ WATERTIGHT SEAL.
2. NEW 4-IN PERFORATED PIPE, UNDERDRAIN. REFERENCE TYPICAL SECTION, #/C-220.
3. NEW 12-IN PERFORATED PIPE, UNDERDRAIN COLLECTION PIPE. REFERENCE TYPICAL SECTION, #/C-220.
4. NEW OUTLET CONTROL STRUCTURE. REFERENCE DETAIL, 6/C-210.
5. TRAPPED MANHOLE PER 10/C-220. RIM=491.75, INV. IN=483.22, INV, OUT=483.18.
6. NEW DROP MANHOLE PER 11/C-220. CONTRACTOR SHALL CAREFULLY EXPOSED EX. 12-IN VCP USING A NON-INVASIVE EXCAVATION MEASURE AND CONSTRUCT A DOGHOUSE (12/C-220) AROUND THE EX. 12-IN VCP PRIOR TO CUTTING THE EX. 12-IN.VCP. RIM=487.97, 12-IN.INV(IN)=482.33, 12-IN.INV(IN)=477.65, 12-IN.INV(OUT)= 477.64.
7. COORDINATE WITH DUKE ENERGY TO MOVE EXST. OVERHEAD ELECTRIC LINES UNDERGROUND.
8. NEW 3-IN WATER SERVICE. REFERENCE MEP DWGS. FOR SPECIFICATIONS AND DETAILS.
9. NEW 4-IN SANITARY LATERAL. REFERENCE MEP DWGS. FOR SPECIFICATIONS AND DETAILS.
10. NEW 1.5-IN WATER SERVICE, IRRIGATION LINE. REFERENCE MEP DWGS. FOR SPECIFICATIONS AND DETAILS.
11. CONNECTION TO BE CORE-DRILLED PER THE SANITARY SEWER SPECIFICATIONS ON SHEET C-100.

UTILITY PLAN

1" = 30'

0 30 60 90

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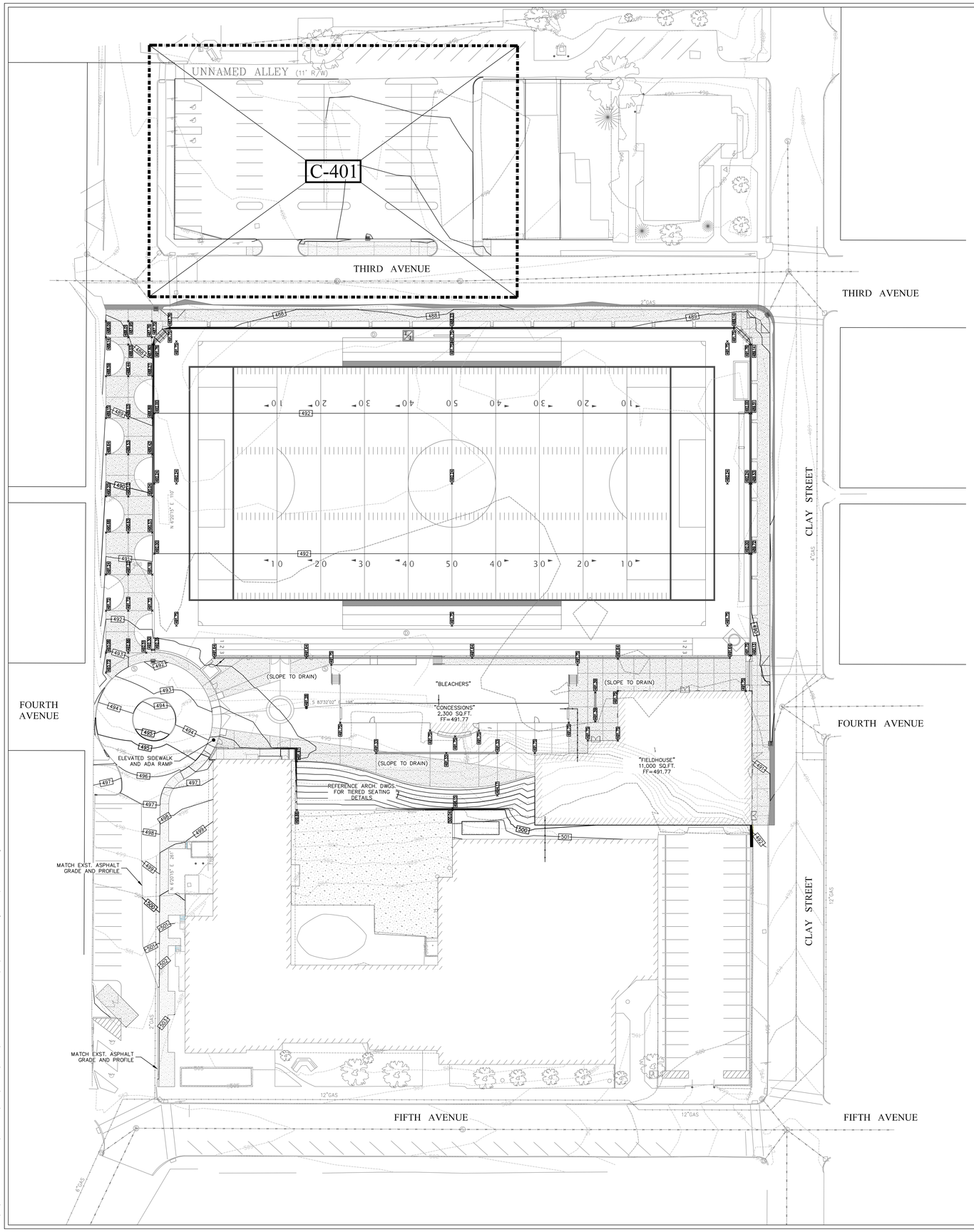

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GRADING PLAN

1" = 30'

0 30 60 90

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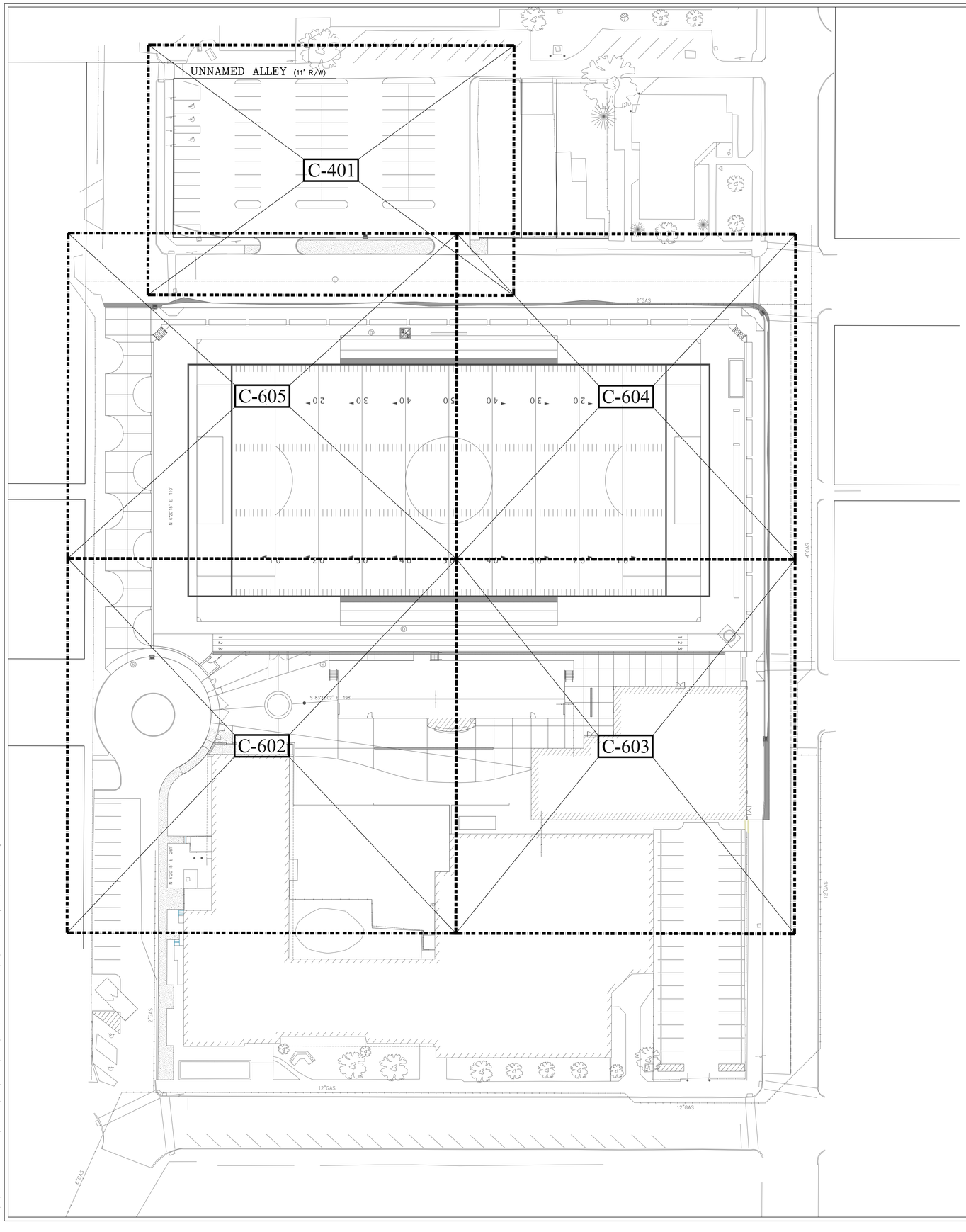

ENLARGED GRADING
PLAN KEY
1" = 30'

0 30 60 90

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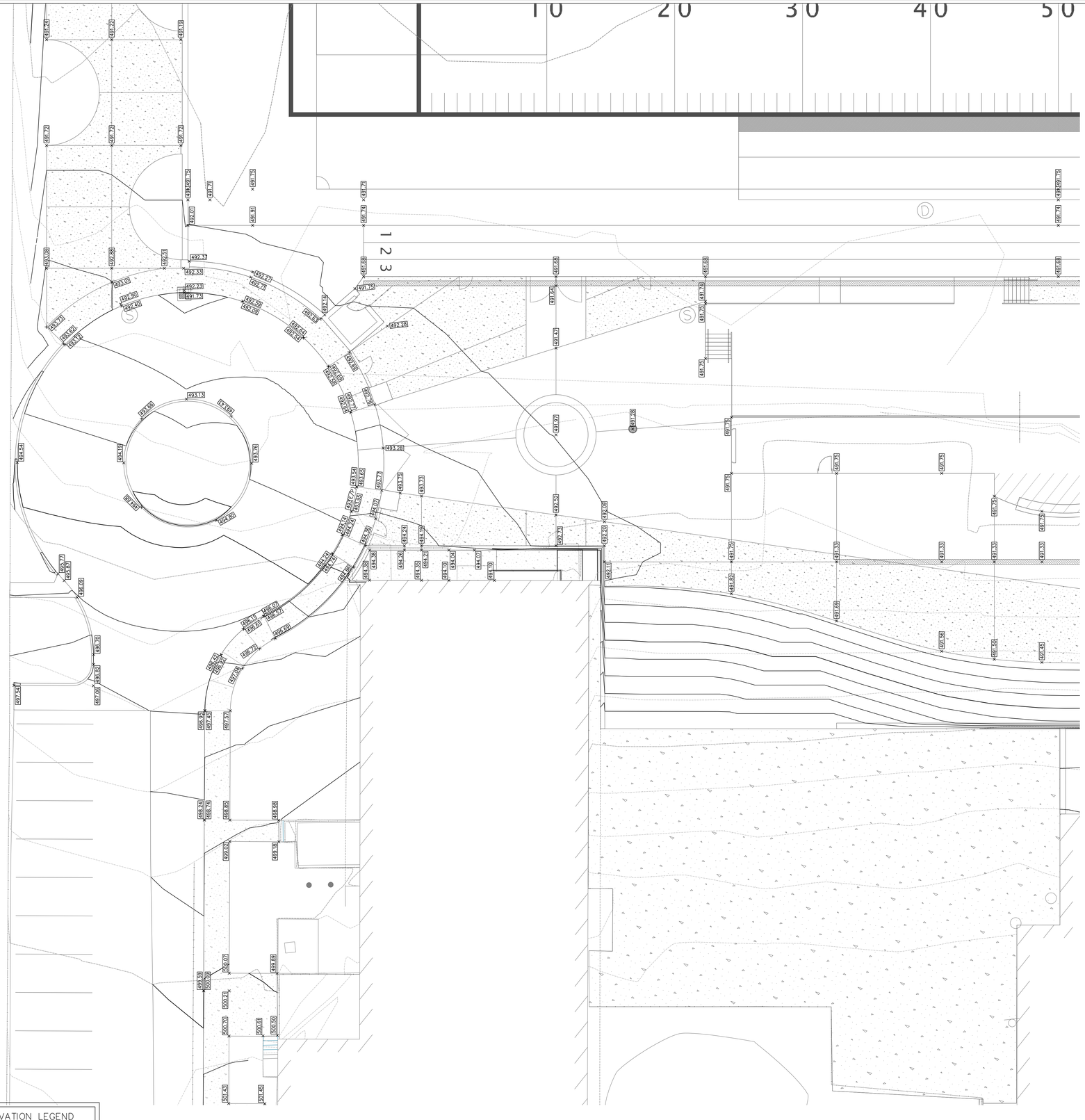

SPOT ELEVATION LEGEND

T/W = TOP OF WALL/WALK
EWH = EXPOSED WALL HEIGHT
EX = EXISTING GRADE
E/P = EDGE OF PAVEMENT
GND = PROPOSED GROUND GRADE

ENLARGE GRADING PLAN

1" = 10'

0 10 20 30

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ENLARGE GRADING PLAN

1" = 10'

0 10 20 30

C-603

CARD#	REH#	DATE
22-123	168-523	11-15-23

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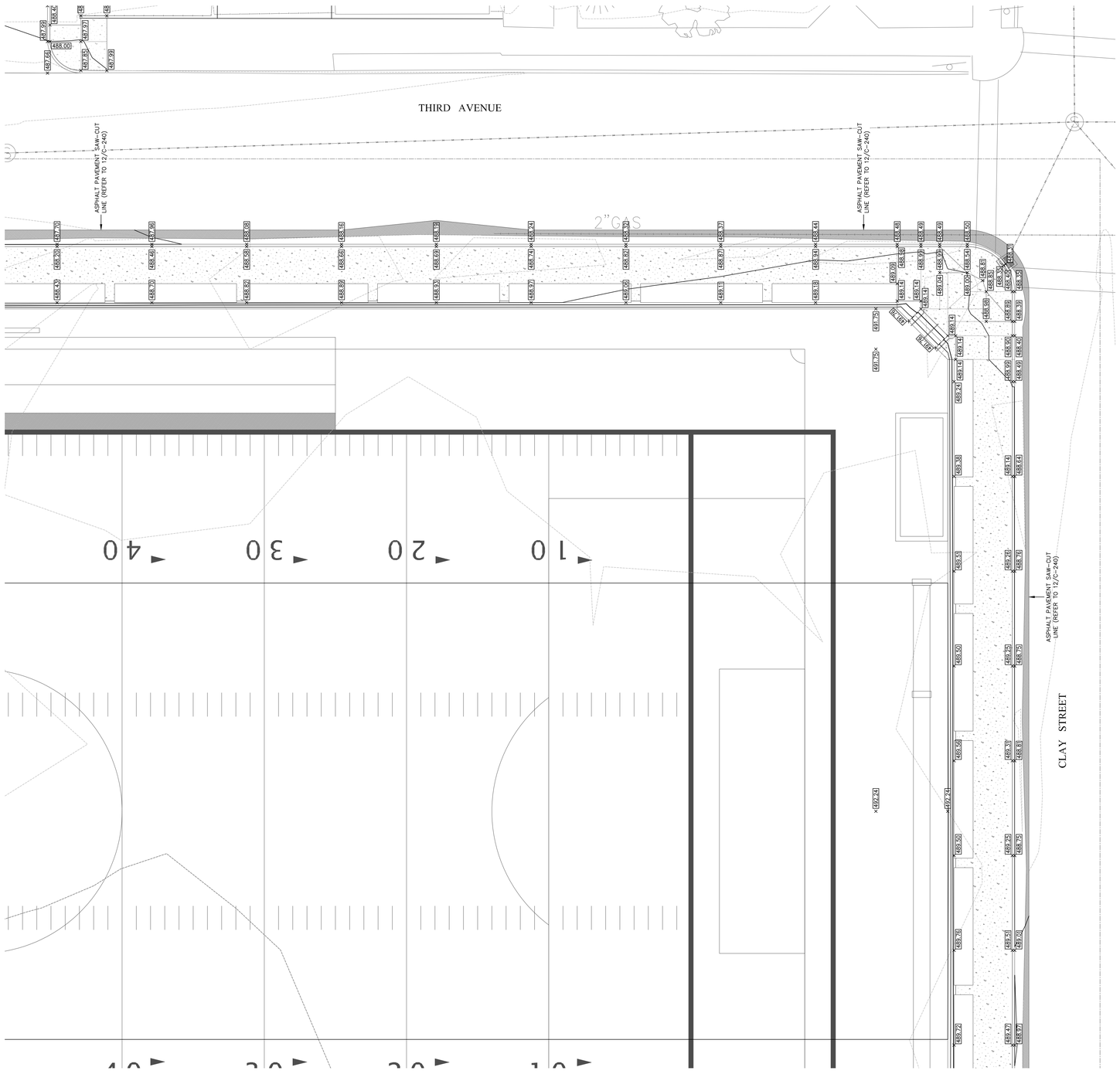
ENGINEERING
LAND SURVEYING
ONE RIDGECREST ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-3900
FAX: (859) 581-3989



ENLARGE GRADING PLAN

1" = 10'

0 10 20 30

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ONE MOOCK ROAD
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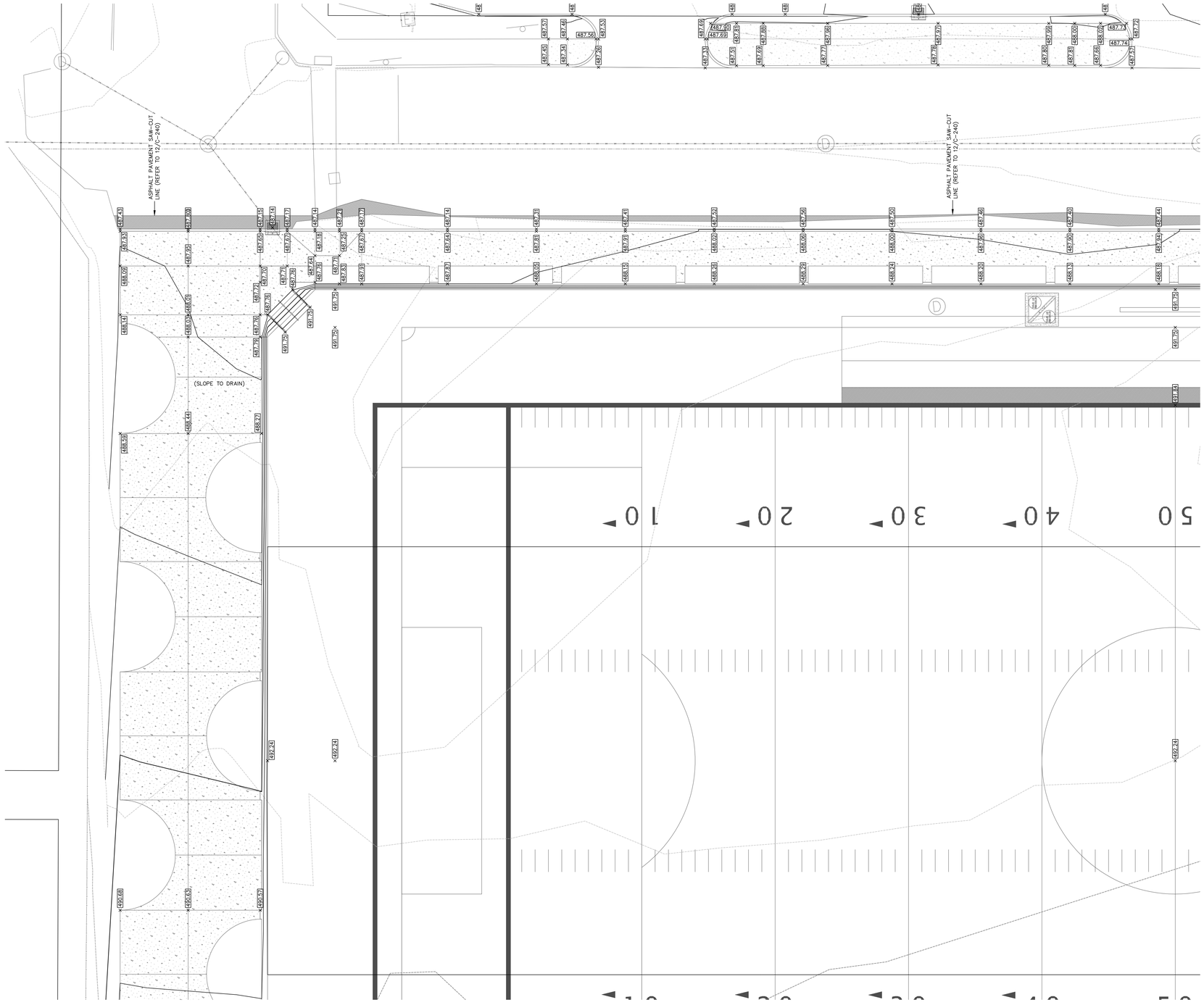

ENLARGE GRADING PLAN
1" = 10'

0 10 20 30

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LAND SURVEYING
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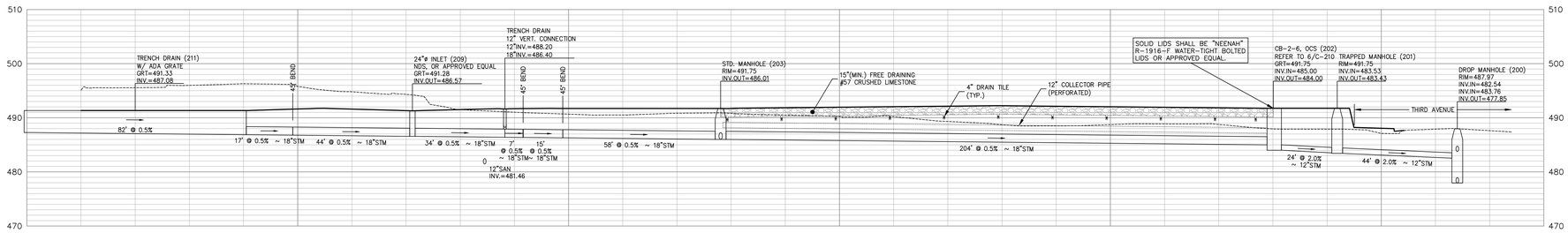
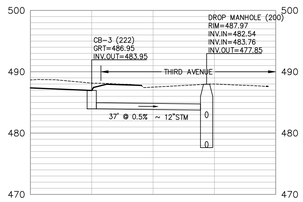
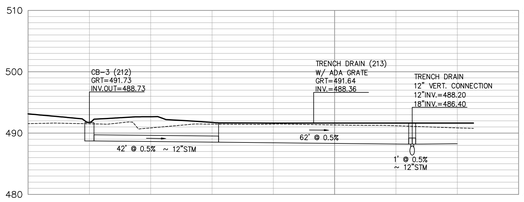
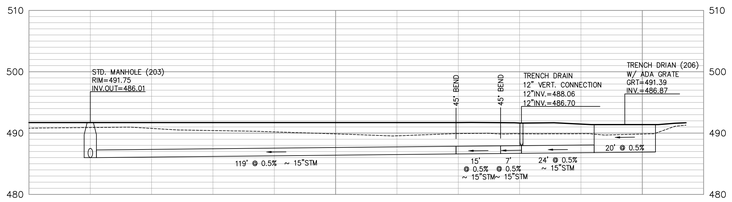
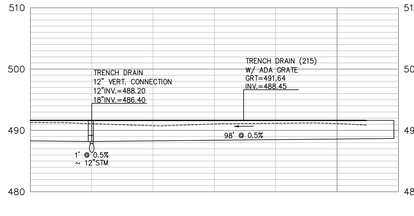
STORM PROFILES

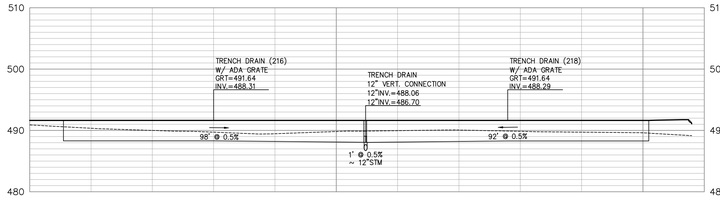


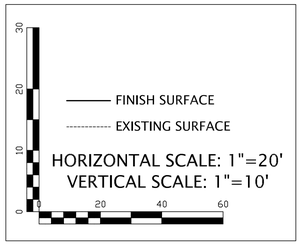












STORM SEWER PROFILES
AS NOTED

CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9626

Dayton Independent Schools - Athletic Complex
200 Greendevil Lane, Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123
REH# 168-523
DATE 11-15-23

C-910

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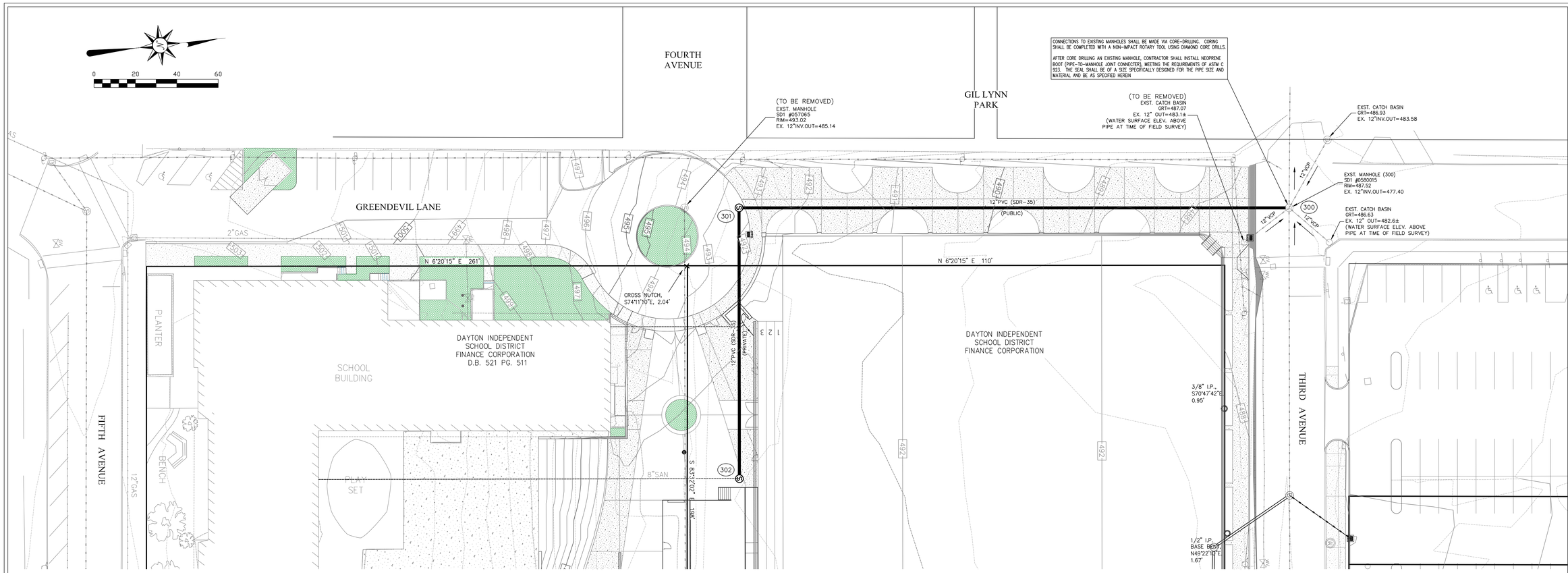

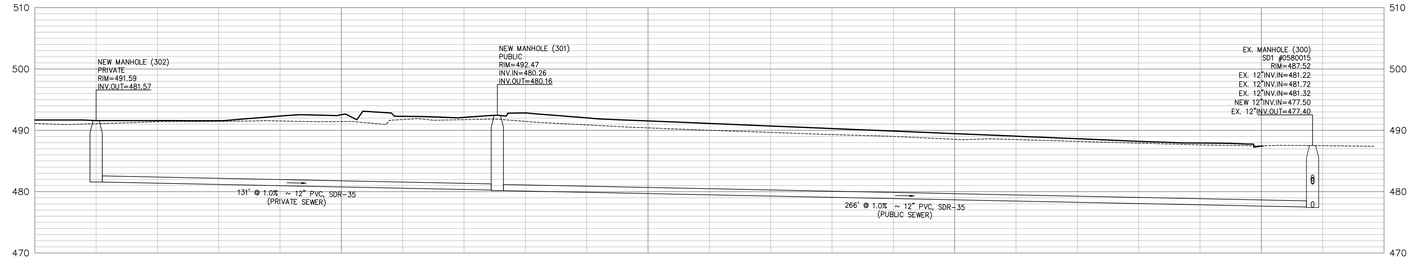

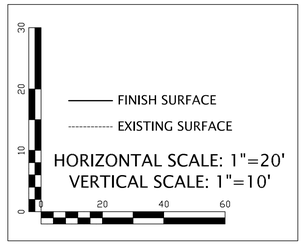

SANITARY SEWER
PLAN AND PROFILE
AS NOTED

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ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9026

Dayton Independent Schools - Athletic Complex
200 Greendevil Lane, Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123

REH# 168-523

DATE 11-15-23

C-920

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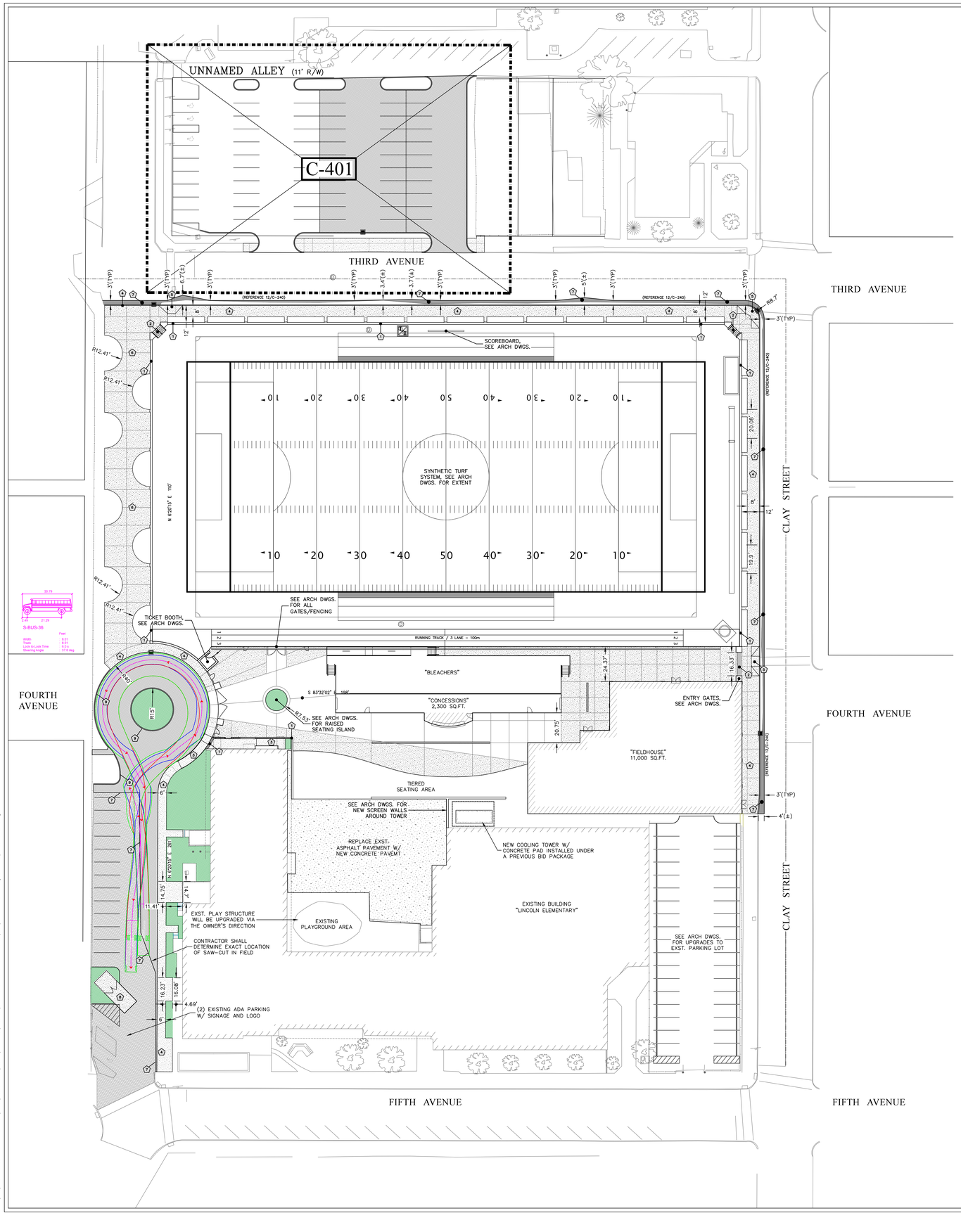

KEY NOTES:

1. RETAINING WALL WITH DECORATIVE FENCE, DESIGN BY OTHERS. REFERENCE ARCHITECT DWGS. FOR MORE SPECIFIC INFORMATION AND DETAILS.
2. STEPS W/ HANDRAILS. REFERENCE ARCHITECTURE DWGS.
3. ADA RAMP W/ HANDRAILS. MAXIMUM 12:1 SLOPE, 2% SLOPE IN ANY DIRECTION FOR LANDINGS AND CHANGE OF DIRECTION.
4. TURNED DOWN CONCRETE CURB AND SIDEWALK. REFERENCE C-601 & C-602 FOR GRADE CHANGES AT MODIFIED CURB AREAS.
5. ADA CURB RAMP W/ TRUNCATED DOMES PER 9/C-240.
6. CONCRETE PAVEMENT. REFERENCE ARCHITECT DWGS. FOR MORE SPECIFIC DETAILS.
7. SAW-CUT, REMOVE, AND SMOOTH EXISTING ASPHALT EDGE NECESSARY TO INSTALL NEW CURB AND/OR ASPHALT PAVEMENT. INSTALL ASPHALT PAVEMENT TO MATCH EXISTING GRADE AND PROFILE. REFER TO 12/C-240 FOR CLAY STREET AND THIRD AVENUE.
8. CONCRETE PAD FOR NEW DUMPSTER ENCLOSURE. REFERENCE ARCHITECTURE DWGS. FOR MORE SPECIFIC DETAILS.
9. 6" CONCRETE VERTICAL CURB PER 8/C-240.

SITE PLAN LEGEND

PROPOSED ASPHALT PAVEMENT PER 3/C-200 (IN 3RD, CLAY, AND GREENDEVIL STREETS MATCH EXISTING PAVEMENT SECTION)

PROPOSED CONCRETE PAVEMENT REFER PAVEMENT AND SIDEWALK DETAILS ON SHEET C-240

SITE LAYOUT PLAN
1" = 30'

0 30 60 90

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ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE (859) 581-9600
FAX (859) 581-9636

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200 Greendevil Lane, Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

CARD# 22-123
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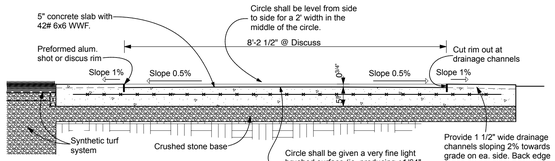
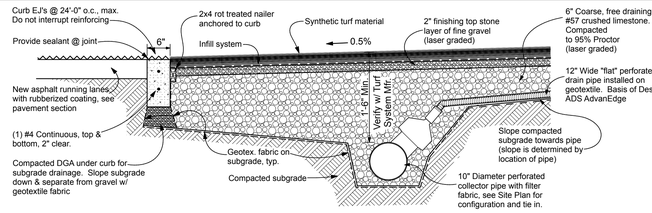


6 SD1 Discus Throwing Pad Section
3/4" = 1'-0"



1 SD1 Turf Edge Detail
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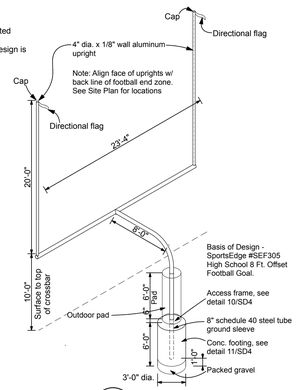
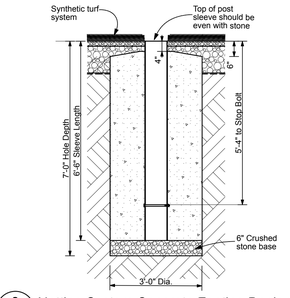
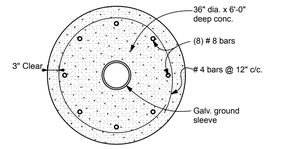


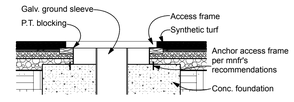
2 SD1 Football Goal Post
1/8" = 1'-0"



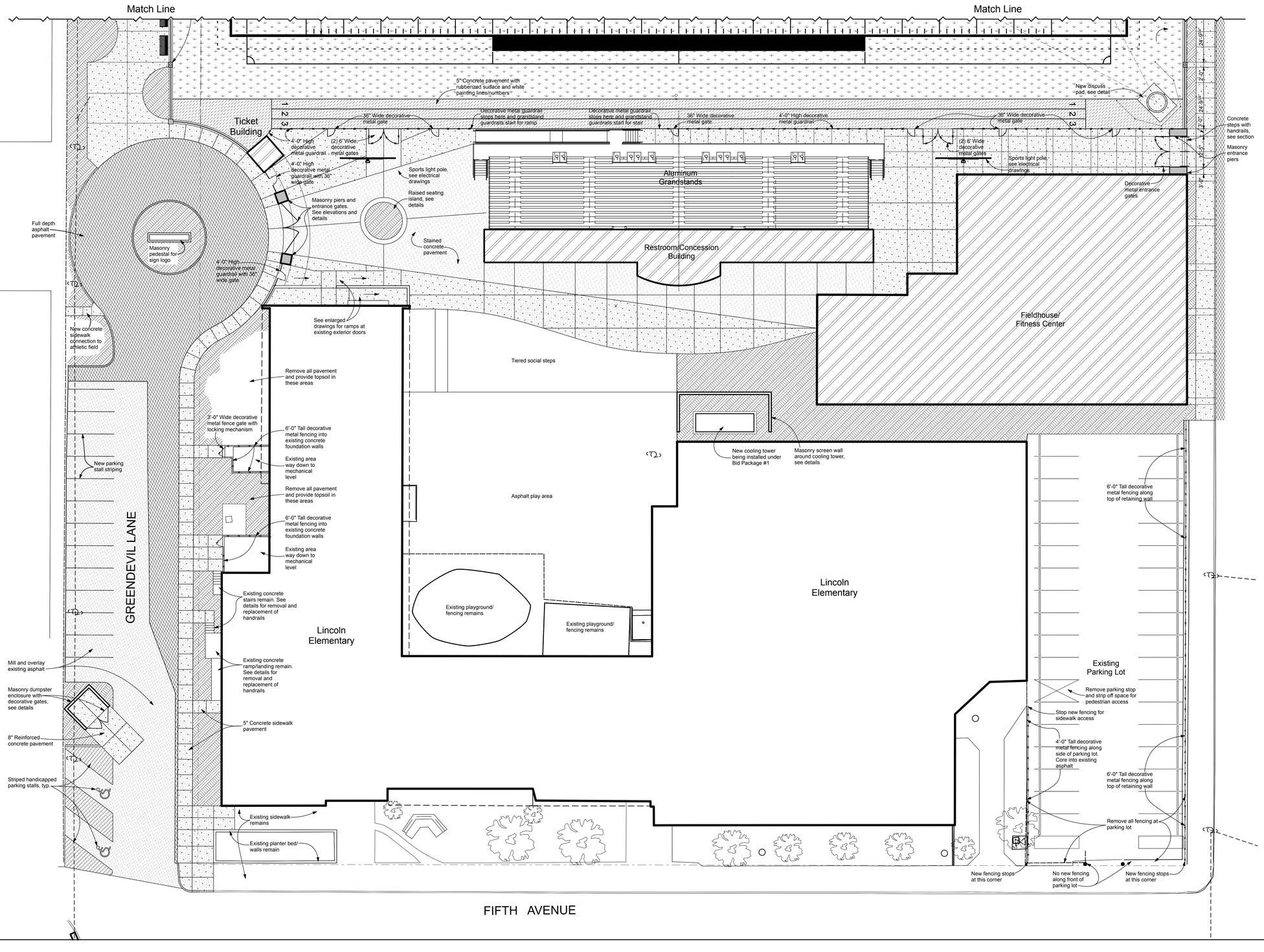
3 SD1 Netting System Concrete Footing Design
1/2" = 1'-0"



4 SD1 Detail @ Goalpost Footing
3/4" = 1'-0"



5 SD1 Detail @ Goalpost Access Frame
3/4" = 1'-0"



Architectural Site Plan - Part A
1/16" = 1'-0"

REH&A ARCHITECTS
ROBERT EHMET HAYES & ASSOCIATES, PLLC
465 CENTRE VIEW BLVD - CRESTVIEW HILLS, KENTUCKY 41017
(859) 331-3121

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Dayton Independent Schools - Athletic Complex
Bid Package #2
200 Greendevil Lane Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

SHEET TITLE
Architectural Site Plan - Part A

BG # 23-538
REH # 168-523
DATE 1-24-24

SD1

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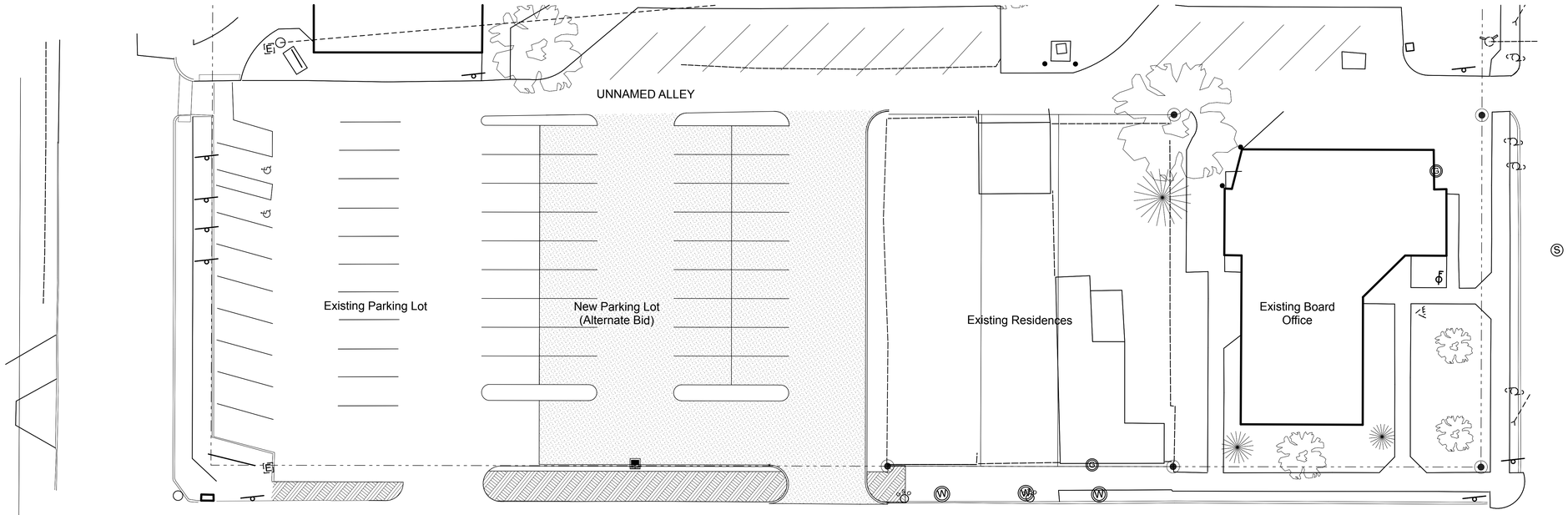

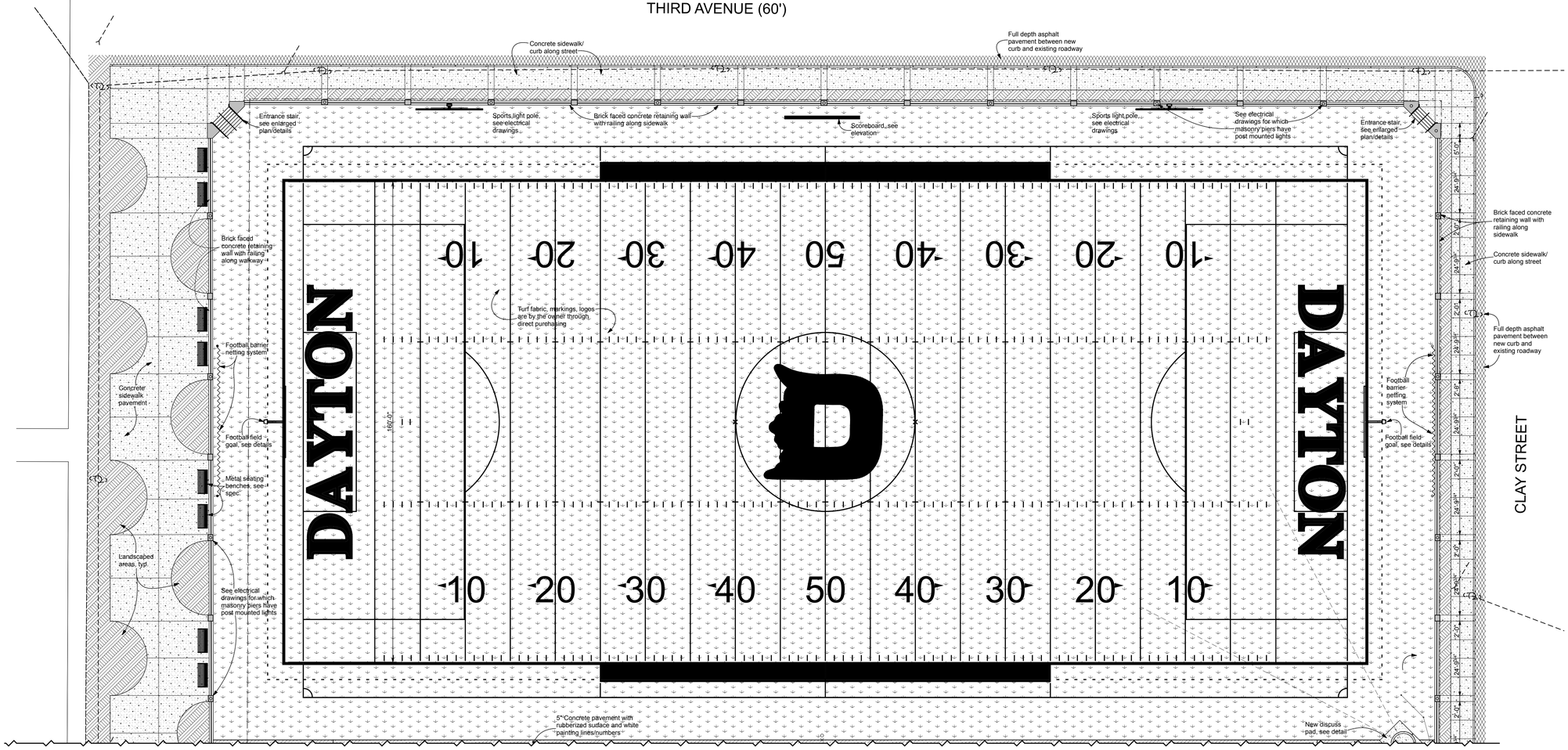

Architectural Site Plan - Part B
1/16" = 1'-0"

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Dayton Independent Schools - Athletic Complex

Bid Package #2

200 Greendevil Lane Dayton, Kentucky 41074

Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

SHEET TITLE

Architectural Site Plan - Part B

BG # 23-538

REH # 168-523

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SD2

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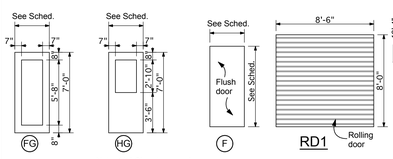
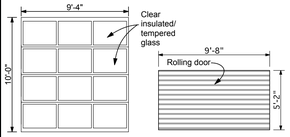
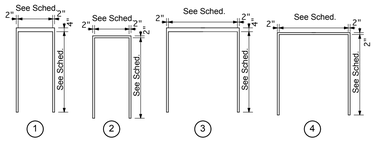


Door Types
3/16" = 1'-0"

Note: 1/4" Clear tempered for interior doors & 1" Clear insulated/tempered glass for exterior doors





Frame Types
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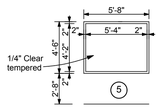
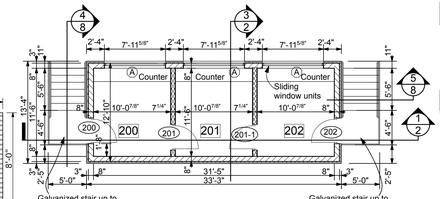
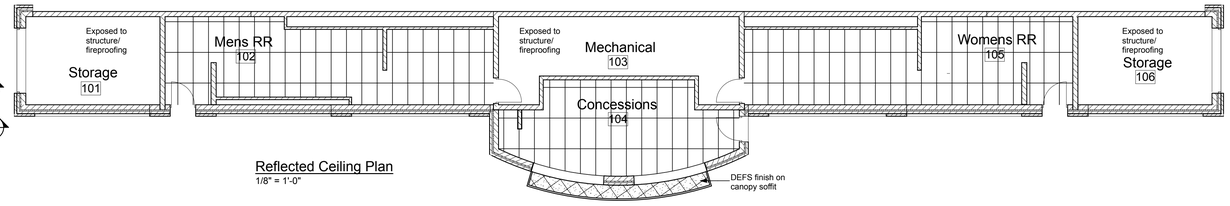
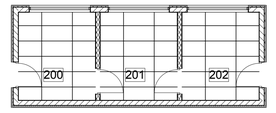




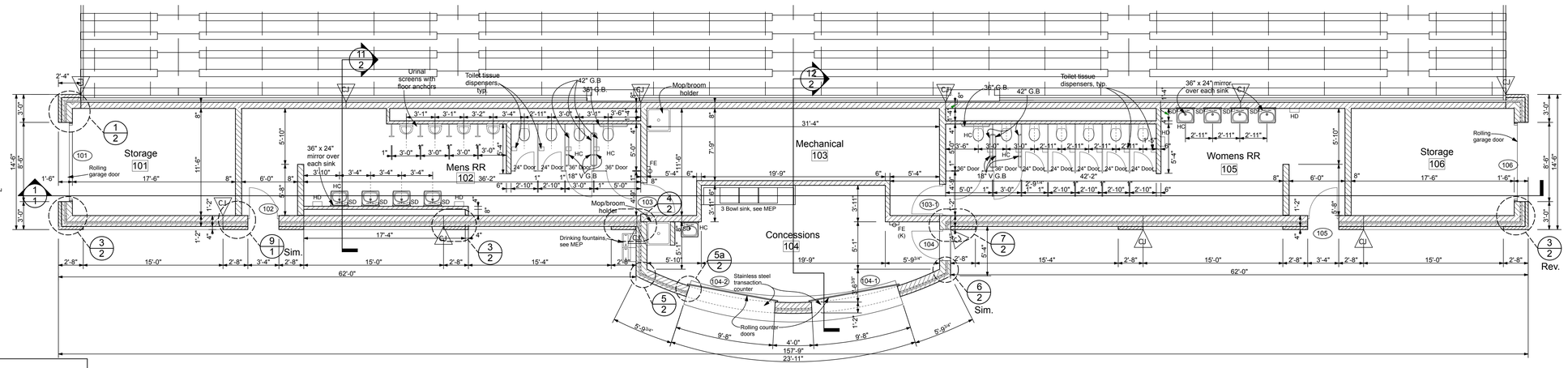
Press Box Plan
1/8" = 1'-0"



Reflected Ceiling Plan
1/8" = 1'-0"



Press Box RCP
1/8" = 1'-0"



Floor Plan
3/16" = 1'-0"

DOOR SCHEDULE

	SIZE	MAT.	TYPE	MAT.	TYPE	HEAD	JAMB	SILL	LABEL	HWDE	NOTES
		DOOR		FRAME		DETAILS					
101	Rolling Door	STL	RD1	STL	--	19/3	7/3	19/3	60	--	See Spec For Details
102	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	1	7/1	9/1	4/1	--	--	---
103	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	1	2/1	3/1	--	--	--	---
103-1	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	1	2/1	3/1	--	--	--	---
104	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	1	8/1	10/1	4/1	--	--	---
104-1	Rolling Door	STL	RD3	STL	--	16/3	8/4	16/3	--	--	See Spec For Details
104-2	Rolling Door	STL	RD3	STL	--	16/3	8/4	16/3	--	--	See Spec For Details
105	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	1	7/1	9/1	4/1	--	--	---
106	Rolling Door	STL	RD1	STL	--	19/3	7/3	19/3	60	--	See Spec For Details
200	3'-0" x 7'-0" x 1 3/4"	HM	HG	HM	1	3/4	2/4	6/4	--	--	---
201	3'-0" x 7'-0" x 1 3/4"	HM	HG	HM	2	6/1	5/1	--	--	--	---
201-1	3'-0" x 7'-0" x 1 3/4"	HM	HG	HM	2	6/1	5/1	--	--	--	---
202	3'-0" x 7'-0" x 1 3/4"	HM	HG	HM	1	3/4	2/3	6/4	--	--	---
TB	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	1	9/2		9/2	--	--	---

FINISH SCHEDULE ABBREVIATIONS:

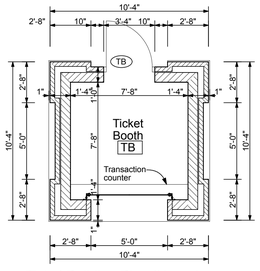
F	Flush Door	HM	Hollow Metal Door
FG	Full Glass Door	STL	Steel
HG	Half Glass Door		

ROOM FINISH SCHEDULE

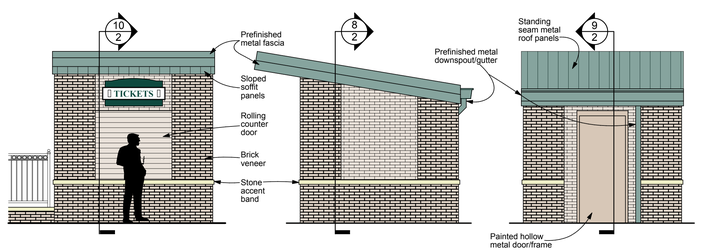
ROOM #	ROOM TITLE	FLOOR	BASE	N. WALL	E. WALL	S. WALL	W. WALL	FINISH	CEILING	CLG HGT	NOTES
101	Storage	--	--	CMU	CMU	CMU	CMU	P	EXP	--	
102	Mens RR	RF	RF	CMU	CMU	CMU	CMU	P	ACT	8'-8"	
103	Mechanical	--	--	CMU	CMU	CMU	CMU	P	EXP	--	
104	Concessions	RF	RF	CMU	CMU	CMU	CMU	P	ACT	9'-4"	
105	Womens RR	RF	RF	CMU	CMU	CMU	CMU	P	ACT	8'-8"	
106	Storage	--	--	CMU	CMU	CMU	CMU	P	EXP	--	
200	Pressbox	VCT	R	CMU	DW	CMU	DW	P	ACT	8'-0"	
201	Pressbox	VCT	R	CMU	DW	CMU	CMU	P	ACT	8'-0"	
202	Pressbox	VCT	R	CMU	CMU	CMU	DW	P	ACT	8'-0"	
TB	Ticket Building	RF	RF	CMU	CMU	CMU	CMU	P	DW	Varies, See Sections	

FINISH SCHEDULE ABBREVIATIONS:

ACT	Acoustical Ceiling Tile	P	Paint	VCT	Vinyl Composition Tile
DW	Drywall	R	Rubber Base		
EXP	Exposed	RF	Resinous Flooring/Base		



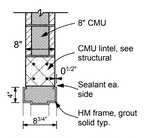
Ticket Building Plan (Upper)
3/16" = 1'-0"



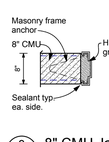
Ticket Building - Front Elevation
3/16" = 1'-0"

Ticket Building - Side Elevation
3/16" = 1'-0"

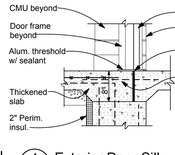
Ticket Building - Rear Elevation
3/16" = 1'-0"



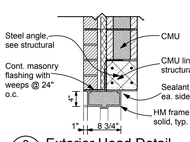
2/1 8" CMU Head Detail
3/4" = 1'-0"



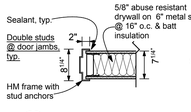
3/1 8" CMU Jamb Detail
3/4" = 1'-0"



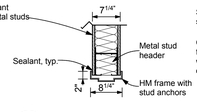
4/1 Exterior Door Sill
3/4" = 1'-0"



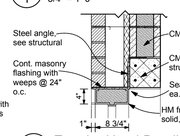
8/1 Exterior Head Detail
3/4" = 1'-0"



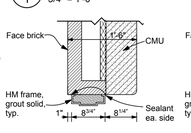
5/1 Jamb Detail @ Drywall Partitions
3/4" = 1'-0" (6" Metal Studs)



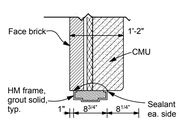
6/1 Head Detail @ Drywall Partitions
3/4" = 1'-0" (6" Metal Studs)



7/1 Exterior Head Detail
3/4" = 1'-0"



9/1 Exterior Jamb Detail
3/4" = 1'-0"



10/1 Exterior Jamb Detail
3/4" = 1'-0"

Grandstand Plan & Roof Plan
1/8" = 1'-0"

1/1 Building Section
1/8" = 1'-0"

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Dayton Independent Schools - Athletic Complex
Bid Package #2

200 Greendevil Lane Dayton, Kentucky 41074

Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

SHEET TITLE
Concession/ Restroom Floor Plans Roof Plan RCP's

BG # 23-538

REH # 168-523

DATE 1-24-24

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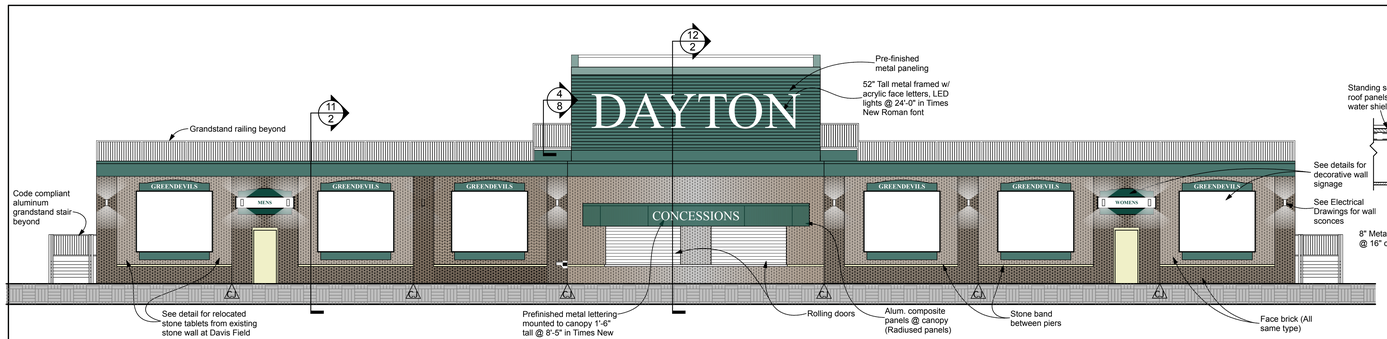
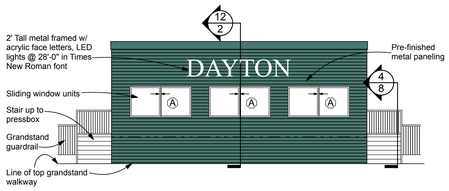
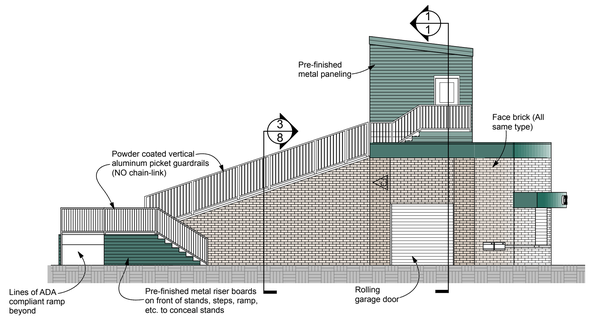


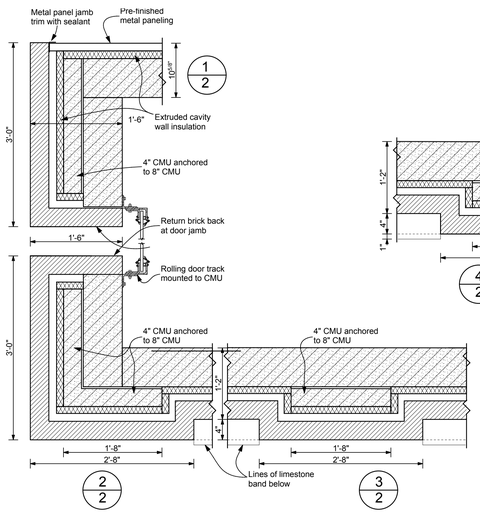
Plaza Elevation
1/8" = 1'-0"

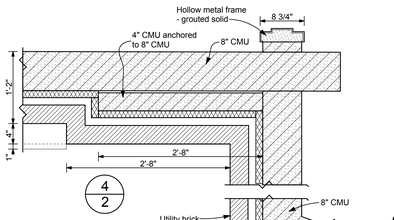


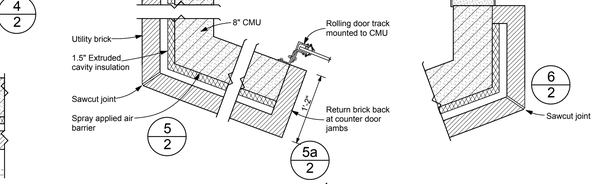
Pressbox Elevation (Facing Field)
1/8" = 1'-0"

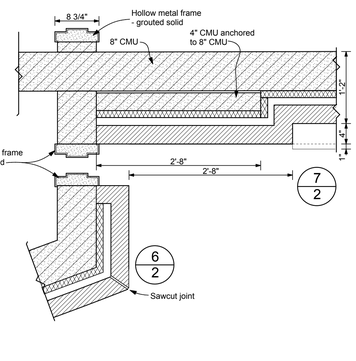


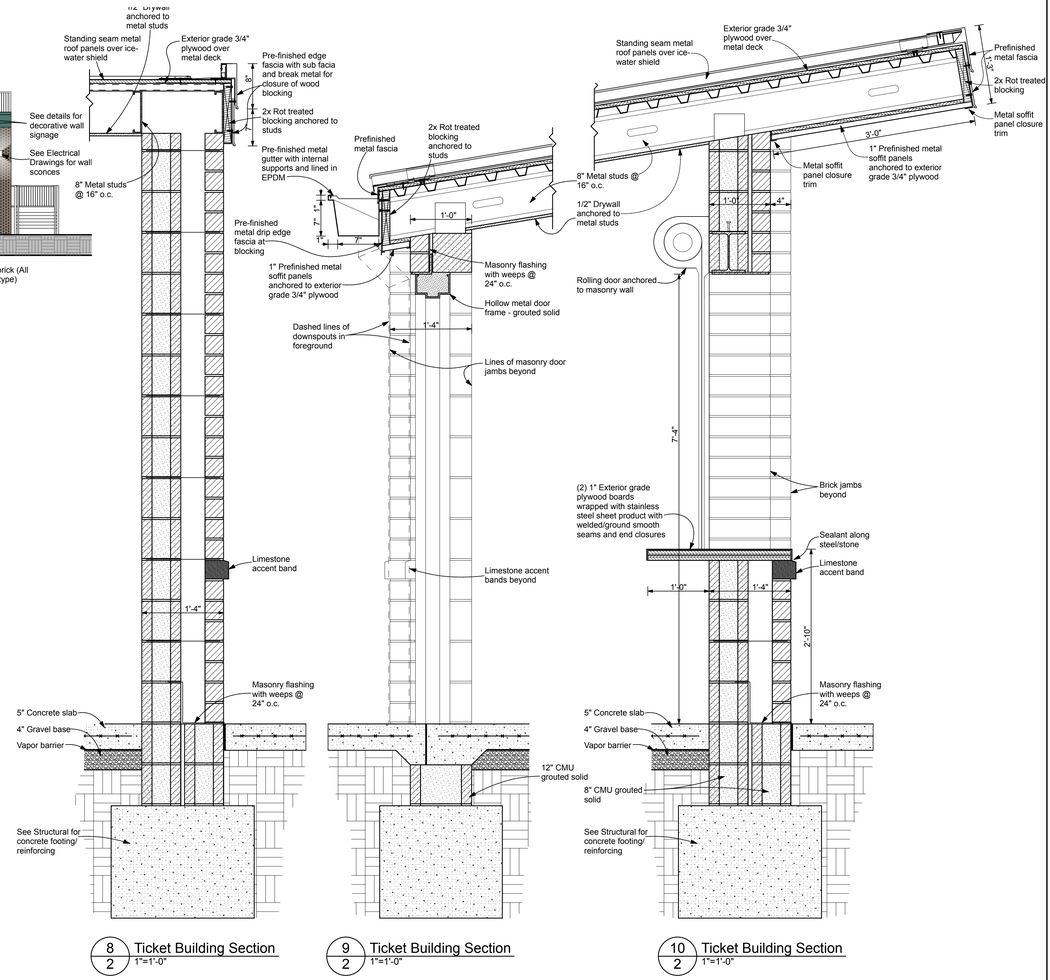
Side Elevation
1/8" = 1'-0"







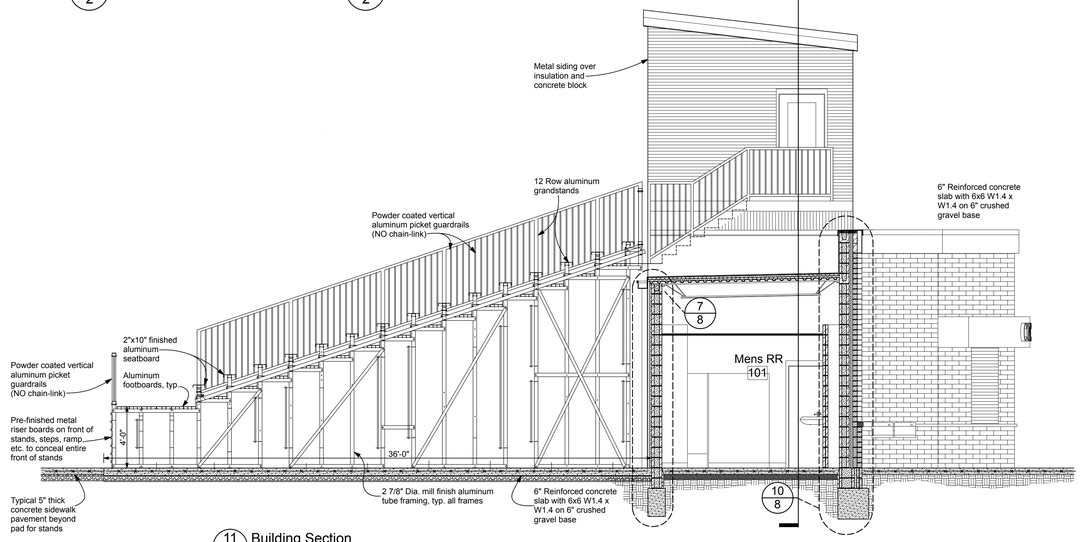




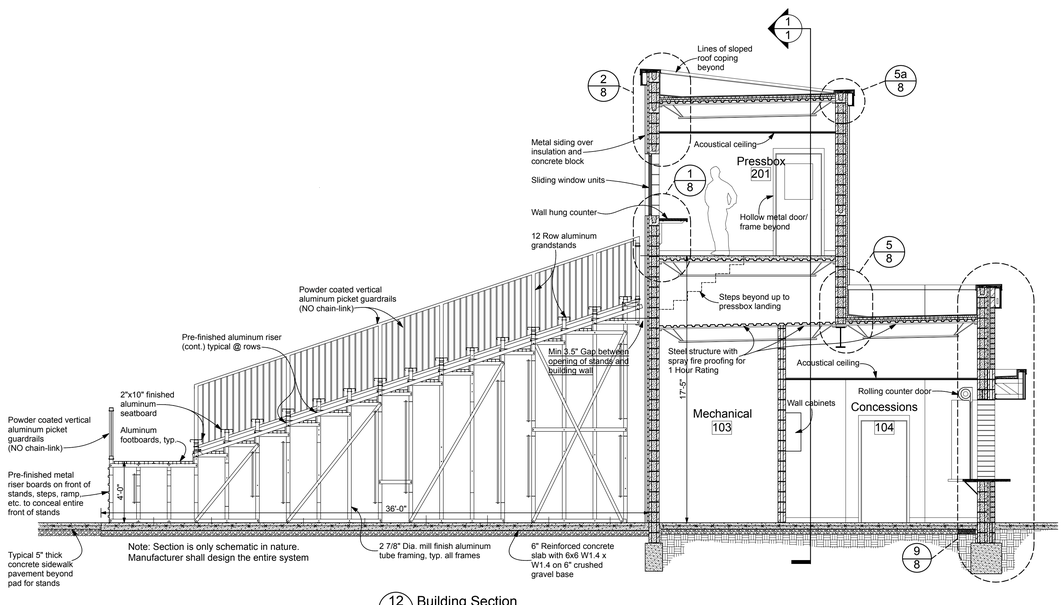
8/2 Ticket Building Section
1"=1'-0"

9/2 Ticket Building Section
1"=1'-0"

10/2 Ticket Building Section
1"=1'-0"



11/2 Building Section
1/4" = 1'-0"



12/2 Building Section
1/4" = 1'-0"

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Dayton Independent Schools - Athletic Complex
Bid Package #2

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Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

SHEET TITLE
Concession/ Restroom Elevations & Building Sections

BG # 23-538

REH # 168-523

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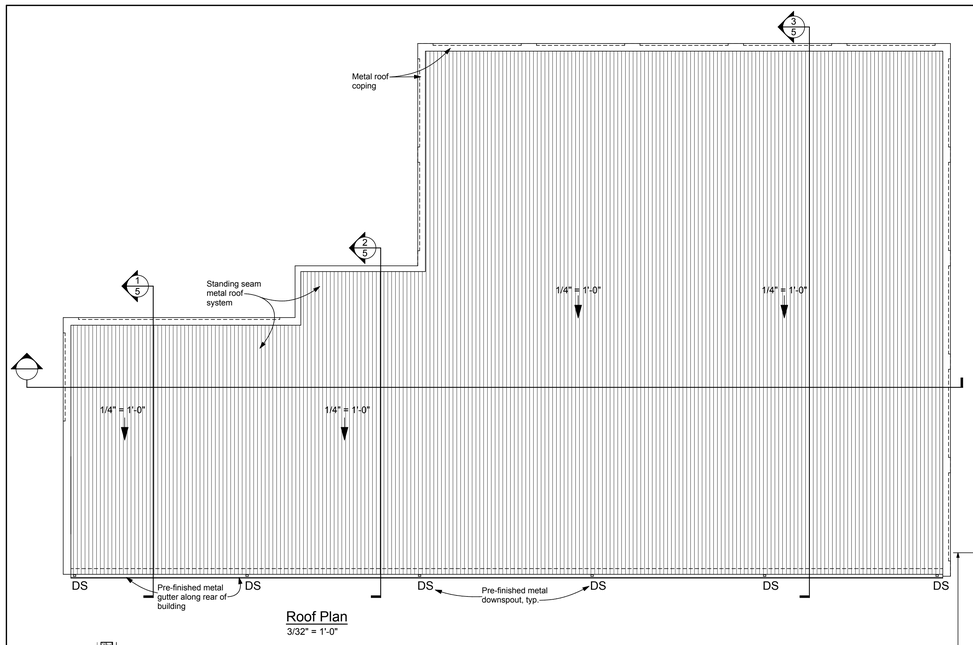


Roof Plan
3/32" = 1'-0"

Mechanical Mezzanine Plan
3/16" = 1'-0"

DOOR SCHEDULE

	DOOR			FRAME		DETAILS			LABEL	HWDE	
	SIZE	MAT.	TYPE	MAT.	TYPE	HEAD	JAMB	SILL			NOTES
300	(2)3'-0" x 8'-0" x 1 3/4"	AL	FG	AL	D				--	--	---
300-1	(2)3'-0" x 7'-0" x 1 3/4"	HM	FG	HM	4	6/1	5/1	--	--	--	---
300-2	(2)3'-0" x 7'-0" x 1 3/4"	HM	FG	HM	3			--	--	--	---
301	(2)3'-0" x 8'-0" x 1 3/4"	AL	FG	AL	D				--	--	---
301-1	(2)3'-0" x 7'-0" x 1 3/4"	HM	HG	HM	3			--	--	--	---
302	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	2	6/1	5/1	--	--	--	---
303	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	2	6/1	5/1	--	--	--	---
304	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	2	6/1	5/1	--	--	--	---
305	3'-0" x 7'-0" x 1 3/4"	HM	F	HM	2	6/1	5/1	--	--	--	---
306	3'-0" x 7'-0" x 1 3/4"	HM	HG	HM	2	6/1	5/1	--	--	--	---
306-1	Borrowed Light	--	--	STL	5				--	--	---
400	(2)3'-0" x 8'-0" x 1 3/4"	AL	FG	AL	D				--	--	---
400-1	(2)3'-0" x 8'-0" x 1 3/4"	AL	FG	AL	D				--	--	---
400-2	Rolling Door	STL	RD2	STL	--			--	--	--	See Spec For Details
400-3	Rolling Door	STL	RD2	STL	--			--	--	--	See Spec For Details
400-4	Rolling Door	STL	RD2	STL	--			--	--	--	See Spec For Details

FINISH SCHEDULE ABBREVIATIONS:

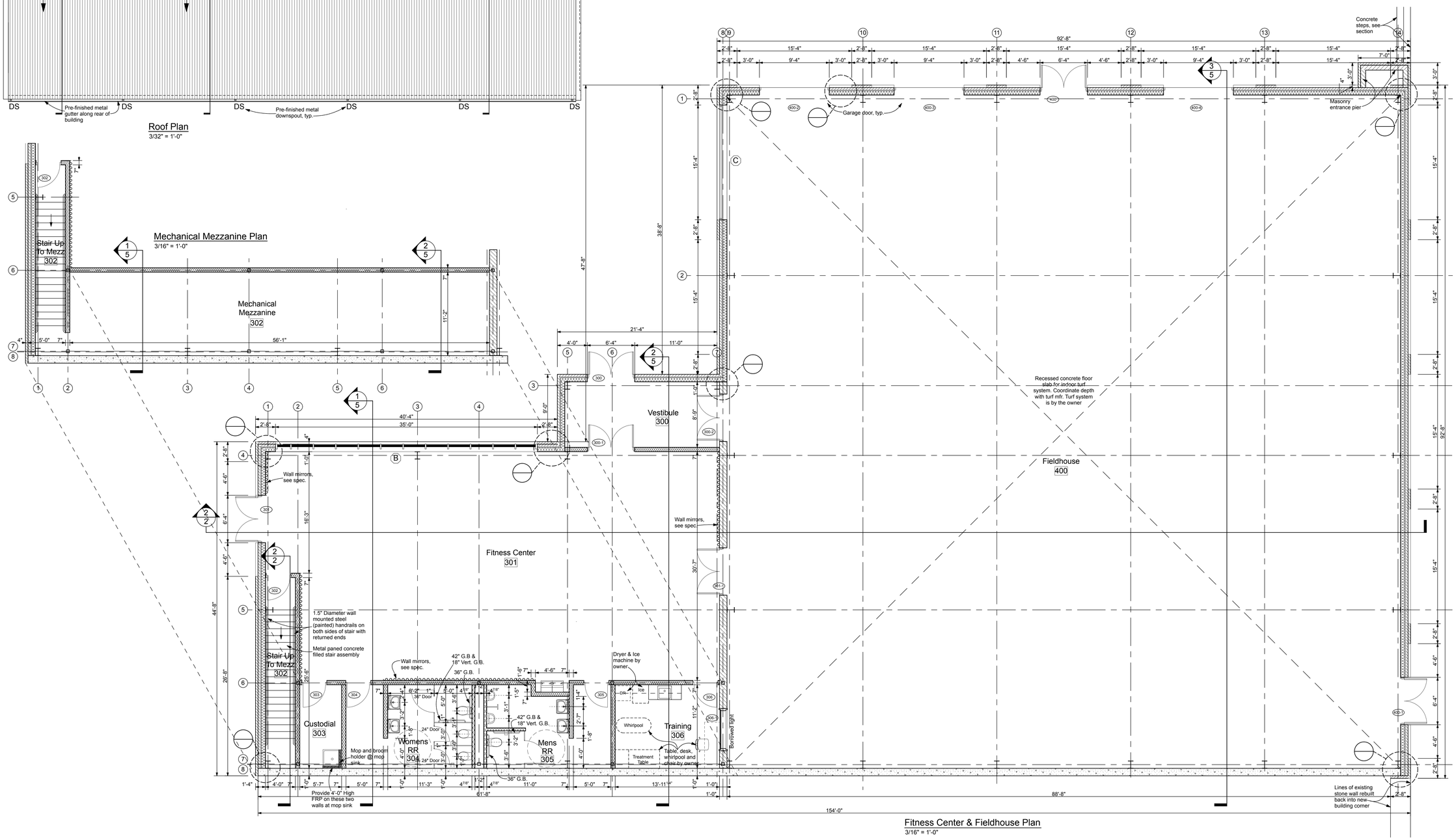
AL	Aluminum		
F	Flush Door	HM	Hollow Metal Door
FG	Full Glass Door	STL	Steel

ROOM FINISH SCHEDULE

ROOM #	ROOM TITLE	FLOOR	BASE	N. WALL	E. WALL	S. WALL	W. WALL	FINISH	CEILING	CLG HGT	NOTES
300	Vestibule	CP	R	DW	DW	DW	DW	P	ACT		
301	Fitness Center	RST	R	DW	CMU	DW	DW	P	EXP	---	
302	Mezzanine/Stair	--	--	DW	DW	DW	DW	---	---	---	
303	Custodial	--	R	DW	DW	DW	DW	P	---	---	
304	Womens RR	RF	RF	DW	DW	DW	DW	P	ACT	8'-8"	
305	Mens RR	RF	RF	DW	DW	DW	DW	P	ACT	8'-8"	
306	Training	RF	RF	DW	CMU	DW	DW	P	ACT	8'-8"	
400	Fieldhouse	T	R	WP	WP	WP	WP	P	EXP	---	

FINISH SCHEDULE ABBREVIATIONS:

ACT	Acoustical Ceiling Tile	P	Paint	RT	Rubber Tile
CP	Carpet	R	Rubber Base	T	Turf
DW	Drywall	RF	Resinous Flooring/Base	WP	Wall Pads
EXP	Exposed	RST	Resilient Sports Tile		



Fitness Center & Fieldhouse Plan
3/16" = 1'-0"

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Bid Package #2
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SHEET TITLE
Fieldhouse/ Fitness Center Plan, Roof Plan

BG # 23-538
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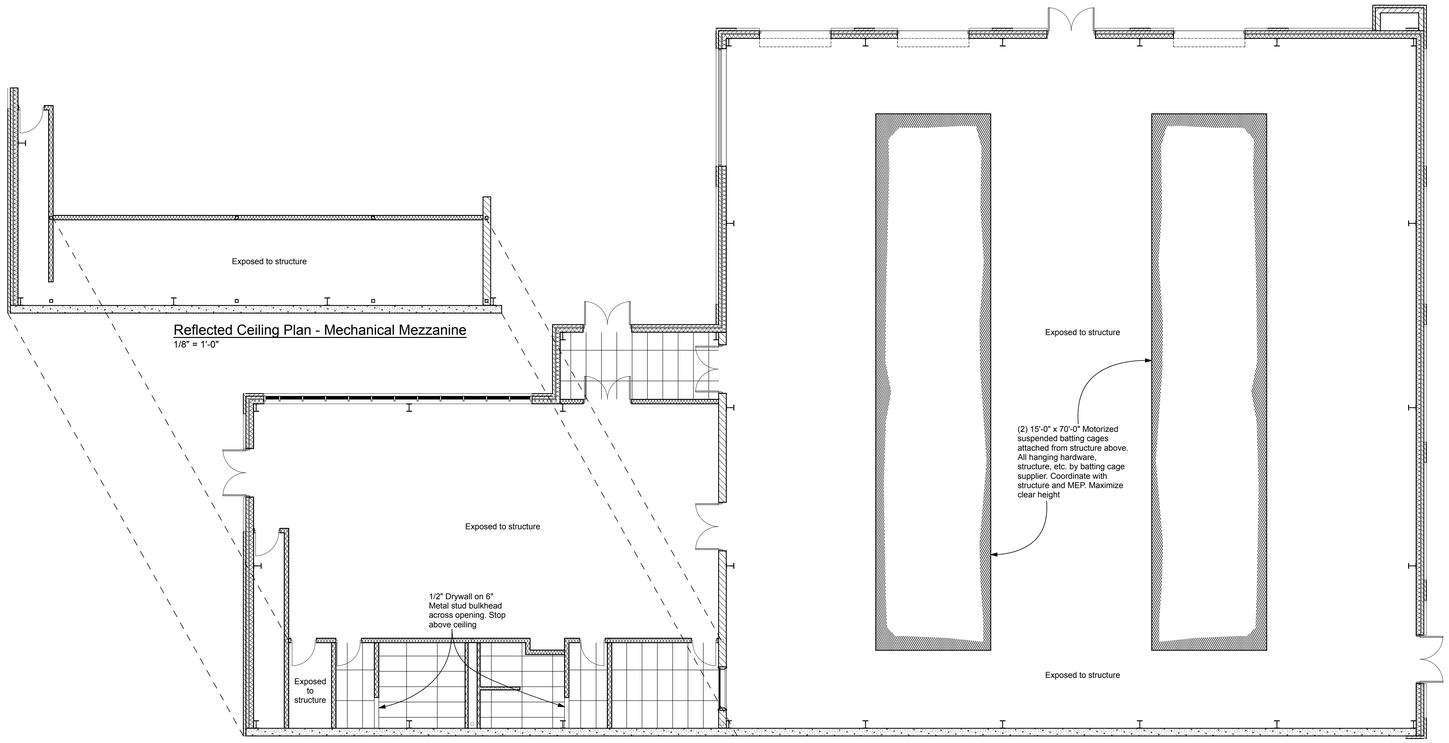
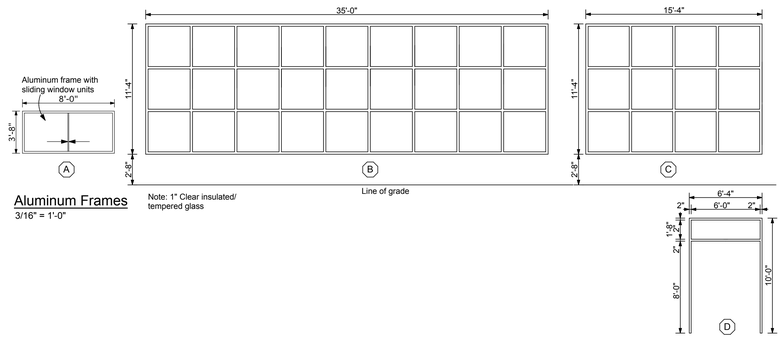


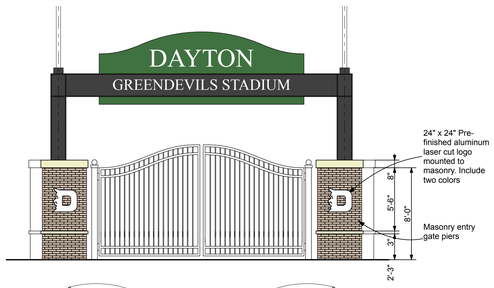
Reflected Ceiling Plan - Mechanical Mezzanine
1/8" = 1'-0"

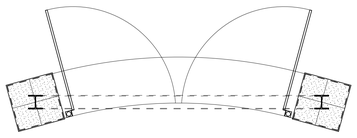
Reflected Ceiling Plan
1/8" = 1'-0"



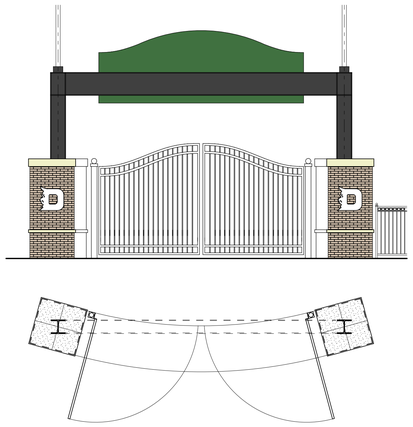
Aluminum Frames
3/16" = 1'-0"

Note: 1" Clear insulated/ tempered glass

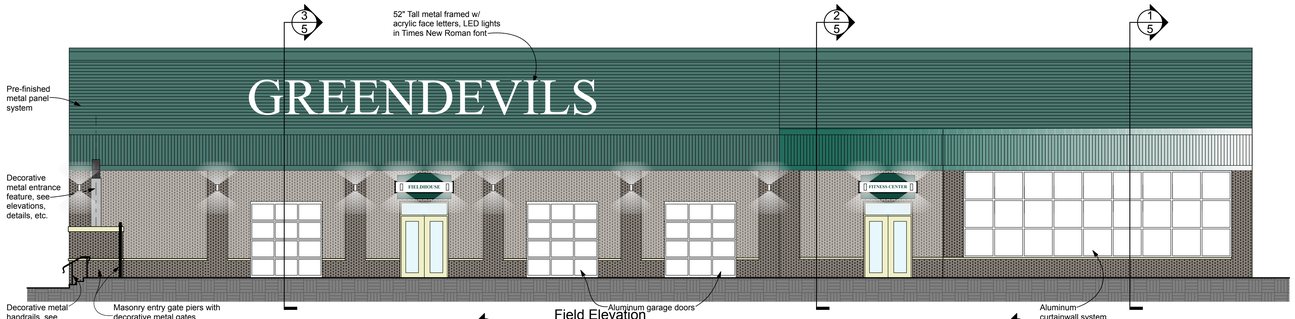




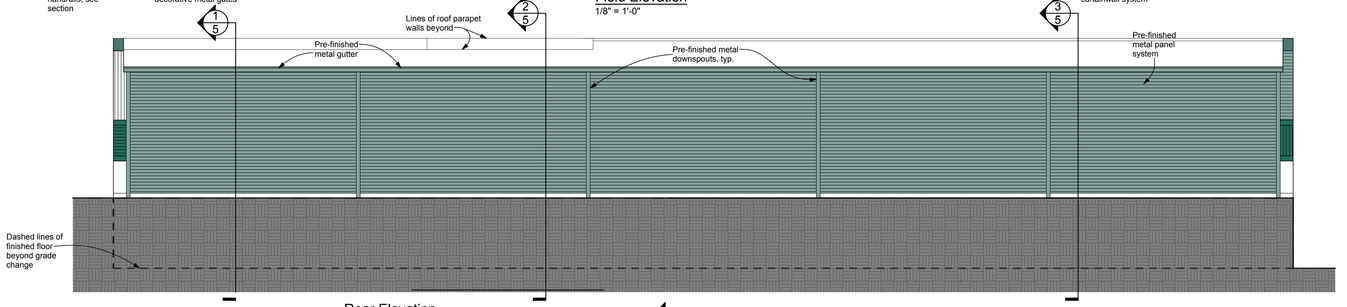
Main Entrance Gate Front Elevation & Plan
3/16" = 1'-0"



Main Entrance Gate Rear Elevation & Plan
3/16" = 1'-0"



Field Elevation
1/8" = 1'-0"



Rear Elevation
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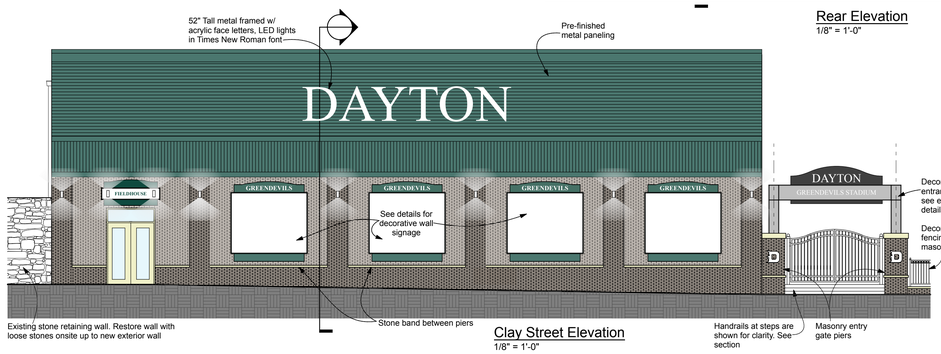
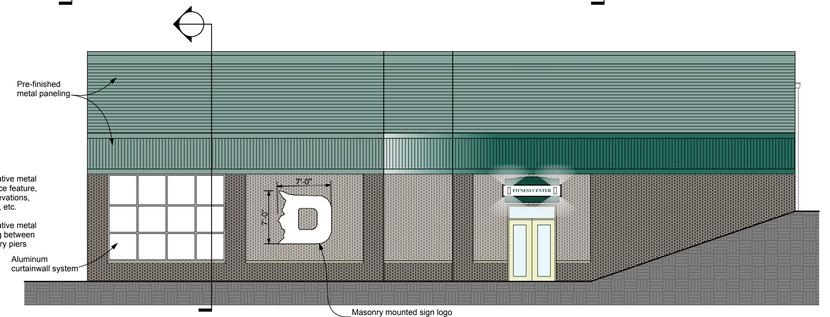


Clay Street Elevation
1/8" = 1'-0"



Plaza Elevation
1/8" = 1'-0"

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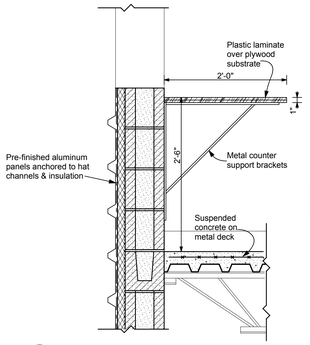
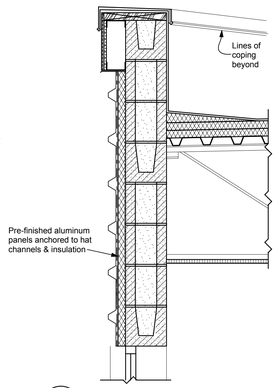
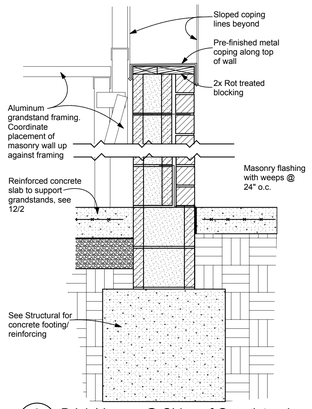


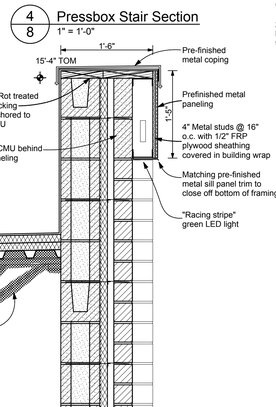
1/8 Wall Section @ Pressbox Window/Counter
1"=1'-0"



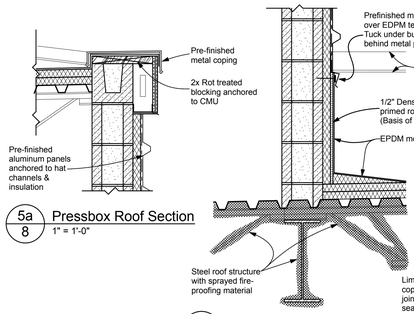
2/8 Wall Section @ Pressbox Window/Roof
1"=1'-0"



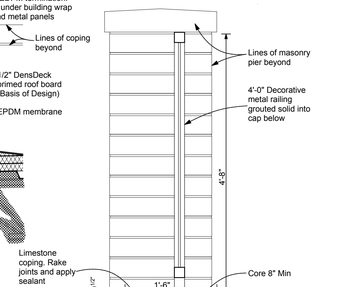
3/8 Brick Veneer @ Sides of Grandstands
1"=1'-0"



4/8 Pressbox Stair Section
1" = 1'-0"

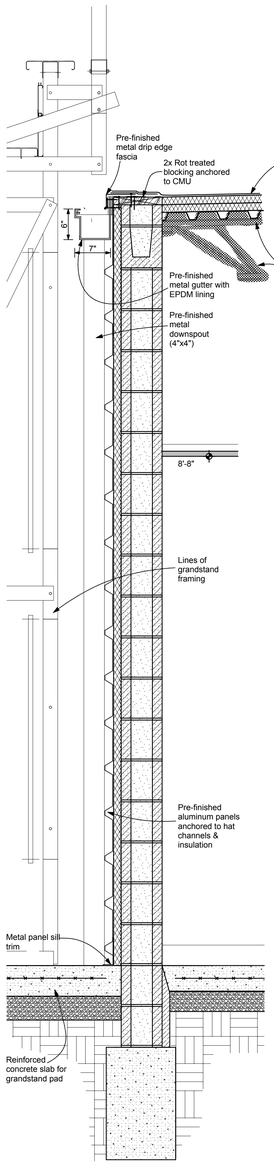


5a/8 Pressbox Roof Section
1" = 1'-0"

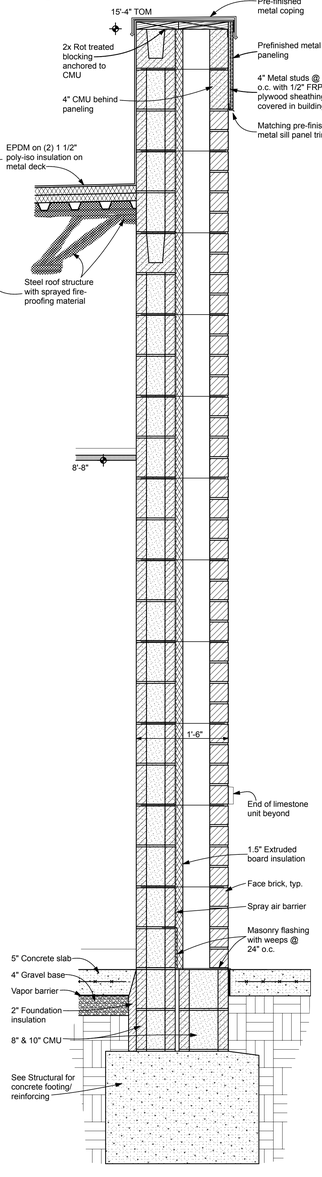


5/8 Pressbox Roof Section
1" = 1'-0"

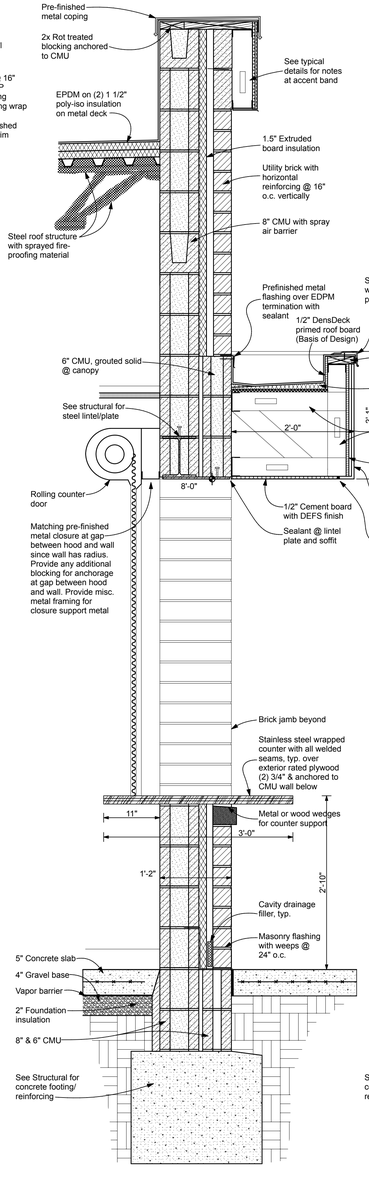
6/8 Detail - Retaining Wall
1" = 1'-0"



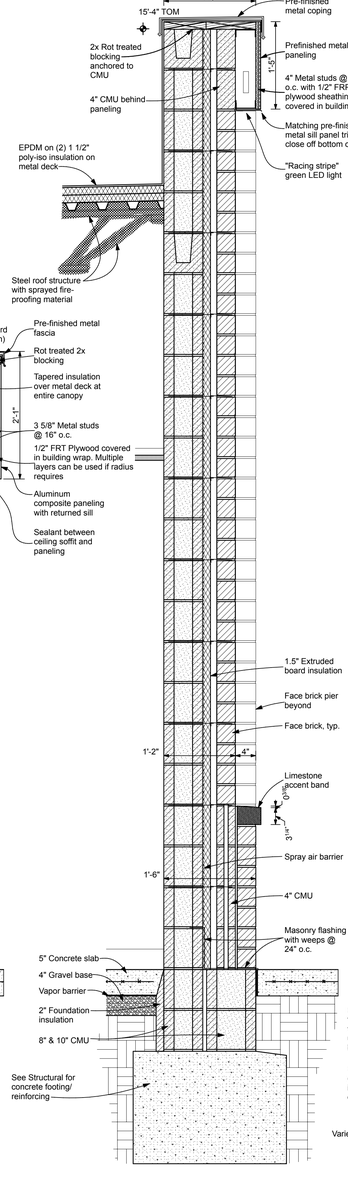
7/8 Wall Section @ Gutter/Grandstand
1"=1'-0"



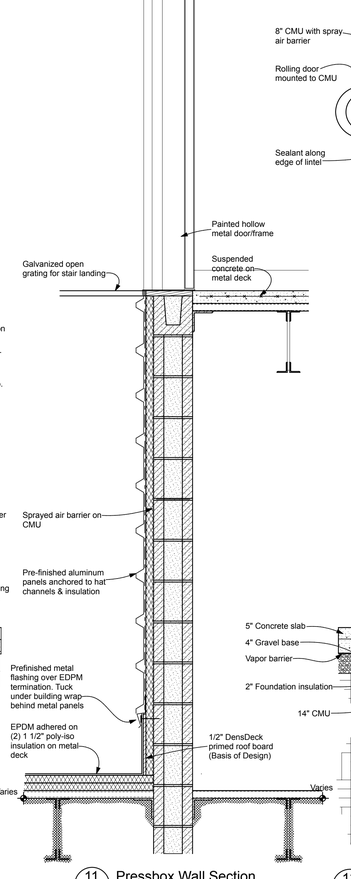
8/8 Overall Wall Section @ Pier
1"=1'-0"



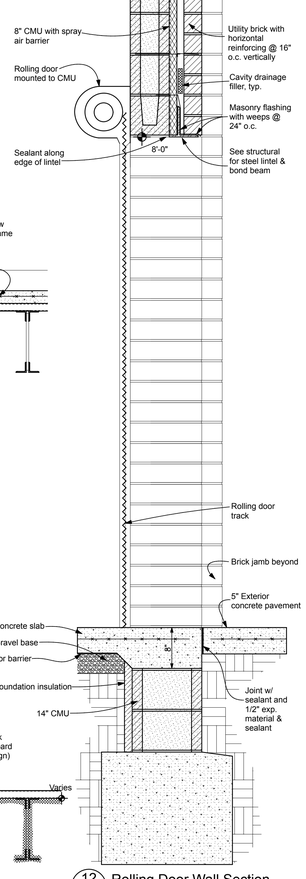
9/8 Concessions Wall Section
1"=1'-0"



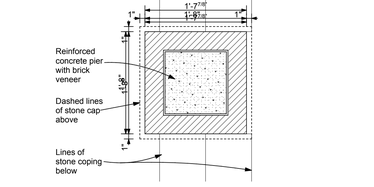
10/8 Wall Section @ Recessed Panels
1"=1'-0"



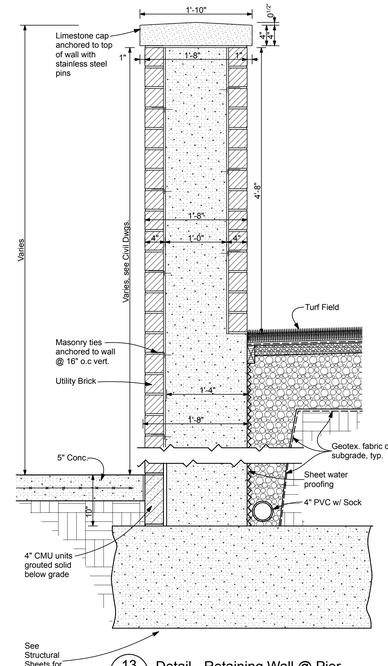
11/8 Pressbox Wall Section
1"=1'-0"



12/8 Rolling Door Wall Section
1"=1'-0"



Plan Detail @ Pier



13/8 Detail - Retaining Wall @ Pier
1" = 1'-0"

REH&A ARCHITECTS
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Dayton Independent Schools - Athletic Complex
Bid Package #2
200 Greendevil Lane Dayton, Kentucky 41074
Dayton Independent Schools Board of Education - Mr. Jay Brewer, Superintendent

SHEET TITLE
Concession/ Restroom Building Details

BG # 23-538
REH # 168-523
DATE 1-24-24

8

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MATERIALS AND WORK REQUIRING SPECIAL INSPECTIONS

(PER 2015 INTERNATIONAL BUILDING CODE)

GENERAL NOTE
SPECIAL INSPECTION NOTES AND TABLES WITHIN CONSTRUCTION DOCUMENTS ARE TO BE USED IN CONJUNCTION WITH IBC 2015, CHAPTER 17.

1. INSPECTION OF FABRICATORS
UNLESS EXEMPT BY CODE SECTION 1704.2.5, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATORS ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. THE SPECIAL INSPECTOR SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATORS SCOPE OF WORK.

2. STEEL CONSTRUCTION
THE SPECIAL INSPECTIONS FOR STEEL ELEMENTS OF BUILDINGS AND STRUCTURES SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360-10.

3. CONCRETE CONSTRUCTION
UNLESS EXEMPT BY CODE SECTION 1705.3 THE SPECIAL INSPECTIONS AND VERIFICATIONS FOR CONCRETE CONSTRUCTION SHALL BE AS REQUIRED BY TABLE 1705.3

4. MASONRY CONSTRUCTION
MASONRY CONSTRUCTION SHALL BE INSPECTED AND VERIFIED IN ACCORDANCE WITH TMS 402 / AC1 530 / ASCE 5 (TABLE 1.19.1, 1.19.2 OR 1.19.3) AND TMS 602 / ACI 530.1/ ASCE 6 QUALITY ASSURANCE PROGRAM REQUIREMENTS UNLESS EXEMPT BY CODE SECTION 1705.4.

5. SOILS (PERFORMED BY SITE TESTING AGENCY)
A. SITE PREPARATION

PRIOR TO PLACEMENT OF THE PREPARED FILL, THE SPECIAL INSPECTOR SHALL DETERMINE THAT THE SITE HAS BEEN PREPARED IN ACCORDANCE WITH THE APPROVED SOILS REPORT.

B. DURING FILL PLACEMENT OF 12" OR GREATER

DURING PLACEMENT AND COMPACTION OF THE FILL MATERIAL, THE SPECIAL INSPECTOR SHALL DETERMINE THAT THE MATERIAL BEING USED AND THE MAXIMUM LIFT THICKNESS COMPLY WITH THE APPROVED REPORT.

C. EVALUATION OF IN-PLACE DENSITY

THE SPECIAL INSPECTOR SHALL DETERMINE, AT THE APPROVED FREQUENCY, THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL COMPLIES WITH THE APPROVED REPORT.

D. REFER TO DRAWINGS FOR ALLOWABLE SOIL BEARING PRESSURE VERIFICATION.

Table 1.19.2- Level B Quality Assurance
REQUIRED VERIFICATION AND INSPECTION OF MASONRY STRUCTURES & COMMENTARY

MINIMUM TESTS				
Verification of Slump flow and Visual Stability Index (VSI) as delivered to the project site in accordance with Specification Article 1.5 B.1.b.3 for self-consolidating grout				
Verification of f'm and f'aac in accordance with Specification Article 1.4B prior to construction, except where specifically exempted by this Code				
MINIMUM INSPECTION				
Inspection Task	Frequency(a)		Reference for Criteria	
	CONTINUOUS	PERIODIC	TMS 402/ ACI 530/ ASCE 5	TMS 602/ ACI 530.1/ ASCE 6
1. Verify compliance with the approved submittals		X		Art. 1.5
2. As masonry construction begins, verify that the following are in compliance:				
a. Proportions of site-prepared mortar		X		Art. 2.1, 2.6 A
b. Construction of mortar joints		X		Art. 3.3 B
c. Grade and size of prestressing tendons and achorages		X		Art. 2.4 B, 2.4 H
d. Location of reinforcement, connectors, and prestressing tendons and anchorages		X		Art. 3.4, 3.6 A
e. Prestressing technique		X		Art. 3.6 B
f. Properties of thin-bed mortar for AAC masonry	X(b)	X(c)		Art. 2.1 C
3. Prior to grouting, verify that the following are in compliance:				
a. Grout space		X		Art. 3.2 D, 3.2 F
b. Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages		X	Sec. 1.16	Art. 2.4, 3.4
c. Placement of reinforcement, connectors, and prestressing tendons and anchorages		X	Sec. 1.16	Art. 3.2 E, 3.4, 3.6 A
d. Proportions of site-prepared grout and prestressing grout for bonded tendons		X		Art. 2.6 B, 2.4, G.1.b
e. Construction of mortar joints		X		Art. 3.3 B
4. Verify during construction:				
a. Size and location of structural elements		X		Art. 3.3 F
b. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction		X	Sec. 1.16.4.3, 1.17.1	
c. Welding of reinforcement	X		Sec. 2.1.7.7.2, 3.3.3.4(c), 8.3.3.4(b)	
d. Preparation, construction and protection of masonry during cold weather (temp. bellow 40F (4.4C)) or hot weather (temp. above 90F (32.2C))		X		Art. 1.8 C, 1.8 D
e. Application and measurement of prestressing force	X			Art. 3.6 B
f. Placement of grout and prestressing grout for bonded tendons is in compliance	X			Art. 3.5, 3.6 C
g. Placement of AAC masonry units and construction of thin-bed mortar joints	X(b)	X(c)		Art. 3.3 B.8
5. Observe preparation of grout specimens, mortar specimens, and/or prisms		X		Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4

(a) Frequency refers to the frequency of inspection, which may be continuous during the task listed or periodically during the listed task, as defined in the table.
(b) Required for the first 5000 square feet (465 square meters) of AAC masonry.
(c) Required after the first 5000 square feet (465 square meters) of AAC masonry.

Table 1705.6 (2015 INTERNATIONAL BUILDING CODE)
REQUIRED VERIFICATION AND INSPECTION OF SOILS

APPLICABLE (Unless noted N/A)	VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
	1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	-	X
	2. Verify excavations are extended to proper depth and have reached proper material.	-	X
	3. Perform classification and testing of compacted fill materials.	-	X
	4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	-
	5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	-	X

Table 1705.2.2 (2015 INTERNATIONAL BUILDING CODE)
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

APPLICABLE (Unless noted N/A)	VERIFICATION AND INSPECTION	CONTINUOUS		PERIODIC	REFERENCED STANDARD [a]
	1. Material verification of cold-formed steel deck:				
	a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-		X	Applicable ASTM material standards
	b. Manufacturer's certified test reports.	-		X	
	2. Inspection of welding:				
	a. Cold-formed steel deck:				
	1) Floor and roof deck welds.	-		X	AWS D1.3
	b. Reinforcing steel:				
	1) Verification of weldability of reinforcing steel other than ASTM A 706.	-		X	AWS D1.4 ACI 318: Section 3.5.2
	2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.		X	-	
	3) Shear Reinforcement.		X	-	
	4) Other reinforcing steel.		-	X	

For SI: 1 inch = 25.4 mm.
a. Where applicable, see also Section 1705.11, Special inspections for seismic resistance.

Table 1705.3 (2015 INTERNATIONAL BUILDING CODE)
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

APPLICABLE (Unless noted N/A)	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD [a]	IBC REFERENCE
	1. Inspection of reinforcing steel, including prestressing tendons, and placement.	X	X	ACI 318: 3.5, 7.1-7.7	1910.4
	2. Inspection of reinforcing steel welding in accordance with Table 1705.2.2, Item 2b.	-	-	AWS D1.4 ACI 318: 3.5.2	-
	3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used.	-	X	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
	4. Inspection of anchors post-installed in hardened concrete members[b].	X	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
	5. Verifying use of required design mix.	-	X	ACI 318: Ch. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
	6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	-	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1910.10
	7. Inspection of concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
	8. Inspection for maintenance of specified curing temperature and techniques.	-	X	ACI 318: 5.11-5.13	1910.9
	9. Inspection of prestressed concrete: a. Application of prestressing forces. b. Grouting of bonded prestressing tendons in the seismic force-resisting system.	X X	-	ACI 318: 18.20 ACI 318: 18.18.4	-
	10. Erection of precast concrete members.	-	X	ACI 318: Ch. 16	-
	11. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	X	ACI 318: 6.2	-
	12. Inspect formwork for shape, location and dim's of the concrete member being formed.	-	X	ACI 318: 6.1.1	-

For SI: 1 inch = 25.4 mm.
a. Where applicable, see also Section 1705.11, Special inspections for seismic resistance.
b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with ACI 355.2 or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

GENERAL FOUNDATION NOTES:

CONCRETE SLABS ON GRADE TO BE 5" CONCRETE SLAB w/ (1) LAYER 6x6 - W2.9xW2.9 MESH (CENTERED IN SLAB DEPTH) ON 4" (min) GRANULAR BASE. CONTROL JOINT SPACING SHALL NOT EXCEED 12'-6" IN EITHER DIRECTION. PROVIDE ADDITIONAL JOINTS AS REQUIRED TO AVOID RE-ENTRANT CORNERS.

FD - DENOTES FLOOR DRAIN LOCATION IF SHOWN. REFER TO PLUMBING DRAWINGS TO VERIFY QUANTITIES AND LOCATIONS. SLOPE SLAB 1/16" per FT (MIN) TO FLOOR DRAINS - MAINTAIN SLAB THICKNESS. ANY SLOPES SHOWN ON PLAN ARE FOR COORDINATION ONLY - FINAL LAYOUT TO BE VERIFIED PRIOR TO POURING SLABS.

SLOPE SLAB TO DRAIN AT FLOOR DRAINS (FD), COORD. DRAIN LOCATION w/ PLUMBING DRAWINGS

PLUMBING LINES AND INVERT ELEVATIONS, IF SHOWN, ARE FOR EASE OF COORDINATION ONLY - FINAL LOCATIONS ARE TO BE TAKEN FROM PLUMBING DRAWINGS. FOOTINGS ARE TO BE STEPPED OR LEAN-CRETE OPTION ACCORDINGLY IF FINAL LAYOUT DIFFERS FROM WHAT IS SHOWN FOR COORDINATION ON STRUCTURAL DWG'S. SEE FOOTING STEP DETAILS AT UTILITY LOCATIONS.

REPRESENTS FLOOR SLAB TURNED DOWN OVER FOOTING AT DOOR OR STOREFRONT WINDOW - TOP OF FOUNDATION WALL HELD DOWN 8" TYP.

REPRESENTS FLOOR SLAB TURNED DOWN OVER FOOTING

B/GB EL xxx'-xx" - INDICATES BOTTOM OF GRADE BEAM ELEVATION

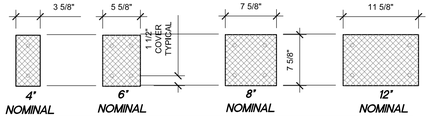
▼ - DENOTES CONTROL JOINTS FOR CMU WALLS. EXPANSION JOINTS FOR BRICK SHALL BE TAKEN FROM ARCH. DRAWINGS AND DO NOT NEED TO BE IN THE SAME LOCATION AS THE CMU JOINTS.

MASONRY OPENINGS NOT OTHERWISE COVERED IN THE SCHEDULED OR NONSCHEDULED LINTEL TABLE FOR EACH 4" OF MASONRY THICKNESS PROVIDE: (TO BE USED FOR BRICK OPENINGS):		
L-3 1/2x3 1/2x1/4	4"	UP TO 3'-11" MAS OPNG
L-4x3 1/2x5/16 (LLV)	4"	4'-0" TO 4'-11" MAS OPNG
L-5x3 1/2x5/16 (LLV)	6"	5'-0" TO 5'-11" MAS OPNG
L-6x3 1/2x5/16 (LLV)	6"	6'-0" TO 6'-11" MAS OPNG

PRECAST CONCRETE LINTELS - NOTED AS (PC) ON PLANS

PROVIDE A PRECAST CONCRETE LINTEL WHERE INDICATED AND WHEREVER OPENINGS ARE SHOWN IN CMU WORK WITHOUT STRUCTURAL STEEL OR OTHER SUPPORTING LINTEL. (THIS INCLUDES OPENINGS FOR MECHANICAL WORK.)

CAST CONCRETE LINTELS SHALL BE SIZED AND REINFORCED AS INDICATED BELOW.



LINTEL WIDTH	*CLEAR SPAN*	*REINFORCING UNLESS OTHERWISE INDICATED*
4"	4'-8" OR SMALLER	(1) #4 TOP & BOTTOM
4"	4'-8" OR GREATER	(1) #5 TOP & BOTTOM
6"	4'-8" OR SMALLER	(1) #5 TOP & BOTTOM
6"	4'-8" OR GREATER	(2) #4 TOP & BOTTOM
8"	4'-8" OR SMALLER	(2) #4 TOP & BOTTOM
8"	4'-8" OR GREATER	(2) #5 TOP & BOTTOM
12"	4'-8" OR SMALLER	(2) #4 TOP & BOTTOM
12"	4'-8" OR GREATER	(2) #5 TOP & BOTTOM

(2015 International Building Code)

BAR SIZE	MINIMUM LAP SPLICE LENGTH, inches
#3	27
#4	36
#5	45
#6	54
#7	63
#8	72
#9	82

Based on the stresses in the steel, fs, taken equal to 100% of the allowable reinforcement tensile stress of 24,000 psi for Grade 60 reinforcement.

Bars larger than #9 are required to be spliced by mechanical connectors.

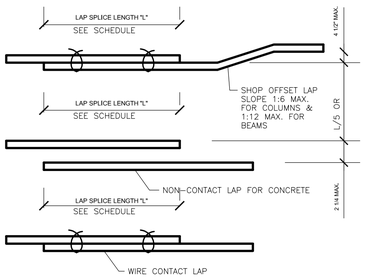
Lap splice lengths are to be increased by 50% when epoxy coated reinforcement is used.

ALLOWABLE STRESS DESIGN - MASONRY REINFORCEMENT LAP SPLICE LENGTHS

NOTES:
1. ALL DETAILING OF REINFORCEMENT SHALL COMPLY WITH THIS SCHEDULE UNLESS SPECIFICALLY DETAILED OTHERWISE ON THE DRAWINGS.
2. THESE BAR DEVELOPMENT LENGTHS APPLY TO NORMAL WEIGHT CONCRETE.
3. A STANDARD HOOK SHALL BE PROVIDED WHERE Ld IS UNATTAINABLE DUE TO SPACE RESTRICTIONS

DEFINITIONS: (ACI 350-11)
TOP BARS - HORIZONTAL BARS WITH MORE THAN 12" CONCRETE CAST IN THE MEMBER BELOW THE REINFORCEMENT.
db - BAR DIAMETER - CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN db.
CONDITION 1 - CLEAR COVER NOT LESS THAN db AND STIRRUPS OR TIES THROUGHOUT Ld. ——OR—— CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2db AND CLEAR COVER NOT LESS THAN db.
CONDITION 2 - OTHER CASES.

TENSION LAP SPLICES SHALL BE CLASS B EXCEPT WHEN CLASS A SPLICES ARE SPECIFICALLY NOTED



MIN. 2 WIRE TIES AT ALL SPLICES PROJECTING FROM FOOTINGS TYP.

STRUCTURAL DESIGN LOADS

ROOF DESIGN LOADS (KBC 2018):

Minimum Roof Live Load = 20 psf

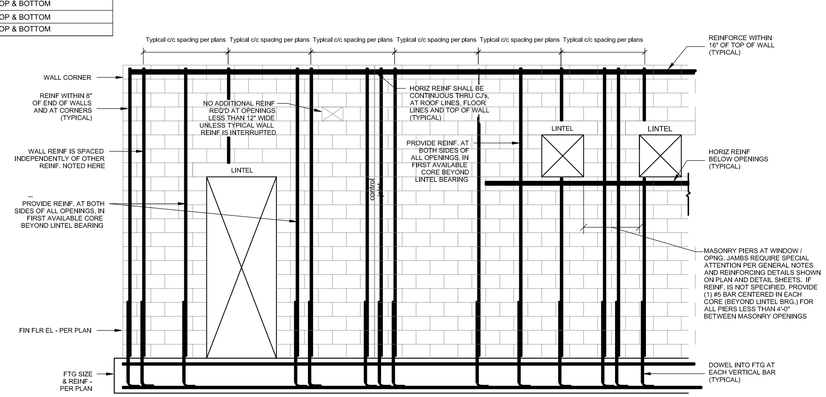
SNOW LOAD: (ASCE 7-10)
Ground Snow Load, pg = 20 psf
Sloped Roof Snow Load, ps,balanced = 15 psf
Flat Roof Snow Load = 15 psf
Snow Importance Factor, IS = 1.0
Thermal Factor, Ct = 1.0
Exposure Factor, Ce = 1.0
Rain-on-Snow Surcharge (Slope < $\frac{1}{2}$"/ft) = 5 psf

WIND LOAD: (ASCE 7-10)

Basic Wind Speed (3 second gust), V = 115 mph
Wind Exposure C
Internal Pressure Coefficient = +/- 0.18
Net Wind Uplift on joists = -15 psf
Sloped Roof (mean roof ht = 12.67'
-Nominal Wind Surface Pressures, ps 24.6 (psf)

	Transverse	Longitudinal
Zone 1 =	14.2	-15.4
Zone 2 =	-21.3	-21.3
Zone 3 =	-13.4	-13.4
Zone 4 =	-11.5	-15.4
Zone 5 =	-- --	14.2
Zone 6 =	-- --	-11.5
Zone 1E =	19.3	-16.1
Zone 2E =	-30.5	-30.5
Zone 3E =	-17.3	-17.3
Zone 4E =	-14.9	-16.3
Zone 5E =	-- --	19.3
Zone 6E =	-- --	-14.9

SEISMIC LOAD: (ASCE 7-10)
Occupancy Category II
S_{DS} = 0.173 g S_S = 0.162 g
S_{D1} = 0.131 g S_1 = 0.082 g
Site Soil Class D
Seismic Design Category D
Basic Seismic Force Resisting System - Ordinary Reinforced Masonry Shear Walls
R = 2
IE = 1.00
Cs = 0.10
Cd = 1.75
Equivalent Lateral Force Procedure used in design
Base Shear:
V = XX.XX KIPS (Stadium)
V = XX.XX KIPS (Feild House)



PLACEMENT OF MASONRY WALL REINFORCEMENT - ELEVATION

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Dayton Independent Schools - Athletic Complex
Dayton, Kentucky 41074
200 Greendevil Lane
Dayton Independent Schools Board of Education
Mr. Jay Brewer, Superintendent

SHEET TITLE
GENERAL NOTES, DESIGN LOADS & ABBREVIATIONS

BG # 23-538
REH # 168-523
DATE 01/24/24

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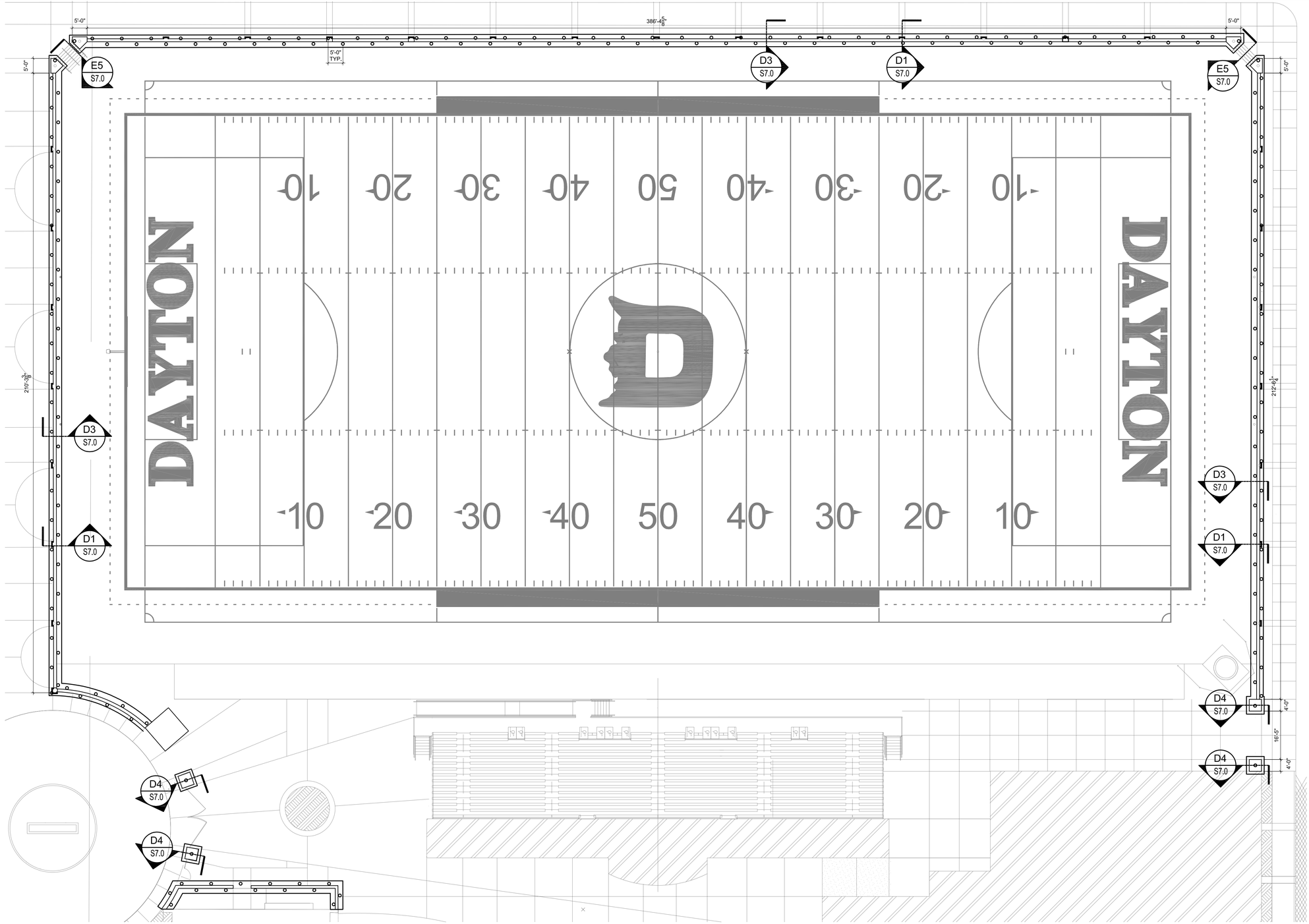

SITE RETAINING WALL PLAN

SCALE : $\frac{1}{16}$" = 1'-0"

Plan North

FOUNDATION NOTES BELOW: (APPLY TO SHEET S1.0 **ONLY**)

SEE SHEET S0.0 FOR GENERAL FOUNDATION NOTES AND STRUCTURAL DESIGN LOADS

1. CONTRACTORS SHALL SUBMIT HELICAL PILE SHOP DRAWINGS AND CALCULATIONS INCLUDING, PLAN LAYOUT, HELICAL HELICAL SIZE, DIMENSIONS, TIP ELEVATIONS FOR REVIEW, SEALED BY ENGINEER REGISTERED IN THE STATE OF KENTUCKY
2. HELICAL PILE DESIGN SHOWN ON THESE DRAWINGS ARE TO BE USED AS A BASIS FOR BID ONLY

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Dayton Independent Schools -
Athletic Complex
200 Greendevil Lane
Dayton, Kentucky 41074

Dayton Independent Schools Board of Education
Mr. Jay Brewer, Superintendent

SHEET TITLE

SITE WALL RETAINING WALL PLAN

BG # 23-538

REH # 168-523

DATE 01/24/24

S1.0

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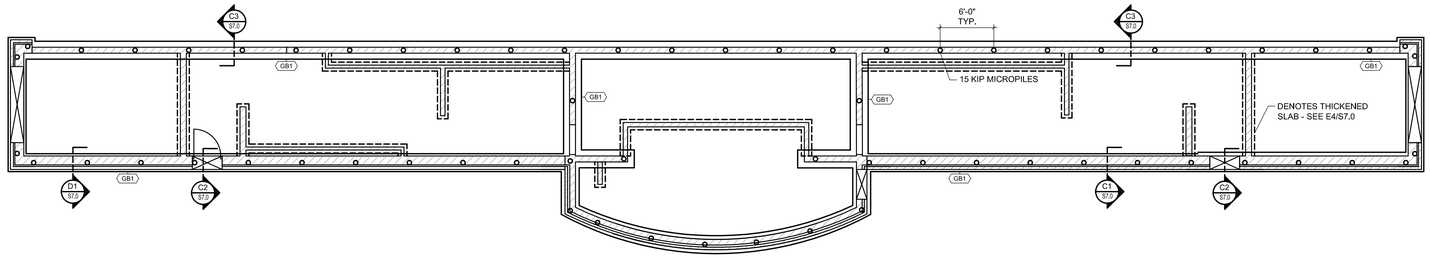


Foundation Plan

SCALE : $\frac{1}{8}$" = 1'-0"

Plan North

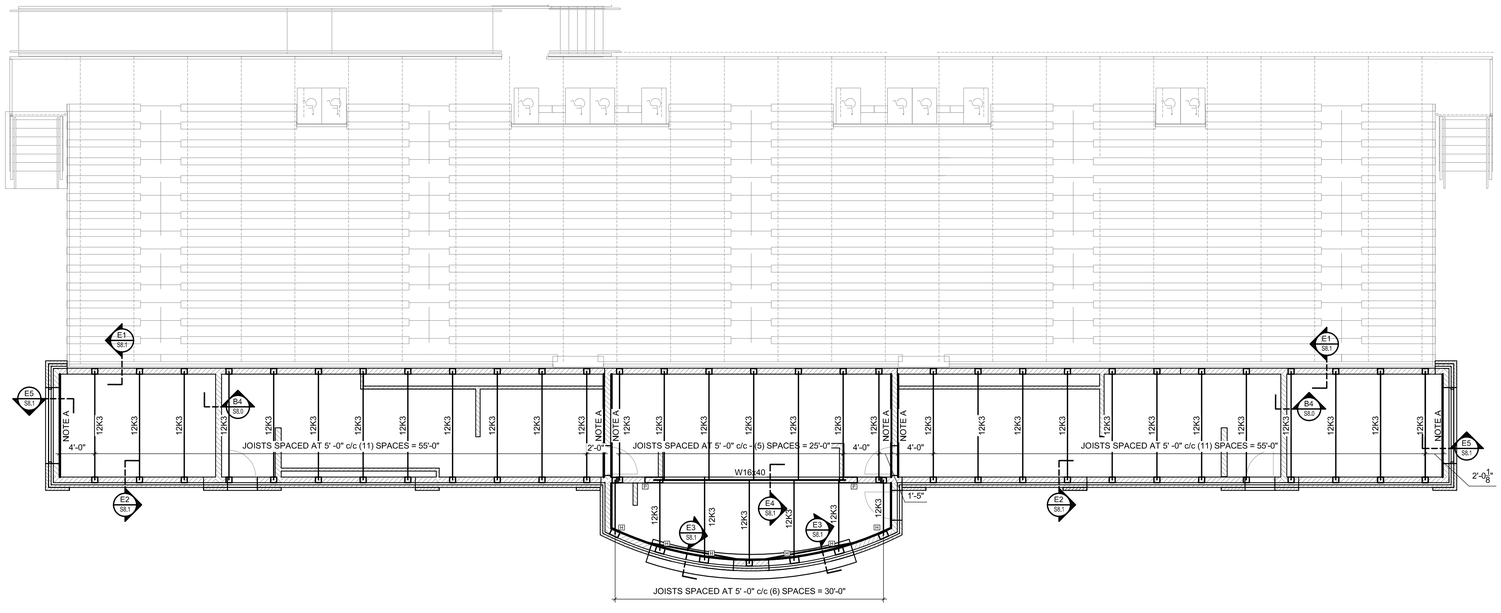
FOUNDATION NOTES BELOW: (APPLY TO SHEET S2.0 **ONLY**)

SEE SHEET S0.0 FOR GENERAL FOUNDATION NOTES AND STRUCTURAL DESIGN LOADS

1. FINISHED FLOOR ELEVATION (FIN FLR EL) TO BE 100' -0". ALL FRAMING ELEVATIONS SHALL BE WORKED FROM THIS ELEVATION.
2. CONTRACTOR SHALL SUBMIT MICROPILE SHOP DRAWINGS AND CALCULATIONS INCLUDING, PLAN LAYOUT, SIZES, DIMENSIONS, ELEVATIONS FOR REVIEW, SEALED BY ENGINEER REGISTERED IN THE STATE OF KENTUCKY.
3. MICROPILES ARE TO HAVE 15 KIP ALLOWABLE (MIN) CAPACITY
4. GBS - DENOTES GRADE BEAM STEP

GRADE BEAM SCHEDULE

MARK	SIZE	REINFORCING
GB1	24" WIDE x 24" DEEP x CONT.	(3) #6 TOP AND BOT SEE D1/S2.0



Roof Framing Plan

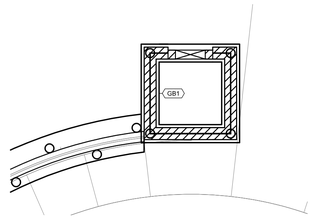
SCALE : $\frac{1}{8}$" = 1'-0"

Plan North

ROOF FRAMING NOTES BELOW: (APPLY TO SHEET S2.0 **ONLY**)

SEE SHEET S0.0 FOR GENERAL ROOF FRAMING NOTES AND STRUCTURAL DESIGN LOADS

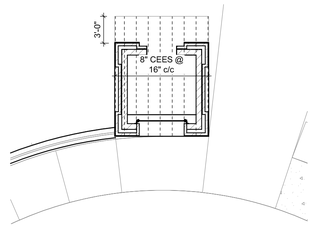
1. ALL BEARING PLATES TO BE TYPE 'F' (UNO).



Ticket Building Foundation Plan

SCALE : $\frac{1}{8}$" = 1'-0"

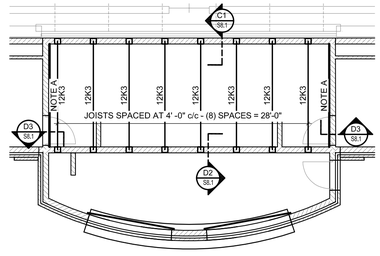
Plan North



Ticket Building Roof Framing Plan

SCALE : $\frac{1}{8}$" = 1'-0"

Plan North



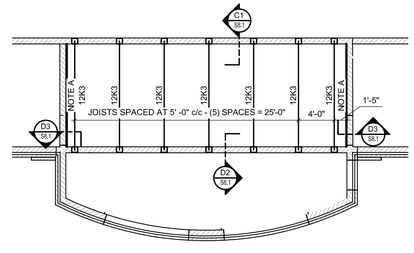
Press Box Floor Framing Plan

SCALE : $\frac{1}{8}$" = 1'-0"

Plan North

ROOF FRAMING NOTES BELOW: (APPLY TO SHEET S1.1 **ONLY**)

SEE SHEET S0.0 FOR GENERAL FLOOR FRAMING NOTES AND STRUCTURAL DESIGN LOADS



Press Box Roof Framing Plan

SCALE : $\frac{1}{8}$" = 1'-0"

Plan North

ROOF FRAMING NOTES BELOW: (APPLY TO SHEET S2.0 **ONLY**)

SEE SHEET S0.0 FOR GENERAL FLOOR FRAMING NOTES AND STRUCTURAL DESIGN LOADS

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Robert Ehmet Hayes & Associates, PLLC

Dayton Independent Schools - Athletic Complex

200 Greendevil Lane Dayton, Kentucky 41074

Dayton Independent Schools Board of Education
Mr. Jay Brewer, Superintendent

SHEET TITLE

FOUNDATION PLAN, & FRAMING PLANS

BG # 23-538

REH # 168-523

DATE 01/24/24

S2.0

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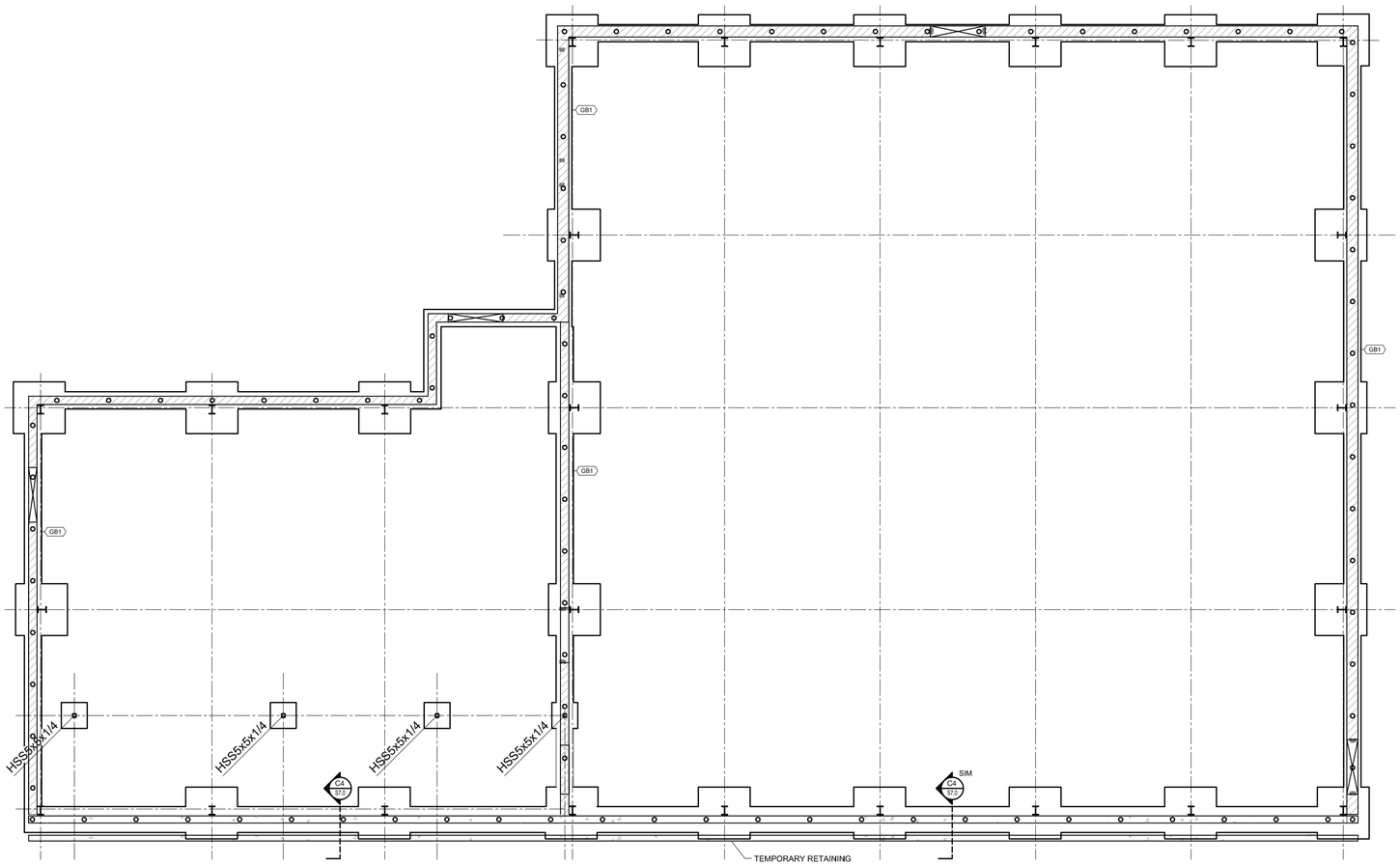


Fieldhouse Foundation Plan

Plan North

SCALE : $\frac{1}{8}$" = 1'-0"

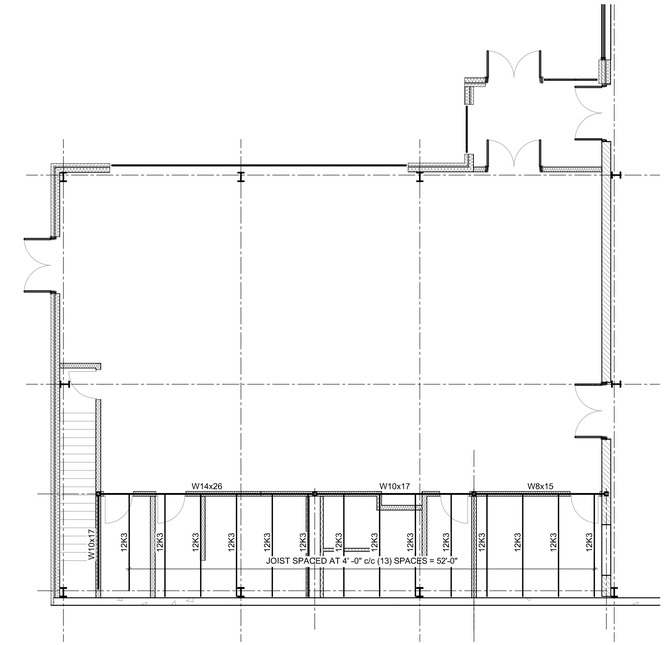
FOUNDATION NOTES BELOW: (APPLY TO SHEET S3.0 **ONLY**)

SEE SHEET S0.0 FOR GENERAL FOUNDATION NOTES AND STRUCTURAL DESIGN LOADS

1. FINISHED FLOOR ELEVATION (FIN FLR EL) TO BE 100' -0". ALL FRAMING ELEVATIONS SHALL BE WORKED FROM THIS ELEVATION.

GRADE BEAM SCHEDULE

MARK	SIZE	REINFORCING
GB1	24" WIDE x 24" DEEP x CONT.	(3) #6 TOP AND BOT SEE D1/S2.0



Fieldhouse Mezzanine Plan

Plan North

SCALE : $\frac{1}{8}$" = 1'-0"

MEZZANINE NOTES BELOW: (APPLY TO SHEET S3.0 **ONLY**)

SEE SHEET S0.0 FOR GENERAL FOUNDATION NOTES AND STRUCTURAL DESIGN LOADS

1. FINISHED FLOOR ELEVATION (FIN FLR EL) TO BE 100' -0". ALL FRAMING ELEVATIONS SHALL BE WORKED FROM THIS ELEVATION.

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FIELD HOUSE
FOUNDATION PLAN, &
FRAMING PLANS

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S3.0

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GENERAL LINTEL NOTES:

L-XX SEE SCHEDULE FOR LINTEL AT MASONRY OPENING

ALL INTERIOR MASONRY WALL OPENINGS TO HAVE TYPE PC PRECAST CONCRETE UNLESS NOTED OTHERWISE

ALL LINTELS FOR MECHANICAL DUCTWORK TO HAVE TYPE MPC OR ML-XX UNLESS NOTED OTHERWISE

PROVIDE LINTELS @ OPENINGS IN STUD WALL PER LIGHT GAGE LINTEL SCHEDULE REPRESENTED BY MS OR MSS

ALL STEEL BEAM LINTELS TO HAVE 1/2"Ø x 4" HEADED STUDS AT 32" C/C WELDED TO TOP FLANGE, CENTER STUD IN CMU BLOCK ABOVE

STEEL BEAMS AND ANGLES IN EXTERIOR WALLS TO BE HOT DIPPED GALVANIZED - ALL GALVANIZING IS TO BE DONE AFTER FABRICATION

PROVIDE LINTEL AT ALL MASONRY OPENINGS EXCEEDING 12'

AT P.C. LINTELS WITH BEARING AT STEEL COLUMNS, PROVIDE L4x4x1/4 ON SIDE OF COLUMN FOR BEARING OF P.C.

BOND BEAM NOTES

xxx'-x"
xxx'-x"
xxx'-x"

EACH BOX INDICATES LEVEL OF TOP OF BOND BEAM. EACH BOND BEAM TO RECEIVE REINFORCING PER STANDARD BOND BEAM SCHEDULE.

TW INDICATES STEPPED BOND BEAM AT SLOPED RAKE WALL

SEE DETAILS THIS SHEET FOR TOP OF WALL BOND BEAMS FOR WALLS NOT EXTENDING TO DECK ABOVE

PROVIDE CORNER BARS EXTENDING 24" EACH DIRECTION

WHERE BOND BEAMS INTERSECT AT DIFFERENT ELEVATIONS, STEP TO MATCH AS REQUIRED.

6" BOND BEAMS PROVIDE (1) #4 T & B

8" BOND BEAMS PROVIDE (1) #5 T & B

12" BOND BEAMS PROVIDE (2) #5 T & B

DBB - REPRESENTS DOUBLE HEIGHT BONDBEAM

TBB - REPRESENTS TRIPLE HEIGHT BONDBEAM, SEE DETAIL BELOW

LINTELS:

SCHEDULED LINTELS NOTED ON PLAN AS L-XX OR ML-XX

NOTES: COORDINATE ELEVATIONS OF LINTELS WITH ARCHITECTURAL DRAWINGS.
GALVANIZE ALL EXTERIOR LINTELS AFTER FABRICATION.

MARK:	SIZE / DESCRIPTION	BRG	SHAPE / COMMENTS:
L-1	8x8 PC	8"	
L-2	W8x18, 8x8 PC	8"	
L-3	8x8 PC AND L6x6x3/8	8"	
L-4	W8x28 w/ PL 5"x11" AND 5/16" HANGERS AT 16" c/c	12"	
L-4A	W8x28 w/ PL 5"x13" AND 5/16" HANGERS AT 16" c/c	12"	3 7/8" 9 1/8"
L-5	W8x28 w/ PL 5"x11", 12x8 PC AND L6x6x3/8	8"	
L-6	(2) L6x3 1/2x3/8, 8x8 PC, AND L6x6x3/8	8"	
L-7	W16x45 w/ PL 5"x?" w/ 5/16" HANGERS AT 16" c/c	12" / COL.	
L-8	(2) L6x3 1/2x3/8 AND 8x8 PC	8"	
L-9	(2) 6"x1 5/8"x 12ga w/ 16ga TRACK TOP / BOTTOM COLUMN		

TO BE REVISED

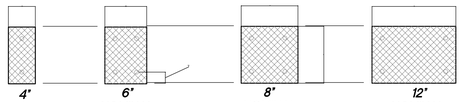
MASONRY OPENINGS
NOT OTHERWISE COVERED IN THE SCHEDULED OR NONSCHEDULED LINTEL TABLE FOR EACH 4" OF MASONRY THICKNESS PROVIDE: (TO BE USED FOR BRICK OPENINGS):

L-3 1/2x3 1/2x1/4	4"	UP TO 3'-11" MAS OPNG
L-4x3 1/2x5/16 (LLV)	4"	4'-0" TO 4'-11" MAS OPNG
L-5x3 1/2x5/16 (LLV)	6"	5'-0" TO 5'-11" MAS OPNG
L-6x3 1/2x5/16 (LLV)	6"	6'-0" TO 6'-11" MAS OPNG

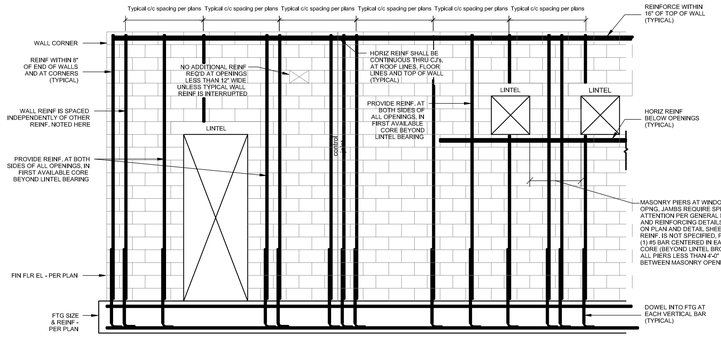
PRECAST CONCRETE LINTELS - NOTED AS PC ON PLANS

PROVIDE A PRECAST CONCRETE LINTEL WHERE INDICATED AND WHEREVER OPENINGS ARE SHOWN IN CMU WORK WITHOUT STRUCTURAL STEEL OR OTHER SUPPORTING LINTEL. (THIS INCLUDES OPENINGS FOR MECHANICAL WORK.)

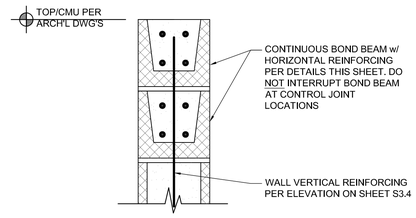
CAST CONCRETE LINTELS SHALL BE SIZED AND REINFORCED AS INDICATED BELOW.



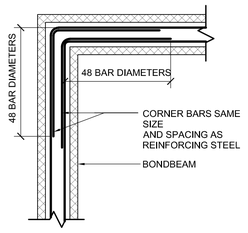
LINTEL WIDTH	CLEAR SPAN	REINFORCING UNLESS OTHERWISE INDICATED
4"	4'-8" OR SMALLER	(1) #4 TOP & BOTTOM
4"	4'-8" OR GREATER	(1) #5 TOP & BOTTOM
6"	4'-8" OR SMALLER	(1) #5 TOP & BOTTOM
6"	4'-8" OR GREATER	(2) #4 TOP & BOTTOM
8"	4'-8" OR SMALLER	(2) #4 TOP & BOTTOM
8"	4'-8" OR GREATER	(2) #5 TOP & BOTTOM
12"	4'-8" OR SMALLER	(2) #4 TOP & BOTTOM
12"	4'-8" OR GREATER	(2) #5 TOP & BOTTOM



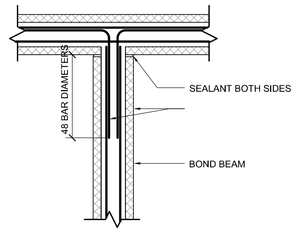
PLACEMENT OF MASONRY WALL REINFORCEMENT - ELEVATION



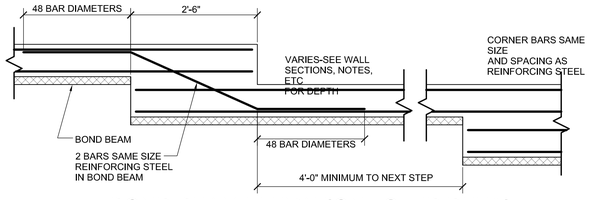
TYPICAL TOP OF PARTITIONS NOT EXTEND. TO DECK ABOVE



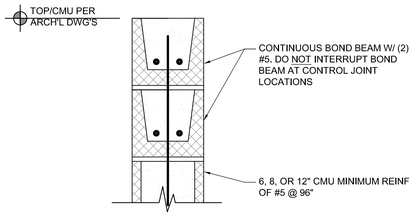
TYPICAL CORNER DETAIL



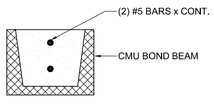
WALL INTERSECTION DETAIL



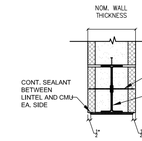
BOND BEAM ELEVATION - STEP DETAIL



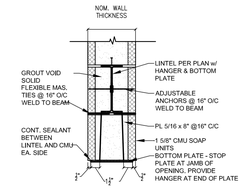
TYPICAL TOP OF PARTITIONS NOT EXTEND. TO DECK ABOVE



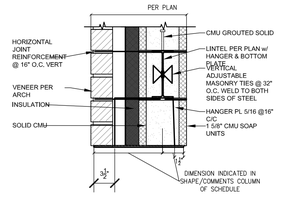
8" BOND BEAM WITH (2) BARS



STANDARD PLATE CONDITION
SCALE: NONE

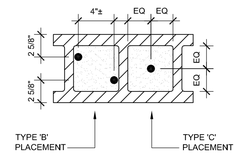


DROPPED PLATE CONFIGURATION
SCALE: NONE



DROPPED PLATE CONFIGURATION
SCALE: NONE

MASONRY WALL VERTICAL REINFORCING BAR PLACEMENT DIAGRAM:

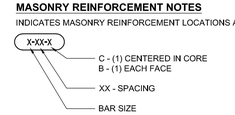


CMU SHOWN DIAGRAMMATICALLY ACTUAL SHAPE MAY VARY
NOTIFY ENGINEER IF DIMENSIONS NEED REVISED FOR CMU USED.

COMPRESSIVE STRENGTH OF UNITS = 2,150 PSI TYPICAL FOR ALL CMU CONSTRUCTION

MASONRY REINFORCEMENT NOTES

INDICATES MASONRY REINFORCEMENT LOCATIONS AND SPACING



ALL EXTERIOR MASONRY WALLS AND INTERIOR MASONRY BEARING WALLS **NOT** NOTED OTHERWISE ON PLANS ARE TO RECEIVE THE FOLLOWING (minimum) WALL REINFORCING:

6" CMU TO RECEIVE # 3 BARS @ 72" c/c - CENTERED (C) IN CMU CORE

8" CMU TO RECEIVE # 5 BARS @ 48" c/c - CENTERED (C) IN CMU CORE

10" CMU TO RECEIVE # 5 BARS @ 48" c/c - CENTERED (C) IN CMU CORE

12" CMU TO RECEIVE # 6 BARS @ 96" c/c - CENTERED (C) IN CMU CORE

14" CMU TO RECEIVE # 6 BARS @ 96" c/c - CENTERED (C) IN CMU CORE

ALL VERTICAL WALL REINFORCING TO RUN FULL HEIGHT OF WALL (SEE BAR PLACEMENT DEFINITIONS THIS SHEET AND PLACEMENT OF MASONRY WALL REINFORCEMENT - ELEVATION THIS SHEET FOR ADDITIONAL INFORMATION.

CELLS w/ REINFORCING ARE TO BE GROUTED SOLID w/ 3,000 psi "COARSE AGGREGATE" GROUT - FULL HEIGHT OF REINFORCING.

ALL VERTICAL WALL REINFORCING TO BE DOWELED INTO FOOTINGS.

SEE TABLE THIS SHEET FOR LAP SPLICE LENGTH REQUIREMENTS.

ALL CMU BELOW GRADE TO BE NORMAL WEIGHT AND GROUTED SOLID.

(2015 International Building Code)

BAR SIZE	MINIMUM LAP SPLICE LENGTH, Inches
#3	27
#4	36
#5	45
#6	54
#7	63
#8	72
#9	82

Based on the stresses in the steel, fs, taken equal to 100% of the allowable reinforcement tensile stress of 24,000 psi for Grade 60 reinforcement.

Bars larger than #9 are required to be spliced by mechanical connectors.

Lap splice lengths are to be increased by 50% when epoxy coated reinforcement is used.

ALLOWABLE STRESS DESIGN - MASONRY REINFORCEMENT LAP SPLICE LENGTHS

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LINTEL NOTES AND PLAN

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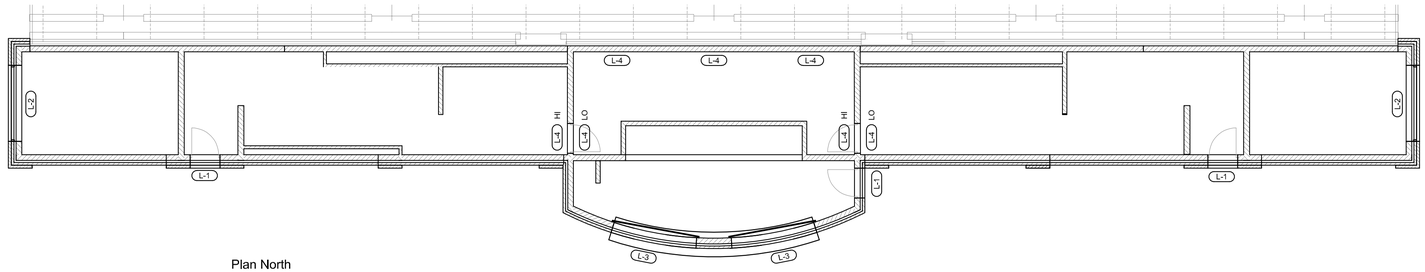
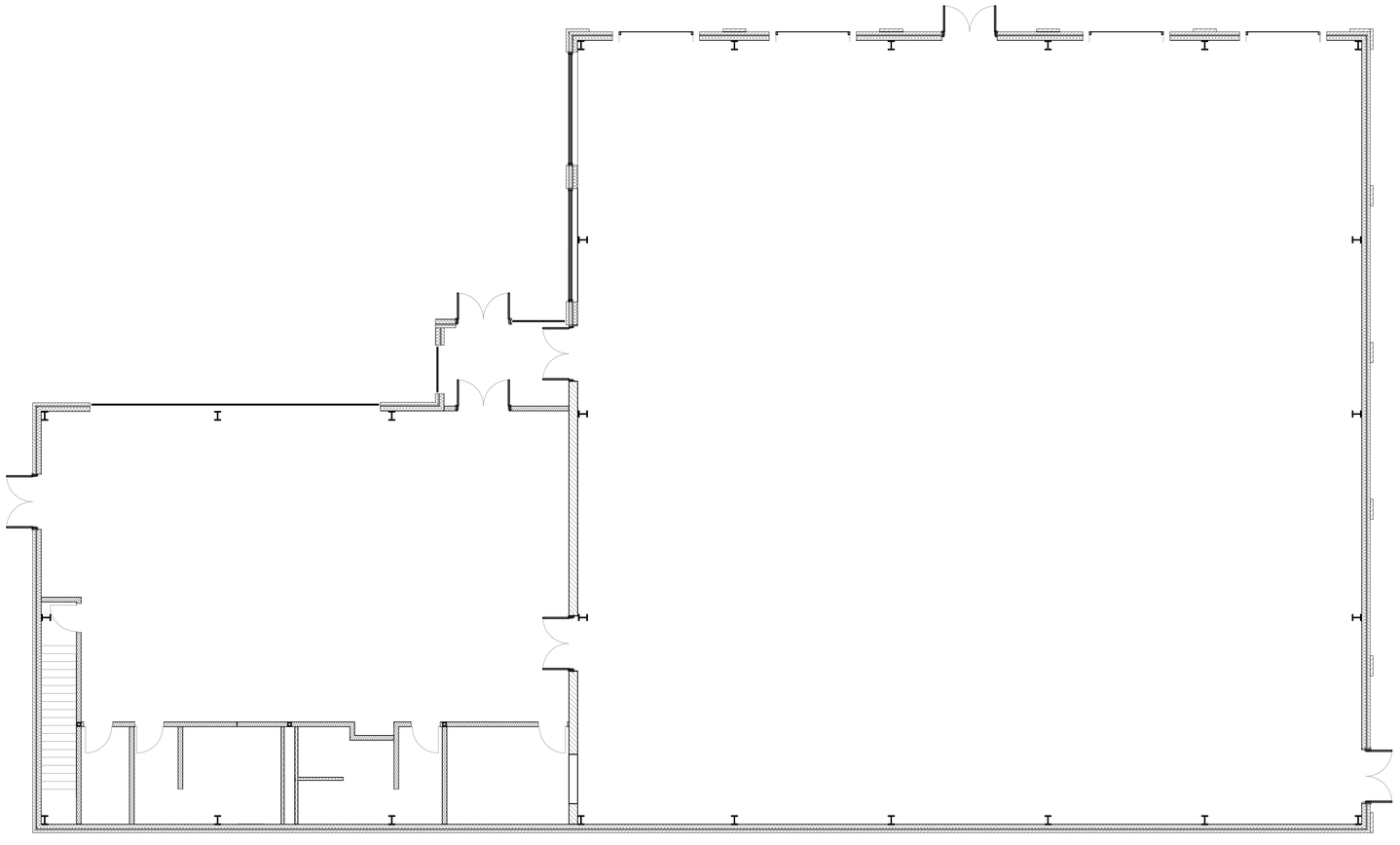


Plan North

Lintel Plan

SCALE : $\frac{1}{8}$" = 1'-0"



Plan North

Field House Lintel Plan

SCALE : $\frac{1}{8}$" = 1'-0"

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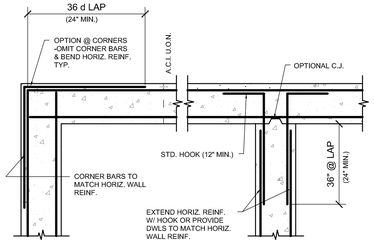
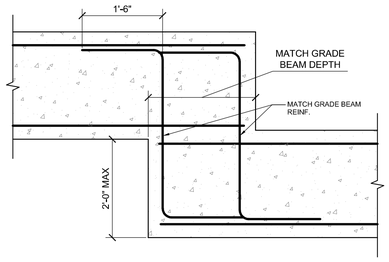


NOTE: WHERE BAR SIZES DIFFER, LAP FOR LARGER SIZE

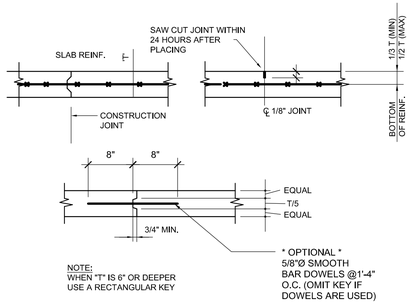
E1 / S7.0 CONC. WALL REINFORCING AT CORNERS AND INTERSECTION

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



E2 / S7.0 TYPICAL GRADE BEAM STEP DETAIL

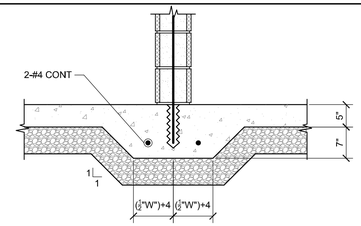
SCALE: 3/4"=1'-0"



NOTE:
WHEN "T" IS 6" OR DEEPER USE A RECTANGULAR KEY

E3 / S7.0 CONSTRUCTION JOINT

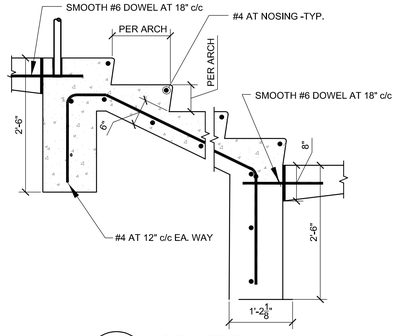
SCALE: 3/4"=1'-0"



"W" - DENOTES WALL THICKNESS SEE PLANS FOR DIMENSION

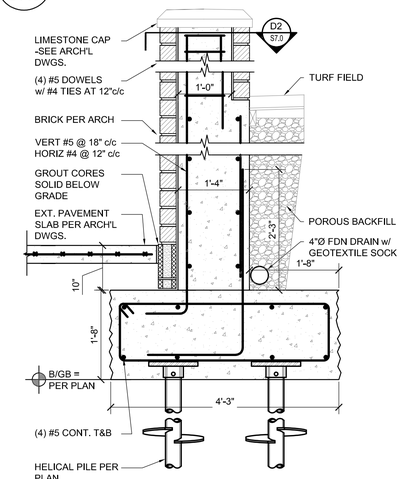
E4 / S7.0 TYPICAL THICKENED SLAB UNDER NON-LOAD BEARING MASONRY PARTITIONS

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



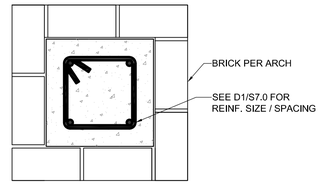
E5 / S7.0 SECTION

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



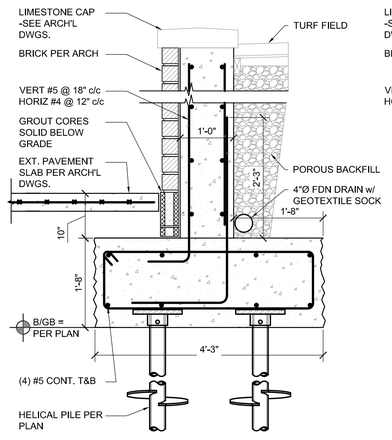
D1 / S7.0 SECTION

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



D2 / S7.0 DETAIL

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



D3 / S7.0 SECTION

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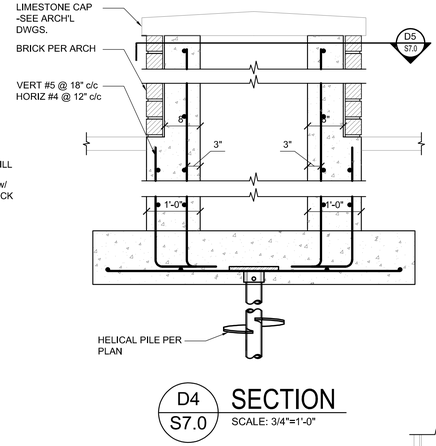

D4 / S7.0 SECTION

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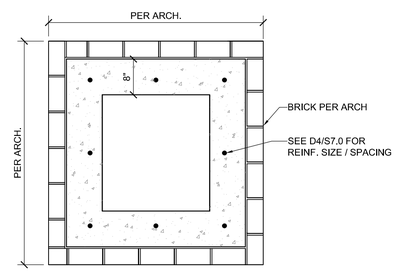
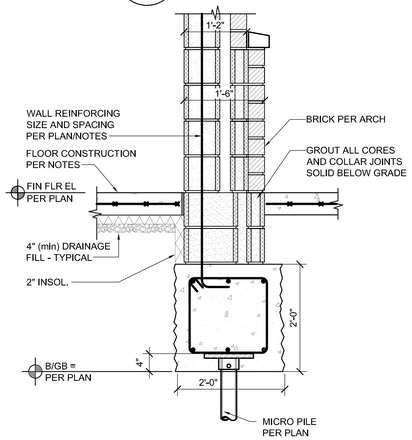


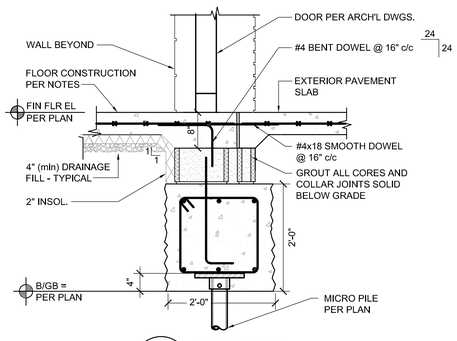
D5 / S7.0 SECTION

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



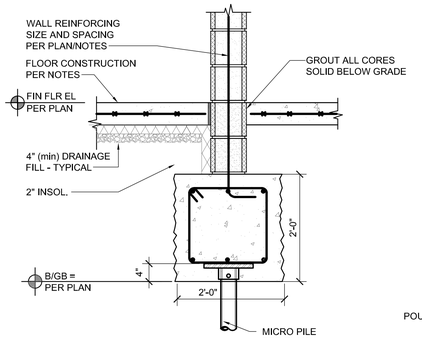
C1 / S7.0 SECTION

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



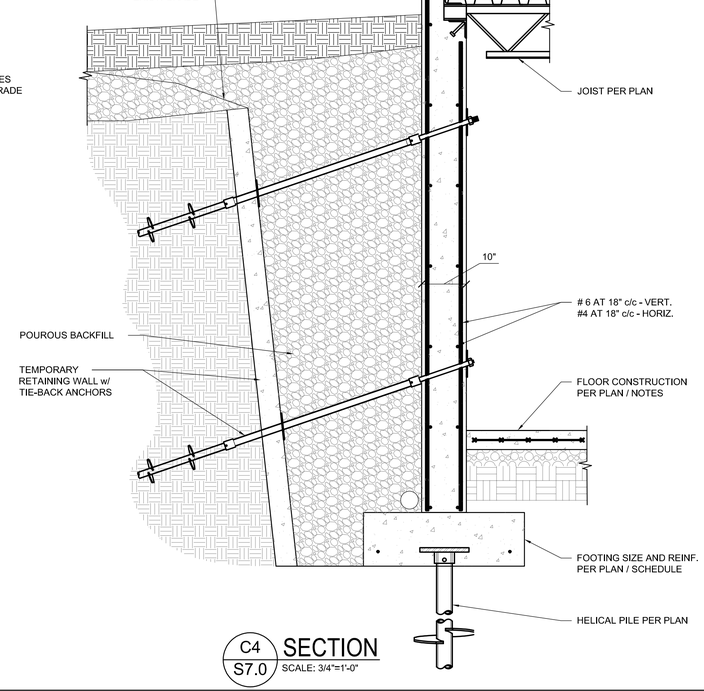
C2 / S7.0 SECTION

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



C3 / S7.0 SECTION

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



C4 / S7.0 SECTION

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

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Robert Ehmet Hayes & Associates, PLLC

Dayton Independent Schools - Athletic Complex

200 Greendevil Lane Dayton, Kentucky 41074

Dayton Independent Schools Board of Education
Mr. Jay Brewer, Superintendent

SHEET TITLE

FOUNDATION DETAILS

BG # 23-538

REH # 168-523

DATE 01/24/24

S7.0

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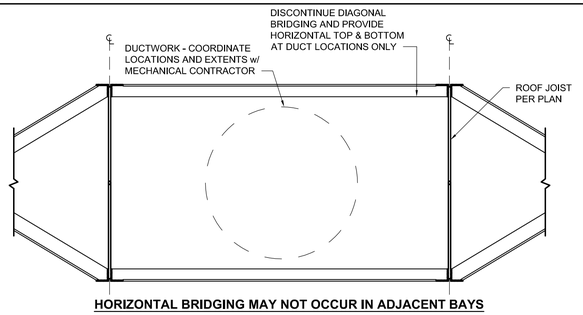
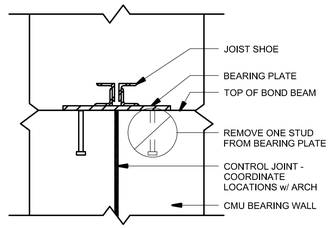


TYPICAL HORIZONTAL BRIDGING @ DUCT LOCATION

A2 / S8.0

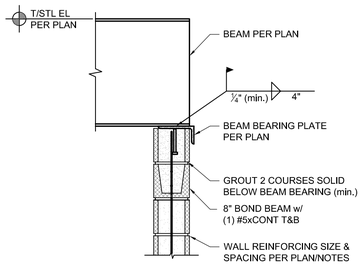
SCALE: 3/4"=1'-0"



BEARING PLATE / CONTROL JOINT CONFLICT

A3 / S8.0

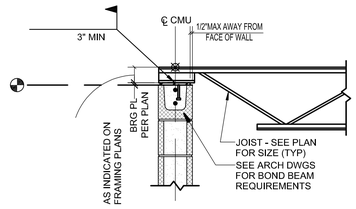
SCALE : 1-1/2" = 1' - 0"



TYPICAL BEAM BEARING ON ON MASONRY WALL

C1 / S8.0

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

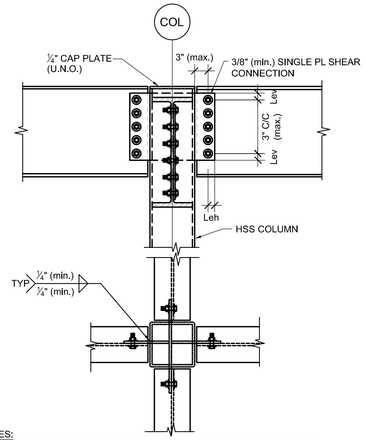


JOIST BEARING ELEVATIONS NOTED ON PLANS ARE ALSO TOP OF THE BOND BEAM ELEV. BRG PLATES SIT ON BOND BEAM AND JOISTS SIT ON BRG PLATES

TYPICAL JOIST BEARING ON MASONRY

C2 / S8.0

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

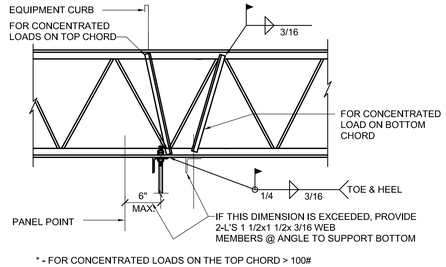


NOTES:
1. CONNECTION TO DEVELOP UNIFORM LOAD CAPACITY OF BEAM (U.N.O.).
2. Leh & Lev PER AISC 360 REQUIREMENTS (TYP).
3. SHORT SLOTS PER AISC ARE ACCEPTABLE IN SINGLE PLATE, HOWEVER, SLOPED BEAMS SHALL HAVE STD HOLE SIZE PER AISC.

TYPICAL WF BEAM TO HSS COLUMN CONNECTION

D3 / S8.0

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

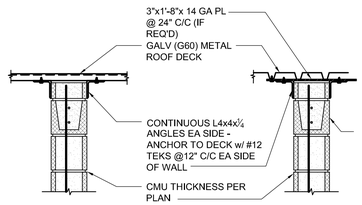


* - FOR CONCENTRATED LOADS ON THE TOP CHORD > 100#
* - FOR CONCENTRATED LOADS ON THE BOTTOM CHORD > 100#

NOTE: JOIST MANUFACTURER MUST DESIGN CHORDS FOR THESE CONCENTRATED LOADS (WITHOUT SPECIAL WEB REINFORCEMENT)

TYPICAL REINFORCEMENT OF JOIST FOR CONCENTRATED LOAD NOT AT PANEL POINT

D4 / S8.0



TYP CONNECTION OF CMU PARTITION TO ROOF/FLOOR DECK (NON-SHEAR WALLS)

B4 / S8.0

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

GOP Limited
Structural Engineers
431 Ohio Pike, 100 N. Cincinnati, Ohio 45255 (513) 621-7073

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FRAMING SECTIONS AND DETAILS

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ELECTRIC LEGEND

SYMBOL	DESCRIPTION
LIGHTING AND LIGHTING CONTROLS	
	LUMINAIRE (REFER TO THE LUMINAIRE SCHEDULE) NOTE THAT OTHER SHAPES MAY ALSO BE USED TO REPRESENT LUMINAIRES
	SHADED LUMINAIRES DENOTE THOSE CONNECTED TO EMERGENCY OR STANDBY POWER AS APPLICABLE (UNSWITCHED LUMINAIRES ARE EGRESS LIGHTS AND/OR NIGHT-LIGHTS THAT OPERATE 24/7)
WALL MOUNT	SINGLE / DOUBLE SIDED EXIT SIGN CONNECT AHEAD OF SWITCHING & CONFIGURE ARROWS TO INDICATE DIRECTION OF EGRESS TRAVEL
	OUTDOOR AREA SITE LIGHTING STANDARD NUMBER OF LUMINAIRE HEADS AS INDICATED ON DRAWINGS.
A NL a EL	A = LUMINAIRE TYPE, NL = NIGHT-LIGHT (UNSWITCHED), a = SWITCHING DESIGNATION, EL = EGRESS LUMINAIRE (ILLUMINATES PATH OF EGRESS, UNSWITCHED UNLESS OTHERWISE NOTED)
$	LIGHTING SWITCH (KEYS: 2 = 2-POLE, 3 = 3-WAY, 4 = 4-WAY, D=DIMMER, K=KEYED, T = TIMER SWITCH, M = MOMENTARY-CONTACT, P = SWITCH W/PILOT LIGHT)
TYPE	CEILING-MOUNTED OCCUPANCY SENSOR. DUAL TECHNOLOGY UNLESS OTHERWISE NOTED BY TYPE. TYPE "IR" = INFRARED, TYPE "US" = ULTRASONIC
TYPE#	WALL-MOUNTED OCCUPANCY SENSOR SWITCH. DUAL TECHNOLOGY UNLESS OTHERWISE NOTED BY TYPE. TYPE "IR"=INFRARED, TYPE "US"=ULTRASONIC, "V"=VACANCY SENSOR, "#" = CONTROLLED CIRCUITS.
LCP# LCP#	LIGHTING CONTROL PANEL
RECEPTACLES AND MISCELLANEOUS OUTLETS	
	SINGLE ("SIMPLEX"), DUPLEX, AND DOUBLE DUPLEX ("QUAD") RECEPTACLE RESPECTIVELY
	GFI / GFCI RECEPTACLES
H C T 42" W SW L	<u>RECEPTACLE ATTRIBUTES</u> 42" = MOUNT RECEPTACLE AT THIS HEIGHT ABOVE GRADE / FINISHED FLOOR C = INSTALL ABOVE COUNTER AND BACKSPLASH H = INSTALL RECEPTACLE HORIZONTALLY L = LIT (PROVIDE ILLUMINATED FACE OR INDICATOR LIGHT TO INDICATE THERE IS POWER TO RECEPTACLE) SW = SPLIT WIRED T = TAMPER-RESISTANT W = WEATHER PROOF WHILE IN USE COVER AND WEATHER RESISTANT RECEPTACLE
MISCELLANEOUS	
T TS	LOW VOLTAGE THERMOSTAT (LEFT) AND TEMPERATURE SENSOR (RIGHT)
	INDICATES DIRECT CONNECTION TO EQUIPMENT
$ $MS $MSR	MOTOR RATED TOGGLE SWITCH, MANUAL STARTER WITH PILOT LIGHT, AND MANUAL STARTER WITH PILOT LIGHT WITH EXTERNAL RELAY FOR CONTROL OR MONITORING RESPECTIVELY - ALL MAY BE KEYED "K"
	HEAVY DUTY DISCONNECT SWITCH (NON-FUSED) (LEFT) HEAVY DUTY DISCONNECT SWITCH (FUSED) (RIGHT)
	MOTOR
	CONTROL STATION WITH DESCRIPTIVE ENGRAVED PLATE
	HAND DRYER
	PLYWOOD EQUIPMENT BOARD
	ELECTRICAL PANELBOARD OR DISTRIBUTION BOARD (DIMENSIONS MAY VARY / FLUSH OR SURFACE MOUNTED AS INDICATED)
PAD POLE	OIL FILLED TRANSFORMER
	CONCRETE FILLED STEEL BOLLARD

ELECTRIC LEGEND

SYMBOL	DESCRIPTION
SINGLE LINE DIAGRAM	
	ELECTRIC UTILITY COMPANY METER AND ASSOCIATED CURRENT TRANSFORMERS
HD	CUSTOMER ELECTRIC METER AND ASSOCIATED CURRENT TRANSFORMERS HD = HIGH DENSITY METERING CABINET/BANK MOUNTED TO TIGHTLY GROUP ALL METERS TOGETHER
	ELECTRICAL PANELBOARD OR DISTRIBUTION BOARD
	SURGE PROTECTIVE DEVICE
WIRE / CABLE / RACEWAY	
LPA-1,3	BRANCH CIRCUIT HOME RUN WITH PANEL NAME AND CIRCUIT NUMBER(S)
	CABLING / RACEWAY INSTALLED CONCEALED IN WALLS OR ABOVE CEILING
	CABLING / RACEWAY INSTALLED BELOW FLOOR OR GRADE
Ø	UTILITY POLE
UP DN	CONDUIT UP OR DOWN

ABBREVIATIONS

42"	DISTANCE ABOVE FINISHED FLOOR / GRADE / PAVEMENT	LR	LEGALLY REQUIRED STANDBY
AF	AMP FRAME OF FUSED SWITCH OR CIRCUIT BREAKER	LI	LONG - INSTANTANEOUS
AFCI	ARC-FAULT CIRCUIT INTERRUPTER	LSI	LONG - SHORT - INSTANTANEOUS
AT	AMP TRIP OF FUSED SWITCH OR CIRCUIT BREAKER	LSIG	LONG - SHORT - INSTANTANEOUS - GROUND FAULT
ATS	AUTOMATIC TRANSFER SWITCH	MCB	MAIN CIRCUIT BREAKER
BAS	BUILDING AUTOMATION SYSTEM	MFR	MANUFACTURER
C.T.C.	WORK UNDER DIVISION 27 OR 28 AS APPLICABLE	MLO	MAIN LUGS ONLY
C/B	CIRCUIT BREAKER	MTS	MANUAL TRANSFER SWITCH
C / CH	COUNTER HEIGHT OR SPECIAL HEIGHT DEVICE	MW	MICROWAVE OVEN
DW	DISHWASHER	NIC	NOT IN CONTRACT (SHOWN FOR REFERENCE ONLY)
E	EMERGENCY	NTS	NOT TO SCALE
E.C.	WORK UNDER DIVISION 26	OFE	OWNER-FURNISHED EQUIPMENT - INSTALLED AND WIRED BY E.C.
EMS	ENERGY MANAGEMENT SYSTEM	OS	OPTIONAL STANDBY
EPO	EMERGENCY POWER OFF	P.C.	WORK UNDER DIVISION 22
ER	EQUIPMENT ROOM	(R)	RELOCATE
ERM	ENERGY REDUCTION MAINTENANCE SWITCH	S.C.	WORK UNDER DIVISION 21
ESP	EMERGENCY STANDBY RATING	SCCR	SHORT CIRCUIT CURRENT RATING
ETR	EXISTING TO REMAIN	SPD	SURGE PROTECTIVE DEVICE
EWC	ELECTRIC WATER COOLER	ST	SHUNT TRIP
EX.	EXISTING	TAAC	TO ABOVE ACCESSIBLE CEILING
FBO	FURNISHED BY OTHERS - INSTALLED AND WIRED BY E.C.	TR	TAMPER RESISTANT
FIBO	FURNISHED AND INSTALLED BY OTHERS - WIRED BY E.C.	TTB	TELEPHONE TERMINAL BOARD
FP	RECEPTACLE TO BE USED FOR A FLAT PANEL DISPLAY.	TYP	TYPICAL
FWE	FURNISHED WITH EQUIPMENT BY OTHERS - INSTALLED AND WIRED BY E.C.	UCR	UNDER COUNTER REFRIGERATOR
GD	GARBAGE DISPOSAL	UL	UNDERWRITER'S LABORATORY
GFEP	GROUND FAULT EQUIPMENT PROTECTION	U.L.S.E.	LISTED FOR SERVICE ENTRANCE
GFI / GFCI	GROUND FAULT CIRCUIT INTERRUPTER DEVICE	UNO	UNLESS NOTED OR INDICATED OTHERWISE ON DRAWINGS OR IN SPECIFICATIONS
GND	GROUND	VFD / VSD	VARIABLE FREQUENCY / SPEED DRIVE
H.C.	WORK UNDER DIVISION 23	VIF	VERIFY IN FIELD
H.O.A.	"HAND - OFF - AUTO" SWITCH	VM	VENDING MACHINE
IG	ISOLATED GROUND	VP	VANDAL PROOF
Isc	SHORT CIRCUIT CURRENT	W / WP	WEATHERPROOF
		WG	WIRE GUARD
		WR	WEATHER RESISTANT
		X	RATED FOR CLASSIFIED LOCATION

PLAN-VIEW AND GRAPHIC LINE TYPES

WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK (UNLESS OTHERWISE INDICATED)

WORK SHOWN FADED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE (UNLESS OTHERWISE INDICATED)

WORK SHOWN BOLD-DASHED INDICATES SELECTIVE DEMOLITION WORK (UNLESS OTHERWISE INDICATED)

ELECTRIC DESIGN CRITERIA

APPLICABLE BUILDING CODES

2018 KENTUCKY BUILDING CODE (BASED ON THE INTERNATIONAL BUILDING CODE)
2017 NFPA 70 - NATIONAL ELECTRICAL CODE (NEC)
2016 NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE
2012 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

CONSTRUCTION TYPE & OCCUPANCY

<u>TYPE ## CONSTRUCTION</u>

<u>OCCUPANCY CLASSIFICATION (USE GROUP) WITH OCCUPANT LOAD:</u>
CLASSIFICATION
OCCUPANT LOAD
CLASSIFICATION
OCCUPANT LOAD

TESTING/COMMISSIONING FOR LIGHTING CONTROLS

LIGHTING CONTROL DEVICES AND SYSTEMS SHALL BE TESTED TO ENSURE THE HARDWARE AND SOFTWARE IS CALIBRATED, PROGRAMMED, AND IN PROPER WORKING ORDER. INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED INSTALLATION REPORTS AND CERTIFICATES (UNLESS COMMISSIONING IS BEING PERFORMED IN WHICH CASE THE COMMISSIONING PROVIDER SHALL BE RESPONSIBLE FOR ALL REPORTS, CERTIFICATES, ETC.) AND SHALL PROVIDE MANUALS FOR LIGHTING CONTROL DEVICES TO OWNER PRIOR TO PROJECT CLOSE-OUT. INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR CONTRACTING WITH APPROPRIATE PARTIES TO ARRANGE FOR TESTING OF THE LIGHTING CONTROL SYSTEMS AND SHALL BE RESPONSIBLE FOR ENSURING ALL REQUIRED FUNCTIONAL PERFORMANCE TESTING FORMS/REPORTS ARE COMPLETED AND SUBMITTED TO THE OWNER AND LOCAL AHJ PRIOR TO PROJECT CLOSE-OUT. FUNCTIONAL PERFORMANCE TESTING OF LIGHT CONTROLS SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT NOT LIMITED TO) VERIFICATION OF THE PERFORMANCE OF OCCUPANCY SENSORS, AUTOMATIC TIME SWITCHES, AND DAYLIGHT HARVESTING CONTROLS.

UTILITY COORDINATION

COORDINATE UTILITY SERVICE WORK CONTAINED WITHIN THIS DRAWING SET WITH RESPECTIVE LOCAL UTILITY COMPANY. KLH HAS STARTED THIS COORDINATION PROCESS WITH UTILITY COMPANY REPRESENTATIVE LISTED BELOW AS PART OF THE DESIGN PHASE. CONTINUE THIS COORDINATION PROCESS PRIOR TO STARTING ANY WORK AND CONTINUE THROUGHOUT CONSTRUCTION PHASE.

OBTAIN AND COMPLY WITH UTILITY INSTALLATION DETAILS AND STANDARDS.

CONTACT 811 "CALL BEFORE YOU DIG" SERVICE PRIOR TO COMMENCING ANY UNDERGROUND WORK.

<u>ELECTRIC SERVICE</u>	
UTILITY COMPANY	DUKE ENERGY
UTILITY CONTACT	DENIELLE JONES (Building Service), and BILL HOFSTETTER (Utility Relocation)
PHONE NUMBER	513-817-7110
EMAIL ADDRESS	Danielle.Jones@duke-energy.com, and Bill.Hofstetter@duke-energy.com
DATE(S) CONTACTED	5/9/2023
KLH CONTACT	DOUG JOHANSING

<u>ELECTRICAL SECONDARY SERVICE (OWNER-PURCHASED SECONDARY)</u>		
TRANSFORMER		
OWNERSHIP	UTILITY	
NEW OR EXISTING	NEW - POLE MOUNTED	
SECONDARY VOLTAGE (V)	208V	
METERING		
CURRENT TRANSFORMER (CT) LOCATION	CT CABINET	
<u>RESPONSIBILITY MATRIX</u> (X = FURNISH AND INSTALL)	**<u>UTILITY</u>**	**<u>DIVISION 26 CONTRACTOR</u>**
TRANSFORMER	X	
TRANSFORMER PAD		N/A
PRIMARY CONDUIT		X
PRIMARY CABLE	X	
TERMINATE PRIMARY CABLE	X	
SECONDARY CONDUIT		X
SECONDARY CONDUCTORS		X
TERMINATE SECONDARY CONDUCTORS		X
METER SOCKET		X
CT CABINET		X

<u>TELEPHONE SERVICE</u>	
UTILITY COMPANY	ALTA FIBER
UTILITY CONTACT	JASON NUNNELLEY
PHONE NUMBER	513-503-1729
EMAIL ADDRESS	jason.nunnelley@altafiber.com
DATE CONTACTED	8/24/2023
KLH CONTACT	MATT NEWMAN
NUMBER OF CONDUITS REQUIRED BY UTILITY	(2) 4"
MAX DISTANCE BETWEEN PULLBOXES	300 FT.

<u>CABLE (CATV) SERVICE</u>	
UTILITY COMPANY	SPECTRUM
UTILITY CONTACT	CHRIS GAPINSKI
PHONE NUMBER	513-384-1541
EMAIL ADDRESS	Chris.Gapinski@charter.com
DATE CONTACTED	7/5/2023
KLH CONTACT	MATT NEWMAN
NUMBER OF CONDUITS REQUIRED BY UTILITY	(2) 2"
MAX DISTANCE BETWEEN PULLBOXES	300 FT.

ELECTRIC DRAWING INDEX

SHEET NUMBER	SHEET NAME	CURRENT REVISION ISSUED	CURRENT REVISION DATE	CURRENT REVISION DESCRIPTION
E0-001	ELECTRIC COVER SHEET	No		
E0-101	ELECTRIC DEMO SITE PLAN	No		
E0-102	ELECTRIC SITE PLAN	No		
E4-101	ELECTRIC CONCESSION PLANS	No		
E4-102	ELECTRIC FIELDHOUSE PLANS	No		
E4-601	ELECTRIC SINGLE LINE AND SCHEDULES	No		
E4-602	ELECTRIC PANEL SCHEDULES	No		

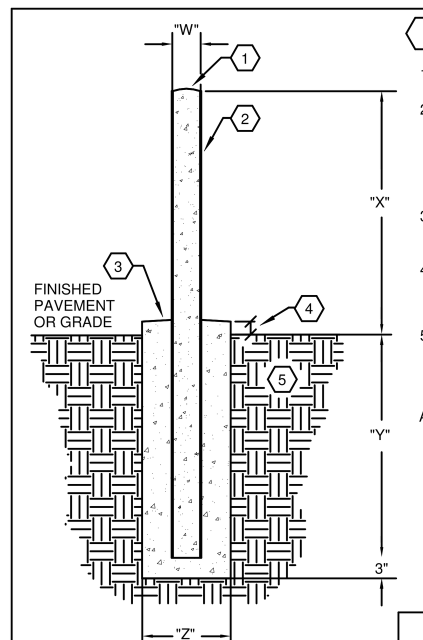
ELECTRIC CONDUIT AND WIRE MATERIAL SCHEDULE

MC - METAL CLAD CABLE	ARC - ALUMINUM RIGID CONDUIT
MI - MINERAL INSULATED CABLE	EMT - ELECTRIC METALLIC TUBING
HMC - HEALTHCARE METAL CLAD CABLE	ENT - ELECTRIC NON-METALLIC TUBING
USE - UNDERGROUND SERVICE ENTRANCE CABLE	FMC - FLEXIBLE METALLIC CONDUIT
SE - SERVICE ENTRANCE CABLE	GRC - GALVANIZED RIGID STEEL CONDUIT
UF - UNDERGROUND FEEDER	HDPE - HIGH DENSITY POLYETHYLENE CONDUIT
NM - NON-METALLIC SHEATHED CABLE	IMC - INTERMEDIATE METAL CONDUIT
RMC - RIGID METAL CONDUIT	LFMC - LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT
RNC - RIGID NON-METALLIC CONDUIT	LFNC - LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT
RTRC - REINFORCED THERMOSETTING RESIN CONDUIT	SCH 40 PVC - SCHEDULE 40 POLYVINYL CHLORIDE CONDUIT
LIM - LINE ISOLATION MONITOR	SCH 80 PVC - SCHEDULE 80 POLYVINYL CHLORIDE CONDUIT

CONDUIT APPLICATION	CONDUCTOR TYPE	RACEWAY TYPE	RACEWAY AND CONDUCTOR NOTES
---POWER - INDOOR---			
CONCEALED	THHN	EMT	
CONCEALED, DAMP LOCATIONS	XHHW-2	EMT	
CONCEALED, MASONRY	THHN	RNC (SCH 40 PVC)	
VERTICAL RISERS FROM BELOW GRADE INCLUDING ELBOW	XHHW-2	RMC (GRC)	
LUMINAIRE WHIPS IN ACCESSIBLE CEILING, 72" MAX	THHN	MC	
CONNECTION TO VIBRATING EQUIPMENT, 72" MAX	THHN	LFMC	
EXPOSED	THHN	EMT	
UNDERGROUND	XHHW-2	RNC (SCH 40 PVC)	
---POWER - OUTDOOR---			
EXPOSED	XHHW-2	RMC (GRC)	
CONCEALED	XHHW-2	EMT	
CONCEALED, DAMP LOCATIONS	XHHW-2	IMC	
UNDERGROUND	XHHW-2	RNC (SCH 40 PVC)	
CONNECTION TO VIBRATING EQUIPMENT, 72" MAX	XHHW-2	LFMC	
EXPOSED TO DIRECT SUNLIGHT, ROOF	XHHW-2	RMC (GRC)	
---TECHNOLOGY---			
CONCEALED, ABOVE INACCESSIBLE CEILINGS	NON-PLENUM RATED	EMT	
CONCEALED, ABOVE ACCESSIBLE CEILINGS	PLENUM RATED	J-HOOKS	

GENERAL ELECTRICAL INSTALLATION NOTES

A. <u>CODE COMPLIANCE</u>: PROVIDE ALL ELECTRICAL WORK COMPLIANT WITH ALL PREVAILING CODES.
B. <u>LISTINGS</u>: PROVIDE MATERIALS, COMPONENTS AND ASSEMBLED COMPONENTS WITH LISTINGS AND LABELS FROM A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL), MANUFACTURED, LISTED AND LABELED FOR THEIR INTENDED USE.
C. <u>RATED BUILDING SURFACES</u>: SEPARATE DEVICE BOXES BY A MINIMUM OF 6 INCHES WHERE INSTALLED BACK-TO-BACK WITHIN DEMISING WALLS TO MAINTAIN REQUIRED FIRE AND SOUND RATING (TYPICAL OF ALL DEVICE BOXES INSTALLED ON DEMISING WALLS). PROVIDE LISTED FIRE-RATED WRAPS AROUND ALL RECESSED OUTLET, DEVICE AND EQUIPMENT BOXES IN FIRE/SMOKE RATED WALLS, CEILINGS AND FLOORS TO MEET OR EXCEED THE RESPECTIVE FIRE/SMOKE RATING OF THE SURFACE.
D. <u>RATED PENETRATIONS</u>: SEAL ALL PENETRATIONS THROUGH FIRE-RATED AND/OR SMOKE-RATED MEMBRANES (FLOORS, WALLS, CEILINGS, ETC.) USING SEALANT PRODUCTS THAT MEET OR EXCEED THE RATING OF THE RESPECTIVE MEMBRANE.
E. <u>GANGED DEVICES</u>: INSTALL WIRING DEVICES GANGED WHEREVER POSSIBLE FOR INSTANCES WHERE THEY ARE SHOWN TOGETHER. THIS INCLUDES LOCATIONS ABOVE COUNTERS AND WORK SURFACES WHERE APPLICABLE.
F. <u>OUTLET BOXES NEAR CORNERS</u>: INSTALL WALL-MOUNTED SWITCHES, CONTROLS, RECEPTACLES, OUTLETS, ETC. AT LEAST 6 INCHES FROM WALL CORNERS.
G. <u>CONCEALMENTS</u>: CONCEAL ALL CONDUIT DROPS AND RISES WITHIN WALLS, AND PROVIDE FLUSH-MOUNTED WALL OUTLET BOXES UNLESS OTHERWISE INDICATED.
H. <u>DOCUMENTS OF OTHER TRADES</u>: REVIEW DOCUMENTS OF OTHER TRADES, INCLUDING ARCHITECTURAL, PRIOR TO SUBMITTING A BID. PROVIDE ELECTRICAL WORK FOR EQUIPMENT, DEVICES, ETC. OF OTHER TRADES AS REQUIRED TO RENDER THEM FULLY OPERATIONAL. REFER TO ARCHITECTURAL ELEVATIONS FOR INTENDED LOCATIONS AND MOUNTING HEIGHTS FOR EQUIPMENT AND OUTLETS, ETC. PRIOR TO COMMENCING WITH ANY RELATED ROUGH-IN WORK.
I. <u>SCHEMATIC REPRESENTATIONS</u>: CIRCUITING WORK SHOWN ON DRAWINGS IS FOR SCHEMATIC GENERAL GRAPHIC REPRESENTATION ONLY. DETERMINE SPECIFICS IN FIELD (POINT-TO-POINT ROUTING, HOME-RUN LOCATIONS, METHODS OF CONCEALMENT, ETC.). LOCATIONS AND ROUTING INDICATED ON PLANS ARE SCHEMATIC AND DIAGRAMMATIC IN NATURE. LAYOUT AND INSTALL ALL ELECTRICAL WORK IN STRICT COMPLIANCE WITH CHAPTER 1, PART II, ARTICLE 110.26 OF THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70).
J. <u>HOME-RUN DESIGNATIONS</u>: HOME-RUN DESIGNATIONS INDICATED ON PLANS ARE SCHEMATIC DESIGNATIONS ONLY. DETERMINE EXACT CIRCUIT ASSIGNMENTS IN FIELD BASED ON FIELD CONDITIONS. PROVIDE COLOR-CODED CONDUCTOR INSULATION ACCORDINGLY, CODED PROPERLY DEPENDING ON SYSTEM, PHASE, NEUTRAL, ETC. PROVIDE EQUIPMENT AND PANELBOARD SCHEDULES THAT ACCURATELY INDICATE INSTALLED CONDITIONS.
K. <u>LOCAL DISCONNECTS AND CONTROLS AT EQUIPMENT</u>: LOCAL DISCONNECTS AND LOCAL CONTROLS SHOWN AT OR ON EQUIPMENT IN PLAN-VIEW ARE SHOWN FOR SCHEMATIC ASSOCIATIONS ONLY. AVOID INSTALLING DISCONNECTS OR CONTROLS ON EQUIPMENT ENCLOSURES. INSTALL ON ADJACENT WALLS OR BUILDING STRUCTURE, OR PROVIDE FIELD-FABRICATED UNISTRUT OR EQUIVALENT ASSEMBLIES AS NEEDED. PROVIDE FIELD COORDINATION WITH SITE CONDITIONS AND OTHER TRADES, AND PROVIDE ALL RELATED WORK IN STRICT COMPLIANCE WITH NFPA 70, INCLUDING ARTICLE 110.26. PROVIDE A PERMANENT LABEL ON LOCAL DISCONNECTS NOTING THE EQUIPMENT IT SERVES AND THE PANEL AND CIRCUIT NUMBER FEEDING THE EQUIPMENT PER NFPA 70, ARTICLE 110.22(A).
L. <u>EQUIPMENT & LOAD COORDINATION</u>: REFER TO AND COORDINATE WITH POWER FLOOR PLANS, EQUIPMENT SCHEDULES (INCLUDING EQUIPMENT COORDINATION SCHEDULES), DRAWINGS OF ALL TRADES, ALL DIVISIONS AND SECTIONS OF SPECIFICATIONS AND INSTALLERS OF ALL TRADES. BASED ON ACTUAL EQUIPMENT BEING PROVIDED, DETERMINE AND PROVIDE APPROPRIATE BREAKERS, FUSES, CONDUCTORS, CONTROLS, POWER DISTRIBUTION EQUIPMENT, ETC. PERFORM THESE SERVICES PRIOR TO FURNISHING POWER DISTRIBUTION EQUIPMENT SUBMITTALS.
M. <u>EXTERIOR ELECTRICAL WORK AND WORK SUBJECT TO MOISTURE</u>: EXTERIOR ELECTRICAL WORK SHALL BE WEATHERPROOF AND WATER-TIGHT, AND SHALL BE RUST-RESISTANT. PROVIDE XHHW-2 CONDUCTORS FOR ALL APPLICATIONS THAT ARE BELOW GRADE OR SUBJECT TO MOISTURE. PROVIDE MINIMUM NEMA 3R ENCLOSURES FOR ALL OUTDOOR EQUIPMENT AND ALL INDOOR EQUIPMENT THAT IS SUBJECT TO MOISTURE. PROVIDE NEMA 1 ENCLOSURES FOR ALL OTHER INDOOR EQUIPMENT.
N. <u>EQUIPMENT GROUNDING CONDUCTORS</u>: PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN STRICT COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70), INCLUDING ARTICLE 250 AND TABLE 250.122. THESE CONDUCTORS MAY OR MAY NOT BE INDICATED ON SINGLE-LINE DIAGRAMS OR ELSEWHERE, BUT SHALL BE PROVIDED UNDER BASE BID NEVERTHELESS.
O. <u>OVERHEAD WORK</u>: HOLD ALL NEW OVERHEAD ELECTRICAL WORK AS TIGHTLY AS POSSIBLE TO THE BOTTOM OF THE OVERHEAD STRUCTURE. DO NOT INSTALL ANY ELECTRICAL WORK WITHIN SIX INCHES OF ROOF DECKING.
P. <u>COORDINATION DRAWINGS</u>: LAYOUT ALL PROPOSED RACEWAY ROUTING, ELEVATIONS, INSTALLATION METHODS, ETC. ON COORDINATION DRAWINGS AND COORDINATE ALL PROPOSED RACEWAY ROUTING WITH ALL AFFECTED TRADES PRIOR TO COMMENCING WITH WORK. IN ADDITION, REVIEW THE INFORMATION WITH ARCHITECT, ENGINEER AND OWNER FOR ALL AREAS WHERE THE RACEWAYS WILL BE VISIBLE AFTER COMPLETION OF CONSTRUCTION.
Q. <u>JUNCTION AND PULL BOXES</u>: LOCATE JUNCTION AND PULL BOXES SO THAT THEY REMAIN ACCESSIBLE AFTER ALL CONSTRUCTION WORK IS COMPLETE. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO COMMENCEMENT OF THE WORK. LOCATE BOXES IN A MANNER THAT AVOIDS HAVING TO USE ACCESS PANELS. IF ACCESS PANELS ARE INEVITABLE, PROVIDE THEM RATED TO MEET OR EXCEED THE FIRE AND/OR SMOKE RATINGS OF THE RESPECTIVE CEILING OR WALL, AND OBTAIN APPROVAL OF DESIGN PROFESSIONALS FOR EACH LOCATION..
R. <u>CONDUCTOR TERMINATIONS</u>: IN CASES WHERE CONDUCTOR SIZES ARE TOO LARGE TO FIT INTO LUGS/TERMINALS, PROVIDE APPROPRIATE FACTORY LUG KITS FOR AFFECTED EQUIPMENT IF AVAILABLE. ELSEWHERE, PROVIDE INSULATED BUTT-SPLICES OR EQUIVALENT METHOD, WITH TAILS SIZED TO FIT LUGS/TERMINALS. PROVIDE SPLICES IN SEPARATE BOXES IF REQUIRED BASED ON FIELD CONDITIONS, BOX SIZE LIMITATIONS, ETC. CONCEAL BOXES IN ACCESSIBLE OVERHEAD JOIST SPACES IN FINISHED REGULARLY OCCUPIED AREAS.
S. <u>TYPE MC, AC, NM, SE CABLE</u>: WHERE MORE THAN TWO TYPE MC, AC, NM, OR SE CABLES CONTAINING TWO OR MORE CURRENT CARRYING CONDUCTORS IN EACH CABLE ARE INSTALLED IN CONTACT WITH THERMAL INSULATION, CAULK, OR SEALING FOAM MAINTAIN SPACING BETWEEN CABLES.



SECTION VIEW

KEYED NOTES:

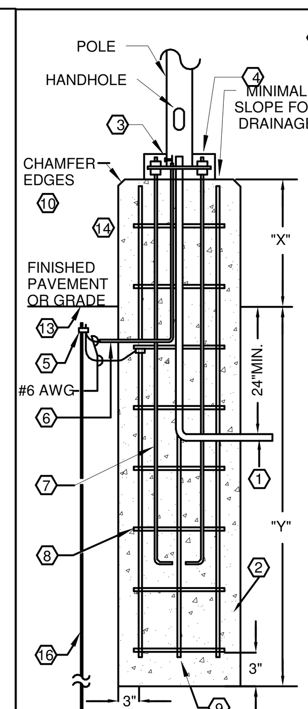
1. PROVIDE 1/2" CONCRETE CROWN FOR POSITIVE DRAINAGE.
2. PROVIDE GALVANIZED SCH 40 STEEL PIPE. FILL SOLID WITH CONCRETE. PROVIDE AT LEAST TWO COATS OF EXTERIOR PAINT SUITABLE FOR GALVANIZED FINISH. PAINT WITH COLOR AS DIRECTED BY ARCHITECT, UNLESS UTILITY COMPANY OR OTHER AUTHORITY REQUIRES A SPECIFIC COLOR SCHEME.
3. PROVIDE 3000# CONCRETE BASE (CLASS A FORMED SURFACE WHERE EXPOSED). PROVIDE 1/2" CROWN FOR POSITIVE DRAINAGE.
4. INSTALL 3" DIMENSION WHEN SURROUNDED BY LAWN. INSTALL 0" DIMENSION (FLUSH) WHEN SURROUNDED BY PAVEMENT. FOR EACH OF THESE OPTIONS, MAINTAIN CROWN PER NOTE 3.
5. COMPACTED EARTH.

GENERAL NOTES

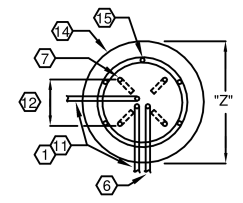
A. WHEN BOLLARDS ARE USED FOR PROTECTING A UTILITY TRANSFORMER, COORDINATE WITH UTILITY TO VERIFY THAT THIS DETAIL MEETS OR EXCEEDS THEIR REQUIREMENTS. COMPLY WITH ALL SPACING REQUIREMENTS OF UTILITY.

DETAIL DIMENSIONS				
PROTECTED EQUIPMENT	"W"	"X"	"Y"	"Z"
DISTRIBUTION EQUIPMENT	4"	48"	48"	15"

260502.00-02 - PROTECTIVE BOLLARD DETAIL
SCALE: NONE



SECTION VIEW



PLAN VIEW

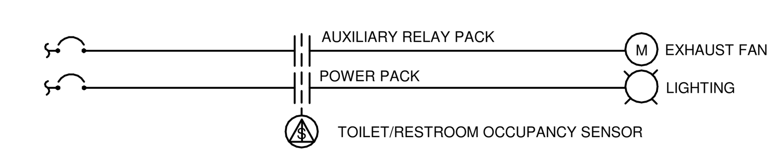
KEYED NOTES:

1. PROVIDE 1" MINIMUM SCHEDULE 40 ELECTRICAL PVC CONDUIT. BACKFILL WITH EXCAVATED OR BORROWED MATERIAL. MATERIAL SHALL BE FREE OF ROCKS 1" DIAMETER AND LARGER. COMPACT TO 90% IN MAX 8" LIFTS OF LOOSE SOIL.
2. PROVIDE 3000# CONCRETE BASE (CLASS A FORMED SURFACE WHERE EXPOSED).
3. GROUND LUG IN BASE BOLTED TO BASE PLATE WITH MIN. #6 AWG SOLID COPPER CONDUCTOR.
4. BASE COVER OVER GALVANIZED STEEL WASHERS, NUTS & LOCKNUTS.
5. GROUND CLAMP, IRREVERSIBLE SPLICE.
6. 1/2" SCHEDULE 40 ELECTRICAL PVC FOR GROUND WIRE.
7. PROVIDE MINIMUM OF FOUR ANCHOR BOLTS, GALVANIZED STEEL.
8. PROVIDE #4 TIE LOOPS AT 3" FROM TOP AND BOTTOM AND +/- 12" C/C BETWEEN LOOPS.
9. (6) #6 VERTICAL REBARS - TIE VERTICAL BARS TO TIE LOOPS.
10. FOR BASES FLUSH WITH PAVEMENT, DO NOT PROVIDE CHAMFER. SEAL THE PERIMETER OF THE BASE TOP INSTEAD.
11. PROVIDE 24" MINIMUM RADIUS; EXTEND 3/4" MAXIMUM ABOVE FOUNDATION WITH NUMBER OF CONDUITS AS NEEDED, 1" MIN.
12. PROVIDE DIAMETER BOLT CIRCLE PER LUMINAIRE MANUFACTURER.
13. "X" AND "Y" DIMENSIONS ARE MINIMUM LENGTHS FROM THIS LINE. WHERE GRADE OR PAVEMENT IS SLOPED, "Y" IS FROM THE LOW SIDE OF THE SLOPE AND "X" IS FROM THE HIGH SIDE OF THE SLOPE.
14. PROVIDE ROUND CONCRETE BASE.
15. PROVIDE REBAR CAGE.
16. PROVIDE 5/8" X 10' GROUND ROD.

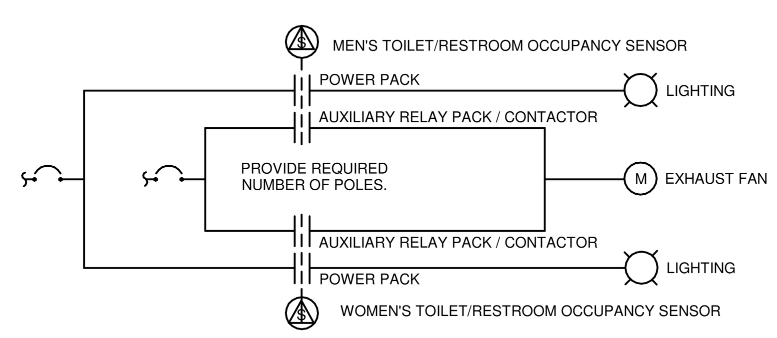
POLE BASE DIMENSIONS			
POLE TYPE	"X"	"Y"	"Z"
P1	MOUNT TO BRICK PIERS, SEE ARCH. DETAILS		
P2	6"	BELOW	24"

POLE HEIGHT	"Y" VALUE
< 13'-0"	4'-0"
13'-0" - 20'-0"	5'-0"
21'-0" - 30'-0	6'-0"
31'-0" - 40'-0"	8'-0"

265100.00-08 - LIGHT POLE BASE DETAIL - ROUND
SCALE: NONE



SINGLE TOILETS/RESTROOMS

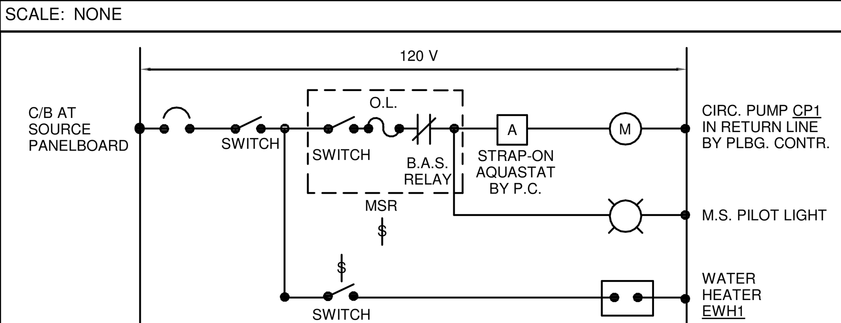


GROUP TOILETS/RESTROOMS

GENERAL NOTES:

A. PROVIDE LOCAL DISCONNECT SWITCH AT EACH EXHAUST FAN IF NOT FURNISHED BY FAN MANUFACTURER.
B. PROVIDE MANUAL STARTER FOR EACH EXHAUST FAN IN NEARBY JANITOR CLOSET OR NEAR SOURCE PANELBOARD, WITH ENGRAVED PLATE IDENTIFYING EXHAUST FAN NUMBER.
C. FOR WALL SWITCH SENSORS, PROVIDE ADDITIONAL RELAYS / CONTACTORS ABOVE ACCESSIBLE CEILING TO MIMIC CONTROL SHOWN ABOVE.

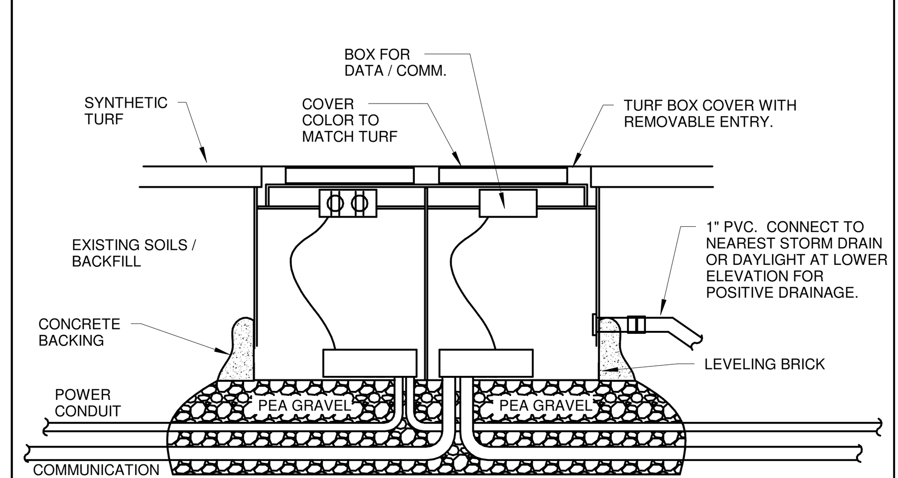
260580.00-08 - TOILET EXHAUST WIRING DIAGRAM
SCALE: NONE



260580.00-03 - DHW W.D.
SCALE: NONE

GENERAL NOTES:

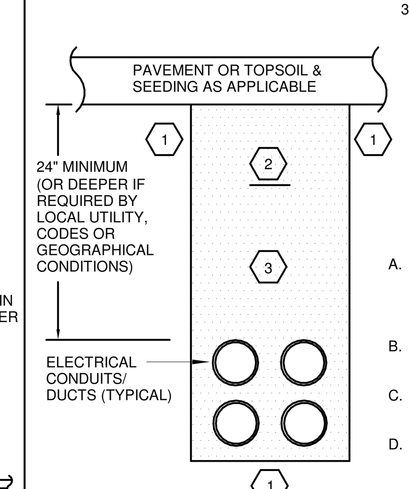
A. PROVIDE IN-GROUND ENCLOSURE EQUAL TO LEGRAND OUTDOOR GROUND BOX SERIES XB WITH ALUMINUM PANEL CONSTRUCTION. ENCLOSURE SHALL BE DIVIDED TO ALLOW FOR ELECTRIC AND COMMUNICATION. INSTALL FLUSH WITH FINISHED ELEVATION SO THAT TURF FIELD AND TURF IN BOX IS AT THE SAME ELEVATION. DIVIDER SHOWN BELOW TO REPRESENT SEPARATE COMPARTMENTS OF SAME COM BOX.
B. CIRCUIT BREAKER(S) FEEDING POWER TO THESE BOXES SHALL HAVE GROUND FAULT PROTECTION. POINT OF USE GFCI RECEPTACLES SHALL NOT BE USED.



260543.00-02 - TURF BOX INSTALLATION - MULTI SERVICE
SCALE: NONE

KEYED NOTES:

1. PROVIDE TRENCH IN UNDISTURBED OR ENGINEERED COMPACTED SOIL AS APPLICABLE.
2. PROVIDE 3" WIDE DETECTABLE CAUTION TAPE 8" BELOW FINISHED SURFACE.
3. BACKFILL USING EXCAVATED OR BORROWED MATERIAL, FREE OF ROCKS 1" DIAMETER & LARGER. COMPACT TO 90% IN MAXIMUM 8" LIFTS OF LOOSE SOIL.



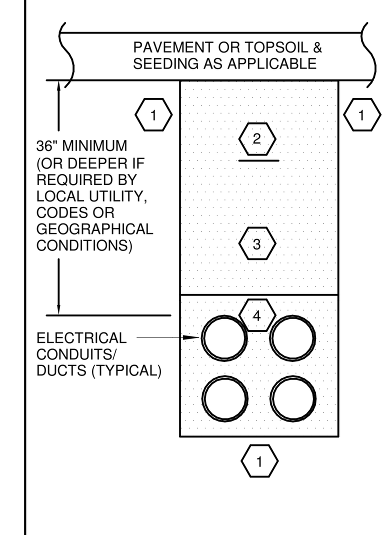
GENERAL NOTES:

A. THIS DETAIL APPLIES FOR ALL BRANCH CIRCUIT, TECHNOLOGY AND SIMILAR SCALE APPLICATIONS WHERE ELECTRICAL CONDUITS ARE REQUIRED TO BE INSTALLED BELOW GRADE, PAVEMENT OR SLABS.
B. THIS DETAIL IS TYPICAL FOR ALL CONDUITS/DUCTS, REGARDLESS OF QUANTITY.
C. SEE PLANS AND SPECIFICATIONS FOR SIZES AND QUANTITIES OF CONDUITS/DUCTS.
D. PROVIDE SMOOTH AND EVEN BOTTOM TO TRENCH AND ENSURE ALL BACKFILL SURROUNDS CONDUITS WITH EVEN BEARING AND WITHOUT DAMAGING CONDUITS.
E. COORDINATE TRENCH LOCATION IN REFERENCE TO OTHER UNDERGROUND UTILITIES. ENSURE NO OTHER UTILITIES ARE PLACED DIRECTLY ABOVE OR BELOW, WHEN PARALLEL TO CONDUITS.

260508.00-04 - U.G. BRANCH CIRCUIT CONDUIT DETAIL
SCALE: NONE

KEYED NOTES:

1. PROVIDE TRENCH IN UNDISTURBED OR ENGINEERED COMPACTED SOIL AS APPLICABLE.
2. PROVIDE 3" WIDE DETECTABLE CAUTION TAPE 8" BELOW FINISHED SURFACE.
3. BACKFILL USING EXCAVATED OR BORROWED MATERIAL, FREE OF ROCKS 1" DIAMETER & LARGER. COMPACT TO 90% IN MAXIMUM 8" LIFTS OF LOOSE SOIL.
4. PROVIDE FLOWABLE BACKFILL



GENERAL NOTES:

A. THIS DETAIL APPLIES FOR ALL SERVICE ENTRANCE, FEEDER, TECHNOLOGY SERVICE AND SIMILAR APPLICATIONS WHERE ELECTRICAL CONDUITS ARE REQUIRED TO BE INSTALLED BELOW GRADE, PAVEMENT OR SLABS.
B. THIS DETAIL IS TYPICAL FOR ALL CONDUITS/DUCTS, REGARDLESS OF QUANTITY.
C. SEE PLANS AND SPECIFICATIONS FOR SIZES AND QUANTITIES OF CONDUITS/DUCTS.
D. PROVIDE AT LEAST 3" OF SEPARATION BETWEEN CONDUITS AND AT LEAST 4" OF SEPARATION BETWEEN ANY CONDUIT & ADJACENT TRENCH BOTTOM OR WALL. ALIGN CONDUITS ON CHAIRS AND ENSURE ALL BACKFILL ENCASES CONDUITS WITH EVEN BEARING AND WITHOUT DAMAGING CONDUITS OR CHAIRS.
E. PROVIDE AT LEAST 4" OF ENCAPSULATION AROUND CONDUITS.
F. COORDINATE TRENCH LOCATION IN REFERENCE TO OTHER UNDERGROUND UTILITIES. ENSURE NO OTHER UTILITIES ARE PLACED DIRECTLY ABOVE OR BELOW, WHEN PARALLEL TO CONDUITS.

260508.00-06 - U.G. SERVICE CONDUIT DETAIL (TWO LAYER BACKFILL)
SCALE: NONE

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859-442-8058 FAX

DAYTON SCHOOLS STADIUM

DAYTON, KY
DAYTON INDEPENDENT SCHOOLS

REVISIONS	

DWN: MS CHK: DTJ
DATE: 11/22/23
PROJECT #: 25356

ELECTRIC COVER SHEET

E0-001

1" REFERENCE
KLH PROJECT # 25356

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EXISTING CONDITIONS - GENERAL NOTES

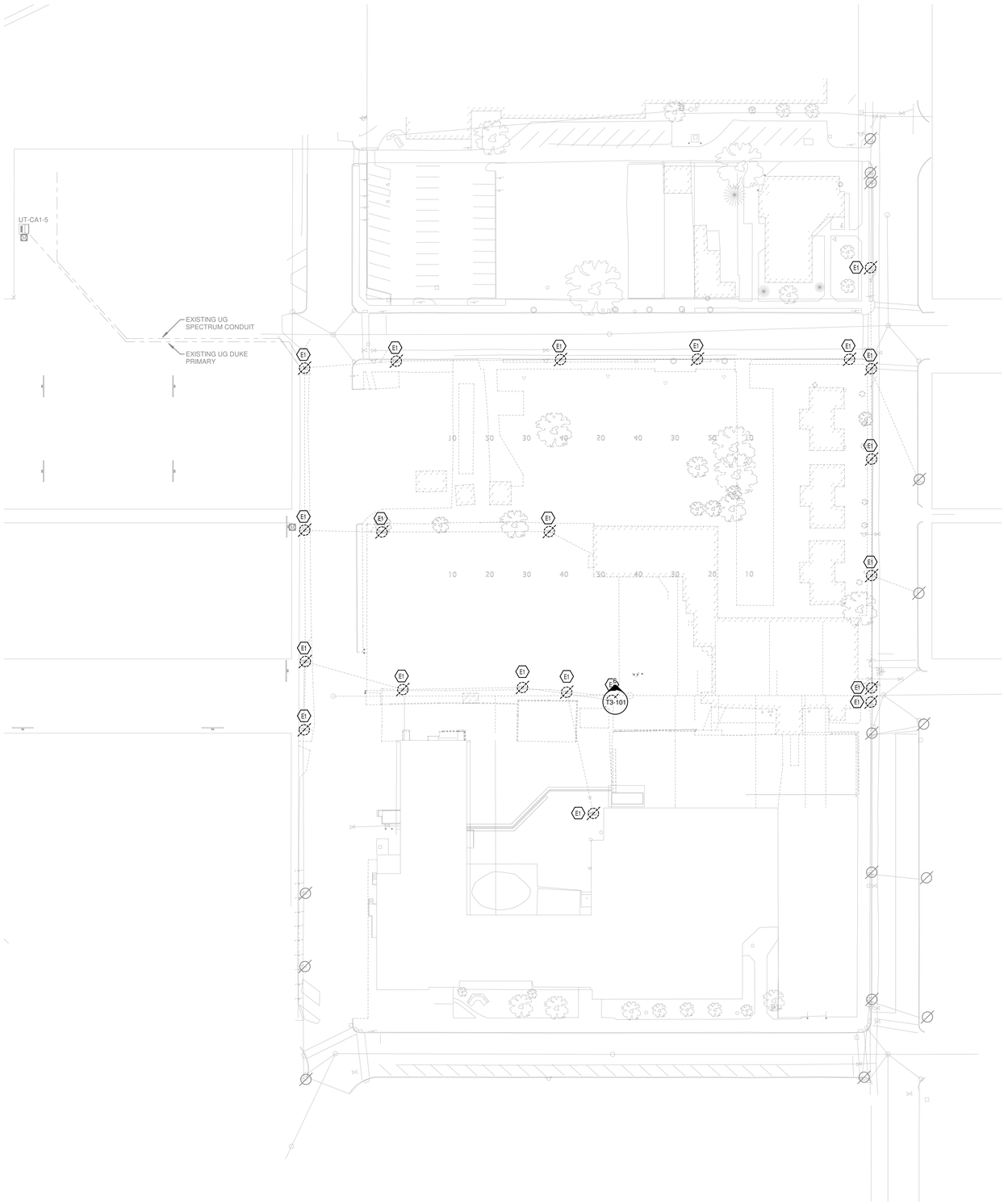
A. INTENT OF DOCUMENTS: EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON VISUAL FIELD OBSERVATIONS AND THE REVIEW OF PREVIOUS DRAWINGS THAT MAY NOT HAVE BEEN CERTIFIED "AS-BUILTS". IT IS NOT THE INTENT OF THE ELECTRICAL DOCUMENTS THAT EXISTING CONDITIONS BE ACCURATELY SHOWN. EXISTING ELECTRICAL WORK IS SHOWN TO A VERY LIMITED EXTENT ON THE DRAWINGS AND IS SHOWN FOR GENERAL PLANNING REFERENCE ONLY.
B. PRE-BID SURVEY: PERFORM A DETAILED PRE-BID WALK-THROUGH FIELD INSPECTION AND SURVEY TO REVIEW THE EXISTING STRUCTURES AND PREMISES, TO ACCURATELY DETERMINE EXISTING CONDITIONS, AND TO DETERMINE SCOPE OF REQUIRED ELECTRICALLY RELATED WORK. INCLUDE APPLICABLE ACCESSIBLE CEILING CAVITY AREAS IN THIS INSPECTION.

EXISTING CONDITIONS - DEMOLITION NOTES

A. DEFINITION OF DEMOLITION: WHERE THE TERM "DEMOLITION" IS USED IN ELECTRICAL DOCUMENTS, INTERPRET IT TO MEAN "DEMOLITION" OR "SELECTIVE DEMOLITION" AS APPLICABLE FOR THE RESPECTIVE SCOPE OF WORK. WHERE THE TERM "DEMOLISH", "REMOVE" OR SIMILAR TERMS ARE USED IN ELECTRICAL DOCUMENTS, INTERPRET TO MEAN "DISCONNECT, REMOVE, DISPOSE OF, AND REMOVE ALL RELATED ELECTRICAL CONDUIT, RACEWAYS, WIRING, CABLES, BOXES, SUPPORTS, ETC.".
B. GENERAL ACCOMMODATIONS: PROVIDE ELECTRICAL DEMOLITION WORK AS REQUIRED TO ACCOMMODATE PROJECT DEMOLITION AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION. DISCONNECT AND REMOVE WORK TO BE ABANDONED, AND AS REQUIRED TO ACCOMMODATE WORK OF OTHER TRADES, IN AREAS AFFECTED BY THIS PROJECT UNLESS SPECIFICALLY NOTED OTHERWISE. COORDINATE PHASING OF WORK CAREFULLY WITH OWNER PRIOR TO BEGINNING ELECTRICAL DEMOLITION WORK.
C. REMOVAL OF ABANDONED WORK: REMOVE ACCESSIBLE ABANDONED, INACTIVE AND OBSOLETE RACEWAY SYSTEMS, EQUIPMENT, LUMINAIRES, DEVICES, CONDUIT, WIRING, CABLES, BOXES, SUPPORTS, CONTROLS, ETC. ABANDONED RACEWAYS EMBEDDED IN FLOORS, WALLS, AND CEILINGS MAY REMAIN IF SUCH MATERIALS DO NOT INTERFERE WITH NEW INSTALLATIONS. THIS APPLIES FOR ALL ELECTRICAL WORK, AND ALL COMMUNICATIONS AND INFORMATION TECHNOLOGY TYPE WORK, INCLUDING ALL SUCH WORK ABOVE CEILINGS, ETC. REMOVE RELATED ABANDONED UNUSED RACEWAY BACK TO THE NEAREST RESPECTIVE "UPSTREAM" JUNCTION BOX THAT REMAINS ACTIVE EVEN IF OUTSIDE OF THE CONFINES OF THE PROJECT AREA. REMOVE ABANDONED UNUSED WIRING AND CABLES BACK TO RESPECTIVE SOURCES SOURCE EVEN IF SOURCES ARE OUTSIDE THE CONFINES OF THE PROJECT AREA.
D. MODIFICATIONS TO ACCOMMODATE NEW WORK: REMOVE AND RELOCATE EQUIPMENT, LUMINAIRES, DEVICES, CONDUIT, RACEWAYS, WIRING, CABLES, BOXES, SUPPORTS, ETC., THAT CONFLICT WITH CONSTRUCTION RELATED WORK OF ALL TRADES AS NECESSARY TO ACCOMMODATE NEW WORK OF RESPECTIVE TRADES. REWORK AND EXTEND RACEWAY AND WIRING AS REQUIRED TO ACCOMMODATE NEW OR RELOCATED ELECTRICAL WORK. MAINTAIN (OR RECONNECT IF APPLICABLE) REMAINING WIRING. PROVIDE ELECTRICAL DISCONNECTIONS, AND RECONNECTIONS WHERE APPLICABLE, FOR EQUIPMENT TO BE REMOVED (OR RELOCATED) BY OTHER TRADES.

KEYED NOTES

E1	COORDINATE WITH UTILITIES TO DEMOLISH POLES AND OVERHEAD LINES TO PREPARE FOR NEW FIELD. SEE NEW SITE PLAN FOR RE-ROUTING NECESSARY UTILITIES TO UNDERGROUND.



1 ELECTRIC DEMO SITE PLAN
1" = 40'-0"

N

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REVISIONS

DWN: MS CHK: DTJ
DATE: 11/22/23
PROJECT #: 25356

ELECTRIC DEMO SITE PLAN

E0-101

1" REFERENCE
KLH PROJECT # 25356

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Dayton High School Football Soccer

Dayton, KY, USA

Lighting System

Pole/Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
F1-F4	70'	70'	7	TLC-LED-1500	9.87 kW	A
		16'	2	TLC-BT-575	1.15 kW	A
4			36		44.08 kW	

Circuit Summary

Circuit	Description	Load	Fixture Qty
A	Football	44.08 kW	36

Fixture Type Summary

Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	8
TLC-LED-1500	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	28

Single Luminaire Amperage Draw Chart

Driver Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-BT-575	3.3	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-1500	8.4	7.9	7.3	6.3	5.0	4.6	3.6

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Bleachers	Horizontal	9.28	4	19	4.37	2.32	A	36
Football	Horizontal Illuminance	54.4	47	65	1.38	1.16	A	36
House Spill	Horizontal	0.56	0	2	91.06		A	36
House Spill	Max Vertical Illuminance Metric	0.95	0	2	41.05		A	36
House Spill-Candela	Max Candela (by Fixture)	11284	850	39805	46.85	13.27	A	36
Soccer	Horizontal Illuminance	53.3	46	64	1.39	1.16	A	36
Soccer Spill	Horizontal Illuminance	0.02	0	0.12	0.00		A	36
Soccer Spill	Max Vertical Illuminance Metric	0.04	0	0.20	745.48		A	36
Soccer Spill-Candela	Max Candela Metric	1029	12.9	4277	332.56	80.01	A	36
Track	Horizontal	33.2	12	46	3.86	2.77	A	36

System Requirements: Control System Summary

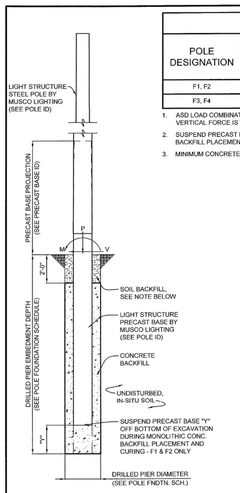
Project Name: Dayton High School Football Soccer | Project #: 132178
Control System ID:1 of 1
Obstruction Panel Location:ID1-Football/Soccer

Circuit Summary

Switching Schedule	
Field/Switch Description	Switches
Football	1

Control Module ID: 1 **Lighting Circuit Voltage: 208/60/3**

Circuit Summary by Switch							
Switch	Zone Description	Pole ID	Qty of Fixtures	Full load amperes	Contactor Size (Amps)	Cabinet #	Contactor ID
1	Football	F1	9	39.14	60	1	C1
	Football	F2	9	39.14	60	1	C2
	Football	F3	9	39.14	60	1	C3
	Football	F4	9	39.14	60	1	C4



POLE FOUNDATION ELEV.

SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:
THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).

POLE FOUNDATION SCHEDULE

POLE DESIGNATION	FORCES (1.)			DRILLED PIER			
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMMEDIMENT DEPTH	SUSPENSION "Y" (2.)	CONCRETE BACKFILL YD³ (3.)
F1, F2	83,996	1,756	2,419	42	16'-0"	2'-0"	4.4
F3, F4	83,996	1,756	2,419	42	14'-0"	NA	3.7

1. ASD LOAD COMBINATION D + 0.6W. VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT)
2. SUSPEND PRECAST BASE "Y" OFF THE BOTTOM OF THE EXCAVATION DURING MONOLITHIC CONCRETE BACKFILL PLACEMENT AND CURING. NA = NOT APPLICABLE, SUSPENSION NOT REQUIRED.
3. MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.

PRECAST BASE IDENTIFICATION

PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
4B	3,490 LBS	22'-0"	6'-0"	14'-0"	15.75"

POLE IDENTIFICATION

POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (FT²)
F1 - F4	LSS70C	4B	9 (7)	26.4

- POLES F1 - F4 HAVE (2) MUSCO LED FIXTURES AT 15'-6" AGL INCLUDED ABOVE.

DESIGN NOTES

DESIGN PARAMETERS:
WIND: V_{ult} = 115 MPH, V_{asd} = 89 MPH (EXPOSURE C, RISK CATEGORY II) PER KENTUCKY BUILDING CODE, 2018 EDITION (IBC 2015 / ASCE 7-10).
DESIGN WIND PARAMETERS ARE AS NOTED, ACTUAL EXPOSURE MUST BE VERIFIED FOR THE SITE BY THE PROPER GOVERNING OFFICAL.

GEOTECHNICAL PARAMETERS:
ALLOWABLE END BEARING SOIL PRESSURE: 2,000 PSF
ALLOWABLE LATERAL SOIL BEARING PRESSURE:
F1, F2: 0 PSF/FT (GRADE TO -4'-6"); 133 PSF/FT (-4'-6" TO -9'-6"); 200 PSF/FT (BELOW -9'-6")
F3, F4: 0 PSF/FT (GRADE TO -2'-6"); 133 PSF/FT (-2'-6" TO -9'-6"); 200 PSF/FT (BELOW -9'-6")
IN ACCORDANCE WITH THE 2018 KENTUCKY BUILDING CODE, CHAPTER 18.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE GEOTECHNICAL EXPLORATION REPORT, PROJECT NO. J044413.01, PREPARED BY GEOTECHNOLOGY, LLC; ERLANGER, KY.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION.

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

CONCRETE:
CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION. ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

GENERAL NOTES:
FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. ENGINEER MUST BE NOTIFIED IF FOUNDATIONS ARE NEAR ANY RETAINING WALLS OR WITHIN / NEAR ANY SLOPES STEEPER THAN 3H : 1V. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.

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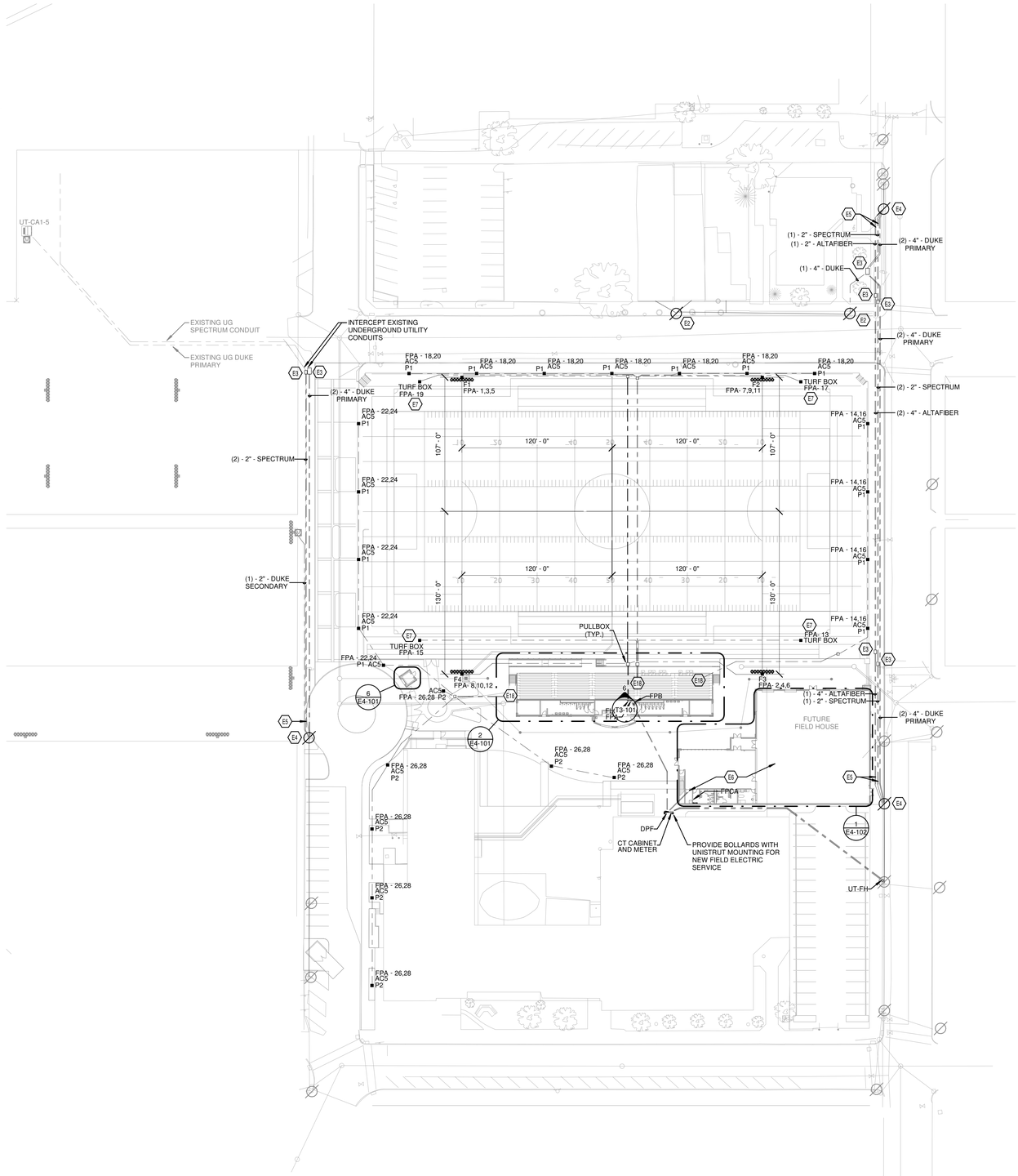
DRAWING TITLE: POLE AND FOUNDATION SCHEDULE
SCALE: NONE
SEAL# 9132178A_2
PROJECT NUMBER: 132178
DATE: 01 DECEMBER 2023
DRAWING NUMBER: C1
OF ONE

USE OR REPRODUCTION OF THIS INFORMATION OTHER THAN ITS INTENDED PURPOSE FOR THIS PROJECT IS PROHIBITED WITHOUT WRITTEN CONSENT FROM MUSCO SPORTS LIGHTING, LLC.

FIELD LIGHTING BASIS OF DESIGN- MUSCO
PROVIDE A FIELD LIGHTING SYSTEM EQUAL TO THIS BASIS OF DESIGN, PERFORMANCE METRICS, AND PER THE FIELD LIGHTING SPECIFICATIONS.
ALTERNATE EQUIVALENT MANUFACTURERS / SYSTEMS MUST BE SUBMITTED FOR REVIEW PRIOR TO BID PER SPECIFICATIONS.

KEYED NOTES

E2	COORDINATE WITH UTILITIES TO PROVIDE NEW OVERHEAD UTILITIES TO EXISTING HOMES TO REMAIN.
E3	COORDINATE WITH UTILITIES AND PROVIDE NEW UTILITY TAP / PULLBOX PER UTILITY REQUIREMENTS.
E4	COORDINATE WITH UTILITIES TO PROVIDE NEW UTILITY POLE AND OVERHEAD LINES AS NECESSARY.
E5	MAX (4) CONDUITS ARE ALLOWED TO TURN UP PER UTILITY POLE. CAP AND MARK SPARE CONDUIT FOR FUTURE USE NEAR UTILITY POLE.
E6	STUB CONDUITS AS SPECIFIED ON SINGLE LINE DIAGRAM TO WITHIN 5' OF FUTURE FIELD-HOUSE BUILDING FOOTPRINT. MARK AND CAP FOR FUTURE USE. FUTURE PANEL FPC IS SHOWN FOR FUTURE REFERENCE ONLY AND LOCATION SHOWN IS TO BE DETERMINED.
E7	PROVIDE MULTI SERVICE TURF BOX FOR POWER AND DATA. PROVIDE (1) 1-1/2" CONDUIT FOR DATA FROM THE MECHANICAL ROOM 117. PROVIDE (1) 1" CONDUIT FOR POWER TO THE PANEL / CIRCUIT SPECIFIED. COORDINATE EXACT ROUTING IN FIELD. REFER TO DETAILS 260543.00-02 (E0-001).
E18	CIRCUIT SITE LIGHTING CIRCUITS THROUGH A TIMECLOCK AND PHOTOCELL CONTROLLED CONTACTOR. PROVIDE CONTACTORS AS NECESSARY TO ACCOMMODATE ALL SITE LIGHTING CIRCUITS. PROVIDE A MINIMUM OF 1-1/2" CONDUIT FOR ALL SITE LIGHTING AND TURF BOX CIRCUITS. COORDINATE ALL FINAL CONDUIT ROUTING IN FIELD PRIOR TO ROUGH-IN. PROVIDE PULL-BOXES SIZED PER NEC IN LOCATIONS AS SHOWN IN PLANS. SEE ARCHITECTURAL ELEVATIONS AND SECTIONS FOR EXACT MOUNTING LOCATIONS AND HEIGHTS.



1 ELECTRIC SITE PLAN
1" = 40'-0"

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REVISIONS

DWN: MS CHK: DTJ
DATE: 11/22/23
PROJECT #: 25356

ELECTRIC SITE PLAN

E0-102

1" REFERENCE
KLH PROJECT # 25356

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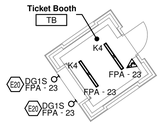
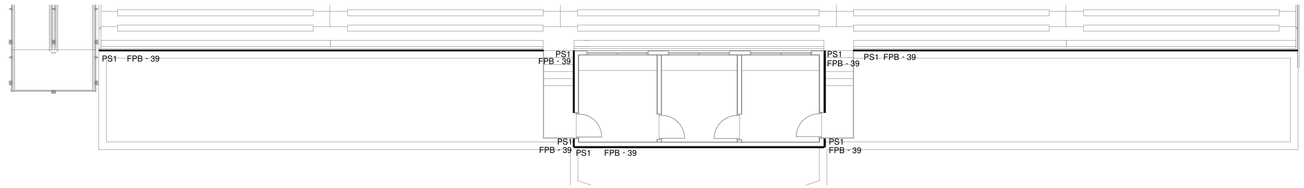
KEYED NOTES

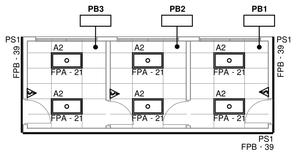
E16	PROVIDE LINE VOLTAGE CONNECTION TO OVERHEAD DOOR, PROVIDED BY OTHERS. COORDINATE FINAL ELECTRICAL REQUIREMENTS IN FIELD WITH DOOR INSTALLER AND PROVIDE APPROPRIATELY RATED LOCAL DISCONNECT SWITCH, UPSTREAM OVERCURRENT PROTECTION AND ALL OTHER REQUIRED ELECTRICAL WORK. INSTALL AND WIRE ALL CONTROL STATIONS, SAFETY AND ACCESSORY DEVICES, FURNISHED BY DOOR INSTALLER. FIELD VERIFY THE LOCATION OF ALL CONTROLLERS WITH DOOR INSTALLER AND OWNERS REPRESENTATIVE.
E17	PROVIDE CONTROL VIA RESTROOM OCCUPANCY SENSOR(S) AND TIMER. REFER TO DETAILS 260580.00-01.
E19	PROVIDE MAIN TICKET BUILDING DISCONNECT SWITCH AND GROUNDING PER NEC FOR TICKET BUILDING 20A 120V CIRCUIT.
E20	PROVIDE LINE VOLTAGE PHOTOCELL CONTROL FOR TICKET BOOTH EXTERIOR LIGHTING. SEE ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING LOCATIONS AND HEIGHTS.



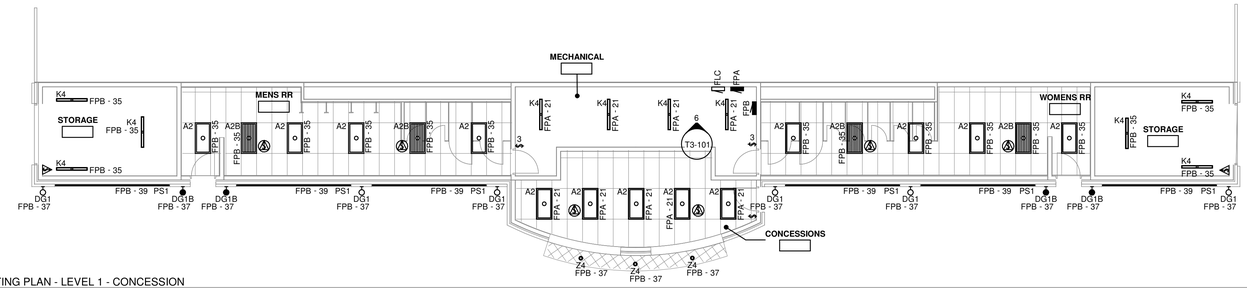
7 ELECTRIC LIGHTING PLAN - LEVEL 1 - TICKET BOOTH
1/8" = 1'-0"



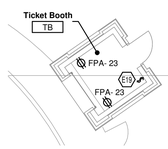
5 ELECTRIC LIGHTING PLAN - ROOF LINE
1/8" = 1'-0"



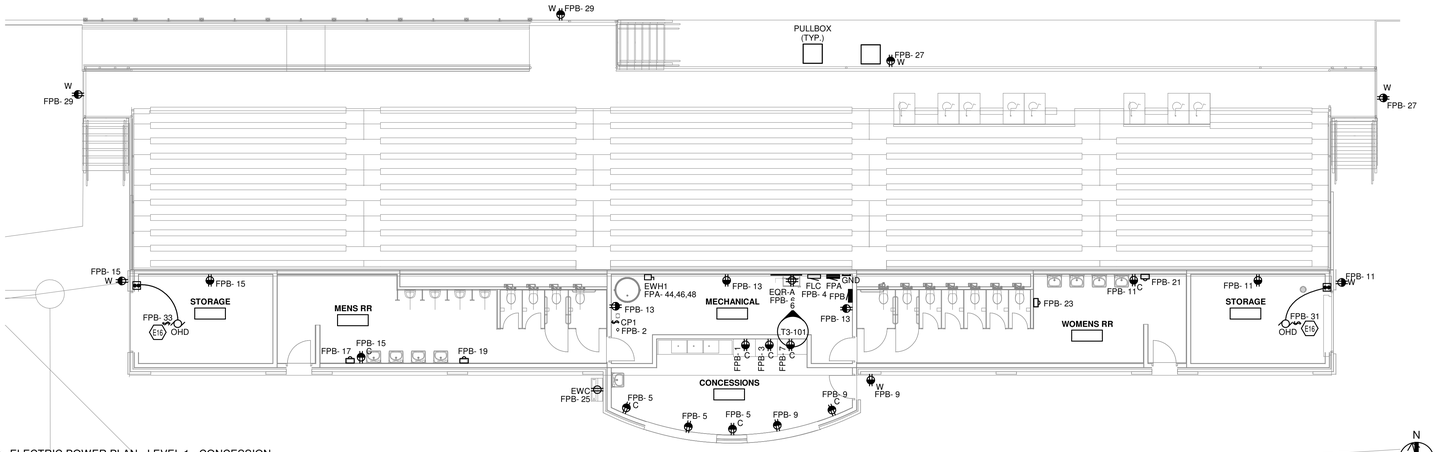
4 ELECTRIC LIGHTING PLAN - LEVEL 2 - PRESSBOX
1/8" = 1'-0"



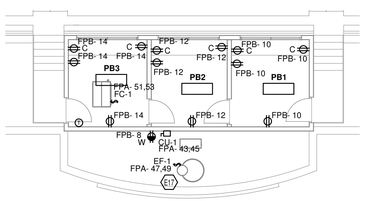
3 ELECTRIC LIGHTING PLAN - LEVEL 1 - CONCESSION
1/8" = 1'-0"



6 ELECTRIC POWER PLAN - LEVEL 1 - TICKET BOOTH
1/8" = 1'-0"



1 ELECTRIC POWER PLAN - LEVEL 1 - CONCESSION
1/8" = 1'-0"



2 ELECTRIC POWER PLAN - LEVEL 2 - PRESSBOX
1/8" = 1'-0"

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ELECTRIC CONCESSION PLANS

E4-101

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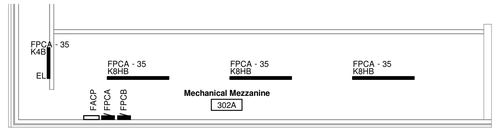
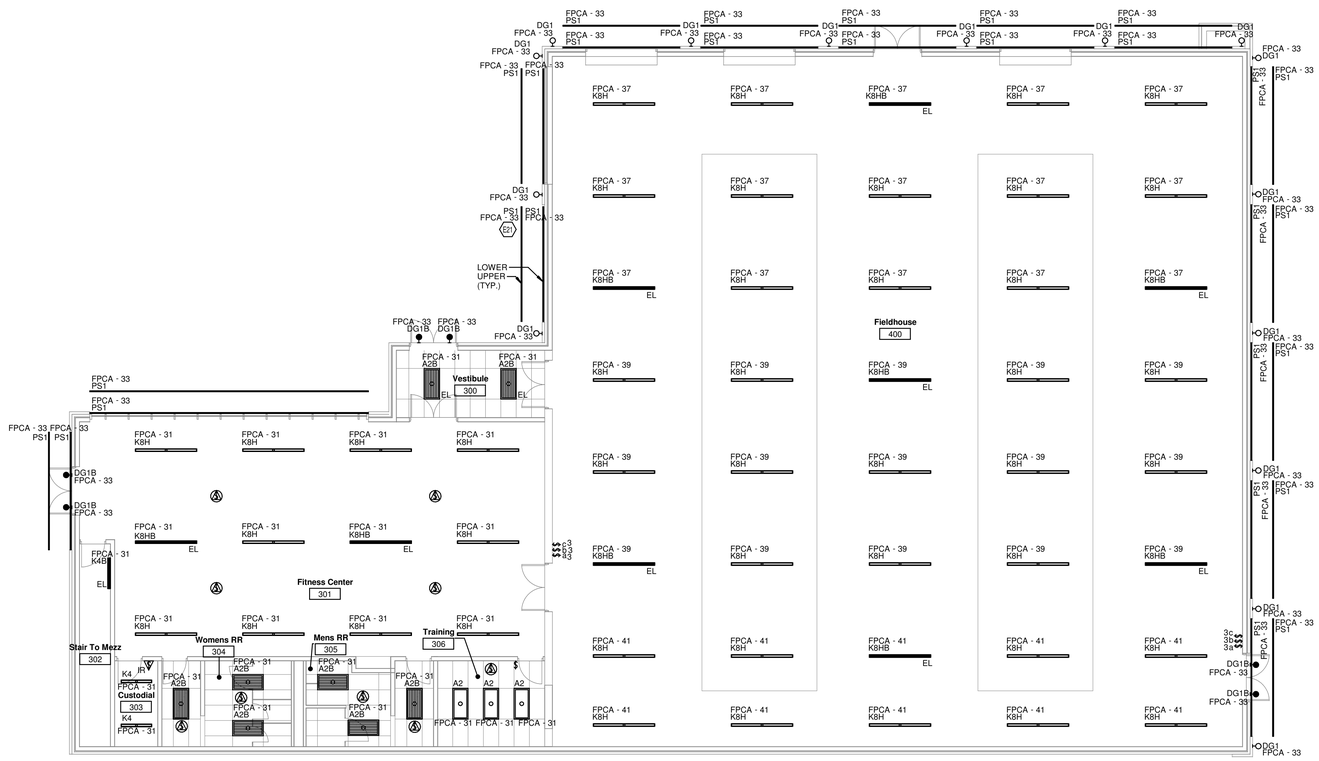
KEYED NOTES

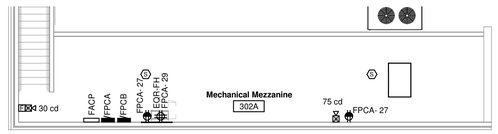
E21	CIRCUIT BUILDING LIGHTING CIRCUITS THROUGH A TIMECLOCK AND PHOTOCELL CONTROLLED CONTACTOR. PROVIDE CONTACTORS AS NECESSARY TO ACCOMMODATE ALL SITE LIGHTING CIRCUITS. COORDINATE ALL FINAL CONDUIT ROUTING IN FIELD PRIOR TO ROUGH-IN. SEE ARCHITECTURAL ELEVATIONS AND SECTIONS FOR EXACT MOUNTING LOCATIONS AND HEIGHTS. TYPICAL ALL PS1 FIXTURES ON SHEET.



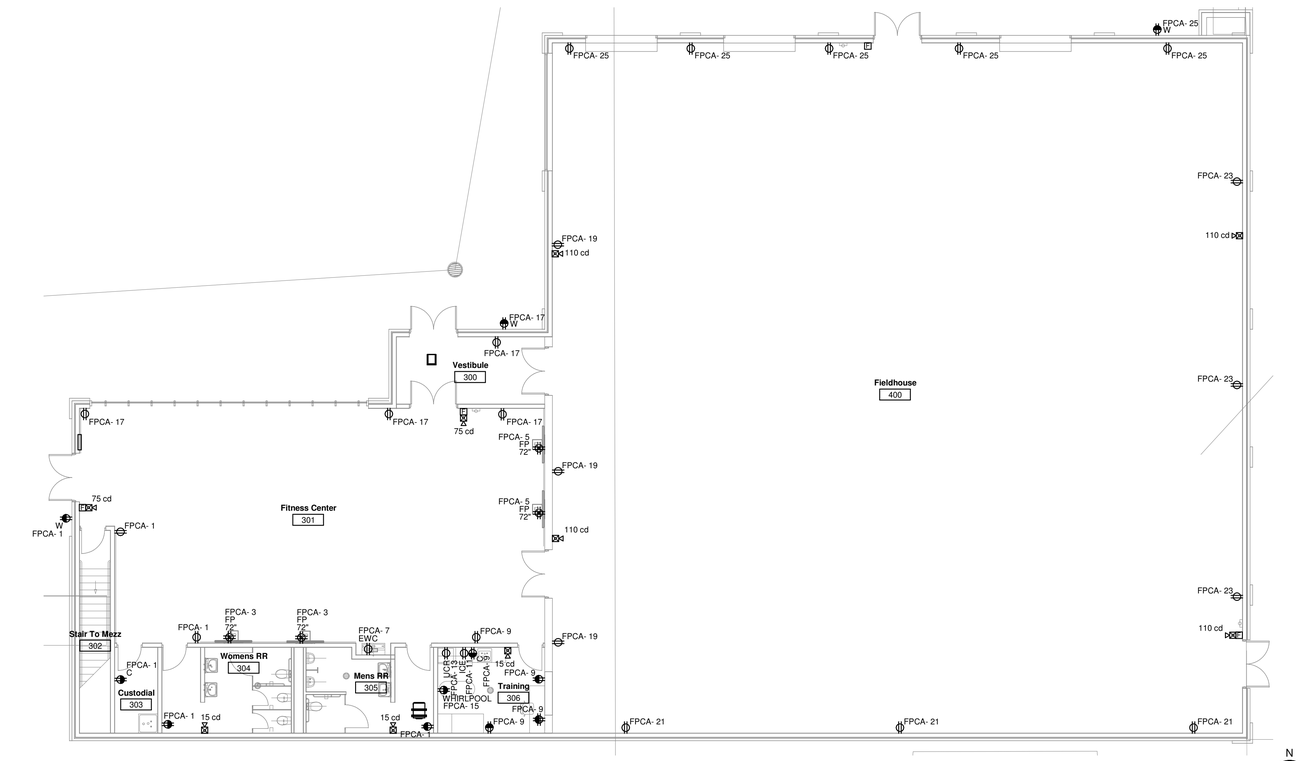
4 ELECTRIC LIGHTING PLAN - LEVEL 2 - MEZZANINE
1/8" = 1'-0"



2 ELECTRIC LIGHTING PLAN - LEVEL 1 - FIELDHOUSE
1/8" = 1'-0"



3 ELECTRIC POWER PLAN - LEVEL 2 - MEZZANINE
1/8" = 1'-0"



1 ELECTRIC POWER PLAN - LEVEL 1 - FIELDHOUSE
1/8" = 1'-0"

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ELECTRIC FIELDHOUSE PLANS

E4-102

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ELECTRIC LUMINAIRE SCHEDULE

GENERAL NOTES:
A. REFER TO DRAWINGS FOR MOUNTING TYPE, NUMBER OF FACES AND ARROWS OF EXIT SIGNS. VERIFY IN FIELD PRIOR TO INSTALLATION.
B. VERIFY COMPATIBILITY WITH VOLTAGE, CONTROLS, ETC. FOR ALL LUMINAIRE COMPONENTS
C. COORDINATE EACH LUMINAIRE LOCATION WITH THE ARCHITECTURAL REFLECTED CEILING PLANS, CEILING INSTALLERS, ETC. AND PROVIDE APPROPRIATE MOUNTING SYSTEM REQUIRED FOR EACH LUMINAIRE. ALSO, PROVIDE PLASTER FRAMES, WALL BRACKETS, SUPPORTS, OR OTHER APPURTENANCES AS REQUIRED FOR PROPER AND COMPLETE INSTALLATIONS.
D. WEAR CLEAN WHITE COTTON GLOVES WHEN HANDLING EXPOSED REFLECTIVE LUMINAIRE SURFACES. REMOVE PLASTIC SHIPPING BAGS ONLY AFTER INTERIOR WORK IS COMPLETE, AND CLEAN ALL SURFACES WITH CLEAN DRY CHEESECLOTH.
E. MOUNTING HEIGHTS INDICATED ARE TO THE BOTTOM OF THE LUMINAIRE, UNLESS OTHERWISE NOTED.
F. PRODUCTS: PROVIDE PRODUCTS INDICATED ON DRAWINGS AND SCHEDULES. WHERE MULTIPLE MANUFACTURER SERIES/MODEL NUMBERS ARE LISTED FOR A SINGLE LUMINAIRE, PROVIDE ONE OF THOSE LISTED. WHERE A SPECIFIC MANUFACTURER SERIES/MODEL NUMBER IS LISTED AS BASIS-OF-DESIGN, AND WHERE IT IS STATED THAT EQUIVALENTS WILL BE CONSIDERED, ANY PROPOSED NON-LISTED LUMINAIRES ARE SUBJECT TO REVIEW BY DESIGN PROFESSIONAL(S), SUBMITTALS FOR WHICH SHALL BE FURNISHED AT LEAST (10) DAYS PRIOR TO BID DUE DATE OR THEY WILL NOT BE CONSIDERED. THESE PRE-BID SUBMITTALS SHALL CLEARLY STATE EXACTLY WHAT IS BEING PROPOSED AND SHALL DEMONSTRATE COMPLIANT EQUIVALENCY. SIMILAR REQUESTS FOR PROPOSED SUBSTITUTIONS MAY BE MADE ONLY AFTER BIDS ARE RECEIVED, AND ONLY IF OWNER CHOOSES TO CONSIDER SUBSTITUTION REQUESTS. DESIGN PROFESSIONAL(S) AND OWNER RESERVE THE RIGHT TO REJECT ALL PRODUCTS THAT ARE NOT DEEMED TO BE FULLY EQUIVALENT TO THE BASIS-OF-DESIGN LISTING(S). SUBMIT ALL REQUESTS AND QUESTIONS THROUGH THE FORMALLY-ESTABLISHED BIDDING PROCESS, NOT DIRECTLY TO ENGINEER.

TYPE	DESCRIPTION	MANUFACTURER	MODEL	ACCEPTED EQUALS	SIZE	MOUNTING	FLANGE KIT	MATERIAL	OPTICS	LIGHT SOURCE	LAMP QTY	LAMP BASE	COLOR TEMPERATURE (K)	CRI	LUMEN OUTPUT (L)	LUMENS / FT	DRIVER	DRIVER QTY	BATTERY	BATTERY TYPE	DIMMING PROTOCOL	FINISH	OPTIONS	LOAD (VA)	LOAD / FT	UNIVERSAL VOLTAGE (MVOLT)	VOLTAGE	PHASE	COMMENTS
A2	FLAT PANEL	LITHONIA	EPANL	COLUMBIA LIGHTING-CFP24, METALUX-24FP	48" X 24" X 2"	RECESSED GRID	No	ALUMINUM	SATIN WHITE FLAT LUMINOUS ACRYLIC LENS	LED	1		3500	80	6000		ELECTRONIC	1	No	NONE	0-10V	WHITE		51 VA		Yes	120 V	1	
A2B	FLAT PANEL	LITHONIA	EPANL	COLUMBIA LIGHTING-CFP24, METALUX-24FP	48" X 24" X 2"	RECESSED GRID	No	ALUMINUM	SATIN WHITE FLAT LUMINOUS ACRYLIC LENS	LED	1		3500	80	6000		ELECTRONIC	1	Yes	INTEGRAL-90 MINUTES-SELF-DIAGNOSTIC	0-10V	WHITE		51 VA		Yes	120 V	1	2400LM 20W BATTERY PACK
AC5	AREA LIGHTING LUMINAIRE - POST TOP	STERNBERG LIGHTING	D650-VCOB	HOLOPHANE, MCGRAW-EDISON, LITHONIA, BEACON, GARDCO	15.5" DIA.	POLE TOP		ALUMINIUNM	SP FITTER , TYPE V OPTIC, VANDAL RESISTANT CLEAR TEXTURED POLYCARBONATE TESTED TO IK09 OR BETTER	LED	1		4000	70	6430		ELECTRONIC	1	No	NONE	0-10V	BLACK	WET LISTED	56 VA		Yes	208 V	1	TO MATCH CITY OF DAYTON STREETSCAPE AESTHETICS
DG1	WALL PACK	KICHLER	49551BKTLED	PROGRESS, HUBBELL, GARDCO	11.75" X 4.75" X 3.25"	SURFACE WALL		ALUMINUM	UP / DOWN OPTICS	LED	2		4000	80	1760		ELECTRONIC	1	No	NONE	NONE	BLACK	WET LISTED	20 VA		Yes	120 V	1	DUAL LED MODULES
DG1B	WALL PACK	KICHLER	49551BKTLED	PROGRESS, HUBBELL, GARDCO	11.75" X 4.75" X 3.25"	SURFACE WALL		ALUMINUM	UP / DOWN OPTICS	LED	2		4000	80	1760		ELECTRONIC	1	Yes	REMOTE-90 MINUTE-SELF-DIAGNOSTIC	NONE	BLACK	WET LISTED	16 VA		Yes	120 V	1	DUAL LED MODULES
DG1S	WALL PACK	KICHLER	49550LED	PROGRESS, HUBBELL, GARDCO	7" X 4.75" X 3.25"	SURFACE WALL		ALUMINUM	UP / DOWN OPTICS	LED	2		4000	80	880		ELECTRONIC	1	No	NONE	NONE	BLACK	WET LISTED	10 VA		Yes	120 V	1	DUAL LED MODULES
K4	LINEAR STRIP	LITHONIA	ZL1N	COLUMBIA LIGHTING-MPS, DAYBRITE-FSS, LSI-SDL, METALUX-SNLED	48" X 4" X 3"	SURFACE OR CHAIN		STEEL	ACRYLIC DIFFUSE LENS	LED	1		3500	80	5000		ELECTRONIC	1	No	NONE	0-10V	WHITE		34 VA		Yes	120 V	1	
K4B	LINEAR STRIP	LITHONIA	ZL1N	COLUMBIA LIGHTING-MPS, DAYBRITE-FSS, LSI-SDL, METALUX-SNLED	48" X 4" X 3"	SURFACE OR CHAIN		STEEL	ACRYLIC DIFFUSE LENS	LED	1		3500	80	5000		ELECTRONIC	1	Yes	INTEGRAL-90 MINUTES-SELF-DIAGNOSTIC	0-10V	WHITE		34 VA		Yes	120 V	1	
K8H	LINEAR STRIP	LITHONIA	ZL1N	COLUMBIA LIGHTING-MPS, DAYBRITE-FSS, LSI-SDL, METALUX-SNLED	96" X 4" X 3"	SURFACE OR CHAIN		STEEL	ACRYLIC DIFFUSE LENS	LED	1		3500	80	14000		ELECTRONIC	1	No	NONE	0-10V	WHITE		104 VA		Yes	120 V	1	
K8HB	LINEAR STRIP	LITHONIA	ZL1N	COLUMBIA LIGHTING-MPS, DAYBRITE-FSS, LSI-SDL, METALUX-SNLED	96" X 4" X 3"	SURFACE OR CHAIN		STEEL	ACRYLIC DIFFUSE LENS	LED	1		3500	80	14000		ELECTRONIC	1	Yes	INTEGRAL-90 MINUTE	0-10V	WHITE		104 VA		Yes	120 V	1	
PS1	TAPE LIGHT	GE	CURRENT LTG TETRA CONTOUR	BARRON, MODA LIGHT	0.45" W	SURFACE	No	FLEXIBLE PVC HOUSING WITHIN ANODIZED ALUMINUM CHANNEL	GREEN COLOR OPTICS	LED	1		3500	82	<varies>	120	ELECTRONIC	1	No	NONE	0-10V	GREEN	WET LISTED	<varies>	2 VA	Yes	120 V	1	PROVIDE LENGTHS AS SHOWN ON DRAWINGS, COORDINATE WITH ARCHITECTURAL SECTIONS AND DETAILS, PROVIDE MOUNTING HARDWARE AND DRIVERS AS NECESSARY FOR A COMPLETE INSTALLATION; 2 VA PER FOOT
Z4	ROUND DOWNLIGHT - EXTERIOR	LITHONIA	LDN4	HALO-HC4, PRESCOLITE-LC4SL	4"DIA X 4"	RECESSED	Yes	STEEL	MEDIUM BEAM	LED	1		4000	82	1045		ELECTRONIC	1	No	NONE	0-10V	SEMI-SPECULAR, CLEAR	WET LISTED	10 VA		Yes	120 V	1	

ELECTRIC LUMINAIRE POLE SCHEDULE

ALL FIELDS LEFT BLANK IN THE SCHEDULE BELOW ARE TBD BY POLE MANUFACTURER. MANUFACTURER IS RESPONSIBLE FOR PERFORMING CALCULATIONS AND FURNISHING A POLE THAT MEETS EPA REQUIREMENTS FOR THE PROJECT LOCATION AND THE SELECTED POLE MOUNTED LUMINAIRES. REFER TO SITE LIGHTING PLAN FOR OTHER ITEMS THAT MAY BE INSTALLED ON POLE, SUCH AS SECURITY EQUIPMENT, AND ACCOUNT FOR THIS IN THE CALCULATIONS.

TYPE	DESCRIPTION	MANUFACTURER	MODEL	MATERIAL	SIZE	GAUGE	HEIGHT	EPA	MOUNTING	OPTIONS	FINISH	COMMENTS
P1	POLE - TAPERED	STERNBERG LIGHTING	5200 BARRINGTON	ALUMINUM		0	8' - 0"		POST TOP		MATCH FINISH OF LUMINAIRE	PROVIDE MOUNTING TO BRICK FENCE POSTS, SEE ARCHITECTRUAL SECTIONS AND DETAILS
P2	POLE - TAPERED	STERNBERG LIGHTING	5200 BARRINGTON	ALUMINUM		0	14' - 0"		POST TOP		MATCH FINISH OF LUMINAIRE	SEE POLE BASE DETAILS

ELECTRIC EQUIPMENT SUPPLY SCHEDULE

EQUIPMENT MARK	SUPPLY FROM	CKT	EMERG.	LOAD (kVA)	AVAILABLE FAULT CURRENT	VOLTS	POLE	KTG KW	WATT	HP	FLA (A)	MCA (A)	ROD OCP (A)	BREAKER RATING (A)
CP1	FPB	2		0.24	1665	120 V	1			0.17	2			15
CU-1	FPA	43,45		0.21	5738	208 V	2		60		1	17	31	31
EF-1	FPA	47,49		0.67	2699	208 V	2			0.25	3.2	4	15	15
EWH1	FPA	44,46,48		27.02	11550	208 V	3		27000		75			100
FC-1	FPA	51,53		0.41	2299	208 V	2		121		1.95	2.44		15

TECHNOLOGY EQUIPMENT RACK / ENCLOSURE SCHEDULE

EQUIPMENT RACK	TYPE NAME	SPACE NAME	SPACE NUMBER	DESCRIPTION	VOLTAGE	POLES	POWER	NEMA CONFIGURATION	HEAT GAIN	MANUFACTURER	MODEL
EQR-A	12RU Wall Cabinet _ EQR-A	MECHANICAL		WALL EQUIPMENT CABINET	120 V	1	1000 VA	Quad	3412.1 Btu/h		
EQR-FH	12RU Wall Cabinet _ EQR-FH	Mechanical Mezzanine	302A	WALL EQUIPMENT CABINET	120 V	1	1000 VA	Quad	3412.1 Btu/h		
Grand total: 2											

PLUMBING ELECTRICAL COORDINATION SCHEDULE

ABBREVIATIONS

DC	LOCAL DISCONNECT
MC	MOTOR CONTROL (POWER)
SD	DUCT SMOKE DETECTOR
CN	CONTROLS
TS	TOGGLE SWITCH
C/B	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)
FLA	OPERATING FULL LOAD AMPS
MCA	MINIMUM CIRCUIT AMPACITY
CP	CORD AND PLUG CONNECTION
[BLANK]	HARD WIRED (WHEN INDICATED FOR DC TYPE)

CONTRACTOR TYPE

EC	ELECTRICAL CONTRACTOR
EX	EXISTING
FC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
HC	HVAC CONTRACTOR
MFR	MANUFACTURER
PC	PLUMBING CONTRACTOR
OR	OWNER OR OTHERS

MOTOR CONTROL TYPE

CS	COMBINATION STARTER
MCC	MOTOR CONTROL STARTER
MS	MAGNETIC STARTER OR CONTACT
MS	MANUAL STARTER
VFD	VARIABLE FREQUENCY DRIVE
MSR	MANUAL STARTER W/ CONTROL RELAY
OV	OVERCURRENT PROTECTION

CONTROL TYPE

TC	TIMECLOCK
CPT	CONTROL POWER TRANSFORMER
BAS	BUILDING AUTOMATION SYSTEM
LOW	LOW VOLTAGE CONTROLS
LINE	LINE VOLTAGE CONTROLS
RLINE	REVERSE ACTING LINE VOLTAGE THERMOSTAT
MAN	MANUAL
FA	FIRE ALARM
CO	CARBON MONOXIDE SENSOR
INT	INTEGRAL TO EQUIPMENT
ASD	AREA SMOKE DETECTOR
DSD	DUCT SMOKE DETECTOR

SHORT CIRCUIT RATING

WHERE SHORT CIRCUIT RATING CODE REQUIRED VALUE INDICATES "YES" APPLICABLE EQUIPMENT'S SHORT CIRCUIT RATING SHALL EXCEED THE AVAILABLE FAULT CURRENT VALUE INDICATED.

EQUIPMENT MARK	DESCRIPTION	VOLTAGE	PHASE	EMERGENCY	HP	WATTS	HTG KW	FLA	MCA	OCP	FED FROM	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	FA SHUTDOWN	SHORT CIRCUIT RATING CODE REQUIRED?	AVAILABLE FAULT CURRENT
CP1	DOMESTIC HOT WATER CIRCULATION PUMP	120 V	1		0.17			2				EC	EC	EC	MG	MFR	MFR	MFR	LINE	PC	PC	EC		No	1665
EWH1	TANK TYPE ELECTRIC WATER HEATER	208 V	3			27000		75				EC	EC	EC	--	--	--	--	INT	MFR	MFR	MFR		No	11550

HVAC ELECTRICAL COORDINATION SCHEDULE

ABBREVIATIONS

DC	LOCAL DISCONNECT
MC	MOTOR CONTROL (POWER)
SD	DUCT SMOKE DETECTOR
CN	CONTROLS
TS	TOGGLE SWITCH
C/B	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)
FLA	OPERATING FULL LOAD AMPS
MCA	MINIMUM CIRCUIT AMPACITY
CP	CORD AND PLUG CONNECTION

CONTRACTOR TYPE

EC	ELECTRICAL CONTRACTOR
EX	EXISTING
FC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
HC	HVAC CONTRACTOR
MFR	MANUFACTURER
PC	PLUMBING CONTRACTOR
OR	OWNER OR OTHERS

MOTOR CONTROL TYPE

CS	COMBINATION STARTER
MCC	MOTOR CONTROL STARTER
MS	MAGNETIC STARTER OR CONTACT
MS	MANUAL STARTER
VFD	VARIABLE FREQUENCY DRIVE
MSR	MANUAL STARTER W/ CONTROL RELAY
OV	OVERCURRENT PROTECTION

CONTROL TYPE

TC	TIMECLOCK
CPT	CONTROL POWER TRANSFORMER
BAS	BUILDING AUTOMATION SYSTEM
LOW	LOW VOLTAGE CONTROLS
LINE	LINE VOLTAGE CONTROLS
RLINE	REVERSE ACTING LINE VOLTAGE THERMOSTAT
MAN	MANUAL
FA	FIRE ALARM
CO	CARBON MONOXIDE SENSOR
INT	INTEGRAL TO EQUIPMENT
ASD	AREA SMOKE DETECTOR
DSD	DUCT SMOKE DETECTOR

EQUIPMENT MARK	DESCRIPTION	VOLTAGE	PHASE	EMERGENCY	HP	WATTS	HTG KW	FLA	MCA	OCP	FED FROM	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	FA SHUTDOWN	AVAILABLE FAULT CURRENT
CU-1	AIR SOURCE OUTDOOR CONDENSING UNIT	208 V	1			60		1	17	31		EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	EC	NA	5738
EF-1	HVAC FAN	208 V	1		0.25			3.2	4	15		EC	EC	EC	MG	MFR	MFR	MFR	LINE	EC	EC	EC	NA	2699
FC-1	SPLIT SYSTEM SLIM DUCTED HORIZONTAL	208 V	1			121		1.95	2.44			EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	EC	NA	2299

GENERAL ELECTRICAL POWER DISTRIBUTION NOTES

A. PARALLEL CONDUCTOR SETS: CUT PARALLEL SERVICE/FEEDER CONDUCTORS TO EXACTLY THE SAME LENGTHS AND USE CONDUCTORS FROM THE SAME FACTORY RUN. TORQUE ALL CONNECTIONS FOR PARALLEL SERVICE/FEEDER CONDUCTORS TO IDENTICAL VALUES.
B. OVERCURRENT PROTECTION RATINGS: UNLESS INDICATED OTHERWISE, PROVIDE FULLY-RATED OR SERIES-RATED OVERCURRENT PROTECTION (OCP) AS REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF NFPA 70. PROVIDE EQUIPMENT AND OCP RATED TO MEET OR EXCEED THE AVAILABLE SERIES-RATED FAULT CURRENT AT THE RESPECTIVE NODE IN THE POWER DISTRIBUTION SYSTEM. SERIES-RATED BREAKERS/SYSTEMS ARE NOT PERMITTED WHERE PROHIBITED BY PREVAILING CODES AND STANDARDS, INCLUDING APPLICATIONS INVOLVING MOTOR CONTRIBUTION AS ADDRESSED IN ARTICLE 240.86(C) OF NFPA 70. FURNISH ELECTRONIC COPIES OF THE ELECTRICAL DOCUMENTS TO THE MANUFACTURER'S REPRESENTATIVE AND/OR EQUIPMENT SUPPLIER SO THAT PROPERLY RATED AND BRACED EQUIPMENT IS PROVIDED UNDER BASE BID. IF FAULT CURRENT VALUES ARE NOT INDICATED ON PLANS, ALSO PROVIDE FAULT CURRENT CALCULATIONS AND FURNISH RESULTS WITH EQUIPMENT SUBMITTALS.
C. GROUNDING ELECTRODE CONDUCTOR SYSTEM: PROVIDE GROUNDING ELECTRODE CONDUCTOR SYSTEM IN STRICT COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70), INCLUDING ARTICLE 250 AND TABLE 250.66. THESE CONDUCTORS MAY OR MAY NOT BE INDICATED ON SINGLE-LINE DIAGRAMS, BUT SHALL BE PROVIDED UNDER BASE BID NEVERTHELESS.
D. DERIVED SYSTEM GROUNDING ELECTRODES: REFER TO SINGLE LINE DIAGRAM FOR DERIVED SYSTEM GROUNDING ELECTRODE CONDUCTOR SIZES. CONNECT TO BUILDING OR STRUCTURE GROUNDING ELECTRODE SYSTEM.
E. POWER DISTRIBUTION EQUIPMENT LABELS: IN ADDITION TO LABELS REQUIRED WITHIN THE SPECIFICATIONS, INCLUDE CORRESPONDING MAXIMUM AIC (AVAILABLE INRUSH CURRENT) AND SHORT-CIRCUIT CURRENT RATING (SCCR) FOR EACH PIECE OF POWER DISTRIBUTION EQUIPMENT, ALONG WITH ARC FLASH LABELS COMPLIANT WITH ARTICLE 110.16 OF NFPA 70. ALSO INCLUDE CONDUCTOR COLOR CODING FOR THE BUILDING AND PHASE ROTATION AS APPLICABLE.
F. CONDUCTOR TERMINATIONS: IN CASES WHERE CONDUCTOR SIZES ARE TOO LARGE TO FIT INTO LUGS/TERMINALS, PROVIDE APPROPRIATE FACTORY LUG KITS FOR AFFECTED EQUIPMENT IF AVAILABLE. ELSEWHERE, PROVIDE INSULATED BUTT SPLICES OR EQUIVALENT METHOD, WITH TAILS SIZED TO FIT LUGS/TERMINALS. PROVIDE SPLICES IN SEPARATE BOXES IF REQUIRED BASED ON FIELD CONDITIONS, BOX SIZE LIMITATIONS, ETC. CONCEAL BOXES IN ACCESSIBLE OVERHEAD JOIST SPACES IN FINISHED REGULARLY OCCUPIED AREAS.
G. ALUMINUM CONDUCTORS: PROVIDE THE FOLLOWING SUPPLEMENTAL WORK FOR ALUMINUM-CONDUCTOR ELECTRICAL EQUIPMENT CONNECTIONS, REGARDLESS OF WHO FURNISHES THE EQUIPMENT: REVIEW EQUIPMENT SUBMITTALS, INSTALLATION DOCUMENTS AND NAMEPLATES TO DETERMINE IF THERE ARE ANY WARNINGS OR UL LIMITATIONS REGARDING COPPER VERSUS ALUMINUM WIRING CONNECTIONS AT EQUIPMENT; IF THERE ARE ANY LIMITATIONS, PROVIDE LOCAL DISCONNECT AT OR NEAR EQUIPMENT (EXTERNAL TO THE EQUIPMENT) AND TERMINATE ALUMINUM CONDUCTORS TO THE LINE-SIDE LUGS/TERMINALS OF THE DISCONNECT SWITCH; PROVIDE COPPER CONDUCTORS FROM LOAD-SIDE LUGS/TERMINALS OF THE DISCONNECT SWITCH TO THE RESPECTIVE EQUIPMENT FACTORY DISCONNECT OR LUGS/TERMINALS AS APPLICABLE; COORDINATE AL RELATED WORK WITH ALL AFFECTED INSTALLERS.
H. FEEDER TAPS: PERFORM FEEDER TAPS IN ACCORDANCE WITH NFPA 70. PERFORM FEEDER TAPS TO PARALLELED-SET FEEDERS BY RESPECTIVELY TAPPING ALL PHASE, GROUNDED AND GROUNDING CONDUCTORS TO ENSURE UNIFORM CURRENT FLOW IN ALL SETS.
I. BREAKER FRAME SIZES: AMPERE RATINGS INDICATED ON DRAWINGS FOR CIRCUIT BREAKERS ARE SHOWN TO DEFINE OVERCURRENT REQUIREMENTS/TRIP RATINGS. PROVIDE BREAKER FRAMES IN SIZES AND TYPES GREATER THAN THE DESIGNATED OVERCURRENT TRIP RATINGS WHERE NECESSARY TO ACHIEVE THE REQUIRED SELECTIVE COORDINATION, AND/OR AS NECESSARY FOR OTHER APPLICABLE REASONS.
J. ELECTRIC UTILITY SERVICE WORK: PROVIDE ALL ELECTRIC UTILITY SERVICE WORK IN STRICT COMPLIANCE WITH PREVAILING REQUIREMENTS OF THE UTILITY COMPANY. THE DRAWINGS INDICATE RELATED REQUIREMENTS AT A SCHEMATIC LEVEL. IT IS NOT THE INTENT OF THESE DRAWINGS TO DETAIL ANY SUCH WORK.

ELECTRIC PANELBOARD AND SWITCHBOARD SCHEDULE

TYPICAL EQUIPMENT NAME NOMENCLATURE:
1 - POWER DISTRIBUTION SYSTEM (BLANK - NORMAL, E - EMERGENCY, S - STANDBY, L - LIFE SAFETY)
2 - DESCRIPTION (H - 480Y/277V, L - 208Y/120V)
3 - FLOOR / LEVEL
4 - SEQUENCE

EQUIPMENT	PHASE	SPACE NUMBER	SPACE NAME	SUPPLY FROM	POWER BRANCH	TYPE	VOLTAGE	PHASE	WIRES	DEMAND (kVA)	DEMAND (A)	MAINS RATING (A)	MAINS FRAME RATING (A)	MAINS TYPE	BUSSING	MOUNTING	FEEDER	LUGS TYPE	SPD	ULSE	GEC	ENCLOSURE TYPE	FAULT CURRENT (A)	SHORT CIRCUIT RATING (A)	NOTES
DPF	New Construction			UT-FH		Distribution Panelboard	208	3	4	121543 VA	337 A	1000	1000	THERMAL MAGNETIC	(none)	SURFACE	(4) SETS OF (4) #350 KCMIL CU IN 3" CONDUIT EACH 75C RATED		Yes	Yes	Yes	NEMA 3R	25665	42000	
FPA	New Construction		MECHANICAL	DPF		Branch Panelboard	208	3	4	100172 VA	278 A	600	600	THERMAL MAGNETIC	(none)	SURFACE	(2) SETS OF (4) #500 KCMIL AL, (1) #2/0 AWG AL GND. IN 3-1/2" CONDUIT EACH 75C RATED			Yes		NEMA 1	17165	22000	
FPB	New Construction		MECHANICAL			Branch Panelboard	208	3	4	19206 VA	53 A	200	200	MAIN LUGS ONLY	(none)	SURFACE	(4) #250 KCMIL AL, (1) #4 AWG AL GND. IN 3" CONDUIT 75C RATED					NEMA 1	16432	22000	
FPCA	New Construction	302A	Mechanical Mezzanine	DPF		Branch Panelboard	208	3	4	21898 VA	61 A	600	600	THERMAL MAGNETIC	(none)	SURFACE	(2) SETS OF (4) #500 KCMIL AL, (1) #2/0 AWG AL GND. IN 3-1/2" CONDUIT EACH 75C RATED	FEED-THROUGH	Yes		Yes	NEMA 1	17038	22000	
FPCB	New Construction	302A	Mechanical Mezzanine	FPCA		Branch Panelboard	208	3	4	0 VA	0 A	600	600	THERMAL MAGNETIC	(none)	SURFACE	(2) SETS OF (4) #500 KCMIL AL, (1) #2/0 AWG AL GND. IN 3-1/2" CONDUIT EACH 75C RATED		Yes		Yes	NEMA 1	17038	22000	

ELECTRIC FEEDER SCHEDULE

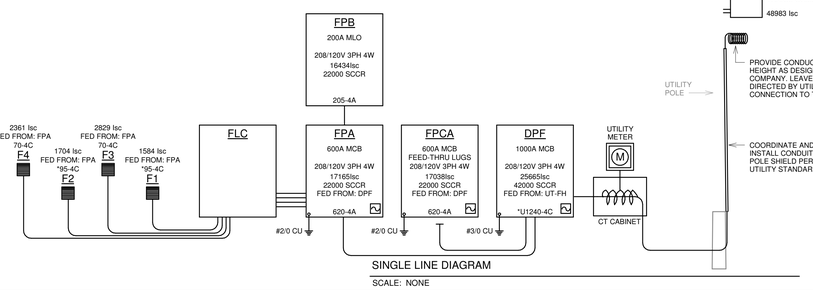
NOTES:
ALL CONDUIT SIZES INDICATED ARE MINIMUM SIZES. INCREASE SIZES AS REQUIRED TO ACCOMMODATE CONDUCTOR PULLING EASE, FIELD CONDITIONS, ETC.

"CU" = COPPER CONDUCTOR,
"AL" = ALUMINUM CONDUCTOR

** WHERE THESE FIELDS ARE BLANK, PROVIDE INSULATION & CONDUIT MATERIAL PER THE CONDUIT & WIRE MATERIAL SCHEDULE.

FEEDER ID NOMENCLATURE:
* - INDICATES FEEDER SIZED TO COMPENSATE FOR VOLTAGE DROP
1 - GROUND TYPE (MAY BE BLANK)
U = EQUIPMENT GROUND CONDUCTOR REMOVED FOR SERVICE ENTRANCE FROM UTILITY
P = PARITY-SIZED EQUIPMENT GROUND CONDUCTOR
X = EXISTING FEEDER TO REMAIN UNLESS OTHERWISE NOTED
T = UPSIZED GROUND CONDUCTORS FOR TRANSFORMER SECONDARY
2 - CONDUCTOR AMPACITY
3 - TOTAL NUMBER OF PHASE AND GROUNDED ("NEUTRAL") CONDUCTORS
4 - CONDUCTOR MATERIAL: C = COPPER, A = ALUMINUM
5 - SPECIAL (MAY BE BLANK)
I = ISOLATED GROUND (PROVIDE CONTINUOUS INSULATED ISOLATED EQUIPMENT GROUNDING CONDUCTOR(S) FROM INSULATED ISOLATED GROUND BAR(S) TO RESPECTIVE UPSTREAM SERVICE ENTRANCE OR DERIVED SYSTEM GROUNDING ELECTRODE CONDUCTOR AS APPLICABLE.

SUPPLY TO	SUPPLY FROM	FEEDER ID	FEEDER	DEMAND (A)	VD %	NOTES
UT-FH						
-- DPF	UT-FH	*U1240-4C	(4) SETS OF (4) #350 KCMIL CU IN 3" CONDUIT EACH 75C RATED	337 A	1.449	
---- FUTURE-FPC	DPF	620-4A	(2) SETS OF (4) #500 KCMIL AL, (1) #2/0 AWG AL GND. IN 3-1/2" CONDUIT EACH 75C RATED	61 A	2.185	
---- FUTURE-FPC	FPCA	620-4A	(2) SETS OF (4) #500 KCMIL AL, (1) #2/0 AWG AL GND. IN 3-1/2" CONDUIT EACH 75C RATED	0 A	2.185	
---- FPA	DPF	620-4A	(2) SETS OF (4) #500 KCMIL AL, (1) #2/0 AWG AL GND. IN 3-1/2" CONDUIT EACH 75C RATED	278 A	2.231	
------ F1	FPA	*95-4C	(4) #2 AWG CU, (1) #8 AWG CU GND. IN 1-1/4" CONDUIT 60C RATED	33 A	4.564	
------ F2	FPA	*95-4C	(4) #2 AWG CU, (1) #8 AWG CU GND. IN 1-1/4" CONDUIT 60C RATED	33 A	4.383	
------ F3	FPA	70-4C	(4) #4 AWG CU, (1) #10 AWG CU GND. IN 1-1/4" CONDUIT 60C RATED	33 A	3.432	
------ F4	FPA	70-4C	(4) #4 AWG CU, (1) #10 AWG CU GND. IN 1-1/4" CONDUIT 60C RATED	33 A	3.718	
---- FPB		200-4A	(4) #250 KCMIL AL, (1) #4 AWG AL GND. IN 3" CONDUIT 75C RATED	53 A	2.249	



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DAYTON SCHOOLS STADIUM

DAYTON, KY
DAYTON INDEPENDENT SCHOOLS

REVISIONS

DWN: MS CHK: DTJ
DATE: 11/22/23
PROJECT #: 25356

ELECTRIC SINGLE LINE AND SCHEDULES

E4-601

1" REFERENCE
KLH PROJECT # 25356

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PANEL NAME: FPCA

SUPPLY FROM: DPF
LOCATION: Mechanical Mezzanine 302A
DISTRIBUTION SYSTEM: 208/120V 3PH 4W
FEEDER: (2) SETS OF (4) #500 KCMIL AL, (1) #2/0 AWG AL GND. IN 3-1/2" CONDUIT EACH 75C...
BUSSING:
MAINS RATING (A): 600
MAINS TYPE: THERMAL MAGNETIC
FEEDER ID: 620-4A
MOUNTING: SURFACE
FAULT CURRENT (A): 17038
SHORT CIRCUIT RATING (A): 22000
LUGS TYPE: FEED-THROUGH
ENCLOSURE TYPE: NEMA 1
PHASE: New Construction
SURGE SUPRESSION: Yes
ULSE:
200% NEUTRAL:
ISOLATED GROUND:

CKT	CIRCUIT DESCRIPTION	VD%	AWG	GND	TRIP	FRAME	POLE	A	B	C	POLE	FRAME	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	CKT
1	RCPT 304,303,301	2.621	#12	#12	20 A	20 A	1	1.08										2
3	RCPT FITNESS CENTER 301	2.797	#12	#12	20 A	20 A	1		0.72									4
5	RCPT FITNESS CENTER 301	3.985	#12	#12	20 A	20 A	1			0.72								6
7	(G) EWC | FITNESS CENTER 301	2.764	#12	#12	20 A	20 A	1	0.40										8
9	RCPT 305,301,306	4.128	#12	#12	20 A	20 A	1		1.08									10
11	(G) ICE | TRAINING 306	4.381	#12	#12	20 A	20 A	1			1.20								12
13	(G) UCR | TRAINING 306	3.595	#12	#12	20 A	20 A	1	0.80										14
15	RCPT TRAINING 306	3.444	#12	#12	20 A	20 A	1		0.80									16
17	RCPT 301,300	3.23	*#10	*#10	20 A	20 A	1			0.90								18
19	RCPT FIELDHOUSE 400	3.362	#12	#12	20 A	20 A	1	0.54										20
21	RCPT FIELDHOUSE 400	3.325	#12	#12	20 A	20 A	1		0.54									22
23	RCPT FIELDHOUSE 400	3.785	*#10	*#10	20 A	20 A	1			0.54								24
25	RCPT FIELDHOUSE 400	2.973	*#4	*#4	20 A	20 A	1	1.08										26
27	RCPT MECHANICAL MEZZANINE 302A	2.263	#12	#12	20 A	20 A	1		0.36									28
29	EQR-FH | MECHANICAL MEZZANINE 302A	2.451	#12	#12	20 A	20 A	1			1.00								30
31	LTG 300,305,304,306,302,303,301	2.837	#12	#12	20 A	20 A	1	1.91										32
33	LTG	3.902	#12	#12	20 A	20 A	1		1.33									34
35	LTG MECHANICAL MEZZANINE 302A	2.367	#12	#12	20 A	20 A	1			0.35								36
37	LTG FIELDHOUSE 400	4.446	*#8	*#8	20 A	20 A	1	1.56										38
39	LTG FIELDHOUSE 400	4.663	*#10	*#10	20 A	20 A	1		1.56									40
41	LTG FIELDHOUSE 400	2.72	*#6	*#6	20 A	20 A	1			1.04								42
	TOTAL CONNECTED LOAD:							7.4 kVA	6.4 kVA	5.7 kVA								

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	NOTES:	BREAKER QUANTITIES (NEW ONLY)
Continuous	1000 VA	125.00%	1250 VA		(18) 20A / 1P, (3) 20A / 1P(G)
Lighting	7751 VA	125.00%	9688 VA		
Motor	800 VA	125.00%	1000 VA		
Non-Continuous	1600 VA	100.00%	1600 VA		
Receptacle	8360 VA	100.00%	8360 VA		

PANEL TOTALS
TOTAL CONNECTED LOAD: 19.5 kVA
DEMAND CALCULATION NOTES:
TOTAL DEMAND: 21.9 kVA
TOTAL DEMAND AMPS: **61 A**

PANEL NAME: DPF

SUPPLY FROM: UT-FH
LOCATION:
DISTRIBUTION SYSTEM: 208/120V 3PH 4W
FEEDER: (4) SETS OF (4) #350 KCMIL CU IN 3" CONDUIT EACH 75C RATED
BUSSING:
MAINS RATING (A): 1000
MAINS TYPE: THERMAL MAGNETIC
FEEDER ID: *U1240-4C
MOUNTING: SURFACE
FAULT CURRENT (A): 25665
SHORT CIRCUIT RATING (A): 42000
LUGS TYPE:
ENCLOSURE TYPE: NEMA 3R
PHASE: New Construction
SURGE SUPRESSION: Yes
ULSE: Yes
200% NEUTRAL:
ISOLATED GROUND:

CKT	CIRCUIT DESCRIPTION	VD%	AWG	GND	TRIP	FRAME	POLE	A	B	C	POLE	FRAME	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	CKT
1																		2
3																		4
5																		6
7																		8
9																		10
11																		12
13								26...										14
15	FPA	SL	SL	SL	600 A	600 A	3		25.96									16
17										26.83								18
19								7.37										20
21	FPCA	SL	SL	SL	600 A	600 A	3		6.39									22
23										5.75								24
25																		26
27																		28
29																		30
	TOTAL CONNECTED LOAD:							34.3 kVA	33.4 kVA	32.6 kVA								

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	NOTES:	BREAKER QUANTITIES (NEW ONLY)
Continuous	28019 VA	125.00%	35024 VA		(2) 600A / 3P
Lighting	57824 VA	125.00%	72279 VA		
Motor	2080 VA	109.62%	2280 VA		
Non-Continuous	1600 VA	100.00%	1600 VA		
Receptacle	10720 VA	96.64%	10360 VA		

PANEL TOTALS
TOTAL CONNECTED LOAD: 100.2 kVA
DEMAND CALCULATION NOTES:
TOTAL DEMAND: 121.5 kVA
TOTAL DEMAND AMPS: **337 A**

PANEL NAME: FPB

SUPPLY FROM:
LOCATION: MECHANICAL
DISTRIBUTION SYSTEM: 208/120V 3PH 4W
FEEDER: (4) #4 AWG AL GND. IN 3" CONDUIT 75C RATED
BUSSING:
MAINS RATING (A): 200
MAINS TYPE: MAIN LUGS ONLY
FEEDER ID: 205-4A
MOUNTING: SURFACE
FAULT CURRENT (A): 16434
SHORT CIRCUIT RATING (A): 22000
LUGS TYPE:
ENCLOSURE TYPE: NEMA 1
PHASE: New Construction
SURGE SUPRESSION:
ULSE:
200% NEUTRAL:
ISOLATED GROUND:

CKT	CIRCUIT DESCRIPTION	VD%	AWG	GND	TRIP	FRAME	POLE	A	B	C	POLE	FRAME	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	CKT
1	RCPT CONCESSIONS	2.351	#12	#12	20 A	20 A	1	0.18	0.24		1	15 A	15 A	#12	#12	2.513	CP1 | MOTOR MECHANICAL	2
3	RCPT CONCESSIONS	2.335	#12	#12	20 A	20 A	1		0.18	0.10	1	20 A	20 A	#12	#12	2.271	(L) FLC LCP | NON-CONT. MECHANICAL	4
5	RCPT CONCESSIONS	2.772	#12	#12	20 A	20 A	1			0.54 1.00	1	20 A	20 A	#12	#12	2.621	EQR-A | NON-CONT. MECHANICAL	6
7	RCPT CONCESSIONS	2.321	#12	#12	20 A	20 A	1	0.18	0.18		1	20 A	20 A	#12	#12	2.441	RCPT ROOF	8
9	RCPT CONCESSIONS	2.504	#12	#12	20 A	20 A	1		0.54	0.72	1	20 A	20 A	#12	#12	2.56	RCPT PB1	10
11	RCPT EXTERIOR	2.86	#12	#12	20 A	20 A	1			0.54 0.72	1	20 A	20 A	#12	#12	2.785	RCPT PB2	12
13	RCPT MECHANICAL	2.313	#12	#12	20 A	20 A	1	0.54	0.72		1	20 A	20 A	#12	#12	3.001	RCPT PB3	14
15	RCPT EXTERIOR	3.373	#12	#12	20 A	20 A	1		0.54									16
17	(G)(LT) HAND DRYER | NON-CONT. MEN	4.544	*#10	*#10	20 A	20 A	1			1.80								18
19	(G)(LT) HAND DRYER | NON-CONT. MEN	4.083	*#10	*#10	20 A	20 A	1	1.80										20
21	(G)(LT) HAND DRYER | NON-CONT. WOMEN	4.347	#12	#12	20 A	20 A	1		1.80									22
23	(G)(LT) HAND DRYER | NON-CONT. WOMEN	3.505	#12	#12	20 A	20 A	1			1.80								24
25	(G) EWC | NON-CONT.	2.786	#12	#12	20 A	20 A	1	0.40										26
27	RCPT EXTERIOR	2.647	#12	#12	20 A	20 A	1		0.36									28
29	RCPT EXTERIOR	3.047	#12	#12	20 A	20 A	1			0.36								30
31	OHD | MOTOR, NON-CONT. STORAGE	3.764	#12	#12	15 A	15 A	1	0.83										32
33	OHD | MOTOR, NON-CONT. STORAGE	4.506	#12	#12	15 A	15 A	1		0.83									34
35	LTG	2.498	#12	#12	20 A	20 A	1			0.82								36
37	LTG	2.354	#12	#12	20 A	20 A	1	0.21										38
39	LTG	2.449	#12	#12	20 A	20 A	1		0.63									40
41																		42
43	SPARE	--	--	--	20 A	20 A	1	0.00	0.00		1	20 A	20 A	--	--	--	SPARE	44
45	SPARE	--	--	--	20 A	20 A	1		0.00	0.00	1	20 A	20 A	--	--	--	SPARE	46
47	SPARE	--	--	--	20 A	20 A	1			0.00 0.00	1	20 A	20 A	--	--	--	SPARE	48
49	SPARE	--	--	--	20 A	20 A	1	0.00	0.00		1	20 A	20 A	--	--	--	SPARE	50
51	SPARE	--	--	--	20 A	20 A	1		0.00	0.00	1	20 A	20 A	--	--	--	SPARE	52
53	SPARE	--	--	--	20 A	20 A	1			0.00 0.00	1	20 A	20 A	--	--	--	SPARE	54
	TOTAL CONNECTED LOAD:							5.3 kVA	5.7 kVA	7.6 kVA								

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	NOTES:	BREAKER QUANTITIES (NEW ONLY)
Lighting	1655 VA	125.00%	2069 VA		(3) 15A / 1P, (30) 20A / 1P, (1) 20A / 1P(G), (4) 20A / 1P(G) (LT), (1) 20A / 1P(L)
Motor	1840 VA	110.87%	2040 VA		
Non-Continuous	8660 VA	100.00%	8660 VA		
Receptacle	6300 VA	100.00%	6300 VA		

PANEL TOTALS
TOTAL CONNECTED LOAD: 18.5 kVA
DEMAND CALCULATION NOTES:
TOTAL DEMAND: 19.2 kVA
TOTAL DEMAND AMPS: **53 A**

PANEL NAME: FPA

SUPPLY FROM: DPF
LOCATION: MECHANICAL
DISTRIBUTION SYSTEM: 208/120V 3PH 4W
FEEDER: (2) SETS OF (4) #500 KCMIL AL, (1) #2/0 AWG AL GND. IN 3-1/2" CONDUIT EACH 75C...
BUSSING:
MAINS RATING (A): 600
MAINS TYPE: THERMAL MAGNETIC
FEEDER ID: 620-4A
MOUNTING: SURFACE
FAULT CURRENT (A): 17165
SHORT CIRCUIT RATING (A): 22000
LUGS TYPE:
ENCLOSURE TYPE: NEMA 1
PHASE: New Construction
SURGE SUPRESSION: Yes
ULSE:
200% NEUTRAL:
ISOLATED GROUND:

CKT	CIRCUIT DESCRIPTION	VD%	AWG	GND	TRIP	FRAME	POLE	A	B	C	POLE	FRAME	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	CKT
1								4.00	4.00									1
3	F1 | LTG	SL	SL	SL	60 A	60 A	3		4.00	4.00		3	60 A	60 A	SL	SL	SL	F3 | LTG	4
5										4.00	4.00							6
7								4.00	4.00									8
9	F2 | LTG	SL	SL	SL	60 A	60 A	3		4.00	4.00		3	60 A	60 A	SL	SL	SL	F4 | LTG	10
11										4.00	4.00							12
13	(G) TURF BOX | RCPT	4.892	#12	#12	20 A	20 A	1	0.50	0.11		2	20 A	20 A	#12	#12	2.777	SITE LIGHTING	14
15	(G) TURF BOX | RCPT	4.127	*#10	*#10	20 A	20 A	1		0.50	0.11								16
17	(G) TURF BOX | RCPT	4.451	*#8	*#8	20 A	20 A	1			0.50	0.20	2	20 A	20 A	#12	#12	3.298	SITE LIGHTING	18
19	(G) TURF BOX | RCPT	4.64	*#8	*#8	20 A	20 A	1	0.50	0.20									20
21	LTG ,	2.465	#12	#12	20 A	20 A	1		0.70	0.14								22
23	TICKET BOOTH	4.69	#12	#12	20 A	20 A	1			0.45	0.14	2	20 A	20 A	#12	#12	2.859	SITE LIGHTING	24
25								0.20										26
27										0.20		2	20 A	20 A	#12	#12	2.552	SITE LIGHTING	28
29	SPARE	--	--	--	20 A	20 A	1			0.00	0.00	1	20 A	20 A	--	--	--	SPARE	30
31	SPARE	--	--	--	20 A	20 A	1	0.00	0.00			1	20 A	20 A	--	--	--	SPARE	32
33	SPARE	--	--	--	20 A	20 A	1		0.00	0.00		1	20 A	20 A	--	--	--	SPARE	34
35	SPARE	--	--	--	20 A	20 A	1			0.00	0.00	1	20 A	20 A	--	--	--	SPARE	36
37	SPARE	--	--	--	20 A	20 A	1	0.00	0.00			1	20 A	20 A	--	--	--	SPARE	38
39	SPARE	--	--	--	20 A	20 A	1		0.00	0.00		1	20 A	20 A	--	--	--	SPARE	40
41	SPARE	--	--	--	20 A	20 A	1			0.00	0.00	1	20 A	20 A	--	--	--	SPARE	42
43	CU-1 | MOTOR	2.259	#8	#10	31 A	31 A	2	0.10	9.01									44
45									0.10	9.01		3	100 A	100 A	#8	#1	2.49	EWH1 | CONTINUOUS MECHANICAL	46
47	EF-1 | MOTOR	2.476	#12	#12	15 A	15 A	2			0.33	9.01							48
49								0.33										50
51	FC-1 | MOTOR PB3	2.411	#12	#12	15 A	15 A	2		0.20									52
53										0.20								54
	TOTAL CONNECTED LOAD:							26.9 kVA	27.0 kVA	26.8 kVA								

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	NOTES:	BREAKER QUANTITIES (NEW ONLY)
Continuous	27019 VA	125.00%	33774 VA		(2) 15A / 2P, (16) 20A / 1P, (4) 20A / 1P(G), (4) 20A / 2P, (1) 31A / 2P, (4) 60A / 3P, (1) 100A / 3P
Lighting	50073 VA	125.00%	62591 VA		
Motor	1280 VA	113.01%	1447 VA		
Receptacle	2360 VA	100.00%	2360 VA		

PANEL TOTALS
TOTAL CONNECTED LOAD: 80.7 kVA
DEMAND CALCULATION NOTES:
TOTAL DEMAND: 100.2 kVA
TOTAL DEMAND AMPS: **278 A**

PANEL SCHEDULE LEGEND

*	=	WIRE SIZED TO COMPENSATE FOR VOLTAGE DROP
**	=	REFER TO DRAWINGS FOR SPECIFICATIONS
(#)	=	NEW CIRCUIT TO EXISTING CIRCUIT BREAKER
(->)	=	CONNECT BRANCH CIRCUIT, WHICH WAS DISCONNECTED FROM ANOTHER SOURCE AS PART OF SELECTIVE DEMOLITION, TO POLE SPACE(S) INDICATED. DETERMINE EXACT POLE ASSIGNMENT(S) BASED ON EXISTING COLOR-CODING OF THE BRANCH CIRCUIT CONDUCTOR INSULATION. PROVIDE NEW BREAKER IF REQUIRED.
(A)	=	PROVIDE ARC FAULT CIRCUIT INTERRUPTER (AFCI) CIRCUIT BREAKER
(AG)	=	PROVIDE COMBINATION ARC FAULT (AFCI) / GROUND FAULT (GFCI) CIRCUIT INTERRUPTER CIRCUIT BREAKER
(AT)	=	EXISTING FUSIBLE SWITCH/CIRCUIT BREAKER WITH NEW FUSES/TRIP RATING
(ERM)	=	PROVIDE ENERGY REDUCTION MAINTENANCE (REDUCED ENERGY) CIRCUIT BREAKER
(EX)	=	EXISTING CIRCUIT TO REMAIN
(F)	=	CIRCUIT FOR FURTURE USE. PROVIDE BREAKER INDICATED. LOAD SHOWN FOR REFERENCE ONLY.
(G)	=	PROVIDE GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) CIRCUIT BREAKER
(GE)	=	PROVIDE GROUND-FAULT EQUIPMENT PROTECTION (GFEP) CIRCUIT BREAKER
(H)	=	PROVIDE HANDLE TIE
(L)	=	PROVIDE LOCK-ON DEVICE
(LI)	=	PROVIDE ELECTRONIC LONG AND INSTANTANEOUS ADJUSTABILITY
(LSI)	=	PROVIDE ELECTRONIC LONG, SHORT, AND INSTANTANEOUS ADJUSTABILITY
(LSIA)	=	PROVIDE ELECTRONIC LONG, SHORT, INSTANTANEOUS, AND GROUND-FAULT ALARM ADJUSTABILITY
(LSIG)	=	PROVIDE ELECTRONIC LONG, SHORT, INSTANTANEOUS, AND GROUND-FAULT ADJUSTABILITY
(LT)	=	PROVIDE LOCK-OUT/TAG-OUT DEVICE
SL	=	SEE THE SINGLE LINE DIAGRAM / SCHEDULE FOR WIRE SIZE AND VOLTAGE DROP
(ST)	=	PROVIDE SHUNT TRIP CIRCUIT BREAKER

PANEL SCHEDULE GENERAL NOTES

A. PROVIDE HACR RATED BREAKERS ON ALL MOTOR LOADS.
B. ALL CONDUCTORS SHOWN ARE COPPER.
C. ALL VOLTAGE DROP CALCULATIONS AND COMPENSATED WIRE SIZES ARE BASED ON RIGHT ANGLE CIRCUIT LENGTHS. ACTUAL VOLTAGE DROP MAY VARY BASED ON INSTALLED WIRE LENGTH.
D. VOLTAGE DROP CALCULATIONS AND WIRE SIZES SHOWN IN THE PANEL SCHEDULES ARE FOR HOMERUN CONDUCTORS ONLY. FOR CIRCUITS WITH MORE THAN 1 DEVICE, THESE SIZES ASSUME THE CONDUCTORS DOWNSTREAM OF THE HOMERUN DEVICE ARE THE MINIMUM SIZE REQUIRED BY THE NEC BASED ON THE RATING OF THE CIRCUIT. WHERE THIS IS NOT THE CASE, IT HAS BEEN INDICATED ON THE DRAWINGS. VOLTAGE DROP TO THE FARTHEST DEVICE HAS BEEN CALCULATED TO NEVER EXCEED 5%.
E. RECEPTACLE LOADS CALCULATED AT 100% OF FIRST 10kVA, 50% OF REMAINDER. MOTOR LOADS CALCULATED AT 125% OF THE LARGEST MOTOR, 100% OF ALL OTHER MOTORS.

PANEL KEY

--	--	--
--	FPCA	DPF
--	FPB	FPA

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DAYTON SCHOOLS STADIUM

DAYTON, KY
DAYTON INDEPENDENT SCHOOLS

REVISIONS

DWN: MS CHK: DTJ
DATE: 11/22/23
PROJECT #: 25356

ELECTRIC PANEL SCHEDULES

E4-602

1" REFERENCE
KLH PROJECT # 25356

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MECHANICAL LEGEND

SYMBOL	DESCRIPTION
PLAN-VIEW LINE TYPES	
———	WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK
DRAWING SET APPEARANCE	
	TO BETTER COMMUNICATE SCOPE TO PERMIT AGENCIES AND CONTRACTORS, EACH DRAWING IN THIS DRAWING SET HAS BEEN CREATED IN BOTH "COLOR" AND "BLACK AND WHITE". THERE EXISTS A COLOR LAYER WITHIN EACH DRAWING WHERE VISIBILITY IS CONTROLLED THROUGH THE PDF LAYER MANAGER. THIS LAYER VISIBILITY CAN BE TOGGLED DISPLAYING EITHER "COLOR" OR "BLACK AND WHITE". TO MAINTAIN SCOPE BASED SHADING WHEN PRINTING TO PAPER, BLACK AND WHITE NEEDS TO BE VISIBLE. FOR FURTHER INSTRUCTIONS, REFER TO CONTRACTOR RESOURCES ON OUR WEBSITE AND DOWNLOAD "DRAWING COLOR INSTRUCTIONS". WWW.KLHENGRS.COM - CONTRACTOR RESOURCES (RIGHT HAND SIDE OF PAGE).
PIPING LINE TYPES	
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
CD	CONDENSATE DRAIN
MECHANICAL AIR DEVICES	
SR	SUPPLY REGISTER
RR	RETURN REGISTER
ER	EXHAUST REGISTER
SG	SUPPLY GRILLE
RG	RETURN GRILLE
CD	CEILING DIFFUSER
CD-10"Ø	2'x2' SQUARE CEILING DIFFUSER WITH 10" NECK
MECHANICAL DUCTWORK	
UP	SUPPLY DUCT WITH ELBOW TURNED UP
DN	SUPPLY DUCT WITH ELBOW TURNED DOWN
UP	RETURN DUCT WITH ELBOW TURNED UP
DN	RETURN DUCT WITH ELBOW TURNED DOWN
UP	EXHAUST DUCT WITH ELBOW TURNED UP
DN	EXHAUST DUCT WITH ELBOW TURNED DOWN
24X12 SA	SUPPLY DUCT
24X12 RA	RETURN DUCT
24X12 EA	EXHAUST DUCT
24X12 OA	OUTSIDE AIR DUCT
	1" LINED DUCTWORK
	FLEXIBLE DUCTWORK CONNECTION
	BRANCH TAKEOFF
	REDUCER, CONCENTRIC
	REDUCER, NONCONCENTRIC
MECHANICAL DUCTWORK ACCESSORIES	
	DUCT WITH MANUAL VOLUME DAMPER
	ROUND ELBOW WITH TURNING VANES
	ELBOW WITH TURNING VANES
M	MOTOR OPERATED DAMPER - LINE VOLTAGE
M	MOTOR OPERATED DAMPER - LOW VOLTAGE
MECHANICAL STATS & SENSORS	
T	LOW VOLTAGE THERMOSTAT

STANDARD HVAC ABBREVIATIONS

AAV	AUTOMATIC AIR VENT
ACCESS	ACCESSORIES
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AMP	AMPERE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
BAS	BUILDING AUTOMATION SYSTEM
BD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CD	CEILING DIFFUSER
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON
CLG	COOLING
CO	CARBON MONOXIDE
CO2	CARBON DIOXODE
COP	COEFFICIENT OF PERFORMANCE
CV	CONSTANT VOLUME
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DB	DECIBELS
DB	DRY-BULB TEMPERATURE
DC	DISCONNECT
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE DELTA(CHANGE IN TEMPERATURE)
DIA	DIAMETER
DIW	DEIONIZED WATER
DP	DEW POINT TEMPERATURE
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EG	EXHAUST GRILLE
EMERG	EMERGENCY POWER
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EX.	EXISTING
F	FAHRENHEIT
F&T	FLOAT AND THERMOSTATIC
FA	FREE AREA
FD	FIRE DAMPER
FLA	FULL LOAD AMPERES
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
FURN	FURNISHED
GA	GAUGE
GAL	GALLONS
GPM	GALLONS PER MINUTE
HD	HEAD
HOA	HAND/OFF/AUTOMATIC
HP	HORSEPOWER
HPR	HIGH PRESSURE RETURN (STEAM CONDENSATE)
HSTAT	HUMIDISTAT
HTG	HEATING
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HZ	HERTZ
I/O	INPUT/OUTPUT
IAQ	INDOOR AIR QUALITY
IN HG	INCHES OF MERCURY
IN WC	INCH WATER COLUMN
IN WG	INCH WATER GAUGE
IPLV	INTERGRATED PART LOAD VALUE
INST	INSTALLED
KW	KILOWATT
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LF	LINEAR FOOT (FEET)
LPR	LOW PRESSURE RETURN (STEAM CONDENSATE)
LPS	LOW PRESSURE STEAM
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1000 BTUH
MCA	MINIMUM BRANCH CIRCUIT AMPACITY
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MIN	MINIMUM
MOD	MOTOR OPERATED DAMPER
MPR	MEDIUM PRESSURE RETURN (STEAM CONDENSATE)
MPS	MEDIUM PRESSURE STEAM
MRI	MAGNETIC RESONANCE IMAGING
MVD	MANUAL VOLUME DAMPER
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OCP	OVER CURRENT PROTECTION
PD	PRESSURE DROP
PPM	PARTS PER MILLION
PRS	PRESSURE REGULATING (VALVE) STATION
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH – ABSOLUTE
PSIG	POUNDS PER SQUARE INCH – GAGE
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID LINE
RLA	RUN LOAD AMPERE
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SC	SHADING COEFFICIENT
SCD	SMOKE CONTROL DAMPER
SD	SMOKE DETECTOR
SENS	SENSIBLE HEAT
SP	STATIC PRESSURE
TAB	TESTING, ADJUSTING, BALANCE
TDH	TOTAL DYNAMIC HEAD
TDS	TOTAL DISSOLVED SOLIDS
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
UL	UNDERWRITERS LABORATORY
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
WB	WET-BULB (TEMPERATURE)
WG	WATER GAGE
WPD	WATER SIDE PRESSURE DROP
WIRE	WIRED

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DWNAuthor	ClChecker
DATE:	11/22/23
PROJECT #:	25356

MECHANICAL COVER SHEET

M0-001

1" REFERENCE
KLH PROJECT # 25356

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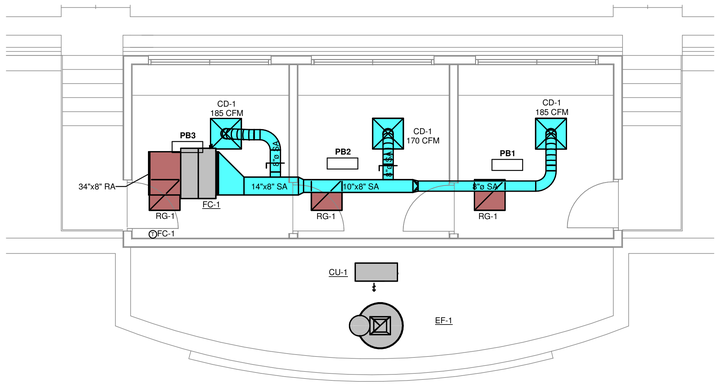
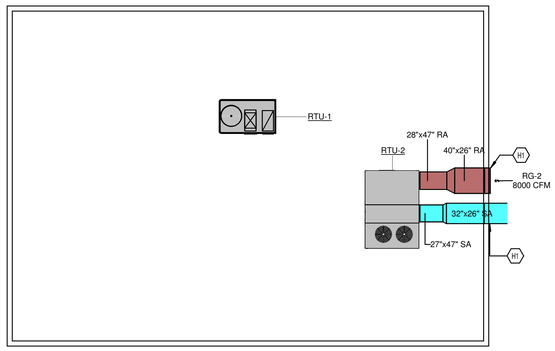
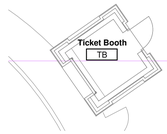


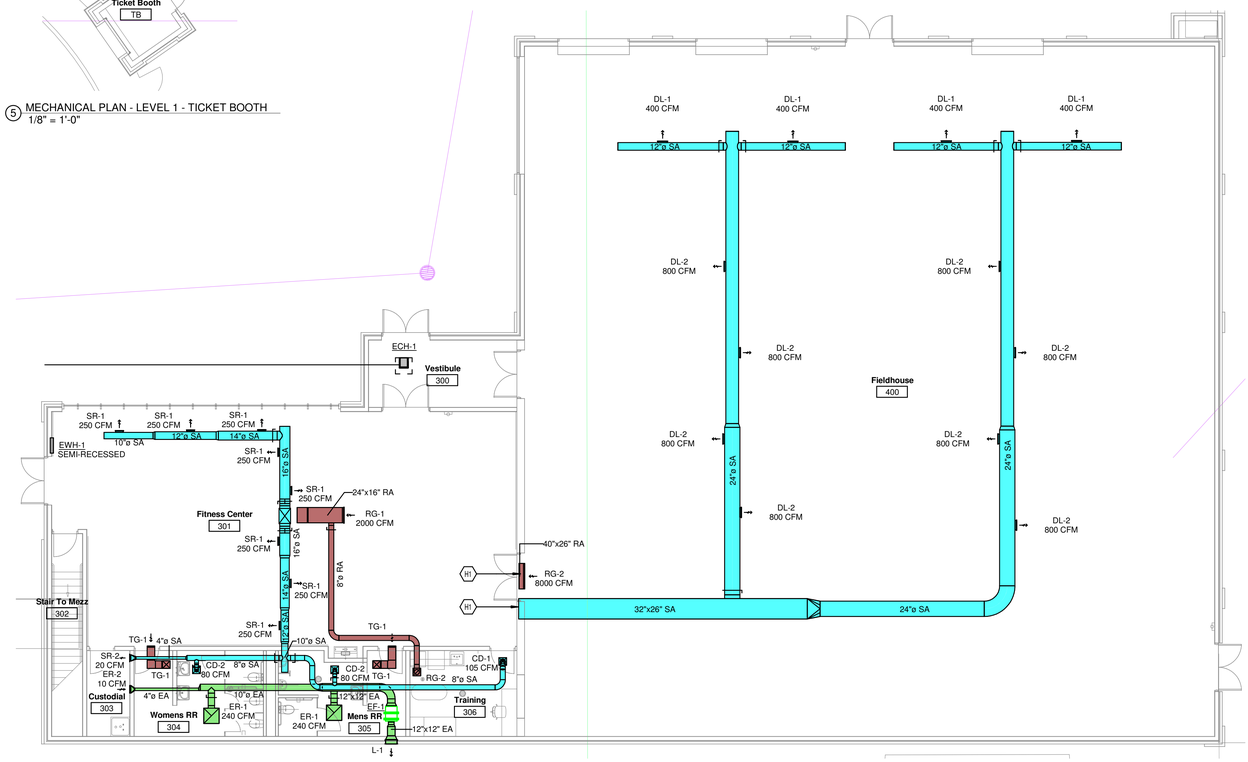
2 MECHANICAL PLAN - LEVEL 2 - PRESSBOX
1/4" = 1'-0"



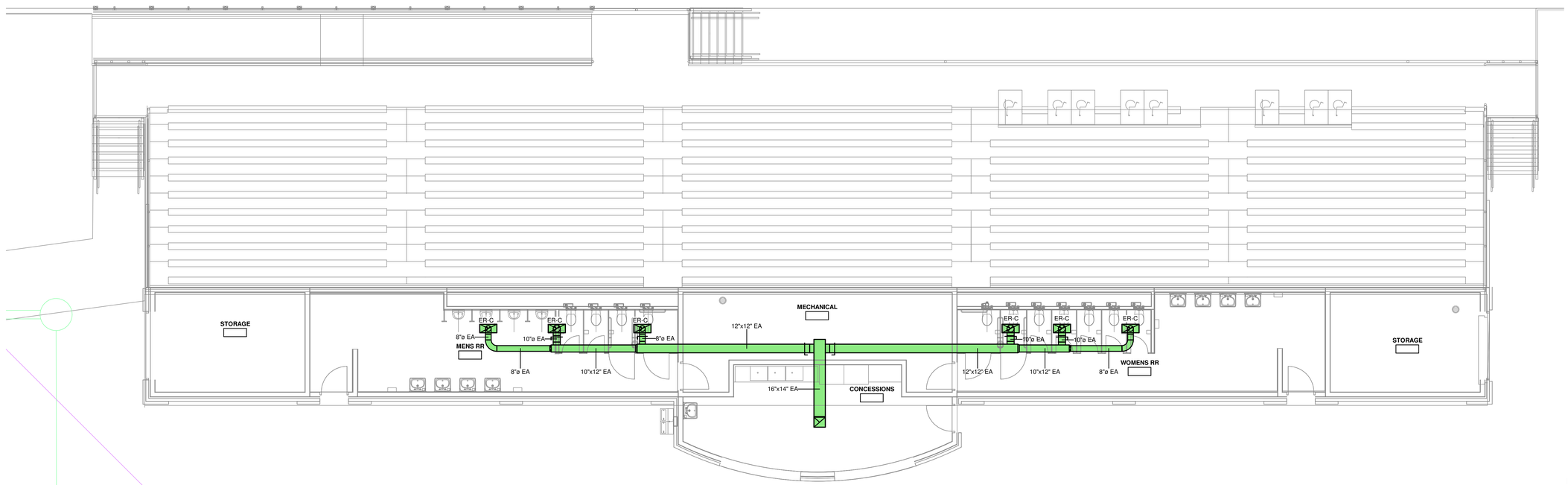
4 MECHANICAL PLAN - FIELDHOUSE ROOF
1/8" = 1'-0"



5 MECHANICAL PLAN - LEVEL 1 - TICKET BOOTH
1/8" = 1'-0"



3 MECHANICAL PLAN - LEVEL 1 - FIELDHOUSE
1/8" = 1'-0"



1 MECHANICAL PLAN - LEVEL 1 - CONCESSION
3/16" = 1'-0"

KEYED NOTES

H1	DUCTWORK THROUGH SIDEWALL OF HIGH ROOF. SEE ROOF PLAN FOR CONTINUATION.

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DAYTON SCHOOLS STADIUM

DAYTON, KY
DAYTON INDEPENDENT SCHOOLS

REVISIONS

DWN: CES ClChecker
DATE: 11/22/23
PROJECT #: 25356

MECHANICAL DUCTWORK PLANS

M3-101

1" REFERENCE
KLH PROJECT # 25356

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OWNERSHIP OF INSTRUMENTS OF SERVICE
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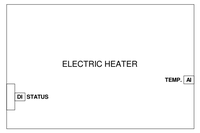
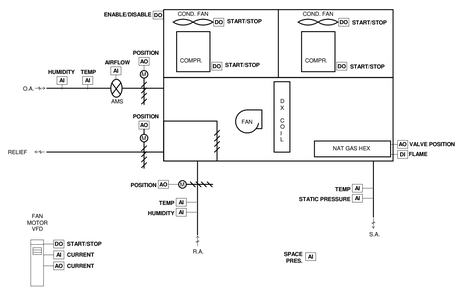


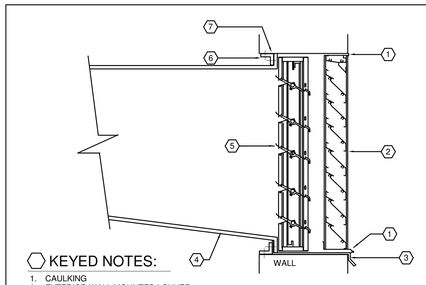
GENERAL NOTES:

1. ALL ANALOG INPUTS (AI) SHALL BE CONFIGURED BY USER FOR HIGH AND LOW LIMITS ALARM.
2. PROVIDE ALARM FOR ALL STATUS MISMATCHES WHERE DO DOES NOT EQUAL DI.
3. ALL POINTS SHALL BE TRENDED AND HAVE RUN TIME TOTALIZATION.
4. TEMPERATURE CONTROL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH MANUFACTURER AND PROVIDE POINTS AS NOTED.
5. EQUIPMENT SHALL HAVE BACNET CARD TO COMMUNICATE WITH CONTROLS OVER BACNET

SEQUENCE OF OPERATION
A. ELECTRIC HEATER
1. Heater shall modulate to maintain temperature setpoint.
2. Disable electric heat above 60 degrees outside temperature (adjustable).
3. Control and monitoring points shall include but not be limited to the following:
   a. Heater Status (DI)
   b. Temperature (AI)



SEQUENCE OF OPERATION
A. VAV PACKAGED ROOFTOP UNIT
1. Variable Volume Packaged Rooftop Units Interface
   a. The rooftop unit controllers are being provided with a BACNet open-protocol controller. The BAS Contractor is to integrate the data points from the heat pump controller into the DDC system front-end. Refer to equipment spec for a listing of the data points required to be available from the rooftop unit's open-protocol controller. All listed data points are to be integrated into the DDC system front-end.
   b. The DDC system contractor is responsible to coordinate with the rooftop unit supplier for proper coordination and interfacing of all specified data points, including any and all incidental programming required for proper display/commanding of the data points specified in equipment spec as well as all additional data points listed in this section.
   c. The BAS Contractor is to do a point-by-point verification of all read/write points between the rooftop units and the DDC system. The point-by-point verification is to be done in conjunction with the rooftop unit equipment supplier. The rooftop unit equipment suppliers to provide a trained technician to work in conjunction with the DDC system contractor for the point-by-point verification. The data verification only needs to be done on one of each unique type of rooftop unit on the project. The DDC system contractor is to generate a point-by-point verification form for each unique rooftop unit and submit the form(s) to the Engineer for review before proceeding with DDC system interfacing of the balance of the rooftop units.
2. Startup
   a. The unit shall continuously operate on an occupied cycle as controlled from the BAS.
   b. Provide a 5 minute (adjustable) time delay on compressor start during unoccupied mode to insure flow.
3. Supply Fan Control
   a. If safety controls are normal, the supply fan VFD shall be enabled by the BAS and shall run continuously
   b. The supply fan VFD speed shall be controlled from a duct static pressure sensor located 2/3 downstream in ductwork. Where this results in sensor being located downstream of major ductwork splits, multiple sensors shall be installed in each major branchto maintain minimum setpoint in each branch.
   c. The supply fan shall be modulated to operational speed to maintain static pressure setpoint. When the sensor measures low pressure, the supply fan shall be ramped up to maintain setpoint. When the sensor measures high pressure, the supply fan shall be ramped down to maintain setpoint.
   d. For systems with DDC control of individual zone boxes reporting to a central control system, static pressure setpoint shall be reset based on the zone requiring the most pressure. In this way the setpoint is reset lower until one zone damper is nearly wide open to save fan energy.
   e. Initial static pressure setpoint shall be 1.0 " (adjustable). Provide a high limit static pressure sensor in the supply fan discharge that will alarm the system and fail safe the air handler with manual reset on a high limit of 4.0 " (adjustable). Provide a current transducer to prove fan operation. Provide a high and low limit current cutout for the transducer that will alarm the system.
4. Supply Air Temperature Control
   a. Provide supply duct mounted air temperature sensor. Rooftop unit heating and cooling shall be controlled to maintain supply air temperature setpoint of 55 degrees F (adjustable).
5. Occupied Mode
   a. During occupied mode, the outside air damper shall open and the supply fan motor shall start and run continuously. The heating and cooling shall cycle to maintain space temperature setpoint.
6. Unoccupied Mode
   a. During occupied mode, the outside and relief dampers shall close, the return air damper shall fully open. The supply air fan shall modulate to maintain supply duct static pressure. The heating and cooling shall modulate to maintain supply air temperature setpoint.
7. Minimum Outside Air
   a. Provide an air flow measuring station located downstream of the outside air damper which will modulate the outside air damper to maintain a constant minimum outside airflow as scheduled. If the outside air damper is full open and requires more fresh air,the return damper shall be modulated closed until the minimum outside air is achieved.
8. Economizer Mode
   a. Provide dual enthalpy economizer control. Economizer control shall be enabled whenever the outside air enthalpy is lower than the return air enthalpy. Enthalpy shall be calculated from sensors which are tied to the same controller for accuracy. During economizer mode, the mechanical cooling and heating shall be off and the outside air damper shall modulate open. The return damper shall modulate inversely with the outside air damper.
9. Powered Relief
   a. Provide space pressure sensor to modulate relief fan to maintain positive pressure in building.
10. Supply Air Temperature Setpoint
    a. The supply air temperature setpoint shall be reset based on outside air temperature. Whenever the outside air temperature is 60 degrees or above, the supply air temperature setpoint shall be 55 degrees. Whenever the outside air temperature is 30 degreesor below, the supply air temperature setpoint shall be 60 degrees. The supply air temperature setpoint shall increase linearly from 55 to 60 degrees as the outside air temperature drops from 60 to 30 degrees. Provide a supply air temperature high limit of 90 degrees and low limit of 40 degrees that will alarm the system and place the rooftop unit in fail safe mode with manual reset.
11. Cooling Control
    a. Cooling shall be controlled to maintain supply air temperature setpoint. Cooling mode shall commence if unit is not in alarm. On a call for cooling, the heating shall be off, the supply fan shall start and the unit shall enter economizer mode. If enthalpy conditions prohibit economizer mode, the compressor(s) and condenser fan(s) shall be staged on. When supply air temperature setpoint is satisfied, the compressor(s) and condenser fan(s) shall stage off and supply fan motor shall continue to operate.
12. Heating Control
    a. Heating shall be controlled to maintain supply air temperature setpoint. Heating mode shall commence if unit is not in alarm. On a call for heating, the supply fan shall start, the compressor(s) and condenser fan(s) shall be off and the gas heat shall modulate on and be proven on. When supply air temperature is satisfied, natural gas heat shall modulate off and the supply fan motor shall continue to operate.
12. Filter Pressure Drop
    a. Provide static pressure differential switch across each filter which will alarm ~~the system~~ on high static pressure limits.
13. Restart
    a. Provide automatic restart of system upon failure for 2 attempts (adjustable)
    b. After 2 attempts, alarm system and require manual reset.
14. Shut Down
    a. At shutdown the rooftop unit shall go to fail safe position. Fail safe position is defined by the following: The supply fan is off, the outside air damper is closed, the compressor(s) are off. The supply fan shall cycle in conjunction with either the heating or cooling system to maintain a minimum/maximum space temperature depending on the season.
15. Control and monitoring points shall include but not be limited to the following:
    a. Enable/Disable RTU (DO)
    b. Supply Fan Motor Start/Stop (DO)
    c. Supply Fan Motor Status (AI)
    d. Supply Air Duct Static Pressure -2/3rds (AI)
    e. Supply Air Temperature (AI)
    f. Outside Air Damper Position (% open) (AO)
    g. Outside Air CFM (AI)
    h. Outside Air Temperature (AI)
    i. Outside Air Humidity (AI)
    j. Return Air Temperature (AI)
    k. Return Air Humidity (AI)
    l. Return Air Damper Position (% open) (AO)
    m. Space Pressure (AI)
    n. Relief Air Damper Position (AO)
    o. Natural GAs Valve Position (% open)(AO)
    p. Natural Gas Flame (DI)
    q. Condenser Fan Start/Stop (DO)
    r. Compressor Start/Stop (DO)

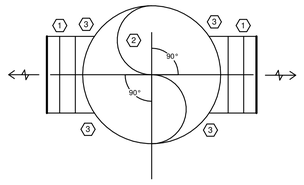


KEYED NOTES:
1. CAULKING
2. EXTERIOR WALL MOUNTED LOUVER
3. EXTENDED SILL
4. PITCH INSULATED DUCT 10 DEGREES TOWARD LOUVER AND SEAL WATERTIGHT
5. MOTOR OPER. DAMPER
6. CLIP ANGLE
7. ANCHOR TO WALL AT 12" O.C.

GENERAL NOTES:
A. WALL LOUVERS ARE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR. REFER TO ARCHITECTURAL DRAWINGS FOR SIZES AND LOCATIONS, UNLESS SPECIFIED IN SECTION 23 37 13.00.

233713.00-07 - EXHAUST LOUVER DETAIL

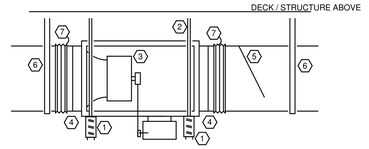
SCALE: NONE



KEYED NOTES:
1. REGISTER WITH 0 DEGREE DEFLECTION BLADE DAMPER (TO BE SIZED AS SCHEDULED)
2. SUPPLY DUCT
3. SEAL JOINTS BETWEEN COLLAR AND MAIN DUCT

233713.00-01 - ANGLED REGISTER INSTALLATION 0 DEGREES

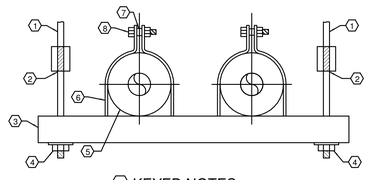
SCALE: NONE



KEYED NOTES:
1. SPRING ISOLATORS
2. GALVANIZED ALL THREAD ROD SUSPEND FROM BUILDING STRUCTUE AND FROM FAN MOUNTING FLANGES. USE CHANNELS UNDER FAN AS AN ALTERNATIVE SUPPORT
3. INLINE FAN
4. INLET AND OUTLET DUCT FLANGES, CONNECT TO DUCTWORK
5. BACKDRAFT OR MOTOR OPERATED DAMPER (SEE SCHEDULE)
6. METAL HANGER, SECURE TO STRUCTURE AND TO DUCTWORK
7. FLEXIBLE CANVAS CONNECTION

233423.00-06 - INLINE BELT DRIVEN GENERAL EXHAUST FAN

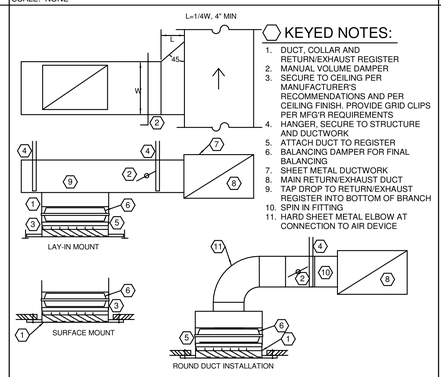
SCALE: NONE



KEYED NOTES:
1. CONNECT TO STRUCTURE (TYPICAL).
2. GALVANIZED THREADED HANGER RODS (TYPICAL). SEE SPECIFICATIONS.
3. UNISTRUT.
4. PLATED NUT & WASHER (TYPICAL).
5. CONTINUOUS INSULATION AS SPECIFIED, (TYPICAL).
6. CHANNEL MOUNTED CLAMPING SYSTEM (TYPICAL).
7. SPACER SIZED TO PREVENT COMPRESSION OF INSULATION.
8. PLATED DOUBLE NUT AND WASHER.

230529.00-02 - REFRIGERANT PIPING SUPPORT

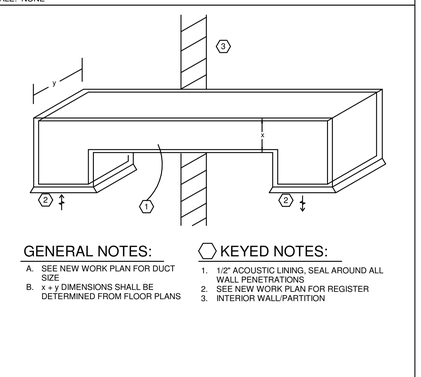
SCALE: NONE



KEYED NOTES:
1. DUCT, COLLAR AND RETURN/EXHAUST REGISTER
2. MANUAL VOLUME DAMPER
3. SECURE TO CEILING PER MANUFACTURER'S RECOMMENDATIONS AND PER CEILING FINISH. PROVIDE GRID CLIPS PER MFG'R REQUIREMENTS
4. HANGER, SECURE TO STRUCTURE AND DUCTWORK
5. ATTACH DUCT TO REGISTER
6. BALANCING DAMPER FOR FINAL BALANCING
7. SHEET METAL DUCTWORK
8. MAIN RETURN/EXHAUST DUCT
9. TAP DROP TO RETURN/EXHAUST REGISTER INTO BOTTOM OF BRANCH
10. SPIN IN FITTING
11. HARD SHEET METAL ELBOW AT CONNECTION TO AIR DEVICE

233713.00-21 - RETURN/EXHAUST REGISTER INSTALLATION

SCALE: NONE

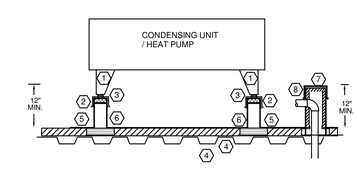


GENERAL NOTES:
A. SEE NEW WORK PLAN FOR DUCT SIZE.
B. x + y DIMENSIONS SHALL BE DETERMINED FROM FLOOR PLANS

KEYED NOTES:
1. 1/2" ACOUSTIC LINING, SEAL AROUND ALL WALL PENETRATIONS
2. SEE NEW WORK PLAN FOR REGISTER
3. INTERIOR WALL/PARTITION

233713.00-19 - TRANSFER GRILLE

SCALE: NONE

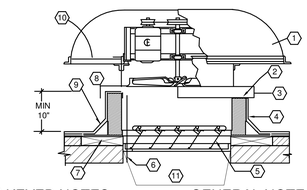


KEYED NOTES:
1. ANCHOR UNIT TO CURB
2. PRESSURE TREATED WOOD NAILER
3. VIBRATION ISOLATORS
4. ROOF DECK
5. PREFABRICATED EQUIPMENT SUPPORT
6. SINGLE MEMBRANE ROOFING, FLASH PER MFG'R RECOMMENDATIONS. FLASH UP AND OVER WOOD NAILER.
7. PREFABRICATED DOG HOUSE
8. SEAL AND FLASH OPENING

GENERAL NOTES:
A. ON PROJECTS WITH BUILT-UP ROOFS, ADD CANT ON EQUIPMENT SUPPORTS AND PREFABRICATE PIPING CHASE.
B. PLACE EQUIPMENT ACROSS BAR JOIST OR ADD ADDITIONAL STRUCTURAL. STRUCTURAL STEEL AS NECESSARY TO CARRY EQUIPMENT WEIGHT
C. LOCATE A MINIMUM OF 10'-0" FROM EDGE OF ROOF AND ROOF HATCH.

236213.00-02 - EQUIPMENT SUPPORT

SCALE: NONE

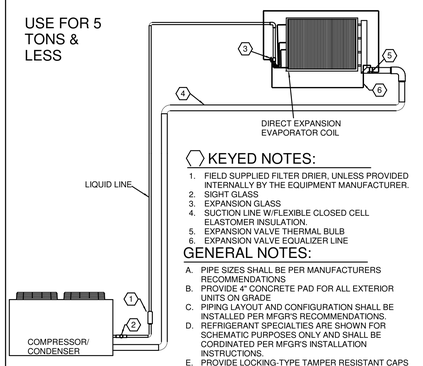


KEYED NOTES:
1. PROPELLOR ROOF FAN
2. WOOD NAILER
3. ANCHOR ALL FOUR SIDES WITH SCREWS 12" O.C.
4. PREFABRICATED INSULATED CURB
5. MOTOR OPER. DAMPER INTERFACED WITH EXHAUST FAN WIRING/STARTER
6. CONDUIT HOLE
7. ANCHOR TO ROOF DECK AS REQUIRED
8. RUBBER HASKET APPLIED TO TOP OF CURB
9. ROOFING UP UNDER FLASHING. PROVIDE CURB TYPE AND FLASHING PER ROOFING MANUFACTURER'S REQUIREMENTS
10. BIRD SCREEN
11. CENTER TRANSITION TO DUCTWORK FROM DAMPER OR CURB. PROVIDE 3x DIAMETER STRAIGHT RUN MINIMUM.

GENERAL NOTES:
A. DELETE CANT FOR SINGLE MEMBRANE ROOFS.
B. TOP OF CURB MUST BE LEVEL. FABRICATE PITCH IN CURB IF NECESSARY.
C. CONTRACTOR HAS THE OPTION TO INCREASE THE HEIGHT OF THE CURB OR ADD BLOCKING TO THE CURB. THE ADDITIONAL HEIGHT REQUIRED SHALL EQUAL THE ROOF ASSEMBLY THICKESS. THE CURB INTAKE OPENING SHALL BE AT A MINIMUM OF 12" ABOVE FINISHED ROOF.
D. LOCATE A MINIMUM OF 10'-0" FROM EDGE OF ROOF, INTAKES, AND ROOF HATCH.

233423.00-05 - EXHAUST FAN

SCALE: NONE

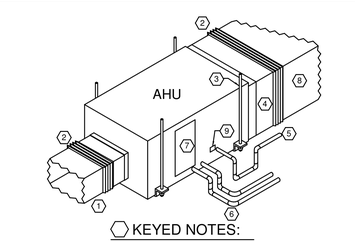


KEYED NOTES:
1. FIELD SUPPLIED FILTER DRIER, UNLESS PROVIDED INTERNALLY BY THE EQUIPMENT MANUFACTURER.
2. SIGHT GLASS
3. EXPANSION GLASS
4. SUCTION LINE W/FLEXIBLE CLOSED CELL ELASTOMER INSULATION.
5. EXPANSION VALVE THERMAL BULB
6. EXPANSION VALVE EQUALIZER LINE

GENERAL NOTES:
A. PIPE SIZES SHALL BE PER MANUFACTURERS RECOMMENDATIONS
B. PROVIDE 4" CONCRETE PAD FOR ALL EXTERIOR UNITS ON GRADE
C. PIPING LAYOUT AND CONFIGURATION SHALL BE INSTALLED PER MFGR'S RECOMMENDATIONS.
D. REFRIGERANT SPECIALTIES ARE SHOWN FOR SCHEMATIC PURPOSES ONLY AND SHALL BE CORDINATED PER MFGR'S INSTALLATION INSTRUCTIONS.
E. PROVIDE LOCKING-TYPE TAMPER RESISTANT CAPS ON ALL OUTDOOR REFRIGERANT CIRCUIT ACCESS PORTS.

232313.00-05 - REFRIGERANT PIPING C

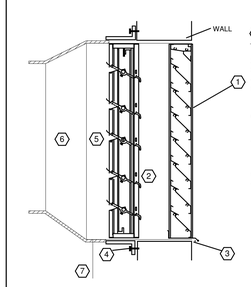
SCALE: NONE



KEYED NOTES:
1. INSULATED SUPPLY DUCT
2. FLEXIBLE CONNECTION
3. GALVANIZED ALL-THREAD ROD WITH VIBRATION ISOLATOR (TYPICAL) ATTACHED TO STRUCTURE
4. FILTER RACK AND ACCESS DOOR
5. CONDENSATE LINE WITH TRAP
6. REFRIGERANT LINES, SUCTION LINE INSULATED WITH 3/4" ARMAFLEX
7. SERVICE ACCESS PANEL
8. RETURN DUCT 1/2" ACOUSTIC LINING (MINIMUM OF 10')
9. HIGH WATER ALARM IN CONDENSATE DRAIN PAN. WIRE TO BREAK 24 VOLT CONTROL POWER IN THE CASE OF A HIGH WATER EVENT.

238126.00-05 - AIR HANDLING UNIT DX

SCALE: NONE

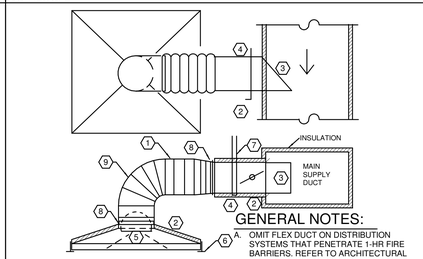


KEYED NOTES:
1. EXTERIOR WALL MOUNTED LOUVER
2. MOTOR OPER. DAMPER
3. CAULKING
4. ANCHOR TO WALL AT 12" O/C
5. PROVIDE INSULATED SHEET METAL PLENUM, FULL SIZE OF LOUVER, (MIN 12" DEEP)
6. TRANSITION INSULATED DUCT CONNECTION WITH ANGLED FITTING TO PLENUM FOR UNIFORM AIR FLOW
7. 3/4" PIPING TO FLOOR DRAIN

GENERAL NOTES:
A. REFER TO ARCHITECTURAL DRAWINGS FOR SIZES AND LOCATIONS.

233713.00-11 - INTAKE LOUVER

SCALE: NONE



GENERAL NOTES:
A. OMIT FLEX DUCT ON DISTRIBUTION SYSTEMS THAT PENETRATE 1-HR FIRE BARRIERS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF FIRE BARRIERS.

KEYED NOTES:
1. MAXIMUM LENGTH OF INSUL. FLEX DUCT EQUALS 5 FEET. FLEX NOT PERMITTED IN INACCESSIBLE CEILINGS
2. INSULATED DUCT, COLLAR AND DIFFUSER BY HVAC CONTRACTOR
3. SCOOP
4. SPIN IN FITTING WITH MANUAL VOLUME DAMPER
5. INTERNAL BUTTERFLY DAMPER FOR DRYWALL APPLICATIONS ONLY. (PROVIDE KEY FOR ADJUSTMENT)
6. SECURE TO CEILING PER MANUFACTURER'S RECOMMENDATIONS AND PER CEILING FINISH. PROVIDE GRID CLIPS PER MFG'R REQUIREMENTS. PROVIDE FRAMING FOR DRYWALL INSTALLATION.
7. HANGER, SECURE TO STRUCTURE AND DUCTWORK
8. PEEL BACK INSULATION AND PROVIDE STRAPPING AND SHEET METAL SCREWS AT FLEX CONNECTION TO DUCT. THEN PROVIDE STRAPPING AROUND INSULATION
9. SUPPORT FLEX TO PREVENT COLLAPSING

233713.00-04 - DIFFUSER INSTALLATION TYPICAL

SCALE: NONE

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DAYTON SCHOOLS STADIUM

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REVISIONS

DWNAuthor	CIChecker
DATE:	11/22/23
PROJECT #:	25356

MECHANICAL - DETAILS

M6-501

1" REFERENCE
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HVAC ACCESSORIES

ACCESSORIES:

1. MOTOR DAMPER	5. INTAKE HOOD	9. ACCESS DOOR	13. FACE/BYPASS DAMPER	17. DUCT FLANGES	21. ECON POWERED EXHAUST
2. ECONOMIZER	6. VIBRATION ISOLATION	10. FLEX CONNECTIONS	14. CONDENSATE PUMP	18. BASE RAIL	22. ECON BAROMETRIC RELIEF
3. ROOF CURB	7. FLAT FILTER	11. MOUNTING COLLAR	15. MOTOR GUARD	19. HUMIDIFIER	23. HOT GAS REHEAT COIL
4. HAIL GUARDS	8. FILTER/MIXING BOX	12. HOT GAS BYPASS	16. GREASE TRAP	20. CO2 SENSORS	24. SHAFT GROUNDING BRUSHES

HVAC OUTDOOR SPLIT UNITS SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

EQUIPMENT MARK	DESCRIPTION	STATUS	WEIGHT (lbs)	MANUFACTURER	MODEL	MIN COP	EER	SEER	NOMINAL TONS	CLG MBH	CLG SENS (mbh)	HTG MBH	EMERGENCY	ELECTRIC CONNECTION SUMMARY
CU-1	AIR SOURCE OUTDOOR CONDENSING UNIT	NEW	131	TRANE	SUZ-KA18NAHZ	1.68	12.8	18.9	1.5	15	12	15	NO	CU-1 - 208V/1PH, 60 W, 1A FLA, 17 MCA, 31A OCP

HVAC DUCTLESS SPLIT SYSTEMS (INDOOR UNITS) SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

EQUIPMENT MARK	DESCRIPTION	LOCATION	STATUS	FED FROM	WEIGHT (lbs)	MANUFACTURER	MODEL	CFM	ESP (in WC)	OACFM	NOMINAL TONS	MAT CLG DB (Deg F)	MAT CLG WB (Deg F)	CLG MBH	CLG SENS (mbh)	LAT CLG DB (Deg F)	LAT CLG WB (Deg F)	MAT HTG (Deg F)	HTG MBH	LAT HTG (Deg F)	EMERGENCY	ELECTRIC CONNECTION SUMMARY
FC-1	SPLIT SYSTEM SLIM DUCTED HORIZONTAL	PB3	NEW	CU-1	60	TRANE	PEAD-A18AA8	540	0	64	1.5	78	65	15	12	55	54	63	15	90	NO	FC-1 - 208V/1PH, 121 W, 1.95A FLA, 2.44 MCA

HVAC FANS SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

EQUIPMENT MARK	DESCRIPTION	STATUS	WEIGHT (lbs)	MANUFACTURER	MODEL	ESP (in WC)	FAN RPM	BHP (hp)	EMERGENCY	ELECTRIC CONNECTION SUMMARY
EF-1	HVAC FAN	NEW	57	GREENHECK	GB-130	0.5	1143	0.21	NO	EF-1 - 208V/1PH, 0.25 HP, 3.2A FLA, 4 MCA, 15A OCP

HVAC ELECTRICAL COORDINATION SCHEDULE

ABBREVIATIONS		CONTRACTOR TYPE		MOTOR CONTROL TYPE		CONTROL TYPE	
DC	LOCAL DISCONNECT	EC	ELECTRICAL CONTRACTOR	CS	COMBINATION STARTER	TC	TIMECLOCK
MC	MOTOR CONTROL (POWER)	EX	EXISTING	MCC	MOTOR CONTROL STARTER	CPT	CONTROL POWER TRANSFORMER
SD	DUCT SMOKE DETECTOR	FC	FIRE PROTECTION CONTRACTOR	MG	MAGNETIC STARTER OR CONTACT	BAS	BUILDING AUTOMATION SYSTEM
CN	CONTROLS	GC	GENERAL CONTRACTOR	MS	MANUAL STARTER	LOW	LOW VOLTAGE CONTROLS
TS	TOGGLE SWITCH	HC	HVAC CONTRACTOR	VFD	VARIABLE FREQUENCY DRIVE	LINE	LINE VOLTAGE CONTROLS
CB	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD	MFR	MANUFACTURER	MSR	MANUAL STARTER W/ CONTROL RELAY	RLINE	REVERSE ACTING LINE VOLTAGE THERMOSTAT
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)	PC	PLUMBING CONTRACTOR	OV	OVERCURRENT PROTECTION	MAN	MANUAL
FLA	OPERATING FULL LOAD AMPS	OR	OWNER OR OTHERS			FA	FIRE ALARM
MCA	MINIMUM CIRCUIT AMPACITY					CO	CARBON MONOXIDE SENSOR
CP	CORD AND PLUG CONNECTION					INT	INTEGRAL TO EQUIPMENT
						ASD	AREA SMOKE DETECTOR
						DSD	DUCT SMOKE DETECTOR

EQUIPMENT MARK	DESCRIPTION	VOLTAGE	PHASE	EMERGENCY	HP	WATTS	HTG KW	FLA	MCA	OCP	FED FROM	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	FA SHUTDOWN	AVAILABLE FAULT CURRENT
CU-1	AIR SOURCE OUTDOOR CONDENSING UNIT	208 V	1			60		1	17	31		EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	EC	NA	5738
EF-1	HVAC FAN	208 V	1		0.25			3.2	4	15		EC	EC	EC	MG	MFR	MFR	MFR	LINE	EC	EC	EC	NA	2699
FC-1	SPLIT SYSTEM SLIM DUCTED HORIZONTAL	208 V	1			121		1.95	2.44			EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	EC	NA	2299

HVAC DIFFUSERS AND REGISTERS SCHEDULE

TAG	MANUFACTURER	MODEL	FACE	MOUNTING	MATERIAL	FINISH	DAMPER TYPE	BORDER STYLE	REMARKS	DESCRIPTION
CD-1			<varies>	(none)	(none)	(none)	(none)	(none)		
CD-2			12"x12"	(none)	(none)	(none)	(none)	(none)		
DL-1			15"x8"	(none)	(none)	(none)	(none)	(none)		
DL-2			15"x8"	(none)	(none)	(none)	(none)	(none)		
ER-1			24"x24"	(none)	(none)	(none)	(none)	(none)		
ER-2			12"x12"	(none)	(none)	(none)	(none)	(none)		
ER-C			24"x12"	(none)	(none)	(none)	(none)	(none)		
RG-1			<varies>	(none)	(none)	(none)	<varies>	<varies>		
RG-2			<varies>	(none)	(none)	(none)	(none)	(none)		
SR-1			12"x6"	(none)	(none)	(none)	(none)	(none)		
SR-2			10"x4"	(none)	(none)	(none)	(none)	(none)		
TG-1			12"x12"	(none)	(none)	(none)	(none)	(none)		

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REVISIONS

DWNAuthor CIChecker
DATE: 11/22/23
PROJECT #: 25356

MECHANICAL - SCHEDULES

M6-601

1" REFERENCE
KLH PROJECT # 25356

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STANDARD PLUMBING ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
AV	ACID VENT
AW	ACID WASTE
BAS	BUILDING AUTOMATION SYSTEM
BFP	BACKFLOW PREVENTER
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWV	BACK WATER VALVE
CA	COMPRESSED AIR
CB	CATCH BASIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CO	CLEAN OUT
CO2	CARBON DIOXIDE
CP	CIRCULATION PUMP
CW	DOMESTIC COLD WATER
DF	DRINKING FOUNTAIN
DI	DEIONIZED WATER
DIA	DIAMETER
DN	DOWN
DS	DOWNSPOUT
DSN	DOWNSPOUT NOZZLE
EC	ELECTRICAL CONTRACTOR
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING
F	FAHRENHEIT
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FLA	FULL LOAD AMPERES
FS	FLOOR SINK
FT	FEET
FW	FILTERED WATER
G	GAS
GCO	GRADE CLEAN OUT
GWH	GAS FIRED WATER HEATER
GI	GREASE INTERCEPTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GW	GREASE WASTE
H&CW	HOT & COLD WATER
HB	HOSE BIBB
HC	HVAC CONTRACTOR
HD	HUB DRAIN
HP	HORSEPOWER
HW	DOMESTIC HOT WATER
HWR	HOT WATER RETURN
IE	INVERT ELEVATION
IN WC	INCH WATER COLUMN
KW	KILOWATT
KWH	KILOWATT HOUR
LPG	LIQUID PROPANE GAS
LV	LAVATORY
MAU	MAKEUP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTUH
MH	MANHOLE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MS	MOP SINK
MV	MIXING VALVE
N	NITROGEN
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NITROUS OXIDE
NOM	NOMINAL
NTS	NOT TO SCALE
O	OXYGEN
OCP	OVER CURRENT PROTECTION
OD	OVERFLOW DRAIN
OI	OIL INTERCEPTOR
PC	PLUMBING CONTRACTOR
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
RD	ROOF DRAIN
RH	ROOF HYDRANT
RO	REVERSE OSMOSIS
RPZ	REDUCED PRESSURE ZONE VALVE
RTU	ROOF TOP UNIT
S	SANITARY
SI	SOLIDS INTERCEPTOR
SK	SINK
SOFT	SOFT WATER
SPEC	SPECIFICATION
SQ FT	SQUARE FOOT (FEET)
ST	STORM PIPING
TD	TRENCH DRAIN
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
UH	UNIT HEATER
UR	URINAL
VAC	VACUUM
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VTR	VENT THRU ROOF
WAGD	WASTE ANESTHESIA GAS
WB	WASHER BOX
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WH	WALL HYDRANT
WF	WATER FILTER
YH	YARD HYDRANT

PLUMBING WATER HEATER SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

MARK	DESCRIPTION	LOCATION	STATUS	MANUFACTURER	MODEL	EFFICIENCY	EWT (DEG F)	LWT (DEG F)	GAS HTG IN (MBH)	STORAGE (GAL)	FUEL	MIN GAS PRESSURE (IN WC)	MAX GAS PRESSURE (IN WC)	WEIGHT	EMERGENCY	ACCESS	ELECTRIC CONNECTION SUMMARY	AVAILABLE FAULT CURRENT
EWH1	TANK TYPE ELECTRIC WATER HEATER	MECHANICAL/STORAGE 117		STATE	SSE-100A	93	40	140	0	100				1253		--	EWH1 - 208V/3PH, 27,000 W, 75A FLA	11550

PLUMBING PUMP SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

MARK	DESCRIPTION	LOCATION	STATUS	MANUFACTURER	MODEL	WEIGHT (lbs)	FLOW (gpm)	HEAD (ft)	ACCESSORIES	ELECTRIC CONNECTION SUMMARY	AVAILABLE FAULT CURRENT
CP1	DOMESTIC HOT WATER CIRCULATION PUMP	MECHANICAL/STORAGE 117		TACO	0013-F3	12	4	31	--	CP1 - 120V/1PH, 0.17 HP, 2A FLA	1665

PLUMBING MISCELLANEOUS EQUIPMENT SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

MARK	DESCRIPTION	LOCATION	STATUS	MANUFACTURER	MODEL	STORAGE (GAL)	GPM	ACCESSORIES	ELECTRIC CONNECTION SUMMARY	AVAILABLE FAULT CURRENT
ET1	DOMESTIC WATER EXPANSION TANK	MECHANICAL/STORAGE 117	NEW	AMTROL	ST-12	4		4.4 GALLON, PARTIAL ACCEPTANCE DIAPHRAGM		
GT1	HYDROMECHANICAL GREASE WASTE INTERCEPTOR	CONCESSIONS	NEW	SCHIER	GB-50	65	75	287.2 LB GREASE CAPACITY, INTERNAL FLOW CONTROL		

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	LOCATION	STATUS	MANUFACTURER	MODEL	VALVE/FAUCET MFGR	VALVE/FAUCET MODEL	INT TRAP	TRAP SIZE (in)	ACCESSORIES
DF1	DRINKING FOUNTAIN	EXTERIOR	NEW	ELKAY	EDFP217PK	--	--	NO	1.5	--
HB1	HOSE BIBB	VARIOUS	NEW	WOODFORD	B24	--	--			ASSE 1011 RATED
LV1	LAVATORY-WALL HUNG	RESTROOMS	NEW	KOHLER	K-2005	ZURN	TBD	NO	1.5	BATTERY POWERED SENSOR TYPE FAUCET, ADA COMPLIANT, ASSE 1070 MIXING VALVE
SK1	SINK-TOP MOUNT	TRAINING 110	NEW	ELKAY	LRAD191960	ELKAY	Z9318-XL	NO	1.5	1.5 GPM, LAMINAR FLOW, MANUAL FAUCET ACTIVATION, RIGID GOOSENECK SPOUT, PROVIDE WITH TMV1, ADA
UR1	URINAL-WALL HUNG	MEN 104	NEW	KOHLER	K-4991-ET	ZURN	TBD	YES	2	MANUAL FLUSH VALVE OPERATION, ADA COMPLIANT WHERE INDICATED BY ARCHITECTURAL PLANS
WC1	FLUSH VALVE WATER CLOSET-WALL HUNG	RESTROOMS	NEW	KOHLER	K-4325	ZURN	TBD	YES	3	MANUAL OPERATION FLUSH VALVE
WC2	FLUSH VALVE WATER CLOSET-WALL HUNG	RESTROOMS	NEW	KOHLER	K-4325	ZURN	ZEMS6000AV-IS	YES	3	MANUAL OPERATION FLUSH VALVE, ADA COMPLIANT

PLUMBING ELECTRICAL COORDINATION SCHEDULE

ABBREVIATIONS		CONTRACTOR TYPE		MOTOR CONTROL TYPE		CONTROL TYPE		SHORT CIRCUIT RATING
DC	LOCAL DISCONNECT	EC	ELECTRICAL CONTRACTOR	CS	COMBINATION STARTER	TC	TIMECLOCK	WHERE SHORT CIRCUIT RATING CODE REQUIRED VALUE INDICATES "YES" APPLICABLE EQUIPMENT'S SHORT CIRCUIT RATING SHALL EXCEED THE AVAILABLE FAULT CURRENT VALUE INDICATED.
MC	MOTOR CONTROL (POWER)	EX	EXISTING	MCC	MOTOR CONTROL STARTER	CPT	CONTROL POWER TRANSFORMER	
SD	DUCT SMOKE DETECTOR	FC	FIRE PROTECTION CONTRACTOR	MG	MAGNETIC STARTER OR CONTACT	BAS	BUILDING AUTOMATION SYSTEM	
CN	CONTROLS	GC	GENERAL CONTRACTOR	MS	MANUAL STARTER	LOW	LOW VOLTAGE CONTROLS	
TS	TOGGLE SWITCH	HC	HVAC CONTRACTOR	VFD	VARIABLE FREQUENCY DRIVE	LINE	LINE VOLTAGE CONTROLS	
CB	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD	MFR	MANUFACTURER	MSR	MANUAL STARTER W/ CONTROL RELAY	RLINE	REVERSE ACTING LINE VOLTAGE THERMOSTAT	
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)	PC	PLUMBING CONTRACTOR	OV	OVERCURRENT PROTECTION	MAN	MANUAL	
FLA	OPERATING FULL LOAD AMPS	OR	OWNER OR OTHERS			FA	FIRE ALARM	
MCA	MINIMUM CIRCUIT AMPACITY					CO	CARBON MONOXIDE SENSOR	
CP	CORD AND PLUG CONNECTION					INT	INTEGRAL TO EQUIPMENT	
[BLANK]	HARD WIRED (WHEN INDICATED FOR DC TYPE)					ASD	AREA SMOKE DETECTOR	
						DSD	DUCT SMOKE DETECTOR	

EQUIPMENT MARK	DESCRIPTION	VOLTAGE	PHASE	EMERGENCY	HP	WATTS	HTG KW	FLA	MCA	OCP	FED FROM	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	FA SHUTDOWN	SHORT CIRCUIT RATING CODE REQUIRED?	AVAILABLE FAULT CURRENT
CP1	DOMESTIC HOT WATER CIRCULATION PUMP	120 V	1		0.17			2				EC	EC	EC	MG	MFR	MFR	MFR	LINE	PC	PC	EC		No	1665
EWH1	TANK TYPE ELECTRIC WATER HEATER	208 V	3			27000		75				EC	EC	EC	--	--	--	--	INT	MFR	MFR	MFR		No	11550

PLUMBING DRAIN SCHEDULE

MARK	DESCRIPTION	LOCATION	STATUS	MANUFACTURER	MODEL	TRAP PRIMER	TRAP SIZE (in)	ACCESSORIES/REMARKS
FD1	FLOOR DRAIN	MECHANICAL/STORAGE 117	NEW	ZURN	Z415BZ	YES		NICKEL BRONZE TOP, TRAP PRIMER CONNECTION

CODE INFORMATION

PLUMBING CODE	20XX [STATE] [INTERNATIONAL] [UNIFORM] [NATIONAL STANDARD] PLUMBING CODE
ENERGY CODE	20XX [ASHRAE 90.1] [INTERNATIONAL ENERGY CONSERVATION CODE] [TITLE 24]
FUEL GAS CODE	20XX [INTERNATIONAL FUEL GAS CODE] [NATIONAL FIRE PROTECTION ASSOCIATION 54]

PLUMBING LEGEND

SYMBOL	DESCRIPTION

PLAN-VIEW LINE TYPES

	WORK SHOWN FADED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE
	WORK SHOWN BOLD-DASHED INDICATES SELECTIVE DEMOLITION WORK
	WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK
	DIRECTION OF FLOW

DRAWING SET APPEARANCE

TO BETTER COMMUNICATE SCOPE TO PERMIT AGENCIES AND CONTRACTORS, EACH DRAWING IN THIS DRAWING SET HAS BEEN CREATED IN BOTH "COLOR" AND "BLACK AND WHITE". THERE EXISTS A COLOR LAYER WITHIN EACH DRAWING WHERE VISIBILITY IS CONTROLLED THROUGH THE PDF LAYER MANAGER. THIS LAYER VISIBILITY CAN BE TOGGLED DISPLAYING EITHER "COLOR" OR "BLACK AND WHITE". TO MAINTAIN SCOPE BASED SHADING WHEN PRINTING TO PAPER, BLACK AND WHITE NEEDS TO BE VISIBLE.
FOR FURTHER INSTRUCTIONS, REFER TO CONTRACTOR RESOURCES ON OUR WEBSITE AND DOWNLOAD "DRAWING COLOR INSTRUCTIONS".
WWW.KLHENGRS.COM - CONTRACTOR RESOURCES (RIGHT HAND SIDE OF PAGE).

PIPING LINE TYPES

S1	SANITARY WASTE PIPING
S2	GREASE WASTE PIPING
S11	STORM PIPING (PRIMARY)
S12	STORM OVERFLOW PIPING (SECONDARY)
V1	VENT PIPING
C1	DOMESTIC COLD WATER PIPING
H1	DOMESTIC HOT WATER PIPING
H2	DOMESTIC TEMPERED WATER
HR1	DOMESTIC HOT WATER RETURN PIPING
G1	NATURAL GAS PIPING

PLUMBING ACCESSORIES

	UNION
	PIPE CAP
	STRAINER
	PRESSURE GAUGE
	THERMOMETER
	FCO - FLOOR CLEANOUT, GCO - GRADE CLEANOUT
	CO - CLEANOUT, WCO - WALL CLEANOUT
	FLOOR DRAIN, AREA DRAIN
	FLOOR SINK
	HUB DRAIN
	TRENCH DRAIN
	DOWNSPOUT (EXTERIOR)
	ROOF DRAIN (PRIMARY), OVERFLOW DRAIN (SECONDARY)
	MANHOLE
	EXPANSION TANK

PIPE VALVES

	SHUT-OFF VALVE
	CHECK VALVE
	BALANCING VALVE
	SOLENOID VALVE
	PRESSURE REGULATOR VALVE
	GAS PRESSURE REGULATOR
	PRESSURE AND TEMPERATURE RELIEF VALVE
	BACKFLOW PREVENTER
	DOUBLE CHECK VALVE BACKFLOW PREVENTER
	FROST PROOF WALL HYDRANT (EXTERIOR)
	HOSE BIBB (INTERIOR)
	TRAP PRIMER VALVE

PLUMBING SYMBOLS

	PIPE UP
	PIPE DOWN
	PIPE TEE DOWN
	PIPE TEE UP
1	RISER NUMBER
	CONNECT TO EXISTING (FIELD VERIFY EXISTING UTILITY SERVICE TYPE, PRIOR TO MAKING CONNECTION)
	POINT OF DEMOLITION TO EXISTING (FIELD VERIFY EXISTING UTILITY SERVICE TYPE, PRIOR TO TERMINATING CONNECTION)
	VENT THROUGH ROOF

PLUMBING MISCELLANEOUS

	CIRCULATION PUMP, RETURN PUMP

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DWN: KFE CHK: RAL
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PROJECT #: 25356

PLUMBING COVER SHEET

P0-001

1" REFERENCE
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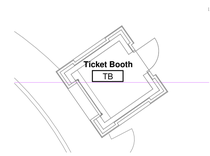
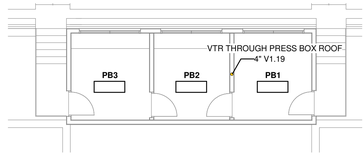
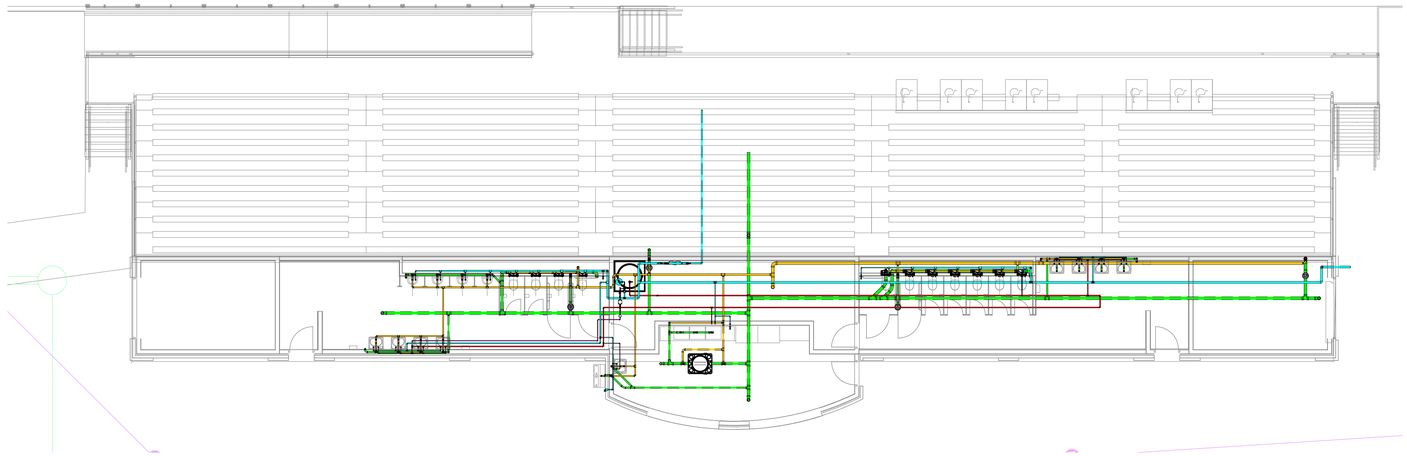
KEYED NOTES



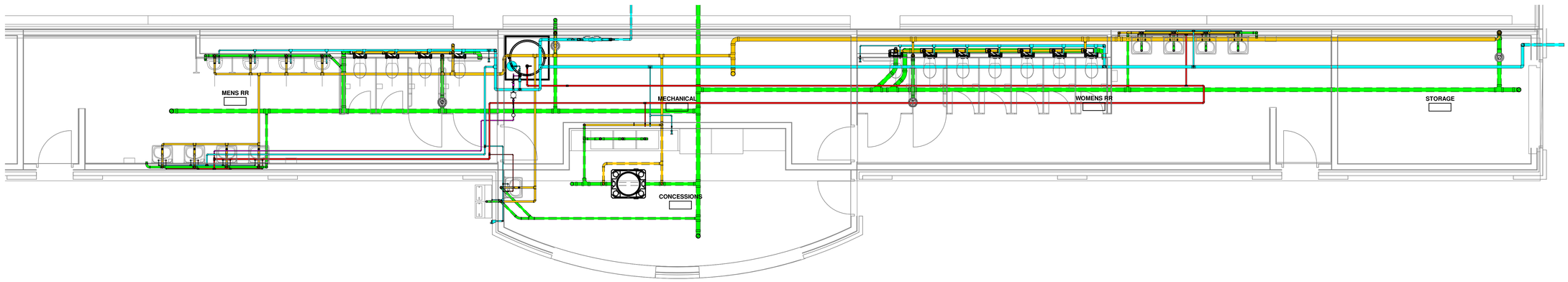
④ PLUMBING ABOVE GROUND PIPING PLAN - LEVEL 1 - TICKET BOOTH
1/8" = 1'-0"



② PLUMBING OVERALL PIPING PLAN - LEVEL 2 - PRESSBOX
1/8" = 1'-0"



① PLUMBING OVERALL PIPING PLAN - LEVEL 1 - CONCESSION
1/8" = 1'-0"



③ PLUMBING ABOVE GROUND PIPING PLAN - LEVEL 1 - CONCESSION - ENLARGED
1/4" = 1'-0"

N

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REVISIONS

DWN: KFE CHK: RAL
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PLUMBING CONCESSIONS PLANS

P3-101

1" REFERENCE
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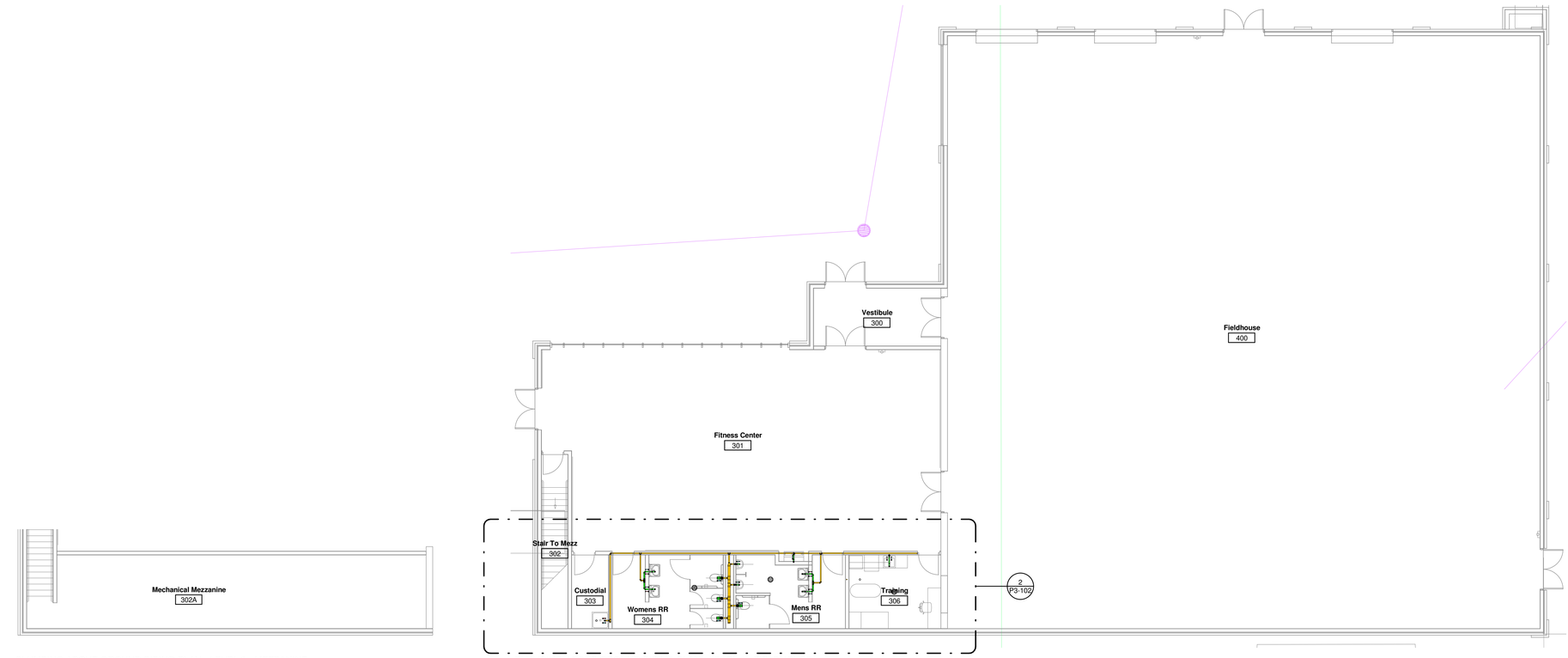
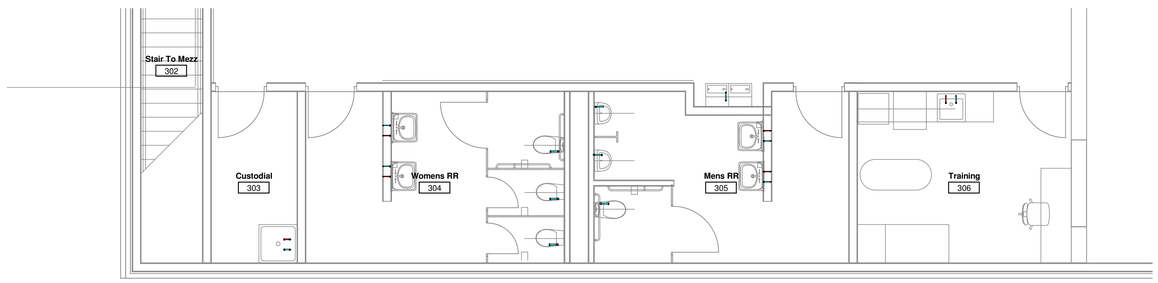


3 PLUMBING ABOVE GROUND PIPING PLAN - LEVEL 2 - MEZZANINE
1/8" = 1'-0"

1 PLUMBING ABOVE GROUND PIPING PLAN - LEVEL 1 - FIELDHOUSE
1/8" = 1'-0"



2 PLUMBING ABOVE GROUND PIPING PLAN - LEVEL 1 - FIELDHOUSE - ENLARGED
1/4" = 1'-0"

N

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DAYTON INDEPENDENT SCHOOLS

REVISIONS

DWN: KFE CHK: RAL
DATE: 11/22/23
PROJECT #: 25356

PLUMBING
FIELD HOUSE

P3-102

1" REFERENCE
KLH PROJECT # 25356

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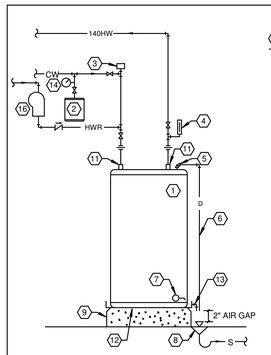
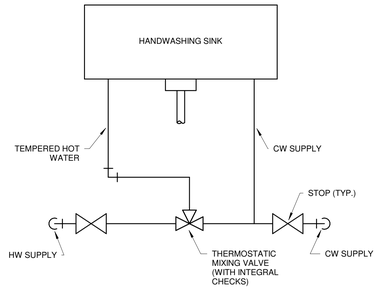


KEYED NOTES:

1. WATER HEATER.
2. EXPANSION TANK.
3. VACUUM RELIEF VALVE.
4. THERMOMETER WITH GAGE COCK.
5. ASME APPROVED TEMPERATURE AND PRESSURE RELIEF VALVE.
6. RELIEF PIPE, FULL SIZE OF DISCAHRGE OPENING.
7. DRAIN VALVE.
8. FLOOR DRAIN WITH FUNNEL SPOUT OR FLOOR SINK.
9. 4" HIGH CONCRETE PAD WITH CHAMFERS TO BE PROVIDED BY PLUMBING CONTRACTOR.
10. NOT USED.
11. HEAT TRAP.
12. GALVANIZED STEEL PAN NO LESS THAN 24 GAGE. PAN SHALL BE NO LESS THAN 1-1/2" IN DEPTH.
13. 1" DRAIN PIPE FROM DRAIN PAN.
14. PRESSURE GUAGE.
15. NOT USED.
16. RECIRCULATING PUMP. REFER TO RECIRCUALTING PUMP DETAIL FOR FURTHER PIPING SCHEMATICS.

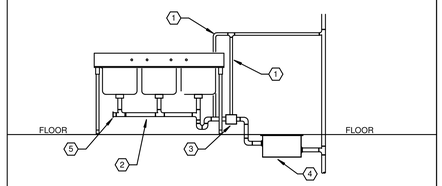
223300.00-05 - WATER HEATER WITH TMV DETAIL

SCALE: NONE



223001.00-01 - THERMOSTATIC MIXING VALVE TMV DETAIL

SCALE: NONE



KEYED NOTES:

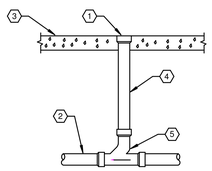
1. VENT.
2. 2" WASTE.
3. FLOW CONTROL
4. GREASE INTERCEPTOR.
5. CLEANOUT.

221319.00-04 - THREE COMPARTMENT SINK WITH GREASE INTERCEPTOR

SCALE: NONE

GENERAL NOTES:

A. PROVIDE CARPET MARKER WHERE CARPET OCCURS



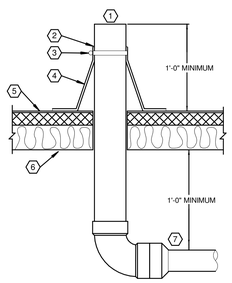
INTERIOR FLOOR CLEANOUT

KEYED NOTES:

1. CLEANOUT WITH COVER FOR DUTY REQUIRED
2. BUILDING DRAIN OR SEWER MATERIAL AND SIZE AS SPECIFIED
3. FINISHED FLOOR.
4. EXTENSION - SAME SIZE AS SEWER UP TO 4" DIAMETER.
5. COMBINATION WYE & 1/8" BEND (USE REDUCING TYPE WHERE REQUIRED).

221316.00-07 - FLOOR CLEANOUTS

SCALE: NONE

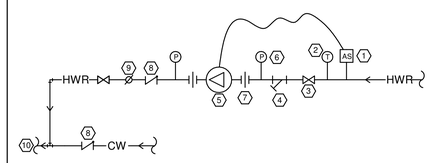


KEYED NOTES:

1. 3" MINIMUM VENT TEMINAL TO BE A MINIMUM OF 1'-0" OR 6" ABOVE LOCAL SNOW LEVELS. CONSULT LOCAL CODES IF THEY VARY FROM THIS STANDARD.
2. PIPE SEALANT. COORDINATE SEALANT TYPE WITH ROOFING CONTRACTOR.
3. STAINLESS STEEL PIPE CLAMP.
4. VENT FLASHING. COORDINATE FLASHING MATERIAL AND INSTALLATION WITH ROOFING CONTRACTOR.
5. ROOFING SYSTEM.
6. THERMAL ENVOLOPE INSULATION.
7. ANY CHANGE IN VENT SIZE SHALL BE MADE NOT LESS THAN 1'-0" INSIDE THE THERMAL ENVELOPE.

221313.00-06 - VENT THRU ROOF

SCALE: NONE

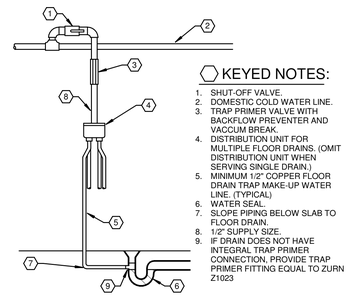


KEYED NOTES:

1. AQUASTAT WIRED TO START CIRCULATING PUMP WHEN LINE WATER TEMPERATURE DROPS 10°F BELOW DESIRED HOTWATER LOOP TEMPERATURE. AQUASTAT/THERMAL WELL SHALL HAVE ADJUSTABLE TEMPERATURE RANGE OF 50°F-160°F.
2. TEMPERATURE GAUGE AND SNUBBER. **CRITICAL TO INSTALLATION**.
3. BALL VALVE (TYPICAL).
4. WYE STRAINER
5. HOT WATER RECIRCULATION PUMP.
6. PRESSURE GAUGE AND SNUBBER (TYPICAL) **CRITICAL TO INSTALLATION**.
7. UNION (TYPICAL).
8. CHECK VALVE.
9. BALANCING VALVE.
10. RETURN LINE TO HOT WATER SUPPLY SYSTEM.

221123.00-01 - HOT WATER RECIRCULATION PUMP

SCALE: NONE

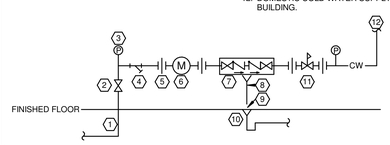


KEYED NOTES:

1. SHUT-OFF VALVE.
2. DOMESTIC COLD WATER LINE.
3. TRAP PRIMER VALVE WITH BACKFLOW PREVENTER AND VACCUM BREAK.
4. DISTRIBUTION UNIT FOR MULTIPLE FLOOR DRAINS. (OMIT DISTRIBUTION UNIT WHEN SERVING SINGLE DRAIN.)
5. MINIMUM 1/2" COPPER FLOOR DRAIN TRAP MAKE-UP WATER LINE. (TYPICAL)
6. WATER SEAL.
7. SLOPE PIPING BELOW SLAB TO FLOOR DRAIN.
8. 1/2" SUPPLY SIZE.
9. IF DRAIN DOES NOT HAVE INTEGRAL TRAP PRIMER CONNECTION, PROVIDE TRAP PRIMER FITTING EQUAL TO ZURN Z1023

221119.00-07 - TRAP PRIMER DETAIL

SCALE: NONE

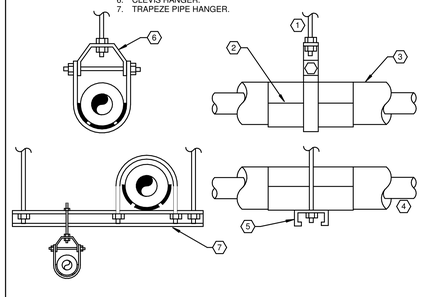


KEYED NOTES:

1. INCOMING WATER SERVICE UP THROUGH FINISHED FLOOR.
2. MAIN BUILDING SHUT-OFF
3. PRESSURE GAUGE AND SNUBBER(TYPICAL). **CRITICAL TO INSTALLATION.**
4. STRAINER.
5. UNION (TYPICAL)
6. WATER METER AND METER SPREAD TO CONFORM TO WATER PURVEYOR REQUIREMENTS.
7. REDUCED PRESSURE ZONE BACKFLOW PREVENTER. ASSE 1013 APPROVED (TYPICAL).
8. FUNNEL WITH AIR GAP. ROUTE PIPING TO FLOOR DRAIN.
9. PROVIDE AIR GAP.
10. FLOOR DRAIN.
11. PRESSURE REGULATING VALVE. AS REQUIRED IF UPSTREAM PRESSURE IS ABOVE 80 PSI.
12. DOMESTIC COLD WATER SUPPLY TO BUILDING.

221113.00-02 - SINGLE BACKFLOW PREVENTER WITH METER DETAIL

SCALE: NONE

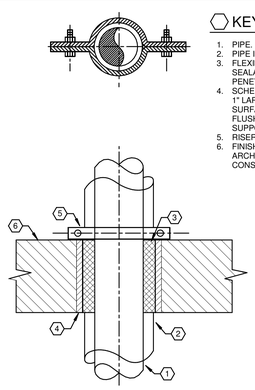


KEYED NOTES:

1. HANGER ROD.
2. GALVANIZED STEEL PIPE SHIELD AND 360° CALCIUM SILICATE INSULATION HANGER SUPPORT.
3. PIPE INSULATION.
4. PIPE.
5. UNISTRUT CHANNEL.
6. CLEVIS HANGER.
7. TRAPEZE PIPE HANGER.

220529.00-01 - PLUMBING PIPE HANGER INSTALLATION

SCALE: NONE

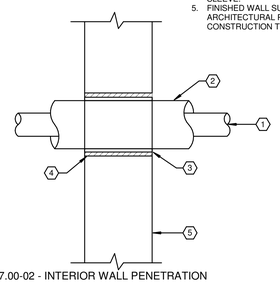


KEYED NOTES:

1. PIPE.
2. PIPE INSULATION.
3. FLEXIBLE SEALANT OR FIRE RATED SEALANT FOR FIRE RATED PENETRATIONS.
4. SCHEDULE 40 STEEL PIPE SLEEVE TO BE 1" LARGER THAN THE OUTSIDE SURFACE OF PIPE INSULATION AND FLUSH TO WALL SURFACE. DO NOT SUPPORT PIPING WITH SLEEVE.
5. RISER CLAMP.
6. FINISHED FLOOR. REFER TO ARCHITECTURAL PLANS FOR FLOOR CONSTRUCTION TYPE.

220517.00-04 - PIPE SLEEVE THROUGH EXPOSED FLOOR

SCALE: NONE

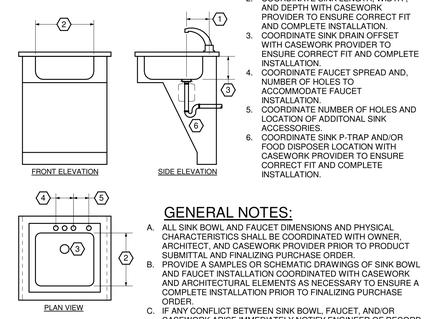


KEYED NOTES:

1. NON-COMBUSTIBLE PIPE.
2. PIPE INSULATION TO BE CONTINUOUS THROUGH WALL.
3. FLEXIBLE SEALANT OR FIRE RATED SEALANT FOR FIRE RATED PENETRATIONS.
4. SCHEDULE 40 STEEL PIPE SLEEVE TO BE 1" LARGER THAN THE OUTSIDE SURFACE OF PIPE INSULATION AND FLUSH TO WALL SURFACE. DO NOT SUPPORT PIPING WITH SLEEVE.
5. FINISHED WALL SURFACE. REFER TO ARCHITECTURAL PLANS FOR WALL CONSTRUCTION TYPE.

220517.00-02 - INTERIOR WALL PENETRATION

SCALE: NONE



KEYED NOTES:

1. COORDINATE FAUCET SPOUT REACH WITH OWNER REQUIREMENTS.
2. COORDINATE SINK LENGTH, WIDTH , AND DEPTH WITH CASEWORK PROVIDER TO ENSURE CORRECT FIT AND COMPLETE INSTALLATION.
3. COORDINATE SINK DRAIN OFFSET WITH CASEWORK PROVIDER TO ENSURE CORRECT FIT AND COMPLETE INSTALLATION.
4. COORDINATE FAUCET SPREAD AND, NUMBER OF HOLES TO ACCOMMODATE FAUCET INSTALLATION.
5. COORDINATE NUMBER OF HOLES AND LOCATION OF ADDITONAL SINK ACCESSORIES.
6. COORDINATE SINK P-TRAP AND/OR FOOD DISPOSER LOCATION WITH CASEWORK PROVIDER TO ENSURE CORRECT FIT AND COMPLETE INSTALLATION.

GENERAL NOTES:

A. ALL SINK BOWL AND FAUCET DIMENSIONS AND PHYSICAL CHARACTERISTICS SHALL BE COORDINATED WITH OWNER, ARCHITECT, AND CASEWORK PROVIDER PRIOR TO PRODUCT SUBMITTAL AND FINALIZING PURCHASE ORDER.
B. PROVIDE A SAMPLES OR SCHEMATIC DRAWINGS OF SINK BOWL AND FAUCET INSTALLATION COORDINATED WITH CASEWORK AND ARCHITECTURAL ELEMENTS AS NECESSARY TO ENSURE A COMPLETE INSTALLATION PRIOR TO FINALIZING PURCHASE ORDER.
C. IF ANY CONFLICT BETWEEN SINK BOWL, FAUCET, AND/OR CASEWORK ARISE IMMEDIATELY NOTIFY ENGINEER OF RECORD PRIOR TO PURCHASING AND INSTALLATION.

220000.00-04 - CASEWORK SINK COORDINATION DETAIL

SCALE: NONE

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DAYTON, KY
DAYTON INDEPENDENT SCHOOLS

REVISIONS

DWN: KFE CHK: RAL

DATE: 11/22/23

PROJECT #: 25356

PLUMBING - DETAILS

P7-501

1" REFERENCE

KLH PROJECT # 25356

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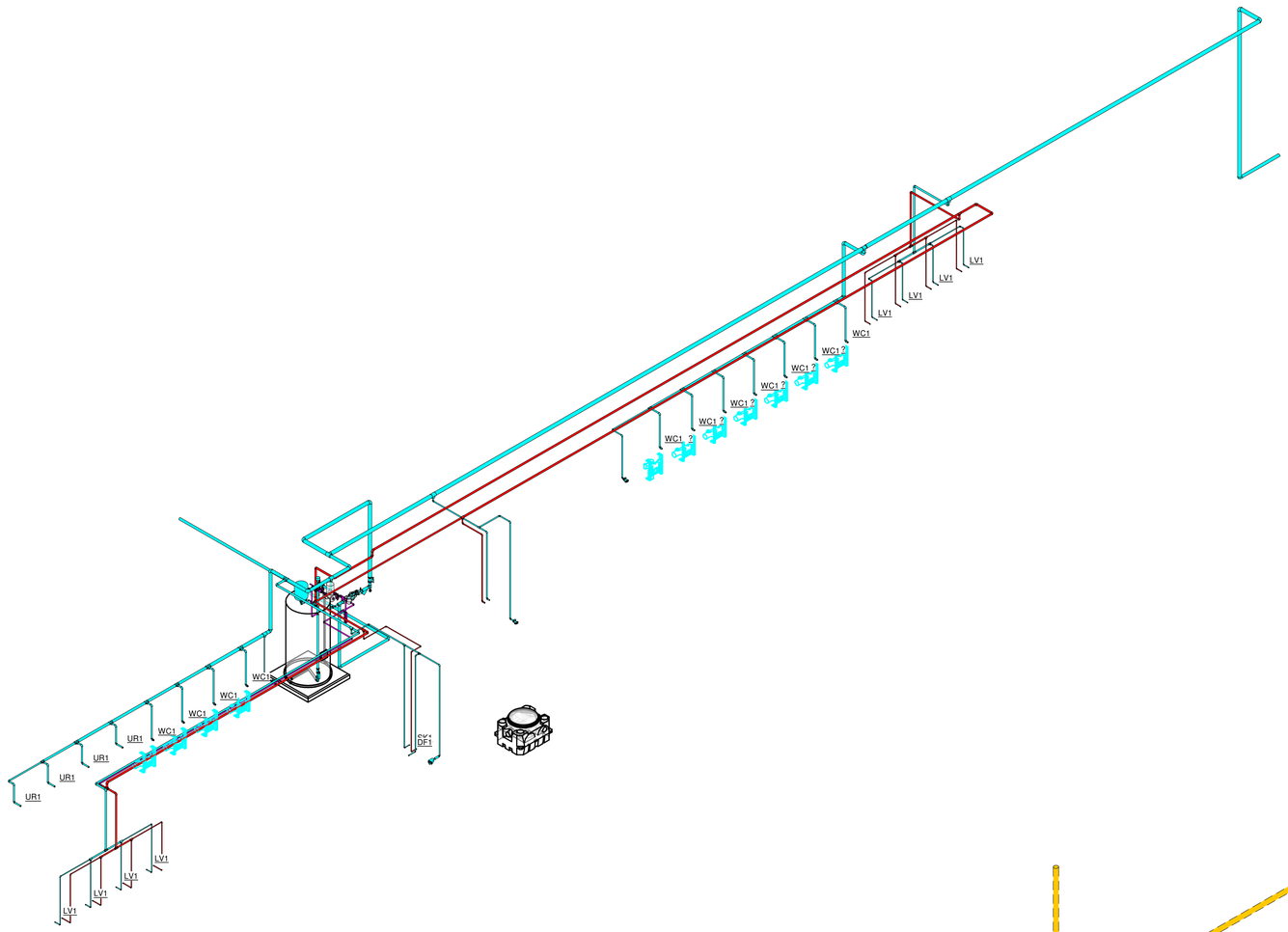
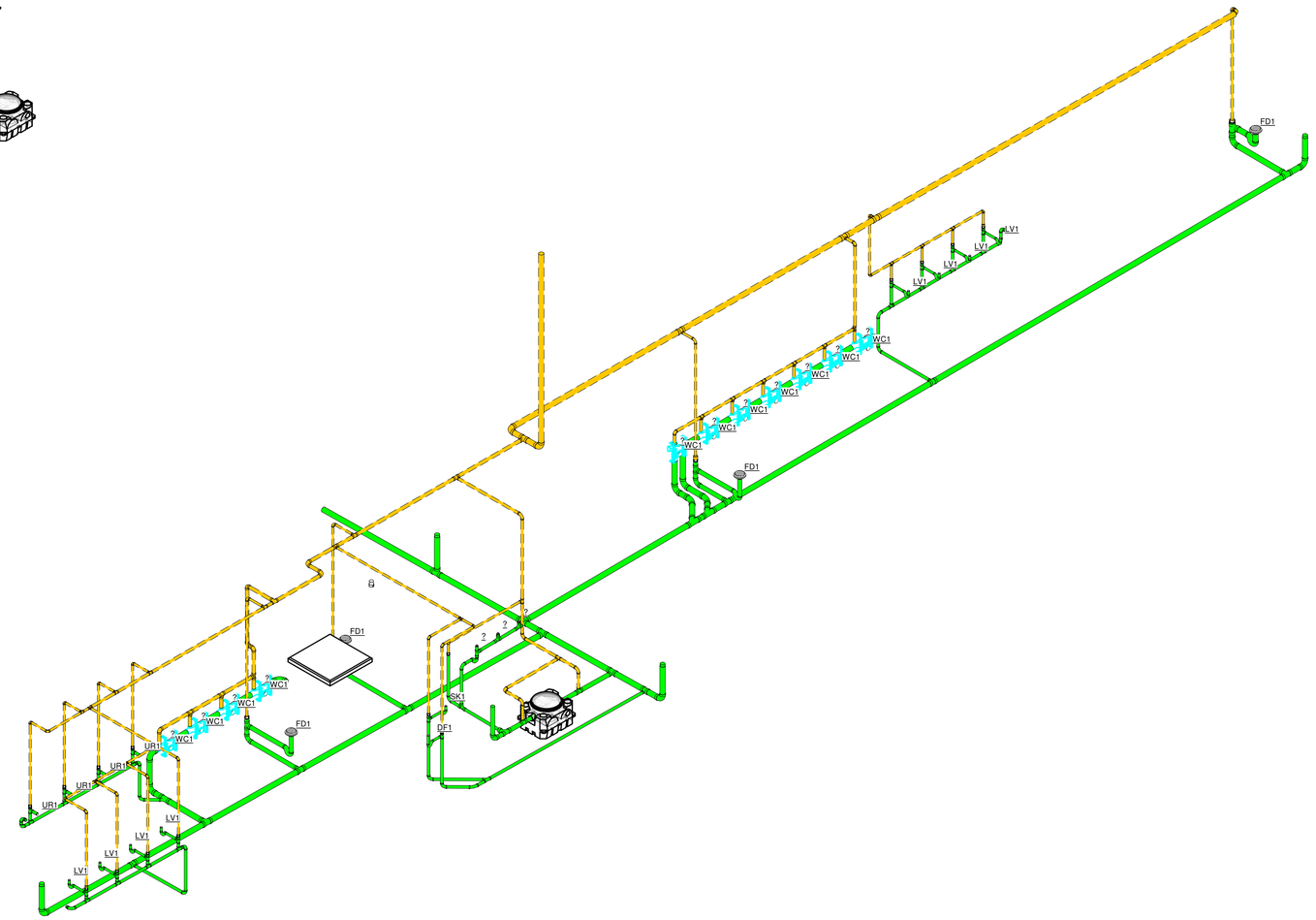


PLUMBING WATER ISOMETRIC - ISOMETRIC - CONCESSION PLUMBING
1 ISOMETRIC-PL-WATER



ISOMETRIC-PL-SANITARY AND VENT - ISOMETRIC - CONCESSION SANITARY AND VENT
2 ISOMETRIC-PL-SANITARY AND VENT

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DWN: KFE CHK: RAL
DATE: 11/22/23
PROJECT #: 25356

PLUMBING - ISOMETRICS

P7-601

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P7-602

1" REFERENCE
KLH PROJECT #
25356

PLUMBING - ISOMETRICS

PROJECT #: 25356

DATE: 11/22/23

DWN: KFE CHK: RAL

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DAYTON SCHOOLS STADIUM

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GENERAL NOTES:

A. NOTHING SET FORTH IN THESE DRAWINGS SHALL RELEASE ANY CONTRACTOR FROM HIS RESPONSIBILITY TO PROVIDE APPROPRIATE QUANTITIES, FIELD MEASUREMENTS, DIMENSIONAL STABILITY, INSTALLATION, ANCHORAGE, AND COORDINATION WITH OTHER TRADES; OR RELEASE HIM FROM HIS RESPONSIBILITY TO IDENTIFY AND RESOLVE DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, OR FREE HIM OF HIS RESPONSIBILITY TO ALERT DESIGNER TO ERRORS OR OMISSIONS.

B. CONTRACTOR SHALL UTILIZE THESE DRAWINGS IN CONJUNCTION WITH THE SPECIFICATIONS TO DETERMINE THE FULL SCOPE, INTENT AND REQUIREMENTS OF THE PROJECT. SPECIFICATIONS AND DRAWINGS ARE INTENDED TO BE COMPLEMENTARY, NOT MUTUALLY EXCLUSIVE. WORK SHOWN ON THE DRAWINGS BUT NOT LISTED IN THE SPECIFICATIONS, AND WORK DESCRIBED IN THE SPECIFICATIONS BUT NOT SHOWN ON THE DRAWINGS SHALL BE INTERPRETED AS THOUGH WORK WERE FULLY DESCRIBED IN BOTH PLACES. THE HIGHER QUANTITY, HIGHER QUALITY, MORE LABOR INTENSIVE AND OVERALL MORE STRINGENT AND MORE COSTLY REQUIREMENT SHALL APPLY UNLESS OTHERWISE CLARIFIED IN WRITING PRIOR TO BID.

C. EACH CONTRACTOR SHALL VERIFY IN THE FIELD ALL EXISTING APPLICABLE CONDITIONS AND DIMENSIONS SHOWN ON THE DRAWINGS AND AS PERTINENT TO THE INTENT OF THESE DRAWINGS. ANY DISCREPANCY DISCOVERED SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER PRIOR TO THE COMMENCEMENT OF ANY WORK AFFECTED BY, OR RELATED TO, SUCH DISCREPANCY. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH, OR CAUSED BY HIS FAILURE TO COMPLY WITH THIS REQUIREMENT.

D. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR JOB CLEANLINESS. PROJECT AREAS SHALL BE THOROUGHLY CLEANED AND TRASH DISPOSED OF AT THE END OF EACH WORK DAY. OWNER'S FACILITIES SHALL NOT BE USED FOR WASTE DISPOSAL.

E. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL SURFACES AND FINISHES IN THE INTERIOR OR EXTERIOR OF THE FACILITY. DAMAGED SURFACES OR FINISHES RESULTING FROM THE PERFORMANCE OF THE WORK OR NEGLIGENCE SHALL BE REPAIRED AT NO COST TO THE OWNER AND BE MADE TO MATCH THE EXISTING FINISHES OR SURFACES TO THE SATISFACTION OF THE OWNER.

F. FOR COORDINATION PURPOSES, OCCASSIONALLY AN ITEM OF WORK WILL BE SHOWN ON THE E SERIES DRAWINGS AND THE T SERIES DRAWINGS. IN ADDITION, THE SAME WORK MAY BE INCLUDED ON MULTIPLE T SERIES DETAIL SHEETS FOR SIMILAR REASONS.

G. FOR MULTI-PHASED PROJECTS, THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITY SERVICES AND BUILDING SYSTEMS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNERS IT REPRESENTATIVE AS NECESSARY TO ALLOW FOR OPERATION ACCEPTABLE TO THE OWNER DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE TEMPORARY WIRING AS NECESSARY.

H. PROVIDE DUST PROTECTION WHEN WORKING IN EXISTING FACILITIES. SEAL OFF ALL WORK AREAS FROM REMAINDER OF THE EXISTING FACILITY.

GENERAL ROUGH-IN AND PATHWAY NOTES:

A. PROVIDE PATHWAYS FOR COMMUNICATIONS AND SECURITY SYTEMS CABLING. REFER TO SECTIONS "PATHWAYS FOR COMMUNICATIONS".

B. ROUGH-IN/PATHWAYS SHALL BE CLOSELY REVIEWED AND COORDINATED PRIOR TO INSTALLATION. IT IS THE RESPONSIBILITY OF THE ROUGH-IN PROVIDER TO THROUGHLY REVIEW AND UNDERSTAND THE REQUIREMENTS OF THE SYSTEMS THAT WILL USE THE PATHWAYS.

C. WHERE CONDUITS ARE SPECIFIED "TIAC" (TO ABOVE ACCESSIBLE CEILING) THIS SHALL MEAN THAT CONDUITS SHALL BE STUBBED INTO AN ACCESSIBLE CEILING CAVITY WITHIN THE SAME ROOM AS THE DEVICE THE CONDUIT SERVES.

D. WHERE DEVICE CONDUITS ARE SPECIFIED "TAHC" (TO ABOVE ACCESSIBLE HALLWAY/CORRIDOR CEILING) THIS SHALL MEAN THAT CONDUITS SHALL BE RUN CONTINUOUS AND STUBBED OUT INTO AN ACCESSIBLE CEILING CAVITY WITHIN THE NEAREST CORRIDOR FEATURING AN ACCESSIBLE CEILING CAVITY.

E. CONDUIT INSTALLER SHALL INSTALL PULL STRINGS IN ALL CONDUITS IMMEDIATELY AFTER INSTALLATION.

F. WHERE CONDUIT IS SHOWN AND/OR SPECIFIED, PROVIDE PULL BOXES SHOWN ON THE DRAWINGS PLUS ADDITIONAL PULL BOXES FOR EVERY 180 DEGREES OF CONDUIT BEND AND 100 FEET OF CONDUIT.

G. PROVIDE COVER PLATES FOR JUNCTION AND PULL BOXES. COORDINATE MATERIAL AND FINISH OF BLANK PLATES TO MATCH SURROUNDING PLATES.

H. WHERE A MOUNTING HEIGHT MEASUREMENT IS APPLIED TO A ROUGH-IN, THE MEASUREMENT SHALL BE REFERENCED TO THE CENTER OF THE ROUGH-IN DEVICE.

I. PATHWAYS SHALL BE INSTALLED IN A CONCEALED MANNER. EXPOSED CONDUIT SHALL NOT BE PERMITTED IN FINISHED AREAS.

J. PROVIDE CODE-COMPLIANT FIRE-STOPPING FOR PATHWAYS THROUGH FIRE-RATED WALLS, FLOORS AND CEILINGS.

K. PROVIDE CONDUITS WITH NYLON END-BUSHINGS. INSTALL BUSHINGS AT THE END OF EACH CONDUIT AND EACH ADDITIONAL LOCATION WHERE CABLES COULD BE DAMAGED WHEN PULLING THEM THROUGH THE CONDUIT.

L. DEVICES TO BE INSTALLED AT COUNTER HEIGHT, CASEWORK OR FURNITURE SHALL BE CLOSELY COORDINATED IN THE FIELD WITH ARCHITECT, CASEWORK AND FURNITURE VENDORS PRIOR TO ROUGH-IN.

M. WHERE FLOORBOXES, POWER POLES AND OTHER DUAL SERVICE PATHWAYS ARE INDICATED ON THE DRAWINGS. PATHWAY DEVICES SHALL BE PROVIDED BY THE EC. SEE ELECTRIC DRAWINGS FOR REQUIREMENTS AND ADDITIONAL INFORMATION.

N. MANY COMMUNICATIONS DEVICES ARE INTENDED TO HAVE ADJACENT POWER OR INTEGRAL RECEPTACLES (MULTI-SERVICE) TO SERVE THE SAME EQUIPMENT. COORDINATE THE LOCATION OF SEPARATE DEVICES SO THAT THEY ARE LOCATED ADJACENT AND AT THE SAME ELEVATION. FACEPLATES SHALL BE COORDINATED TO THE SAME TYPE AND COLOR.

O. CONDUITS STUBBED INTO THE CEILING CAVITY SHALL BE MARKED WITH AN INDELIBLE MARKER INDICATING THE CONDUIT'S INTENDED USE. MARK CONDUIT WITHIN SIX INCHES OF THE CONDUIT BUSHING SO AS TO BE READABLE FROM BELOW.

P. LADDER RACK AND OTHER COMMUNICATION TECHNOLOGY CABLING PATHWAYS DEPICTED ON THE ENLARGED FLOOR PLANS SHALL BE PROVIDED AS INDICATED. ADDITIONAL PRODUCTS NECESSARY FOR PROFESSIONAL WIRE MANAGEMENT WITHIN THE MAIN EQUIPMENT ROOM <ER> AND ALL TELECOMMUNICATION ROOMS <TR> SHALL BE ALSO BE PROVIDED AS NECESSARY.

Q. PROVIDE A MINIMUM OF ONE (1) 2-INCH DIAMETER THROUGH-THE-WALL CONDUIT SLEEVES FOR USE AS COMMUNICATION AND SECURITY CABLE PATHWAYS INTO EACH SPACE CONTAINING COMMUNICATION AND SECURITY DEVICES. ROUTE CONDUITS FROM ABOVE ACCESSIBLE CEILING TO THE NEAREST HALLWAY/CORRIDOR FEATURING AN ACCESSIBLE CEILING CAVITY.

GENERAL CABLING NOTES:

A. PLENUM CABLE REQUIRED. ALL CABLE THAT WILL NOT BE INSTALLED IN A FULLY ENCLOSED CONDUIT SYSTEM SHALL BE RATED FOR INSTALLATION WITHIN A RETURN AIR PLENUM.

B. ALL INSTALLED CABLING SHALL BE CONTINUOUS AND WITHOUT SPLICES, EXCEPT WHERE OTHERWISE NOTED.

C. COLORS OF CABLING USED FOR ALL TECHNOLOGY WORK SHALL BE REVIEWED AND APPROVED PRIOR TO PROCUREMENT AND INSTALLATION.

TECHNOLOGY LEGEND

SYMBOL	DESCRIPTION
TELECOMMUNICATIONS	
◀	WALL VOICE OUTLET W = WALL TELEPHONE
	CEILING DATA OUTLET WAP = WIRELESS ACCESS POINT
◁	WALL DATA OUTLET WAP = WIRELESS ACCESS POINT
AUDIO-VISUAL SYSTEMS	
AV	WALL AUDIO VISUAL CONNECTION
CP	WALL CONTROL PANEL B = BUTTON PANEL
V	WALL VOLUME CONTROL
FP	WALL FLAT PANEL DISPLAY
SP	CEILING SPEAKER
SP	WALL SPEAKER
SECURITY SYSTEMS	
C	CEILING SECURITY CAMERA
C	WALL SECURITY CAMERA
R	WALL PROXIMITY READER
	DOOR, ELECTRIFIED LOCKING HARDWARE I = INTEGRATED PROXIMITY READER
CABLE / RACEWAY / SPACE	
ER-02-01.13	CIRCUIT HOME RUN WITH RACK IDENTIFIER AND PORT NUMBER
	CABLING / RACEWAY INSTALLED CONCEALED IN WALLS OR ABOVE CEILING
	CABLING / RACEWAY INSTALLED BELOW FLOOR OR GRADE
	CABLE TRAY
	LADDER RACK
	SERVICE POLE - POWER AND TECHNOLOGY WHERE APPLICABLE.
UP DN	4" CONDUIT SLEEVE UP OR DOWN THROUGH FLOOR
	CONDUIT SLEEVE THROUGH WALL

DEVICE MARK

27T-001 - LEGEND TECHNOLOGY
BASE TYPE MARK
SUB TYPE MARK
ITEM MARK SUFFIX
INSTANCE MARK
PORT MARK
PLAN VIEW SCALE: NONE

1. THE BASE TYPE MARK AND SUB TYPE MARK TOGETHER IDENTIFY THE TYPE OF DEVICE/ASSEMBLY.
2. WHERE MORE THAN ONE ITEM IS ASSEMBLED TOGETHER ON THE SAME DEVICE, AN ITEM MARK SUFFIX MAY BE USED TO UNIQUELY IDENTIFY THAT ITEM WITHIN THE ASSEMBLY.
3. THE INSTANCE MARK UNIQUELY IDENTIFIES A SPECIFIC DEVICE PLACED WITHIN THE BUILDING.
4. WHERE APPLICABLE, THE PORT MARK IDENTIFIES A SPECIFIC PORT/CONNECTOR ON A DEVICE.

ABBREVIATIONS

(R)	RELOCATE FIXTURE, EQUIPMENT OR DEVICE	OFE	OWNER FURNISHED EQUIPMENT
		OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
42"	DISTANCE ABOVE FINISHED FLOOR / GRADE / PAVEMENT	PBB	PRIMARY GROUNDING BUSBAR
		PED	PEDESTAL
ACC	ADMINISTRATIVE CONTROL CONSOLE	PLY	PLYWOOD BACKBOARD
ADA	AMERICANS WITH DISABILITIES ACT	PM	PATIENT MONITOR
AFF	ABOVE FINISHED FLOOR	PS	PATIENT STATUS
AFG	ABOVE FINISHED GRADE		
AVR	AUDIO VISUAL SYSTEM EQUIPMENT RACK	R	ROUGH-IN ONLY
BAS	BUILDING AUTOMATION SYSTEM	SBB	SECONDARY GROUNDING BUSBAR
BFC	BELOW FINISHED CEILING	SCL	SINGLE FACE CLOCK
		SEC	SECURITY
C	CONDUIT	SER	SECURITY SYSTEM EQUIPMENT RACK
CH	COUNTER HEIGHT OR SPECIAL HEIGHT DEVICE	SME	STRUCTURED MEDIA ENCLOSURE
		SSR	SOUND SYSTEM EQUIPMENT RACK
DCL	DOUBLE FACE CLOCK		
DS	DIGITAL SIGNAGE	TAAC	TO ABOVE ACCESSIBLE CEILING
DVR	DIGITAL VIDEO RECORDER	TAHC	TO ABOVE ACCESSIBLE HALLWAY CEILING
		TR	TELECOMMUNICATIONS ROOM
EC	ELECTRICAL CONTRACTOR		
EF	ENTRANCE FACILITY	WP	WEATHERPROOF
ELEV	ELEVATOR	WG	WIRE GUARD
EMR	ELECTRONIC MEDICAL RECORDS		
EQR	EQUIPMENT RACK		
ER	EQUIPMENT ROOM		
ETR	EXISTING TO REMAIN		
EX	EXISTING		
FACP	FIRE ALARM CONTROL PANEL		

PLAN-VIEW LINE TYPES

WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK
(UNLESS INDICATED OTHERWISE)

WORK SHOWN FADED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE
(UNLESS INDICATED OTHERWISE)

WORK SHOWN BOLD-DASHED INDICATES SELECTIVE DEMOLITION WORK
(UNLESS INDICATED OTHERWISE)

DRAWING SET APPEARANCE

TO BETTER COMMUNICATE SCOPE TO PERMIT AGENCIES AND CONTRACTORS, EACH DRAWING IN THIS DRAWING SET HAS BEEN CREATED IN BOTH "COLOR" AND "BLACK AND WHITE". THERE EXISTS A COLOR LAYER WITHIN EACH DRAWING WHERE VISIBILITY IS CONTROLLED THROUGH THE PDF LAYER MANAGER. THIS LAYER VISIBILITY CAN BE TOGGLED DISPLAYING EITHER "COLOR" OR "BLACK AND WHITE". TO MAINTAIN SCOPE BASED SHADING WHEN PRINTING TO PAPER, BLACK AND WHITE NEEDS TO BE VISIBLE.
FOR FURTHER INSTRUCTIONS, REFER TO CONTRACTOR RESOURCES ON OUR WEBSITE AND DOWNLOAD "DRAWING COLOR INSTRUCTIONS".
WWW.KLHENGRS.COM - CONTRACTOR RESOURCES (RIGHT HAND SIDE OF PAGE).

TECHNOLOGY DEVICE TYPE SCHEDULE

GENERAL NOTES:
A. DEFAULT ELEVATIONS ARE INTENDED TO BE THE TYPICAL MOUNTING HEIGHT. ACTUAL MOUNTING HEIGHT MAY VARY PER LOCATION AS IDENTIFIED ON DRAWINGS.
B. SEE DETAILS AND SPECIFICATIONS FOR ROUGH-IN REQUIREMENTS. ADDITIONAL ROUGH-IN REQUIREMENTS ARE LISTED BELOW.
C. SEE TECHNOLOGY SYSTEM DIAGRAMS FOR ADDITIONAL CABLING REQUIREMENTS.
D. QUANTITIES ARE BASED ON MODELED ELEMENTS. ACTUAL QUANTITIES MAY VARY.

						HORIZONTAL STRUCTURED CABLING			
TYPE	CATEGORY	DESCRIPTION	DEFAULT ELEVATION	GANGS	ADDITIONAL ROUGH-IN REQUIREMENTS	DATA	SECURITY	WAP	COUNT
AV	Communication Devices	WALL AUDIO VISUAL	1' - 6"	1		0	0	0	3
CP	Communication Devices	WALL CONTROL PANEL	3' - 10"	2	INSTALL WITH MANUFACTURER RECOMMENDED MOUNTING HARDWARE.	1	0	0	2
FP-R	Communication Devices	WALL DISPLAY ROUGH-IN	6' - 0"	1	SEE WALL DISPLAY BLOCKING DETAIL.	2	0	0	4
SP	Communication Devices	RECESSED CEILING SPEAKER	N/A	0	INSTALL WITH MANUFACTURER RECOMMENDED MOUNTING HARDWARE.	0	0	0	5
SP-A	Communication Devices	WALL SPEAKER	11' - 0"	1	WEATHERPROOF CONNECTION INTO BUILDING	0	0	0	2
SP-B	Communication Devices	WALL SPEAKER	11' - 0"	1	WEATHERPROOF CONNECTION INTO BUILDING	0	0	0	2
SP-C	Communication Devices	WALL SPEAKER	11' - 0"	1	WEATHERPROOF CONNECTION INTO BUILDING	0	0	0	2
SP-FC	Communication Devices	PENDANT CEILING SPEAKER	N/A	1	4" JUNCTION BOX	0	0	0	6
SP-FH	Communication Devices	PENDANT CEILING SPEAKER	N/A	1	FACEPLATE WITH GROMETED HOLE FOR SPEAKER CABLE. SEE PENDANT SPEAKER RIGGING DETAIL.	0	0	0	12
V	Communication Devices	WALL VOLUME CONTROL	3' - 10"	1		0	0	0	1
DATA	Data Devices	WALL DATA	1' - 6"	1		1	0	0	3
DATA 2D-2D	Data Devices	WALL DATA	1' - 6"	1		2	0	0	3
DATA-WAP	Data Devices	CEILING WIRELESS ACCESS POINT	N/A	1		0	0	2	5
VOICE-W	Data Devices	WALL TELEPHONE	3' - 10"	1		0	0	0	2
C	Security Devices	CEILING SECURITY CAMERA	N/A	1		0	1	0	1
C-W	Security Devices	WALL SECURITY CAMERA	10' - 0"	1		0	1	0	5
DOOR LOCK	Security Devices	ELECTRONIC ACCESS CONTROLLED DOOR	7' - 0"	0	WALL MOUNTED PROXIMITY READER	0	0	0	7
P	Security Devices	WALL PROXIMITY READER	3' - 10"	1		0	0	0	6

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TECHNOLOGY COVER SHEET

T0-001

1" REFERENCE
KLH PROJECT # 25356

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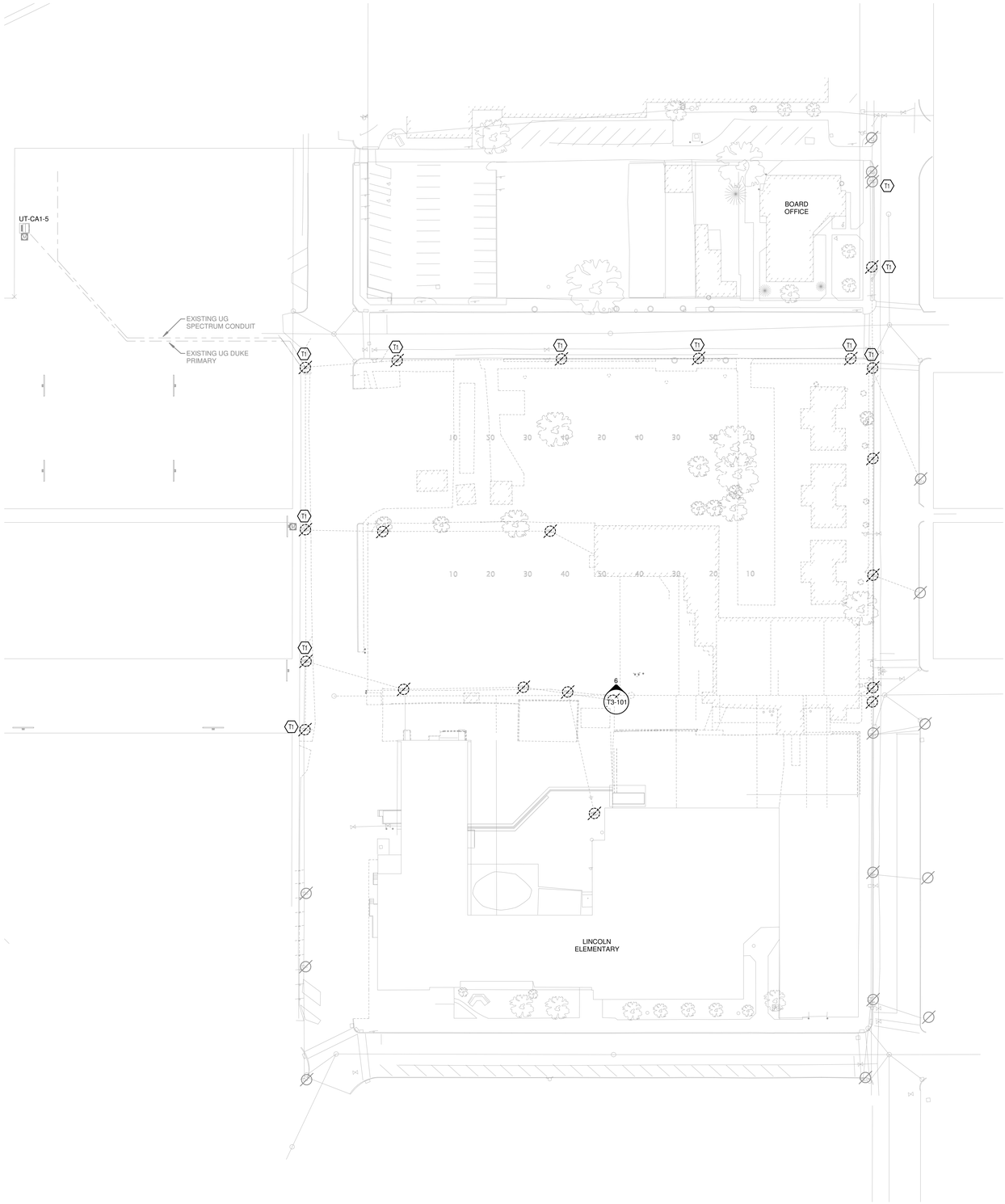
GENERAL NOTES

A. SEE ELECTRICAL DEMO SHEET FOR MORE INFORMATION.

KEYED NOTES

T1	REMOVE DAYTON CITY SCHOOL DISTRICT OWNED FIBER FROM POLE. PULL BACK TO LINCOLN ELEMENTARY FROM BOARD OFFICE. THIS IS THE LOWEST ELEVATION UTILITY ON THE POLE.



1 TECHNOLOGY DEMO SITE PLAN
1" = 40'-0"

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TECHNOLOGY DEMO SITE PLAN

T0-101

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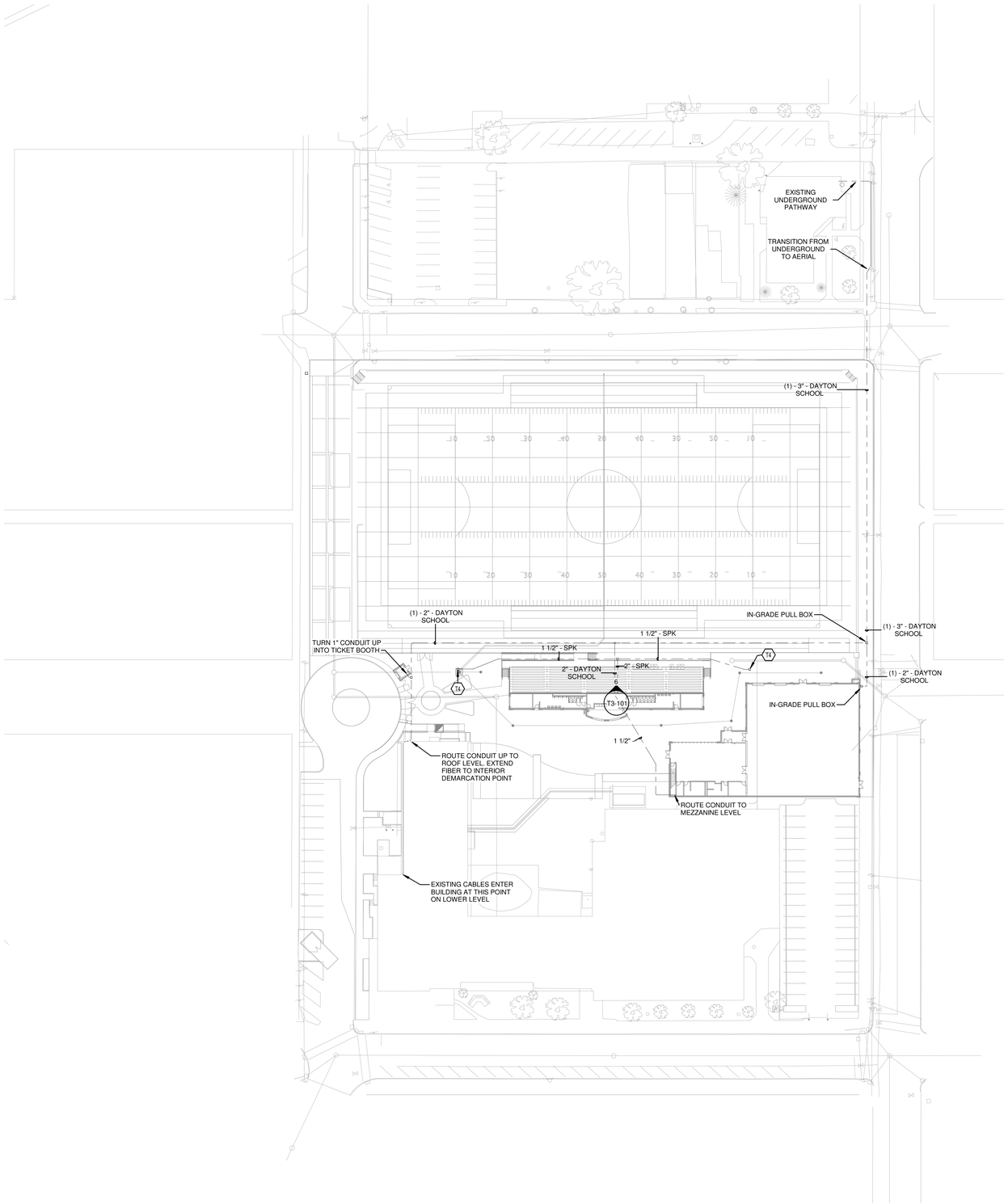
GENERAL NOTES

A. SEE ELECTRICAL SHEET FOR UTILITY CONDUIT ROUTING.

KEYED NOTES

T4	ROUTE CONDUIT TO PULL BOX ADJACENT TO LIGHT POLE. PROVIDE (1) 1" CONDUIT INTO BASE OF LIGHT POLE FOR FUTURE USE.



1 TECHNOLOGY SITE PLAN
1" = 40'-0"

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TECHNOLOGY SITE PLAN

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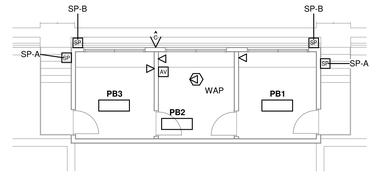
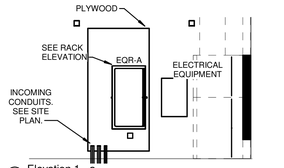
GENERAL NOTES

A. SEE ELECTRICAL DEMO SHEET FOR MORE INFORMATION.
B. SECURITY EQUIPMENT BY OTHERS. PROVIDE ROUGH-IN AND CABLING.
C. WIFI DEVICES BY OTHERS. PROVIDE ROUGH-IN AND CABLING.

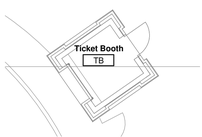
KEYED NOTES



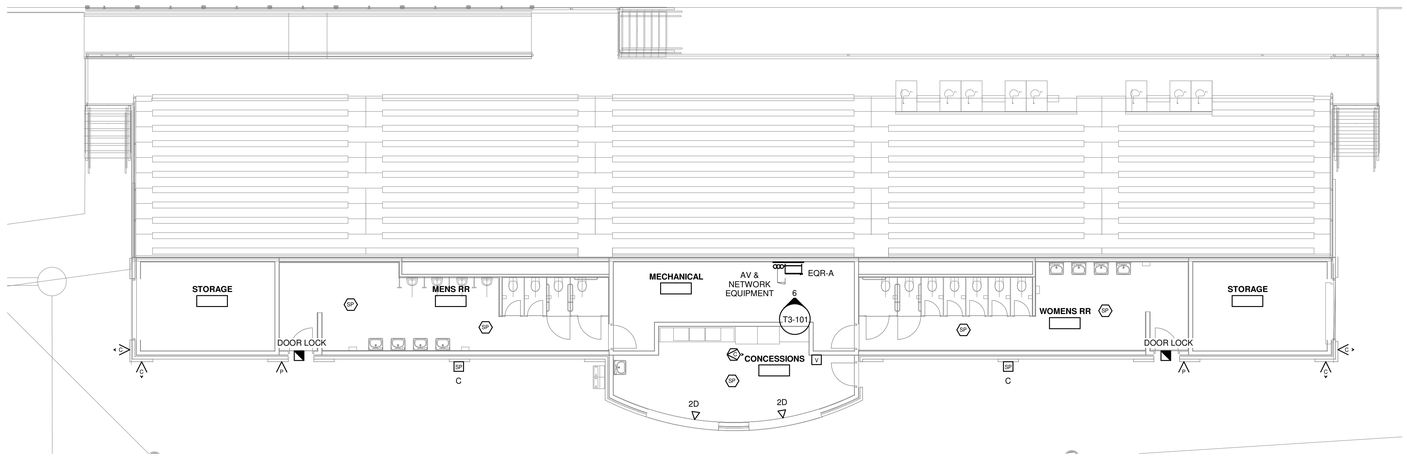
2 TECHNOLOGY PLAN - LEVEL 2 - PRESSBOX
1/8" = 1'-0"



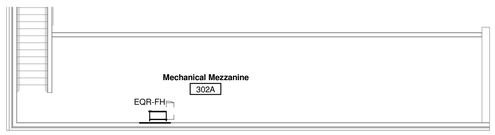
6 Elevation 1 - a
1/4" = 1'-0"



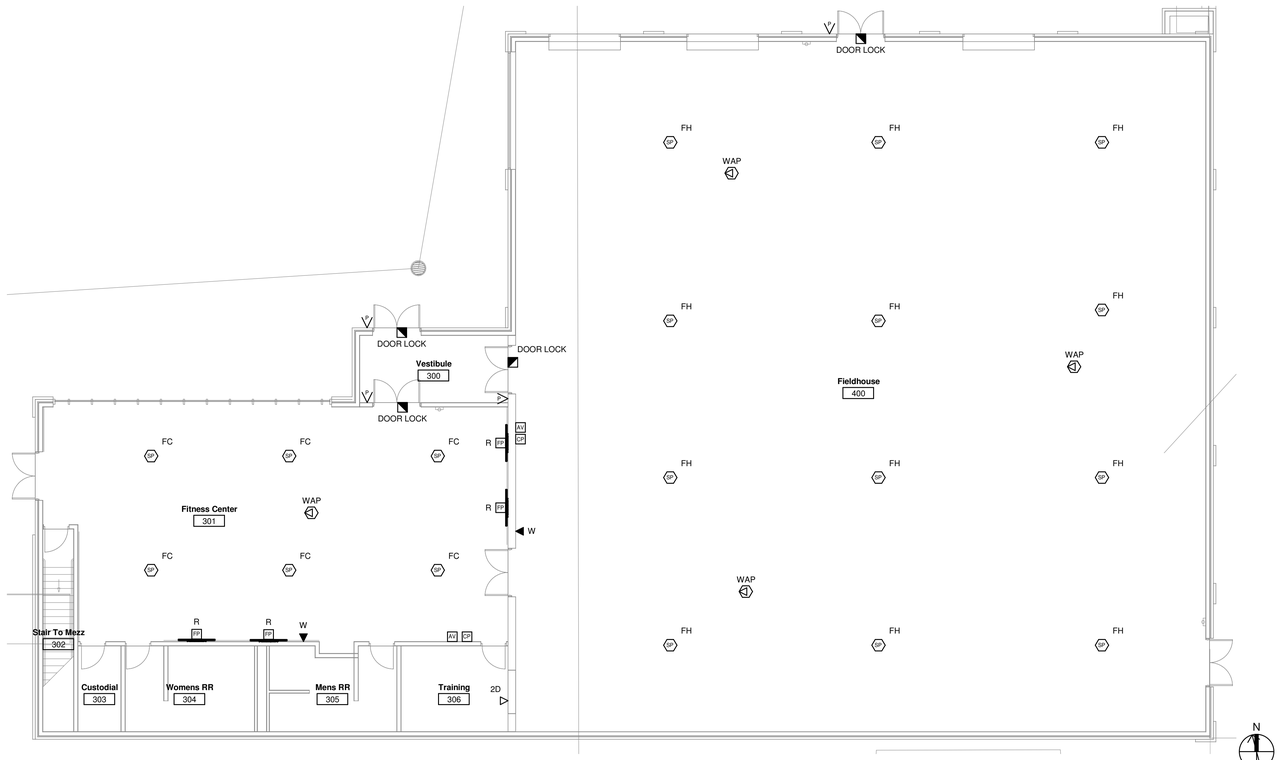
5 TECHNOLOGY PLAN - LEVEL 1 - TICKET BOOTH
1/8" = 1'-0"



1 TECHNOLOGY PLAN - LEVEL 1 - CONCESSION
1/8" = 1'-0"



4 TECHNOLOGY PLAN - LEVEL 2 - MEZZANINE
1/8" = 1'-0"



3 TECHNOLOGY PLAN - LEVEL 1 - FIELDHOUSE
1/8" = 1'-0"

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TECHNOLOGY PLANS

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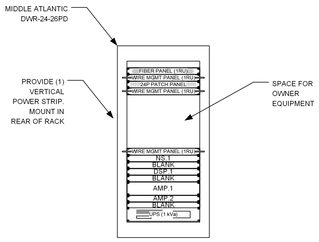
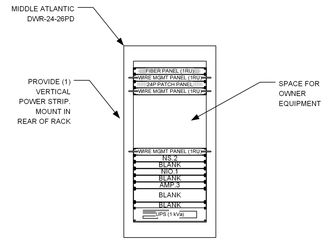


ERQ-A

ERQ-A RACK ELEVATION - STADIUM BUILDING

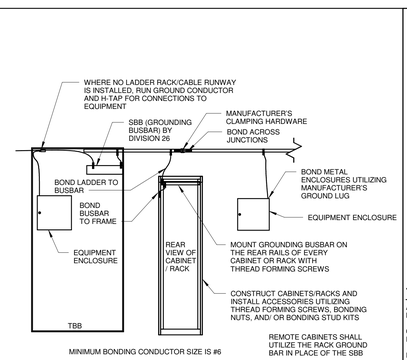
SCALE: NONE



ERQ-FH

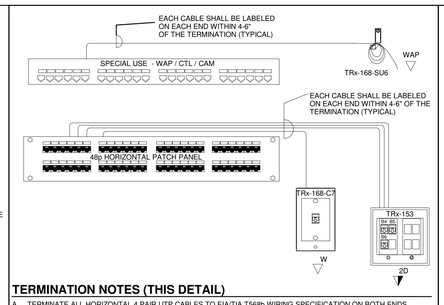
ERQ-FH RACK ELEVATION - FIELD HOUSE

SCALE: NONE



270526.00-01 - TYPICAL TELECOMMUNICATIONS ROOM GROUNDING SYSTEM

SCALE: NONE

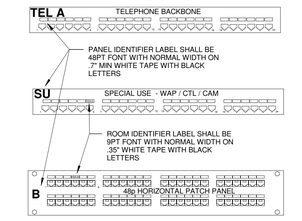


TERMINATION NOTES (THIS DETAIL)

A. TERMINATE ALL HORIZONTAL 4 PAIR UTP CABLES TO EIA/TIA T568b WIRING SPECIFICATION ON BOTH ENDS.
B. ALL HORIZONTAL 4 PAIR CABLES SHALL TERMINATE AT THE WORKSTATION ON JACKS AND AT THE ER/TR/REMOTE CABINET ON PANELS.
C. CABLES AND JACKS MAY BE COLOR CODED; SEE DRAWINGS FOR DETAILS.
D. HORIZONTAL 4 PAIR CABLES MAY BE SEGREGATED ON SEPARATE PATCH PANELS SUCH AS "SPECIAL USE", "WAP" "CAM". SEE ENLARGED RACK LAYOUT FOR PROJECT REQUIREMENTS.
E. CABLES SHALL BE LANDED IN ALPHANUMERIC ORDER ON PANELS BY CABLE ID.

271513.00-01 - HORIZONTAL COPPER CABLING

SCALE: NONE

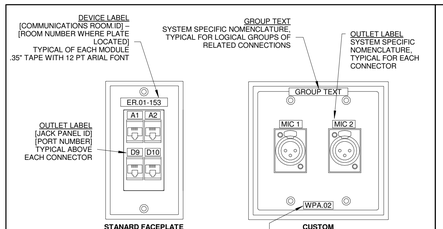


LABELING NOTES (THIS DETAIL)

A. PANEL IDENTIFIERS SHALL BE USED TO IDENTIFY THE USE OF PANELS AND TO CREATE A UNIQUE CABLE ID.
B. HORIZONTAL CABLE TERMINATION PANELS SHALL BEGIN WITH PANEL "A" AND CONTINUE ALPHABETICALLY TOP TO BOTTEM.
C. A RACK WILL BE LIMITED ON THE QUANTITY OF PANELS; CONTINUE THE LETTERING SEQUENCE IN THE NEXT RACK.
D. WHERE SO NOTED, SPECIAL USE PANELS MAY BE USED TO SEGREGATE CERTAIN CABLE USES.
E. SPECIAL USE DESIGNATORS MAY BE CAM, WAP, TEL OR SU (WHEN THE PANEL IS USED FOR MORE THAN ONE TYPE).
F. ALL LABELS SHALL BE APPLIED STRAIGHT.
G. UNLESS OTHERWISE NOTED LABELS SHALL BE BLACK TEXT ON WHITE BACKGROUND.

270553.00-04 - PATCH PANEL LABELING

SCALE: NONE

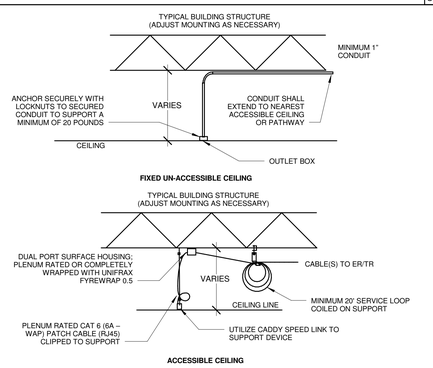


LABELING NOTES (THIS DETAIL)

A. SEE LABELING PATTERN EXAMPLES FOR REQUIRED TEXT.
B. ALL LABELS SHALL BE APPLIED STRAIGHT.
C. WHERE DEVICE IS DESIGNED FOR FACTORY INSERTS, ADHESIVE LABEL SHALL BE APPLIED TO THE INSERT.
D. UNLESS OTHERWISE NOTED LABELS SHALL BE BLACK TEXT ON WHITE BACKGROUND.
E. LABELS SHALL BE .35" TAPE WITH 9 PT ARIAL FONT.

270553.00-03 - FACEPLATE LABELING

SCALE: NONE

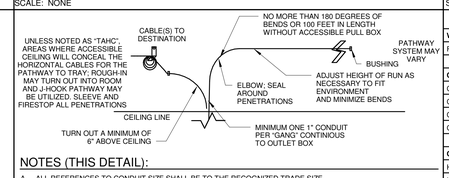


270528.00-03 - ABOVE CEILING OUTLET PATHWAY AND MOUNTING

SCALE: NONE

ROUGH-IN NOTES (THIS DETAIL):

A. SURFACE MOUNTED HOUSING(S) SHALL BE STRAPPED TO BUILDING STRUCTURE AND SERVICE LOOP SUPPORT SHALL BE CLAMPED TO ALLOW RE-POSITIONING AS REQUIRED BY SYSTEM INSTALLER.



NOTES (THIS DETAIL):

A. ALL REFERENCES TO CONDUIT SIZE SHALL BE TO THE RECOGNIZED TRADE SIZE.
B. UNLESS OTHERWISE SPECIFICALLY NOTED, ALL CONDUIT BENDS SHALL BE ACCOMPLISHED WITH FACTORY ELBOWS WITH A BEND RADIUS EQUAL OR GREATER THAN 4 TIMES THE TRADE SIZE. EXAMPLE:1" – BEND RADIUS GREATER THAN 4". 90 DEGREE FITTING LENGTH APPROXIMATELY 15".
C. CONDUITS SHALL BE ATTACHED TO BOXES WITH A BOX CONNECTOR FITTING AND THREAD-ON BUSHING. CONDUIT ENDS NOT TERMINATING AT A BOX OR ENCLOSURE SHALL HAVE A NYLON BUSHING.
D. PULL STRINGS SHALL BE INSTALLED IN ALL CONDUITS.
E. MINIMUM CONDUIT REQUIREMENTS SHALL BE A 1" TRADE SIZE CONDUIT. PER GANG, TWO 1" CONDUITS MAY BE REPLACED BY A SINGLE 1 ¼" CONDUIT.
F. KNOCK OUT REQUIREMENTS EXCEEDING MANUFACTURER'S STANDARD SIZES SHALL BE ACCOMODATED WITH A PUNCH OF THE CORRECT SIZE HOLE; FILE SHARP EDGES AND BURRS.
G. CONDUIT SHALL BE EMT UNLESS OTHERWISE NOTED.
H. EXCEPTION: CONDUIT(S) FOR FLOORBOXES SHALL HAVE A TRANSITION BOX ABOVE ACCESSIBLE CEILING; SEE FLOORBOX DETAILS FOR REQUIREMENTS.

270528.00-01 - OUTLET CONDUIT

SCALE: NONE

PROJECT COORDINATION SCHEDULE

WORKSTATION	FINISH/COLOR		STYLE	JACK FRAME	
FACEPLATE	MATCH DIV 26		MATCH DIV 26	MATCH DIV 26	
CABLES			**RATING**		
CABLES IN AIR HANDELING CEILING OR FLOOR SPACE			PLENUM		
CABLES IN FULLY DUCTED CEILING OR FLOOR SPACE			RISER		
CABLES IN CONTINIOUS METAL CONDUIT			RISER		
CABLES OUTDOORS OR WET LOCATIONS			OSP WATER BLOCKED [NOTE 1]		

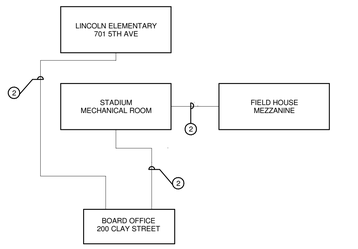
CABLE	TYPE	CABLE COLOR	TERMINATION 1	TERMINATION 2	GRADE
HORIZONTAL VOICE	4 PAIR UTP	BLUE	HORIZONTAL PANEL	SAME AS JACK FRAME	CAT 6
HORIZONTAL DATA	4 PAIR UTP	BLUE	HORIZONTAL PANEL	SAME AS JACK FRAME	CAT 6
HORIZONTAL WAP	4 PAIR UTP	GREEN	S. U. PANEL [NOTE 3]	GREEN JACK	CAT 6A
HORIZONTAL SECURITY	4 PAIR UTP	YELLOW	S. U. PANEL [NOTE 3]	YELLOW JACK	CAT 6
HORIZONTAL VIDEO	4 PAIR UTP	GRAY	S. U. PANEL [NOTE 3]	GRAY JACK	CAT 6
HORIZONTAL "OTHER"	4 PAIR UTP	VIOLET	S. U. PANEL [NOTE 3]	PURPLE JACK	CAT 6
HORIZONTAL MEDICAL	4 PAIR UTP	ORANGE	S. U. PANEL [NOTE 3]	ORANGE JACK	CAT 6
LOCAL CONTROL [NOTE 2]	4 PAIR UTP	WHITE	WHITE JACK	WHITE JACK	CAT 6
COPPER BACKBONE	MULTI-PAIR UTP	GRAY	110 STYLE BLOCKS	BACKBONE PANEL	CAT 3
FIBER OPTIC BACKBONE	SINGLEMODE	YELLOW	SC CONN IN PANEL	SC CONN IN PANEL	OS2
FIBER OPTIC BACKBONE	MULTIMODE 50/125	AQUA	SC CONN IN PANEL	SC CONN IN PANEL	OM4
HORIZONTAL RF	RG-6 VIDEO COAX	BLACK	F STYLE ON DEVICE	F STYLE ON FP CPLR	N/A
RF BACKBONE	RG-11 VIDEO COAX	BLACK	F STYLE ON DEVICE	F STYLE ON DEVICE	N/A

NOTE 1: SPLICING MAY BE REQUIRED UNLESS AN INDOOR/OUTDOOR CONSTRUCTION IS UTILIZED WITH THE CORRECT NEC RATING.

NOTE 2: LOCAL CONTROL CABLES ARE POINT TO POINT AND DO NOT HAVE AN ER/TR DESTINATION

NOTE 3: SPECIAL USE PANEL REFERENCE IS APPLICABLE IN PROJECTS SO EQUIPPED; SEE ENLARGED RACK LAYOUT FOR PANEL REQUIREMENTS

NOTE 4: WHERE CABLE GRADE IS SPECIFIED IT SHALL BE INTERPRETED THAT THE GRADE OF BOTH CABLE AND TERMINATIONS SHALL MATCH.



271300.00-01 - BACKBONE DIAGRAM

SCALE: NONE

BACKBONE PATHWAY NOTES (THIS DETAIL)

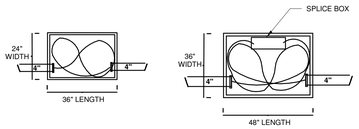
A. AERIAL CABLE PLACEMENT ON TELEPHONE / POWER POLES REQUIRE COORDINATION WITH POLE OWNER.
B. NO MORE THE 180 DEGREES OF BENDS WITHOUT PROPERLY SIZED ACCESSIBLE PULL BOXES (SEE FLOORPLAN FOR APPROXIMATE CONDUIT ROUTES. COORDINATE WITH OTHER TRADES AND THE CONSTRUCTION MANAGER.
C. THIS DIAGRAM IS INTENDED TO SHOW BACKBONE PATHWAYS REQUIRED BETWEEN MAJOR TERMINATION POINTS IN THIS PROJECT. THIS DIAGRAM IS NOT INTENDED TO INDICATE EXACT ROUTING OR LOCATIONS. UTILIZE DETAIL DRAWINGS AND FLOORPLANS FOR ADDITIONAL INFORMATION.

BACKBONE NOTES (THIS DETAIL)

A. BACKBONE CABLES ENTERING THE ER AND TR(S) SHALL CONTINUE WITHIN EACH ROOM TO THEIR SPECIFIED TERMINATION POINT WITH ADEQUATE SERVICE LOOP.
B. THIS DIAGRAM IS INTENDED TO SHOW BACKBONE CABLES REQUIRED BETWEEN MAJOR TERMINATION POINTS IN THIS PROJECT. THIS DIAGRAM IS NOT INTENDED TO INDICATE CABLE OR CONDUCTOR ROUTING OR TERMINATION METHODS OR LOCATIONS. UTILIZE DETAIL DRAWINGS AND FLOORPLANS FOR ADDITIONAL INFORMATION.
C. UNLESS OTHERWISE NOTED, BACKBONE TERMINATIONS SHALL BE AS FOLLOWS:
   1. FIBER OPTIC CABLE WILL TERMINATE IN PATCH PANELS IN THE RACKS/CABINETS AT THE ER/TR AND SURFACE MOUNTED PANEL AT THE ENTRANCE FACILITY.
   2. UTP COPPER (VOICE) BACKBONE CABLES SHALL TERMINATE ON PATCH PANEL(S) IN THE ER/TR RACKS AND ON 110 STYLE BLOCKS ON A BACKBOARD IN THE MAIN EQUIPMENT ROOM AND ENTRANCE FACILITY.

BACKBONE CABLING LEGEND: (THIS DETAIL)

1. EXISTING 12 STRAND SINGLE MODE FIBER OPTIC CABLE.
2. 12 STRANDS SINGLE MODE FIBER OPTIC CABLE

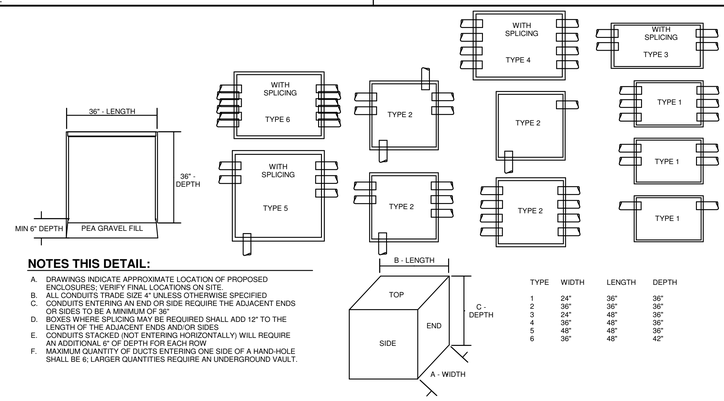


NOTES THIS DETAIL

A. EACH OSP CABLE (FIBER OPTIC AND COPPER) SHALL HAVE A 10' SERVICE LOOP IN EACH HAND HOLE.
B. SERVICE LOOP SHALL BE STORED IN A "FIGURE 8" CONFIGURATION IN THE HANDHOLE.
C. EACH FIBER OPTIC OR COPPER CABLE BEING SPLICED IN A HAND HOLE SHALL HAVE A SERVICE LOOP ADEQUATE IN LENGTH TO ALLOW SPLICE CASE WORK OUTSIDE THE HANDHOLE IN ADDITION TO 5' ON EACH END FOR RE-SPLICING.
D. INNER-DUCT(S) ENTERING HAND HOLES SHALL BE TIED OFF TO PREVENT RETRACTION INTO CONDUITS.
E. HANDHOLES WITH MULTIPLE CABLES SHALL HAVE SERVICE LOOPS "LAYERED" FOR STORAGE TO PREVENT TANGLES.
F. EACH CABLE SHALL BE REMOVABLE (IN ORDER) SO IT CAN BE LAYED OUTSIDE THE HANDHOLE FOR COMPLETE ACCESS.

270543.00-02 - OUTSIDE PLANT CABLE MANAGEMENT

SCALE: NONE



NOTES THIS DETAIL:

A. DRAWINGS INDICATE APPROXIMATE LOCATION OF PROPOSED ENCLOSURES; VERIFY FINAL LOCATIONS ON SITE.
B. ALL CONDUITS TRADE SIZE 4" UNLESS OTHERWISE SPECIFIED
C. CONDUITS ENTERING AN END OR SIDE REQUIRE THE ADJACENT ENDS OR SIDES; TO BE A MINIMUM OF 36".
D. BOXES WHERE SPLICING MAY BE REQUIRED SHALL ADD 12" TO THE LENGTH OF THE ADJACENT ENDS AND/OR SIDES
E. CONDUITS STACKED (NOT ENTERING HORIZONTALLY) WILL REQUIRE AN ADDITIONAL 6" OF DEPTH FOR EACH ROW
F. MAXIMUM QUANTITY OF DUCTS ENTERING ONE SIDE OF A HAND-HOLE SHALL BE 6; LARGER QUANTITIES REQUIRE AN UNDERGROUND VAULT.

TYPE	WIDTH	LENGTH	DEPTH
1	24"	36"	36"
2	36"	36"	36"
3	24"	48"	36"
4	36"	48"	36"
5	48"	48"	36"
6	36"	48"	42"

270543.00-01 - OUTSIDE PLANT IN-GROUND BOX SIZING

SCALE: NONE

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DWN: MSN CHK: TAB
DATE: 11/22/23
PROJECT #: 25356

TECHNOLOGY DETAILS

T3-501

1" REFERENCE
KLH PROJECT # 25356

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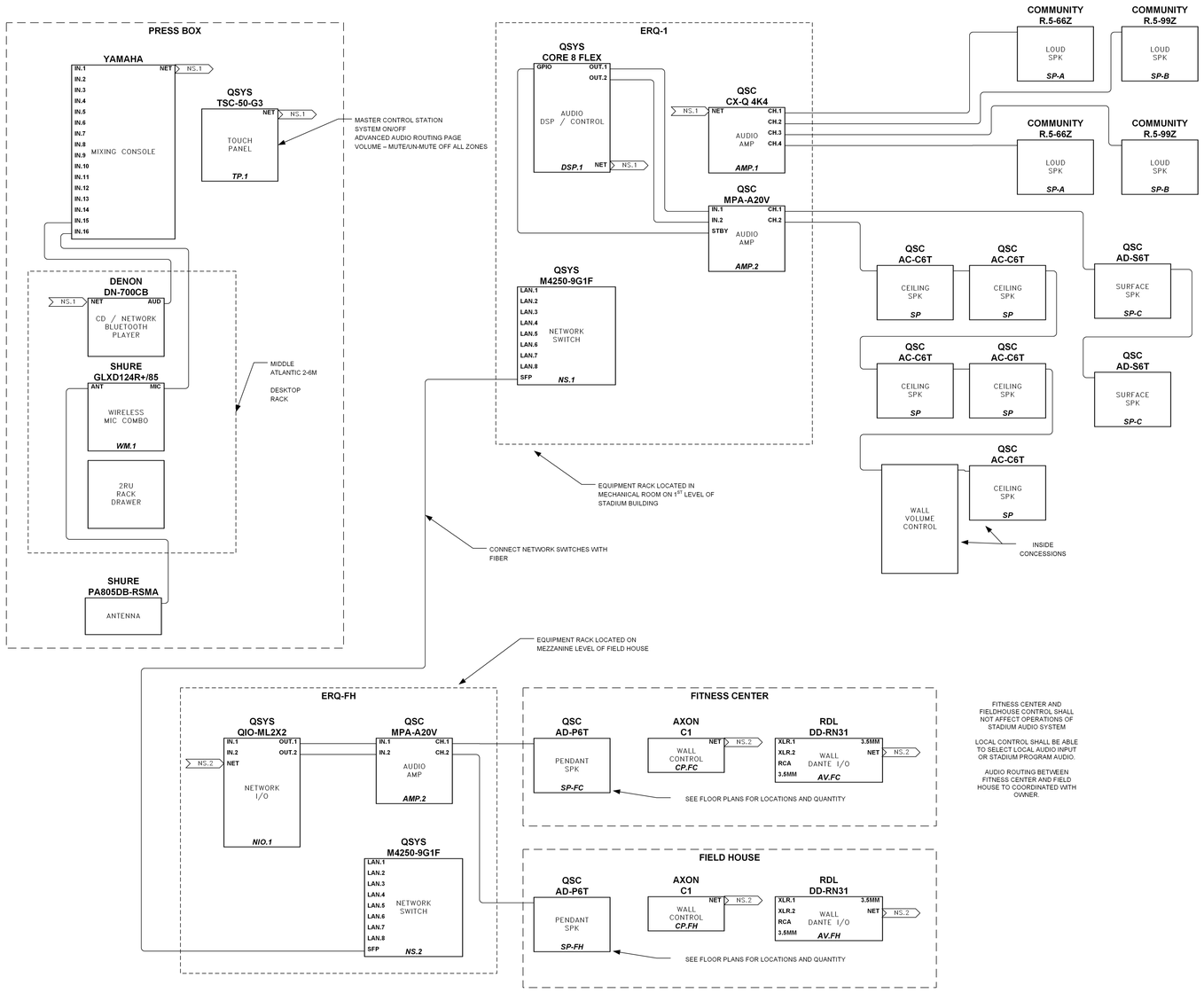

AUDIO SYSTEM DIAGRAM

SCALE: NONE

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REVISIONS

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Cl	Checker
DATE:	11/22/23
PROJECT #:	25356

TECHNOLOGY SYSTEMS

T3-601

1" REFERENCE
KLH PROJECT # 25356

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