

CITY OF TALLMADGE HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2 SUMMIT COUNTY, OHIO

August 2023

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LOCATION MAP
 NOT TO SCALE

CITY OF TALLMADGE OFFICIALS

DAVID G. KLINE	MAYOR
DONALD COOPER, PhD, MBA	DIRECTOR OF ADMINISTRATION
MOLLIE GILBRIDE	DIRECTOR OF FINANCE
MICHAEL RORAR	DIRECTOR OF PUBLIC SERVICE
JESSICA SIMONS	SUPERINTENDENT OF PARKS AND REC
WAYNE CORBETT	SUPERINTENDENT STREET DEPARTMENT

COUNCIL

CRAIG SISAK	WARD 1
REBECCA ALLMAN	WARD 2
JONATHON BOLLAS	WARD 3
MARY GUTMAN	WARD 4
DENNIS LOUGHRY	AT LARGE- PRESIDENT
CAROL KILWAY	AT LARGE
ADAM BOZIC	AT LARGE

APPROVALS:

_____ DAVID G. KLINE, MAYOR	_____ DATE
_____ MICHAEL RORAR, DIRECTOR OF PUBLIC SERVICE	_____ DATE

Patrick D. Hoagland
DESIGN ENGINEER.



08-01-2023
DATE



CITY OF TALLMADGE
 HOWE ROAD
 PARK IMPROVEMENTS PHASE 2
 988 E HOWE ROAD
 TALLMADGE, OH 44278

NO.	DESCRIPTION	DATE

JOB NO:	22104
DATE:	AUGUST 2023
DESIGNED BY:	PH
DRAWN BY:	YF/DD/PH/CK
CHECKED BY:	PH
APPROVED BY:	PH
SCALE:	NONE

TITLE

1

GENERAL SPECIFICATIONS

- SPECIFICATIONS
 - ALL CONSTRUCTION OF ANY PROJECT SHALL BE IN CONFORMANCE WITH CITY OF TALLMADGE'S CODIFIED ORDINANCE AND THE OHIO REVISED CODE.
 - NO PERSON, FIRM OR CORPORATION SHALL COMMENCE ANY WORK WITHOUT FIRST FILING ALL PROPER PERMITTING AND DEPOSITING OF ANY BONDS PER THE CITY OF TALLMADGE CODE. CONTRACTOR MUST OBTAIN THE PROPER PERMITS & BONDS FOR ALL WORK PERFORMED IN/ON THE PUBLIC RIGHT-OF-WAY WITH NO EXCEPTIONS. THIS PROCEDURE IS REQUIRED SO THAT THE PROPER INSPECTIONS WILL BE MADE.
 - THE CONSTRUCTION OF ANY PROJECT SHALL BE GOVERNED BY CURRENT CITY OF TALLMADGE DEVELOPMENT STANDARDS, ALONG WITH CONFORMING TO THE LATEST EDITION OF THE STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA), AND THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (ODOT CMS) AND SUPPLEMENTAL SPECIFICATIONS, UNLESS OTHERWISE NOTED. THE CITY OF TALLMADGE ENGINEER OR DIRECTOR OF PUBLIC SERVICE SHALL RESOLVE ALL ITEMS NOT CLEARLY COVERED.
- ALL CONTRACTORS PERFORMING WORK MUST ABIDE BY ALL GENERAL NOTES THAT APPLY OF THE CITY STANDARDS
- THE CITY OF TALLMADGE SHALL NOT BE HELD LIABLE FOR DAMAGES OF ANY TYPE WHICH MAY OCCUR AS A RESULT OF ERRORS AND/OR OMISSIONS OF THE ENGINEERING DATA PRESENTED BY THE DEVELOPER'S ENGINEER, NEITHER SHALL THEY BE LIABLE FOR DAMAGES RESULTING FROM THE DEVELOPER'S CONTRACTOR, NOT COMPLYING WITH APPROVED PLANS NOR BY USING CONSTRUCTION METHODS OR MATERIALS NOT APPROVED BY THE CITY OF TALLMADGE.
- THE DEVELOPER'S ENGINEER CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE AND THROUGH INTENSIVE RESEARCH, ALL UTILITIES WITHIN THE RIGHT-OF-WAY AND EASEMENTS INVOLVED IN THE IMPROVEMENT HAVE BEEN LOCATED AND SHOWN ON THE PLANS.
- PRECONSTRUCTION MEETING:** A PRECONSTRUCTION MEETING WITH THE DEVELOPER, CONTRACTOR, REPRESENTATIVES OF ALL UTILITY COMPANIES, THE CITY OF TALLMADGE SERVICE DEPARTMENT(S), SUMMIT SOIL & WATER, AND CITY ENGINEER IS REQUIRED FOR THIS PROJECT TO START ANY CONSTRUCTION ACTIVITY.
- PROJECT SAFETY:** THE CONTRACTOR SHALL ALWAYS MAINTAIN A SAFE WORKING ENVIRONMENT AT THE PROJECT SITE. THE CONTRACTOR SHALL PROPERLY SUPPORT, MAINTAIN AND COMPLY WITH ALL OSHA REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE SAFETY OF THE GENERAL PUBLIC AS WELL AS ALL CONSTRUCTION PERSONNEL. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE OF DEBRIS (MUD, STONE, ETC.) OF THE NATURE OF THE PROPOSED PROJECT PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY. ACCESS FOR EMERGENCY VEHICLES SHALL ALWAYS BE MAINTAINED.
- PROJECT LIABILITY:** CONTRACTOR SHALL ASSUME THE ENTIRE RESPONSIBILITY AND LIABILITY FOR ALL DAMAGES OR INJURIES OF ANY KIND OR NATURE WHATSOEVER TO ALL PERSONS, WHETHER ITS EMPLOYEES OR OTHERWISE, AND TO ALL PROPERTY GROWING OUT OF OR RESULTING FROM THE EXECUTION OF THE WORK PROVIDED FOR IN THIS CONTRACT OR OCCURRING IN CONNECTION THEREWITH. CONTRACTOR AGREES TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY OF TALLMADGE, ITS AGENTS, EMPLOYEES, AND INSURERS FROM AND AGAINST ANY AND ALL LOSSES AND EXPENSES, INCLUDING COURT COSTS AND ATTORNEY'S FEES, DAMAGES OR INJURIES GROWING OUT OF OR RESULTING FROM OR OCCURRING IN CONNECTION WITH THE EXECUTION OF THE WORK HEREIN PROVIDED FOR; PROVIDE, HOWEVER, THAT CONTRACTOR WILL NOT BE HELD LIABLE FOR LOSS OF LIFE OR INJURY OR DAMAGE TO PERSON OR PROPERTY DUE TO THE SOLE NEGLIGENCE OF THE CITY, ITS AGENTS, OR ITS EMPLOYEES, IF ANY DAMAGE IS DONE TO THE PROPERTY OF OTHERS BY CONTRACTOR, ITS EMPLOYEES, OR AGENTS DURING THE TERM OF THIS CONTRACT. CONTRACTOR SHALL REPAIR AND RESTORE AT ITS SOLE COST ANY SUCH PROPERTY AND CORRECT ANY DAMAGES INFLICTED THEREO, RETURNING IT TO AS GOOD A CONDITION AS THE PROPERTY WAS IN BEFORE BEING DAMAGED, IN A MANNER SATISFACTORY TO THE OWNER(S) OF THE PROPERTY FOR THE DAMAGE SUFFERED.
- UTILITIES:** THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL THE VARIOUS UTILITY COMPANIES (PUBLIC AND PRIVATE) TO VERIFY THE EXISTENCES, LIMITS AND OR LOCATION OF ANY UTILITIES WHICH MAY BE ALONG THE ROUTE OR WITHIN THE VICINITY OF THE WORK OR PROJECT. THE CONTRACTOR MUST CONTACT OHIO UTILITIES PROTECTION SERVICES TO HAVE UTILITIES MARKED BEFORE THE START OF THE PROJECT -- CALL 811.
- ALL EXISTING CONDITIONS WITHIN THE RIGHT-OF-WAY AND EASEMENTS DISTURBED BY THE CONSTRUCTION OF THIS PROJECT SHALL BE IMMEDIATELY RESTORED TO THE PRE-CONSTRUCTION CONDITION OR BETTER, AS DIRECTED BY THE CITY OF TALLMADGE SERVICE DIRECTOR OR ITS AUTHORIZED REPRESENTATIVE.
- NO SANITARY SEWER OR WATER MAIN CONSTRUCTION SHALL BE PERMITTED UNTIL THE PLANS ARE APPROVED BY OEPA AND WATERLINES ARE REVIEWED BY THE CITY OF TALLMADGE, INCLUDING PAYMENT OF REVIEW AND "PERMIT TO INSTALL" FEES AS REQUIRED.
- ALL WORK AND MATERIAL MUST BE INSPECTED AND APPROVED BY THE CITY OF TALLMADGE ENGINEER OR AUTHORIZED REPRESENTATIVE. CONTRACTOR SHALL NOTIFY THE CITY OF TALLMADGE SERVICE DIRECTOR @ 330-633-0854 (MON-FRI 8:00 AM - 4:00 PM, EXCLUDING HOLIDAYS) FORTY-EIGHT (48) HOURS BEFORE STARTING ANY CONSTRUCTION.
- TEMPORARY STORM WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL SHALL BE REQUIRED (ODOT CMS) AS DIRECTED BY THE CITY OF TALLMADGE ENGINEER AND THE SUMMIT SOIL AND WATER CONSERVATION DISTRICT. INLET PROTECTION SHALL BE SET AROUND EACH STORM STRUCTURE. ALL REQUIRED PERMITS SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO STARTING CONSTRUCTION.
- WHERE NECESSARY TO DISTURB PAVEMENTS OR DRIVES, THE PAVEMENT SHALL BE FULL DEPTH SAW CUT IN NEAT, STRAIGHT LINES.
- ALL ROUGH GRADING, WITHIN (6) SIX INCHES OF FINISHED GRADE, SHALL BE COMPLETED WITHIN THE RIGHT-OF-WAY PRIOR TO TRENCH EXCAVATION.
- CONTRACTOR SHALL SEED, MULCH AND FERTILIZE ALL DISTURBED AREAS WITHIN THE ROAD RIGHT OF WAY FROM BACK OF CURB TO 10 FEET INSIDE THE PROPERTY LINE (ODOT CMS), USING (4) FOUR INCHES OF TOPSOIL. EROSION CONTROL MATTING SHALL BE PLACED IN AREAS WHERE GRASS COVER CANNOT BE ESTABLISHED DUE TO STEEP SLOPES.
- ALL CONDUIT WITHIN THE RIGHT-OF-WAY COMPACTED PREMIUM BACKFILL, ODOT ITEM 304, CS, IS REQUIRED FOR UNDERGROUND CONSTRUCTION. GRAVEL, CRUSHED AGCS, AND STEEL SLAG SHALL NOT BE USED. THE METHOD OF BACKFILLING SHALL CONFORM TO BACKFILLING FOR CONDUIT, AS SPECIFIED PER ODOT ITEM 611 OR AS DIRECTED BY THE CITY OF TALLMADGE ENGINEER. LOW STRENGTH MORTAR (LSM) OR CONTROL DENSITY FILL (CDF) SHALL BE USED FOR BACKFILL WHERE A TRENCH IS WITHIN EXISTING PAVEMENT. THE CITY OF TALLMADGE WILL SPECIFY WHICH OF THE TWO SHALL BE USED.
- NO OPEN TRENCHES WILL BE PERMITTED OVERNIGHT. FENCES AND STEEL PLATING MAY BE REQUIRED AT THE DISCRETION OF THE CITY TO PROTECT PEDESTRIAN TRAFFIC.
- ACCESS TO ALL DRIVES SHALL BE MAINTAINED UNLESS IT IS DETERMINED AND AGREED TO BY THE CITY THAT THERE IS NO FEASIBLE MEANS OF PROVIDING ACCESS. IT WILL BE REQUIRED THAT EACH AFFECTED PROPERTY OWNER BE GIVEN AT LEAST (24) TWENTY-FOUR HOUR NOTICE BEFORE CLOSING THE DRIVE.
- ACCESS TO ALL MAILBOXES SHALL BE MAINTAINED DURING CONSTRUCTION. IF ACCESS TO MAILBOXES WILL NOT BE FEASIBLE THEN ALTERNATE MAILBOXES SHALL BE PROVIDED BY CONTRACTOR WITH CLEARLY MARKED HOUSE NUMBERS FOR EACH MAILBOX.
- THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCH MARKS, PROPERTY CORNERS, REFERENCE POINTS, AND CONSTRUCTION STAKES AND, IN CASE OF DESTRUCTION, SHALL BE CHARGED WITH THE RESULTING EXPENSE OF REPLACEMENT AND SHALL BE RESPONSIBLE FOR ANY MISTAKES THAT MAY BE CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.
- SHOULD THE CONTRACTOR HAVE ANY QUESTIONS AS TO THE INTENT OF THESE PLANS AND SPECIFICATIONS, HE SHALL IMMEDIATELY BRING IT TO THE ATTENTION OF THE CITY OF TALLMADGE SERVICE DIRECTOR, WHO SHALL RESPOND IN A TIMELY MANNER. ANY CHANGE IN THE PROPOSED IMPROVEMENTS MUST BE APPROVED BY THE CITY OF TALLMADGE.
- TRAFFIC CONTROL SHALL BE MAINTAINED AS PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL UTILIZE STANDARD TRAFFIC CONTROL DEVICES AS SHOWN IN THE MANUAL FOR ONE LANE ROAD CLOSURES, STATIONARY OPERATIONS ON THE SHOULDER AND OPERATIONS BEYOND THE SHOULDER. PROPER SAFETY LIGHTING AND REFLECTORS SHALL BE USED AS NECESSARY FOR OVERNIGHT CLOSURES OR WARNING DEVICES. CONTRACTOR MUST SUBMIT A MAINTENANCE OF TRAFFIC PLAN FOR APPROVAL IN ADVANCE OF CONSTRUCTION START.
- ANY DAMAGE CAUSED TO THE PAVEMENT, DRIVES, DRAINAGE SYSTEMS, UNDERGROUND OR OVERHEAD UTILITIES, PIPELINES OR LANDSCAPING, EITHER WITHIN THE RIGHT-OF-WAY OR ON ADJACENT PROPERTIES, SHALL BE FULLY RESTORED PROMPTLY BY THE CONTRACTOR WITH ALL RELATED COSTS BEING THE FULL RESPONSIBILITY OF THE CONTRACTOR.
- ALL EMBANKMENTS SHALL BE CONSTRUCTED IN COMPLIANCE WITH ODOT ITEM 203. ALL TOPSOIL SHALL BE STRIPPED PRIOR TO PLACEMENT OF ANY EMBANKMENT MATERIAL.
- ADJUSTMENTS TO VALVE BOXES, MANHOLES, HYDRANTS, MONUMENT BOXES, ETC. SHALL BE MADE BY THE CONTRACTOR AS REQUIRED TO COMPLETE THIS WORK. THIS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM NECESSITATING THE ADJUSTMENT.
- THE CONTRACTOR IS RESPONSIBLE FOR ORDERLY JOB SITE CONDITIONS THROUGHOUT THE DURATION OF THE JOB. THE CONTRACTOR SHALL KEEP ALL EXISTING PAVEMENTS CLEAR OF MUD, GRAVEL, GREASE AND OILS. CONTRACTOR WILL BE CHARGED AT THE CURRENT RATE PER HOUR FOR A MINIMUM OF (2) TWO HOURS DURING NORMAL WORKING HOURS AND (4) FOUR HOURS MINIMUM FOR ANY HOURS AFTER 4:00 PM BY THE CITY OF TALLMADGE FOR A STREET SWEEPER AND OPERATOR IF SITE DOES NOT REMAIN CLEAN AT THE END OF THE WORK DAY.
- THE CONTRACTOR/DEVELOPER WILL BE CHARGED FOR A FULL-TIME PROJECT REPRESENTATIVE FOR INSPECTION PURPOSES AT AN HOURLY RATE PER CURRENT LABOR CONTRACT. CONTRACTOR WILL AUTOMATICALLY BE CHARGED FOR AN 8-HOUR WORKDAY FOR SATURDAY, SUNDAY, OR ANY LEGAL HOLIDAYS PLUS ANY HOURS WORKED BEYOND THE (8) EIGHT HOURS.
- THE CITY OF TALLMADGE MAY HIRE AN ADDITIONAL INSPECTOR OR INDEPENDENT TESTING LABORATORY TO PROVIDE ADDITIONAL INSPECTION AND/OR TESTING SERVICES. THIS EXPENSE WILL BE CHARGED TO THE DEVELOPER AND/OR CONTRACTOR.
- IN AREAS OF EXCAVATION IN EXCESS OF 2 FEET, NUCLEAR COMPACTION TESTS SHALL BE PERFORMED BY AN APPROVED TESTING COMPANY. THESE TESTS SHALL BE APPROVED BY THE CITY OF TALLMADGE PRIOR TO ANY PAVING OPERATIONS. THE COST OF THE TESTING SHALL BE INCLUDED WITH THE UNIT PRICE FOR EXCAVATION AND PAID FOR BY THE CONTRACTOR.
- WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

- CONSTRUCTION LAYOUT STAKES

THE CONTRACTOR IS TO PROVIDE ALL LABOR AND MATERIALS REQUIRED TO ADEQUATELY INSURE THE PROPER ELEVATIONS AND LOCATIONS OF ALL ITEMS INCLUDED IN THE WORK. PRIOR TO CONSTRUCTION, BENCH MARKS SHALL BE RE-ESTABLISHED OUTSIDE OF THE CONSTRUCTION LIMITS. THIS WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A PROFESSIONAL SURVEYOR. REGISTERED IN THE STATE OF OHIO. UNLESS OTHERWISE NOTED, ALL STATIONING AND OFFSET CALLOUTS ARE REFERENCED TO THE NEAREST CENTERLINE.
- EROSION CONTROL**

THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES INCLUDING SILT FENCE, STRAW BALES, ETC. IN ACCORDANCE WITH LOCAL REQUIREMENTS.
- SEEDING AND MULCHING**

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL. REMOVE ALL STONES 1" OR GREATER IN ANY DIMENSION FROM ALL DISTURBED AREAS PRIOR TO SEEDING AND MULCHING. FERTILIZING AND WATERING SHALL BE INCIDENTAL TO CONSTRUCTION AND NO SEPARATE PAYMENT SHALL BE MADE.TEMPORARY SEEDING SHALL BE PROVIDED WITHIN BUILDING LOTS. COORDINATE WITH LANDSCAPE PLANS.
- MAINTAINING TRAFFIC**

THE CONTRACTOR MUST PERFORM THE REQUIRED WORK WITH THE MAXIMUM SAFETY OF AND THE LEAST INCONVENIENCE TO THE TRAVELING PUBLIC AND THE CONTRACTOR. THE OWNER MUST APPROVE ANY PROPOSED VARIANCE FROM THE MAINTENANCE OF TRAFFIC NOTES, IN ADVANCE, IN WRITING. EXCEPT AS MODIFIED HEREIN, THE REQUIREMENTS FOR MAINTAINING TRAFFIC, AS INDICATED IN "THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), USE DRUMS, SIGNS, SIGN SUPPORTS, BARRICADES, IMPACT ATTENUATORS AND OTHER TRAFFIC CONTROL DEVICES THAT ARE CERTIFIED TO MEET NCHRP350 SAFE-CRASH STANDARDS OR ARE MODIFIED BY CONTRACT DOCUMENTS. DO NOT USE HEAVY, NON-YIELDING DEVICES OR SUPPORTS THAT DO NOT CONFORM TO THE CURRENT STANDARDS OF NCHRP350 UNLESS ALLOWED BY CONTRACT DOCUMENTS.

PAVEMENT SPECIFICATIONS

1. GENERAL

- ALL CONSTRUCTION OF ANY PROJECT SHALL BE IN CONFORMANCE WITH CITY OF TALLMADGE'S CODIFIED ORDINANCE, INCLUDING CHAPTER 905 STREETS, AND THE OHIO REVISED CODE.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING PAVEMENT SYSTEM RESULTING FROM NEGLIGENCE OR NON-COMFORMANCE WITH APPROVED PLANS. ANY PAVEMENT DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH SAME MATERIAL (CONCRETE WITH CONCRETE). SEE SPECIFICATIONS FOR DESCRIPTIONS OF SPECIFIC PAVEMENT TYPES.
- NO PERSON, FIRM, CORPORATION OR CONTRACTOR SHALL COMMENCE ANY WORK IN/ON THE PUBLIC RIGHT-OF-WAY WITHOUT FIRST FILING ALL PROPER PERMITS AND BONDS PER THE CITY OF TALLMADGE CODE.
- THE CONTRACTOR SHALL FIELD VERIFY ANY AND ALL UTILITIES THE LOCATION AND IS RESPONSIBLE FOR CONTACTING OUPS (OHIO UTILITY PROTECTION SERVICES) PRIOR TO ANY EXCAVATION OR SURVEYING.
- ALL CONTRACTORS PERFORMING WORK ON CITY STREETS MUST ABIDE BY ALL GENERAL NOTES THAT APPLY OF THE CITY DEVELOPMENT STANDARDS AND/OR OTHER CITIES POLICIES AND PRACTICES DEEMED TO BE RELEVANT AND ACCEPTABLE BY THE STREET SUPERINTENDENT.
- PRIOR TO ACCEPTANCE BY THE CITY OF TALLMADGE ENGINEER, THE SUBGRADE IN ALL AREAS TO BE PAVED SHALL BE PROPERLY PREPARED AND PROOF ROLLED PER ODOT CMS.
- PERFORM PAVEMENT REPAIR PER CURRENT ODOT PAVEMENT REPAIR STANDARDS AS DIRECTED BY CITY OF TALLMADGE ENGINEER OR CITY'S REPRESENTATIVE.
- THE PAVING CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL MONUMENT BOX ASSEMBLIES. SETTING OF ALL MONUMENT BOXES SHALL BE PERFORMED UNDER THE SUPERVISION OF A REGISTERED SURVEYOR.
- PAVING CONTRACTORS SHALL BE RESPONSIBLE FOR ADJUSTING MANHOLE, INLET, AND VALVE BOX ASSEMBLIES TO FINAL PAVEMENT ELEVATION. ADJUST MANHOLES TO GRADE PER DETAIL SHOWN ON SHEET MH-1.
- ASPHALT TESTING:** A MINIMUM OF TWO ASPHALT SAMPLES MUST BE TAKEN FOR EACH ROAD THAT IS RESURFACED. ONE SAMPLE MUST INCLUDE INTERMEDIATE COURSE, AND ANOTHER SAMPLE MUST BE USED ON TOP COURSE. ANY ROAD OR LOCATION THAT EXCEEDS 700 TONS MUST RECEIVE ADDITIONAL TEST(S). ON NEW CONSTRUCTION PROJECTS, AN ADDITIONAL SAMPLE OF THE BASE COURSE MUST ALSO BE COMPLETED. THE TEST MUST BE COMPLETED BY A CERTIFIED COMPANY. EACH SAMPLE MUST HAVE THE ADDRESS, DATE, TEMPERATURE, AND WEATHER CONDITIONS OF THE TIME OF WHEN THE SAMPLE WAS COMPLETED. TESTING MUST INCLUDE A COPY OF THE MIX DESIGN. THE ASPHALT MUST MEET THE REQUIREMENTS OF THE SUBMITTED AND APPROVED MIX. ADDITIONALLY NOT LESS THAN SIXTY PERCENT (60%) BY WEIGHT OF CRUSHED GRAVEL SHALL CONSIST OF PIECES HAVING TWO OR MORE FACES BEING FRESHLY FRACTURED.
- FULL DEPTH REPAIRS:** STANDARD FOR PAVEMENT REPAIR WILL BE 8-INCH DEPTH OF EXCAVATION. THIS CAN BE ACCOMPLISHED BY USE OF AN EXCAVATING MACHINE OR A PAVEMENT MILLING MACHINE. THIS ITEM CONSISTS OF THE EXCAVATION AND DISPOSAL OF ALL MATERIALS WITHIN THE REPAIR AREA. INSTALL 8 INCHES OF 301 BITUMINOUS AGGREGATE BASE ASPHALT COMPACTED IN PROPER LIFTS AND AC THE EDGES OF THE REPAIR AREA. ALL AREAS WILL BE DETERMINED AND APPROVED BY THE CITY OF TALLMADGE AT THE TIME OF CONSTRUCTION.
- ELIMINATING DRIVEWAYS:** ANYTIME THERE IS A NEW LOCATION OF DRIVEWAY INSTALLED, EXISTING APRON LOCATION MUST BE RESTORED. THIS INCLUDES CURBING, SIDEWALK, AND LAWN RESTORATION.
- VERTICAL CURBING:** VERTICAL CURBING MUST BE 6"X18". THE CURB SHALL MATCH THE EXISTING TO BE REPLACED OR REPAIRED.
- COLD WEATHER PAVING:** ASPHALT PAVEMENT SHALL ONLY BE PLACED PER ODOT CMS SECTION 401.06 UNLESS EXPLICIT APPROVAL BY THE CITY HAS BEEN GIVEN IN WRITING. ANY PAVEMENT PLACED OUTSIDE OF THESE REQUIREMENTS SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE PROJECT.

2. ASPHALT CONCRETE PAVEMENT TYPE 1

- THE CONTRACTOR SHALL SUBMIT A MIX DESIGN FORMULA FOR ALL ASPHALT CONCRETE BEING USED IN THE PROJECT FOR APPROVAL BY THE CITY OF TALLMADGE ENGINEER. CRUSHED AGGREGATE FOR ITEM SURFACE ASPHALT CONCRETE SHALL BE CRUSHED Limestone OR CRUSHED GRAVEL AND SHALL HAVE A MINIMUM OF SIXTY (60) PERCENT BY WEIGHT OF FRACTURED PIECES. THE SURFACE COURSE WILL BE INSTALLED 1 1/2" TO 2" THICK.
- THE CONTRACTOR SHALL PLACE A 7" ODOT ITEM 301 LAYER TO BE INSTALLED IN (2) TWO 3-1/2" LIFTS.
- USE CURRENT ODOT ITEM 251, 252, AND/OR 253 AS DIRECTED TO REPAIR DAMAGED PAVEMENT PRIOR TO RESURFACING. INCLUDED IN THIS ITEM IS THE REMOVAL OF PAVEMENT, SUBGRADE COMPACTION, INSTALLING BITUMINOUS AGGREGATE BASE AND AC EDGES OF THE REPAIR AREAS.
- USE CURRENT ODOT ITEM 254; THIS ITEM IS FOR PAVEMENT MILLING AND BUTT JOINT AT ALL INTERSECTIONS ROADS AS MARKED OUT BY THE CITY. BUTT JOINTS ARE TO PER ODOT STANDARDS.
- PLACE CURRENT ODOT ITEM 422; IT IS THE CITY'S INTENTION TO SEAL COAT THE PAVEMENT BEING APPLIED ON THE ENTIRE ROADWAY BEFORE PLACING THE LEVELING COURSE.
- ITEM 209 -- PREPARING SHOULDER FOR SUBGRADE PAVING AND ITEM 617 -- COMPACTED AGGREGATE AS DIRECTED BY THE CITY. THIS WORK CONSISTS OF PREPARING, FURNISHING, SHOULDER PLACEMENT AND COMPACTION ALONG THE EDGE OF PAVEMENT IMMEDIATELY AFTER THE MAIN LANE PAVING IS DONE.
- THE MAINTENANCE BOND WILL BE HELD FOR A MINIMUM OF TWO YEARS FROM THE DATE OF FINAL PLACEMENT OF CONCRETE OR WHEN THE PERFORMANCE IS COMPLETED.
- THE CONTRACTOR SHALL INSTALL PAVEMENT MARKINGS PER ITEM 642 AS NEEDED.

GENERAL CONSTRUCTION NOTES

- EXCAVATION**

EXCAVATED MATERIALS WHICH ARE UNSUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF OFFSITE AT THE CONTRACTORS EXPENSE. THE TYPE OF MATERIAL BELOW THE SURFACE IS NOT KNOWN ACROSS ALL AREAS OF SITE. EXCAVATION SHALL BE THROUGH WHATEVER MATERIAL IS ENCOUNTERED.
- REMOVAL OF TREES AND/OR STUMPS**

ALL TREES OR STUMPS WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED AS REQUIRED. TREES NOT SPECIFICALLY REQUIRED TO BE REMOVED SHALL BE PRESERVED UNLESS OTHERWISE APPROVED IN THE FIELD BY THE OWNER OR ENGINEER. NO ADJUSTMENT WILL BE MADE TO THE CONTRACT.
- RESTORATION**

THE CONTRACTOR SHALL PROVIDE FOR PROTECTION OF THE EXISTING STREETS AND STRUCTURES; THE MAINTENANCE OF THE STREETS, DRIVEWAYS, SIDEWALKS, CURBS, GUTTERS, RESEEDING AND RESODDING, REMOVAL OF TREES, THE MAINTENANCE OF THE CONSTRUCTION AREA DURING PROGRESS OF THE WORK AND THE COMPLETE RESTORATION OF THE CONSTRUCTION AREA TO ITS ORIGINAL CONDITION AT THE COMPLETION OF THE WORK.

THE CONTRACTOR SHALL CONTINUOUSLY CARRY ON WITH THE FINAL RESTORATION OF THE CONSTRUCTION AREA AFTER THE BACKFILLING IS COMPLETED, AND, AS DIRECTED BY THE PROJECT REPRESENTATIVE, HE SHALL PROCEED TO RESTORE TO ITS ORIGINAL CONDITION ALL STREETS, DRIVEWAYS, SIDEWALKS, CURBS, GUTTERS, STRUCTURES, AND ALL AREAS THAT WHERE DAMAGED, DISTURBED, OR OCCUPIED BY THE CONTRACTOR IN CONNECTION WITH ANY PHASE OF THE WORK.

PAVEMENT, TREES, SHRUBS, FENCES, POLES OR OTHER PROPERTY AND SURFACE STRUCTURES WHICH HAVE BEEN DAMAGED, REMOVED, OR DISTURBED BY THE CONTRACTOR, WHETHER DELIBERATELY OR THROUGH FAILURE TO CARRY OUT THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, STATE LAWS, MUNICIPAL ORDINANCES, OR THE SPECIFIC DIRECTION OF THE PROJECT REPRESENTATIVE, THROUGH FAILURE TO EMPLOY USUAL AND REASONABLE SAFEGUARDS SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

- PAVEMENT REMOVED**

WHERE PLANS REQUIRE PAVEMENT REMOVED AT EXISTING ROADS OR PAVED AREAS TO REMAIN, SAWING OF PAVEMENT PRIOR TO PAVEMENT REMOVAL IS INCIDENTAL. IF FULL DEPTH PAVEMENT IS NOT ENCOUNTERED, IT IS THE INTENT TO REPLACE WITH FULL DEPTH TO EXISTING EDGE OF FULL DEPTH PAVEMENT. EXISTING PAVEMENT THAT IS LOCATED CLOSE TO LARGE TREES SHOULD BE REMOVED BY HAND IN ORDER TO KEEP TREES UNHARMED.
- UTILITY ADJUSTMENTS TO GRADE**

MANHOLES, VALVE BOXES, CURB BOXES, CHAMBERS AND OTHER STRUCTURES SHALL BE ADJUSTED TO GRADE PER THE GIVEN UTILITY COMPANY'S RULES AND REGULATIONS. EXCAVATION SHALL BE THROUGH WHATEVER MATERIAL IS ENCOUNTERED. EXISTING CASTINGS TO BE REUSED OR REPLACED IF NOT IN GOOD CONDITION.

EROSION CONTROL

- THE CONTRACTOR(S) SHALL CONDUCT HIS WORK IN AN ENVIRONMENTALLY SOUND MANNER AND SHALL UTILIZE "BEST MANAGEMENT PRACTICES" (BMP'S) TO REDUCE OR ELIMINATE POLLUTANTS IN STORM WATER DISCHARGES DURING THE CONSTRUCTION OF THIS PROJECT.
- PROVIDE EROSION CONTROL DEVICES COMPLETELY AROUND ADJACENT STORM WATER STRUCTURES.
- CONTRACTORS ARE ADVISED THAT CARE SHOULD BE EXERCISED DURING UNDERGROUND EXCAVATION IN THE EVENT THAT UTILITY LINES ARE PRESENT THAT ARE UNCHARGED.
- THE EXISTING UTILITY INFORMATION DEPICTED ARE APPROXIMATE LOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL EXISTING UTILITIES (2) TWO WORKING DAYS BEFORE ANY EXCAVATION OCCURS ON SITE AND PRIOR TO THE COORDINATION OF THE NEW UTILITIES LAYOUT AND INSTALLATION. **CALL 811 BEFORE YOU DIG.**
- IF, DURING THE CONSTRUCTION, INTERFERENCE ARESSES WITH EXISTING UTILITIES IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE UTILITY COMPANY INVOLVED. THE CONTRACTOR SHALL NOTIFY, AT LEAST (7) SEVEN DAYS BEFORE BREAKING GROUND, ALL PUBLIC SERVICE CORPORATIONS HAVING WIRES, POLES, PIPES, CONDUITS, MANHOLES, OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED AND NOT SHOWN ON THESE PLANS. THERE WILL BE NO DELAYS ALLOWED FOR UTILITY INTERFERENCES.
- ALL AREAS DISTURBED OR DAMAGED OUTSIDE THE LIMITS OF CONSTRUCTION SHALL BE REPAIRED AT NO COST TO THE OWNER AND TO THE SATISFACTION OF THE OWNER.
- THERE SHALL BE NO CONSTRUCTION EQUIPMENT, VEHICLES, OR STORAGE ON ANY FINISHED SURFACES.
- PRIOR TO COMMENCEMENT OF EARTH DISTURBING ACTIVITIES, A PRE-CONSTRUCTION MEETING IS TO BE HELD. ALL REQUIRED CONTACT NAMES AND NUMBER WILL BE LISTED ON A PRE-CONSTRUCTION MEETING FORM PROVIDED SEPARATELY BY ARCHITECT. ANY SUBCONTRACTOR(S) REQUIRED TO BE A CO-PERMITTEE BY LOCAL JURISDICTIONS MUST BE LISTED AND PROVIDE A COPY OF THEIR NOTICE OF INTENT OR CO-PERMIT TO THE OWNER AND ATTACH TO THIS SWP3.
- PROJECT INFORMATION: THIS PROJECT INCLUDES, BUT IS NOT LIMITED TO, EARTHWORK MOVEMENT IN PREPARATION OF AN EMERGENCY RESPONSE STATION, SANITARY SEWER SERVICE, DOMESTIC WATER SERVICE LINE, PARKING LOTS, ROADS, AND POWER.

CONSTRUCTION SEQUENCE

- INSTALL TEMPORARY CONSTRUCTION ENTRANCE PER THE SITE DRAWINGS BEFORE ANY CONSTRUCTION BEGINS OR SUPPLIES ARE DELIVERED.
- ALL PERIMETER SILT FENCE AND OTHER INITIAL EROSION CONTROLS APPLICABLE ON THE SITE DRAWINGS SHALL BE IN PLACE BEFORE ANY OTHER EARTH MOVING ACTIVITIES COMMENCE.
- POST ALL APPLICABLE SIGNS, INCLUDING THE NOTICE OF INTENT (NOI), AND HAVE THIS SWP3 WITH EROSION AND SEDIMENT CONTROL PLANS AT THE SITE FOR CONTINUAL USE AND MODIFICATION. POST "CONSTRUCTION SITE NOTICE" SIGN INCLUDING INFORMATION SUCH AS THE GENERAL CONTRACTOR NAME, GENERAL CONTRACTOR ADDRESS, GENERAL CONTRACTOR CONTACT/NUMBER, AND PROJECT NAME.
- PHASING OF WORK TO ALLOW EXISTING VEGETATIVE AREAS OR BUFFERS TO REMAIN AS LONG AS POSSIBLE IS ENCOURAGED.
- EROSION CONTROL DEVICES MUST BE INSPECTED ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF 0.5 INCHES OR GREATER RAINFALL FOLLOWING EACH INSPECTION. A CHECKLIST MUST BE COMPLETED AND SIGNED BY THE QUALIFIED INSPECTION PERSONNEL REPRESENTATIVE. THE INSPECTION REPORT MUST INCLUDE AT A MINIMUM:
 - INSPECTION DATE
 - NAMES, TITLES AND QUALIFICATIONS OF INSPECTION PERSONNEL
 - WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION OF ACTIVITY IF 1ST INSPECTION)
 - WEATHER INFO AND A DESCRIPTION OF ANY DISCHARGES OCCURRING AT THE TIME OF INSPECTION
 - LOCATION(S) OF BMP'S THAT NEED TO BE MAINTAINED
 - LOCATION(S) OF BMP'S THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION
 - LOCATION(S) WHERE ADDITIONAL BMP'S ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION
 - CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWP3 NECESSARY AND IMPLEMENTATION DATESDOCUMENTS REGARDING THESE INSPECTIONS MUST BE KEPT AT THE SITE AND BE MADE AVAILABLE UPON REQUEST
- INSTALL ANY SEDIMENT TRAPS AND/OR BASINS PER THE SITE DRAWINGS, AS SOON AS POSSIBLE, DURING THE CLEARING AND EXCAVATION OF THE SITE. PROVIDE TEMPORARY GRADING TO DIRECT WATER TO TRAPS/BASINS.
- ALL SILT FENCES MUST BE INSPECTED AND NEEDED REPAIRS IMPLEMENTED AFTER EVERY STORM EVENT. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN MATERIAL REACHES DEPTH OF (1/3) ONE-THIRD THE FENCE HEIGHT.
- SEDIMENT TRAPS SHALL HAVE THE COLLECTED SEDIMENT REMOVED WHEN SEDIMENT HAS ACCUMULATED TO THE TOP OF THE SEDIMENT STORAGE ZONE (WHEN 40 PERCENT OF THE POND DEPTH HAS BEEN FILLED). THIS ELEVATION SHALL BE IDENTIFIED WITH BY THE TOP OF A STAKE LOCATED NEAR THE CENTER OF TRAP.
- PERIODICALLY, THE STONE IN THE CONSTRUCTION ENTRANCE SHOULD BE RAKED TO INCREASE INFILTRATION AND FILTERING. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED. BULK CLEARING OF ACCUMULATED SEDIMENT BY FLUSHING THE AREA WITH WATER SHALL NOT BE PERMITTED. CLEARED SEDIMENT SHALL BE RETURNED TO THE POINT OF LIKELY ORIGIN OR OTHER APPROVED LOCATION BEFORE THE END OF EACH WORKDAY, EITHER BY SCRAPING OR SWEEPING. CONTINUE INSTALLING/MODIFYING EROSION CONTROLS AS THE CONSTRUCTION OF SITE UTILITIES, FOUNDATIONS, AND STRUCTURES CHANGE THE TOPOGRAPHY OF THE SITE.
- THE GENERAL CONTRACTOR WILL KEEP WRITTEN DOCUMENTATION OF MAJOR EARTHMOVING ACTIVITIES USING A SITE LOG INDICATING START AND STOP DATES FOR DEFINED AREAS OF THE SITE. NOTE THESE AREAS ON THE SITE DRAWINGS WHEN POSSIBLE.
- REMOVE TEMPORARY OR SEDIMENT CONTROL PRACTICES ONCE FINAL STABILIZATION/VEGETATION HAS BEEN ESTABLISHED.
- KEEP ALL SWPPP DOCUMENTS, INCLUDING INSPECTION CHECKLISTS, ON FILE FOR (3) THREE YEARS FROM TERMINATION.

SILT FENCE AND FILTER BARRIER PLACEMENT NOTES:

1. SHEET (OVERLAND) AND CHANNEL FLOW APPLICATIONS

- THE HEIGHT OF THE FILTER BARRIER SHALL BE AT LEAST (15) FIFTEEN INCHES AND NO GREATER THAN (18) EIGHTEEN INCHES.
- STANDARD STRENGTH FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL TO AVOID JOINTS.
- STAKES FOR FILTER BARRIERS SHALL BE AT A MINIMUM OF ONE INCH BY TWO INCH (1" X 2") WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF (3) THREE FEET.
- MAXIMUM STAKE SPACING SHALL BE (3) THREE FEET.
- CONSTRUCT A FOUR INCH BY FOUR INCH (4" X 4") TRENCH ALONG THE LINE OF THE STAKES AND UPSLOPE FROM THE BARRIER.
- THE FILTER MATERIAL IS EXTENDED INTO THE TRENCH.
- THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER MATERIAL.
- IF A FILTER BARRIER IS TO BE CONSTRUCTED ACROSS A DITCH LINE OR SWALE, THE BARRIER SHALL BE OF SUFFICIENT LENGTH TO ELIMINATE END FLOW, AND THE PLAN CONFIGURATION SHALL RESEMBLE AN ARC OR HORSESHOE. PLACEMENT OF FILTER BARRIER SHALL FOLLOW THE CONTOUR.

2. MAINTENANCE

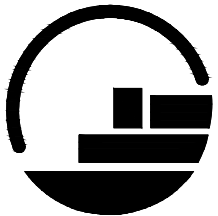
- FILTER BARRIERS SHALL BE INSPECTED AFTER EACH RAIN EVENT.
- SEDIMENT REMOVAL SHALL OCCUR WHEN THE DEPOSITS REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, AND SEED.

GRADING NOTES

- ALL DISTURBED AREAS WHICH REMAIN INACTIVE FOR MORE THAN (14) FOURTEEN DAYS BUT LESS THAN ONE YEAR OR FOR AREAS TO BE PERMANENTLY STABILIZED AT FINAL GRADE SHALL BE STABILIZED BY SEEDING, SODDING, MULCHING, COVERING OR OTHER EQUIVALENT EROSION CONTROL MEASURES AS SOON AS PRACTICAL BUT IN NO CASE MORE THAN (7) SEVEN DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SEEDING SHALL BE DONE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.
- AREAS TO BE PERMANENTLY STABILIZED FOR FINAL GRADE SHALL BE STABILIZED BY SEEDING, SODDING MULCHING, COVERING OR OTHER EQUIVALENT EROSION CONTROL MEASURES WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE OR WITHIN (7) SEVEN DAYS OF REACHING FINAL GRADE.
- ALL DISTURBED AREAS WHICH REMAIN INACTIVE FOR ONE YEAR OR MORE SHALL BE STABILIZED BY SEEDING, SODDING MULCHING, COVERING OR OTHER EQUIVALENT EROSION CONTROL MEASURES WITHIN SEVEN DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. ALL SUCH AREAS REMAINING INACTIVE OVER WINTER SEASON SHALL BE STABILIZED BY SEEDING, SODDING, MULCHING, COVERING OR OTHER EQUIVALENT EROSION CONTROL MEASURES AS SOON AS PRACTICAL BEFORE THE ONSET OF WINTER WEATHER.
- PROPOSED CONTOURS REPRESENT FINISH.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPACTING ALL AREAS OF FILL. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ODOT 203.
- THE CONTRACTOR SHALL REPAIR AND OR REPLACE AREAS OF ROADS OR SIDEWALKS DAMAGED DURING CONSTRUCTION ACTIVITIES AT THE OWNERS DISCRETION.
- THE CONTRACTOR IS RESPONSIBLE TO VERIFY THAT AREAS DRAIN, INCLUDING PAVED AREAS, SWALES AND PROPOSED STORM SYSTEMS. SHOULD ANY AREA NOT DRAIN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR RESOLUTION.
- THE CONTRACTOR IS RESPONSIBLE TO VERIFY THAT PROPOSED IMPROVEMENTS WILL BLEND SMOOTHLY INTO EXISTING FEATURES AND WILL MEET AND MATCH EXISTING CONDITIONS. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL PROVIDE DISPOSAL SITE FOR AL EXCESS WASTE AND FOLLOW ALL GOVERNING RULES REGULATING DISPOSAL.
- OWNER TO PROVIDE SOIL TO COMPLETE GRADING.

SITE PLAN NOTES

- EXISTING SITE PLAN CONDITIONS INDICATED ARE BASED UPON SURVEY PERFORMED BY OTHERS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL CONDITIONS PRIOR TO BIDDING AND OR CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN OWNER ACCESS TO SITE AND OR FACILITIES DURING CONSTRUCTION.
- CONTRACTOR TO FIELD VERIFY ACTUAL FIELD CONDITIONS PRIOR TO COMMENCING WORK. ALL DISTURBED GRASS AREAS, ADJACENT TO OR IN THE CONSTRUCTION ZONE, SHALL BE PROPERLY FILLED WITH TOP SOIL AND COMPACTED AS REQUIRED TO REMOVE ALL RUTS AND OR SURFACE IRREGULARITIES. UPON COMPLETION OF FINISH GRADING, SOD OR SEED SHALL BE PLACED IN ACCORDANCE TO ODOT SECTION 659.
- ALL NEW PAVEMENT AREAS SHALL BE CONSTRUCTED AS PER DETAILS AND SPECIFICATIONS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL NEW AND RESURFACED PAVEMENT AREAS ALONG WITH MODIFIED GRASS AREAS ALLOW THE FOLLOWING: SLOPE DIRECTS RAINFALL AWAY FROM ALL STRUCTURES, AND PAVEMENT/GRASS AREAS ARE CONSTRUCTED IN A MANNER WHICH PROHIBIT ANY AND ALL PONDING.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE PRESENCE OF EXISTING PIPING AND UTILITIES PRIOR TO CONSTRUCTION ACTIVITIES.



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Lexington Cincinnati Cleveland Dallas Charleston



Revisions:
Issue Date: 8/1/2023

HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2

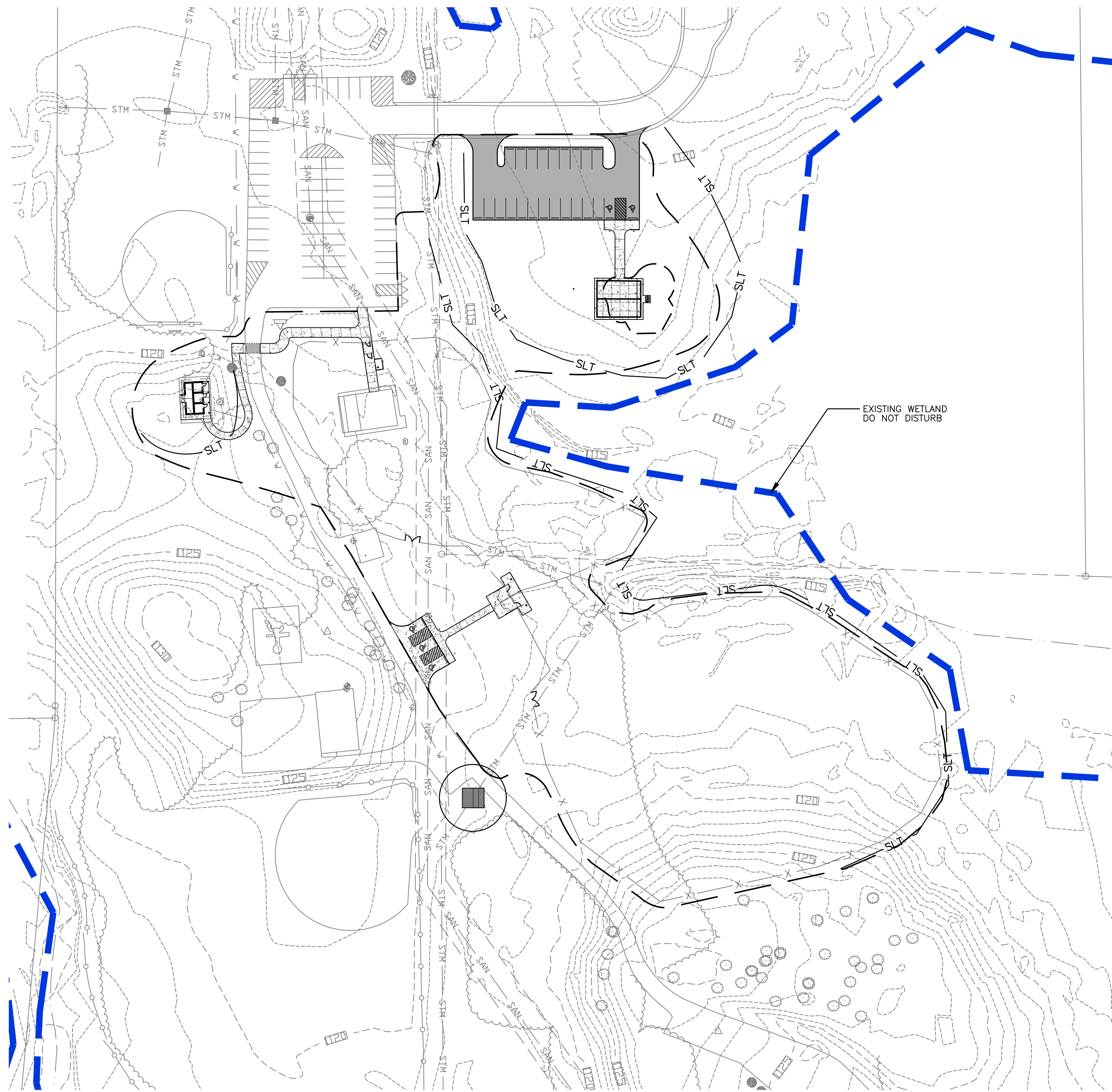
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TALLMADGE, OH 44278

General Notes

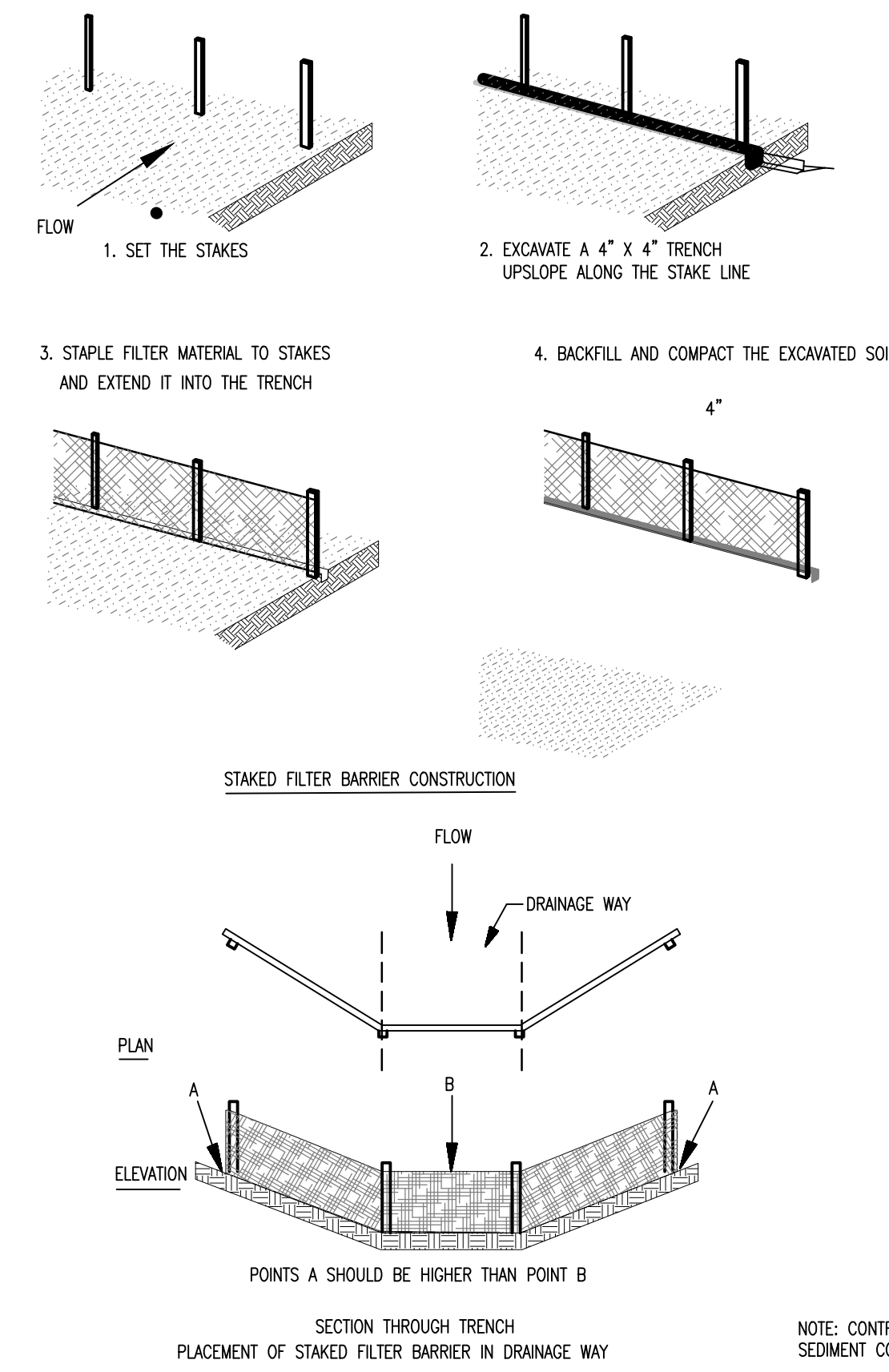
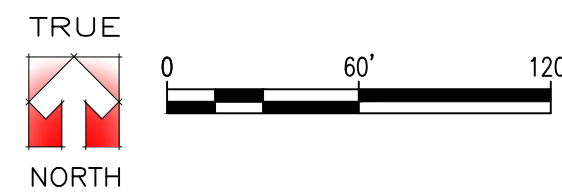
Project No.

G-001

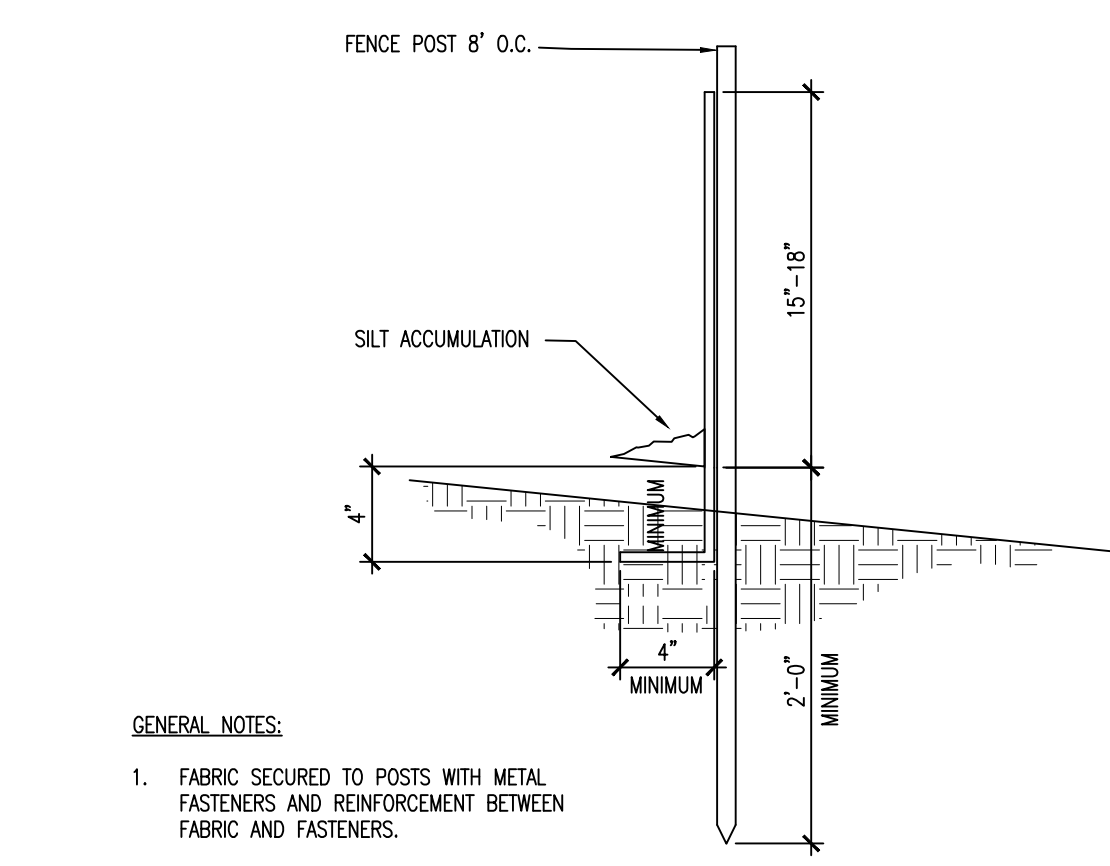
22104



SWPPP Plan
SCALE: 1" = 60'



A1 Silt Fence and Filter Barrier Placement
NTS



A2 Typical Silt Fence Section
NTS



Legend

- ADS FLEX STORM
- SILT FENCE
- WETLAND
- LIMITS OF CONSTRUCTION

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

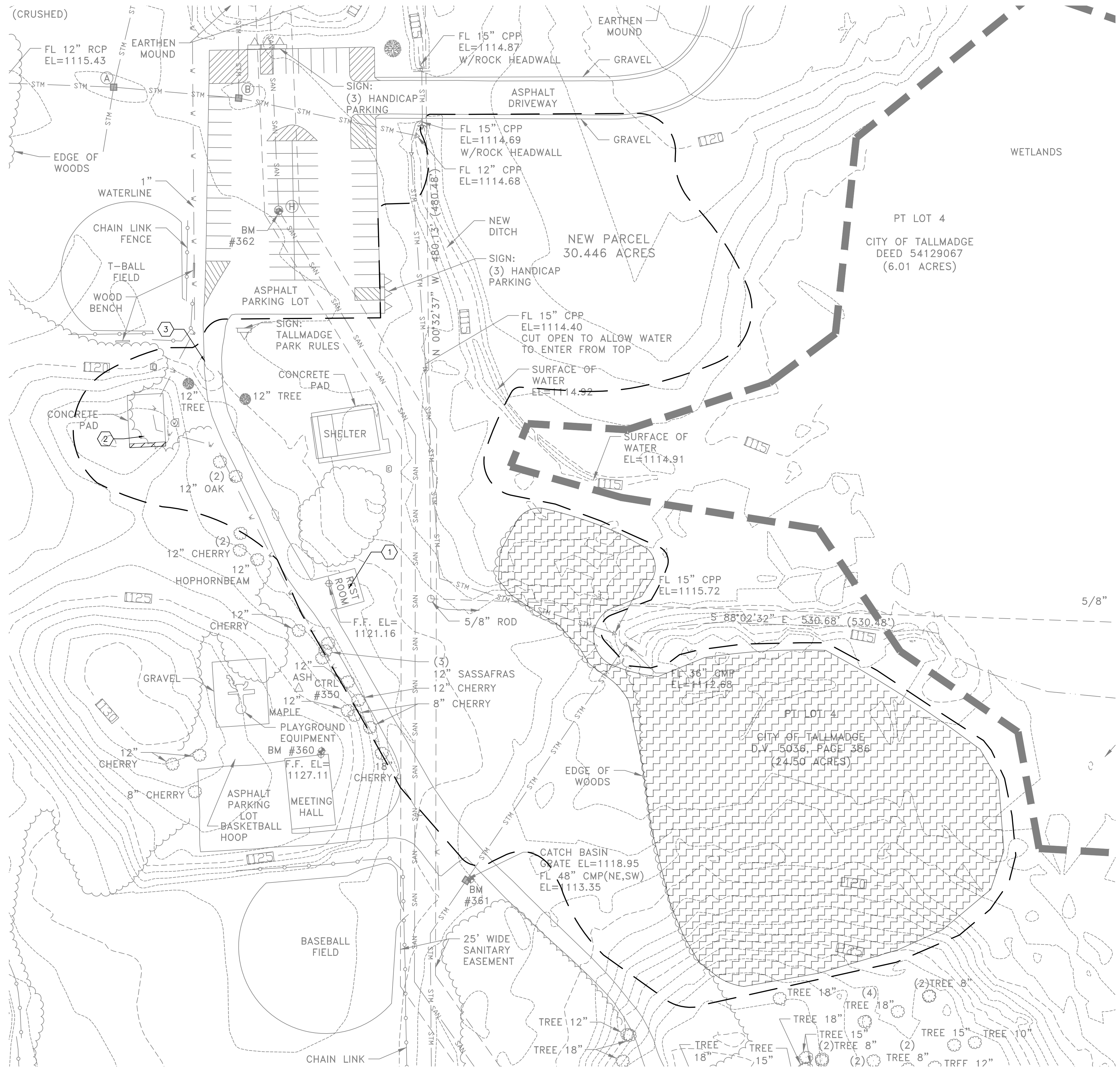
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SWPPP Plan

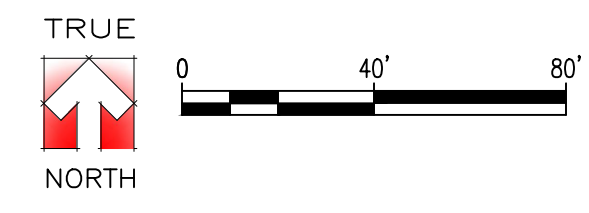
Project No.

22104

C-100



Demolition Plan
SCALE: 1" = 40'



Legend

- CLEAR UNDER BRUSH
PREPARE FOR SEEDING--
SEE SPECIFICATIONS
- LIMITS OF CONSTRUCTION

Coded Notes

- 1 DEMO RESTROOM BLDG (BY OWNER)
- 2 DEMO EXISTING CONCRETE PAD BY OWNER
- 3 REMOVE BOLLARD IN TRAIL BY OWNER

Notes

EXISTING RESTROOM TO REMAIN OPEN AS LONG AS POSSIBLE.
G.C. TO COORDINATE WITH OWNER.

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

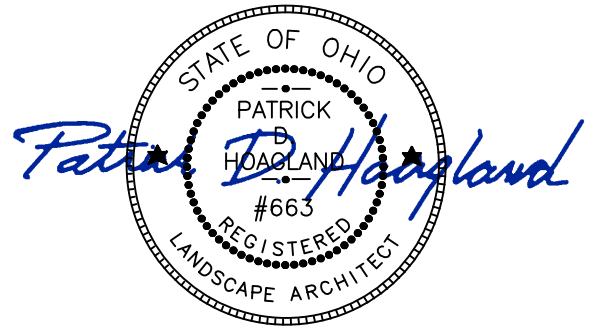
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Demolition Plan


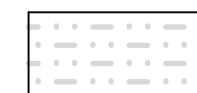
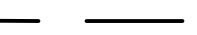
Project No.

22104

C-101



Legend

-  VEHICULAR ASPHALT- SEE A3/C-501
-  CONCRETE WALK/PAD SEE A4/C-501
-  LIMITS OF CONSTRUCTION

Coded Notes

- 1 ASPHALT ROAD PARKING WITH ODOT ITEM 304 SHOULDER (SEE A3/C-501)
- 2 MATCH EXISTING
- 3 GRILL
- 4 PAVEMENT MARKING PER ODOT SECTION 640/642/644
- 5 ADA PARKING SPACE TYP. (SEE B2/C-501)
- 6 PICNIC SHELTER PROVIDED BY OWNER/ INSTALLED BY G.C.
- 7 STOP SIGN (SEE B3/C-501)
- 8 PARKING STRIPE- ALL
- 9 CONCRETE WHEEL STOPS- SEE A2/C-501
- 10 ADA PARKING SIGN

Notes

SEPARATE CONTRACTOR TO SUPPLY AND INSTALL THE SHELTER AND FOOTER. G.C. TO PREPARE SITE AND SUPPLY AND INSTALL CONCRETE PAD AND ELECTRICAL SERVICE, LIGHT, AND 2 OUTLETS. COORDINATE AMONG CONTRACTORS.

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

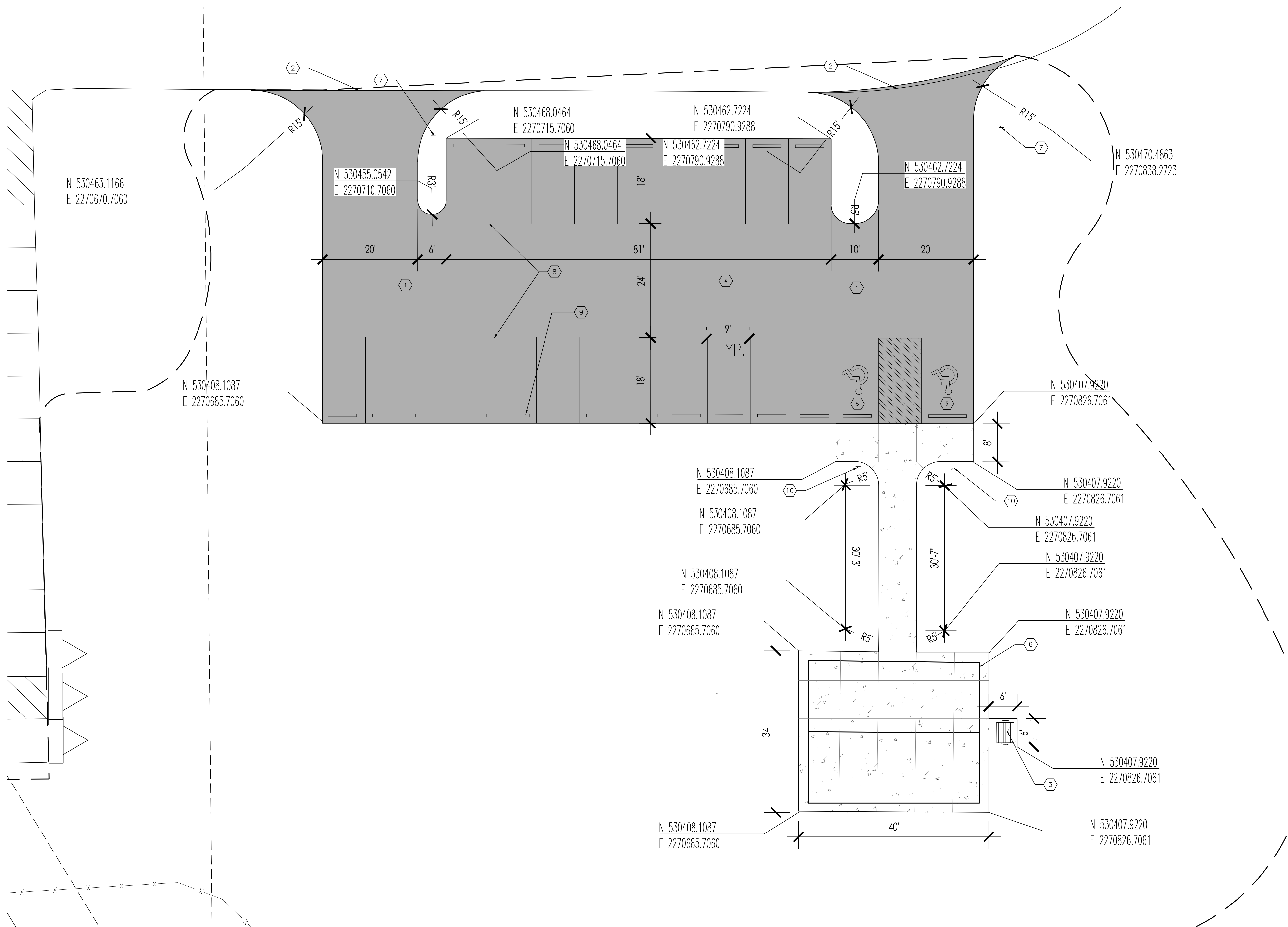
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**Layout & Materials
Plan- North Area**

Project No.

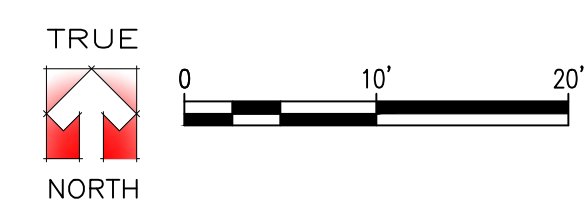
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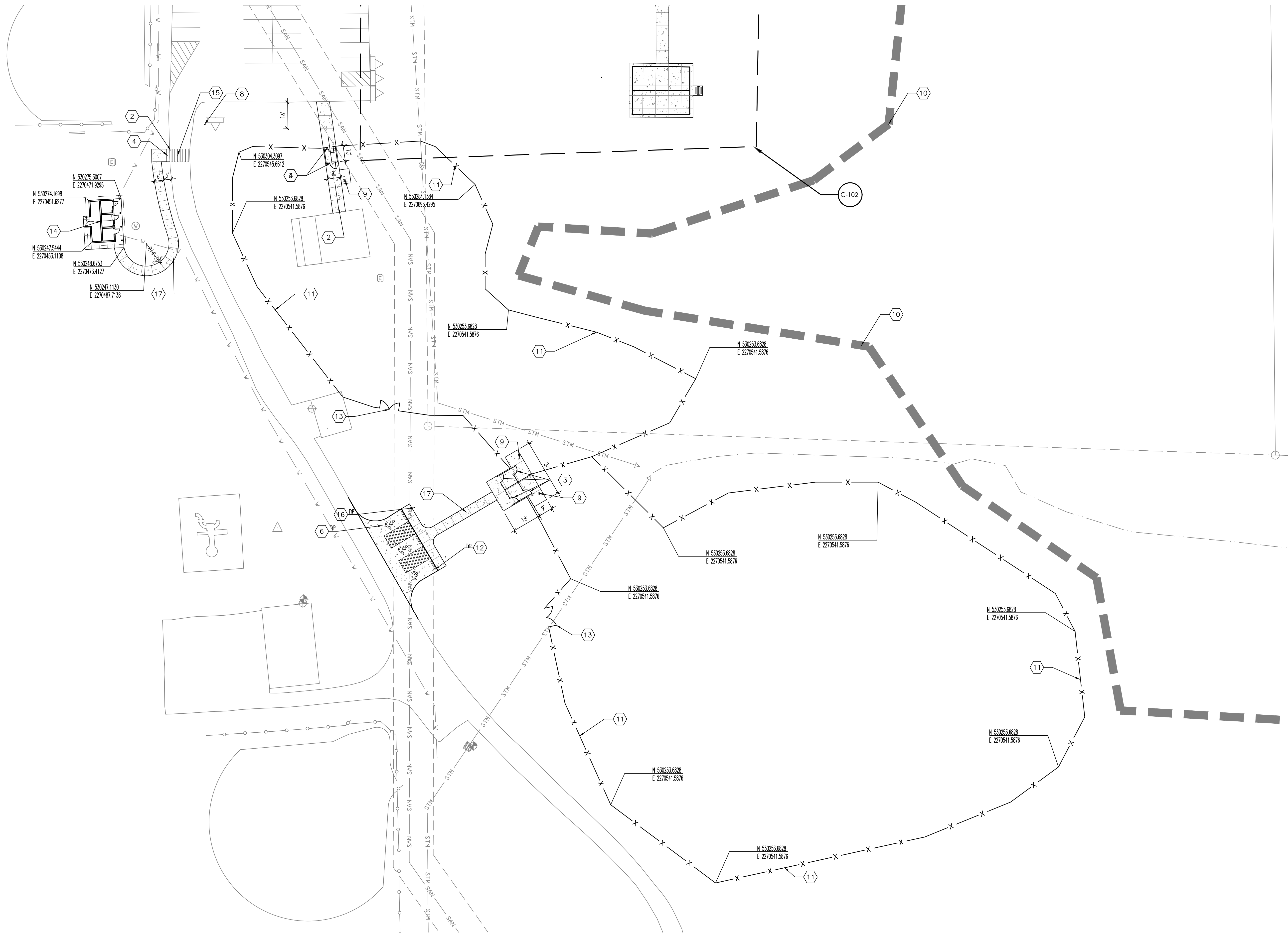
C-102



Site Plan

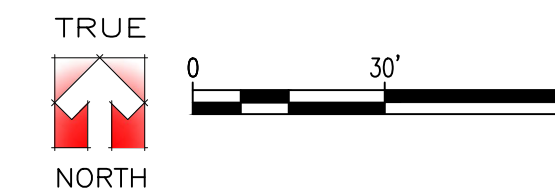
SCALE: 1" = 10'





Site Plan

SCALE: 1" = 30'



Legend

- VEHICULAR ASPHALT - SEE A3/C-501
- CONCRETE WALK-SEE A4/C501

Coded Notes

- 1 FLUSH CURB- SEE A1/C-502
- 2 MATCH EXISTING
- 3 4" WIDE FENCE GATE- C2/C-502
- 4 TACTILE WARNING STRIP- SEE A3/C-502
- 5 PAVEMENT MARKING PER ODOT SECTION 640/642/644- SEE A1/C-501
- 6 ADA PARKING SPACE TYP. (SEE B2/C-501)
- 7 4" CENTER LINE (COLOR: TRAFFIC WHITE)
- 8 STOP SIGN (SEE B3/C-501)
- 9 DOG WATER BOWL B1/502
- 10 EXISTING WETLAND BOUNDARY
- 11 DOG PARK FENCE (STALL) B4/C-502
- 12 CONCRETE WHEEL STOP- SEE A2/C-501
- 13 DOG PARK DOUBLE GATE C4/C-502
- 14 NEW RESTROOM
- 15 CROSSWALK- A1- C-501
- 16 ADA PARKING SIGN- B3/ C-501
- 17 CONCRETE WALK

NOTES: DOG PARK FENCE IS APPROXIMATE LOCATION. STAKE IN FIELD FOR REVIEW BY OWNER.

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

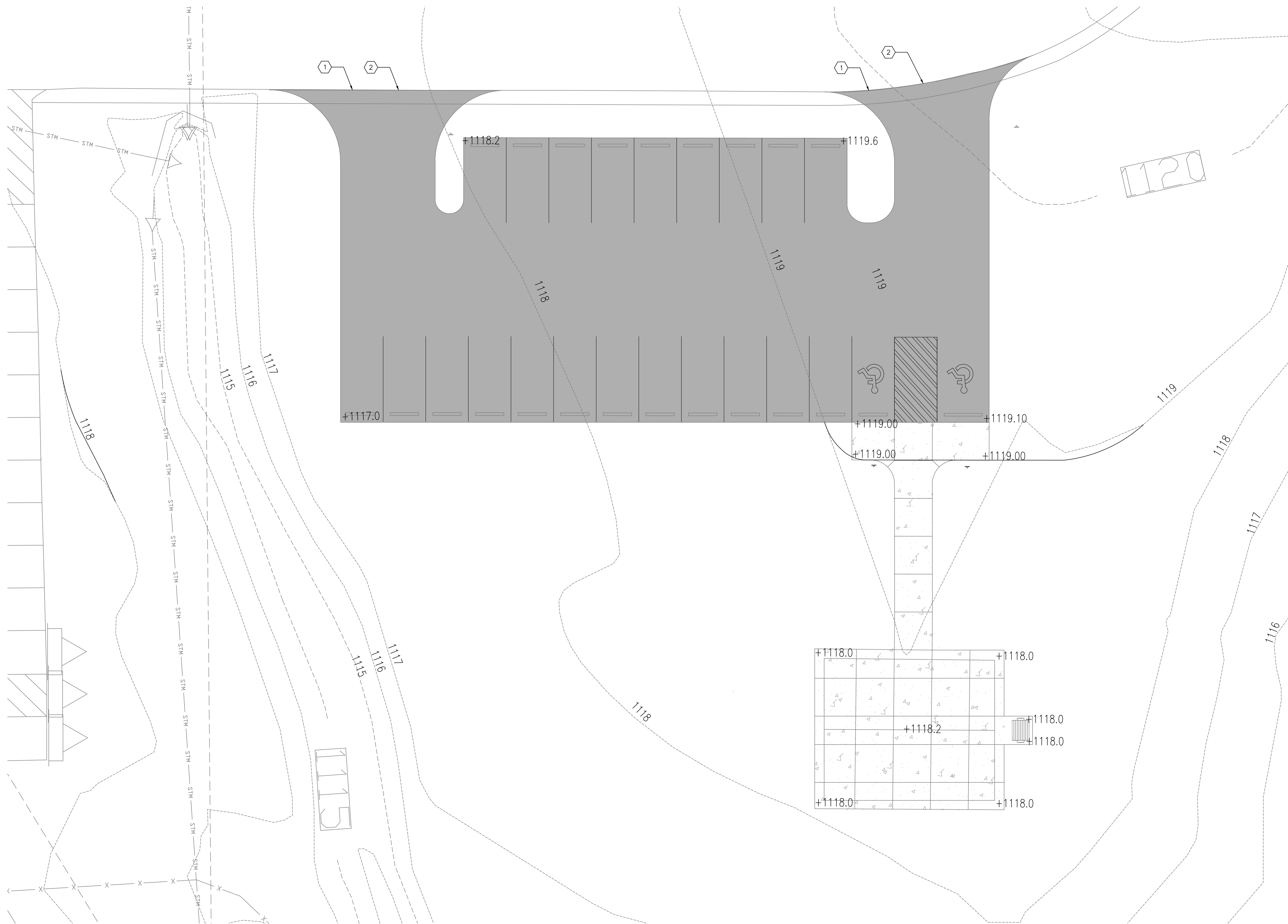
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Layout & Materials
Plan - Dog Park

Project No.

22104

C-103



Site Plan
SCALE: 1" = 10'



Coded Notes

- ① MATCH EXISTING
- ② SEE EDGE KEY DETAIL (B1/C-501)

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

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**Grading Plan
North Area**

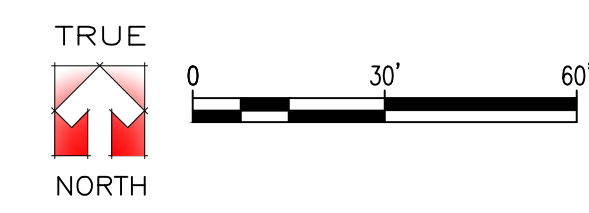
Project No.

C-104

22104



Site Plan
SCALE: 1" = 30'



1 MATCH EXISTING

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

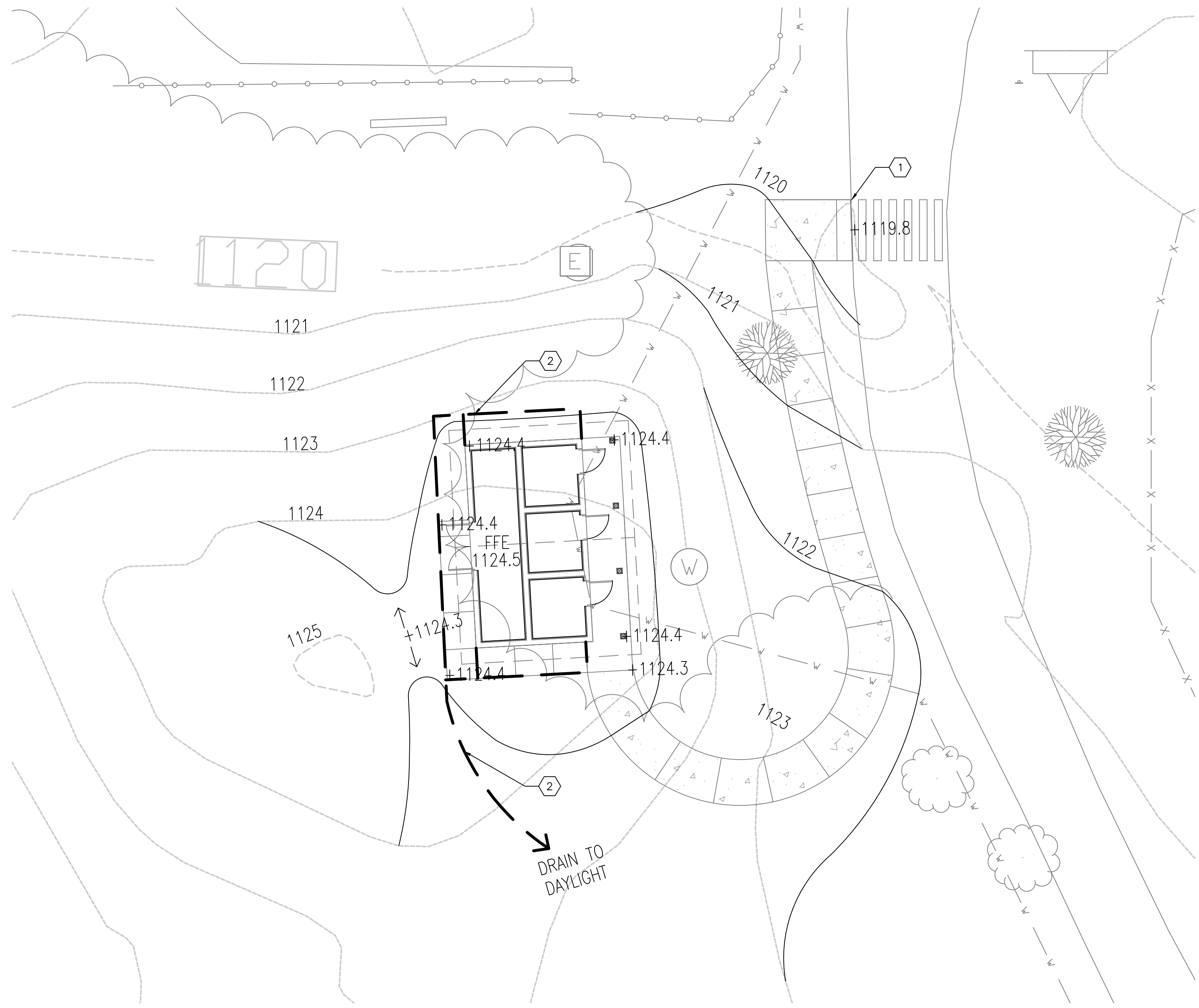
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**Grading Plan
Dog Park Area**

Project No.

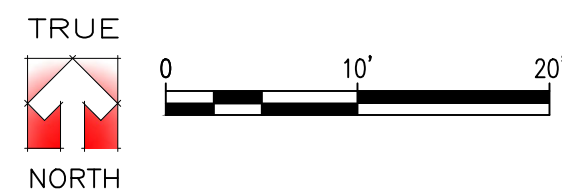
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C-105



Grading Plan

SCALE: 1" = 10'



- ① MATCH EXISTING
- ② DOWN SPOUT DRAIN

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

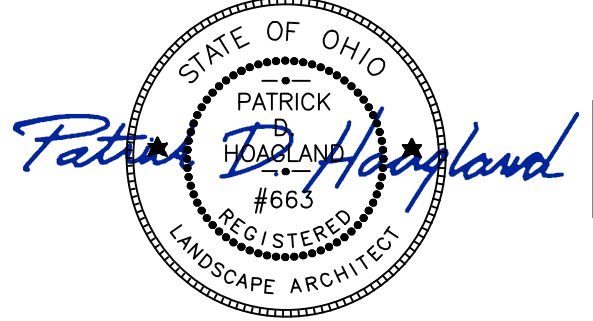
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**Grading Plan
Restroom Area**

Project No.

22104

C-106



Legend

--- LIMITS OF CONSTRUCTION

Coded Notes

- 1 EXISTING 1 1/2" WATER LINE
- 2 DOG BOWL AND VALVE- SEE B3/C502
- 3 EXISTING WATER CONNECTION
- 4 CONNECT TO EXISTING 1 1/2" WATER LINE IN THIS AREA. MAINTAIN WATER LINE TO SOUTH BALL FIELD.

General Notes

- 1. CONTRACTOR TO APPLY FOR SEWER PERMITS.
- 2. ALL WATER LINE TO BE TYPE K COPPER.

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

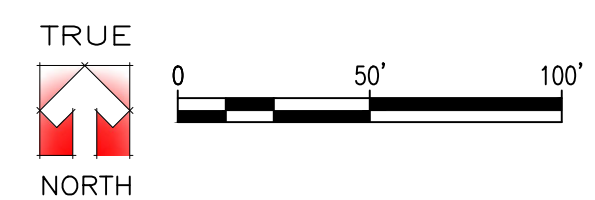
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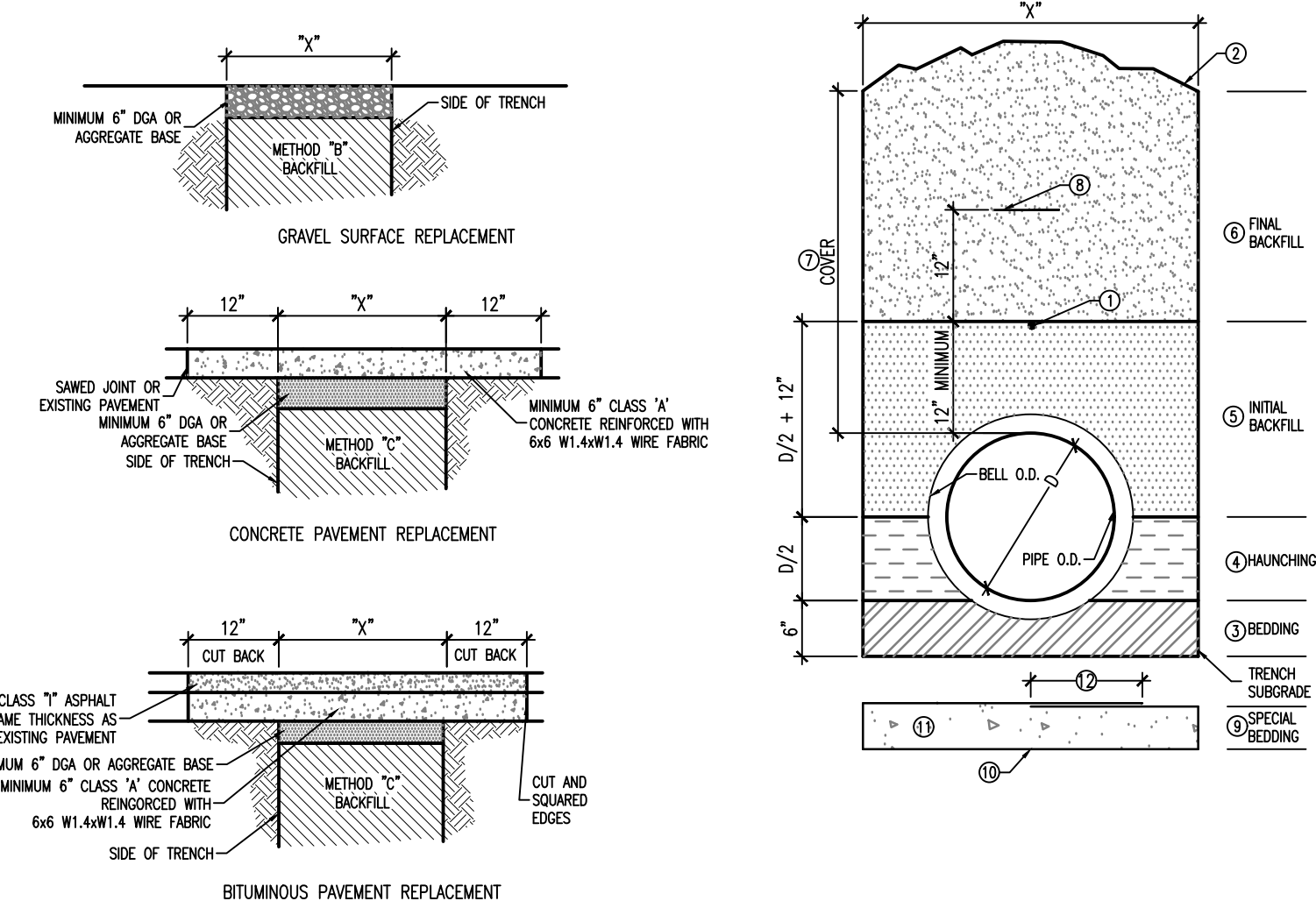
Utilities Plan

Project No.

C-107

22104





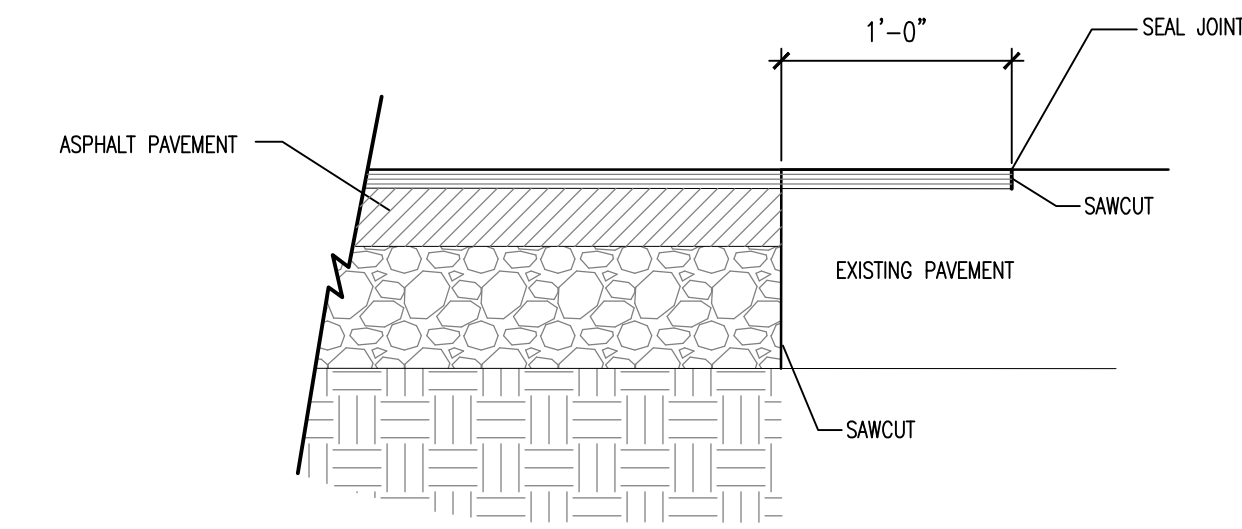
- ① TRACE WIRE - NO. 12 COPPER TRACE WIRE REQUIRED FOR ALL PLASTIC PIPE. EXTEND TO INSIDE OF VALVE BOXES, PUMP STATIONS, ETC.
 - ② SURFACE REPLACEMENT - FOR CONSTRUCTION IN EXISTING STREETS AND ROADS SEE PAVEMENT REPLACEMENT DETAILS. FOR CONSTRUCTION IN ADVANCE OF NEW ROADWAY CONSTRUCTION LAST LIFT OF BACKFILL SHALL BE 6" DENSE GRADED AGGREGATE. FOR OPEN AREAS, HEAP SLIGHTLY AND SEED IN ACCORDANCE WITH SPECIFICATIONS.
 - ③ BEDDING - NO. 9 CRUSHED STONE
 - ④ HAUNCHING - DUCTILE IRON AND CORRUGATED METAL PIPES
SELECT FINE SOIL FREE OF STONES LARGER THAN 3/4" IN DIAMETER (HAND TAMPED).
PLASTIC PIPES
NO. 9 CRUSHED STONE OR SAND FOR PIPE BEDDING (KTC 804.08, ODOT 703.06). NO ALTERNATE!
 - ⑤ INITIAL BACKFILL - DUCTILE IRON AND CORRUGATED METAL PIPES
SELECT FINE SOIL FREE OF STONES LARGER THAN 3/4" IN DIAMETER (HAND TAMPED).
PLASTIC PIPES
NO. 9 CRUSHED STONE OR SAND FOR PIPE BEDDING (KTC 804.08, ODOT 703.06). NO ALTERNATE!
 - ⑥ FINAL BACKFILL - SEE PAVEMENT REPLACEMENT DETAIL FOR APPROPRIATE METHOD
METHOD 'A' - (OPEN AREAS) - BACKFILL PLACED IN 24" LIFTS, AND MECHANICALLY COMPACTED. TRENCH MAY BE LEFT HEAPED UNTIL SEEDING. NO ROCK LARGER THAN 1/2 CUBIC FOOT ALLOWED.
METHOD 'B' - (GRAVELED AREAS) - BACKFILL PLACED IN 6" LIFTS, AND MECHANICALLY COMPACTED TO 95% OF ASTM D-698 FINAL 6" OF BACKFILL TO BE DGA OR AGGREGATE BASE
METHOD 'C' - (PAVED AREAS) - BACKFILL PLACED IN 6" LIFTS, AND MECHANICALLY COMPACTED TO 100% OF ASTM D-698 FINAL 6" OF BACKFILL TO BE DGA OR AGGREGATE BASE
ALTERNATE METHOD 'C' - FINAL BACKFILL SHALL BE NO. 9 CRUSHED STONE.
 - ⑦ COVER - 30" MINIMUM COVER FOR WATER MAINS, WATER SERVICE LINES AND SANITARY SEWERS
24" MINIMUM COVER FOR STORM SEWERS, TELEPHONE CONDUIT AND ELECTRICAL CONDUIT.
 - ⑧ MARKING TAPE - "CAUTION BURIED" -----
- SPECIAL PIPE BEDDING DETAIL
- ⑨ SOFT, MUCKY SUBGRADE SHALL BE OVEREXCAVATED TO THE DEPTH DESIGNATED BY THE ENGINEER.
 - ⑩ INSTALL GEOTEXTILE TYPE II
 - ⑪ INSTALL BEDDING STONE TO DEPTH OF OVEREXCAVATION.
 - ⑫ CLOSE GEOTEXTILE ENVELOPE WITH ONE (1) FOOT OF OVERLAP.
 - ⑬ ORDER - SPECIAL PIPE BEDDING SHALL ONLY BE INSTALLED ON WRITTEN ORDER OF THE ENGINEER.

Pipe Size	"x" Unsupported Trench	"x" Trench Box
< 4"	12"	N.A.
4" - 12"	30"	42"
14" - 18"	36"	48"
20" - 24"	42"	52"
26" - 36"	54"	68"
54"	78"	84"

TRENCH WIDTH TABLE



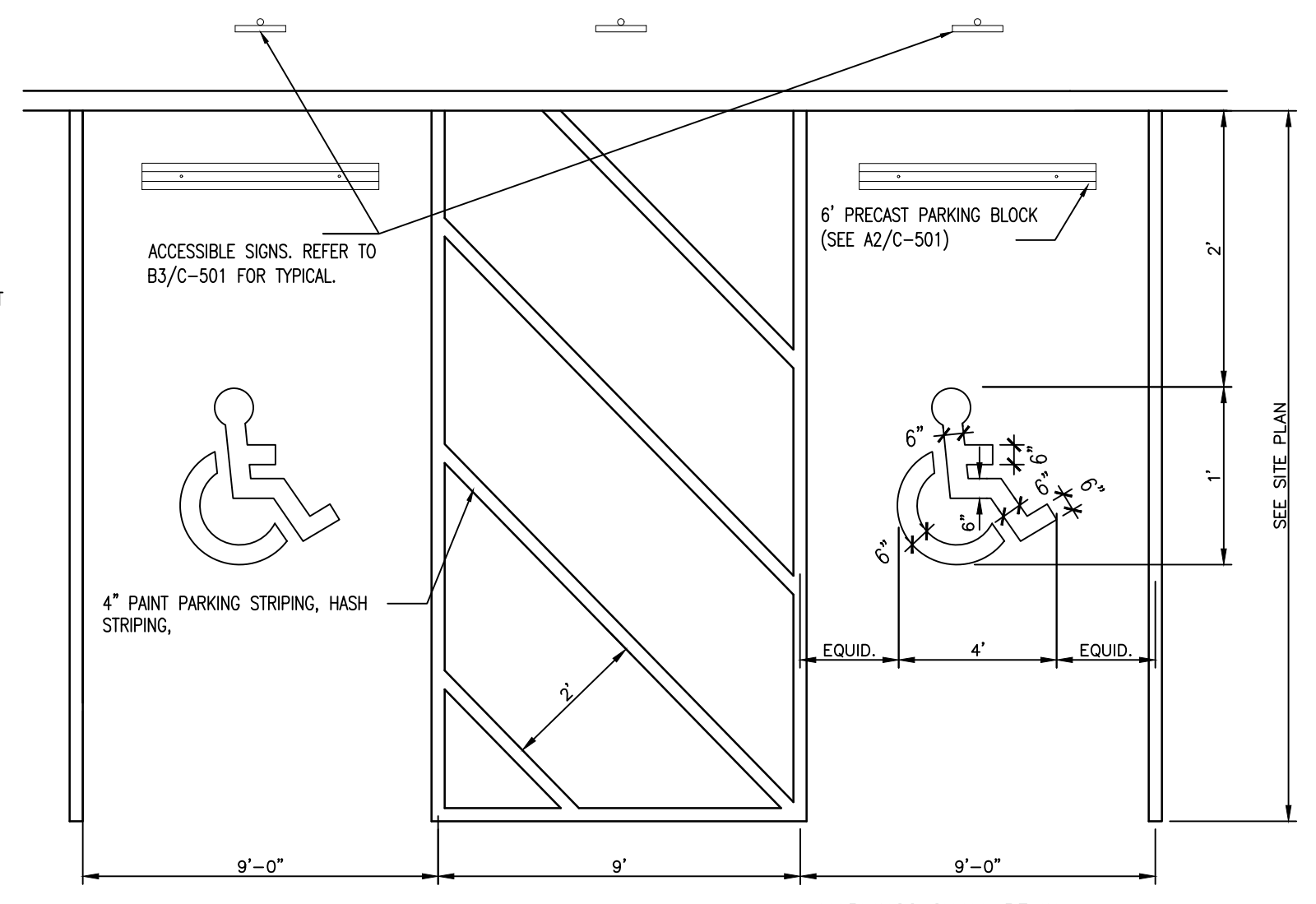
C2 TRENCH BACKFILL, BEDDING, & SURFACE RESTORATION



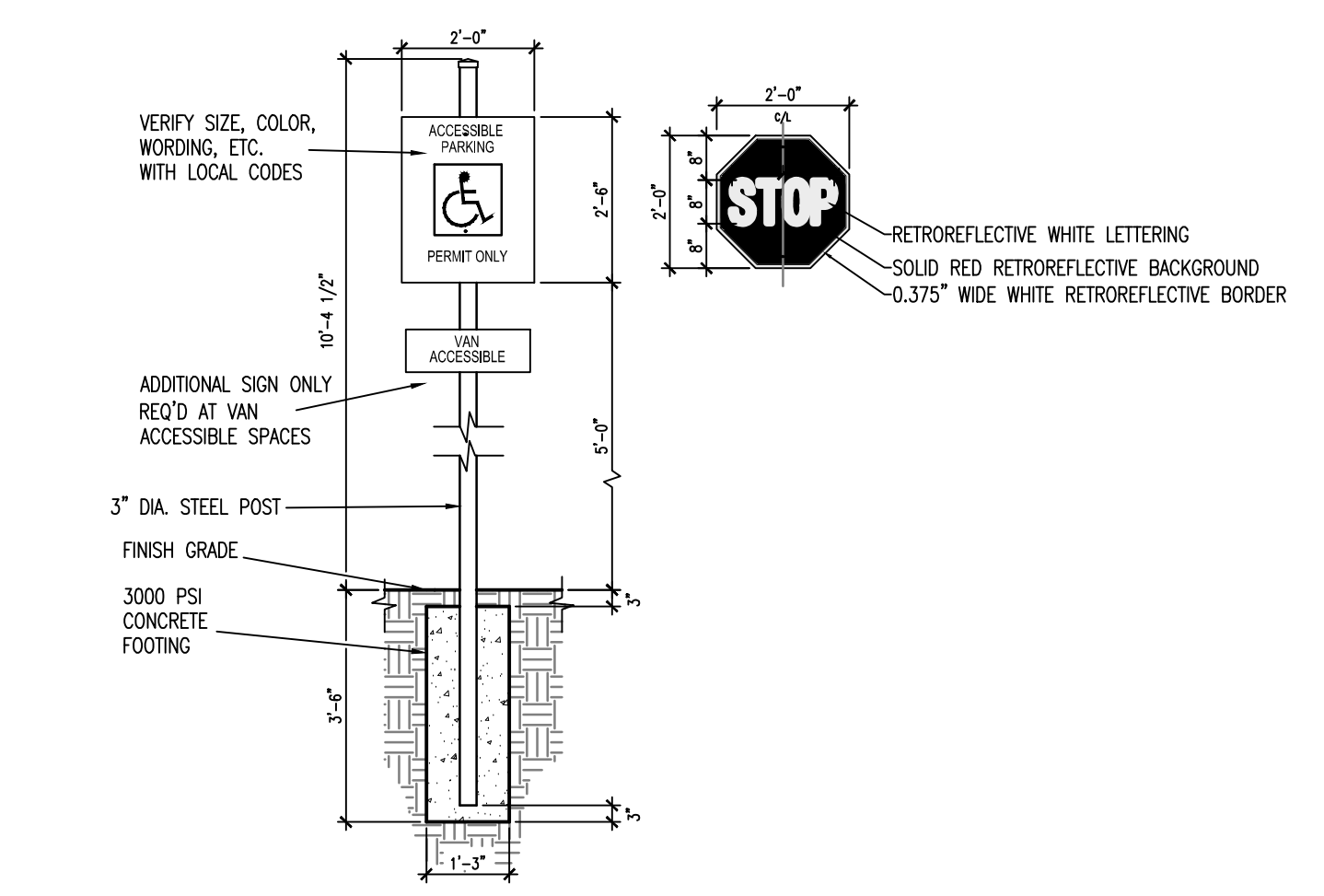
- NOTES:
1. ALL SAWCUTS SHALL BE NEAT AND STRAIGHT.
 2. IMMEDIATELY BEFORE LAYING NEW BITUMINOUS COURSES, ALL SAW CUT EDGES CLEANED OF DUST DEBRIS AND SPRAYED WITH A BITUMINOUS TACK COAT.
 3. SEAL JOINTS WITH RUBBERIZED HOT POUR CRACK SEALANT.
 4. ASPHALT SHALL BE ACCORDANCE WITH ODOT ITEM 441

B1 Edge Key

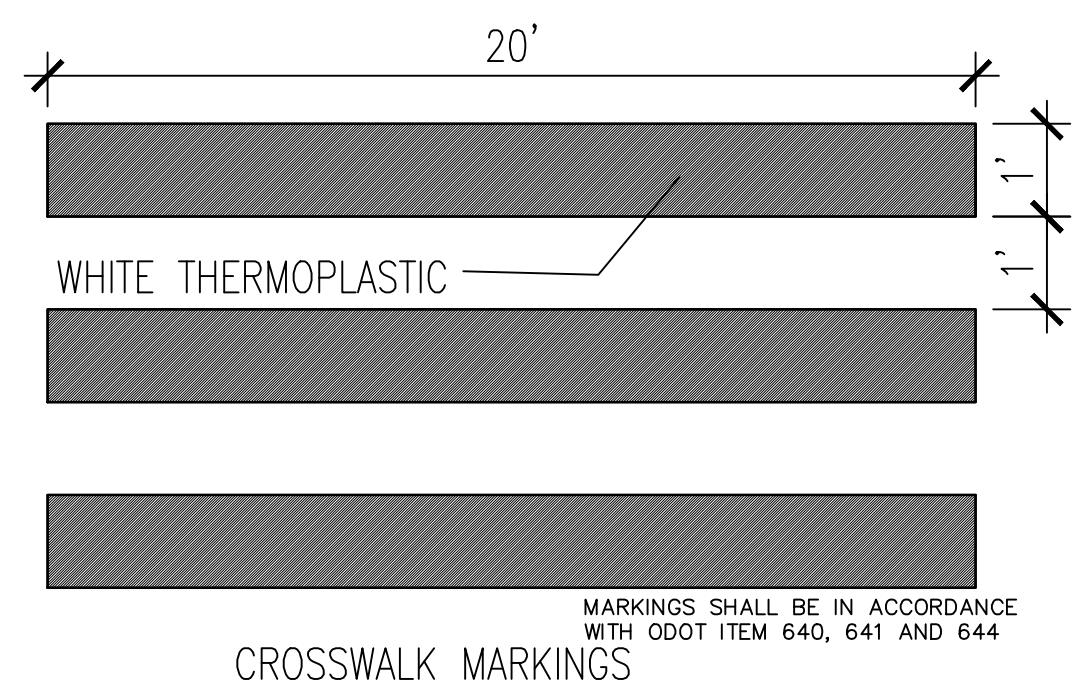
1"=1'-0"



- NOTE: PARKING BLOCKS AND ACCESSIBLE SIGNS ARE REQ'D @ EACH HANDICAPPED PARKING SPACE
- MARKINGS SHALL BE IN ACCORDANCE WITH ODOT ITEM 640, 641 AND 642
- ## B2 Accessible Pavement Marking Layout
- 1"=1'-0"

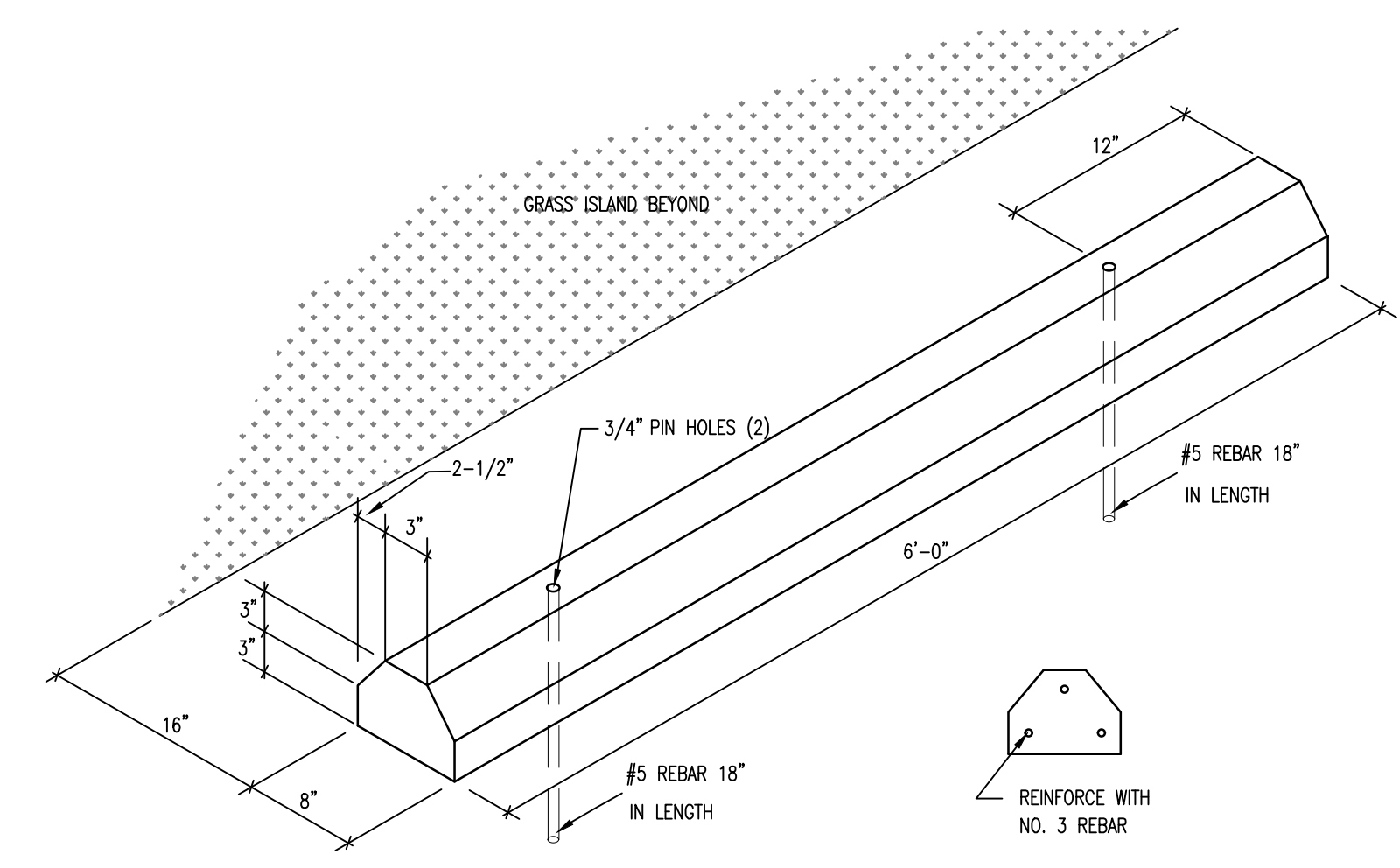


- ## B3 ADA Accessible Parking & Stop Sign
- 3/4"=1'-0"



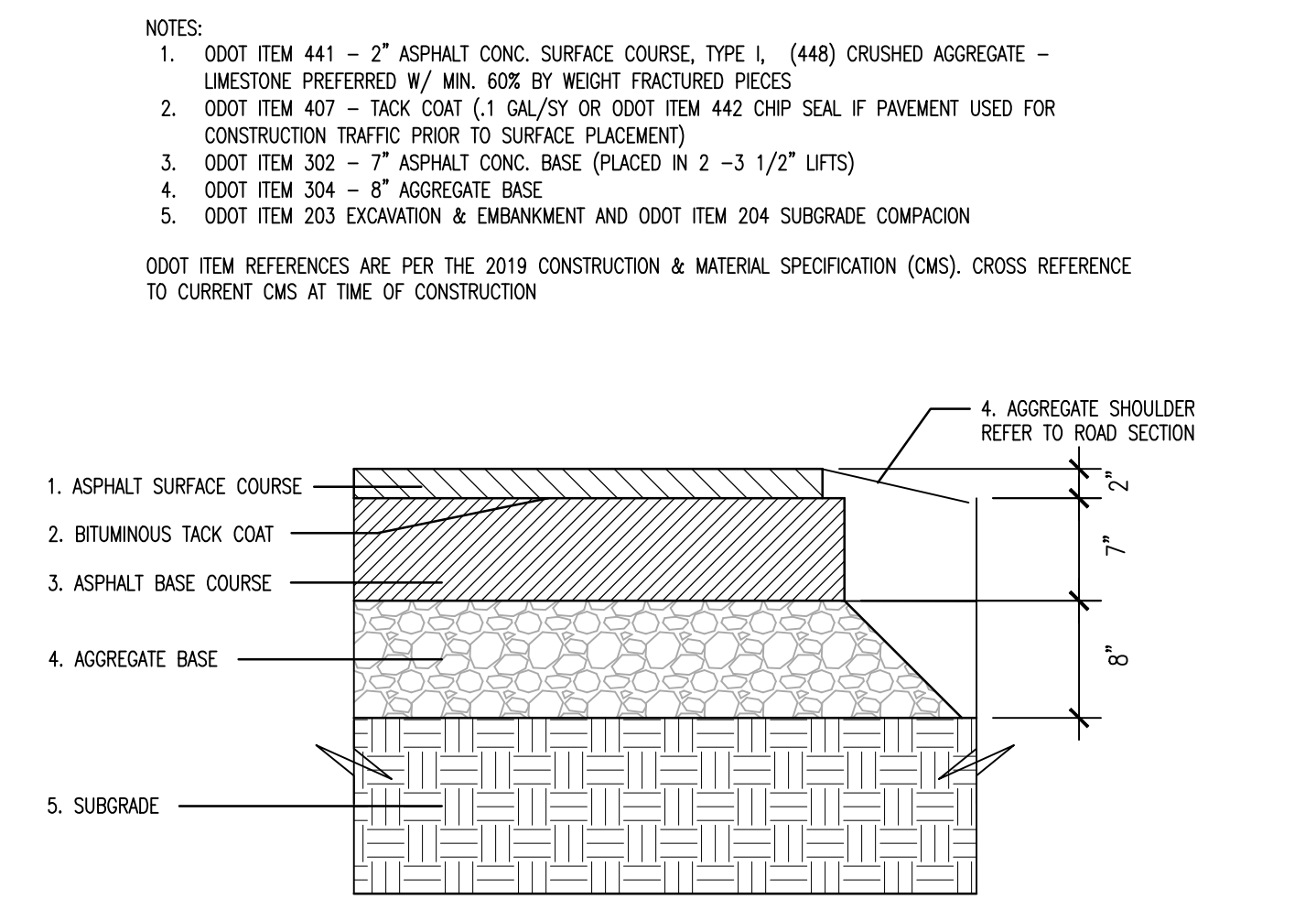
A1 Typical Traffic Markings

1"=1'-0"



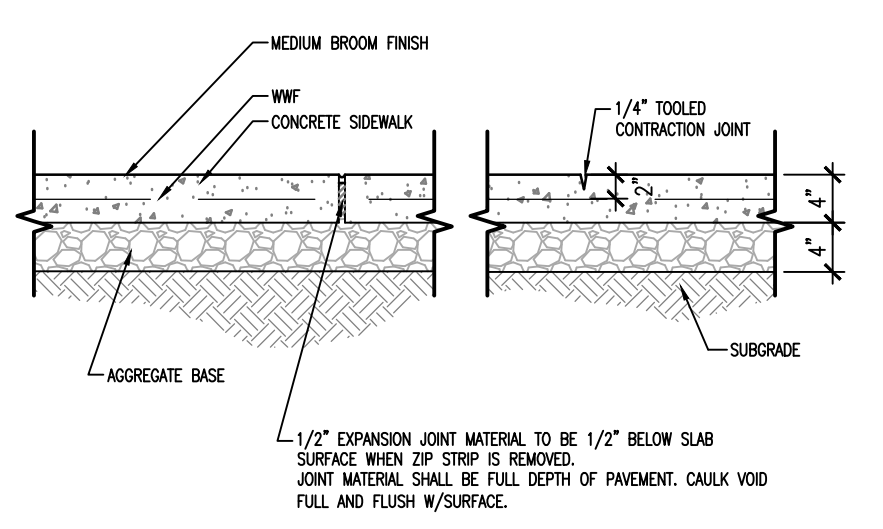
A2 Precast Concrete Parking Block

1"=1'-0"



A3 Vehicular Asphalt Section

1"=1'-0"



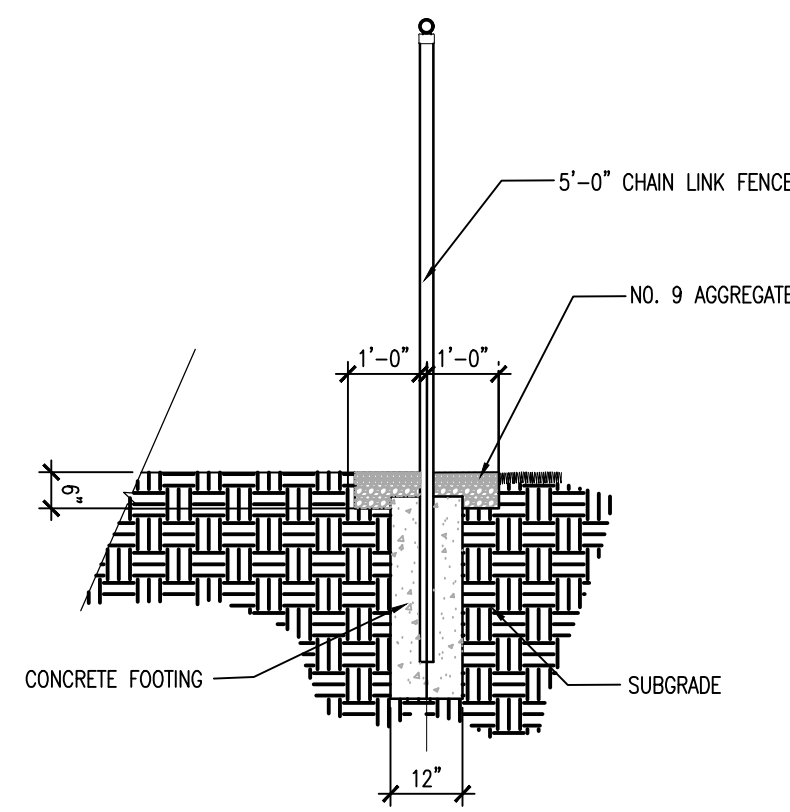
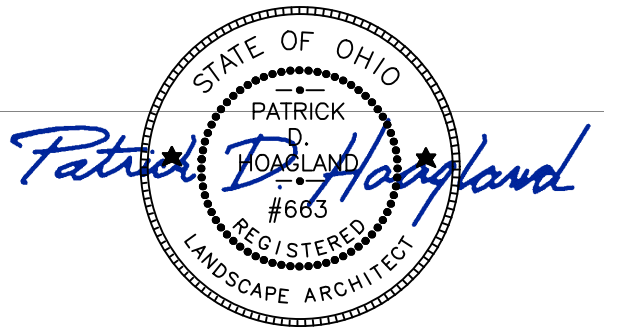
A4 Concrete Walk/pad

NTS

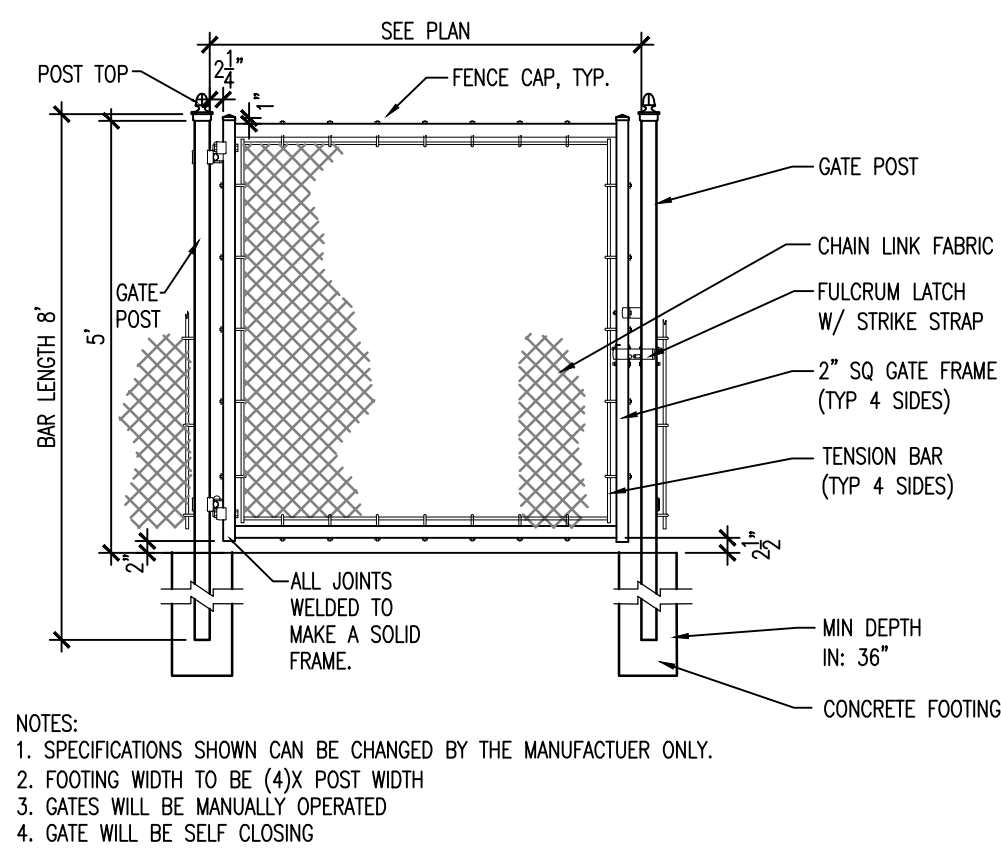
Revisions:
Issue Date: 8/1/2023

HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2
988 E HOWE ROAD
TALLMADGE, OH 44278

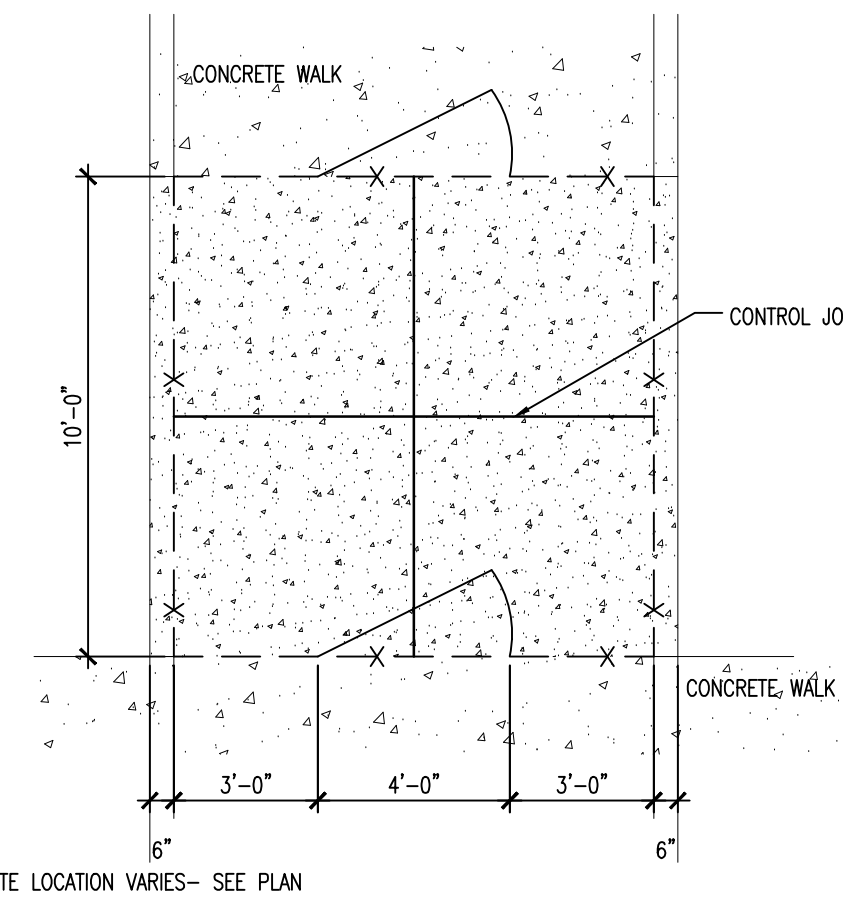
Site Details
Project No. **C-501**
22104



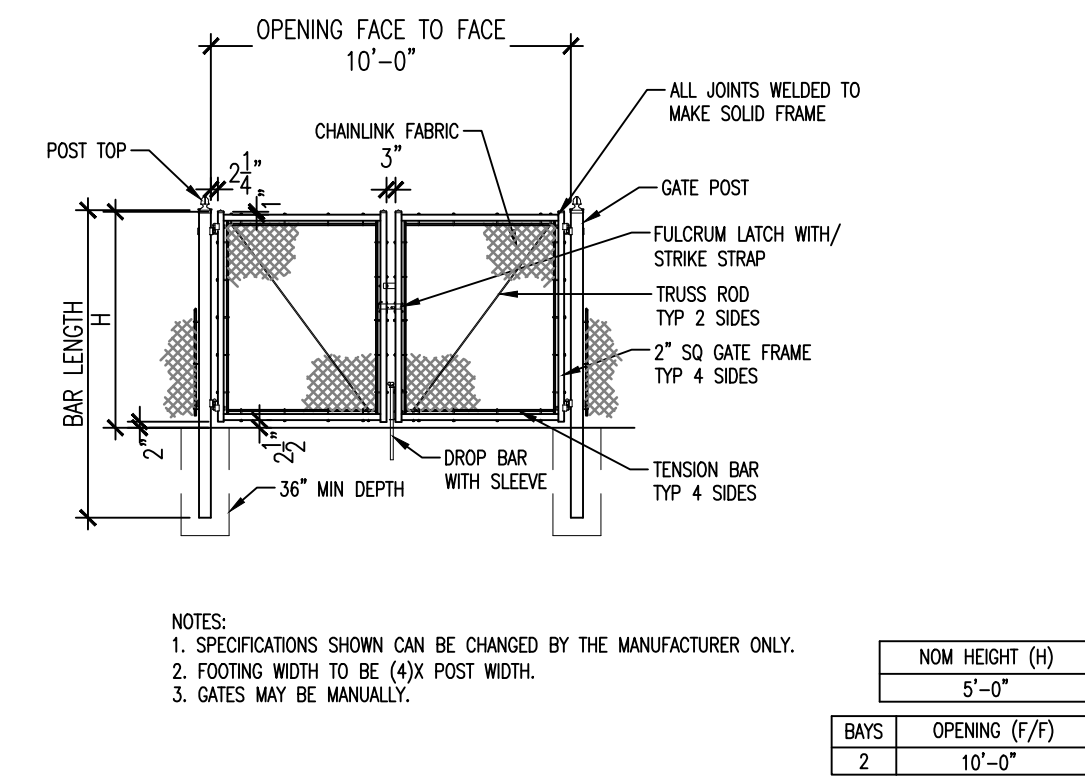
C1 Fence and Aggregate Strip
3/8"=1'-0"



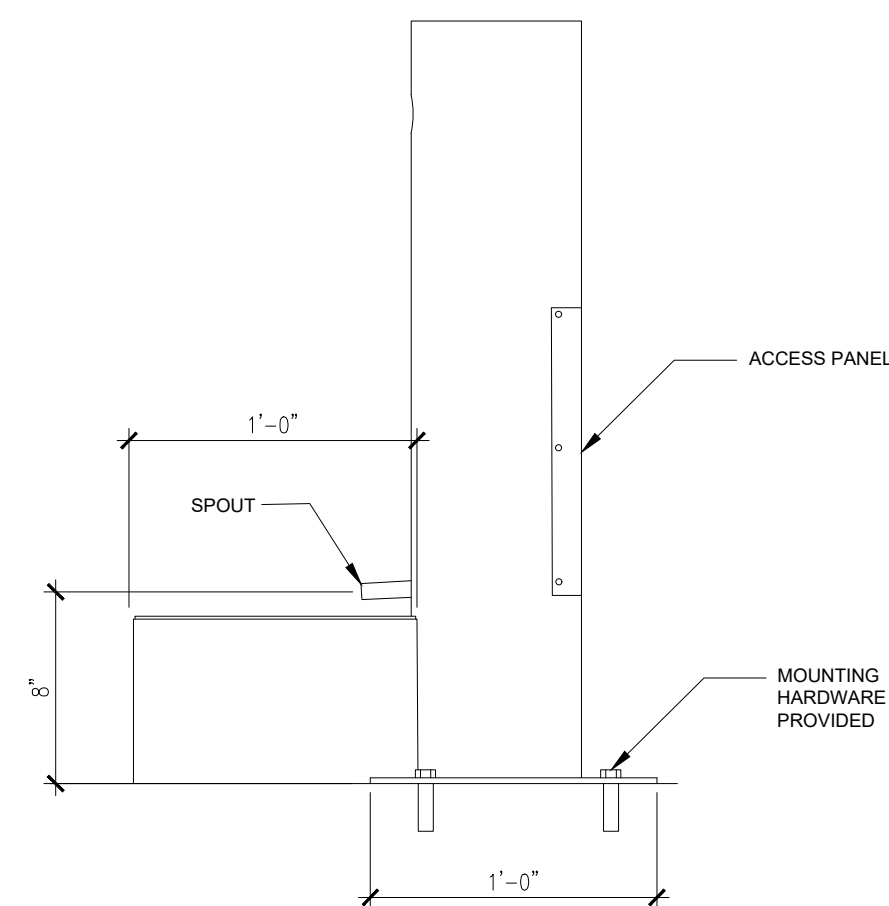
C2 5' High Access Gate
Scale: 3/8"=1'-0"



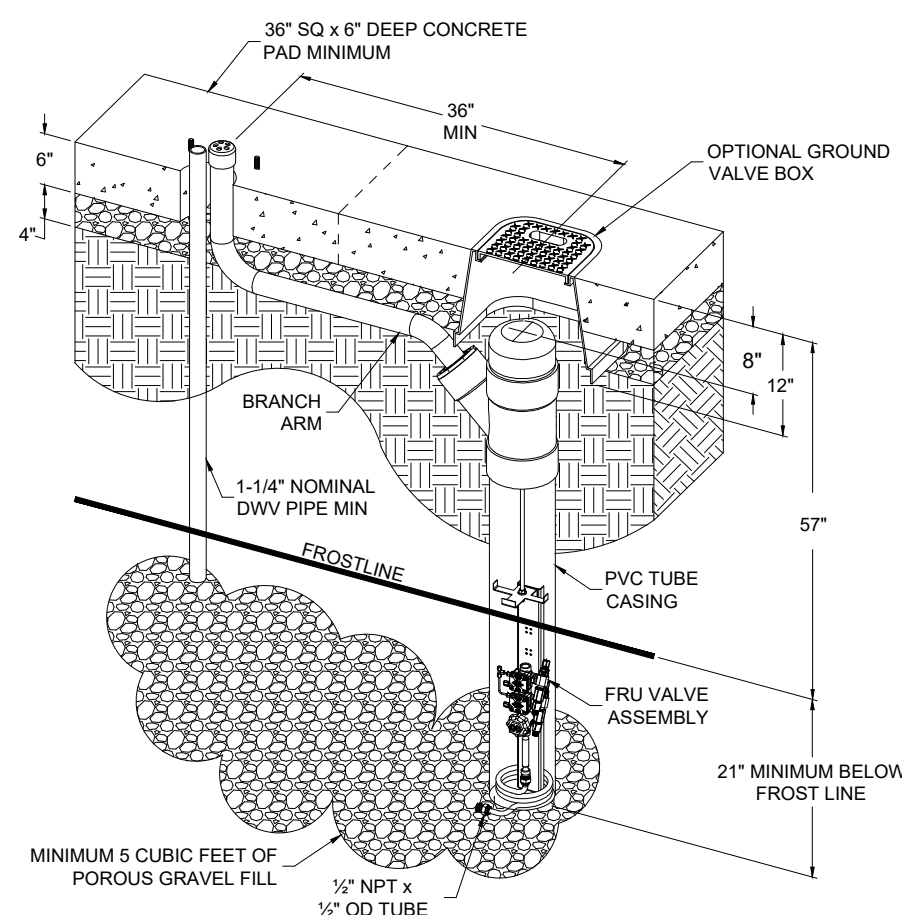
C3 Typical Dog Park Gate Enclosure
1/4"=1'-0"



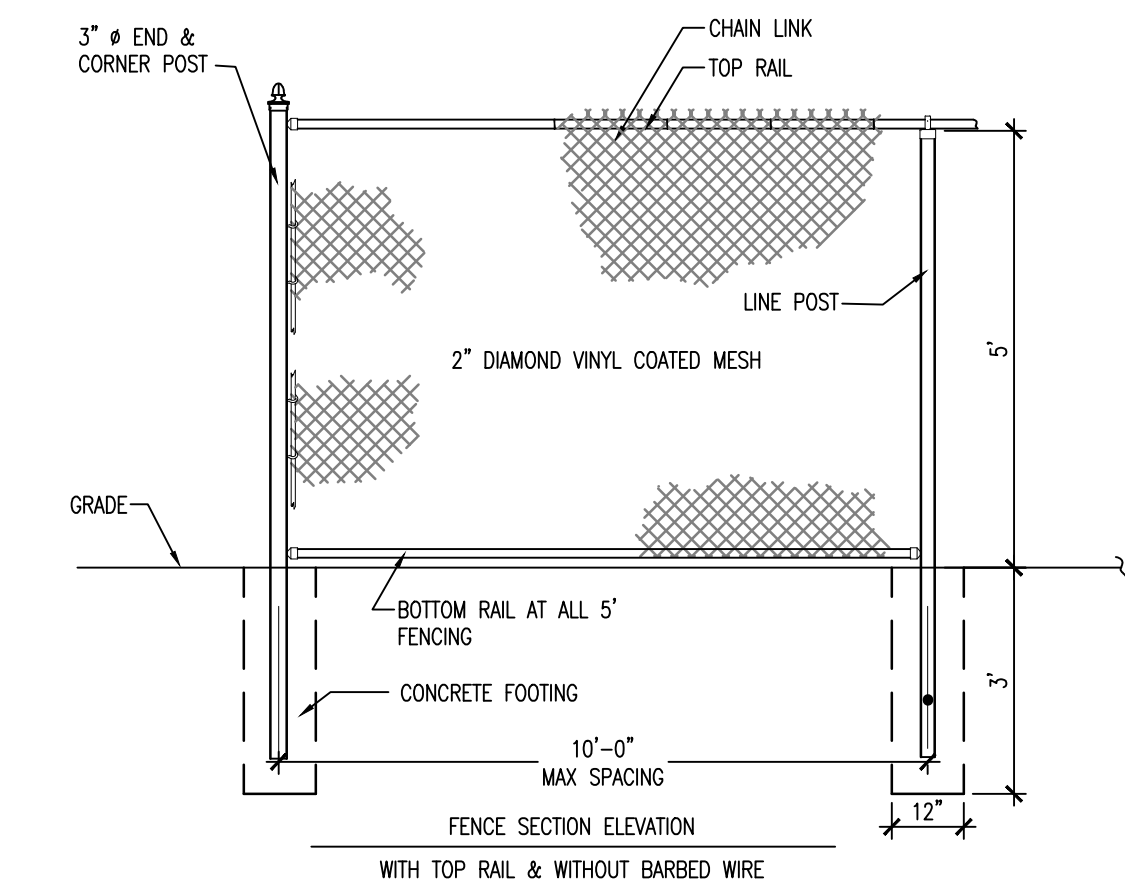
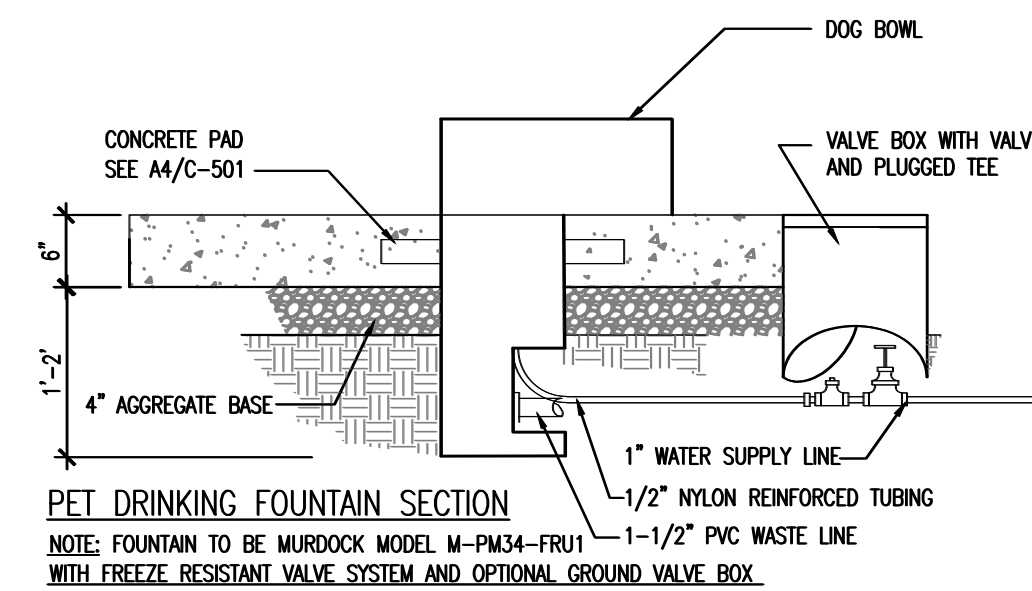
C4 10' Wide Double Swing Chainlink Maintenance Gate
3/16"=1'-0"



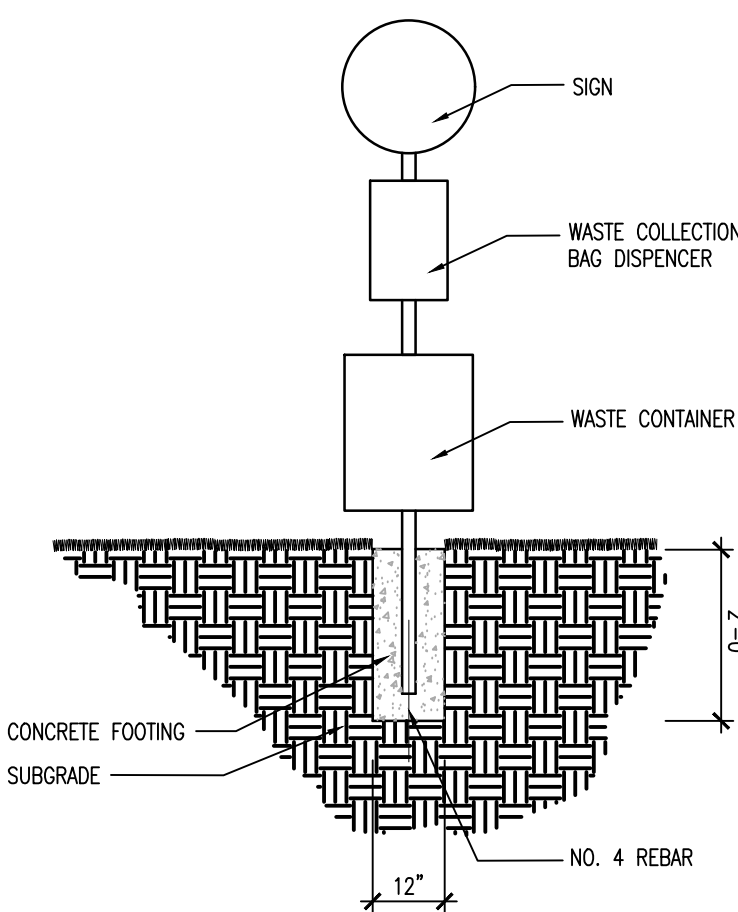
B1 Dog Bowl
NTS



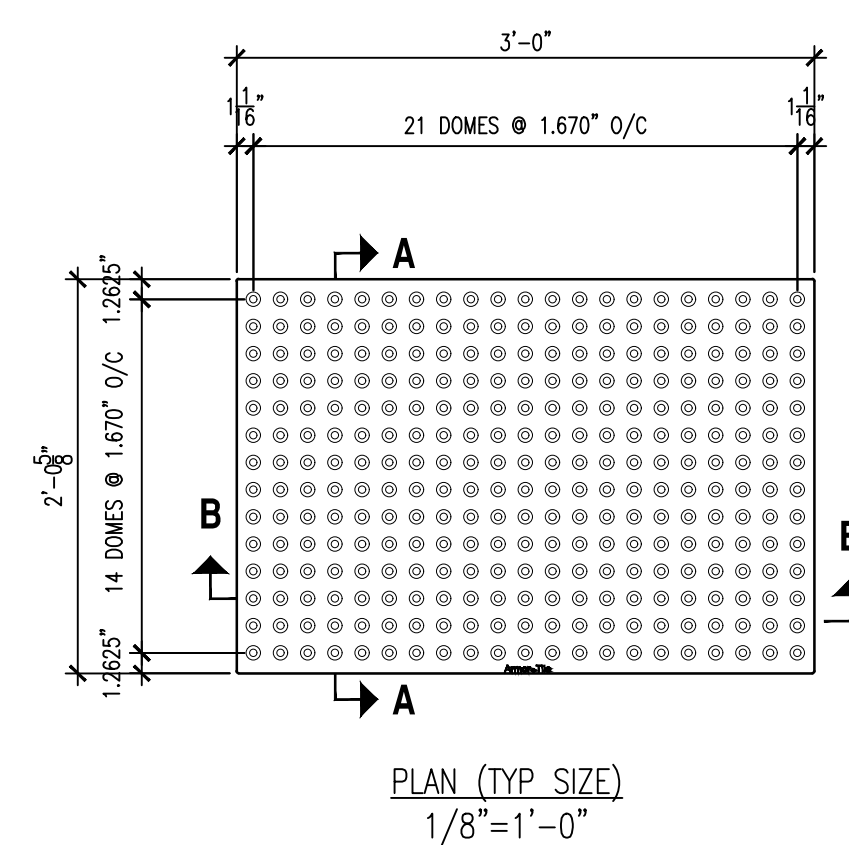
B3 Dog Bowl Section
Scale 3/4"= 1'-0"



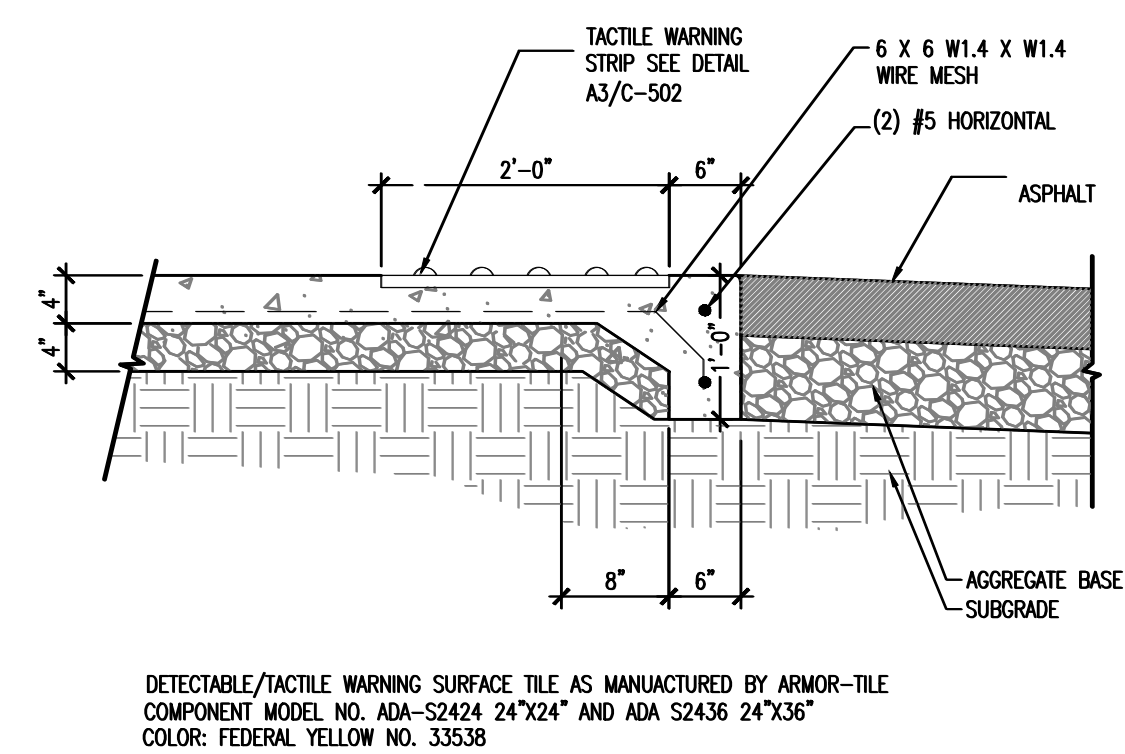
B4 5' Chain Link Fence
3/8"=1'-0"



A2 Pet Waste Station (By Owner)
3/8"=1'-0"



A3 Tactile Warning Surface Tile
VARIES



A4 Typical Tactile Warning Strip at Road Crossing
3/4"=1'-0"

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

988 E HOWE ROAD
TALLMADGE, OH 44278

Site Details

Project No.

C-502

22104

PART & MATERIAL LIST

WOOD MATERIAL LIST										
NO. REQ'D	DESCRIPTION	MARK	SIZE	LENGTH	NO. LHS	LUMBER	CAMBER	DETAIL ON SHEET	NOTES	LOAD
5	BEAM	B-30	5" WIDE	SEE DETAIL	2"	24F-V3	NONE	1		✓
10	COLUMN	C-1	5" x 6 7/8"	11'-9"	2"	24F-V5	NONE	----	1, 2	
4	FASCIA	F-1	2 x 6 NOM.	10'-0" UNT'D.	----	#1 S.Y.P.	NONE	----	3	
6	FASCIA	F-2	2 x 6 NOM.	16'-0" UNT'D.	----	#1 S.Y.P.	NONE	----	3	

HARDWARE SCHEDULE						
MARK	CONN.	NO.	DESCRIPTION	DETAIL ON SHEET	NOTES	LOAD
MK-1	S-1	20	FL 1/4" x 5" x 8"	1	A	✓
		40	3/4" φ x 6 1/2" M.B.		C	
		60	4" A.R. NAIL		B	

SHOP NOTES:

- #1 - FABRICATE WITH 0.6 PCF CCA PRESSURE TREATED LUMBER PER AITC 109, GROUND CONTACT.
- #2 - FINISH FOUR SIDES.
- #3 - PRESSURE TREATED PER AITC 109, ABOVE GROUND USE.

STEEL NOTES

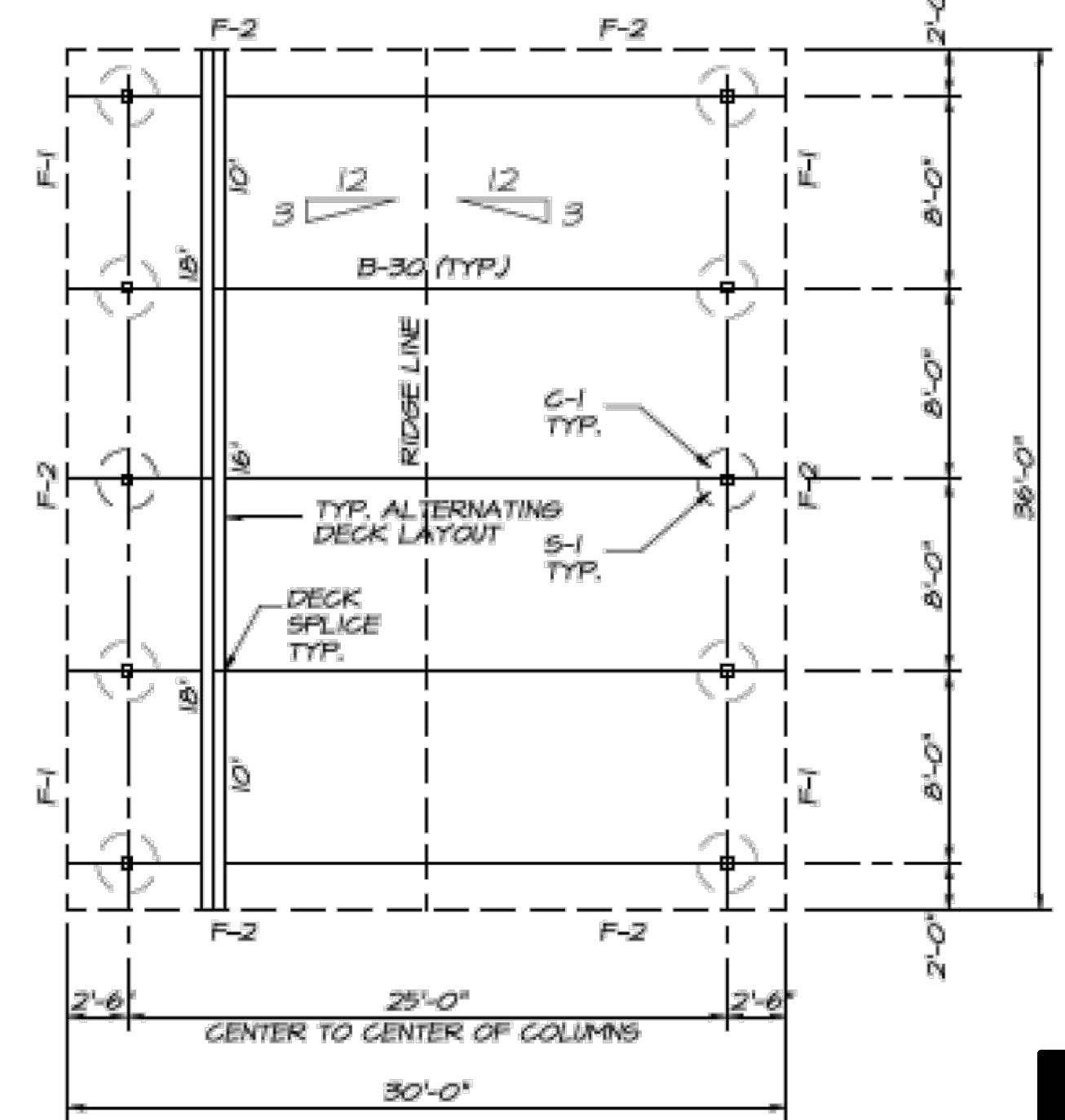
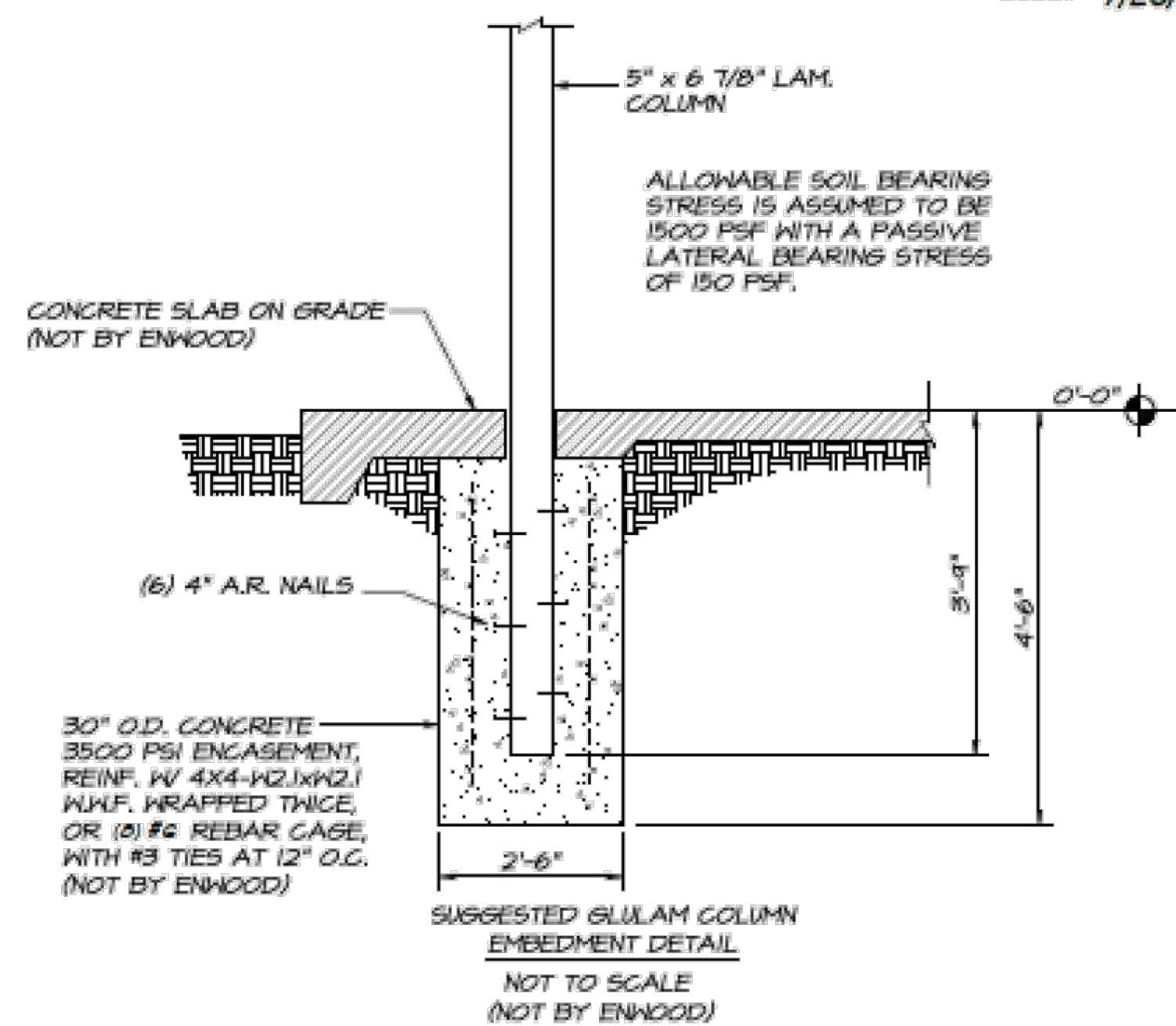
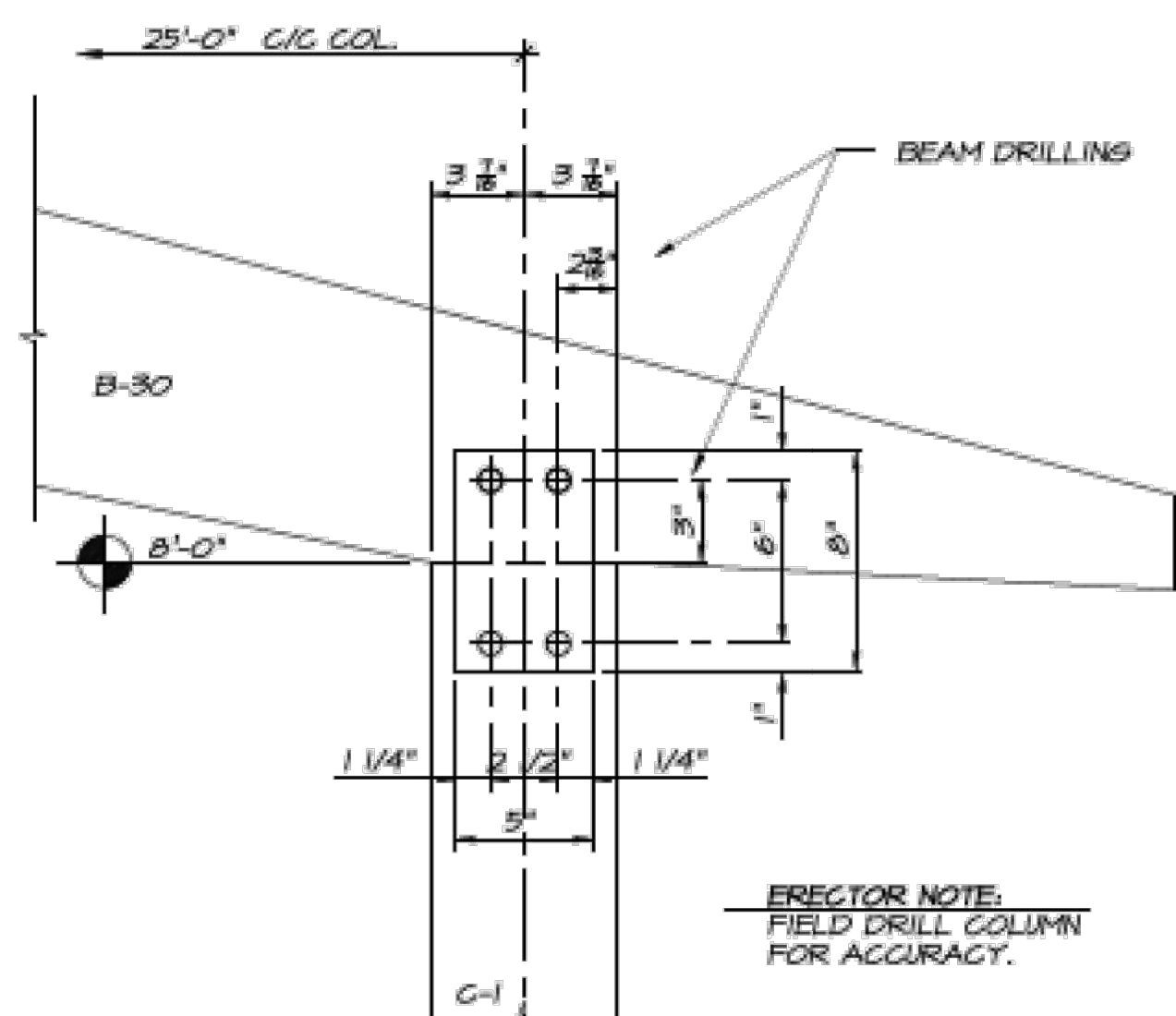
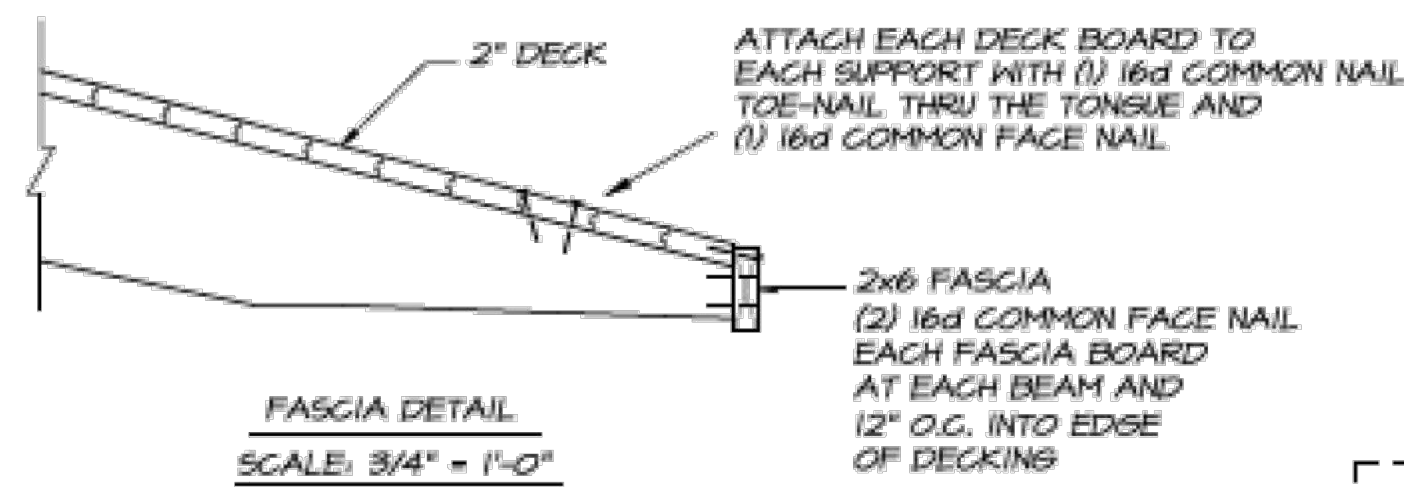
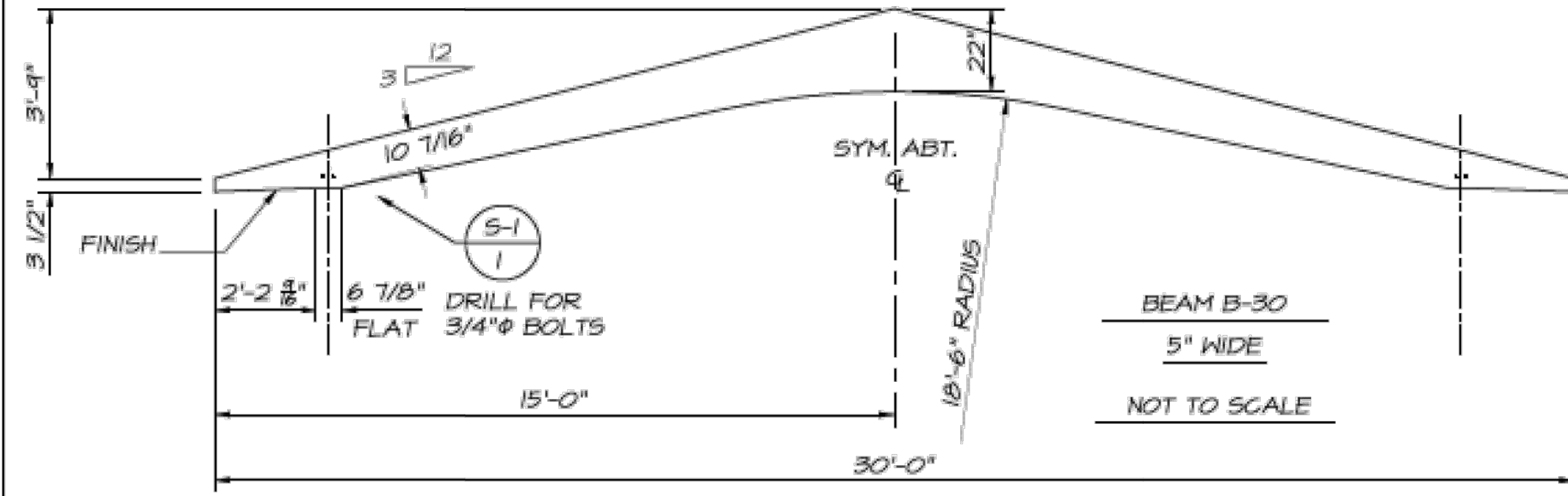
- A) TO HAVE SHOP COAT PRIMER
- B) HOT-DIP GALVANIZED
- C) TO BE ELECTROSTATIC ZINC FLATED

MISCELLANEOUS MATERIALS

DECKING
 3024 FBM OF 2x6 S.Y.P., #1 GRADE, T & G, V-JOINT FACE SIDE W/ 10% WASTE
 LENGTHS: 84 - 10', 42 - 16', 84 - 18'
 24 LBS. OF 16d GALV. COMMON NAILS

ROOFING
 (2) ROLLS OF TITANIUM UDL 25 UNDERLAYMENT
 24 GAGE 1 1/2" S.S.R. METAL ROOFING, ENDOCOAT PAINT (COLOR: EVERGREEN)
 PANELS REQ TO MEET FULL PERFORMANCE OF UL CLASS 90 AND CLASS 60
 10 LBS. OF GALV. 1" ROOFING NAILS (FOR UNDERLAYMENT)

FASCIA
 #1 2x6 S.Y.P. PRESSURE TREATED (SEE WOOD MAT'L. LIST)
 4 LBS. OF 16d GALV. COMMON NAILS



- NOTES FOR GENERAL CONTRACTOR:**
- IN EVENT OF ERROR, DEFECTIVE MATERIAL, AND/OR WORKMANSHIP, PLEASE NOTIFY THE NEAREST ENWOOD SALES OFFICE IMMEDIATELY. ENWOOD RESERVES THE RIGHT TO INVESTIGATE AND CORRECT ALL ALLEGED ERRORS AND DEFECTS.
 - ALL MEMBERS SHALL BE PROPERLY BRACED UNTIL THE STRUCTURAL ROOF SYSTEM HAS BEEN COMPLETED.
 - THE FOUNDATION DETAIL IS FOR REFERENCE ONLY.
 - SLAB TURN DOWN, THICKNESS, COMP STRENGTH AND REINFORCING IS BY THE GENERAL CONTRACTOR, IF REQUESTED, TOP OF FOOTING MAY ALIGN WITH TOP OF SLAB TO FORM CONTROL JOINT.
 - TO REDUCE RISK OF CRACKING IN ANY CONCRETE SLAB, RECOMMENDED 0.5" EXPANSION JOINT AROUND FOOTING, TYPICAL.
 - BRITTLE BRICK WRAP OR ARCH FINISHES BY OTHERS ARE NOT SHOWN AND ARE NOT RECOMMENDED FOR FLEXIBLE STRUCTURES AS BRICK AND FINISHES MAY CRACK.

A.I.T.C. CERTIFICATE & MARKS

Material: Stress Graded, Kiln Dried Southern Yellow Pine Lumber Comb. & Stress Grades Per A.I.T.C. A140.1
 Adhesive: Waterproof per AITC A140.1

Finish	✓
Premium	✓
Manufacturer	✓
Adhesive	✓
Sealant	✓
Seal	✓
Stain	✓
Varnish	✓
Equal to Right	✓
Protection	✓
Iron, Nails	✓
Loose Nails	✓
Block Nails	✓

Design Data	
RDL = 12 PSF	GSL = 30 PSF
RLI = 30 PSF	HL V = 115 MPH / ASCE 7-10 (EXP. G, I = 1.0, OPEN BLDG.)
SEE BLDG CODE SUMMARY FOR ADDTL. INFO	



ENWOOD STRUCTURES

Clearance Data - Material		
Height	Length	Width

Drawn: MES
 7-20-2023
 Checked:

Our Job No. 23-PS-5009
 Approved For Fabrication

LIONS PARK SHELTER TALLMADGE, OHIO		Sheet 1 of ONE
Architect		
Contractor		

WEIGHT OF HEAVIEST MEMBER IS 850 LBS. (B-30)
 COPYRIGHT (C) ENWOOD STRUCTURES - RALEIGH, NC -- ALL RIGHTS RESERVED AND ENFORCED.

ENGINEERING AND DRAWINGS BY:
L&A LYSAGHT & ASSOCIATES
 structural engineers
 120 St. Mary's Street
 Raleigh, NC 27605
 919.833.0495
 LysaghtAssociates.com
 Firm No. C-0621

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION



Lexington Cincinnati Cleveland Dallas Charleston



BUILDING CODE STRUCTURAL SUMMARY INFORMATION

PROJECT:	30 x 36 Shelter at Lions Park
LOCATION:	Tallmadge OH
BLDG CODE:	Ohio Basic Building Code 2017 (IBC 2015)
BLDG RISK CATEGORY:	II

Roof Dead Load	12 psf
Roof Live Load	30 psf
Ground Snow Load, Pg	30 psf
Flat Roof Snow Load, Pf	25.2 psf
Snow Exposure Factor, Ce	1.0
Snow Importance Factor, Is	1.00
Snow Thermal Factor, Ct	1.2
Sloped Roof Snow Load, Ps	25.2 psf

Ultimate Design Wind Speed (3-sec gust), Vult	115 mph
Nominal Design Wind Speed (3-sec gust), Vnom	89 mph
Building Risk Category	C
Wind Exposure Category	C
Internal Pressure Coefficient	0.0
Comp & Cladding Wind Pressures (ASD Level)	27.4 psf
Wind Base Shears (ASD Level)	29.7 psf
Vxx	2.6 kips
Vyy	3.3 kips

Seismic Importance Factor, Is	1.00
Short Period Spectral Response Acceleration (Sa from maps)	0.153
1-Sec Period Spectral Response Acceleration (S1 from maps)	0.057
Seismic Site Class	D
Design Short Period Spectral Response Acceleration, Sds	0.163
Design 1-Sec Period Spectral Response Acceleration, Sd1	0.091
Seismic Design Category	S
Basic Seismic Resisting System	CANTILEVERED COLUMN SYSTEM
Basic Seismic Force Resisting System	TIMBER FRAMES
Response Modification Factor, R	1.5
Seismic Response Coefficient (Cs)	0.109
Seismic Base Shear (ASD Level)	1.0 kips
Analysis Procedure Used	Equivalent Lateral Force

SOIL DATA	
Allowable Soil Bearing Pressure (Assumed)	1500 psf
Allowable Soil Lateral Pressure (Assumed)	150 psf

Revisions:
 Issue Date: 8/1/2023

**HOWE ROAD PARK
 PARK IMPROVEMENTS
 PHASE 2**

988 E HOWE ROAD
 TALLMADGE, OH 44278

Shelter Details

Project No.

22104

C-503



Nancy K. Nozik, license 11148
expiration date: 12/31/2023

General Notes

- DO NOT SCALE DRAWINGS. WHERE DRAWING GRAPHICS AND DIMENSIONS ARE IN CONFLICT, USE WRITTEN DIMENSIONS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ARCHITECT NOT RESPONSIBLE FOR INFORMATION TAKEN FROM HALF SIZE, NON LEGIBLE OR SCALED DRAWINGS.
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- MECHANICAL AND ELECTRICAL ITEMS ARE SHOWN FOR THE SOLE PURPOSE OF INDICATING THEIR RESPECTIVE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWING FOR SIZE, TYPE, AND OTHER REQUIREMENTS PERTAINING SPECIFICALLY TO THESE ITEMS.

Toilet Accessories

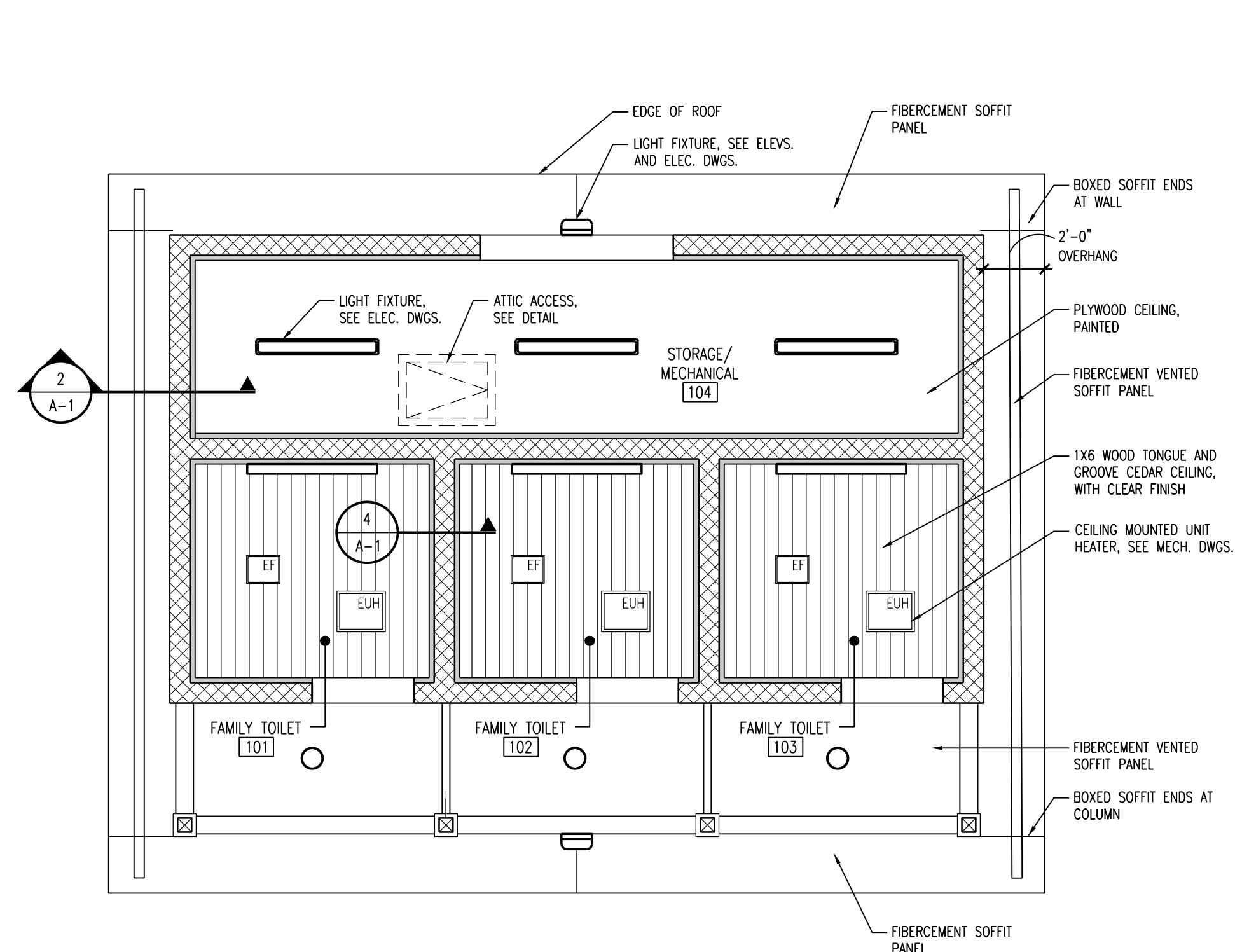
- A SOAP DISPENSER (SD)
- B MIRRORS (MG)
- C TOILET TISSUE DISPENSER (TTD)
- D GRAB BARS (GB)
- E HAND DRYER (HD)
- F SANITARY NAPKIN DISPOSER (SND)
- G CHANGING TABLE (CT)
- H MOP AND BROOM HOLDER (MH)
- J COAT HOOK (CH)

Design Criteria & Code Data

2017 OHIO BUILDING CODE			
Type of Work:	NEW CONSTRUCTION		
Use Group:	U- UTILITY		
Construction Type:	5B		
AREA LIMITATIONS			
	Allowable	Actual	
Area	5,500 s.f	521 sf	
Height	1 story(40')	1 story(16'-9")	
FIRE SUPPRESSION:			
Not Applicable			
FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS Table 601			
Primary Structural Frame:	0 HOURS		
Bearing Walls:	0 HOURS		
	exterior	0 HOURS	
	exterior	0 HOURS	
Non-Bearing Walls Interior:	0 HOURS		
Floor construction and secondary members:	0 HOURS		
Roof Construction and secondary members:	0 HOURS		
BUILDING OCCUPANT LOAD			
MAIN LEVEL	Sq. Ft.	Calculated	Actual
Family Toilet 1 - 50 gross	78 sf	2	2
Family Toilet 2 - 50 gross	78 sf	2	2
Family Toilet 2 - 50 gross	78 sf	2	2
Utility Room - 300 gross	152 sf	1	1*
TOTALS:	-	7	7*

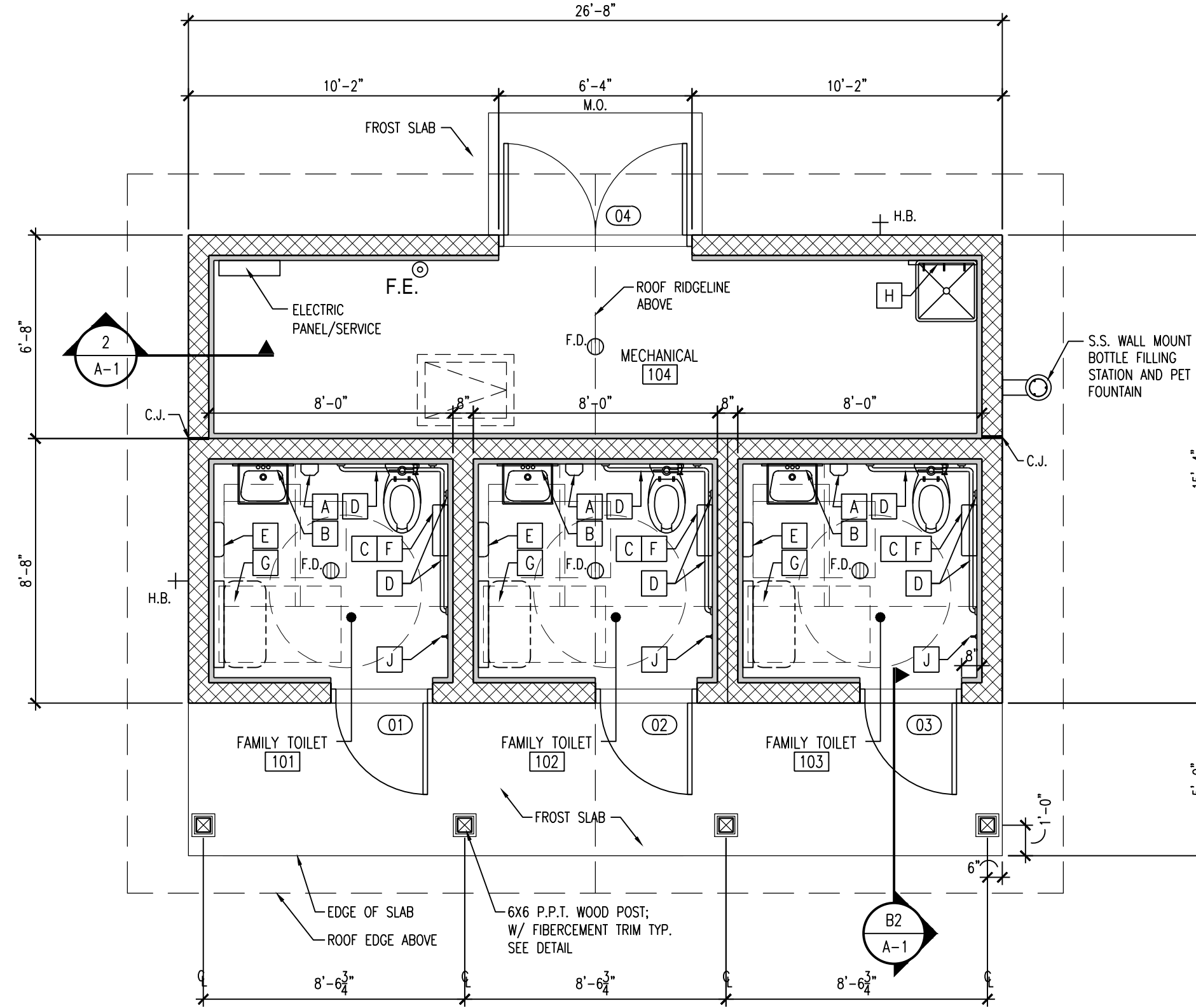
* Utility/Mechanical area accessed only by City of Elyria service staff.

	REQUIRED	PROVIDED
2017 Ohio Energy Code Energy(2012 IECC WITH AMENDMENTS)		
ATTIC	R38	R38
MASS WALLS ABOVE GRADE	R9.5ci	R10ci
SLAB ON GRADE (24" VERTICAL & HORIZONTAL)	R10	R10



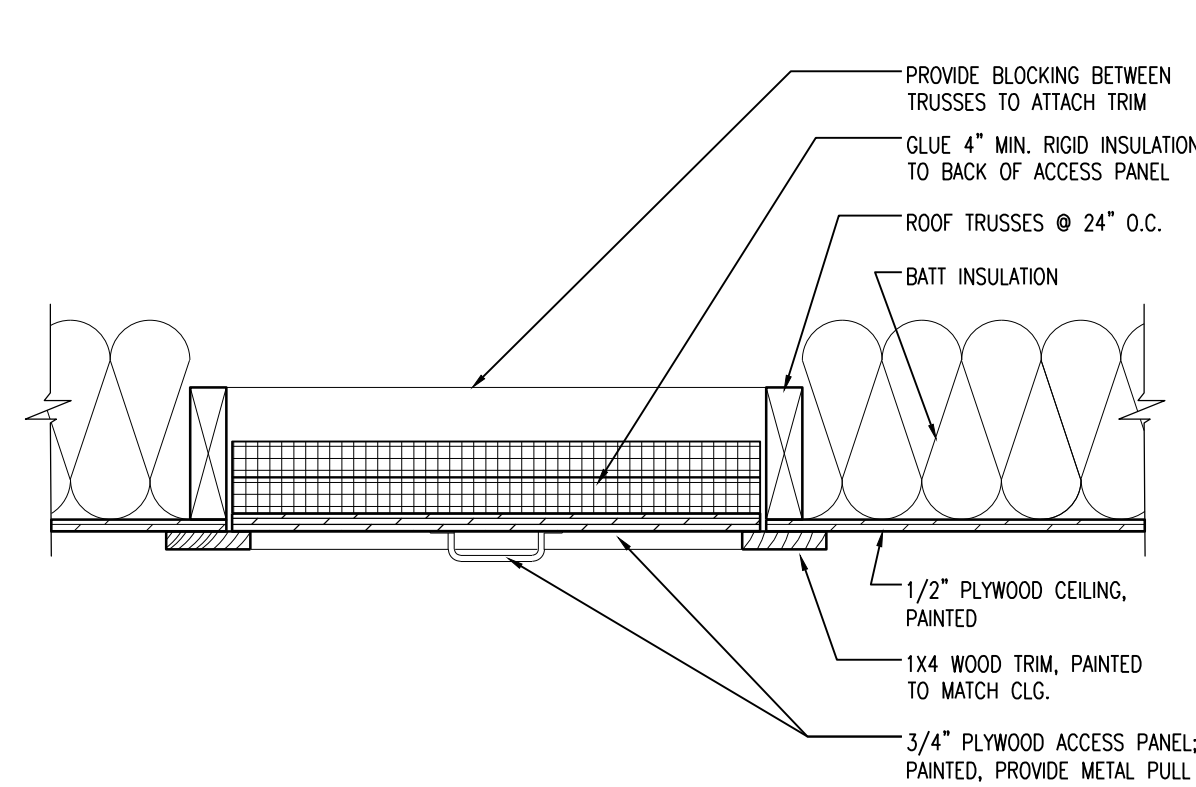
2 Reflected Ceiling Plan

1/4"=1'-0"



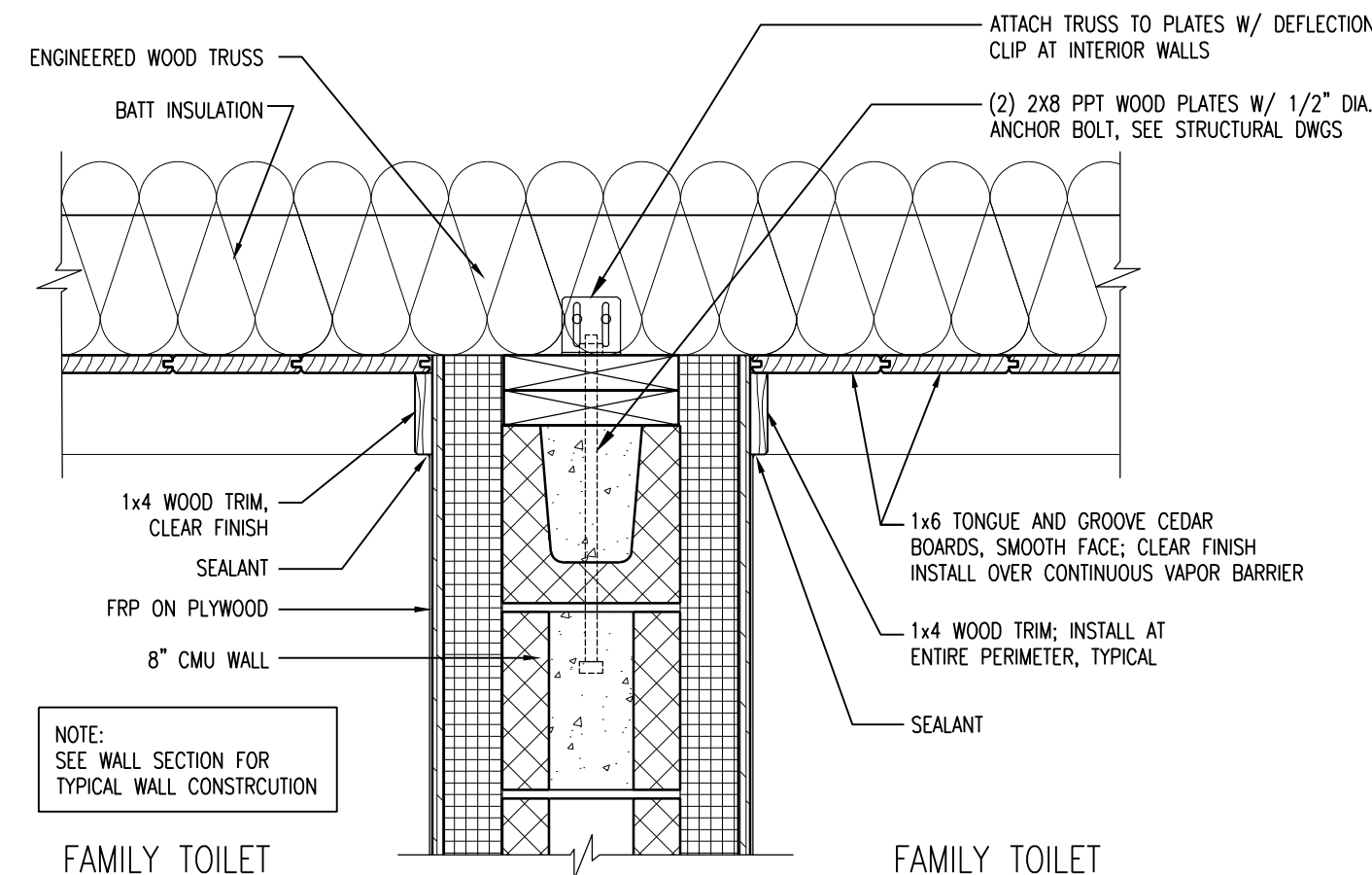
1 Floor Plan

1/4"=1'-0"



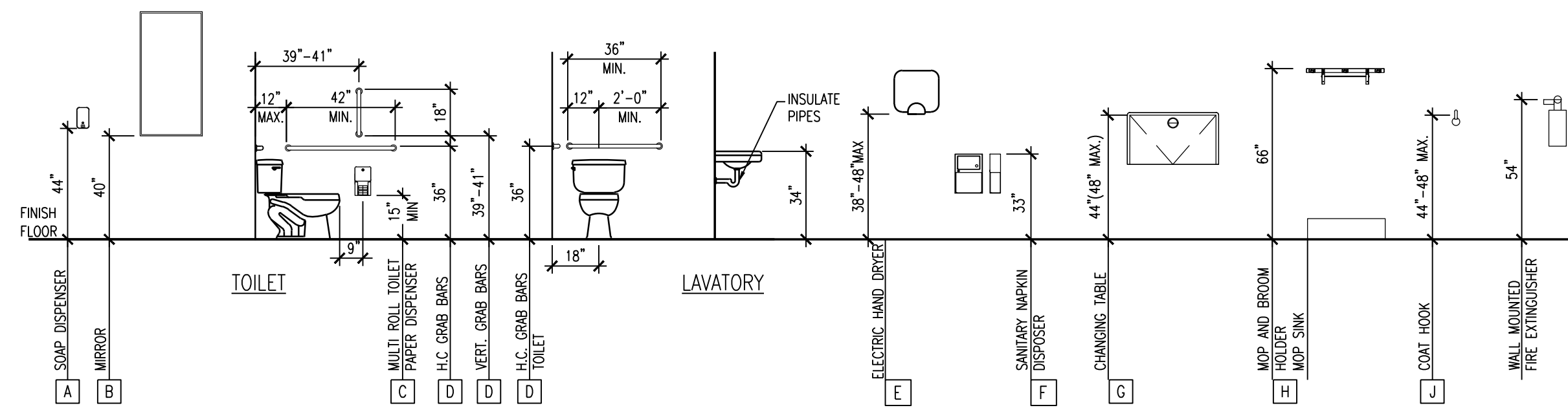
3 Access Panel Detail

1 1/2"=1'-0"



4 Ceiling Detail

1 1/2"=1'-0"



Toilet Accessories Mounting Heights Standards

NOTE: COORDINATE MOUNTING HEIGHTS WITH MANUFACTURER'S RECOMMENDATIONS AND A.D.A. REQUIREMENTS

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

988 E HOWE ROAD
TALLMADGE, OH 44278

**Floor Plan
and Details**

Project No.

22104

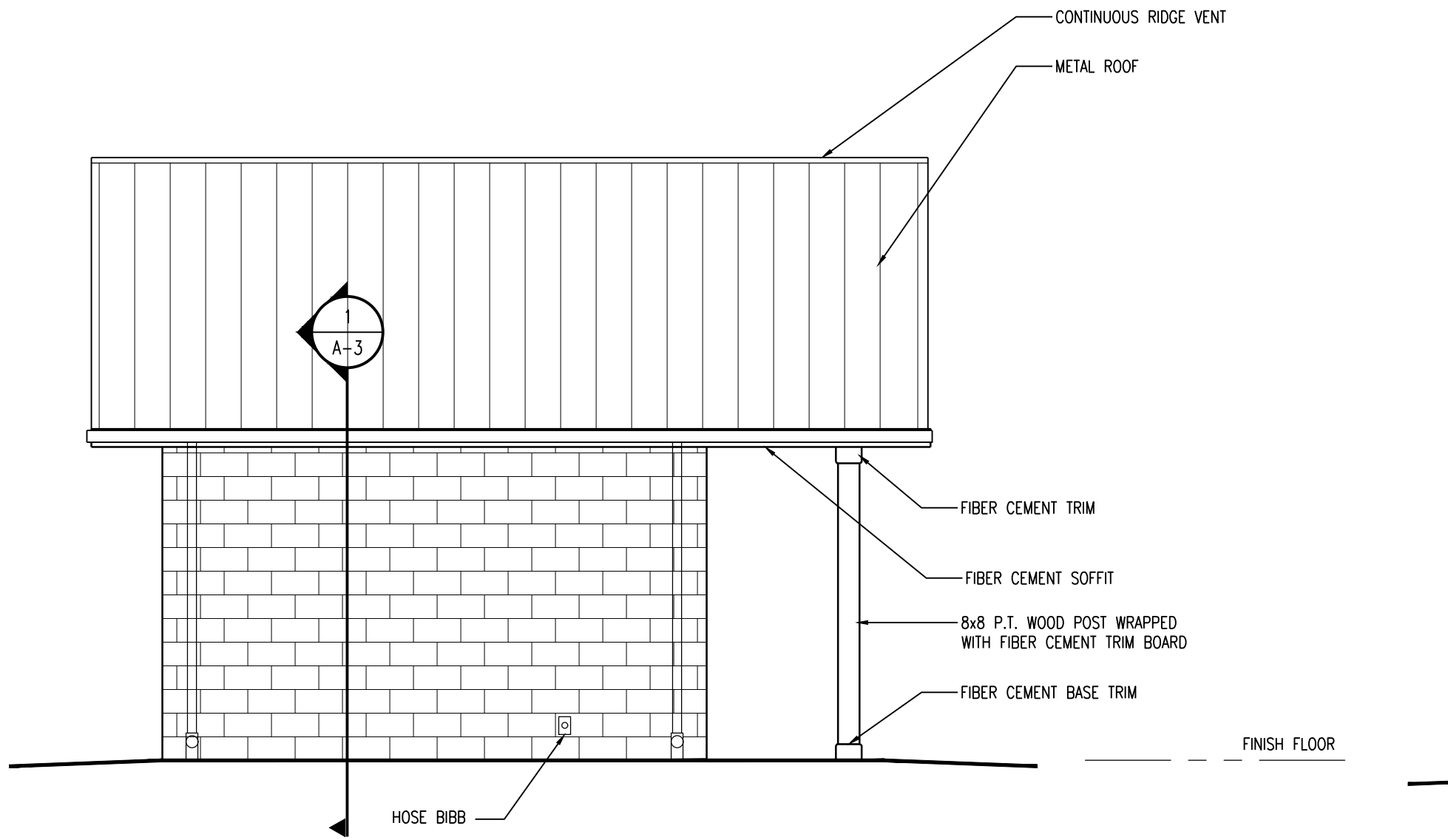
A-1



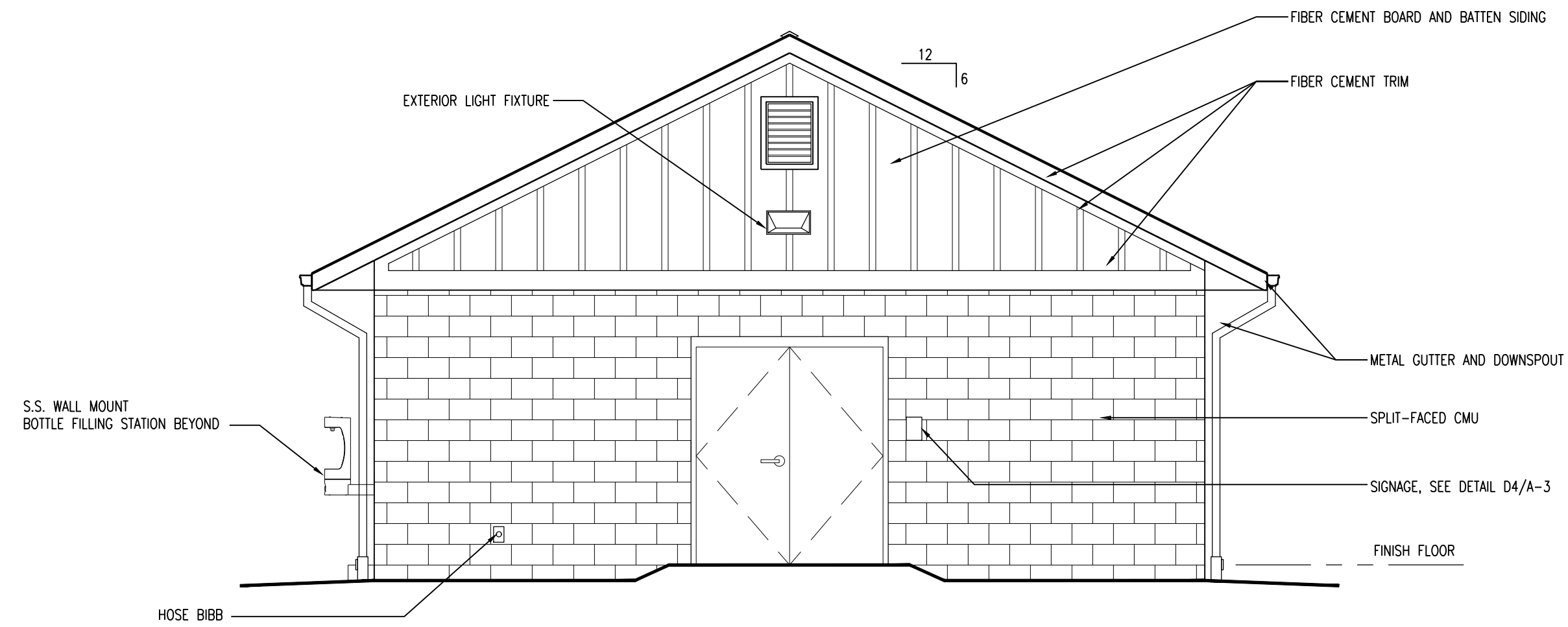
Nancy K. Nozik, license 11148
expiration date: 12/31/2023

General Notes

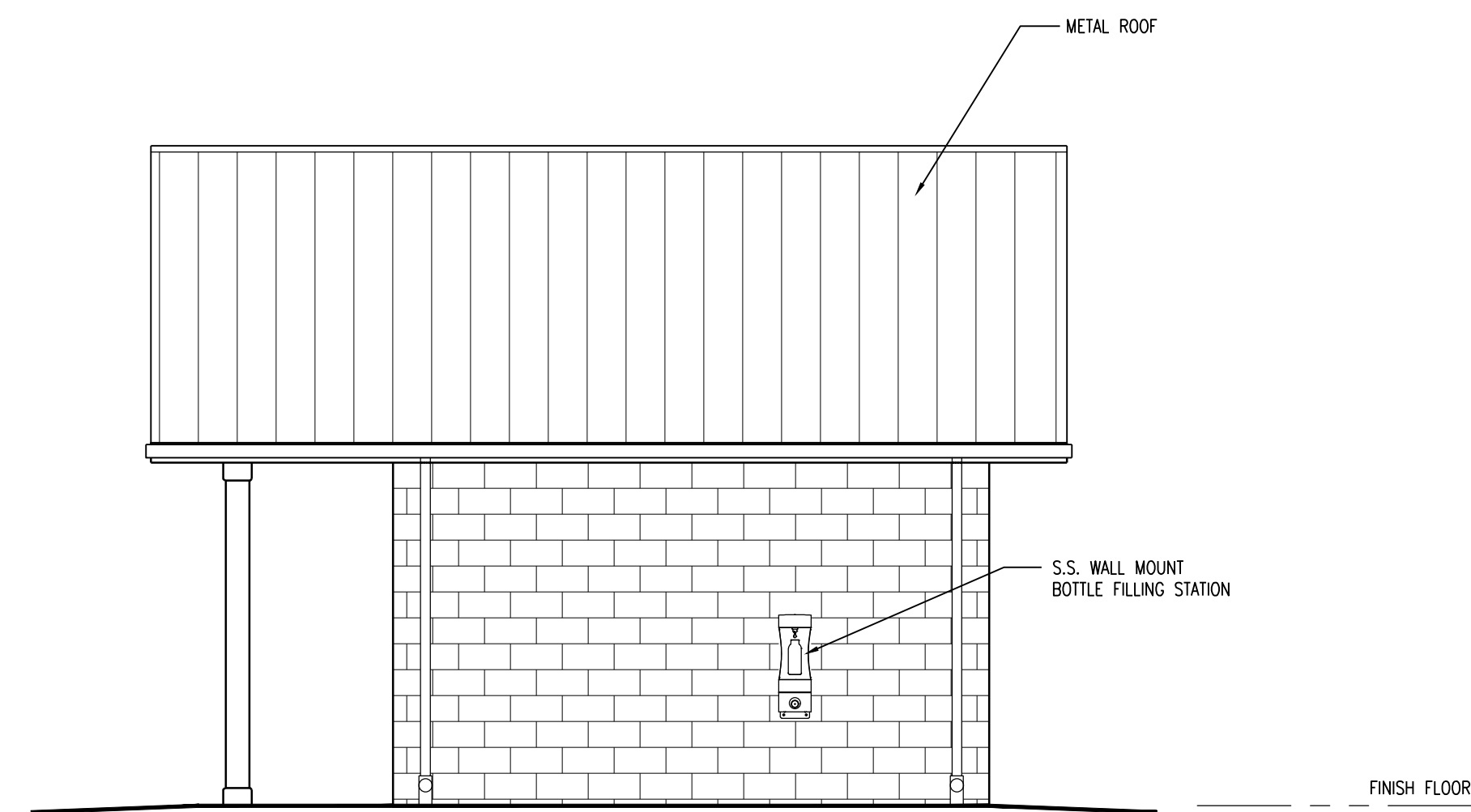
- DO NOT SCALE DRAWINGS. WHERE DRAWING GRAPHICS AND DIMENSIONS ARE IN CONFLICT, USE WRITTEN DIMENSIONS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ARCHITECT NOT RESPONSIBLE FOR INFORMATION TAKEN FROM HALF SIZE, NON LEGIBLE OR OR SCALED DRAWINGS.
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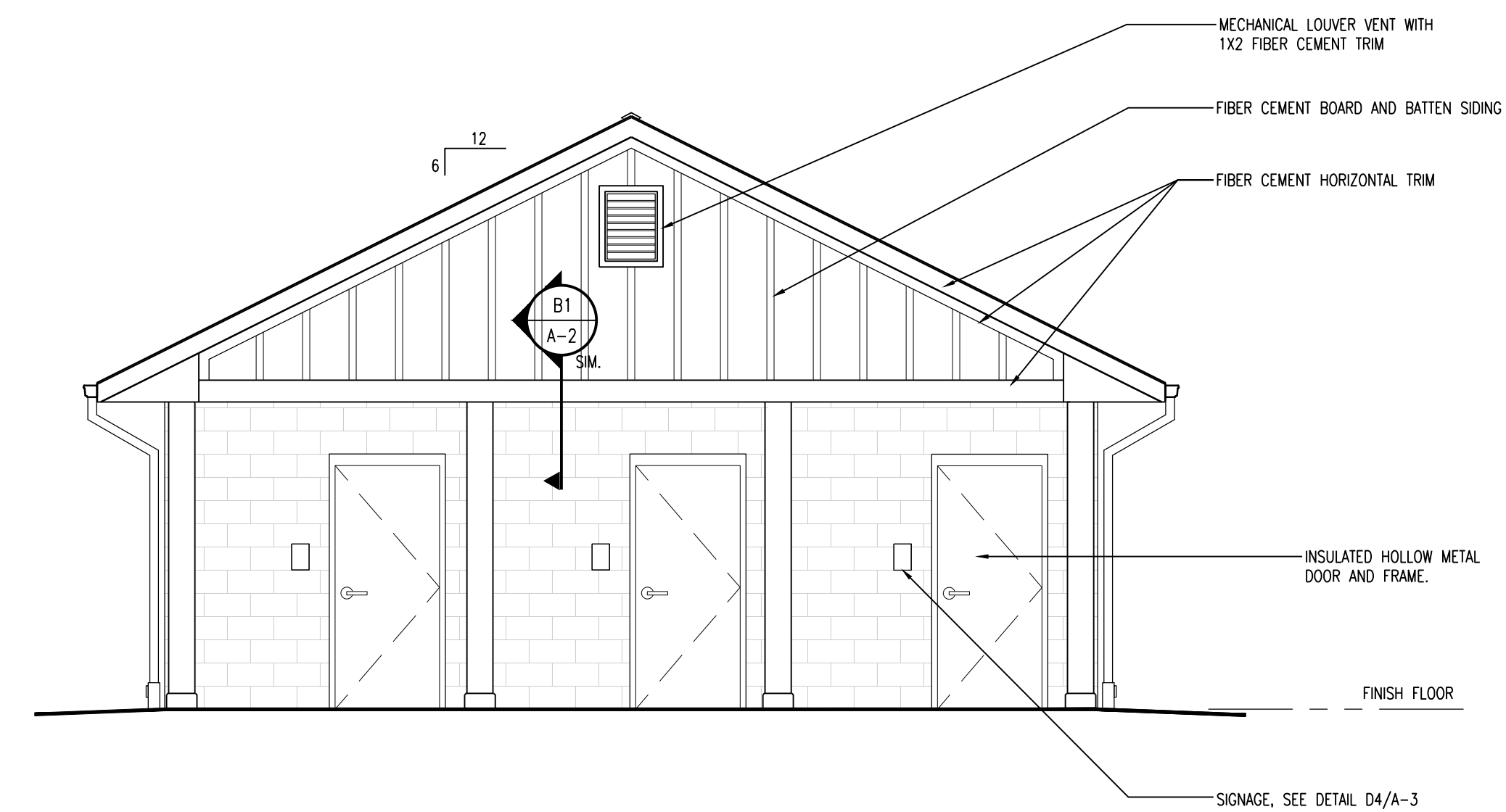
2 South Elevation
1/4"=1'-0"



1 West Elevation
1/4"=1'-0"



4 North Elevation
1/4"=1'-0"



3 East Elevation
1/4"=1'-0"

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

988 E HOWE ROAD
TALLMADGE, OH 44278

**Exterior
Elevations**

Project No.

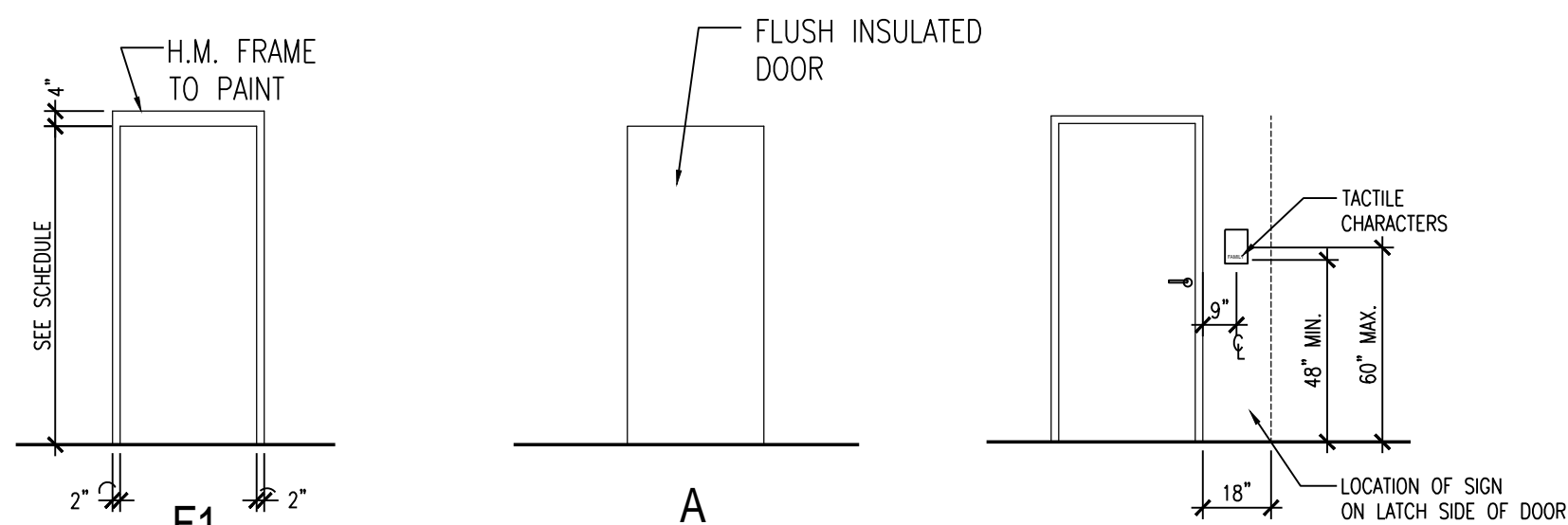
22104

A-2

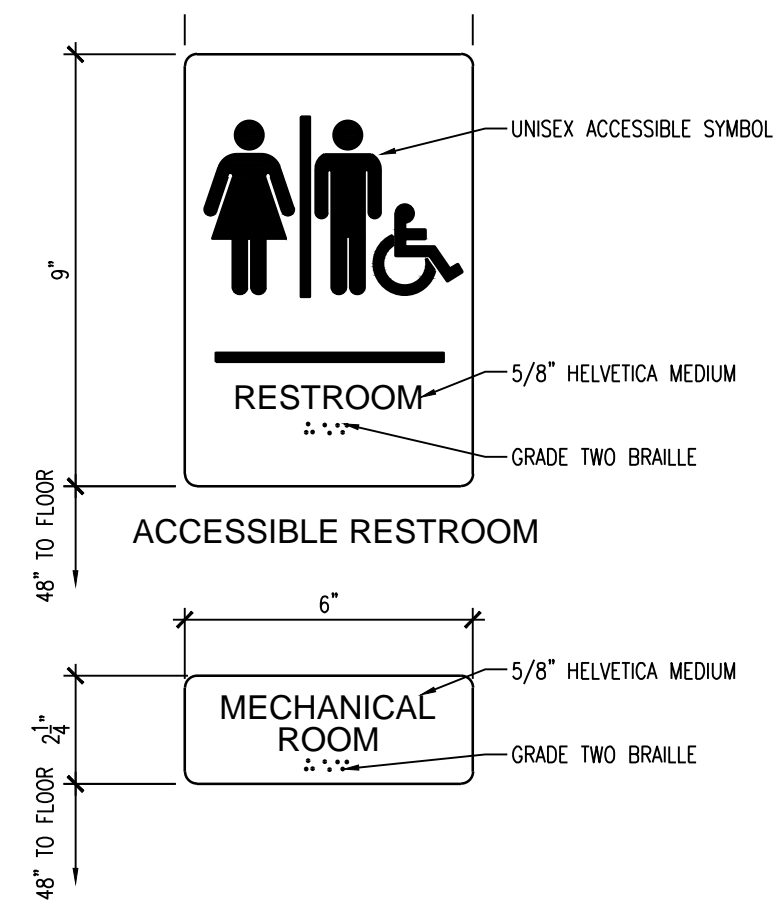
Door And Frame Schedule

MARK	DOOR				DOOR FRAME			DETAILS	FIRE RATING	HARDWARE SET	REMARKS
	DOOR SIZE	FILL DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH				
01	3'-0" x 7'-0"	A	HMI	PT	F1	HM	PT	A2	-	1	12" KICK PLATE
02	3'-0" x 7'-0"	A	HMI	PT	F1	HM	PT	A2	-	1	12" KICK PLATE
03	3'-0" x 7'-0"	A	HMI	PT	F1	HM	PT	A2	-	1	12" KICK PLATE
04	PR 3'-0" x 7'-0"	A	HMI	PT	F1	HM	PT	A2	-	2	12" KICK PLATE

SEE SPECIFICATIONS FOR HARDWARE SETS



Door Frame Type Door Type Sign Mounting



D4 Sign Details

NOTE: VERIFY SIGNAGE TEXT WITH OWNER

Room Finish Schedule

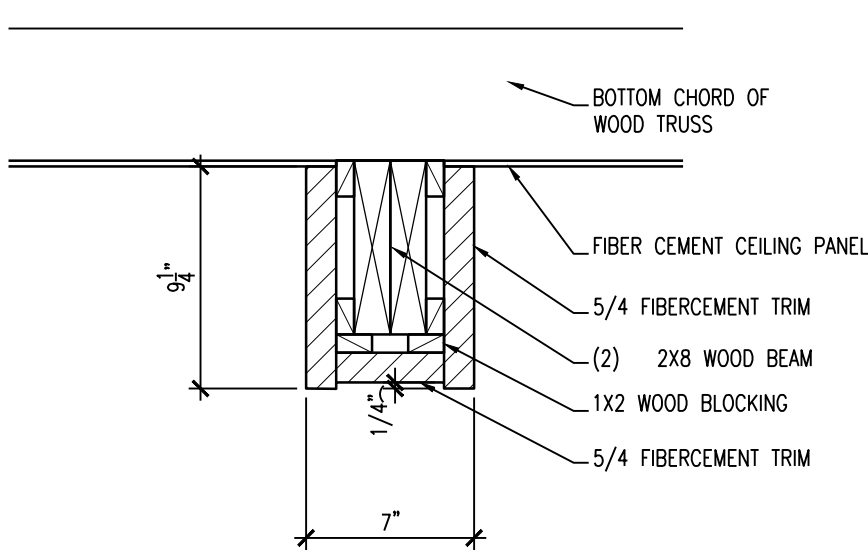
ROOM NAME	FLOOR		BASE MATERIAL	WALLS				CEILING		REMARKS
	MATERIAL	FINISH		NORTH	EAST	SOUTH	WEST	MATERIAL	FINISH	
Restrooms										
101 FAMILY TOILET	CONC	SEAL	RB	FRP	FRP	FRP	FRP	WD	ST-1	1,2,3,4
102 FAMILY TOILET	CONC	SEAL	RB	FRP	FRP	FRP	FRP	WD	ST-1	1,2,3,4
103 FAMILY TOILET	CONC	SEAL	RB	FRP	FRP	FRP	FRP	WD	ST-1	1,2,3,4
104 MECHANICAL	CONC	SEAL	RB	FRP	FRP	FRP	FRP	PLYWD	PT-1	1,2

Legend

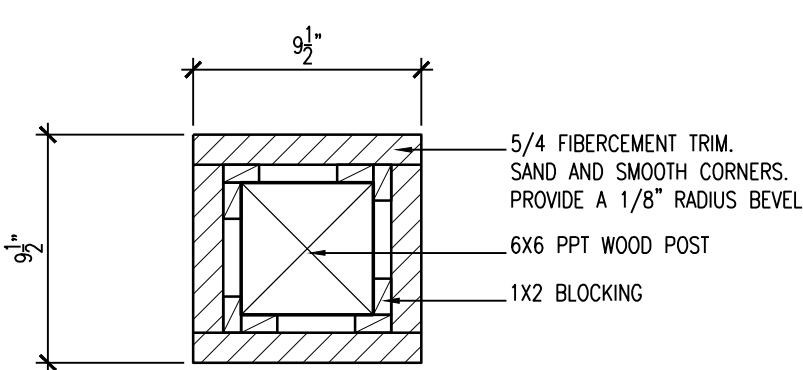
CONC CONCRETE
FRP FIBER REINFORCED PANEL
PT PAINT
PLW PLYWOOD
RB RUBBER BASE
SEAL CONCRETE SEALER
ST STAIN - CLEAR

Remarks

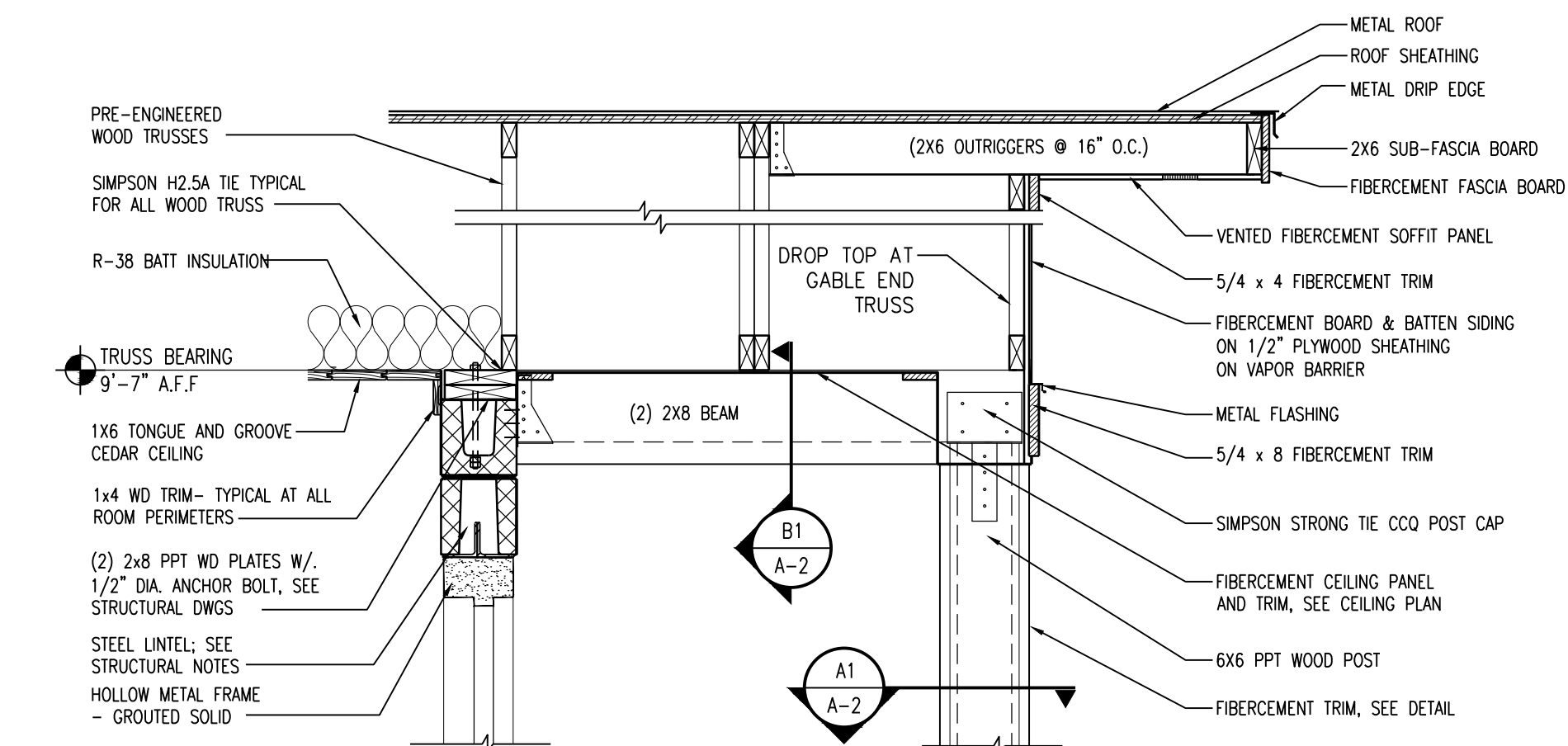
- RUBBER BASE 6" HIGH, COVE BOTTOM.
- FRP ON WOOD SHEATHING FULL HGT.
- ALL INTERIOR WOOD CEILING BOARDS AND TRIM TO RECEIVE CLEAR FINISH TOPCOAT.
- PROVIDE 1X WOOD TRIM AT CEILING.



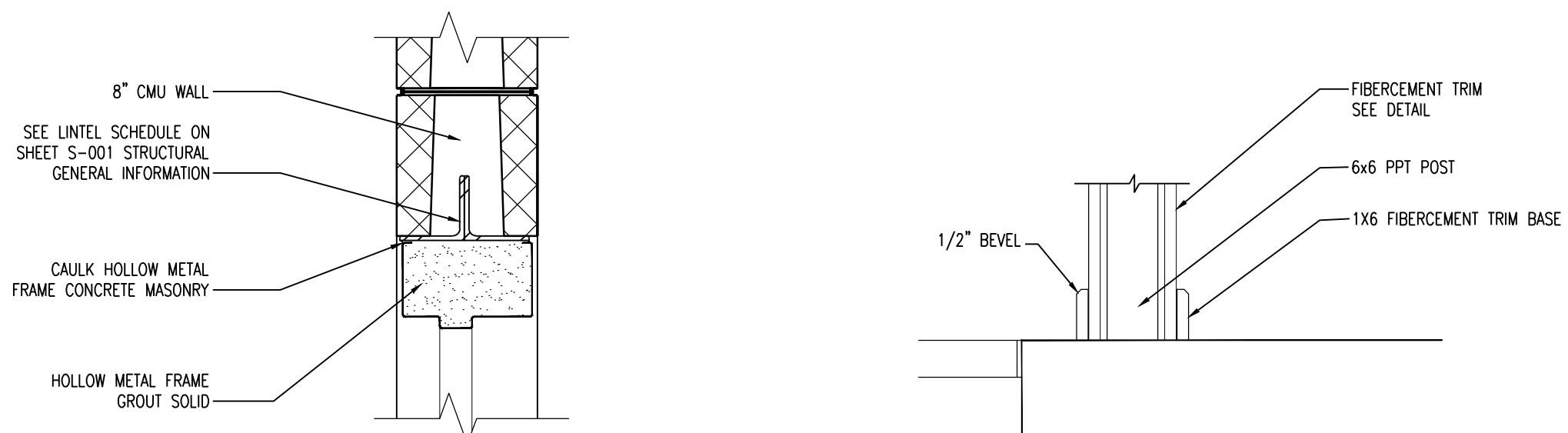
B1 Section Thru Porch Beam



A1 Detail Wood Post

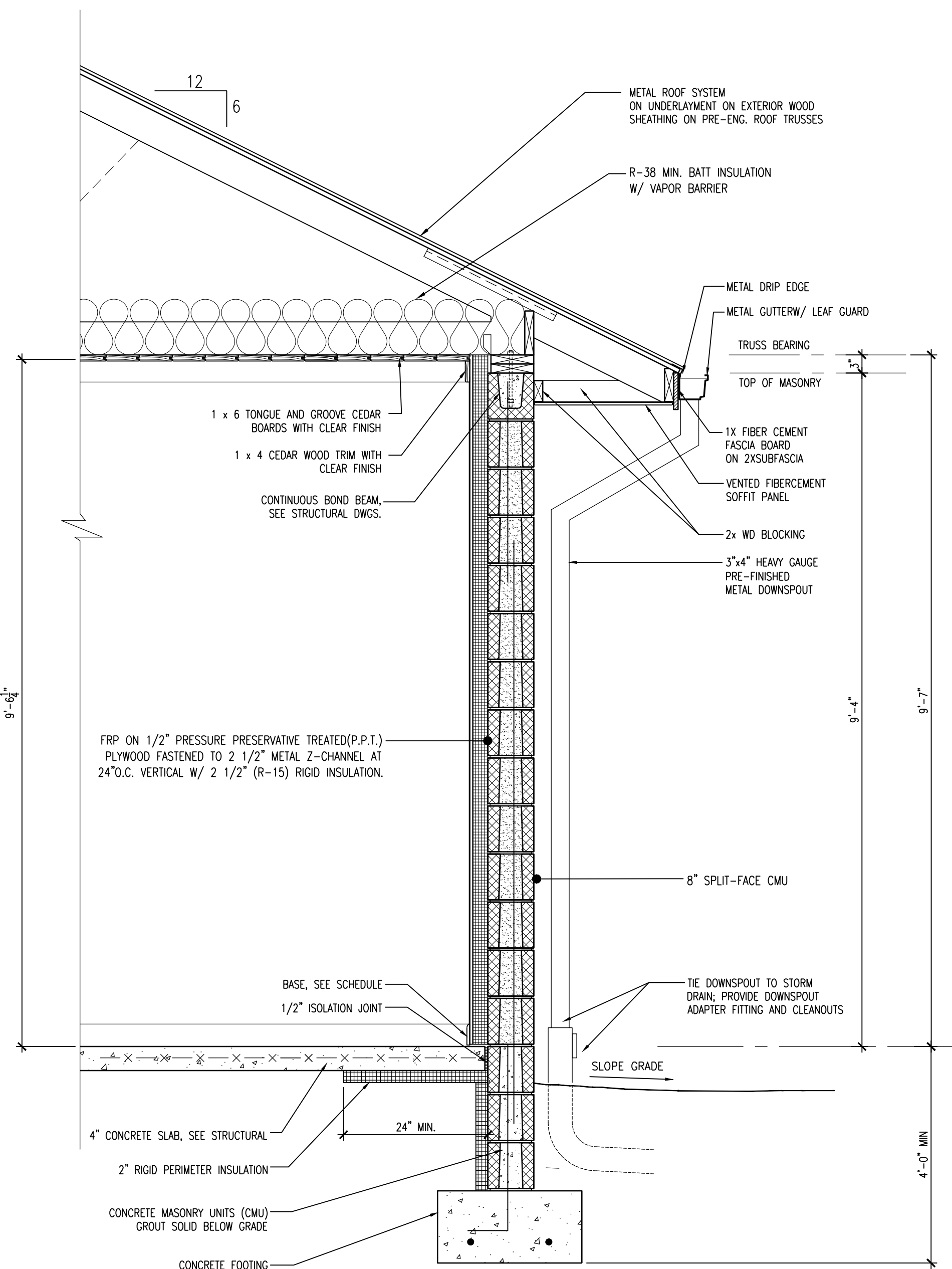


B2 Wall Section Thru Porch



A2 Head Detail Hollow Metal Door- Exterior

A3 Column Base



1 Typical Wall Section

General Notes

- DO NOT SCALE DRAWINGS. WHERE DRAWING GRAPHICS AND DIMENSIONS ARE IN CONFLICT, USE WRITTEN DIMENSIONS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ARCHITECT NOT RESPONSIBLE FOR INFORMATION TAKEN FROM HALF SIZE, NON LEGIBLE OR OR SCALED DRAWINGS.
- ALL CONTRACTORS AND SUB CONTRACTORS REQUIRED TO BID FROM ALL DRAWINGS (COMPLETE SET).
- CONTRACTOR TO VERIFY ALL COLORS AND FINISHES PRIOR TO INSTALLATION.
- ALL MASONRY DIMENSIONS ARE NOMINAL.
- PROVIDE WOOD BLOCKING AS REQUIRED FOR ALL CEILING MOUNTED EQUIPMENT AND ACCESSORIES.
- MECHANICAL AND ELECTRICAL ITEMS ARE SHOWN FOR THE SOLE PURPOSE OF INDICATING THEIR RESPECTIVE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWING FOR SIZE, TYPE, AND OTHER REQUIREMENTS PERTAINING SPECIFICALLY TO THESE ITEMS.

Revisions:
Issue Date: 8/1/2023

HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2

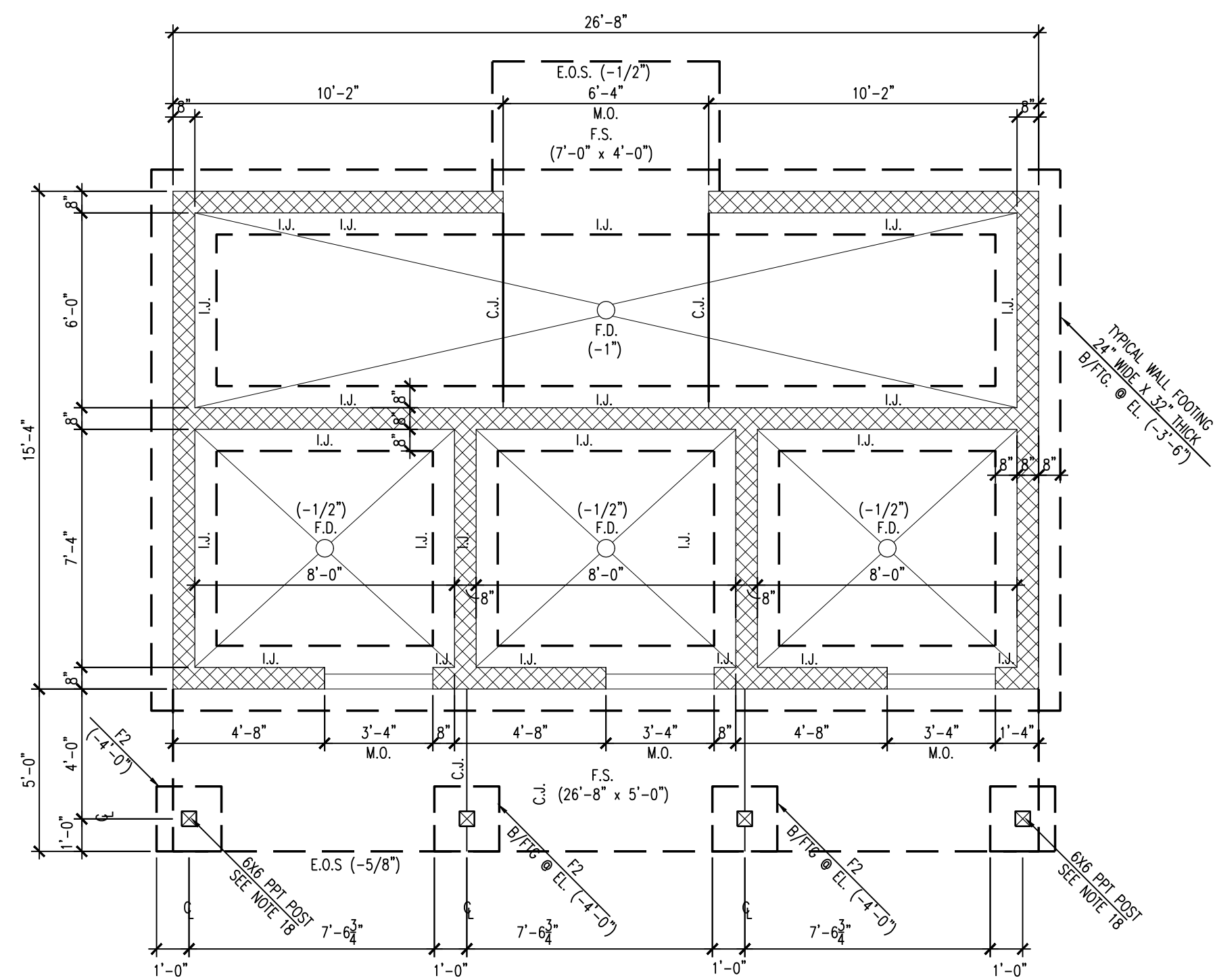
988 E HOWE ROAD
TALLMADGE, OH 44278

Floor Plan and Details

Project No.

22104

A-3



Restroom Foundation Plan

1/4"=1'-0"

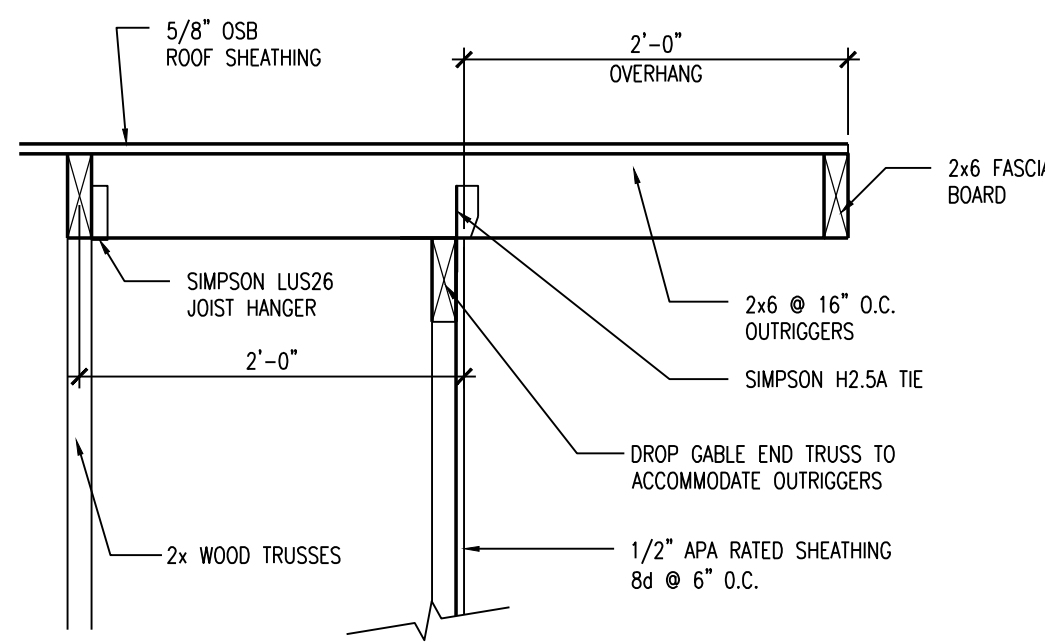


Slab-on-Grade Plan Notes:

- DESIGN CRITERIA AND GENERAL NOTES ON DRAWING S-1.
- TYPICAL FOUNDATION DETAILS THIS SHEET.
- ALL DIMENSIONS SHOWN ON THIS DRAWING TO BE VERIFIED WITH ARCHITECTURAL DRAWINGS.
- FINISHED FIRST FLOOR REFERENCE ELEVATION = 0'-0"
- TOP OF SLAB AND BOTTOM OF FOOTING ELEVATIONS SHOWN THUS (-) ON PLAN ARE REFERENCED TO FINISHED SLAB-ON-GRADE ELEVATION = 0'-0"
- ALL FOOTINGS MUST BEAR UPON MATERIALS STATED IN "FOUNDATIONS" GENERAL NOTES ON SHEET S-1.
- ALL WALL FOOTINGS SIZES TO BE AS SHOWN ON PLAN WITH BOTTOM OF FOOTING AT -4'-0" BELOW FIN. FLOOR ELEV. SEE TYPICAL DETAILS B4 & B5 ON THIS SHEET.
- F2 = 2'-0" X 2'-0" X 3'-4" THICK COLUMN CONCRETE FOOTING REINFORCED WITH (2) #5 BARS, EW T&B, TYPICAL 2 COLUMNS.
- BOTTOM OF ALL FOOTINGS MUST BE A MINIMUM 3'-6" BELOW FINISH GRADE, LOWER BOTTOM OF FINISH FOOTING AS REQUIRED.
- ALL 8" CMU MASONRY WALL TO BE REINFORCED WITH #5 BARS @ 32" O.C. PROVIDE 1-#5 BAR EACH SIDE OF MASONRY DOOR OPENING. PROVIDE MATCHING DOWELS INTO FOOTING. SEE DETAILS B4 & B5 ON THIS SHEET.
- SLAB ON GRADE FLOOR CONSTRUCTION: 4"-4000 PSI CONCRETE SLAB-ON-GRADE REINFORCED WITH 6X6 - W1.4 X W1.4 WWF ON 4" COMPACTED DRAINAGE FILL COVERED WITH A 10 MIL VAPOR BARRIER. SEE TYPICAL DETAIL A6, B4 AND B5 ON THIS SHEET.
- SLAB-ON-GRADE CONSTRUCTION AND JOINT SPACING CRITERIA PER DETAILS A6 THIS SHEET.
- I.J. = ISOLATION JOINT. I.J. TO BE 1/2" ISOLATION JOINT MATERIAL PER ASTM D-1751. SEE DETAILS B4 AND B5 THIS SHEET.
- E.O.S. = EDGE OF SLAB. SEE DETAIL A5 ON THIS SHEET.
- C.J. = SAWCUT CONTROL JOINT. SEE DETAIL A6 ON THIS SHEET.
- F.D. = FLOOR DRAIN. SLOPE SLABS TO FLOOR DRAINS. MAX SLOPE 1/8" = 1'-0".
- F.S. = FROST SLAB. SEE DETAIL A3 ON THIS SHEET. FROST SLABS TO BE AIR ENTRAINED CONCRETE (A.E.).
- 6X6 PPT POST BASE: SIMPSON CB66 COLUMN BASE.

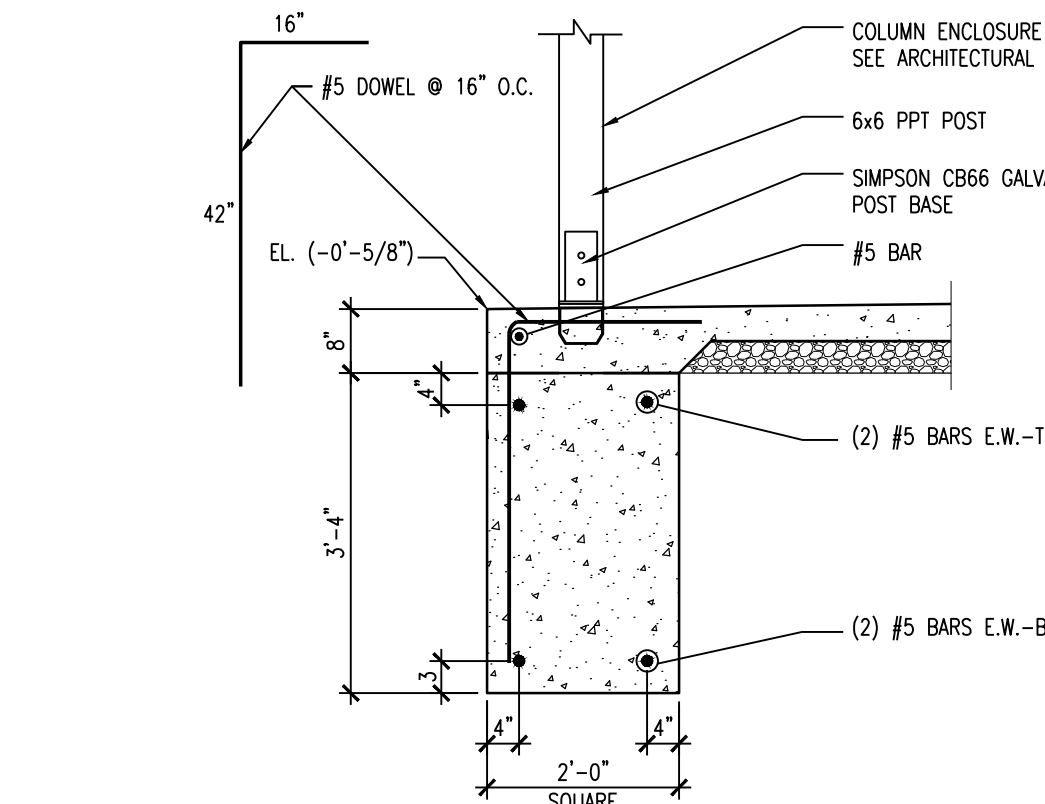
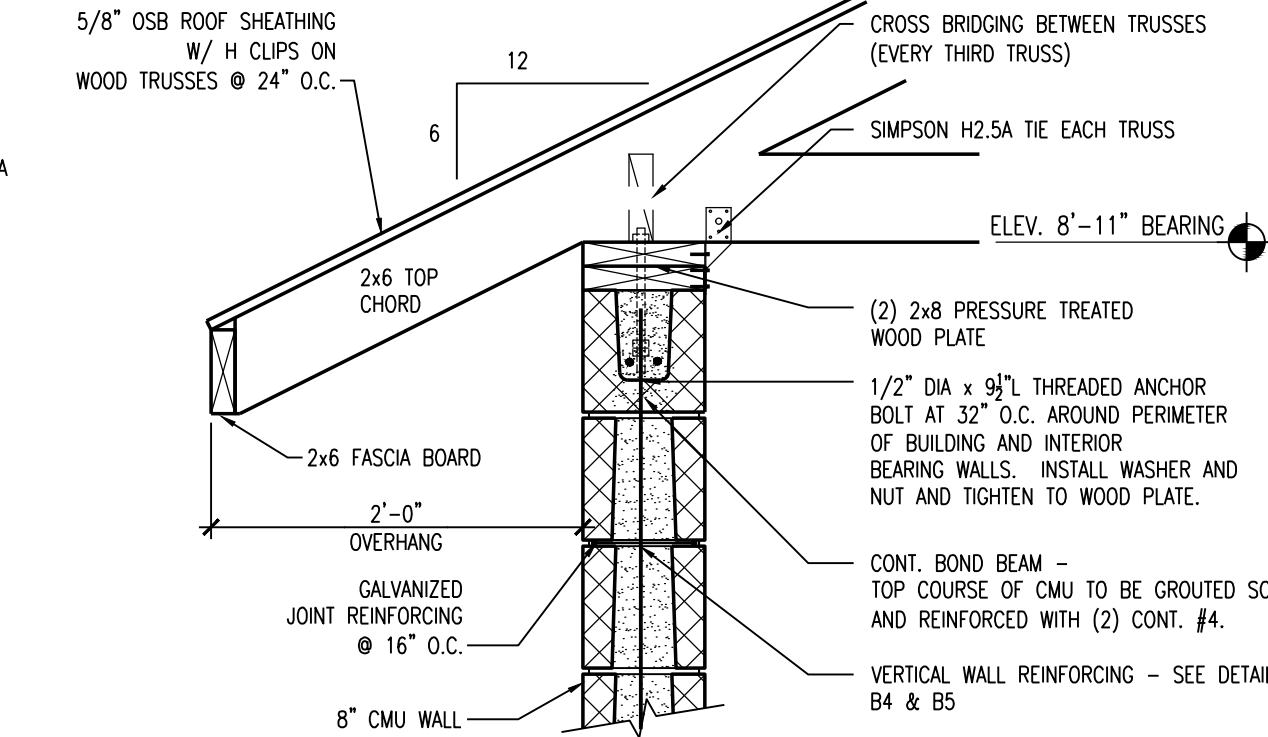
D4 Overhang Detail

1"=1'-0"



D5 Truss Bearing Detail

1"=1'-0"

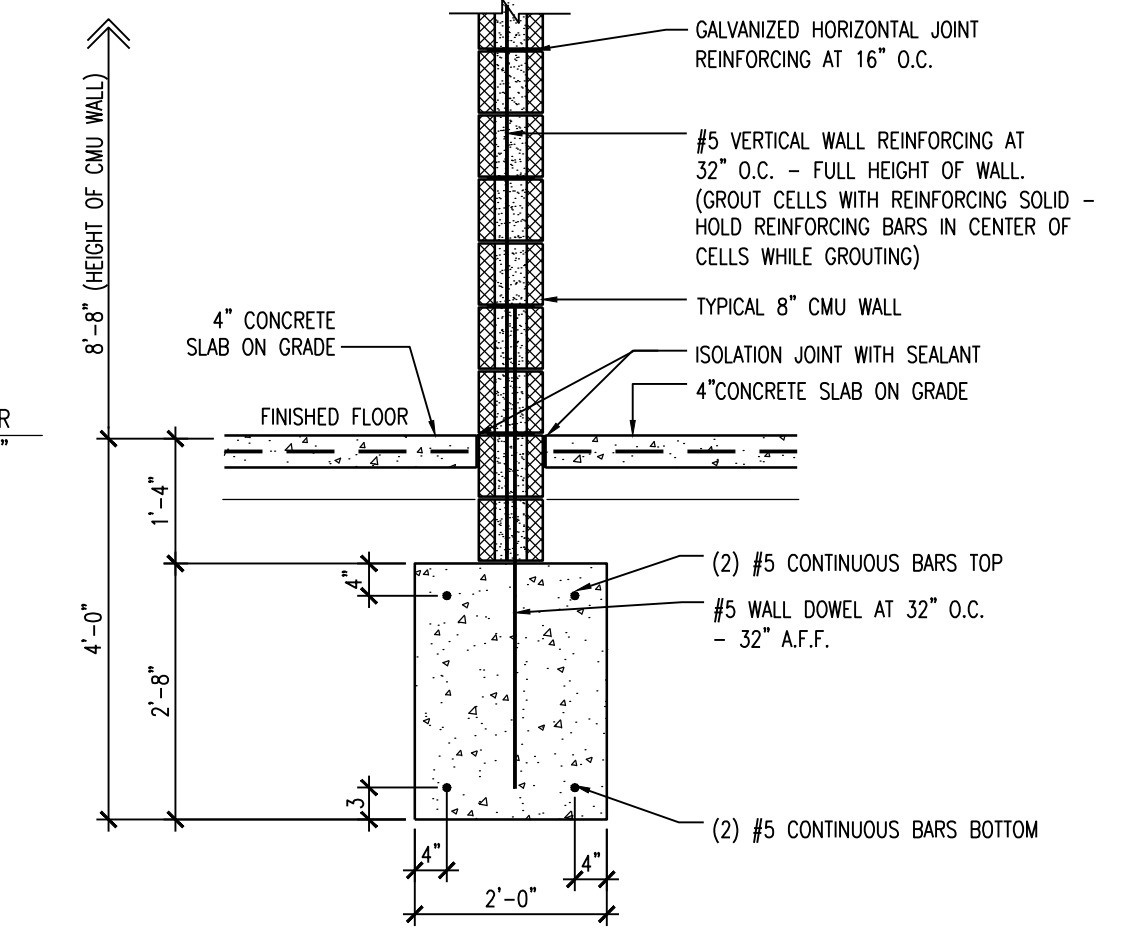


C3 Post Footing Detail

1/2"=1'-0"

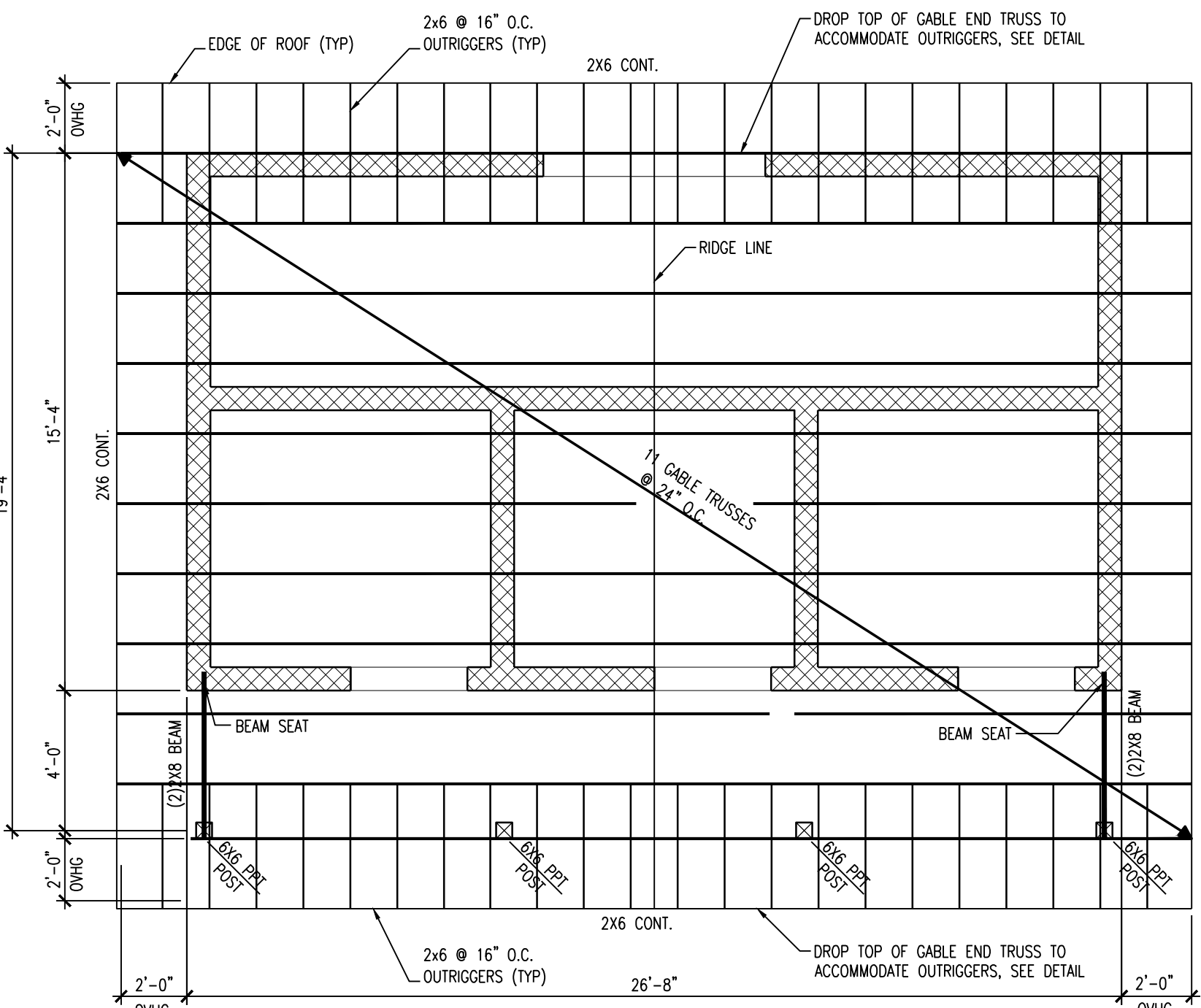
C5 Lintel Head Detail

1"=1'-0"



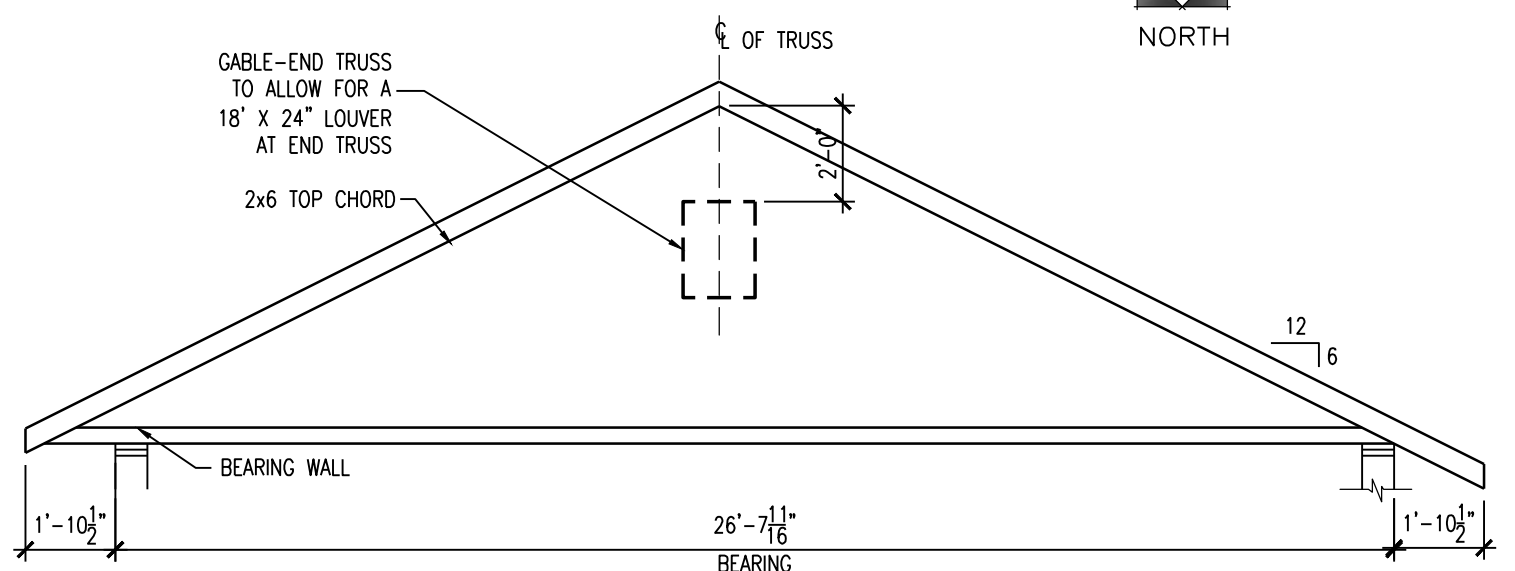
Roof Framing Plan Notes:

- DESIGN CRITERIA AND GENERAL NOTES ON DRAWING S-1.
- TYPICAL ROOF FRAMING DETAILS THIS SHEET.
- ALL DIMENSIONS SHOWN ON THIS DRAWING TO BE VERIFIED WITH ARCHITECTURAL DRAWINGS.
- SEE ARCHITECTURAL DRAWINGS FOR LINTEL ELEVATIONS AND WIDTH OF OPENINGS.
- SEE ARCHITECTURAL DRAWINGS FOR TRUSS BEARING ELEVATIONS.
- ALL ROOF SLOPES TO BE 6:12 AS NOTED ON ARCHITECTURAL DRAWINGS.
- ROOF TRUSS PROFILES SHOWN ON THIS DRAWING.
- ROOF CONSTRUCTION: 5/8" OSB WOOD SHEATHING, WITH H-CLIPS (AS MANUFACTURED BY ADVANTECH OR EQUAL) NAILED TO ROOF TRUSSES AT 24" O.C. AND 2x OUTRIGGERS AT 16" O.C.
- NAILING OF ROOF FRAMING PER OBC TABLE 2304.10.1 - "FASTENING SCHEDULE".
- NAILING OF WALL SHEATHING PER OBC CHAPTER 23 - USE B4 COMMON @ 6" O.C.
- NAILING OF ROOF SHEATHING PER OBC CHAPTER 23 - USE B4 COMMON @ 6" O.C.
- OVHG = ROOF OVERHANG. SEE DETAIL D4.
- 6X6 PPT COLUMN CAP: SIMPSON CQ46SDS2.5
- (2) 2X8 BEAM SEAT TO MASONRY WALL; SET BEAM ON WATERPROOF MEMBRANE.



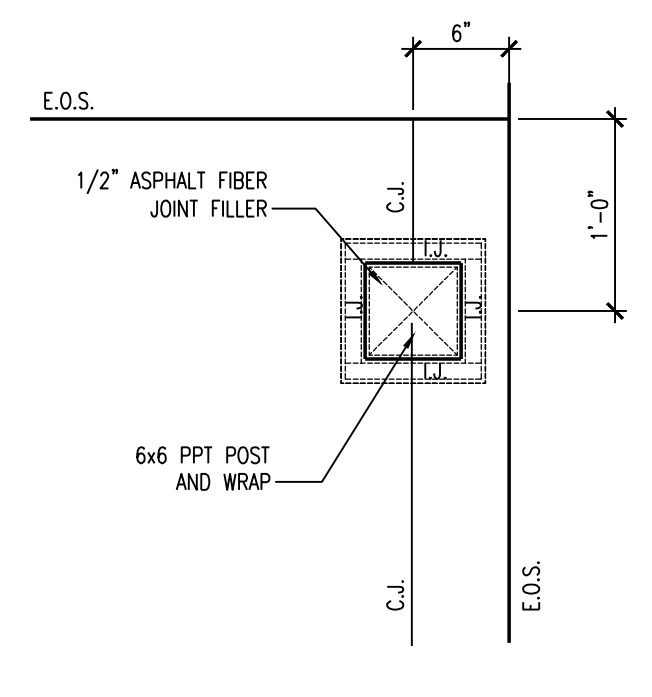
Restroom Roof Framing Plan

1/4"=1'-0"



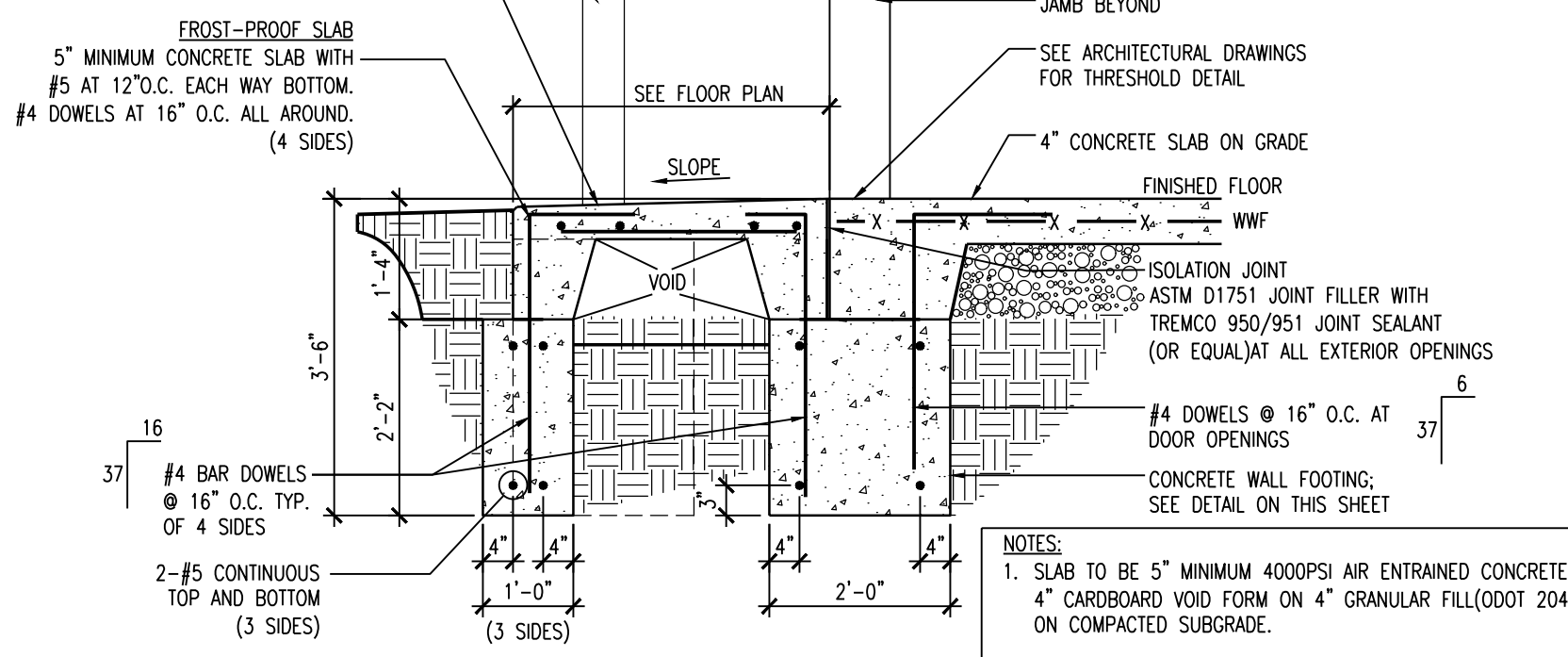
Truss Profile - Gable Truss

1/4"=1'-0"



A2 Column Isolation Joint

1"=1'-0"

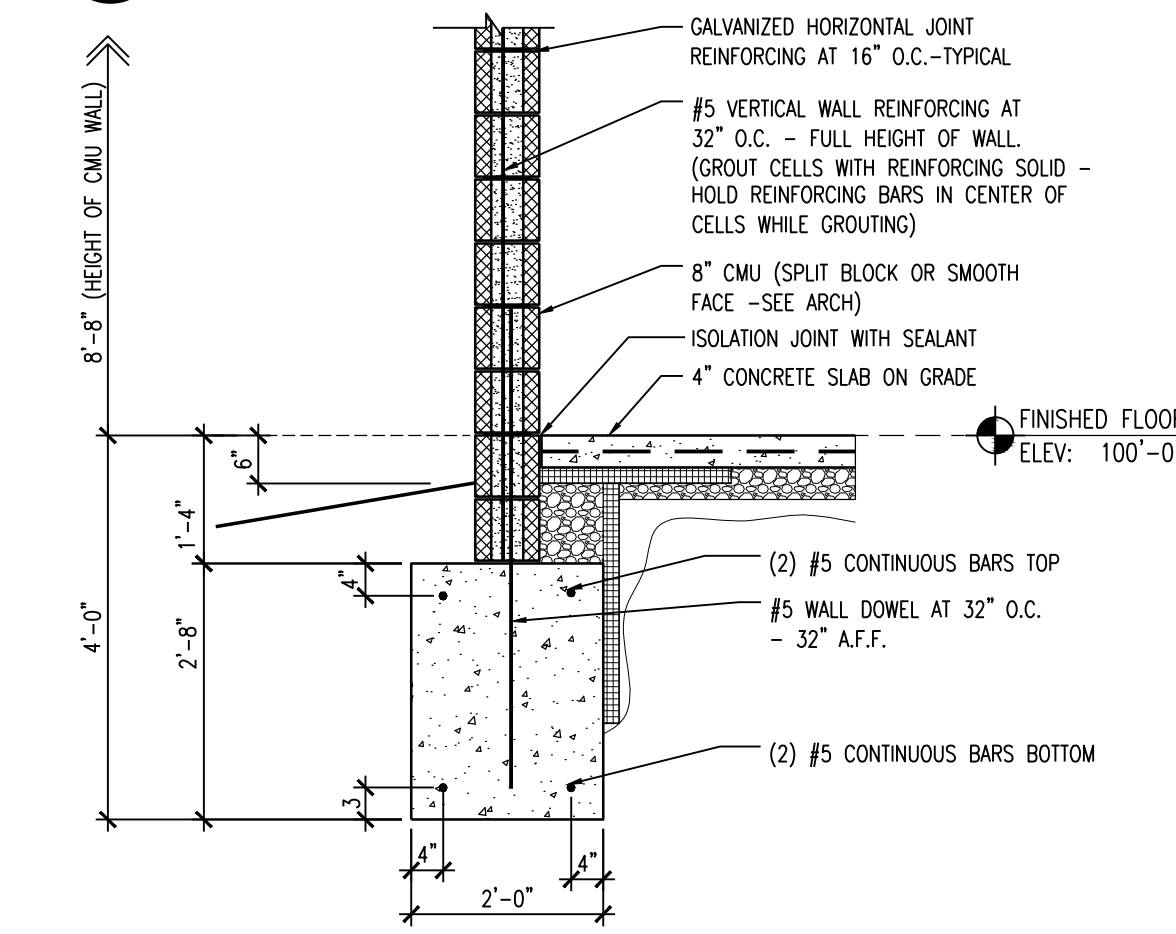


A3 Frost Slab Detail

1/2"=1'-0"

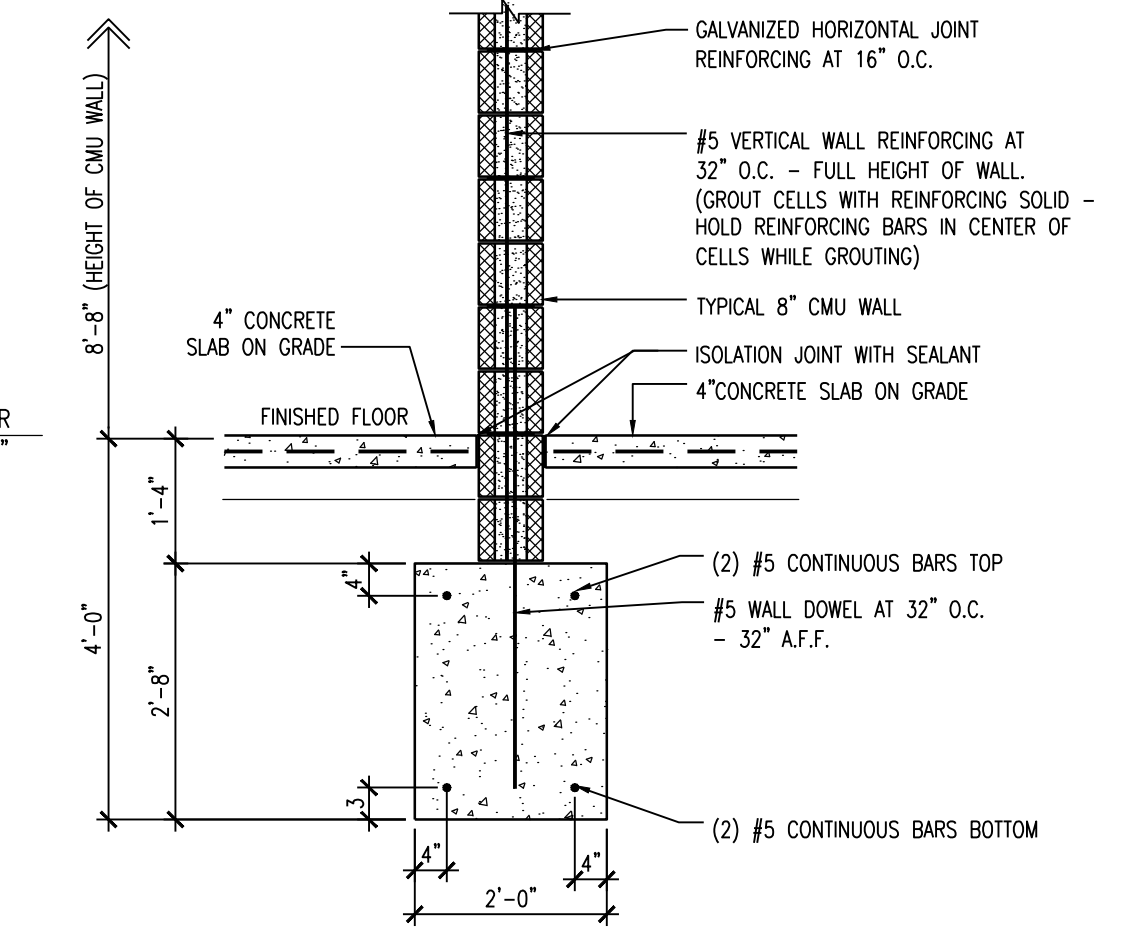
B4 Exterior Wall Footing Detail

1/2"=1'-0"



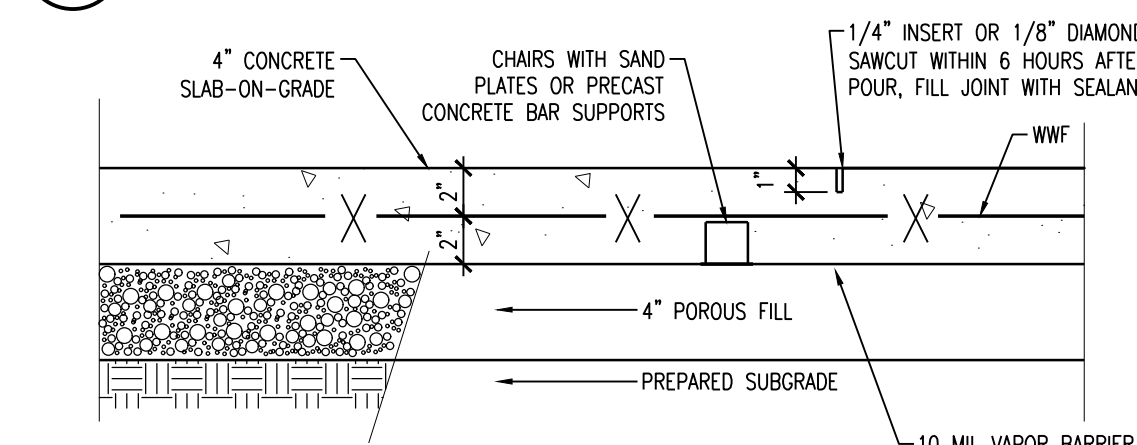
B5 Interior Wall Footing Detail

1/2"=1'-0"



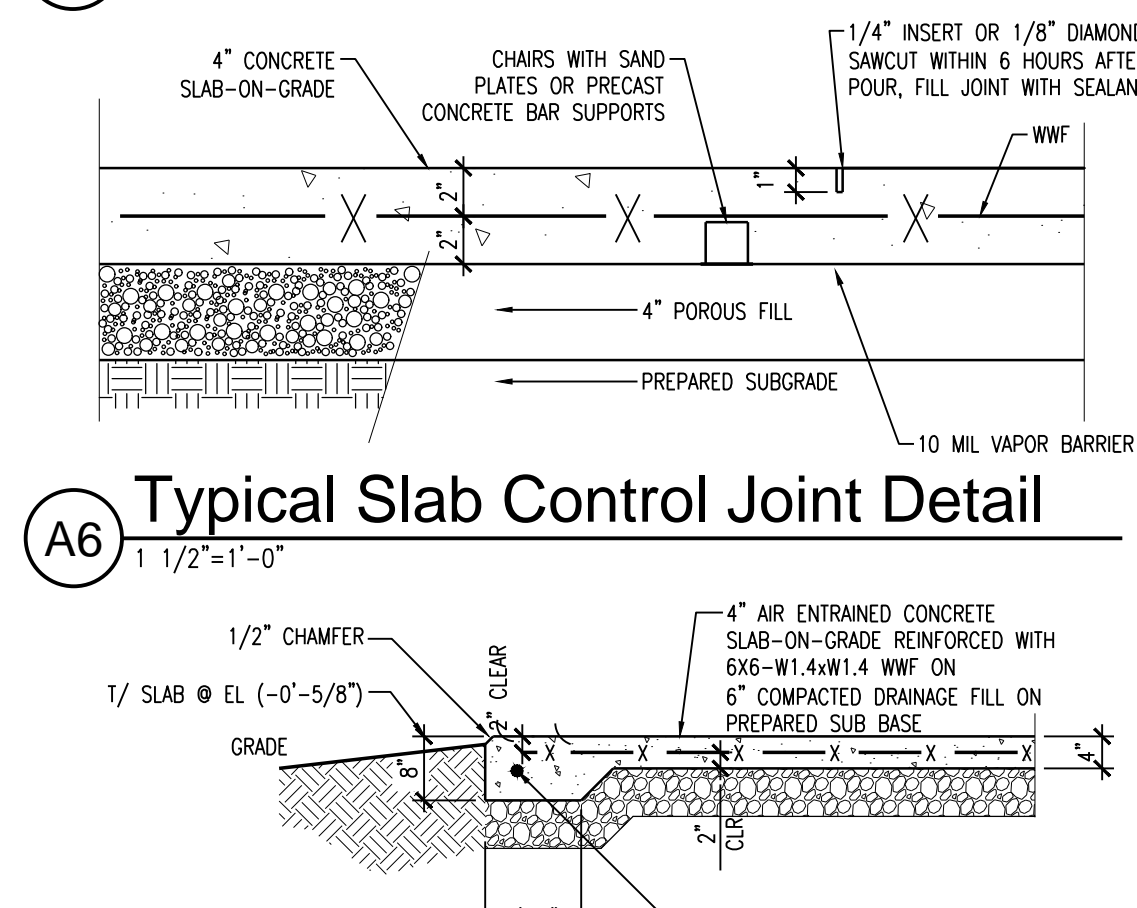
A6 Typical Slab Control Joint Detail

1 1/2"=1'-0"



A5 Slab Edge Detail

1/2"=1'-0"



Lexington Cincinnati Cleveland Dallas Charleston



Nancy K. Nozik, license 11148
expiration date: 12/31/2023

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

988 E HOWE ROAD
TALLMADGE, OH 44278

**Foundation Plan,
Framing Plan
& Details**

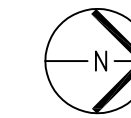
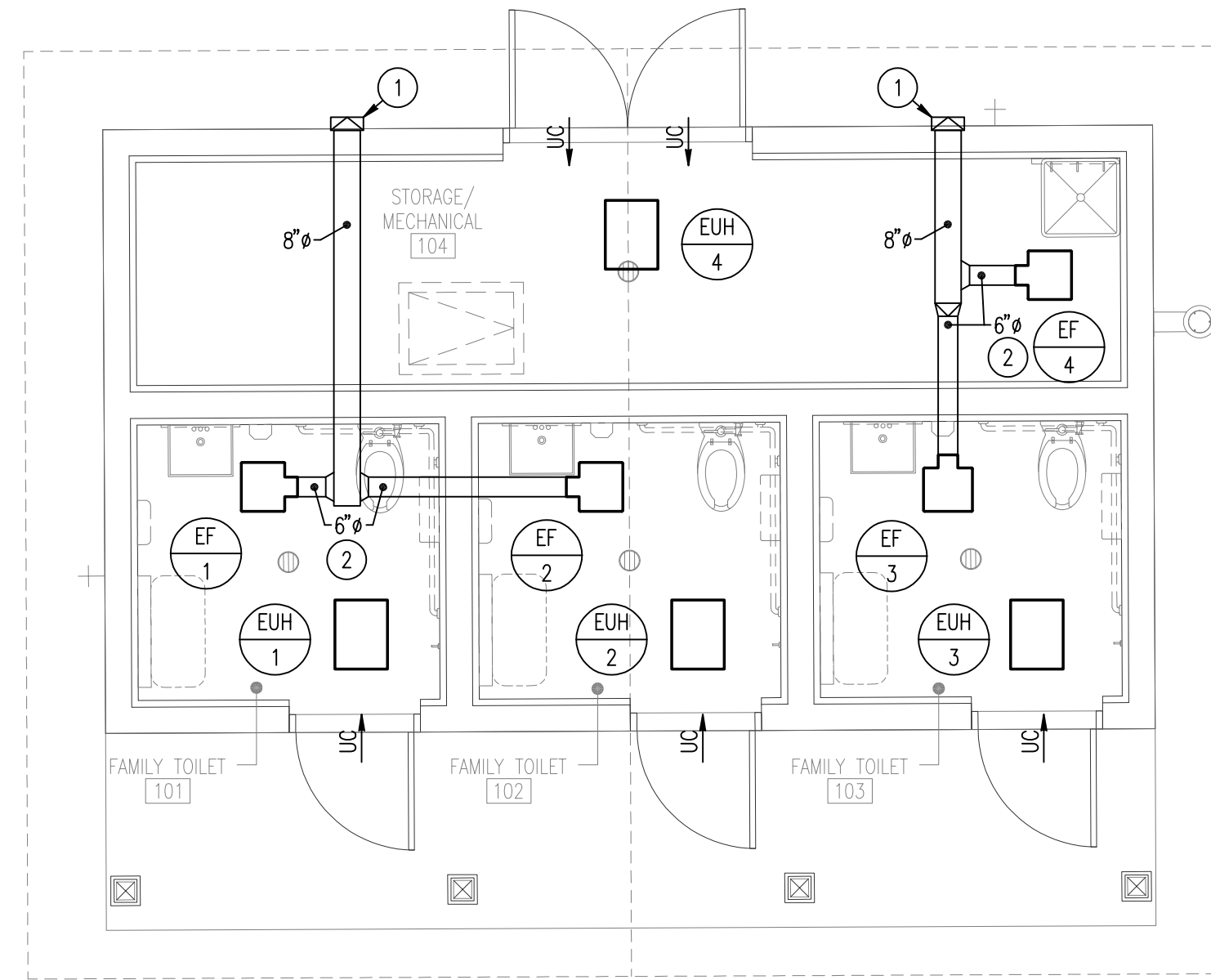
Project No.

22104

S-2

MECHANICAL GENERAL NOTES

- THE TERM GENERAL CONTRACTOR (GC) AS USED IN THESE DOCUMENTS REFERS TO THE CONTRACTOR / CONSTRUCTION MANAGER IN RESPONSIBLE CHARGE OF THE PROJECT IN TERMS OF COORDINATION, SCHEDULING, SUBCONTRACTOR COORDINATION, ETC. THIS TERM REFERS TO, BUT IS NOT LIMITED TO, GENERAL CONTRACTOR, CONSTRUCTION MANAGER, DESIGN BUILD CONTRACTOR, PRIME CONTRACTOR, ETC. THE TERM IS REFERENCING THE ENTITY THAT COORDINATES THE WORK OF OTHER TRADES.
- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTING WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
- THE MECHANICAL SYSTEMS OR ITS MODIFICATIONS ARE DESIGNED TO BE A COMPLETE OPERATING SYSTEM AND STABLE AFTER THE BUILDING OR ITS MODIFICATIONS ARE FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE CONSTRUCTION, INSTALLATION, AND PROGRAMMING PROCEDURES AND SEQUENCES TO HAVE A COMPLETE AND WORKING SYSTEM AND TO INSURE THE SAFETY OF THE CONSTRUCTION PERSONNEL, PUBLIC, BUILDING AND ITS COMPONENT PARTS, AND ADJACENT BUILDINGS AND PROPERTIES. THIS INCLUDES THE ADDITION OF WHATEVER TEMPORARY OR PERMANENT BRACING, ETC. THAT MAY BE NECESSARY TO BRACE NEW OR EXISTING CONSTRUCTION, WALLS, AND FRAMING TO REMAIN SO THAT THE STRUCTURE IS BRACED FOR CONSTRUCTION LOADS, ETC. AND THAT NO HORIZONTAL OR VERTICAL SETTLEMENT OR ANY DAMAGE OCCURS TO THE ADJACENT NEW OR PERMANENT SUPPORTS AND BRACING THAT ARE INSTALLED. DESIGN OF THESE SUPPORTS SHALL BE PROVIDED BY THE CONTRACTOR. PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, AND ACCESSORIES REQUIRED TO FURNISH AND INSTALL THE SYSTEMS IDENTIFIED IN SPECIFICATIONS AND DRAWINGS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENFORCE ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
- CONSTRUCTION LOADS SHALL NOT EXCEED STRUCTURAL DESIGN LIVE LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DESIGN REQUIRED TO SUPPORT CONSTRUCTION EQUIPMENT USED IN CONSTRUCTING THIS PROJECT. VERIFY AND COORDINATE WITH STRUCTURAL DRAWINGS.
- THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION FOR THE PROJECT IN A MANNER AND SEQUENCE THAT ARE BASED ON ACCEPTED INDUSTRY STANDARDS THAT RECOGNIZE THE INTERACTION OF THE COMPONENTS THAT COMPRISE THE SYSTEMS, WITHOUT CAUSING DISTRESS, UNANTICIPATED MOVEMENTS OR IRREGULAR LOAD PATHS AS A RESULT OF THE CONSTRUCTION MEANS AND METHODS EMPLOYED.
- THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
- BEFORE FABRICATION AND/OR INSTALLING ANY WORK, CONTRACTOR SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCE REQUIRED FOR FINISH ON BEAMS, COLUMNS, PILASTERS, WALLS, OR OTHER STRUCTURAL OR ARCHITECTURAL MEMBERS, AS SHOWN ON ARCHITECTURAL DRAWINGS. IF ANY WORK IS SO INSTALLED AND IT LATER DEVELOPS THAT ARCHITECTURAL DESIGN CANNOT BE FOLLOWED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE SUCH CHANGES IN HIS WORK AS ARCHITECT MAY DIRECT TO PERMIT COMPLETION OF ARCHITECTURAL WORK IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- PIPES PASSING THROUGH OR UNDER WALLS SHALL BE PROTECTED FROM BREAKAGE. PIPES PASSING THROUGH STUDS, JOIST, RAFTERS OR SIMILAR MEMBERS LESS THAN 1 1/2" FROM THE NEAREST EDGE OF THE MEMBERS SHALL BE PROTECTED BY STEEL SHIELD PLATES.
- INSTALL ADDITIONAL OFFSETS ON PIPING OR DUCTWORK WHERE REQUIRED TO OBTAIN MAXIMUM HEADROOM OR TO AVOID CONFLICT WITH OTHER WORK WITHOUT ADDITIONAL COST TO OWNER.
- REPORT ANY INTERFERENCES BETWEEN WORK UNDER THIS DIVISION AND THAT OF ANY OTHER CONTRACTORS TO ARCHITECT AS SOON AS THEY ARE DISCOVERED. ARCHITECT WILL DETERMINE WHICH EQUIPMENT SHALL BE RELOCATED, REGARDLESS OF WHICH WAS FIRST INSTALLED, AND HIS DECISION SHALL BE FINAL.
- THE CONTRACTOR SHALL COORDINATE FLOOR, WALL, AND ROOF PENETRATIONS, LOUVER SIZES, ETC. WITH GENERAL TRADES.
- GENERAL CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED THROUGH THE FRAMING BY THE MECHANICAL, ELECTRICAL, PLUMBING, OR OTHER TRADES, WHETHER OR NOT SHOWN ON THE STRUCTURAL DRAWINGS. ANY DEVIATION FROM THE OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR REVIEW.
- ALL MECHANICAL AND ELECTRICAL WORK: DUCTWORK, PIPING, WIRING, LIGHTING, ETC. AND ALL ARCHITECTURAL ITEMS THAT NEED TO BE REMOVED DURING THE MODIFICATION OF OR REINFORCING OF, EXISTING STRUCTURE SHALL BE REPLACED IN KIND BY THE RESPECTIVE CONTRACTOR. THE CONTRACTORS SHALL KEEP ALL EXISTING SYSTEMS IN OPERATION DURING THE CONSTRUCTION PHASE OF THE PROJECT.
- ALL CONTRACTORS ARE REQUIRED TO EXAMINE THE DRAWINGS AND SPECIFICATIONS CAREFULLY, VISIT THE SITE AND FULLY TP VERIFY ALL EXISTING CONDITIONS AND LIMITATIONS, PRIOR TO AGREEING TO PERFORM THE WORK. FAILURE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND LIMITATIONS WILL IN NO WAY RELIEVE THE CONTRACTOR FROM FURNISHING ANY MATERIALS OR PERFORMING ANY WORK IN ACCORDANCE WITH DRAWINGS AND SPECIFICATION WITHOUT ADDITIONAL COST TO THE OWNER TO HAVE A COMPLETE AND WORKING SYSTEM.
- DO NOT SCALE DRAWINGS.
- ANY DISCREPANCIES BETWEEN MECHANICAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND MECHANICAL ENGINEER.
- SHOP DRAWINGS AND SUBMITTALS
 - SHOP DRAWINGS AND SUBMITTALS SHALL BE CHECKED AND COORDINATED WITH OTHER MATERIALS AND CONTRACTS BY THE GENERAL MECHANICAL AND ELECTRICAL CONTRACTORS AND SHOP DRAWINGS AND SUBMITTALS SHALL BEAR THE PRIME CONTRACTOR'S REVIEW STAMP WITH THE CHECKER'S INITIALS BEFORE BEING SUBMITTED TO THE ARCHITECT FOR APPROVAL.
 - WHEN THE CONTRACTOR HAS BEEN AUTHORIZED TO USE THE ARCHITECT AND ENGINEER'S DRAWINGS AS CONSTRUCTION COORDINATION DRAWINGS, THE CONTRACTOR MUST REMOVE ALL TITLE BLOCKS, PROFESSIONAL SEALS AND ANY OTHER REFERENCES TO THE ARCHITECT AND ENGINEER FROM THOSE DRAWINGS. THE CONTRACTORS NAME AND TITLE SHALL BE PLACED ON THE DRAWINGS.
 - WHERE VOLTAGE, AMP DRAW, DIMENSIONS AND ELEVATIONS OF NEW CONSTRUCTION COULD AFFECT THE NEW CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE FIELD VERIFICATIONS AND MEASUREMENTS IN TIME FOR THEIR INCORPORATION INTO THE SHOP DRAWINGS.
- REFER TO ARCHITECTURAL AND ELECTRICAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LIGHT FIXTURES. CONTRACTORS TO COORDINATE LOCATIONS OF LIGHTING, SPEAKERS, AIR DIFFUSERS, GRILLES, SPRINKLER HEADS AND THE LIKE, WITH REFLECTED CEILING LAY-OUTS AS REQUIRED AND DIRECTED BY THE ARCHITECT.
- DUCTWORK OR PIPING SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.
- CONTRACTOR SHALL INCLUDE IN HIS BID ALL CUTTING, TRENCHING, AND PATCHING ASSOCIATED WITH THE INSTALLATION OF THIS PROJECTS WORK.
- CUTTING, PATCHING AND DRILLING
 - ALL CUTTING AND PATCHING OF THE BUILDING CONSTRUCTION REQUIRED FOR THIS WORK SHALL BE BY THIS CONTRACTOR UNLESS SHOWN ON ARCHITECTURAL DRAWINGS AND CONFIRMED AS TO SIZE AND LOCATION PRIOR TO NEW CONSTRUCTION. CUTTING SHALL BE IN A NEAT AND WORKMANLIKE MANNER.
 - NEATLY SAW CUT ALL RECTANGULAR OPENINGS, SET SLEEVE THROUGH OPENING, AND FINISH PATCH OR PROVIDE TRIM FLANGE AROUND OPENING.
 - DO NOT CUT ANY STRUCTURAL COMPONENTS WITHOUT ARCHITECT'S WRITTEN APPROVAL, INCLUDING, BUT NOT LIMITED TO ROOF JOISTS, COLUMNS, FLOOR JOISTS, BEAMS, GIRDERS, STRUCTURAL FLOOR SLABS, REBAR, ETC.
 - PATCH, AND FINISH TO MATCH ADJACENT AREAS THAT HAVE BEEN CUT, DAMAGED OR MODIFIED AS A RESULT OF THE INSTALLATION OF THE MECHANICAL SYSTEMS. FIRE-STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER.
 - ALL CONTRACTORS SHALL CONFIRM WITH OWNER, PRIOR TO BID, TIMES AVAILABLE FOR NOISE PRODUCING WORK SUCH AS CUTTING AND CORE DRILLING OF FLOORS, WALLS, ETC. AS WELL AS TIMES FOR WORK WHICH REQUIRES ACCESS INTO ADJOINING TENANT SPACES. INCLUDE ANY PREMIUM TIME IN BID.
 - THE PLUMBING CONTRACTOR SHALL COORDINATE WORK WITH THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION. THE PLUMBING CONTRACTOR SHALL PROVIDE INFORMATION REGARDING OPENINGS IN WALLS, FLOORS, ETC., CONCRETE EQUIPMENT PADS AND FOUNDATIONS TO THE GENERAL CONTRACTOR. IF THE PLUMBING CONTRACTOR FAILS TO COMPLY WITH THIS REQUEST, OR IF INCORRECT INFORMATION IS GIVEN, THE NECESSARY CUTTING AND PATCHING WILL BE PERFORMED BY THE GENERAL CONTRACTOR, THE PLUMBING CONTRACTOR'S EXPENSE.
 - ALL OPENINGS REQUIRED FOR THIS BRANCH OF WORK SHALL BE ACCOMPLISHED IN TIME TO BE INCORPORATED IN, AND BE COMPATIBLE WITH THE CONSTRUCTION PROGRAM; OTHERWISE THIS CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CHANGES MADE NECESSARY FOR HIS FAILURE TO DO SO. PIPE HOLES IN FLOORS AND WALLS SHALL BE CORE DRILLED IF NOT SLEEVED DURING CONSTRUCTION.
- REFER TO MECHANICAL AND ELECTRICAL PLANS FOR LOCATION OF EQUIPMENT. COORDINATE LOCATION OF DISCONNECT SWITCH ASSOCIATED WITH EACH PIECE OF MECHANICAL AND PLUMBING EQUIPMENT WITH ELECTRICAL CONTRACTOR.
- THE GENERAL CONTRACTOR SHALL FURNISH ALL ACCESS PANELS OR DOORS IN HARD CEILINGS AND WALLS WITH A SIZE AS REQUIRED FOR SERVICING AND TESTING, FOR EQUIPMENT, VALVES AND/OR DEVICES FURNISHED UNDER THIS CONTRACT. THE GENERAL CONTRACTOR SHALL INSTALL ACCESS PANELS. THE PLUMBING AND MECHANICAL CONTRACTORS SHALL COORDINATE THE SIZE AND LOCATION OF EACH ACCESS PANEL WITH THE ARCHITECT AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
- ALL EQUIPMENT AND DEVICES FOR THIS PROJECT MUST BE UL LISTED. DEVICES, EQUIPMENT, SYSTEMS SHALL BE INSTALLED PER NATIONAL ELECTRICAL CODE REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS.
- ALL CONDUIT AND CABLING SHALL BE PROPERLY SUPPORTED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. FOR EXISTING INSTALLATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND/OR REWORK EXISTING CONDUIT AND/OR CABLING THAT IS NOT IN COMPLIANCE WITH THIS REQUIREMENT.
- THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE DELIVERY AND SAFE STORAGE OF HIS MATERIALS AND EQUIPMENT IN COORDINATION WITH THE WORK OF OTHERS. MATERIALS AND EQUIPMENT SHALL BE DELIVERED AT SUCH STAGES OF THE WORK AS WILL EXPEDITE THE WORK AS A WHOLE AND SHALL BE MARKED AND STORED IN SUCH A WAY AS TO BE EASILY CHECKED AND INSPECTED. THE ARRIVAL AND PLACING OF LARGE EQUIPMENT ITEMS SHALL BE SCHEDULED EARLY ENOUGH TO PERMIT ENTRY AND SETTING WHEN THERE IS NO RESTRICTION OR PROBLEM DUE TO SIZE AND WEIGHT.
- TEMPORARY HEAT
 - THE HVAC CONTRACTOR UNDER THIS DIVISION SHALL SET UP TEMPORARY HEAT AND OTHER SERVICES AS MAY BE REQUIRED AND/OR REQUESTED BY THE GENERAL CONTRACTOR. THIS CONTRACTOR SHALL PAY EXPENSES RESULTING FROM TEMPORARY HEAT AND SERVICES REQUIRED.



MECHANICAL PLAN

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

PLAN NOTES

- TERMINATE 8" ROUND EXHAUST DUCT WITH WALL END CAP AND INSECT SCREEN.
- ROUTE BATHROOM 6" EXHAUST DUCT TO 8" EXHAUST DUCT.
- INSTALL 3 KW CEILING MOUNTED ELECTRIC HEATER PER MANUFACTURER RECOMMENDATIONS. COORDINATE LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.

HVAC SYMBOL AND ABBREVIATION LEGEND

SYMBOL	DESCRIPTION	ABBREVIATION
	EQUIPMENT TAG	A AMPS AFF ABOVE FINISH FLOOR CFM CUBIC FEET PER MINUTE CLG CEILING DIA (Ø) DIAMETER DN DOWN EF EXHAUST FAN EUH ELECTRIC WALL HEATER GA GAUGE GV GRAVITY VENTILATOR HP HORSEPOWER HVAC HEATING, VENTILATION, AIR CONDITIONING
	3/4" UNDERCUT DOOR	KW KILOWATT MAX MAXIMUM NEC NATIONAL ELECTRIC CODE NFPA NATIONAL FIRE PROTECTION ASSOCIATION PH (Ø) PHASE PVC POLYVINYL CHLORIDE SQ SQUARE TYP TYPICAL UL UNDERWRITER'S LABORATORY V VOLTS W WATTS

ELECTRIC WALL HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	AIR DELIVERY (CFM)	HEATING CAPACITY (KW)	ELECTRICAL VOLT./PH	REMARKS
EUH1,2,3,4	MARKEL	HF3385D-RPT	CEILING HEATER	200	3	240/1	1,2,3,4

REMARKS:

- ACCEPTABLE MANUFACTURERS: BERKO, CHROMALOX, INDEECO, MARKEL, MARLEY, OR QMARK.
- PROVIDE WITH FACTORY MOUNTED TAMPER RESISTANT THERMOSTAT.
- PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
- PROVIDE WITH FLUSH MOUNTED CEILING KIT.

FAN SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	TYPE	CAPACITY (CFM)	RPM	SP (°C)	DRIVE	MOTOR POWER (WATTS)	ELECTRICAL VOLT./PH	OPERATING WEIGHT (LBS)	REMARKS
EF1,2,3	GREENHECK	SP-B150	RESTROOM	INLINE	125	886	0.4	DIRECT	128	120	13	1,2
EF4	GREENHECK	SP-B110	JANITOR	INLINE	75	774	0.4	DIRECT	80	120	13	1,2

REMARKS:

- ACCEPTABLE MANUFACTURERS: GREENHECK, LOREN COOK, OR TWINCITY
- PROVIDE WITH FAN SPEED CONTROLLER.



Lexington Cincinnati Cleveland Dallas Charleston



Revisions:
Issue Date: 8/1/2023

HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2

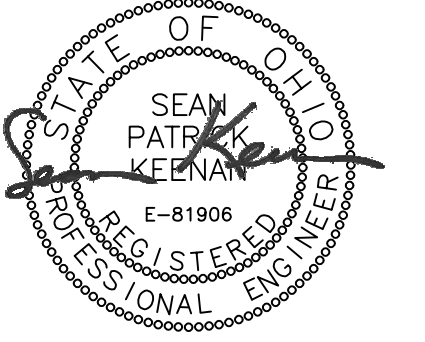
988 E HOWE ROAD
TALLMADGE, OH 44278

MECHANICAL PLANS

Project No.

M-1

22104



MECHANICAL SPECIFICATIONS

GENERAL PROVISIONS

1. VISIT THE SITE OF THE WORK AND BECOME FAMILIAR WITH THE CONDITIONS AFFECTING THE INSTALLATION. SUBMISSION OF A PROPOSAL SHALL PRESUME KNOWLEDGE OF SUCH CONDITIONS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED WHERE EXTRA LABOR OR MATERIALS ARE REQUIRED.
2. INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, SERVICES AND PERMITS NECESSARY FOR THE PROPER COMPLETION OF ALL MECHANICAL WORK SHOWN. ITEMS OMITTED, BUT NECESSARY, TO MAKE THE MECHANICAL SYSTEM COMPLETE AND WORKABLE SHALL BE UNDERSTOOD TO BE PART OF THE WORK.
3. IT IS THE PURPOSE OF THE MECHANICAL DRAWINGS TO INDICATE THE APPROXIMATE LOCATION OF ALL EQUIPMENT, PIPING, ETC. DETERMINE EXACT LOCATIONS OF EQUIPMENT AND ARRANGE WORK ACCORDINGLY. THE RIGHT IS RESERVED TO EFFECT REASONABLE CHANGES IN THE LOCATION OF EQUIPMENT, PIPING, ETC., UP TO THE TIME OF ROUGHING-IN, WITHOUT ADDITIONAL COST TO THE OWNER.
4. SECURE AND PAY FOR PERMITS AND INSPECTIONS REQUIRED FOR THE MECHANICAL WORK. MAKE PAYMENTS TO ALL PUBLIC UTILITIES FOR WORK REQUIRED BY THE UTILITY.
5. INSTALL WORK IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF LOCAL AND STATE CODES, AS WELL AS THE NFPA AS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION. COMPLY WITH THE LATEST EDITIONS OF ASHRAE AND SMACNA STANDARDS.
6. CONSULT THE DRAWINGS, PRODUCT DATA AND SHOP DRAWINGS COVERING THE WORK FOR VARIOUS OTHER TRADES, THE FIELD LAYOUTS OF THE CONTRACTORS FOR THE TRADE AND MAKE ADJUSTMENTS ACCORDINGLY IN LAYING OUT THE MECHANICAL WORK.
7. WARRANT THAT EQUIPMENT AND ALL WORK IS INSTALLED IN ACCORDANCE WITH GOOD ENGINEERING PRACTICE AND THAT ALL EQUIPMENT WILL MEET THE REQUIREMENTS SPECIFIED. GUARANTEE AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS; REPAIR OR REPLACE ANY DEFECTIVE WORK, MATERIAL OR EQUIPMENT WITHIN ONE YEAR FROM DATE OF FORMAL WRITTEN ACCEPTANCE BY THE OWNER. REFRIGERATION COMPRESSORS SHALL HAVE A FIVE YEAR WARRANTY.
8. PLAN WORK TO PERMIT THE CARRYING ON OF NORMAL BUSINESS FUNCTIONS. ANY SERVICE SHUTDOWNS THAT MAY BE REQUIRED SHALL BE SCHEDULED THROUGH THE OWNER AND SHALL BE DONE AT A TIME AS DIRECTED BY THE OWNER. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE SHUTDOWN PERIODS EVEN THOUGH PREMIUM-TIME WORK MAY BE REQUIRED. PROVIDE TEMPORARY SERVICE TO EQUIPMENT OR SYSTEMS THAT CANNOT BE SHUTDOWN, AS DETERMINED BY OWNER. PROVIDE A MINIMUM OF ONE WEEK'S NOTICE TO THE OWNER BEFORE ANY SERVICE SHUTDOWN IS SCHEDULED.
9. BASE BIDS UPON THE SPECIFIED PRODUCTS OR LISTED ALTERNATIVES. THE DRAWINGS AND SPECIFICATIONS ARE BASED ON THE PRODUCTS SPECIFIED BY TYPE, MODEL AND SIZE AND THUS ESTABLISH MINIMUM QUALITIES WHICH SUBSTITUTES MUST MEET TO QUALIFY FOR REVIEW. WHERE ONLY ONE MAKE IS NAMED, IT SHALL BE PROVIDED. VERBAL REQUESTS OR APPROVALS SHALL NOT BE BINDING ON THE ARCHITECT, ENGINEER OR OWNER. SHOULD MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED BE PROPOSED, SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS TO THE ARCHITECT IN ACCORDANCE WITH DIVISION 1 REQUIREMENTS. INDICATE ANY ADDITIONS OR DEDUCTIONS TO THE CONTRACT PRICE. EQUIPMENT AND MATERIALS USED ON THIS PROJECT SHALL BE NEW AND UL LABELED (AS REQUIRED) FOR THE APPLICATION.
10. PREPARE SHOP DRAWINGS AND PRODUCT DATA FOR ALL MECHANICAL EQUIPMENT SUCH AS: AIR DISTRIBUTION EQUIPMENT AND DUCTWORK, ALL HEATING, AND VENTILATING AND ALL OTHER SPECIFIED SYSTEMS AND COMPONENTS. THE SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE AND NOT FOR DIMENSIONS, QUANTITIES, ETC. THE SUBMITTALS THAT ARE RETURNED SHALL BE USED FOR PROCUREMENT. THE RESPONSIBILITY OF CORRECT PROCUREMENT REMAINS SOLELY WITH THE CONTRACTOR. THE SUBMITTAL REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS AND DEVIATIONS FROM THE CONTRACT REQUIREMENTS. IF THE SUBMITTAL SHOWS VARIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS FOR ANY REASON, MAKE MENTION OF SUCH VARIATION IN THE LETTER OF TRANSMITTAL. NOTE ON THE SUBMITTAL ANY CHANGE IN DESIGN OR DIMENSION ON THE ITEMS SUBMITTED INCLUDING CHANGES MADE BY THE MANUFACTURER WHICH MAY DIFFER FROM CATALOG INFORMATION. WHERE CONTENTS OF SUBMITTAL LITERATURE INCLUDES DATA NOT PERTINENT TO THE SUBMITTAL, CLEARLY INDICATE WHICH PORTION OF CONTENT IS BEING SUBMITTED FOR REVIEW. WHERE ADDITIONAL INSTALLATION DRAWINGS OR OTHER DRAWINGS ARE SPECIFIED AS A PART OF THE SUBMITTAL, THEY SHALL BE SUBMITTED AT THE SAME TIME WITH SHOP DRAWINGS AND PRODUCT DATA. PARTIAL SUBMITTALS ARE NOT ACCEPTABLE.
11. KEEP ONE COMPLETE SET OF THE CONTRACT WORKING DRAWINGS ON THE PROJECT SITE ON WHICH THE CONTRACTOR SHALL RECORD ANY DEVIATIONS OR CHANGES FROM SUCH CONTRACT DRAWINGS MADE DURING CONSTRUCTION. AFTER THE PROJECT IS COMPLETED, RECORD SETS OF DRAWINGS SHALL BE DELIVERED TO THE ARCHITECT IN GOOD CONDITION, AS A PERMANENT RECORD OF THE INSTALLATION AS CONSTRUCTED.
12. ALL CONTRACTOR PERSONNEL WHO PERFORM INSTALLATION, MAINTENANCE OR REPAIR WORK WHO MIGHT HAVE THE OPPORTUNITY TO RELEASE CFC'S, HCFC'S OR HFC'S INTO THE ATMOSPHERE SHALL HAVE A UNIVERSAL CERTIFICATION AS REQUIRED BY THE ENVIRONMENTAL PROTECTION AGENCY.
13. PROVIDE TO OWNER AFTER ALL EQUIPMENT IS IN OPERATION, COMPETENT INSTRUCTORS FOR THE PURPOSE OF TRAINING OWNER'S PERSONNEL IN ALL PHASES OF OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS. FURNISH FIVE COPIES OF SERVICE MANUALS CONTAINING OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT AND CONTROL.
14. IDENTIFY EACH PIECE OF EQUIPMENT WITH EITHER STENCIL OR NAMEPLATES WITH THE DESIGNATION INDICATED ON THE DESIGN DRAWINGS.
15. AT ALL TIMES KEEP PREMISES AND BUILDING IN NEAT AND ORDERLY CONDITION; FOLLOW EXPLICITLY AND INSTRUCTIONS OF ARCHITECT IN REGARD TO STORING OF MATERIALS, PROTECTIVE MEASURES AND DISPOSING OF DEBRIS.
16. TEST PIPING FOR LEAKS; REPAIR LEAKS IN COPPER TUBING BY SWEATING OUT JOINTS, THOROUGHLY CLEANING BOTH TUBE AND FITTING, AND RESOLDERING; CORRECT LEAKS IN SCREWED JOINTS BY REPLACING THREAD OR FITTING OR BOTH. PROVIDE CHEMICAL CLEANING FOR ALL PIPING SYSTEMS WITH APPROVED DETERGENT. PRESSURE TEST ALL PIPING SYSTEMS PER APPLICABLE CODES AND STANDARDS.
17. FINISH PAINTING IS INCLUDED UNDER DIVISION 9 EXCEPT WHERE SPECIFICALLY CALLED FOR ON THE DRAWINGS TO BE DONE BY THE MECHANICAL, PLUMBING OR FIRE PROTECTION CONTRACTORS.
18. PROVIDE SERVICES OF A CERTIFIED AABC OR NEBB TEST AGENCY. CONDUCT ALL TESTS IN ACCORDANCE WITH ASSOCIATED AIR BALANCE COUNCIL STANDARDS. TEST AND ADJUST AIR HANDLING SYSTEM TO WITHIN 10 PERCENT OF DESIGN REQUIREMENTS. FURNISH 5 A.A.B.C. CERTIFIED COPIES OF BALANCING REPORTS.
19. PROVIDE ALL CUTTING AND PATCHING IN EXISTING CONSTRUCTION AS NECESSARY FOR INSTALLATION OF THIS WORK. HAVE CUTTING DONE BY SKILLED MECHANICS IN THE TRADE.
20. ALL OCCUPIED AREAS OF BUILDING SHALL REMAIN FREE FROM ODORS, FUMES, DUST AND SMOKE GENERATED FROM INSTALLATION OF MATERIAL AND EQUIPMENT. PROVIDE TEMPORARY VENTILATION AND/OR FILTRATION SYSTEMS OF SUFFICIENT SIZE AND QUANTITY TO ENSURE COMPLETE REMOVAL OF ALL AIRBORNE CONTAMINANTS GENERATED. PROVIDE TEMPORARY PARTITIONS AND AIR SEALS TO PREVENT THE MIGRATION OF AIRBORNE CONTAMINANTS FROM UNOCCUPIED AREAS TO OCCUPIED AREAS.

INSULATION

1. ALL INSULATION MATERIAL (INSULATION, JACKETS, ADHESIVES, CEMENTS, MASTICS, SEALERS COATINGS AND FINISHES) SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS AS TESTED UNDER PROCEDURE ASTM E-84, NFPA 255 AND UL 723, NOT EXCEEDING A FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50.
2. PROVIDE INSULATION PRODUCTS AS MANUFACTURED BY OWENS-CORNING, ARMSTRONG, CERTAIN TEED OR KNAUF. ADHESIVES SHALL BE BENJAMIN FOSTER OR EQUAL.
3. ALL INSULATION SHALL BE INSTALLED OVER CLEAN DRY SURFACES. INSULATION MUST BE DRY AND IN GOOD CONDITION. WET OR DAMAGED INSULATION WILL NOT BE ACCEPTABLE. NO INSULATION SHALL BE APPLIED PRIOR TO PRESSURE TEST COMPLETION OF THE RESPECTIVE PIPING SYSTEMS.
4. ALL INSULATION SHALL BE CONTINUOUS THROUGH ALL WALL AND CEILING OPENINGS, SLEEVES AND PIPE HANGER LOCATIONS, EXCEPT THROUGH FIRE RATED WALL AND FLOORS.
5. ALL INSULATION PRODUCTS SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS AND THIS SPECIFICATION. THE WORKMANSHIP SHALL BE FIRST CLASS AND ALL JOINTS SHALL BE MADE TIGHT.
6. INSULATE CONCEALED SUPPLY AIR DUCTWORK, CONCEALED OUTDOOR AIR INTAKE DUCTWORK SUPPLY DUCTWORK WITH OWENS-CORNING ALL SERVICE FACED DUCTWRAP, TYPE 100, 2 INCH THICK. DUCTWORK WITH INTERIOR DUCT LINING SHALL NOT REQUIRE EXTERIOR INSULATION.
7. INSULATE EXPOSED SUPPLY AIR AND RETURN AIR DUCTWORK (IN NON-AIR CONDITIONED SPACES), EXPOSED OUTDOOR AIR INTAKE DUCTWORK, AND AC UNIT MIXED AND SUPPLY AIR PLENUMS WITH OWENS-CORNING FIBERGLASS 705: ASJ EQUIPMENT INSULATION, 6 PCF DENSITY, 1 INCH THICK.

AIR DISTRIBUTION

1. CONSTRUCT DUCTWORK OF GALVANIZED STEEL TO THE GAUGES, WITH REINFORCING, AS REQUIRED BY THE LATEST EDITION OF SMACNA STANDARDS. EXPOSED DUCTWORK IN ARCHITECTURALLY FINISHED SPACES SHALL BE FABRICATED FROM "PAINT GRIP" GALVANIZED STEEL OR SIMILAR MILL SURFACE ETCH TREATMENT.
2. CONSTRUCT LOW PRESSURE DUCTWORK PER SMACNA STANDARDS FOR 2 INCH STATIC PRESSURE, SEAL CLASS "B". BRANCH CONNECTIONS SHALL BE 45 DEGREE ENTRY FOR RECTANGULAR AND ROUND DUCTS, STRAIGHT TAPS ARE NOT PERMITTED. CONICAL TEES ARE ACCEPTABLE IN ROUND BRANCH TAKE-OFF FROM ROUND DUCT MAINS.
3. FLEXIBLE DUCT SHALL BE INSULATED, CLASS 1 AIR DUCT, 5 FEET MAXIMUM LENGTH, AS MANUFACTURED BY CLEAFLEX OR OMNI AIR. INSTALL PER SMACNA AND MANUFACTURER REQUIREMENTS.
4. DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
5. CONSTRUCT ALL JOINTS AND SEAMS IN DUCTS AIR-TIGHT; REWORK POORLY MADE JOINTS, SPLITS, AND VISIBLE HOLES AT CORNERS, ETC., OR INSTALL NEW PIECES OF DUCTWORK. WHERE EXCESSIVE PULSATING OF DUCTWORK OR PLENUM HOUSING IS FOUND, ADD ADDITIONAL STIFFENERS.
6. EXHAUST DUCT OUTLETS SHALL BE INSTALLED A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES.

TEMPERATURE CONTROLS

1. ALL WIRING INCIDENTAL TO THIS TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THE CONTROL CONTRACTOR.
2. WIRE, CONDUIT AND MISCELLANEOUS WIRING DEVICES SHALL BE PROVIDED AND INSTALLED AS SPECIFIED ON ELECTRICAL DRAWINGS. PLENUM RATED CABLE IS ACCEPTABLE FOR LOW VOLTAGE CONTROL WIRING IN RETURN AIR PLENUM SPACES.
3. SYSTEM SHALL BE COMPLETE WITH ALL REQUIRED CONTROL COMPONENTS, SUCH AS DAMPERS, VALVES, ACTUATORS, TERMINAL UNIT CONTROLLERS, SENSORS, CONTROL PANELS, THERMOSTATS, ETC., AS REQUIRED TO PROVIDE SPECIFIED SEQUENCE OF OPERATION.
4. PROVIDE TRAINING FOR THE OWNERS PERSONNEL IN THE COMPLETE OPERATION AND CONTROL OF SYSTEM. GUARANTEE SYSTEM FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL UNDER NORMAL USE AND SERVICE FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE.
5. SEQUENCE OF OPERATION:
 - A. TOILET ROOM EXHAUST FAN (EF1, EF2, EF3)
 - A.1. INTERLOCK FAN WITH LIGHT SWITCH TO OPERATE WHEN LIGHTS ARE TURNED ON (INTERLOCK WIRING WITH ADJUSTABLE TIME DELAY BY ELECTRICAL CONTRACTOR).
 - B. EXHAUST FAN (EF4)
 - B.1. FAN TO OPERATE CONTINUOUSLY DURING OCCUPIED HOURS. WIRING BY ELECTRICAL CONTRACTOR.
 - C. ELECTRIC HEATER (EUH1,2,3,4)
 - C.1. INTEGRAL THERMOSTAT SHALL STAGE HEATING ELEMENT TO MAINTAIN SPACE TEMPERATURE SET POINT.

Revisions:
Issue Date: 8/1/2023

HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2

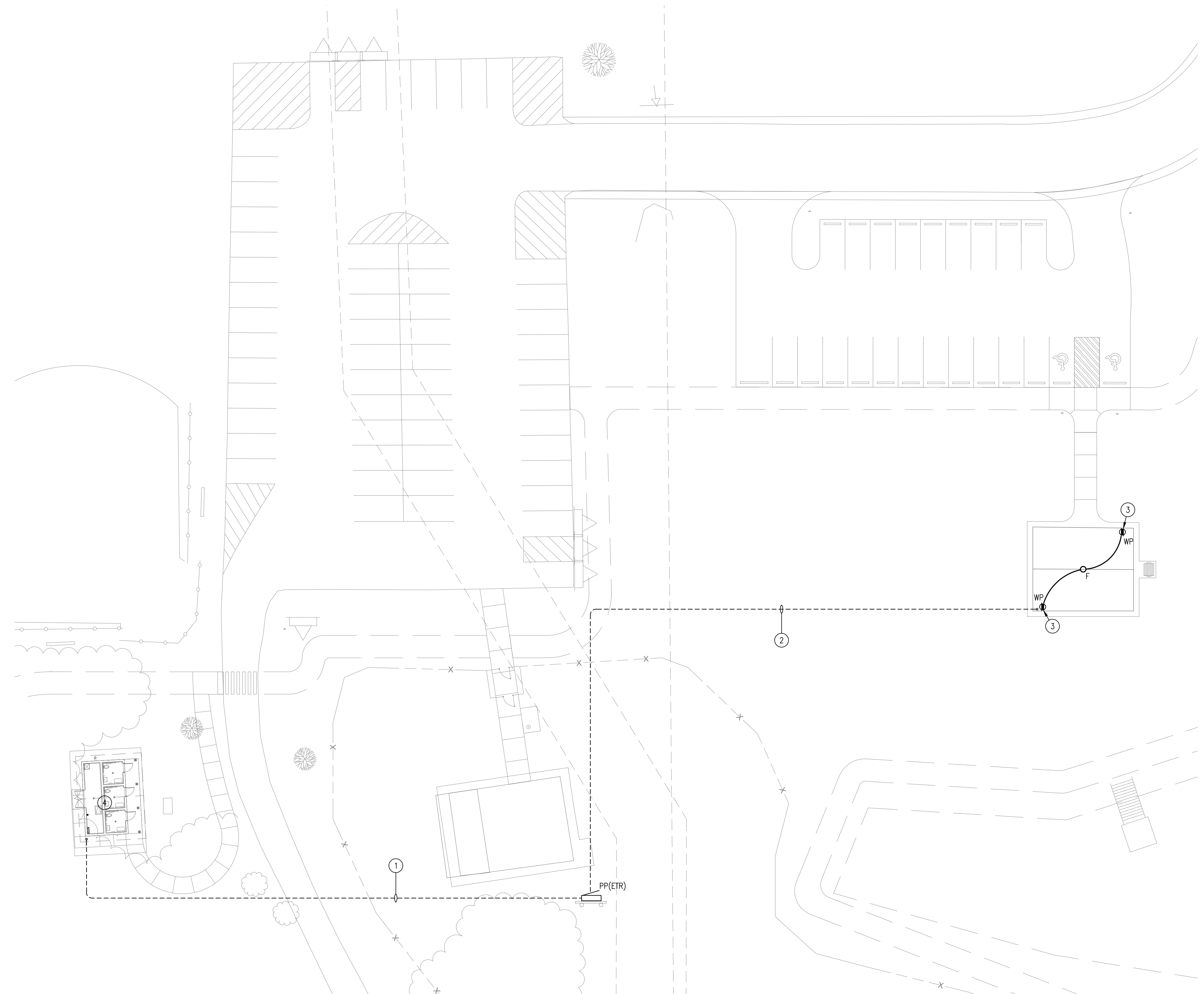
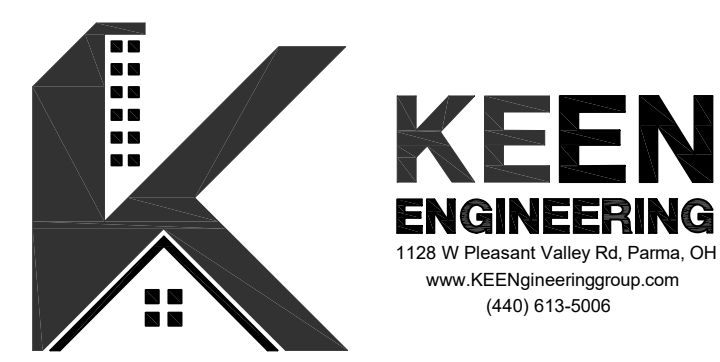
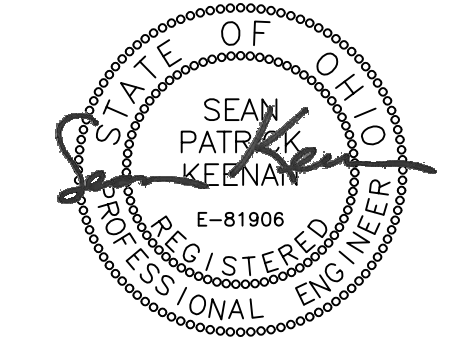
988 E HOWE ROAD
TALLMADGE, OH 44278

MECHANICAL SPECIFICATIONS

Project No.

M-7

22104



SITE ELECTRICAL PLAN
SCALE: 1" = 20'-0"

PLAN NOTES

- ① UNDERGROUND DUCT BANK FOR NEW PANEL - REFER TO 'DUCT BANK DETAIL' AND 'ONE LINE POWER DIAGRAM' ON DRAWING 'E-1'.
- ② CONDUIT SHALL BE RUN UNDERGROUND - REFER TO 'UNDERGROUND RACEWAY DETAIL' ON DRAWING 'E-1'.
- ③ CONDUIT AND BOX SHALL BE SURFACE MOUNTED ON STEEL COLUMN ABOVE MASONRY BASE. COORDINATE EXACT HEIGHT WITH ARCHITECT.
- ④ REFER TO DRAWING 'E-1' FOR WORK INSIDE BUILDING.

MANHOLE AND PULLBOX LOCATIONS
CONDUITS RUN OUTSIDE BUILDINGS SHALL BE EQUIPPED WITH MANHOLE (OUTSIDE) OR PULLBOX (INSIDE) AFTER 400', (2) 90° BENDS OR AN ACCUMULATION OF 120' OF TOTAL PATHWAY DEVIATIONS FROM A STRAIGHT LINE BETWEEN EACH POINT OF ACCESS.

COORDINATION OF UNDERGROUND WORK
ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT ROUTING AND ELEVATION OF UNDERGROUND DUCTBANKS AND CONDUITS WITH ALL OTHER TRADES ON SITE PRIOR TO EXCAVATION AND INSTALLATION. ALL TRENCHING, BACKFILL, PATCHING, ETC., SHALL BE BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. ALL PRIMARY UTILITY CABLING SHALL BE INSTALLED BY THE RESPECTIVE UTILITY COMPANIES.

EXCAVATION AND BACKFILL
DO ALL EXCAVATION AND BACKFILLING NECESSARY FOR INSTALLATION OF WORK. PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATIONS WILL BE ENCOUNTERED (I.E., TELE-COMMUNICATIONS, SEWER, WATER, FUEL, ELECTRIC LINES, ETC.) AND WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE ESTIMATED LOCATION OF SUCH INSTALLATIONS, THE EXACT LOCATION SHALL BE DETERMINED. WHEN IT IS UNCOVERED, PROPER SUPPORTS SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. UTILITY COMPANIES SHALL BE CONTACTED AND ADVISED OF THE PROPOSED WORK PRIOR TO THE START OF ACTUAL EXCAVATION. CONTACT THE OHIO UTILITIES PROTECTION SERVICE 48 HOURS PRIOR TO STARTING WORK. TELEPHONE AT 1-800-362-2764.

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

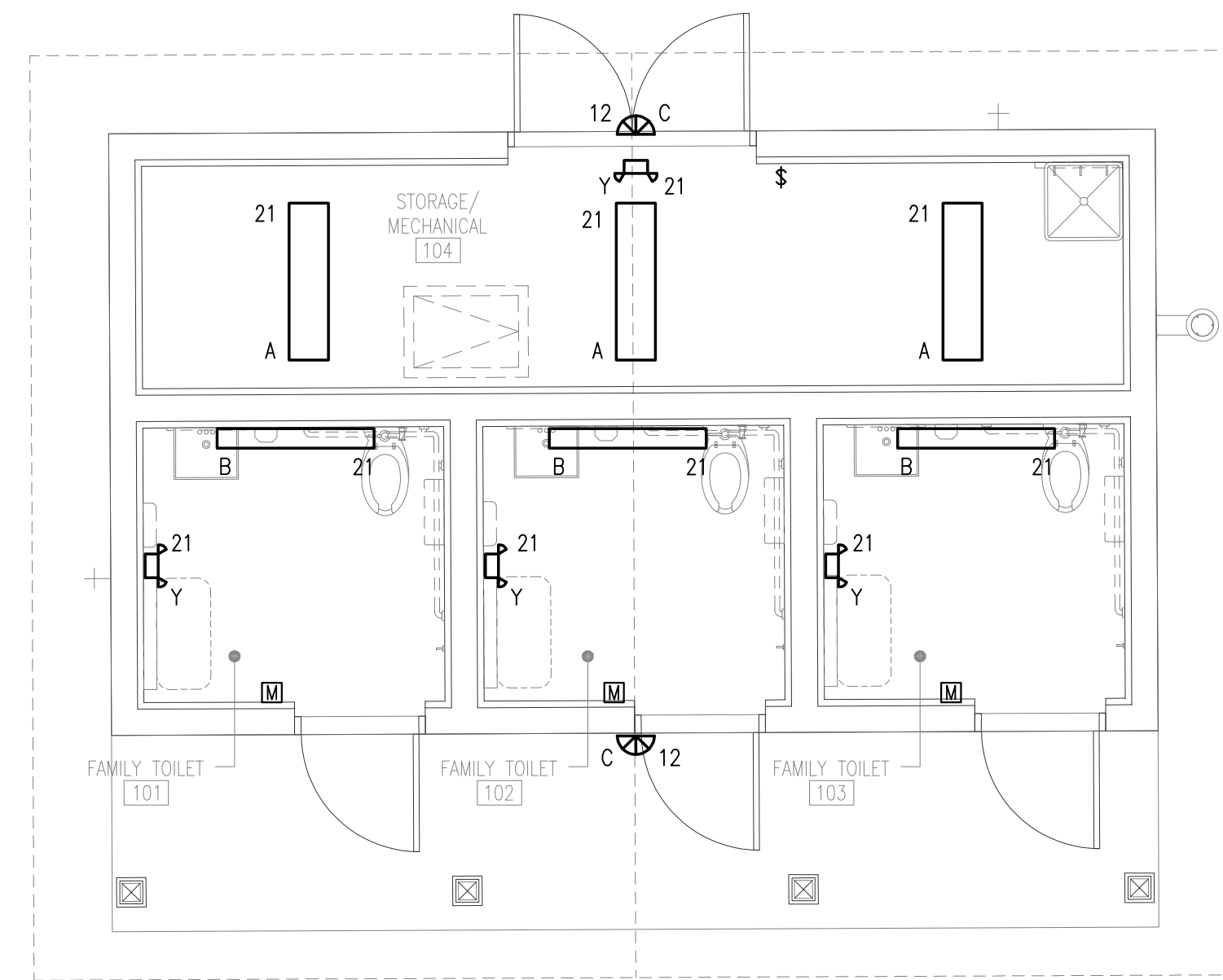
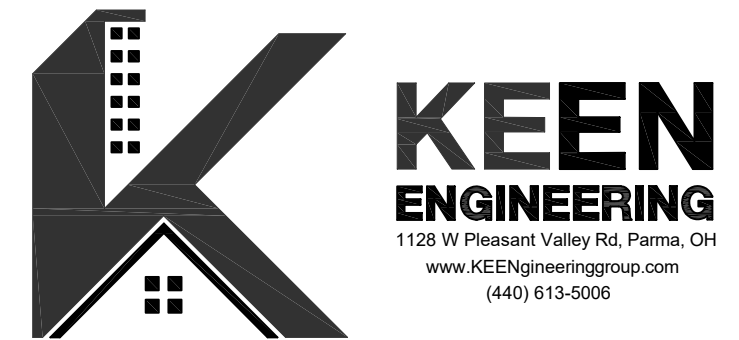
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TALLMADGE, OH 44278

SITE ELECTRICAL PLAN

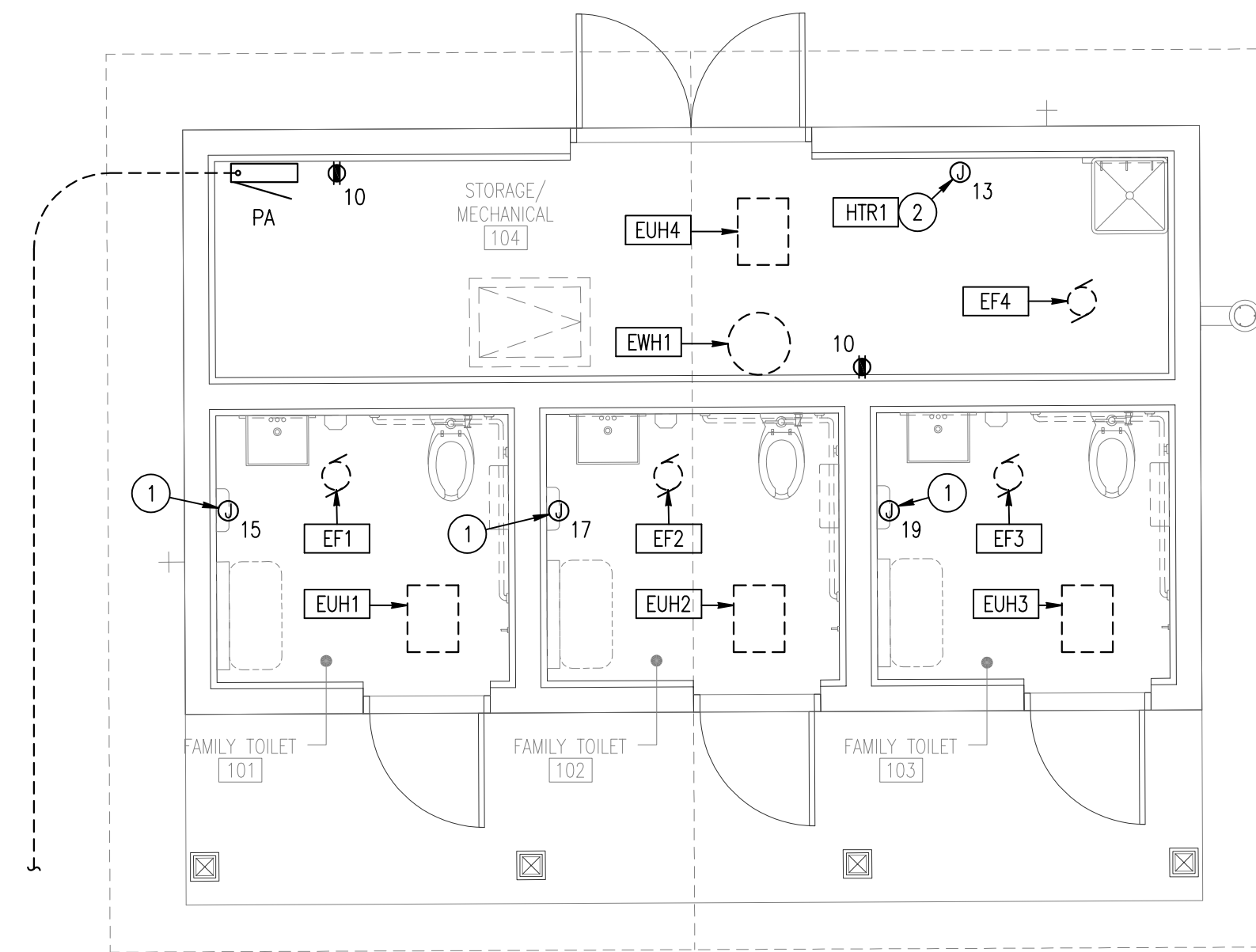
Project No.

22104

ES-1



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



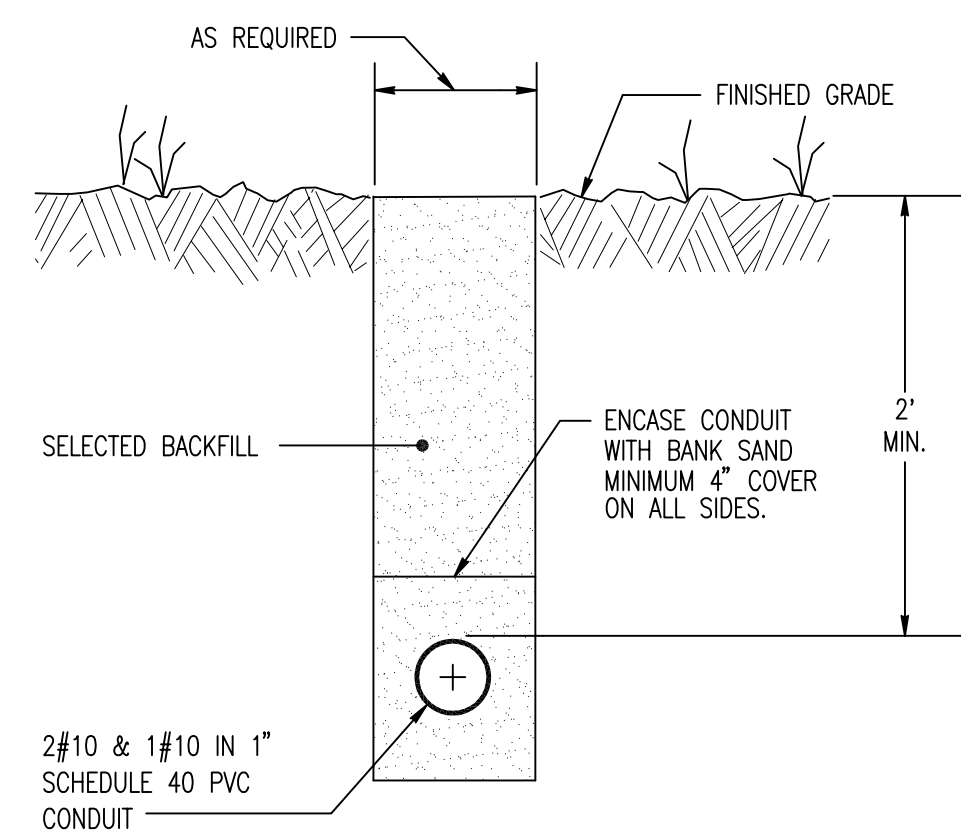
POWER PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES

- ALL RECEPTACLES AND DEVICES SHOWN ON THIS DRAWING, ORIGINATE FROM PANEL 'PA', UNLESS NOTED OTHERWISE.

PLAN NOTES

- ELECTRICAL HAND DRYER (120V, 0.92KW) AT HEIGHT AS SHOWN ON ARCHITECTURAL ELEVATIONS. EXCEL THINAIR OR EQUAL BY OTHERS.
- HEAT TRACE (120V, 1.0KW) - PROVIDED AND INSTALLED BY PC, WIRED BY EC.

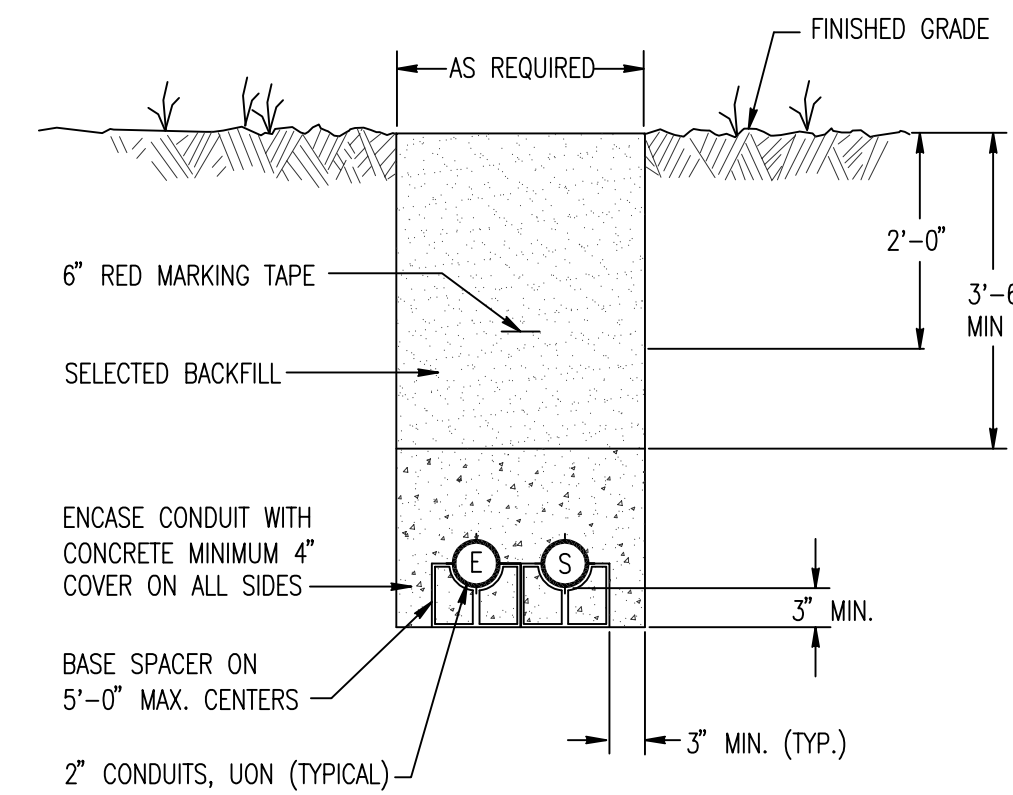


UNDERGROUND RACEWAY DETAIL

SCALE: NONE

NOTES:

- MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 3".
- CONDUITS SHALL BE ENCASED IN CONCRETE UNDER ROADWAYS.



DUCT BANK DETAIL

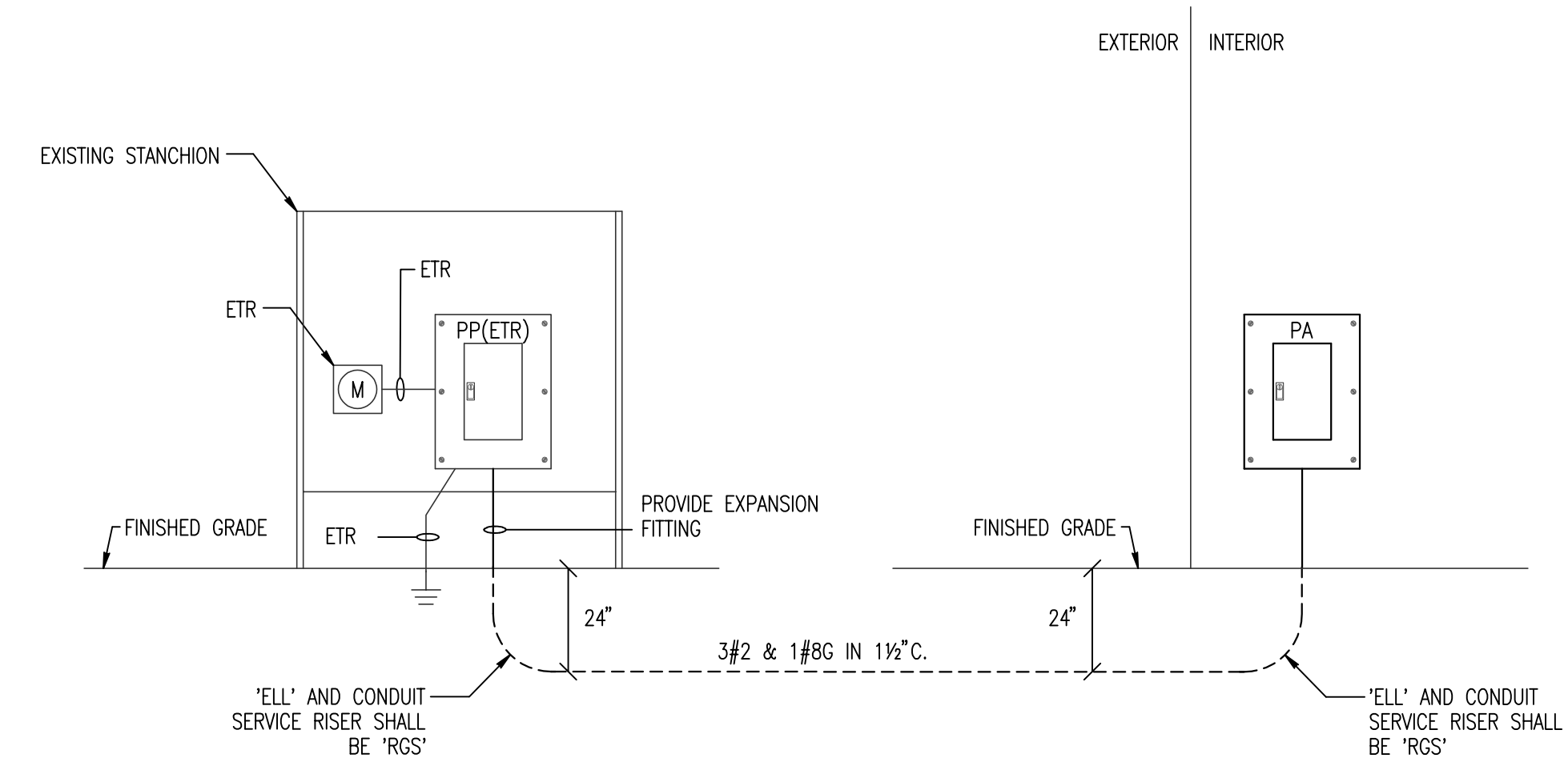
SCALE: NONE

NOTES:

- MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 3".
- CONDUITS SHALL BE ENCASED IN CONCRETE UNDER ROADWAYS.

LEGEND:

E = ELECTRICAL SERVICE FEEDERS
S = SPARE



ONE LINE POWER DIAGRAM

SCALE: NONE

ONE LINE SYMBOL LEGEND

SYMBOL	DESCRIPTION
	BRANCH LOADCENTER
	GROUND
	METER

Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

988 E HOWE ROAD
TALLMADGE, OH 44278

**ELECTRICAL PLANS
DIAGRAMS & DETAILS**

Project No.

E-1

22104

LIGHTING FIXTURE SCHEDULE								KEEN ENGINEERING
FIXTURE TYPE	LAMP(S)	CCT	FIXTURE WATTAGE	FIXTURE VOLTAGE	FIXTURE DESCRIPTION	CATALOG NUMBER	EQUAL MANUFACTURERS	NOTES
A	LED	4000K	35	120	LED 4' LONG, CHAIN HUNG STRIP FIXTURE WITH ACRYLIC LENS.	LITHONIA MNSL-448-2LL-MVOLT-40K-80CRI-M6	METALUX COLUMBIA DAY-BRITE	④ ⑤
B	LED	4000K	40	120	LED 4' LONG, WALL/CEILING MOUNTED VANDAL RESISTANT FIXTURE WITH PRISMATIC POLYCARBONATE LENS.	LUMINAIRE LED JUDGE LVP524-4FT-40W-40K-120-CLP-WHT	METALUX COLUMBIA DAY-BRITE	④ ⑤
C	LED	5000K	20	120	LED, BUILDING MOUNTED FLOOD WITH ADJUSTABLE OUTPUT AND CCT, AND INTEGRAL PHOTOCCELL.	LITHONIA TWS-LED-P1-50K-MVOLT-PE-DEB-M4	METALUX COLUMBIA DAY-BRITE	④ ⑤
F	LED	5000K	29	120	LED 17" SURFACE MOUNTED FLAT FACE LOW PROFILE, VANDAL RESISTANT, AND INTEGRAL PHOTOCCELL.	KENALL MR17FFL-PP-MB-25L50K-120-BPC-SA	METALUX COLUMBIA LITHONIA	④ ⑤
Y	LED	NA	5	120	LED EMERGENCY LIGHTING UNIT WITH WHITE THERMOPLASTIC HOUSING, NICKEL CADMIUM BATTERY, BATTERY CHARGER, TEST SWITCH AND INDICATOR LIGHT.	LITHONIA ELM2L-M12	SURE-LITES EMERGI-LITE CHLORIDE	① ⑤ ② ③

LIGHTING FIXTURE SCHEDULE NOTES:

- WALL MOUNTED EXIT SIGNS SHALL BE ABOVE DOORS, CENTERED BETWEEN DOOR AND CEILING WHERE PRACTICAL, OR AT A SIMILAR HEIGHT IF NOT ABOVE DOORS. MOUNT EMERGENCY LIGHTING UNITS AT SIMILAR HEIGHT.
- FIXTURE SHALL BE WIRED AHEAD OF LOCAL SWITCHING.
- AIM FIXTURES FOR OPTIMUM COVERAGE OF TASK AS DIRECTED IN FIELD BY THE ARCHITECT.
- VERIFY MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
- VERIFY FINISH WITH ARCHITECT PRIOR TO PROCUREMENT.

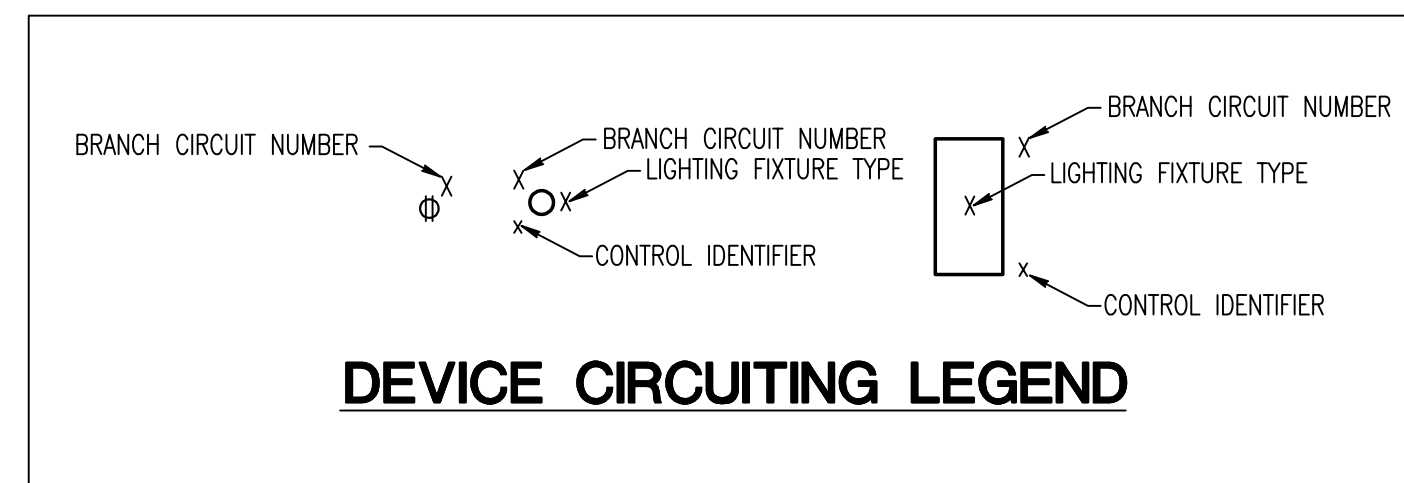
LIGHTING FIXTURE SUBSTITUTION NOTE:

THE LIGHTING FIXTURE CATALOG NUMBERS INDICATED IN THE SCHEDULE ARE FOR THE BASIS OF SPECIFICATION. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER VIA EMAIL (SKEENAN@KEENENGINEERINGGROUP.COM) IN PORTABLE DOCUMENT FORMAT (PDF) AT LEAST 10 DAYS PRIOR TO BID. ANY SUBSTITUTIONS RECEIVED AFTER THIS DATE SHALL NOT BE REVIEWED, AND SHALL NOT BE ACCEPTED. THE SUBSTITUTION SUBMITTAL SHALL CONTAIN, AT A MINIMUM, THE FOLLOWING INFORMATION:
 1. SPECIFICATION SHEETS FOR ALL PROPOSED TYPES WITH THE TYPE NUMBER AND ANY DEVIATIONS FROM THE BASIS OF SPECIFICATION CLEARLY INDICATED.
 2. THE COST SAVINGS OR ADDITION ON THE ENTIRE SUBSTITUTION PACKAGE.

LIGHTING FIXTURE SCHEDULE KEY:

- LAMP TYPE:
LED = LIGHT EMITTING DIODE

ELECTRICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	HOMERUN TO A 20 AMPERE, SINGLE POLE CIRCUIT BREAKER (PANEL 'A' CIRCUIT NUMBER 'X'), UON. PROVIDE QUANTITY OF CONDUCTORS TO ACCOMMODATE CIRCUITING AND CONTROL INDICATED.
	CONDUIT INSTALLED BELOW GRADE OR BELOW FINISHED FLOOR
	SWITCH (20A, 120/277V, SINGLE POLE) AT 48" AFF, UON
	LIGHTING CONTROL OCCUPANCY SENSOR - WALL MOUNTED AT 48" AFF, UON
	DUPLEX RECEPTACLE (20A, 125V) GROUND FAULT CIRCUIT INTERRUPTER TYPE AT 18" AFF, UON ("WP" = WEATHERPROOF)
	JUNCTION BOX AT HEIGHT AS REQUIRED BY CODE OR AS INDICATED ON DRAWINGS
	PANELBOARD (120/240V, 1Ø, 3 WIRE)
	METER
	SINGLE OR THREE PHASE MOTOR - SEE DRAWINGS FOR DESCRIPTION
	ELECTRICAL CONNECTION TO EQUIPMENT ITEM - SEE MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON THIS DRAWING



ELECTRICAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
A	AMPERES
AF	AMP FUSED
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AS	AMP SWITCH
C.	CONDUIT
C/B	CIRCUIT BREAKER
CCT	CORRELATED COLOR TEMPERATURE
DWG.	DRAWING
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
FLA	FULL LOAD AMPS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER - PERSON PROTECTION
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
K	KELVIN
KAIC	KILOAMPERES INTERRUPTING CURRENT RATING
KW	KILOWATTS
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
PC	PLUMBING CONTRACTOR
UON	UNLESS OTHERWISE NOTED
V	VOLTS
W	WIRE
Ø	PHASE

MECHANICAL EQUIPMENT CONNECTION SCHEDULE														
ITEM	DESCRIPTION	LOAD			VOLTAGE	PHASE	RATING	NEMA	CONNECTION	PANEL	CIRCUIT	CONDUIT/WIRE	LOCATION	NOTES
		KW	FLA	C/B										
EF1	EXHAUST FAN	0.2	1	20	120	1			LS	PA	21	2#12,1#12G,3/4"C.	FAMILY TOILET 101	1
EF2	EXHAUST FAN	0.2	1	20	120	1			LS	PA	21	2#12,1#12G,3/4"C.	FAMILY TOILET 102	1
EF3	EXHAUST FAN	0.2	1	20	120	1			LS	PA	21	2#12,1#12G,3/4"C.	FAMILY TOILET 103	1
EF4	EXHAUST FAN	0.1	1	20	120	1			LS	PA	21	2#12,1#12G,3/4"C.	JANITOR	1
EUH1	ELECTRIC UNIT HEATER	3.0	13	20	240	1			DC	PA	1,3	2#12,1#12G,3/4"C.	FAMILY TOILET 101	1
EUH2	ELECTRIC UNIT HEATER	3.0	13	20	240	1			DC	PA	5,7	2#12,1#12G,3/4"C.	FAMILY TOILET 102	2
EUH3	ELECTRIC UNIT HEATER	3.0	13	20	240	1			DC	PA	9,11	2#12,1#12G,3/4"C.	FAMILY TOILET 103	2
EUH4	ELECTRIC UNIT HEATER	3.0	13	20	240	1			DC	PA	2,4	2#12,1#12G,3/4"C.	JANITOR	2
EW1	ELEC WATER HEATER	2.0	9	20	240	1			DC	PA	6,8	2#12,1#12G,3/4"C.	JANITOR	2
HTR1	HEAT TRACE	0.1	1	20	120	1			DC	PA	13	2#12,1#12G,3/4"C.	JANITOR	2

CONNECTION NOTES
 1. UNIT CONTROLLED WITH LIGHTING IN SAME ROOM THROUGH CONTACTOR
 2. PROVIDED WITH INTEGRAL DISCONNECT SWITCH BY MC. WIRED BY EC.

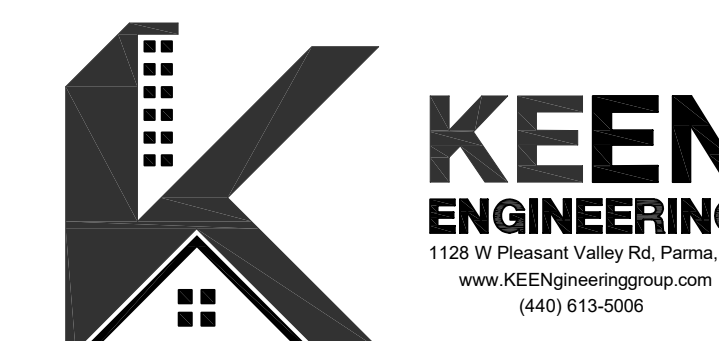
CONNECTION LEGEND
 DC = DIRECT CONNECTION
 LS = LIGHT SWITCH

PANEL 'PP' (ETR)																																	
CKT #	DESCRIPTION	LOAD (KVA)						WIRE: 3	TRIP	Ø	LOAD (KVA)						NOTES	CKT #															
		HVAC	KIT	MTR	REC	MISC	LTG				POLE	A	B	POLE	HVAC	KIT			MTR	REC	MISC	LTG											
1	EXISTING RESTROOMS	1.0			0.4		0.8	60/2			60/2	0.2	2.0		0.6	1.0	0.3	EXISTING CONCESSION	2														
3	EXISTING RESTROOMS	1.0			0.4		0.8	60/2			60/2	0.2	2.0		0.6	1.0	0.3	EXISTING CONCESSION	4														
5	PANEL 'PA'	6.1	0.0	0.0	0.4	2.0	1.2	100/2			60/2							EXISTING SPARE	6														
7	PAVILION	6.0	0.0	0.0	0.0	3.1	0.2	20/1			60/2							EXISTING PORTABLE POWER	8														
9	EXISTING SPACE				0.5		0.1	20/1			60/2							EXISTING PORTABLE POWER	10														
11	EXISTING SPACE										60/2							EXISTING PORTABLE POWER	12														
13	EXISTING SPACE										20/2				0.8			EXISTING PUMP WELL	14														
15	EXISTING SPACE										20/2				0.8			EXISTING PUMP WELL	16														
17	EXISTING SPACE																	EXISTING SPACE	18														
19	EXISTING SPACE																	EXISTING SPACE	20														
21	EXISTING SPACE																	EXISTING SPACE	22														
23	EXISTING SPACE																	EXISTING SPACE	24														
														CONNECTED (KVA):	33.8																		
														DEMAND (KVA):	30.3																		
														RECEPTACLES (KVA)	2.9			PHASE A	17	138.3							CONNECTED (AMPS):	140.8					
														MOTORS (KVA):	0.0			PHASE B	16	136.7							CONNECTED (AMPS):	140.8					
														LIGHTING (KVA):	3.7																		
														KITCHEN (KVA):	4.0																		
														HVAC (KVA):	14.5															DEMAND (AMPS):	126.2		
														LIGHTING	3.7	KVA	X	125	%	=	4.6	KVA											
														RECEPTACLES	2.9	KVA																	
														1ST	10.0	KVA	X	100	%	=	2.9	KVA											
														REMAIN	0.0	KVA	X	50	%	=	0.0	KVA											
														HVAC	14.5	KVA	X	100	%	=	14.5	KVA											
														KITCHEN	4.0	KVA	X	65	%	=	2.6	KVA											
														MISCELLANEOUS	8.7	KVA	X	65	%	=	5.7	KVA											
														MOTORS	0.0	KVA	X	100	%	=	0.0	KVA											
														TOTAL																		30.3	KVA

PANEL 'PP' (ETR)																																	
CKT #	DESCRIPTION	LOAD (KVA)						WIRE: 3	TRIP	Ø	LOAD (KVA)						NOTES	CKT #															
		HVAC	KIT	MTR	REC	MISC	LTG				POLE	A	B	POLE	HVAC	KIT			MTR	REC	MISC	LTG											
1	EXISTING RESTROOMS	1.0			0.4		0.8	60/2			60/2	0.2	2.0		0.6	1.0	0.3	EXISTING CONCESSION	2														
3	EXISTING RESTROOMS	1.0			0.4		0.8	60/2			60/2	0.2	2.0		0.6	1.0	0.3	EXISTING CONCESSION	4														
5	PANEL 'PA'	6.1	0.0	0.0	0.4	2.0	1.2	100/2			60/2							EXISTING SPARE	6														
7	PAVILION	6.0	0.0	0.0	0.0	3.1	0.2	20/1			60/2							EXISTING PORTABLE POWER	8														
9	EXISTING SPACE				0.5		0.1	20/1			60/2							EXISTING PORTABLE POWER	10														
11	EXISTING SPACE										60/2							EXISTING PORTABLE POWER	12														
13	EXISTING SPACE										20/2				0.8			EXISTING PUMP WELL	14														
15	EXISTING SPACE										20/2				0.8			EXISTING PUMP WELL	16														
17	EXISTING SPACE																	EXISTING SPACE	18														
19	EXISTING SPACE																	EXISTING SPACE	20														
21	EXISTING SPACE																	EXISTING SPACE	22														
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														RECEPTACLES (KVA)	2.9			PHASE A	17	138.3							CONNECTED (AMPS):	140.8					
														MOTORS (KVA):	0.0			PHASE B	16	136.7							CONNECTED (AMPS):	140.8					
														LIGHTING (KVA):	3.7																		
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														LIGHTING	3.7	KVA	X	125	%	=	4.6	KVA											
														RECEPTACLES	2.9	KVA																	
														1ST	10.0	KVA	X	100	%	=	2.9	KVA											
														REMAIN	0.0	KVA	X	50	%	=	0.0	KVA											
														HVAC	14.5	KVA	X	100	%	=	14.5	KVA											
														KITCHEN	4.0	KVA	X	65	%	=	2.6	KVA											
														MISCELLANEOUS	8.7	KVA	X	65	%	=	5.7	KVA											
														MOTORS	0.0	KVA	X	100	%	=	0.0	KVA											
														TOTAL																		30.3	KVA



Lexington Cincinnati Cleveland Dallas Charleston



Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

988 E HOWE ROAD
TALLMADGE, OH 44278

**ELECTRICAL
SCHEDULES & LEGENDS**

Project No.

E-6

22104

ELECTRICAL SPECIFICATIONS

ELECTRICAL GENERAL PROVISIONS

1. THE PROVISIONS OF THE INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, ALTERNATES, ADDENDA AND DIVISION 1 ARE A PART OF THIS SPECIFICATION. ELECTRICAL, ARCHITECTURAL, MECHANICAL AND ALL OTHER DRAWINGS AS WELL AS THE SPECIFICATIONS FOR ALL THE DIVISIONS SHALL BE DEFINED AS THE CONTRACT DOCUMENTS. CONTRACTOR SHALL REVIEW ENTIRE SET OF CONTRACT DOCUMENTS PRIOR TO BIDDING.
2. VISIT THE SITE OF THE WORK AND BECOME FAMILIAR WITH THE CONDITIONS AFFECTING THE INSTALLATION. THIS CONTRACTOR SHALL FIELD VERIFY THAT ALL ELECTRICAL WORK CAN BE INSTALLED AS SHOWN ON THE DRAWINGS. ANY DISCREPENCY SHALL BE COMMUNICATED IN WRITING TO THE ARCHITECT OR ENGINEER PRIOR TO SUBMISSION OF A PROPOSAL. SUBMISSION OF A PROPOSAL SHALL PRESUPPOSE KNOWLEDGE OF SUCH CONDITIONS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED WHERE EXTRA LABOR OR MATERIALS ARE REQUIRED BECAUSE OF IGNORANCE OF THESE CONDITIONS.
3. "CONTRACTOR" AS USED WITHIN THE CONTEXT OF THE ELECTRICAL CONTRACT DOCUMENTS SHALL EXPLICITLY REFER TO THE "ELECTRICAL CONTRACTOR" AND THE ELECTRICAL CONTRACTOR'S "SUBCONTRACTORS". THE TERM "FURNISH" SHALL MEAN TO SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" SHALL MEAN WORK WHICH INCLUDES THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL COMPLETE AND READY FOR THE INTENDED USE. THE TERM "EQUAL" SHALL MEAN TO MEET OR EXCEED THE STANDARDS OF THE SPECIFIED PRODUCTS OR LISTED MANUFACTURERS.
4. INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, SERVICES AND PERMITS NECESSARY FOR THE PROPER COMPLETION OF ALL ELECTRICAL WORK SHOWN. ITEMS OMITTED, BUT NECESSARY TO MAKE THE ELECTRICAL SYSTEM COMPLETE AND WORKABLE, SHALL BE UNDERSTOOD TO FORM PART OF THE WORK. SECURE AND PAY FOR PERMITS AND INSPECTIONS REQUIRED FOR ELECTRICAL WORK.
5. IT IS THE PURPOSE OF THE ELECTRICAL DRAWINGS TO INDICATE THE APPROXIMATE LOCATION OF ALL EQUIPMENT, DEVICES, ETC. ASCERTAIN EXACT LOCATIONS AND ARRANGE WORK ACCORDINGLY. THE RIGHT IS RESERVED TO EFFECT REASONABLE CHANGES IN THE LOCATION OF DEVICES UP TO THE TIME OF ROUGHING-IN, WITHOUT ADDITIONAL COST TO THE OWNER. CHANGES IN LOCATION OF DEVICES RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THE CONTRACT DRAWING OR SPECIFICATION REQUIREMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
6. WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF LOCAL AND STATE CODES, AS WELL AS THE NATIONAL ELECTRICAL CODE (NEC), AS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
7. CONSULT THE DRAWINGS, PRODUCT DATA, WIRING DIAGRAMS AND SHOP DRAWINGS COVERING THE WORK FOR VARIOUS OTHER TRADES, THE FIELD LAYOUTS OF THE CONTRACTORS FOR THE TRADE AND MAKE ADJUSTMENTS ACCORDINGLY IN LAYING OUT THE ELECTRICAL WORK.
8. WARRANT THAT EQUIPMENT AND ALL WORK IS INSTALLED IN ACCORDANCE WITH GOOD ENGINEERING PRACTICE AND THAT ALL EQUIPMENT WILL MEET THE REQUIREMENTS SPECIFIED. GUARANTEE AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS; REPAIR OR REPLACE ANY DEFECTIVE WORK, MATERIAL OR EQUIPMENT WITHIN ONE YEAR FROM DATE OF FORMAL WRITTEN ACCEPTANCE BY THE OWNER.
9. BIDS SHALL BE BASED UPON THE SPECIFIED PRODUCTS OR LISTED ALTERNATIVES. WHERE ONLY ONE MAKE IS NAMED, IT SHALL BE PROVIDED. VERBAL REQUESTS OR APPROVALS SHALL NOT BE BINDING ON THE ARCHITECT, ENGINEER OR OWNER.
10. EQUIPMENT AND MATERIALS USED ON THIS PROJECT SHALL BE NEW AND U.L. LABELED FOR THE APPLICATION.
11. PREPARE SHOP DRAWINGS AND PRODUCT DATA FOR LIGHTING FIXTURES, PANELBOARDS, AND ALL OTHER SPECIFIED SYSTEMS AND COMPONENTS. THE SUBMITTALS THAT ARE RETURNED SHALL BE USED FOR PROCUREMENT. WHERE ADDITIONAL INSTALLATION DRAWINGS, WIRING DIAGRAMS OR OTHER DRAWINGS ARE SPECIFIED AS A PART OF THE SUBMITTAL, THEY SHALL BE SUBMITTED AT THE SAME TIME WITH SHOP DRAWINGS AND PRODUCT DATA.
12. THE CONTRACTOR SHALL KEEP ONE COMPLETE SET OF THE CONTRACT DRAWINGS ON THE PROJECT SITE ON WHICH SHALL BE RECORDED ANY DEVIATIONS OR CHANGES FROM SUCH CONTRACT DRAWINGS MADE DURING CONSTRUCTION. THE UPDATED CONTRACT DRAWINGS SHALL BECOME "RECORD DRAWINGS" OF THE COMPLETED CONSTRUCTION. AFTER THE PROJECT IS COMPLETED, THE RECORD DRAWINGS SHALL BE DELIVERED TO THE ARCHITECT IN GOOD CONDITION, AS A PERMANENT RECORD OF THE INSTALLATION AS CONSTRUCTED.
13. PROVIDE NAMEPLATES ON PANELBOARDS, RECEPTACLE COVERPLATES, AND METERING EQUIPMENT, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. LETTERING SHALL INCLUDE THE NAME OR DESIGNATION OF EQUIPMENT, HORSEPOWER, VOLTAGE RATING AND SERVICE DESIGNATION. NAMEPLATES SHALL BE LAMINATED PHENOLIC WITH A BLACK SURFACE AND WHITE CORE. IDENTIFICATION WITH A DYMO TYPE INSTRUMENT IS NOT PERMISSIBLE. THE INSIDE COVER OF ALL RECEPTACLE COVERPLATES SHALL BE PERMANENTLY MARKED TO INDICATE THE PANEL AND CIRCUIT NUMBER OF THE RECEPTACLE. THE OUTSIDE OF THE COVERPLATES FOR ALL JUNCTION BOXES SHALL BE PERMANENTLY MARKED TO INDICATE THE SYSTEM. IDENTIFICATION SHALL BE ON THE INSIDE OF COVERPLATES FOR ALL JUNCTION BOXES IF THEY ARE LOCATED IN FINISHED AREAS. IDENTIFICATION OF BRANCH CIRCUITS SHALL BE TYPED WRITTEN ON DIRECTORY CARDS FURNISHED WITH ALL PANELS AND PLACED IN THE CARD HOLDER ON THE DOOR.
14. IDENTIFY SPARE CONDUITS AND CONDUIT STUBS AS FOLLOWS: IDENTIFY SYSTEM AND/OR PURPOSE AT SOURCE, IF POSSIBLE, AND AT TERMINATION END. ALSO, AT TERMINATION END, INDICATE LOCATION OF CONDUIT ORIGINATION.
15. AFTER INSTALLATION, TEST FOR GROUNDS, SHORT CIRCUITS AND PROPER FUNCTION OF EACH NEW SYSTEM AND RELATED WIRING. FAULTS IN THE INSTALLATION SHALL BE CORRECTED.
16. AFTER ALL TESTS AND ADJUSTMENTS HAVE BEEN COMPLETED, CLEAN ALL EQUIPMENT LEAVING EVERYTHING IN WORKING ORDER AT THE COMPLETION OF THIS WORK.
17. PROVIDE A TEMPORARY ELECTRICAL SERVICE ADEQUATE IN SIZE FOR HEATING, FOR THE USE OF ALL TRADES AND FOR THE LIGHTING OF EACH ROOM DURING CONSTRUCTION. INSTALLATION SHALL CONFORM TO ARTICLE 590 OF THE NEC.

BASIC MATERIALS AND METHODS

1. ALL BOXES AND COVERPLATES SHALL BE SUITABLE FOR THE APPLICATIONS, RIGIDLY SUPPORTED FROM THE BUILDING STRUCTURE INDEPENDENT OF THE CONDUIT SYSTEM. ALL BOXES SHALL BE 4"x4"x2" DEEP MINIMUM WITH COVERPLATES SUITABLE FOR THEIR INTENDED USE. BOX STABILIZERS SHALL BE UTILIZED TO PROPERLY SUPPORT BOXES IN METAL STUD CONSTRUCTION.
2. EXTERIOR UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC, ENCASED IN CONCRETE UNDER DRIVES AND ROADWAYS WITH A MINIMUM 3" ENVELOPE. CONDUITS IN CONCRETE FLOORS, DAMP OR WET LOCATIONS, OR EXPOSED HIGH TRAFFIC AREAS WHERE SUBJECT TO PHYSICAL ABUSE SHALL BE HEAVY WALL RIGID GALVANIZED STEEL. ALL OTHER INTERIOR CONDUITS SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED ON THE DRAWINGS OR WITHIN THESE SPECIFICATIONS. CONDUITS SHALL BE 3/4" TRADE SIZE, MINIMUM, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR WITHIN THESE SPECIFICATIONS. ALL EMT CONDUITS SHALL HAVE COLD-ROLLED STEEL DOUBLE SET SCREW FITTINGS.
3. CONDUITS THAT PASS FROM THE INTERIOR TO THE EXTERIOR OF THE BUILDING, OR ARE SUBJECT TO DIFFERENT TEMPERATURES. SHALL BE SEALED WITH AN APPROVED MATERIAL SUCH AS DUCT-SEAL TO PREVENT THE CIRCULATION OF COLD AIR TO A WARMER SECTION OF THE CONDUIT.
 - A. CONDUITS THAT STUB THROUGH THE FOUNDATION WALLS SHALL BE SUPPLIED WITH PIPE SEALS AS MANUFACTURED BY LINK-SEAL, OR BY EQUIVALENT METHOD AS APPROVED BY THE ARCHITECT. PIPE SEALS SHALL BE EPDM (BLACK) WITH STAINLESS STEEL HARDWARE. THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND VERIFY EXACT REQUIREMENTS WITH THE ARCHITECT BEFORE PROCUREMENT AND INSTALLATION OF THE PIPE SEALS.
4. ALL BRANCH CIRCUIT CONDUITS SHALL BE EMT CONDUIT. THE CONDUIT SHALL ITSELF QUALIFY AS AN EQUIPMENT GROUNDING RETURN PATH IN ACCORDANCE WITH NEC 250.118. WIRING SHALL BE AS SPECIFIED ELSEWHERE IN THIS SECTION.
5. CONDUIT CONNECTIONS TO MOTORS, AND OTHER VIBRATING EQUIPMENT SHALL BE FLEXIBLE METAL "SEAL-TITE" TYPE "UA" CONDUIT AS MANUFACTURED BY THE AMERICAN BRASS COMPANY OR EQUIVALENT AND SHALL BE OF THE SAME SIZE AS THE FEEDER CONDUIT.
6. LOCAL LIGHT SWITCHES SHALL BE 20 AMPERE, 120/277 VOLTS, AC SPECIFICATION GRADE, WITH GROUNDING TERMINAL - HUBBELL #HBL-122 SERIES, PASS AND SEYMOUR #PS20AC SERIES, OR LEVITON #122 SERIES.
7. WALL MOUNTED OCCUPANCY SENSORS SHALL BE AUTO ON/AUTO OFF ONLY - LEVITON #OSSMT-GQW OR EQUAL BY PASS & SEYMOUR HUBBELL.
8. DUPLEX RECEPTACLES SHALL BE 20A, 125V, 2 POLE, 3 WIRE GROUNDING.
 - A. GENERAL PURPOSE "SPECIFICATION GRADE" DUPLEX RECEPTACLES: HUBBELL #5352, LEVITON #5362 OR PASS & SEYMOUR #5362.
9. DUPLEX RECEPTACLES, WHERE INDICATED ON THE DRAWINGS OR WHERE REQUIRED BY CODE, SHALL HAVE INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION AND SHALL BE 20A, 125V, 2 POLE, 3 WIRE GROUNDING: HUBBELL #GFS352, PASS & SEYMOUR #2091 OR LEVITON #8899. GFCI RECEPTACLES SHALL NOT BE THROUGH-WIRED. PROVIDE INDIVIDUAL DUPLEX GFCI RECEPTACLES AS SHOWN ON THE DRAWINGS.
10. DUPLEX RECEPTACLES, WHERE INDICATED ON THE DRAWINGS WITH "WP" SUBSCRIPT OR WHERE REQUIRED BY CODE SHALL BE RATED WEATHER RESISTANT, HAVE INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION, SELF-TESTING, VISIBLE TRIP ALERT AND SHALL BE 20A, 125V, 2 POLE, 3 WIRE GROUNDING: LEGRAND #2097TRWR OR EQUAL BY LEVITON OR PASS & SEYMOUR WITH VERTICAL WHILE -IN-USE COVER, LEGRAND #WUIC1GVSL OR EQUAL.
11. ALL RECEPTACLES SHALL BE PROVIDED WITH A SELF-GROUNDING CLIP AT THE MOUNTING SCREW.
12. ALL SWITCHES AND RECEPTACLES SHALL BE WHITE UNLESS OTHERWISE INDICATED WITHIN THESE SPECIFICATIONS. VERIFY COLOR WITH THE ARCHITECT PRIOR TO PROCUREMENT OF THE DEVICES. ALL COVERPLATES SHALL BE SMOOTH HIGH IMPACT COMMERCIAL GRADE THERMOPLASTIC OR SMOOTH NYLON FINISH WITH COLOR TO MATCH THE DEVICES. IN UNFINISHED AREAS, USE CADMIUM PLATED, ROUND CORNER, STEEL COVERPLATES FOR SURFACE MOUNTED OUTLET BOXES. BOTH THE WIRING DEVICES AND THE COVERPLATES SHALL BE BY THE SAME MANUFACTURER.
13. WIRE AND CABLE FOR BRANCH CIRCUITS AND FOR FEEDERS SHALL BE 90 DEGREES C., 600VOLT, TYPE THHN/THWN, COPPER ONLY, UNLESS OTHERWISE NOTED ON THE DRAWINGS. TYPE XHHW SHALL ALSO BE ACCEPTABLE FOR FEEDERS. MINIMUM SIZE FOR POWER AND LIGHTING BRANCH CIRCUITS SHALL BE #12.
14. CONDUITS SHALL BE CONTINUOUS AND SECURED TO ALL BOXES IN SUCH A MANNER THAT EACH CONDUIT SYSTEM SHALL BE ELECTRICALLY CONTINUOUS FROM THE POINT OF SERVICE TO ALL DEVICE BOXES. RUN CONDUITS CONCEALED UNLESS OTHERWISE INDICATED. THE ACTUAL ROUTING OF CONDUITS SHALL BE INSTALLED TO SUIT THE VARIOUS FIELD CONDITIONS.
15. INDIVIDUAL BRANCH CIRCUITS ARE SHOWN ON THE DRAWINGS FOR CLARITY. LIGHTING AND RECEPTACLE CIRCUITS LESS THAN OR EQUAL TO 100 AMPERES MAY BE GROUPED FOR HOMERUNS, WITH A MAXIMUM OF TWO (2) CIRCUITS PER HOMERUN. NEUTRAL CONDUCTORS SHALL NOT BE SHARED.
16. IDENTIFY WIRE AND CABLE FOR BRANCH CIRCUITS AS CALLED FOR IN THE NATIONAL ELECTRICAL CODE. IDENTIFICATION OF FEEDERS SHALL BE BY MEANS OF COLORED TAPE AT TERMINALS.
17. MOUNTING HEIGHTS TO THE CENTER OF OUTLET BOXES SHALL BE AS INDICATED ON THE DRAWINGS.
18. VERIFY MOUNTING HEIGHTS AND LOCATIONS WITH THE ARCHITECT BEFORE ROUGH-IN. REFER TO DETAILS AND INTERIOR WALL ELEVATIONS SHOWN ON THE ARCHITECTURAL DRAWINGS.
19. ALL RECEPTACLES SHALL BE MOUNTED WITH THE GROUND OPENING ABOVE THE PHASE AND NEUTRAL OPENINGS.
20. ALL DEVICES SHALL BE SECURED WITH MORE THAN A SINGLE SCREW.
21. ALL HARDWARE, SUPPORTS, HANGERS, BRACKETS, ANGLE IRON, CHANNELS, RODS AND CLAMPS NECESSARY TO INSTALL ELECTRICAL EQUIPMENT SHALL BE PROVIDED TO SUIT THE FIELD CONDITIONS AND THE APPLICATIONS INTENDED AS SHOWN ON THE DRAWINGS. THE USE OF PERFORATED STRAPS IS NOT PERMITTED.
22. ALL EQUIPMENT MOUNTED ON INTERIOR EQUIPMENT ROOM WALLS WHERE ADDITIONAL SUPPORT IS REQUIRED SHALL BE ATTACHED TO 3/4" PAINTED PLYWOOD FIRE RATED BOARDS FURRED OUT 1" FROM WALL. BOARDS SHALL BE PAINTED TO MATCH WALL FINISHES.

POWER DISTRIBUTION

1. THE ELECTRICAL SERVICE TO THE BUILDING, THE BUILDING'S POWER DISTRIBUTION, AND THE BUILDING'S GROUNDING ELECTRODE SYSTEM SHALL BE PROVIDED AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.
2. GROUND ALL ELECTRICAL SYSTEM CONDUITS, RACEWAYS, MOTORS, PANELS, CABINETS, FIXTURES, METAL BOXES, AND OTHER EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ALL PROVISIONS OF THE NEC, STATE BUILDING CODE AND LOCAL OR REGIONAL CODES.
3. GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE BY MEANS OF AN INSULATED GROUNDING CONDUCTOR INSTALLED WITH FEEDER AND BRANCH CIRCUIT CONDUCTORS IN ALL CONDUITS, SIZED IN ACCORDANCE WITH NEC ARTICLE 250.122.
4. WHERE GROUNDING CONDUCTORS ARE SUBJECT TO MECHANICAL DAMAGE PROTECT SUCH CONDUCTORS BY ENCASEMENT IN CONCRETE OR INSTALLATION IN A RIGID METALLIC RACEWAY.
5. ALL TERMINATIONS OF THE GROUNDING CONDUCTORS SHALL BE BY MEANS OF SOLDERLESS CONNECTIONS.
6. FURNISH AND INSTALL BRANCH CIRCUIT BREAKER PANELBOARDS EQUIPPED WITH CIRCUIT BREAKERS, WITH FRAME AND TRIP RATINGS LISTED ON THE DRAWINGS. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC, MOLDED CASE BOLT-ON TYPE. ALL CURRENT CARRYING PARTS OF THE BUS STRUCTURE SHALL BE TIN-PLATED ALUMINUM. EACH PANEL SHALL CONTAIN A 100% RATED NEUTRAL BUS AND A GROUNDING BUS. PANELS SHALL HAVE "DOOR-WITHIN-DOOR" TRIM, HINGED BOX TO FRONT TYPE WITH LATCH ON OUTER DOOR. ALL LOCKS SHALL BE KEYED ALIKE.
7. EACH PANEL, AS A COMPLETE UNIT, SHALL HAVE A MINIMUM SYMMETRICAL SHORT CIRCUIT CURRENT RATING OF 10,000 AMPERES FOR 240/120 VOLT RATED PANELS. CIRCUIT BREAKERS SHALL BE FULLY RATED. SERIES RATINGS ARE NOT PERMITTED.
8. PANELS SHALL BE AS MANUFACTURED BY SQUARE D, SIEMENS/ITE, GENERAL ELECTRIC OR CUTLER HAMMER/WESTINGHOUSE.
9. PANELS SHALL BE MOUNTED SO THAT TOP OF THE CABINET IS AT 6'-0" ABOVE FLOOR. A GLAZED DIRECTORY FRAME SHALL BE PROVIDED INSIDE EACH PANEL DOOR AND SHALL BE OF SUFFICIENT SIZE TO GIVE A COMPLETE DESCRIPTION OF EACH CIRCUIT. TYPED DIRECTORY CARDS SHALL BE PROVIDED LISTING EACH CIRCUIT SERVED.
10. SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED TO INDICATE MAXIMUM AVAILABLE FAULT CURRENT (INCLUDING DATE CALCULATION WAS PERFORMED) IN ACCORDANCE WITH NEC 110.24.
11. THE BRANCH CIRCUIT NUMBERS USED ON THE DRAWINGS SHALL BE APPLIED FOR THE CONSTRUCTION. HOWEVER, AT THE COMPLETION OF THE WORK, CIRCUIT NUMBER ADJUSTMENTS SHALL BE MADE AS REQUIRED TO PROVIDE BALANCED PHASE LOADING ON EACH PANEL.
12. SPARE CIRCUIT BREAKERS SHALL BE IDENTIFIED AS SUCH ON THE PANEL DIRECTORY CARDS AND SHALL BE LEFT IN THE "OFF" POSITION.

LIGHTING

1. LIGHTING FIXTURES SHALL BE PROVIDED AS SPECIFIED IN THE LIGHTING FIXTURE SCHEDULE ON THE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROPER MOUNTING ACCESSORIES. CONTRACTOR SHALL REFER TO THIS SPECIFICATION FOR LAMP AND DRIVER REQUIREMENTS. SUBMITTALS SHALL INCLUDE PRODUCT INFORMATION FOR FIXTURES, LAMPS, AND DRIVERS.
2. NON-DIMMING LED DRIVERS SHALL MEET THE FOLLOWING REQUIREMENTS: 85% MINIMUM EFFICIENCY, -40°C STARTING TEMPERATURE, > 0.90 POWER FACTOR, <20% TOTAL HARMONIC DISTORTION AND CLASS A SOUND RATING. SYSTEM MUST SURVIVE 250 REPETITIVE STRIKES ON "C LOW" WAVEFORMS AT 1 MINUTE INTERVALS WITH LESS THAN 10% DEGRADATION IN CLAMPING VOLTAGE. POWER SUPPLIES CAN BE UL CLASS I OR II OUTPUT. DIMMING DRIVERS SHALL BE SIMILAR TO NON-DIMMING DRIVERS WITH THE FOLLOEING REQUIREMENTS: 0-10V DIMMING DRIVERS SHALL DIM TO A MINIMUM OF 10% AND SHALL BE TYPE AS RECOMMENDED BY MANUFACTURER UNLESS OTHER NOTED IN THE CONTRACT AND BE COMPATIBLE WITH DIMMER CONTROL SPECIFIED. PROVIDE LOW TEMPERATURE DRIVERS FOR LED FIXTURES IN EXTERIOR APPLICATIONS OR IN UNHEATED AREAS.
3. LEDs SHALL BE MANUFACTURED BY NICHIA, SAMSUNG, CREE, PHILIPS, OR OSRAM. ALL OTHER LAMPS SHALL BE MANUFACTURED BY GENERAL ELECTRIC, PENNSYLVANIA, OR PHILIPS.
4. ALL LEDs MUST BE BATCH SORTED FOR COLOR, BRIGHTNESS AND VISUAL CONSISTENCY. ALL FIXTURES SHALL BE SUPPLIED AT SAME TIME AND SHALL COME FROM SAME BATCH. SPARE LEDs SHALL BE PROVIDED FROM SAME BATCH. LED COMPONENTS SHALL BE MERCURY AND LEAD-FREE.
5. THERMAL MANAGEMENT SHALL BE PASSIVE BY DESIGN. THE USE OF FANS OR OTHER MECHANICAL DEVICES SHALL NOT BE ALLOWED. FIXTURE MANUFACTURER SHALL ADHERE TO DEVICE MANUFACTURER GUIDELINES, CERTIFICATION PROGRAMS, AND TEST PROCEDURES FOR THERMAL MANAGEMENT. FIXTURES SHALL HAVE MINIMUM HEAT SINK SURFACE SUCH THAT LED MANUFACTURER'S MAXIMUM JUNCTION TEMPERATURE IS NOT EXCEEDED AT MAXIMUM RATED AMBIENT TEMPERATURE.
6. SURFACE MOUNTED FIXTURES MOUNTED ON CEILINGS OTHER THAN ACCESSIBLE LAY-IN CEILING SYSTEMS, OR TO THE BUILDING STRUCTURE, SHALL BE SECURELY SUPPORTED IN A MANNER APPROVED BY THE ARCHITECT.
7. ALL LIGHTING FIXTURES (INCLUDING "NORMALLY-OFF" EMERGENCY FIXTURES) THAT ARE CAPABLE OF BEING AIMED SHALL BE AIMED BY THE CONTRACTOR FOR THE OPTIMUM COVERAGE OF THEIR TASK, TO THE SATISFACTION OF, AND UNDER THE DIRECTION OF THE ARCHITECT.
8. LIGHTING FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 410. LOW VOLTAGE LIGHTING FIXTURES AND SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 411.



Lexington Cincinnati Cleveland Dallas Charleston



Revisions:
Issue Date: 8/1/2023

HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2

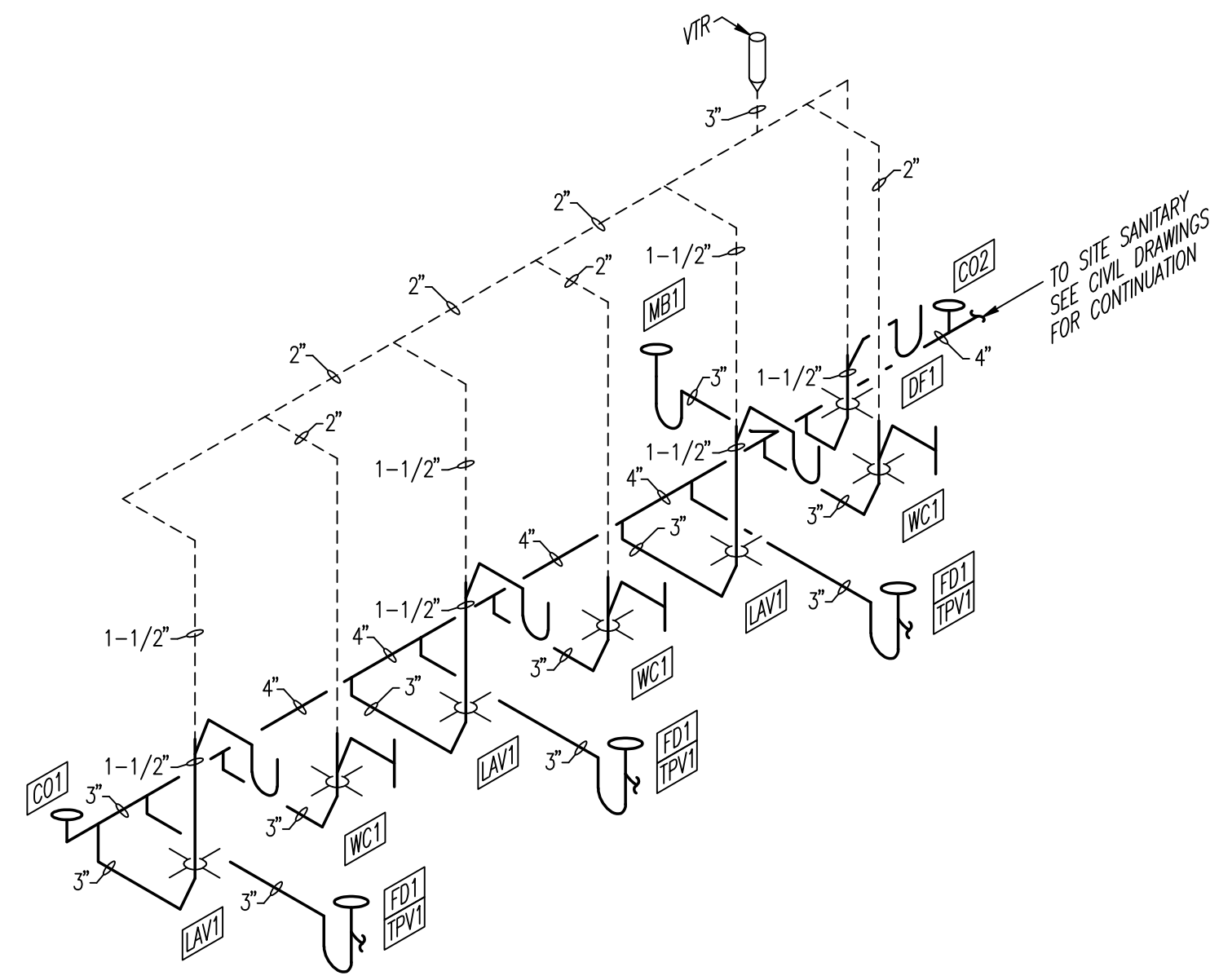
988 E HOWE ROAD
TALLMADGE, OH 44278

ELECTRICAL SPECIFICATIONS

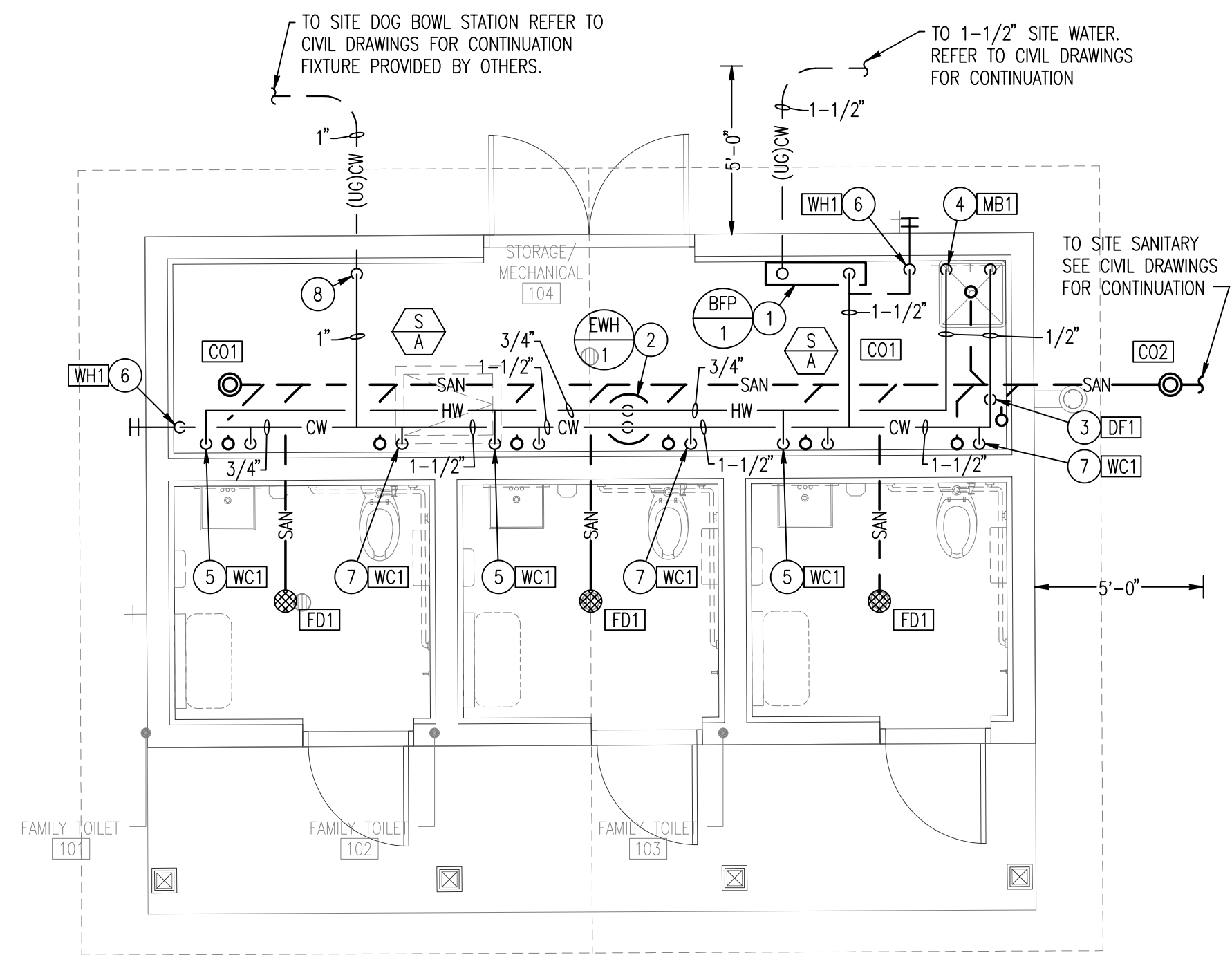
Project No.

E-7

22104



STACK DIAGRAM A
SCALE: NONE



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

GENERAL NOTES

- PLUMBING CONTRACTOR TO FIELD VERIFY EXACT LOCATION & SIZE OF EXISTING UTILITIES INCLUDING BOTH SANITARY AND WATER, SEWER AND PIPING. PLUMBING CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, SIZE, INVERT ELEVATIONS & DIRECTION OF FLOW PRIOR TO MAKING ANY NEW CONNECTIONS. PRIOR TO CONSTRUCTION, ANY DEFICIENCIES FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER OR ARCHITECT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR FAILURE TO OBTAIN THIS INFORMATION.
- REFER TO ISOMETRIC DIAGRAM FOR SANITARY AND VENTING SIZES.

PLAN NOTES

- PROVIDE AND INSTALL 1-1/2" CW BACKFLOW PREVENTER. ROUTE BACKFLOW PREVENTER DRAIN TO MOP BASIN. TERMINATE 2" ABOVE MOP BASIN. ROUTE 1-1/2" CW LINE UP TO BACKFLOW PREVENTER WITH HEAT TRACE CABLE DOWN TO 50" BELOW GRADE. HEAT TRACE SHALL BE PROVIDED BY AND INSTALLED BY PLUMBING CONTRACTOR UNDER INSULATION AS RECOMMENDED BY MANUFACTURER. HEAT TRACE SHALL HAVE MINIMUM 7 WATTS PER LINEAR FOOT. "CHROMALOX-EASY-HEAT" OR APPROVED SELF REGULATING RAPID HEAT TRACE CABLE. HEAT TRACE FINAL WIRING SHALL BE BY ELECTRICAL CONTRACTOR. VERIFY IN FIELD AND COORDINATE ALL TRADES.
- PROVIDE AND INSTALL WATER HEATER WITH ALL ACCESSORIES NEEDED FOR A COMPLETE INSTALLATION. 3/4" CW AND 3/4" HW DOWN TO WATER HEATER. MOUNT HIGH ON WALL PER MANUFACTURER'S RECOMMENDATIONS. ROUTE WATER HEATER DRAIN TO MOP BASIN. TERMINATE DRAIN 2" ABOVE MOP BASIN.
- INSTALL BOTTLE FILL STATION. DF1, DRAINAGE PER MANUFACTURER'S RECOMMENDATIONS. FIELD VERIFY LOCATION. 3/4" CW DOWN TO STATION, DF1, FREEZE RESISTANT BOXES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. FIELD VERIFY LOCATION.
- 1/2" CW AND 1/2" HW DOWN TO MOP BASIN.
- 1/2" CW AND 1/2" HW DOWN TO LAVATORY.
- 3/4" CW DOWN TO CONCEALED FREEZE RESISTANT WALL HYDRANT.
- 1-1/4" CW DOWN TO WATER CLOSET.
- ROUTE 1" CW LINE DOWN TO DOG BOWL FILL STATION WITH HEAT TRACE CABLE DOWN TO 50" BELOW GRADE. HEAT TRACE SHALL BE PROVIDED BY AND INSTALLED BY PLUMBING CONTRACTOR UNDER INSULATION AS RECOMMENDED BY MANUFACTURER. HEAT TRACE SHALL HAVE MINIMUM 7 WATTS PER LINEAR FOOT. "CHROMALOX-EASY-HEAT" OR APPROVED SELF REGULATING RAPID HEAT TRACE CABLE. HEAT TRACE FINAL WIRING SHALL BE BY ELECTRICAL CONTRACTOR. VERIFY IN FIELD AND COORDINATE ALL TRADES.

PLUMBING FIXTURE CONNECTION SCHEDULE							
MARK	FIXTURE	MANUFACTURER/ MODEL	C.W.	H.W.	SAN	VENT	DESCRIPTION
CO1	CLEANOUT	J.R. SMITH 4020	-	-	SEE PLANS	SEE PLANS	DUCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORIATED SECURED NICKEL BRONZE TOP.
CO2	CLEANOUT	J.R. SMITH 4250	-	-	SEE PLANS	SEE PLANS	DUCO CAST IRON CLEANOUT AND DOUBLE FLANGED HOUSING WITH HEAVY DUTY SECURED SCORIATED CAST IRON COVER WITH LIFTING DEVICE.
DF1	BOTTLE-FILL STATION	ELKAY LK4405BFFRK	3/4"	-	1-1/2"	1-1/2"	WALL MOUNTED BOTTLE-FILL STATION HEAVY DUTY VANDAL RESISTANT, STAINLESS STEEL FINISH, AND FREEZE RESISTANT KIT.
FD1	FLOOR DRAIN	J.R. SMITH 2005	-	-	SEE PLANS	SEE PLANS	DUCO CAST IRON BODY WITH FLASHING COLLAR AND ADJUSTABLE ROUND NICKEL BRONZE STRAINER HEAD, TRAP PRIMER CONNECTION.
LAV1	ADA LAVATORY	DURA-WARE 1951LC-1-DMS-04	1/2"	1/2"	1-1/4"	1-1/4"	TYPE 304 STAINLESS STEEL, 20" X 18" WALL HUNG LAVATORY BACK DRILLED FOR CONCEALED ARMCHAIR CARRIER, DECK MOUNTED SPOUT, AIR-CONTROL SINGLE NON-METERING, COORDINATE WITH ARCHITECT AND PROVIDE SPOUT AND VALVE SELECTION OPTION, 0.5 GPM, PRIOR TO FURNISHING. PROVIDE OFFSET GRID DRAIN AND TAILPIECE. INSULATE ALL EXPOSED WASTE AND WATER SUPPLY PIPING UNDER LAVATORY WITH SAFETY COVERS PER ADA REQUIREMENTS AS MANUFACTURED BY PLUMBEREX, MCGUIRE, OR TRUEBRO. PROVIDE ASSE-1070 TEMPERING VALVE SET AT 90°. MOUNT FIXTURE AT HANDICAP HEIGHT. COORDINATE ALL SELECTIONS WITH ARCHITECT PRIOR TO FURNISHING.
MB1	MOP BASIN	FIAT MSB-2424	1/2"	1/2"	3"	1-1/2"	MOLDED STONE BASIN WITH TILING FLANGES, STAINLESS STEEL SPLASH PANELS, MOP HANGER, HOSE WITH WALL HOOK, 3" DRAIN WITH DOME STRAINER AND LINT BASKET, CHICAGO MODEL 897 FAUCET WITH VACUUM BREAKER SPOUT, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4" HOSE THREAD OUTLET.
TPV1	TRAP PRIMER VALVE	PRECISION PLUMBING No. 1	-	-	SEE PLANS	SEE PLANS	PROVIDE DISTRIBUTION UNIT FOR MULTIPLE DRAIN CONNECTIONS.
WC1	ADA WATER CLOSET	DURA-WARE 2100 SERIES	1-1/4"	-	4"	2"	304 STAINLESS STEEL, ELONGATED BOWL, TOP SPUD, SIPHON JET FLUSH ACTION, WALL MOUNTED, WITH 1.6 GPF FLUSH VALVE OPTION, AND OPEN FRONT LESS COVER HINGE SEAT. FIXTURE TO CONFORM TO ADA REQUIREMENTS. COORDINATE ALL SELECTIONS WITH ARCHITECT PRIOR TO FURNISHING.
WH1	WALL HYDRANT	J.R. SMITH 5509QT	3/4"	-	-	-	CONCEALED, CHROME PLATED QUARTER TURN NON-FREEZE HYDRANT WITH 3/4" HOSE CONNECTION, BACKER PLATE, VACUUM BREAKER, "T" HANDLE KEY.

REMARKS:
1. COORDINATE FIXTURES WITH ARCHITECT PRIOR TO FURNISHING.

DOMESTIC WATER HEATER SCHEDULE (ELECTRIC)												
MARK	MANUFACTURER	MODEL	TYPE	STORAGE TEMPERATURE (°F)	RECOVERY AT 100°F (GPH)	STORAGE (GAL)	NO. OF ELEMENTS	RELIEF VALVE SETTING (PSI)	MAXIMUM OPERATION (KW)	ELECTRICAL		REMARKS
										VOLT.	PH.	
EW1	A.O. SMITH	DEL-10	TANK	140	8	10	1	150	2.0	240	1	1,2

REMARKS:
1. ACCEPTABLE MANUFACTURERS; A.O. SMITH, BRADFORD WHITE, LOCHINVAR, OR RHEEM.
2. RECOVERY RATE BASED ON 40° ENTERING WATER TEMPERATURE.

BACKFLOW PREVENTER SCHEDULE						
MARK	MANUFACTURER	MODEL	SERVICE	TYPE	SIZE	REMARKS
BFP1	WATTS	LF909	DOMESTIC	RFZ	1-1/2"	1,2

REMARKS:
1. ACCEPTABLE MANUFACTURERS: AMES, CONBRACO, FEBCO, WATTS, OR ZURN.
2. PROVIDE AIR GAP FITTING WITH INDIRECT CONNECTION TO FLOOR DRAIN.



Lexington Cincinnati Cleveland Dallas Charleston



Revisions:
Issue Date: 8/1/2023

**HOWE ROAD PARK
PARK IMPROVEMENTS
PHASE 2**

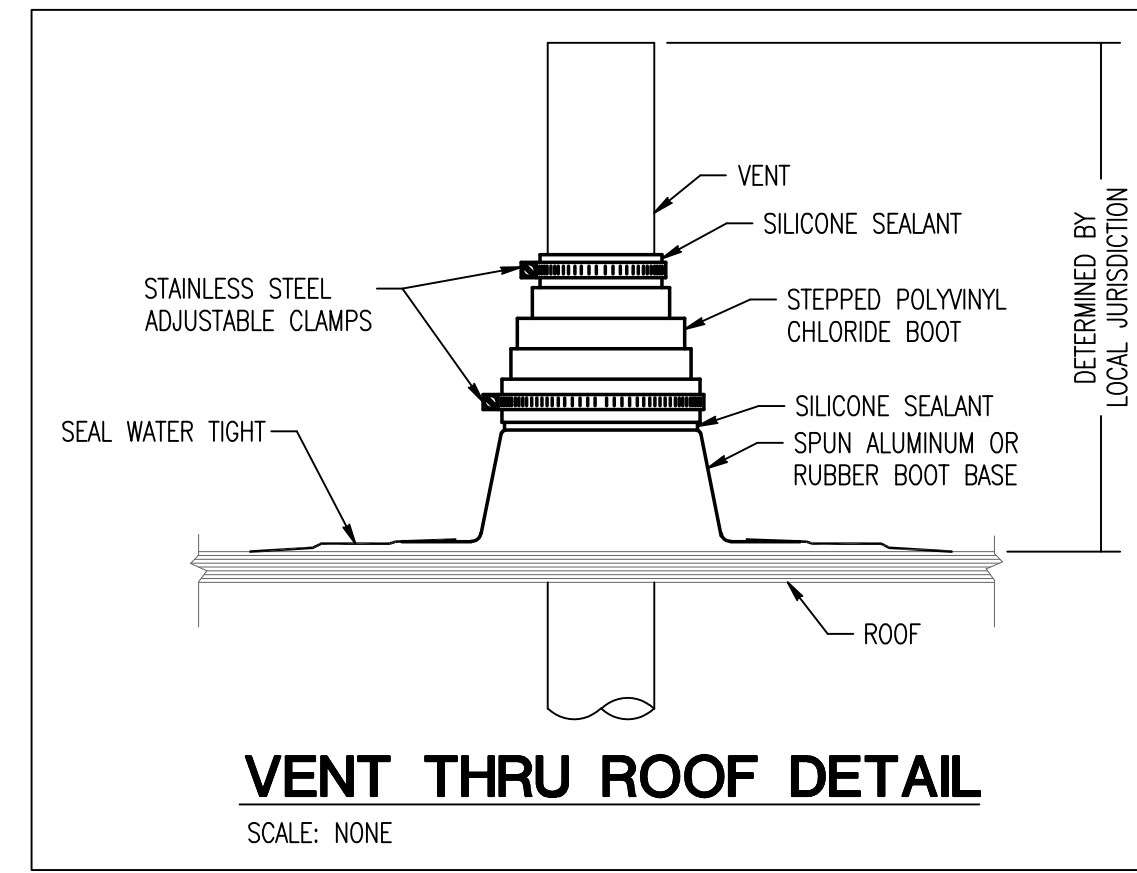
988 E HOWE ROAD
TALLMADGE, OH 44278

**PLUMBING
PLANS**

Project No.

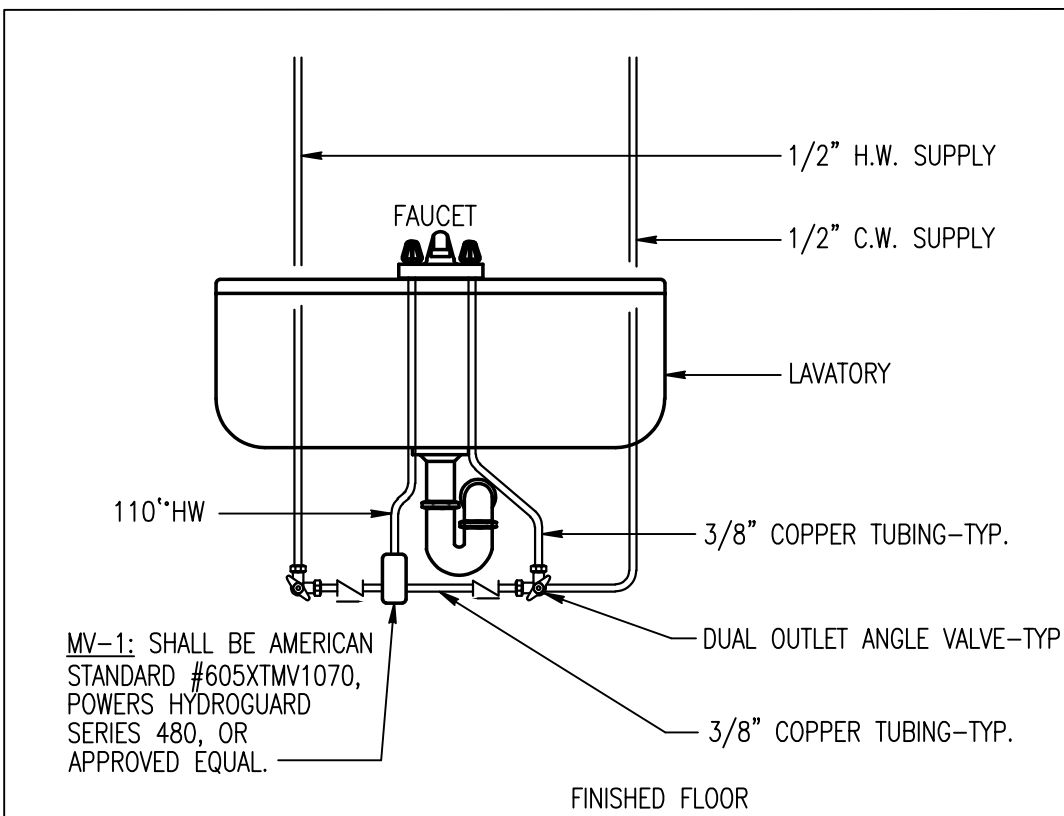
P-1

22104



VENT THRU ROOF DETAIL

SCALE: NONE



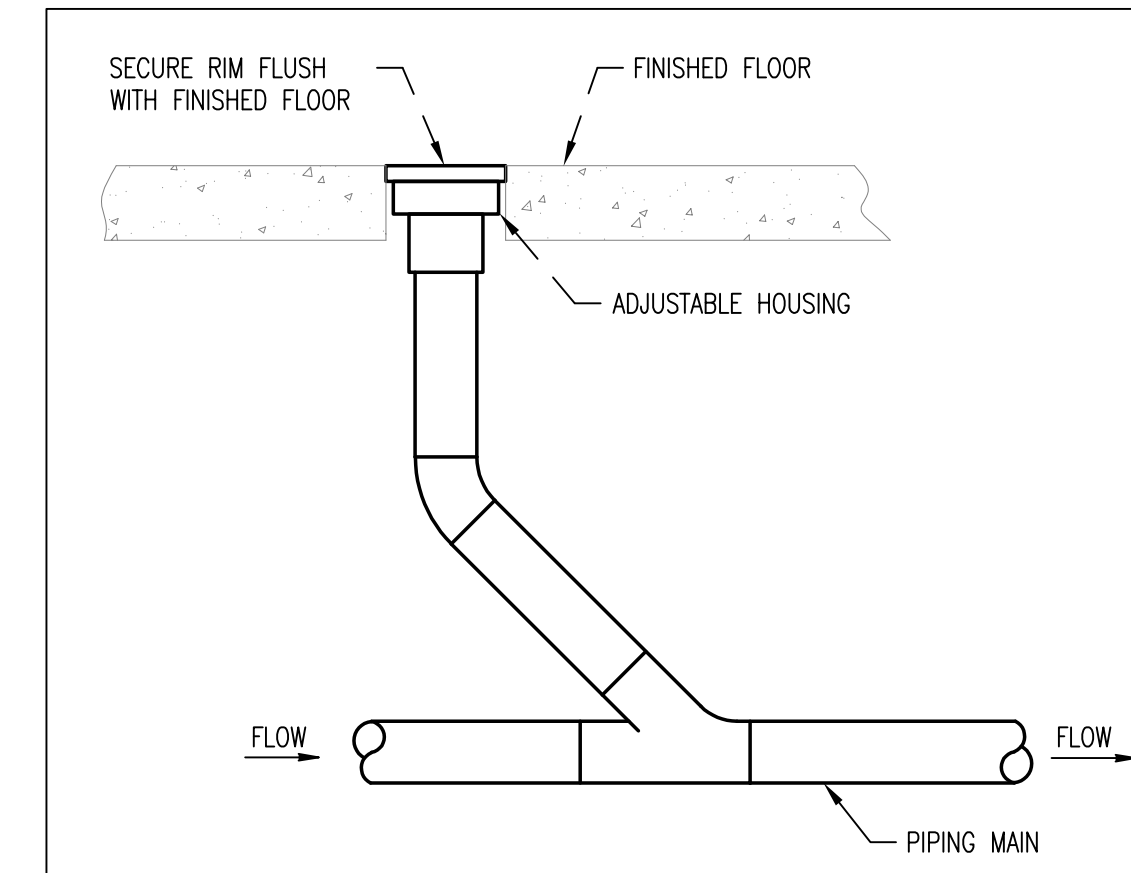
MV-1: SHALL BE AMERICAN STANDARD #605XTMV1070, POWERS HYDROGUARD SERIES 480, OR APPROVED EQUAL.

UNDER LAVATORY MIXING VALVE PIPING DETAIL

SCALE: NONE

NOTES:

1. TYPICAL OF ALL LAV LOCATIONS.
2. INSTALLATION & LOCATION OF MV-1 SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

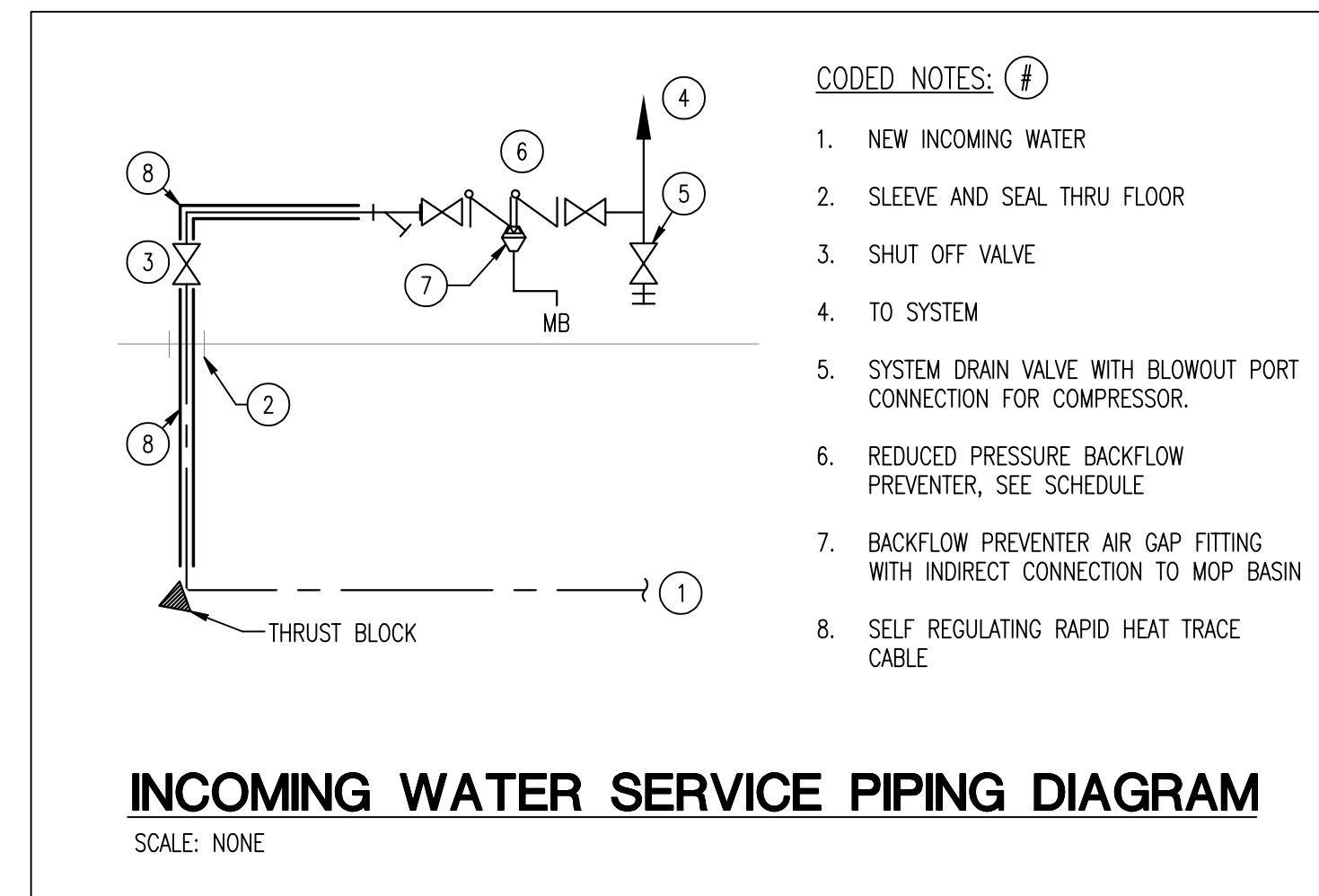


FLOOR CLEANOUT DETAIL

SCALE: NONE

NOTES:

1. CLEANOUT SHALL BE THE SAME SIZE AS THE PIPE TO WHICH IT IS CONNECTED UP TO 4". FOR PIPES LARGER THAN 4", THE MINIMUM SIZE OF THE CLEANOUT IS 4".

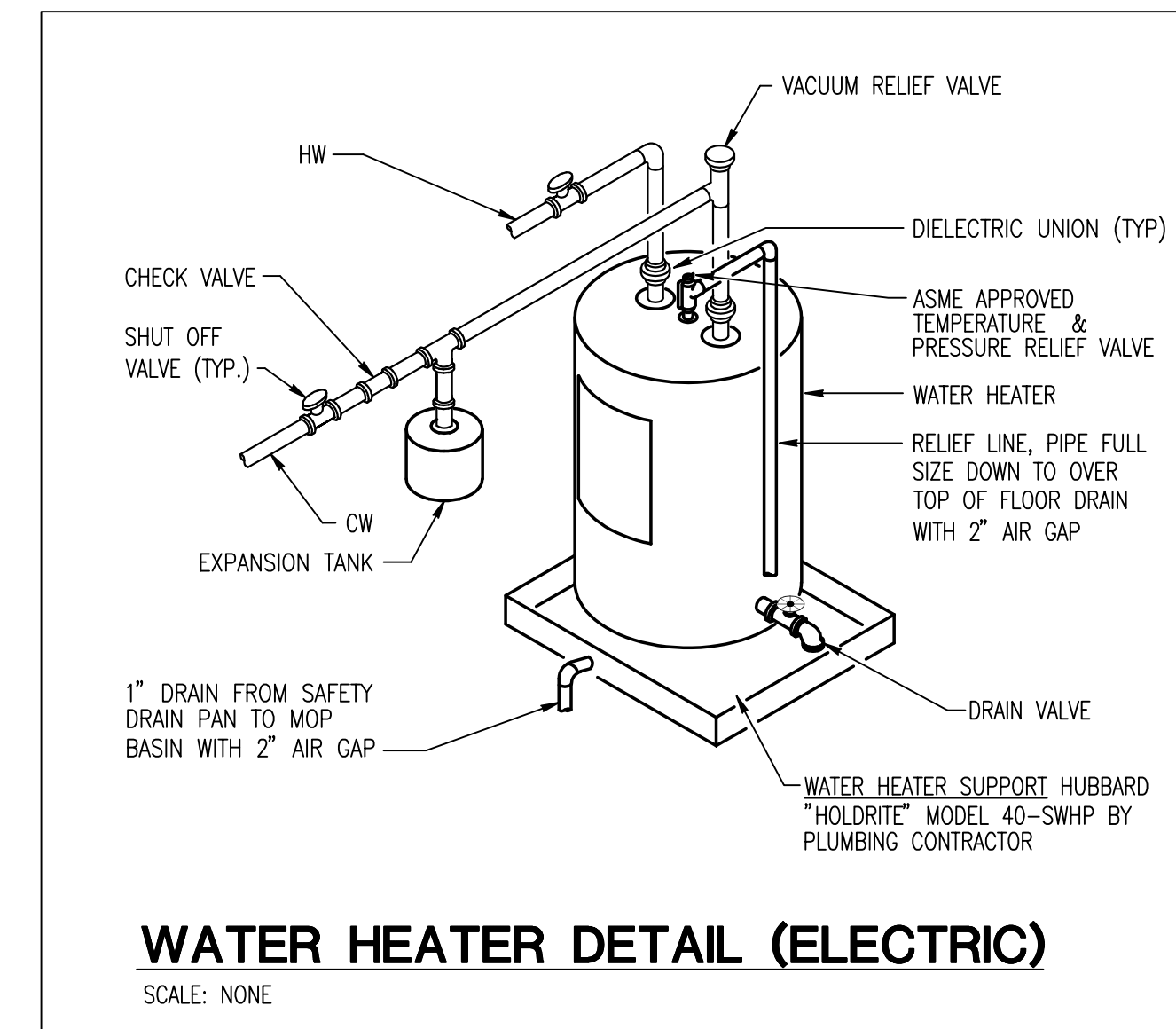


INCOMING WATER SERVICE PIPING DIAGRAM

SCALE: NONE

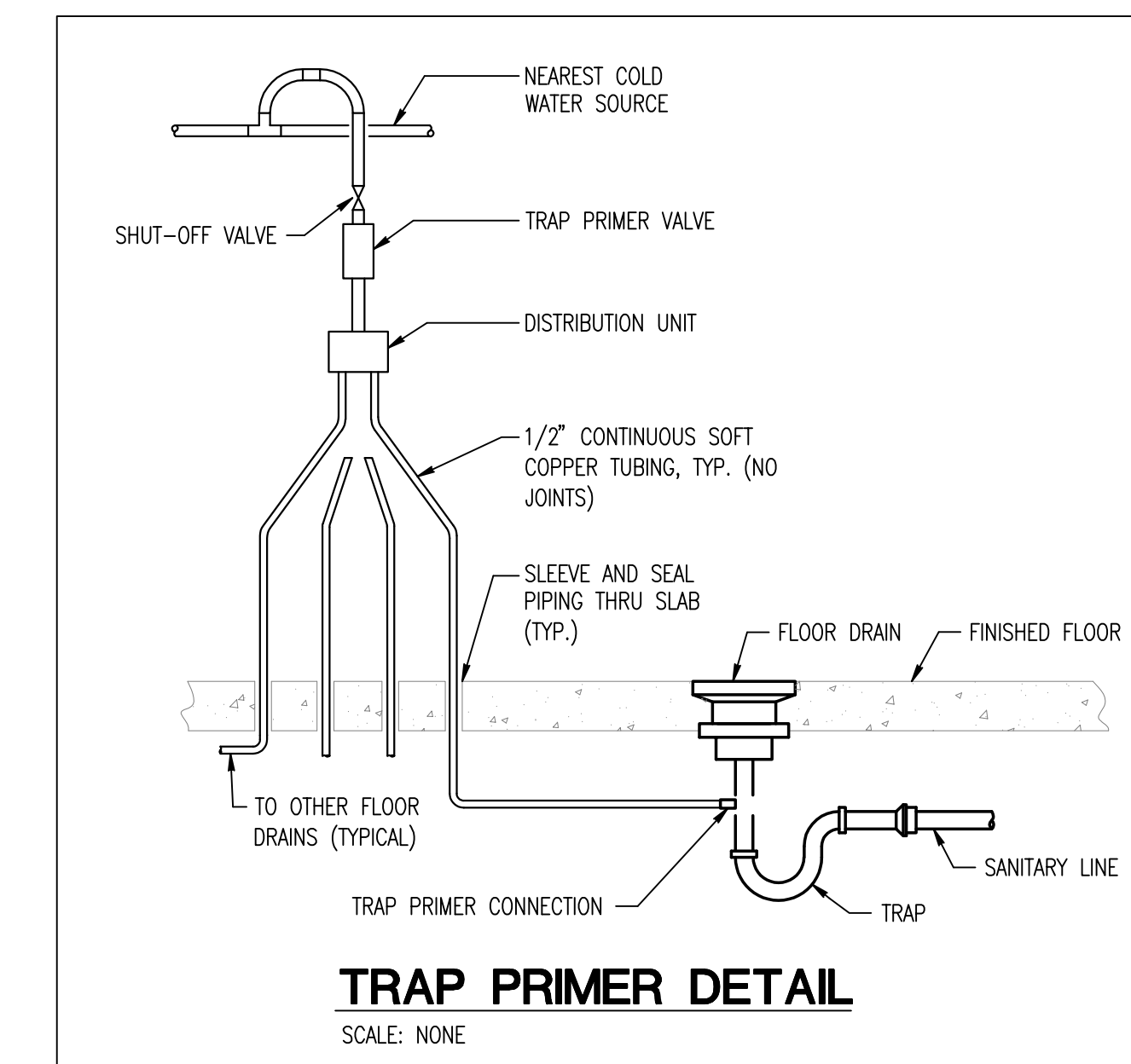
CODED NOTES: (#)

1. NEW INCOMING WATER
2. SLEEVE AND SEAL THRU FLOOR
3. SHUT OFF VALVE
4. TO SYSTEM
5. SYSTEM DRAIN VALVE WITH BLOWOUT PORT CONNECTION FOR COMPRESSOR.
6. REDUCED PRESSURE BACKFLOW PREVENTER, SEE SCHEDULE
7. BACKFLOW PREVENTER AIR GAP FITTING WITH INDIRECT CONNECTION TO MOP BASIN
8. SELF REGULATING RAPID HEAT TRACE CABLE



WATER HEATER DETAIL (ELECTRIC)

SCALE: NONE



TRAP PRIMER DETAIL

SCALE: NONE



Lexington Cincinnati Cleveland Dallas Charleston



Revisions:
Issue Date: 8/1/2023

HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2

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PLUMBING DETAILS

Project No.

22104

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PLUMBING GENERAL NOTES

- THE TERM GENERAL CONTRACTOR (GC) AS USED IN THESE DOCUMENTS REFERS TO THE CONTRACTOR / CONSTRUCTION MANAGER IN RESPONSIBLE CHARGE OF THE PROJECT IN TERMS OF COORDINATION, SCHEDULING, SUBCONTRACTOR COORDINATION, ETC. THIS TERM REFERS TO, BUT IS NOT LIMITED TO, GENERAL CONTRACTOR, CONSTRUCTION MANAGER, DESIGN BUILD CONTRACTOR, PRIME CONTRACTOR, ETC. THE TERM IS REFERENCING THE ENTITY THAT COORDINATES THE WORK OF OTHER TRADES.
- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTING WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
- THE PLUMBING SYSTEMS OR ITS MODIFICATIONS ARE DESIGNED TO BE A COMPLETE OPERATING SYSTEM AND STABLE AFTER THE BUILDING OR ITS MODIFICATIONS ARE FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE CONSTRUCTION, INSTALLATION, AND PROGRAMMING PROCEDURES AND SEQUENCES TO HAVE A COMPLETE AND WORKING SYSTEM AND TO INSURE THE SAFETY OF THE CONSTRUCTION PERSONNEL, PUBLIC, BUILDING AND ITS COMPONENT PARTS, AND ADJACENT BUILDINGS AND PROPERTIES. THIS INCLUDES THE ADDITION OF WHATEVER TEMPORARY OR PERMANENT BRACING, ETC. THAT MAY BE NECESSARY TO BRACE NEW OR EXISTING CONSTRUCTION, WALLS, AND FRAMING TO REMAIN SO THAT THE STRUCTURE IS BRACED FOR CONSTRUCTION LOADS, ETC. AND THAT NO HORIZONTAL OR VERTICAL SETTLEMENT OR ANY DAMAGE OCCURS TO THE ADJACENT NEW OR PERMANENT SUPPORTS AND BRACING THAT ARE INSTALLED. DESIGN OF THESE SUPPORTS SHALL BE PROVIDED BY THE CONTRACTOR. PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, AND ACCESSORIES REQUIRED TO FURNISH AND INSTALL THE SYSTEMS IDENTIFIED IN SPECIFICATIONS AND DRAWINGS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENFORCE ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
- CONSTRUCTION LOADS SHALL NOT EXCEED STRUCTURAL DESIGN LIVE LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DESIGN REQUIRED TO SUPPORT CONSTRUCTION EQUIPMENT USED IN CONSTRUCTING THIS PROJECT. VERIFY AND COORDINATE WITH STRUCTURAL DRAWINGS.
- THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION FOR THE PROJECT IN A MANNER AND SEQUENCE THAT ARE BASED ON ACCEPTED INDUSTRY STANDARDS THAT RECOGNIZE THE INTERACTION OF THE COMPONENTS THAT COMPRISE THE SYSTEMS, WITHOUT CAUSING DISTRESS, UNANTICIPATED MOVEMENTS OR IRREGULAR LOAD PATHS AS A RESULT OF THE CONSTRUCTION MEANS AND METHODS EMPLOYED.
- THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
- BEFORE FABRICATION AND/OR INSTALLING ANY WORK, CONTRACTOR SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCE REQUIRED FOR FINISH ON BEAMS, COLUMNS, PILASTERS, WALLS, OR OTHER STRUCTURAL OR ARCHITECTURAL MEMBERS, AS SHOWN ON ARCHITECTURAL DRAWINGS. IF ANY WORK IS SO INSTALLED AND IT LATER DEVELOPS THAT ARCHITECTURAL DESIGN CANNOT BE FOLLOWED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE SUCH CHANGES IN HIS WORK AS ARCHITECT MAY DIRECT TO PERMIT COMPLETION OF ARCHITECTURAL WORK IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- PIPES PASSING THROUGH OR UNDER WALLS SHALL BE PROTECTED FROM BREAKAGE. PIPES PASSING THROUGH STUDS, JOIST, RAFTERS OR SIMILAR MEMBERS LESS THAN 1 1/2" FROM THE NEAREST EDGE OF THE MEMBERS SHALL BE PROTECTED BY STEEL SHIELD PLATES.
- PIPING SHALL BE INSTALLED TO PREVENT STRAINS AND STRESSES THAT EXCEED THE STRUCTURAL STRENGTH OF THE PIPE. WHERE NECESSARY, PROVISIONS SHALL BE MADE TO PROTECT PIPING FROM THE DAMAGE RESULTING FROM PIPE EXPANSION AND CONTRACTION AND STRUCTURAL/SOIL SETTLEMENT. EXPANSION JOINT FITTINGS SHALL BE USED WHERE NECESSARY TO PROVIDE FOR EXPANSION AND CONTRACTION OF THE PIPES. SLEEVED OPENINGS SHALL BE SIZED APPROPRIATELY TO ACCOMMODATE PIPE MOVEMENT AND STRUCTURAL/SOIL SETTLEMENT. EXPANSION JOINT FITTINGS SHALL BE OF THE TYPICAL MATERIAL SUITABLE FOR USE WITH THE TYPE OF PIPING IN WHICH FITTINGS ARE INSTALLED. AT A MINIMUM INSTALL RUBBER MECHANICAL JOINT COUPLINGS OR CSA-CERTIFIED EXPANSION JOINTS ON ALL VERTICAL PIPING AT EVERY OTHER FLOOR OF THE BUILDING AND RIGIDLY SUPPORT THE STACK PIPE ON ALTERNATING FLOORS TO DIRECT ANY MOVEMENT INTO THE APPROPRIATE EXPANSION COMPENSATOR. DESIGN OF THESE EXPANSION FITTINGS SHALL BE PROVIDED BY THE CONTRACTOR. ANY ANALYSIS WHICH REQUIRES ADDITIONAL SUPPORT OR EXPANSION DETAILING SHALL BE SHARED WITH THE MECHANICAL DESIGN PROFESSIONAL AND ANY STRESSES OR POINT LOADS CREATED BY THE ENGINEERED SYSTEM SHALL BE SHARED WITH THE STRUCTURAL DESIGNER FOR REVIEW.
- INSTALL ADDITIONAL OFFSETS ON PIPING WHERE REQUIRED TO OBTAIN MAXIMUM HEADROOM OR TO AVOID CONFLICT WITH OTHER WORK WITHOUT ADDITIONAL COST TO OWNER.
- REPORT ANY INTERFERENCES BETWEEN WORK UNDER THIS DIVISION AND THAT OF ANY OTHER CONTRACTORS TO ARCHITECT AS SOON AS THEY ARE DISCOVERED. ARCHITECT WILL DETERMINE WHICH EQUIPMENT SHALL BE RELOCATED, REGARDLESS OF WHICH WAS FIRST INSTALLED, AND HIS DECISION SHALL BE FINAL.
- THE CONTRACTOR SHALL COORDINATE FLOOR, WALL, AND ROOF PENETRATIONS, ETC. WITH GENERAL TRADES.
- GENERAL CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED THROUGH THE FRAMING BY THE MECHANICAL, ELECTRICAL, PLUMBING, OR OTHER TRADES, WHETHER OR NOT SHOWN ON THE STRUCTURAL DRAWINGS. ANY DEVIATION FROM THE OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR REVIEW.
- ALL MECHANICAL AND ELECTRICAL WORK: PLUMBING, PIPING, WIRING, LIGHTING, ETC. AND ALL ARCHITECTURAL ITEMS THAT NEED TO BE REMOVED DURING THE MODIFICATION OF OR REINFORCING OF, EXISTING STRUCTURE SHALL BE REPLACED IN KIND BY THE RESPECTIVE CONTRACTOR. THE CONTRACTORS SHALL KEEP ALL EXISTING SYSTEMS IN OPERATION DURING THE CONSTRUCTION PHASE OF THE PROJECT.
- ALL CONTRACTORS ARE REQUIRED TO EXAMINE THE DRAWINGS AND SPECIFICATIONS CAREFULLY, VISIT THE SITE AND FULLY TP VERIFY ALL EXISTING CONDITIONS AND LIMITATIONS, PRIOR TO AGREEING TO PERFORM THE WORK. FAILURE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND LIMITATIONS WILL IN NO WAY RELIEVE THE CONTRACTOR FROM FURNISHING ANY MATERIALS OR PERFORMING ANY WORK IN ACCORDANCE WITH DRAWINGS AND SPECIFICATION WITHOUT ADDITIONAL COST TO THE OWNER TO HAVE A COMPLETE AND WORKING SYSTEM.
- DO NOT SCALE DRAWINGS.
- ANY DISCREPANCIES BETWEEN MECHANICAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND MECHANICAL ENGINEER.
- SHOP DRAWINGS AND SUBMITTALS
 - SHOP DRAWINGS AND SUBMITTALS SHALL BE CHECKED AND COORDINATED WITH OTHER MATERIALS AND CONTRACTS BY THE GENERAL MECHANICAL AND ELECTRICAL CONTRACTORS AND SHOP DRAWINGS AND SUBMITTALS SHALL BEAR THE PRIME CONTRACTOR'S REVIEW STAMP WITH THE CHECKER'S INITIALS BEFORE BEING SUBMITTED TO THE ARCHITECT FOR APPROVAL.
 - WHEN THE CONTRACTOR HAS BEEN AUTHORIZED TO USE THE ARCHITECT AND ENGINEER'S DRAWINGS AS CONSTRUCTION COORDINATION DRAWINGS, THE CONTRACTOR MUST REMOVE ALL TITLE BLOCKS, PROFESSIONAL SEALS AND ANY OTHER REFERENCES TO THE ARCHITECT AND ENGINEER FROM THOSE DRAWINGS. THE CONTRACTORS NAME AND TITLE SHALL BE PLACED ON THE DRAWINGS.
 - WHERE VOLTAGE, AMP DRAW, DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION COULD AFFECT THE NEW CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE FIELD VERIFICATIONS AND MEASUREMENTS IN TIME FOR THEIR INCORPORATION INTO THE SHOP DRAWINGS.
- PIPING SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.
- CONTRACTOR SHALL INCLUDE IN HIS BID ALL CUTTING, TRENCHING, AND PATCHING ASSOCIATED WITH THE INSTALLATION OF THIS PROJECTS WORK.

22. CUTTING, PATCHING AND DRILLING

- ALL CUTTING AND PATCHING OF THE BUILDING CONSTRUCTION REQUIRED FOR THIS WORK SHALL BE BY THE CONTRACTOR UNLESS SHOWN ON ARCHITECTURAL DRAWINGS AND CONFIRMED AS TO SIZE AND LOCATION PRIOR TO NEW CONSTRUCTION. CUTTING SHALL BE IN A NEAT AND WORKMANLIKE MANNER.
- NEATLY SAW CUT ALL RECTANGULAR OPENINGS, SET SLEEVE THROUGH OPENING, AND FINISH PATCH OR PROVIDE TRIM FLANGE AROUND OPENING.
- CONTRACTOR SHALL FIELD VERIFY SLAB-ON-GRADE OR SUPPORTED FLOOR CONSTRUCTION TYPE PRIOR TO CUTTING. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR CUT A FLOOR THICKER THAN 4 INCHES, A STRUCTURAL FLOOR SLAB, WHETHER ON GRADE OR SUPPORTED, WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT. IF FLOOR SLAB INDICATED TO BE CUT ON MECHANICAL PLANS IS FOUND TO BE STRUCTURAL IN NATURE, DO NOT CUT. CONTACT ARCHITECT IMMEDIATELY FOR FURTHER DIRECTIONS.
- CORE DRILL AND SLEEVE ALL ROUND OPENINGS.
- DO NOT CUT ANY STRUCTURAL COMPONENTS WITHOUT ARCHITECT'S WRITTEN APPROVAL, INCLUDING, BUT NOT LIMITED TO ROOF JOISTS, COLUMNS, FLOOR JOISTS, BEAMS, GIRDERS, STRUCTURAL FLOOR SLABS, REBAR, ETC.
- PATCH, AND FINISH TO MATCH ADJACENT AREAS THAT HAVE BEEN CUT, DAMAGED OR MODIFIED AS A RESULT OF THE INSTALLATION OF THE MECHANICAL SYSTEMS. FIRE-STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER.
- ALL CONTRACTORS SHALL CONFIRM WITH OWNER, PRIOR TO BID, TIMES AVAILABLE FOR NOISE PRODUCING WORK SUCH AS CUTTING AND CORE DRILLING OF FLOORS, WALLS, ETC. AS WELL AS TIMES FOR WORK WHICH REQUIRES ACCESS INTO ADJOINING TENANT SPACES. INCLUDE ANY PREMIUM TIME IN BID.
- EXACT LOCATION OF ROOF TOP AIR CONDITIONING UNITS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPLEMENTAL SUPPORT STEEL FOR EQUIPMENT AND ROOF PENETRATIONS AFTER APPROVAL OF STRUCTURAL ENGINEER.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE WORK WITH THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION. THE MECHANICAL CONTRACTOR SHALL PROVIDE INFORMATION REGARDING OPENINGS IN WALLS, FLOORS, ETC., CONCRETE EQUIPMENT PADS AND FOUNDATIONS TO THE GENERAL CONTRACTOR. IF THE MECHANICAL CONTRACTOR FAILS TO COMPLY WITH THIS REQUEST, OR IF INCORRECT INFORMATION IS GIVEN, THE NECESSARY CUTTING AND PATCHING WILL BE PERFORMED BY THE GENERAL CONTRACTOR, THE MECHANICAL CONTRACTOR'S EXPENSE.
- ALL OPENINGS REQUIRED FOR THIS BRANCH OF WORK SHALL BE ACCOMPLISHED IN TIME TO BE INCORPORATED IN, AND BE COMPATIBLE WITH THE CONSTRUCTION PROGRAM; OTHERWISE THIS CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CHANGES MADE NECESSARY FOR HIS FAILURE TO DO SO. PIPE HOLES IN FLOORS AND WALLS SHALL BE CORE DRILLED IF NOT SLEEVED DURING CONSTRUCTION.
- EXISTING SLABS SHALL BE CORE DRILLED AT REENTRANT CORNERS OF NEW FLOOR OPENINGS TO PREVENT OVERCUTTING.

- REFER TO PLUMBING AND ELECTRICAL PLANS FOR LOCATION OF EQUIPMENT. COORDINATE LOCATION OF DISCONNECT SWITCH ASSOCIATED WITH EACH PIECE OF MECHANICAL AND PLUMBING EQUIPMENT WITH ELECTRICAL CONTRACTOR.

- THE CONTRACTOR SHALL FURNISH ALL ACCESS PANELS OR DOORS IN HARD CEILINGS AND WALLS WITH A SIZE AS REQUIRED FOR SERVICING AND TESTING, FOR EQUIPMENT, VALVES AND/OR DEVICES FURNISHED UNDER THIS CONTRACT. THE GENERAL CONTRACTOR SHALL INSTALL ACCESS PANELS. THE CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF EACH ACCESS PANEL WITH THE ARCHITECT AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN.

- ALL EQUIPMENT AND DEVICES FOR THIS PROJECT MUST BE UL LISTED. DEVICES, EQUIPMENT, SYSTEMS SHALL BE INSTALLED PER NATIONAL ELECTRICAL CODE REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS.

- THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE DELIVERY AND SAFE STORAGE OF HIS MATERIALS AND EQUIPMENT IN COORDINATION WITH THE WORK OF OTHERS. MATERIALS AND EQUIPMENT SHALL BE DELIVERED AT SUCH STAGES OF THE WORK AS WILL EXPEDITE THE WORK AS A WHOLE AND SHALL BE MARKED AND STORED IN SUCH A WAY AS TO BE EASILY CHECKED AND INSPECTED. THE ARRIVAL AND PLACING OF LARGE EQUIPMENT ITEMS SHALL BE SCHEDULED EARLY ENOUGH TO PERMIT ENTRY AND SETTING WHEN THERE IS NO RESTRICTION OR PROBLEM DUE TO SIZE AND WEIGHT.

EXCAVATING/BACKFILLING

- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SURVEY AND THE GEOTECHNICAL INVESTIGATION REPORT BEFORE STARTING CONSTRUCTION. ALL UNDERGROUND WORK SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT EXCEPT WHERE NOTED OTHERWISE ON DRAWINGS OR SPECIFICATIONS.
- ALL BUILDING PAD PREPARATION AND PATCHING SHALL FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND THE STRUCTURAL DRAWINGS AND ARCHITECTURAL DRAWINGS (UNLESS NOTED OTHERWISE).
- ALL OBJECTIONABLE MATERIALS ENCOUNTERED ARE TO BE REMOVED FROM EXCAVATED AREAS OF THE SITE PER THE GEOTECHNICAL REPORT.
- IF UNSTABLE SUBGRADE SECTORS CANNOT BE STABILIZED BY EXCAVATION AND RE-COMPACTION, THEN CRUSHED STONE OR SIMILAR COARSE AGGREGATE MATERIALS SHALL BE ROLLED INTO THE SUBGRADE UNTIL A FIRM SUBGRADE REACTION IS ACHIEVED.
- THE GEOTECHNICAL ENGINEER SHALL DETERMINE ON SITE OR OFF SITE IMPORTED MATERIAL THAT CAN BE USED FOR ENGINEERED FILL. ALL FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
- THE PROPOSED ENGINEERED FILL MATERIALS ARE TO BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES IN LOOSE MEASURED THICKNESS. EACH LIFT IS TO BE COMPACTED AS FOLLOWS:
 - SLAB ON GRADE: MINIMUM OF 95 PERCENT MAXIMUM DENSITY BY ASTM D698.
- ALL FILL MATERIALS SHALL BE FREE OF ORGANIC CONTAMINATIONS AND OTHER DELETERIOUS MATTER.
- FOR BACK FILL AGAINST BASEMENT WALLS, RETAINING WALLS, FOOTINGS, ETC., PLACE IN 8 INCH THICK LAYERS, WITH EACH LIFT COMPACTED AT NEAR OPTIMUM MOISTURE CONTENT, UNTIL A MINIMUM IN PLACE DENSITY OF 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698 IS ACHIEVED.
- ALL SOIL SURROUNDING AND UNDER FOOTING SHALL BE PROTECTED FROM FROST ACTION AND FREEZING DURING THE COURSE OF CONSTRUCTION.
- NOTIFY STRUCTURAL ENGINEER OF ANY UNUSUAL SOIL CONDITIONS THAT ARE IN VARIANCE WITH THE GEOTECHNICAL REPORT.

PLUMBING SYMBOL AND ABBREVIATION LEGEND

SYMBOL	DESCRIPTION	ABBREVIATIONS
	SANITARY – UNDERGROUND	AFF ABOVE FINISH FLOOR CI CAST IRON CO CLEANOUT DCBP DOUBLE CHECK BACKFLOW PREVENTER
	VENT LINE	DN DOWN DS DOWN SPOUT DWG DRAWING EQ EQUIPMENT EWC ELECTRIC WATER COOLER FD FLOOR DRAIN FT FEET KW KILOWATT LAV LAVATORY MB MOP BASIN MFR MANUFACTURER MIN MINIMUM N NEW NEC NATIONAL ELECTRICAL CODE NFFA NATIONAL FIRE PROTECTION ASSOCIATION
	DOMESTIC COLD WATER	PSI POUNDS/SQUARE INCH PVC POLYVINYL CHLORIDE SQ SQUARE TPV TRAP PRIMER VALVE TYP TYPICAL UG UNDERGROUND UL UNDERWRITER'S LABORATORY VTR VENT THRU ROOF W WATTS WC WATER CLOSET WH WALL HYDRANT
	DOMESTIC COLD WATER – UNDERGROUND	
	DOMESTIC HOT WATER	
	SHUT-OFF VALVE	
	GATE VALVE	
	CHECK VALVE	
	GAS COCK	
	UNION	
	DIRECTION OF FLOW	
	DP, DN TEE LOOKING DOWN	
	UP TEE LOOKING UP	
	DP, DN ELBOW DOWN OR DROP	
	UP ELBOW UP OR RISE	
	EQUIPMENT TAG	
	SANITARY STACK DESIGNATION	
	PLUMBING FIXTURE TAG	



Lexington Cincinnati Cleveland Dallas Charleston



Revisions:
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HOWE ROAD PARK PARK IMPROVEMENTS PHASE 2

988 E HOWE ROAD
TALLMADGE, OH 44278

PLUMBING SCHEDULES

Project No.

P-6

22104

PLUMBING SPECIFICATIONS

GENERAL PROVISIONS

- THE PROVISIONS OF THE INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, ALTERNATES, ADDENDAS AND DIVISION 1 ARE A PART OF THIS SPECIFICATION. ELECTRICAL, ARCHITECTURAL, STRUCTURAL AND ALL OTHER DRAWINGS AS WELL AS THE SPECIFICATIONS FOR ALL THE DIVISIONS ARE A PART OF THE CONTRACT DOCUMENTS.
- VISIT THE SITE OF THE WORK AND BECOME FAMILIAR WITH THE CONDITIONS AFFECTING THE INSTALLATION. SUBMISSION OF A PROPOSAL SHALL PRESUME KNOWLEDGE OF SUCH CONDITIONS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED WHERE EXTRA LABOR OR MATERIALS ARE REQUIRED.
- INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, SERVICES AND PERMITS NECESSARY FOR THE PROPER COMPLETION OF ALL MECHANICAL WORK SHOWN. ITEMS OMITTED, BUT NECESSARY, TO MAKE THE MECHANICAL SYSTEM COMPLETE AND WORKABLE SHALL BE UNDERSTOOD TO BE PART OF THE WORK.
- IT IS THE PURPOSE OF THE MECHANICAL DRAWINGS TO INDICATE THE APPROXIMATE LOCATION OF ALL EQUIPMENT, PIPING, ETC. DETERMINE EXACT LOCATIONS OF EQUIPMENT AND ARRANGE WORK ACCORDINGLY. THE RIGHT IS RESERVED TO EFFECT REASONABLE CHANGES IN THE LOCATION OF EQUIPMENT, PIPING, ETC., UP TO THE TIME OF ROUGHING-IN, WITHOUT ADDITIONAL COST TO THE OWNER.
- SECURE AND PAY FOR PERMITS AND INSPECTIONS REQUIRED FOR THE MECHANICAL WORK. MAKE PAYMENTS TO ALL PUBLIC UTILITIES FOR WORK REQUIRED BY THE UTILITY.
- INSTALL WORK IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF LOCAL AND STATE CODES, AS WELL AS THE NFPA AS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- CONSULT THE DRAWINGS, PRODUCT DATA AND SHOP DRAWINGS COVERING THE WORK FOR VARIOUS OTHER TRADES, THE FIELD LAYOUTS OF THE CONTRACTORS FOR THE TRADE AND MAKE ADJUSTMENTS ACCORDINGLY IN LAYING OUT THE MECHANICAL WORK.
- WARRANT THAT EQUIPMENT AND ALL WORK IS INSTALLED IN ACCORDANCE WITH GOOD ENGINEERING PRACTICE AND THAT ALL EQUIPMENT WILL MEET THE REQUIREMENTS SPECIFIED. GUARANTEE AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS; REPAIR OR REPLACE ANY DEFECTIVE WORK, MATERIAL OR EQUIPMENT WITHIN ONE YEAR FROM DATE OF FORMAL WRITTEN ACCEPTANCE BY THE OWNER. REFRIGERATION COMPRESSORS SHALL HAVE A FIVE YEAR WARRANTY.
- PLAN WORK TO PERMIT THE CARRYING ON OF NORMAL BUSINESS FUNCTIONS. ANY SERVICE SHUTDOWNS THAT MAY BE REQUIRED SHALL BE SCHEDULED THROUGH THE OWNER AND SHALL BE DONE AT A TIME AS DIRECTED BY THE OWNER. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE SHUTDOWN PERIODS EVEN THOUGH PREMIUM-TIME WORK MAY BE REQUIRED. PROVIDE TEMPORARY SERVICE TO EQUIPMENT OR SYSTEMS THAT CANNOT BE SHUTDOWN, AS DETERMINED BY OWNER. PROVIDE A MINIMUM OF ONE WEEK'S NOTICE TO THE OWNER BEFORE ANY SERVICE SHUTDOWN IS SCHEDULED.
- BASE BIDS UPON THE SPECIFIED PRODUCTS OR LISTED ALTERNATIVES. THE DRAWINGS AND SPECIFICATIONS ARE BASED ON THE PRODUCTS SPECIFIED BY TYPE, MODEL AND SIZE AND THUS ESTABLISH MINIMUM QUALITIES WHICH SUBSTITUTES MUST MEET TO QUALIFY FOR REVIEW. WHERE ONLY ONE MAKE IS NAMED, IT SHALL BE PROVIDED. VERBAL REQUESTS OR APPROVALS SHALL NOT BE BINDING ON THE ARCHITECT, ENGINEER OR OWNER. SHOULD MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED BE PROPOSED, SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS TO THE ARCHITECT IN ACCORDANCE WITH DIVISION 1 REQUIREMENTS. INDICATE ANY ADDITIONS OR DEDUCTIONS TO THE CONTRACT PRICE. EQUIPMENT AND MATERIALS USED ON THIS PROJECT SHALL BE NEW AND UL LABELED (AS REQUIRED) FOR THE APPLICATION.
- PREPARE SHOP DRAWINGS AND PRODUCT DATA FOR ALL MECHANICAL EQUIPMENT SUCH AS: PLUMBING FIXTURES AND EQUIPMENT, AND ALL OTHER SPECIFIED SYSTEMS AND COMPONENTS. THE SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE AND NOT FOR DIMENSIONS, QUANTITIES, ETC. THE SUBMITTALS THAT ARE RETURNED SHALL BE USED FOR PROCUREMENT. THE RESPONSIBILITY OF CORRECT PROCUREMENT REMAINS SOLELY WITH THE CONTRACTOR. THE SUBMITTAL REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS AND DEVIATIONS FROM THE CONTRACT REQUIREMENTS. IF THE SUBMITTAL SHOWS VARIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS FOR ANY REASON, MAKE MENTION OF SUCH VARIATION IN THE LETTER OF TRANSMITTAL. NOTE ON THE SUBMITTAL ANY CHANGE IN DESIGN OR DIMENSION ON THE ITEMS SUBMITTED INCLUDING CHANGES MADE BY THE MANUFACTURER WHICH MAY DIFFER FROM CATALOG INFORMATION. WHERE CONTENTS OF SUBMITTAL LITERATURE INCLUDES DATA NOT PERTINENT TO THE SUBMITTAL, CLEARLY INDICATE WHICH PORTION OF CONTENT IS BEING SUBMITTED FOR REVIEW. WHERE ADDITIONAL INSTALLATION DRAWINGS OR OTHER DRAWINGS ARE SPECIFIED AS A PART OF THE SUBMITTAL, THEY SHALL BE SUBMITTED AT THE SAME TIME WITH SHOP DRAWINGS AND PRODUCT DATA. PARTIAL SUBMITTALS ARE NOT ACCEPTABLE.
- KEEP ONE COMPLETE SET OF THE CONTRACT WORKING DRAWINGS ON THE PROJECT SITE ON WHICH THE CONTRACTOR SHALL RECORD ANY DEVIATIONS OR CHANGES FROM SUCH CONTRACT DRAWINGS MADE DURING CONSTRUCTION. AFTER THE PROJECT IS COMPLETED, RECORD SETS OF DRAWINGS SHALL BE DELIVERED TO THE ARCHITECT IN GOOD CONDITION, AS A PERMANENT RECORD OF THE INSTALLATION AS CONSTRUCTED.
- ALL CONTRACTOR PERSONNEL WHO PERFORM INSTALLATION, MAINTENANCE OR REPAIR WORK WHO MIGHT HAVE THE OPPORTUNITY TO RELEASE CFC'S, HCFC'S OR HFC'S INTO THE ATMOSPHERE SHALL HAVE A UNIVERSAL CERTIFICATION AS REQUIRED BY THE ENVIRONMENTAL PROTECTION AGENCY.
- PROVIDE TO OWNER AFTER ALL EQUIPMENT IS IN OPERATION, COMPETENT INSTRUCTORS FOR THE PURPOSE OF TRAINING OWNER'S PERSONNEL IN ALL PHASES OF OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS. FURNISH FIVE COPIES OF SERVICE MANUALS CONTAINING OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT AND CONTROL.
- IDENTIFY ALL PIPING IN EXPOSED LOCATIONS, ABOVE ACCESSIBLE CEILINGS AND IN ACCESSIBLE SHAFTS WITH LABELS AND COLOR BANDS AS MANUFACTURED BY THE SETON NAMEPLATE COMPANY, MARKING SERVICES INC. OR EQUAL.

SERVICE	BAND	STRIPES
DOMESTIC COLD WATER	RED	WHITE
DOMESTIC HOT WATER	BLUE	WHITE
- IDENTIFY EACH PIECE OF EQUIPMENT WITH EITHER STENCIL OR NAMEPLATES WITH THE DESIGNATION INDICATED ON THE DESIGN DRAWINGS.
- PROVIDE AN ENGRAVED BRASS VALVE TAG ON EACH SHUT-OFF VALVE, ON RECORD DRAWINGS.
- AT ALL TIMES KEEP PREMISES AND BUILDING IN NEAT AND ORDERLY CONDITION; FOLLOW EXPLICITLY AND INSTRUCTIONS OF ARCHITECT IN REGARD TO STORING OF MATERIALS, PROTECTIVE MEASURES AND DISPOSING OF DEBRIS.
- TEST PIPING FOR LEAKS; REPAIR LEAKS IN COPPER TUBING BY SWEATING OUT JOINTS, THOROUGHLY CLEANING BOTH TUBE AND FITTING, AND RESOLDERING; CORRECT LEAKS IN SCREWED JOINTS BY REPLACING THREAD OR FITTING OR BOTH. PROVIDE CHEMICAL CLEANING FOR ALL PIPING SYSTEMS WITH APPROVED DETERGENT. PRESSURE TEST ALL PIPING SYSTEMS PER APPLICABLE CODES AND STANDARDS.
- REMOVE ALL PREVIOUSLY ABANDONED EQUIPMENT AND PIPING ENCOUNTERED ABOVE EXISTING CEILINGS IN AREA OF WORK.
- FINISH PAINTING IS INCLUDED UNDER DIVISION 9 EXCEPT WHERE SPECIFICALLY CALLED FOR ON THE DRAWINGS TO BE DONE BY THE MECHANICAL, PLUMBING OR FIRE PROTECTION CONTRACTORS.
- PROVIDE ALL CUTTING AND PATCHING IN EXISTING CONSTRUCTION AS NECESSARY FOR INSTALLATION OF THIS WORK. HAVE CUTTING DONE BY SKILLED MECHANICS IN THE TRADE.
- DEMOLITION OF EXISTING MECHANICAL EQUIPMENT IS A PART OF THIS WORK AND SHALL BE AS INDICATED.
- ALL OCCUPIED AREAS OF BUILDING SHALL REMAIN FREE FROM ODORS, FUMES, DUST AND SMOKE GENERATED FROM INSTALLATION OF MATERIAL AND EQUIPMENT. PROVIDE TEMPORARY VENTILATION AND/OR FILTRATION SYSTEMS OF SUFFICIENT SIZE AND QUANTITY TO ENSURE COMPLETE REMOVAL OF ALL AIRBORNE CONTAMINANTS GENERATED. PROVIDE TEMPORARY PARTITIONS AND AIR SEALS TO PREVENT THE MIGRATION OF AIRBORNE CONTAMINANTS FROM UNOCCUPIED AREAS TO OCCUPIED AREAS.

INSULATION

- ALL INSULATION MATERIAL (INSULATION, JACKETS, ADHESIVES, CEMENTS, MASTICS, SEALERS COATINGS AND FINISHES) SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS AS TESTED UNDER PROCEDURE ASTM E-84, NFPA 255 AND UL 723, NOT EXCEEDING A FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50.
- PROVIDE INSULATION PRODUCTS AS MANUFACTURED BY OWENS-CORNING, ARMSTRONG, CERTAIN TEED OR KNAUF. ADHESIVES SHALL BE BENJAMIN FOSTER OR EQUAL.
- ALL INSULATION SHALL BE INSTALLED OVER CLEAN DRY SURFACES. INSULATION MUST BE DRY AND IN GOOD CONDITION. WET OR DAMAGED INSULATION WILL NOT BE ACCEPTABLE. NO INSULATION SHALL BE APPLIED PRIOR TO PRESSURE TEST COMPLETION OF THE RESPECTIVE PIPING SYSTEMS.
- ALL INSULATION SHALL BE CONTINUOUS THROUGH ALL WALL AND CEILING OPENINGS, SLEEVES AND PIPE HANGER LOCATIONS, EXCEPT THROUGH FIRE RATED WALL AND FLOORS.
- INSULATE VALVE BONNETS, UNIONS, STRAINERS ON DOMESTIC WATER PIPING.
- ALL INSULATION PRODUCTS SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS AND THIS SPECIFICATION. THE WORKMANSHIP SHALL BE FIRST CLASS AND ALL JOINTS SHALL BE MADE TIGHT.
- REPAIR EXISTING PIPE, AND EQUIPMENT INSULATION WHERE REMOVED; TO MAKE NEW CONNECTIONS, TO ADD TEMPERATURE CONTROLS, OR WHERE DAMAGED BY NEW CONSTRUCTION. INSULATION SHALL BE THE SAME AS SPECIFIED FOR NEW SERVICE.
- WHERE EXISTING ASBESTOS INSULATION IS DISCOVERED OR SUSPECTED NOTIFY THE BUILDING OWNER IMMEDIATELY SO IT CAN BE REMOVED UNDER A SEPARATE "ASBESTOS REMOVAL CONTRACT" DIRECT WITH THE OWNER.
- INSULATE ANY EXPOSED WATER PIPING UNDER LAVATORY WITH TRUEBRO PROTECTIVE COVERING OR APPROVED EQUAL.
- THE FOLLOWING PIPE SYSTEMS SHALL BE INSULATED WITH OWENS-CORNING FIBERGLASS : ASJ/SSL-II HEAVY DENSITY ONE-PIECE PIPE INSULATION. THICKNESS OF INSULATION SHALL BE AS NOTED BELOW. PIPE INSULATION EXPOSED TO THE WEATHER SHALL BE COVERED WITH A TACK COAT OF BENJAMIN FOSTER 60-60N, A LAYER OF GLASS CLOTH/MESH IMBEDDED IN WET MASTIC AND WHEN DRY, COVER WITH A SECOND COAT OF MASTIC. PROVIDE ALUMINUM JACKETING 0.016 INCH ON STRAIGHT RUNS WITH FITTINGS TO MATCH.

SERVICE	PIPE SIZE	INSULATION THICKNESS
DOMESTIC COLD WATER,	ALL SIZES	1/2"
DOMESTIC HOT WATER	2" AND SMALLER	1"

PIPING AND VALVES

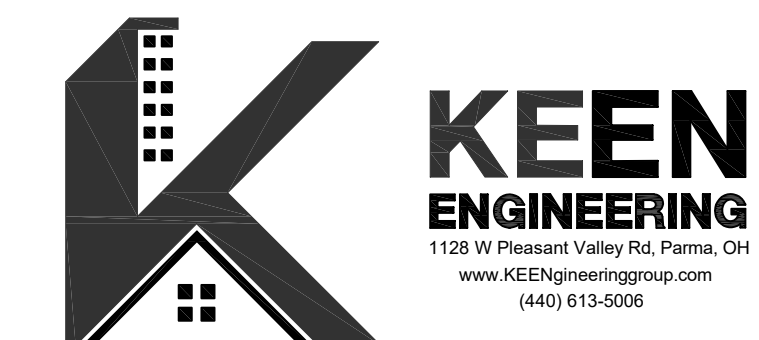
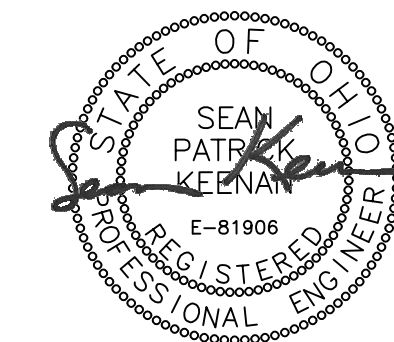
- FURNISH ALL MATERIAL, LABOR, EQUIPMENT, AND ACCESSORIES AS REQUIRED TO INSTALL COMPLETE PLUMBING SYSTEMS AS INDICATED ON MECHANICAL DRAWINGS AND IN THESE SPECIFICATIONS.
- INSTALL IN FULL ACCORDANCE WITH LOCAL CODE REQUIREMENTS, OTHER SPECIFICATION SECTION REQUIREMENTS AND MANUFACTURER'S RECOMMENDATIONS.
- CONNECTIONS TO EQUIPMENT FURNISHED BY OTHERS.
- PROVIDE VALVED WATER AND/OR GAS CONNECTION FOR EQUIPMENT FURNISHED BY OTHER CONTRACTORS OR OWNER.
- INCLUDE ACCESSORIES REQUIRED BY CODE, DRAWING OR MANUFACTURER'S INSTRUCTIONS.
- FULLY COORDINATE WITH KITCHEN EQUIPMENT AND LAUNDRY SUPPLIERS AND CONFIRM ALL ROUGH-IN REQUIREMENTS PRIOR TO STARTING WORK.
- HANGERS, ANCHORS, CLAMPS AND INSERTS.
 - PROVIDE ADJUSTABLE CLEVIS HANGERS FOR PIPING 2" AND LARGER, AND CAST BRASS SPLIT-RING HINGED HANGERS FOR SMALLER PIPING. SUPPORT PIPING FROM BUILDING STRUCTURE TO MAINTAIN REQUIRED GRADE AND PITCH OF PIPE LINES, PREVENT VIBRATION, AND SECURE PIPING IN PLACE. SECURE HANGERS TO INSERTS WHERE PRACTICAL. HANGER RODS SHALL HAVE MACHINE THREADS.
 - HANGER RODS SHALL BE CONNECTED TO BEAM CLAMP, UL-APPROVED CONCRETE INSERTS, PHILLIPS, OR APPROVED EQUAL EXPANSION SHIELDS. RAMSET OR POWER DRIVEN INSERTS WILL BE NOT BE ALLOWED.
 - HANGER SPACING SHALL MEET REQUIREMENTS OF STATE AND LOCAL CODES.
- SANITARY SEWERS AND VENT SYSTEMS
 - INSTALL SANITARY SEWERS, STACKS, VENTS, DRAINS, CLEANOUTS, ETC., AS INDICATED ON THE DRAWINGS.
 - SEWERS TO BE PITCHED A MINIMUM OF 1/4" PER FOOT FOR 3" SIZES AND UNDER AND 1/8" PER FOOT FOR 4" SIZES AND LARGER OR TO GRADES INDICATED ON DRAWINGS.
 - CHANGES IN DIRECTION AND BRANCH CONNECTIONS SHALL BE MADE WITH APPROVED DRAINAGE FITTINGS COMPATIBLE WITH THE PIPING SYSTEM MATERIAL IN WHICH IT IS INSTALLED.
 - ALL FIXTURES AND SANITARY DRAINS SHALL BE VENTED AS INDICATED ON DRAWINGS AND IN ACCORDANCE WITH CODE.
 - VENTS ARE TO BE EXTENDED THROUGH ROOF AS INDICATED ON DRAWINGS AND FLASHED WITH 4 LB. LEAD WITH VENT FLASHING TOP TURNED DOWN TWO (2) INCHES MINIMUM INSIDE PIPE.
 - PVC PIPING SHALL NOT BE INSTALLED UNLESS PERMITTED BY CODE AND SHALL NOT BE INSTALLED IN RETURN AIR PLENUMS.
- SANITARY SEWERS AND VENT MATERIAL SHALL BE AS FOLLOWS:
 - BELOW GRADE STORM AND SANITARY SEWERS INSIDE BUILDING.
 - SERVICE WEIGHT - CAST IRON PIPE ASTM A-74-82 WITH ASTM C-564-70 NEOPRENE COMPRESSION JOINTS OR NO-HUB WITH CLAMPS.
 - PVC-DWV PLASTIC ASTM D-1785 WITH ASTM D-2665 DWV SOLVENT WELD SOCKET FITTINGS.
 - ABOVE GRADE SANITARY SEWERS AND VENT MATERIAL SHALL BE AS FOLLOWS:
 - NO-HUB CAST IRON PIPE CISPI 1-301-78.
 - PVC-DWV PLASTIC ASTM D-1785 WITH ASTM D-2665 DWV SOLVENT WELD SOCKET FITTINGS.
 - SCH. 40 GALVANIZED STEEL PIPE ASTM A-120-83 WITH CAST IRON SCREWED FITTINGS ANSI B-16.22 1983.

- DOMESTIC WATER PIPING
 - INSTALL DOMESTIC WATER PIPING AS INDICATED ON DRAWINGS. INCLUDE ALL FITTINGS, VALVES, HANGERS, AND OTHER ACCESSORIES INCLUDING WATER METER AND BACKFLOW PREVENTER. EXTEND DOMESTIC WATER PIPING TO ALL FIXTURES AND EQUIPMENT REQUIRED FOR COMPLETE INSTALLATION.
 - INCLUDE UNIONS, OR OTHER DISCONNECT MEANS, STOPS OR VALVES FOR ISOLATION OF FIXTURES AND EQUIPMENT. VALVES TO BE FULLY COMPATIBLE WITH PIPING FOR SERVICE INTENDED AS MANUFACTURED BY NIBCO, CRANE OR MILWAUKEE. INCLUDE HOSE OR DRAIN VALVES AT LOW POINTS WHERE FIXTURES CANNOT BE USED FOR DRAINAGE.
 - INSTALL SHOCK ABSORBERS AT EACH QUICK CLOSING FIXTURE AND WHERE REQUIRED TO PREVENT WATER HAMMER AS MANUFACTURED BY J.R. SMITH, SIOUX CHIEF OF ZURN.
 - HANGERS ON INSULATED PIPE TO BE OUTSIDE OF INSULATION, SIZED ACCORDINGLY AND WITH A SUFFICIENT SADDLE TO PROTECT INSULATION AS MANUFACTURED BY GRINNELL OR MICHIGAN.
 - DOMESTIC WATER PIPING SHALL BE AS FOLLOWS:
 - ABOVE GRADE - TYPE "L" HARD COPPER ASTM B 88-832 WITH WROUGHT COPPER FITTINGS ASTM B 16.22 1980 AND NON-LEAD OR ANTIMONY SOLDER JOINTS.
 - BELOW GRADE - TYPE "K" SOFT COPPER WITHOUT JOINTS.
 - FLUSH, VENT AND SANITIZE ALL WATER PIPING WITH CHLORINE AS REQUIRED PER AWWA, LOCAL BUILDING DEPARTMENT AND HEALTH DEPARTMENT CODES.
 - DOMESTIC HOT AND COLD WATER PIPING UNDER CONCRETE FLOOR TO BE COVERED WITH SAND SO THAT PIPING WILL NOT BECOME EMBEDDED IN THE FLOOR SLAB.
 - EXTREME CAUTION MUST BE TAKEN SO THAT NO COPPER PIPING AND INSULATION UNDER CONCRETE FLOORS BECOMES CRUSHED, CUT, SPLIT OR DEFORMED DURING THE POURING OF THE FLOOR SLAB.
 - VALVES:
 - BRANCH WATER LINES TO BE CRANE 1320 ALL BRONZE UP TO AND INCLUDING 2" IN SIZE. VALVES MAY BE FAIRBANKS, JENKINS BROS., OR EQUAL.
 - BALL VALVES - 2" AND SMALLER MILWAUKEE VALVE COMPANY #BA-100
 - SHUT-OFF VALVES SHALL BE PLACED IN ALL HOT AND COLD WATER SUPPLY CONNECTIONS TO ALL FIXTURES.
 - CHECK VALVE - 2" AND SMALLER CRANE #37.
 - BALANCE VALVE - BELL & GOSSETT "CIRCUIT SETTER"

- DISINFECTION OF WATER SYSTEMS
 - WATER PIPING SYSTEMS SHALL BE THOROUGHLY DISINFECTED WITH A SOLUTION CONTAINING NO LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE. CHLORINATING MATERIALS SHALL BE EITHER LIQUID CHLORINE OR SODIUM HYPOCHLORITE SOLUTION, SHALL BE INTRODUCED INTO THE SYSTEM AND DRAWN TO ALL POINTS IN THE SYSTEM. DISINFECTION SOLUTION SHALL BE ALLOWED TO REMAIN IN SYSTEM FOR 24 HOURS, DURING THIS TIME, VALVES AND FAUCETS SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER DISINFECTION, SOLUTION SHALL BE FLUSHED FROM THE SYSTEM WITH CLEAR WATER UNTIL RESIDUAL CHLORINE CONTENT IS NO GREATER THAN 0.2 PARTS PER MILLION.
 - PLUMBING CONTRACTOR SHALL FURNISH & INSTALL ALL MATERIAL, FIXTURES & LABOR WHICH IS NEITHER DRAWN NOR SPECIFIED, BUT WHICH IS OBVIOUSLY A COMPONENT PART OF, AND NECESSARY TO COMPLETE WORK, AND WHICH IS CUSTOMARILY A PART OF WORK OF SIMILAR CHARACTER.



Lexington Cincinnati Cleveland Dallas Charleston



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