A NEW SENIOR WELLNESS CENTER 2829 W. Meighan Boulevard for the City of Gadsden, Alabama Gadsden Bid Request 3485

Sherman Guyton, Mayor

SCHEDULE OF DRAWINGS:		GENERAL NOTES (APPLICABLE TO ALL DWG'S)	ARCHITECT:		
LE SHEET	STRUCTURAL	This Contractor shall verify these Drawings with existing field dimensions & conditions that affect new work under this Contract. Do not scale Drawings. If dimensions are in question,	A	RCHITECT	
CIVIL SURVEY C1.0 of 15 DEMOLITION PLAN C2.0 of 15 SITE PLAN C3.0 of 15 GRADING PLAN C4.0 of 15 STORM PLAN C5.0 of 15 UTILITY PLAN	S1.0 of 06 GENERAL NOTES S1.1 of 06 GENERAL NOTES S2.0 of 06 FOUNDATION & FLOOR PLAN S2.1 of 06 ROOF FRAMING PLAN S3.0 of 06 BRACED BAYS & TYPICAL DETAILS S7.0 of 06 SECTIONS	 obtain clarification from Architect prior to proceeding with the work. All dimensions relative to existing construction/conditions shall be considered approximate only(+/-). Minor discrepancies shall not relieve the Contractor from completing the work in accordance with the intent set forth. Upon discovery of existing conditions appreciably different from those shown or indicated, notify the Architect or Engineer immediately for further instructions. 2. Restore existing site improvements (shown to remain) where damaged by construction work, where new items are installed in or on a surface, and where existing items are removed. 3. Verify exact location of existing utility lines prior to commencing work. 4. See CIVIL, MECHANICAL & ELECTRICAL drawings for routing and/or connection of new or existing 	THOMAS M. McELRATH, ARCHITECT THOMAS M. McELRATH, PROJECT ARCHITECT 717 MERIT SPRINGS ROAD GADSDEN, ALABAMA 35901 PHONE: (256) 490-8244 EMAIL: tom@tmm-architect.com		
.0 of 15 EROSION CONTROL PLAN .0 of 15 DETAILS	PLUMBING	items relative to each trade. 5. Traffic: Conduct construction operations to ensure minimum interference with drives, walks, roads and adjacent occupied homes and other facilities.			
7.1 of 15 DETAILS 7.2 of 15 DETAILS 7.3 of 15 DETAILS 7.4 of 15 DETAILS 7.5 of 15 DETAILS 7.6 of 15 DETAILS 7.7 of 15 DETAILS	FP0.1 of 06 FIRE PROTECTION—SCHEDULES AND DETAILS FP1.1 of 06 FIRE PROTECTION—FLOOR PLAN P0.1 of 06 PLUMBING—SCHEDULES, NOTES & DETAILS P0.2 of 06 PLUMBING RISERS P1.1 of 06 NON—PRESSURE FLOOR PLAN P2.2 of 06 PRESSURE FLOOR PLAN	6. Ensure safe passage of persons around area of construction. Conduct operations to prevent injury to persons, adjacent property and other improvements. 7. See Notes and Specifications for disposal of all rubbish and debris.	CONSULTANTS:	PLUMBING & MECHANICAL	
7.8 of 15 DETAILS	MECHANICAL		MBA ENGINEERS, INC.	DEWBERRY ENGINEERING, INC	
1.0 of 18 MISCELLANEOUS SITE DETAILS 2.0 of 18 LIFE SAFETY PLAN 2.1 of 18 ARCHITECTURAL NOTES—FLOOR PLAN 2.2 of 18 DIMENSIONS—FLOOR PLAN 2.3 of 18 REFLECTED CEILING PLAN 3.0 of 18 SCHEDULES AND DETAILS—SHEET ONE 3.1 of 18 SCHEDULES AND DETAILS—SHEET TWO 4.0 of 18 ELEVATIONS	M0.1 of 09 MECHANICAL LEGEND AND SCHEDULES M0.2 of 09 MECHANICAL SCHEDULES AND CONTROLS M0.3 of 09 MECHANICAL DETAILS M0.4 of 09 MECHANICAL DETAILS M0.5 of 09 MECHANICAL OSA CALCULATIONS M0.6 of 09 MECHANICAL OSA CALCULATIONS M1.1 of 09 HVAC-FLOOR PLAN M1.2 of 09 HVAC-ROOF PLAN M2.1 of 09 PIPING-FLOOR PLAN		KEITH OWENS, P.E. 300 20th NORTH, SUITE 100 BIRMINGHAM, AL 35203 PHONE: (205) 323-6385 FAX: (205) 324-0698	WADE STEWART, P.E. SCOTT CARLISLE, P.E. 158 BUSINESS CENTER DRIVE BIRMINGHAM, AL 35244 PHONE: (205) 988–2069 FAX: (205) 988–2065 ELECTRICAL	
0 of 18 ROOF PLAN 1 of 18 ROOF DETAILS	ELECTRICAL		MBA ENGINEERS, INC.	THE EE GROUP, INC.,	
5.0 of 18 CROSS SECTIONS—SHEET ONE 5.1 of 18 CROSS SECTIONS—SHEET TWO 5.2 of 18 CROSS SECTIONS—SHEET THREE 7.0 of 18 WALL SECTIONS—SHEET ONE 7.1 of 18 WALL SECTIONS—SHEET TWO 7.2 of 18 WALL SECTIONS—SHEET THREE	E0.1 of 10 ELECTRICAL LEGEND E0.2 of 10 ELECTRICAL SCHEDULES AND DETAILS E0.3 of 10 AUXILIARY DETAILS E0.4 of 10 ELECTRICAL DETAILS—1 E0.5 of 10 ELECTRICAL DETAILS—2 E0.6 of 10 ELECTRICAL SINGLE LINE DIAGRAM		KEITH OWENS, P.E. 300 20th NORTH, SUITE 100 BIRMINGHAM, AL 35203 PHONE: (205) 323-6385 FAX: (205) 324-0698	JAY MORGAN, P.E. 1521 RAINBOW DRIVE GADSDEN, AL 35901 PHONE: (256) 413-7717 FAX: (256) 413-7789	

A8.0 of 18 LARGE SCALE PLANS & SCHEDULES

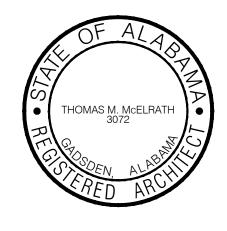
A8.1 of 18 INTERIOR ELEVATIONS

E1.0 of 10 FLOOR PLAN-LIGHTING

E4.0 of 10 SITE PLAN-ELECTRICAL

E3.0 of 10 FLOOR PLAN-M&P CONNECTIONS

E2.0 of 10 FLOOR PLAN-POWER

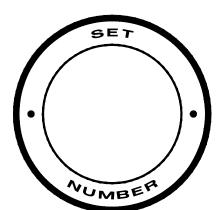


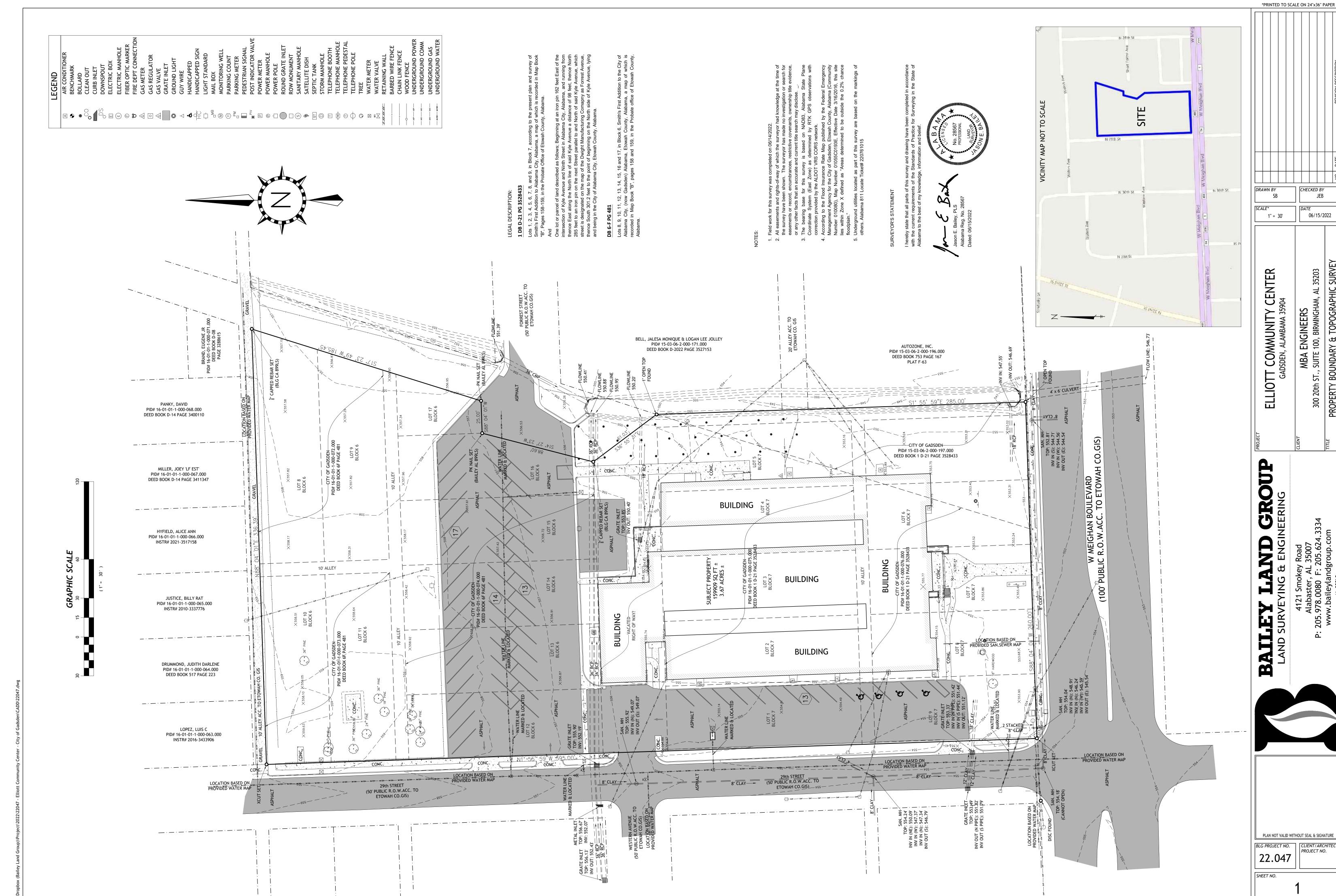
TITLE SHEET

AS NOTED SEPTEMBER 15, 2022

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06/15/2022

PLAN NOT VALID WITHOUT SEAL & SIGNATURE BLG PROJECT NO. CLIENT/ARCHITECT PROJECT NO.

DEMOLITION NOTES

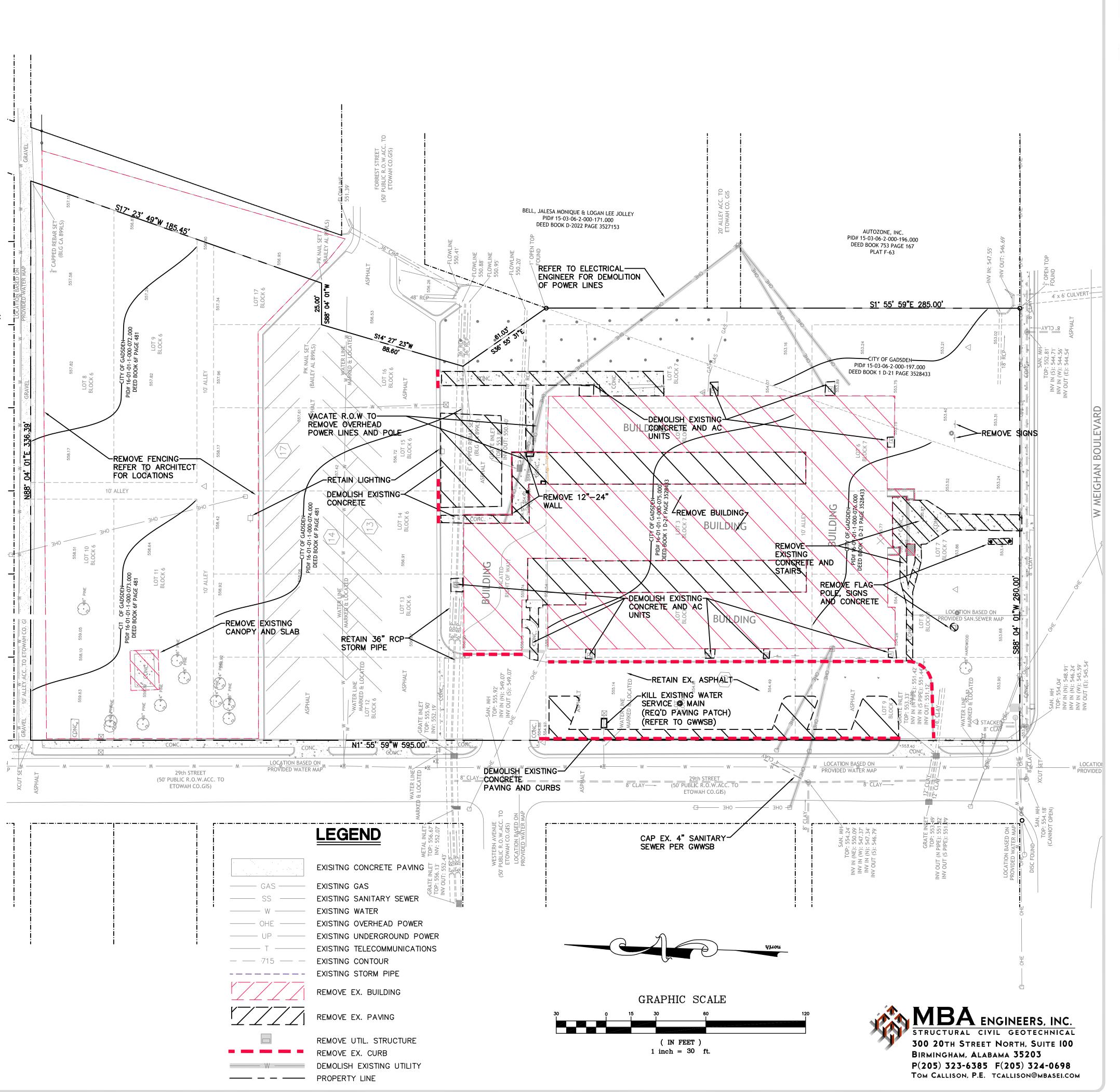
- THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES AND PIPING WHICH MIGHT INTERFERE WITH DEMOLITION. ANY DAMAGES TO UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL TREES, VEGETATION, SLABS, FOOTINGS, AND DEBRIS REQUIRED FOR PROPOSED CONSTRUCTION (PER THE OWNER AND ENGINEER).
- 3. ALL EXISTING PUBLIC SIDEWALKS IN PUBLIC RIGHT OF WAY ARE TO REMAIN IN PLACE AND TO REMAIN OPEN FOR PEDESTRIAN TRAFFIC DURING DEMOLITION.
- 4. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES BEFORE DEMOLITION AND VERIFYING LOCATION OF ALL UTILITIES SHOWN OR NOT SHOWN.
- 5. THE CONTRACTOR SHALL ATTEMPT TO SAVE ALL TREES ON THE PROPERTY. IN THE EVENT THE CONTRACTOR BELIEVES IT NECESSARY TO REMOVE A TREE, HE/SHE SHALL NOTIFY THE ENGINEER IMMEDIATELY. IN THE EVENT OF ENGINEER/OWNER OWNER APPROVAL, THE TREE TO BE DEMOLISHED SHALL BE CLEARED AND GRUBBED. NO BURNING SHALL BE ALLOWED ON OWNER'S PROPERTY.
- 6. TREES TO BE DEMOLISHED SHALL BE CLEARED AND GRUBBED. NO BURNING SHALL BE ALLOWED ON OWNER'S PROPERTY.
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND COST OF THE RELOCATION OF ALL UTILITIES ALONG THE RIGHT-OF-WAY AND ON THE SITE ASSOCIATED WITH THE DEMOLITION OF THIS PROJECT, SUCH AS, BUT NOT LIMITED TO, SIGNAL POLES, SIGNAL CONTROLS, DRAINAGE STRUCTURES, TRAFFIC SIGNS, UTILITY POLES, GUY WIRES, ETC.
- 8. ALL WATER WORK & MATERIALS SHALL MEET GWWSB STANDARDS AND SPECIFICATIONS.
- 9. CONTRACTOR SHALL COORDINATE WITH SPIRE TO REMOVE ALL GAS SERVICES AND METERS TO THE BUILDINGS.
- 10. CONTRACTOR SHALL RESTORE THE SITE TO A CONDITION ACCEPTABLE TO THE OWNER.
- 11. CONTRACTOR TO VERIFY ACTUAL LIMITS OF DEMOLITION.
- 12. ALL EXISTING ASPHALT TO BE REMOVED MUST BE SAW-CUT AT THE EDGES TO REMAIN.
- 13. ALL CONCRETE TO BE REMOVED SHALL BE SAW-CUT OR REMOVED TO THE NEAREST JOINT.
- 14. ADJUST ALL MANHOLE AND VALVE BOXES THAT ARE TO REMAIN TO FINAL GRADE.
- 15. CONTRACTOR SHALL PROVIDE AN AS-BUILT DESIGN SURVEY OF THE DEMOLISHED SITE, INCLUDING TOPOGRAPHIC AND UTILITY INFORMATION.
- 16. THE FINISHED SITE SHALL BE CLEAR OF ALL DEBRIS. THE CONTRACTOR SHALL SEED AND MULCH THE ENTIRE SITE. WATER AS NEEDED IN ORDER TO ACHIEVE A THOROUGH AND CONSISTENT GROUND COVER THAT IS ACCEPTABLE TO OWNER.
- 17. ALL EXCAVATED MATERIAL MUST BE HAULED OFF OF THE SITE.
- 18. PRIOR TO REMOVING BUILDING CONFIRM ALL WORK AND DEMOLITION PLAN IS APPROVED WITH GWWSB AND ALL UTILITIES ARE CAPPED OR REMOVED AS REQUIRED BY THE CITY OF GADSDEN UTILITIES

GENERAL NOTES

- 1. THE CONTRACTOR SHALL BE IN POSSESSION OF ALL REQUIRED PERMITS PRIOR TO ANY CONSTRUCTION EFFORTS.
- 2. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN THE FIELD AND SHALL LOCATE ON THE GROUND WITH PAINT OR OTHER EASILY VISIBLE MEANS ALL UNDERGROUND UTILITIES PRIOR TO ANY CONSTRUCTION EFFORTS. CONFLICTS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER IMMEDIATELY. THE UNDERGROUND UTILITIES SHOWN BY THE SURVEY WERE MADE BY OTHERS, AND ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
- 3. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES CONCERNING CONFLICTS, RELOCATION, REMOVAL, AND INTERRUPTIONS OF SERVICE. THE WORK REQUIRED TO RELOCATE, REMOVE, INSTALL, REPLACE, ETC. UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WITHIN THE LIMITS OF WORK.
- 4. THE CONTRACTOR SHALL PRESERVE AND PROTECT ACCORDING TO THE INSTRUCTIONS OF THE UTILITY INVOLVED, ANY 'LIVE' UTILITIES LOCATED BY THE UTILITY COMPANY OR THE CONTRACTOR.
- 5. ANY CHANGES OR REVISIONS MADE TO THE PLANS SHALL BE OFFICIALLY SUBMITTED TO THE ENGINEER, THE AFFECTED UTILITIES AND ALL OTHER PERTINENT AGENCIES. APPROVAL OF CHANGES MUST BE RECEIVED BEFORE THE CONTRACTOR PERFORMS THE REQUESTED CHANGES/REVISIONS OR THEY WILL BE AT THE CONTRACTOR'S RISK.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXTENT, LOCATION AND ELEVATION OF THE EXISTING IMPROVEMENTS. IF ANY SIGNIFICANT DIFFERENCE IN SITE CONDITION OR ELEVATION IS FOUND, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL CONCRETE, SIDEWALKS, WALLS, ETC. DAMAGED DURING CONSTRUCTION. ALL DISTURBED AREAS WITHIN PUBLIC RIGHTS OF WAY SHALL BE RESTORED TO THE ORIGINAL CONDITION OR AS ACCEPTED BY A CITY INSPECTOR (PUBLIC IMPROVEMENTS) OR THE OWNER (PRIVATE IMPROVEMENTS).
- 8. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL TRAFFIC CONTROL MEASURES FOR WORK IN AND ALONG EXISTING ROADS.
- 9. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL SIGNAGE AND SAFETY MEASURES BEFORE ANY WORK IN STREET OR BLOCKAGES THEREOF. THE CONTRACTOR SHALL PROVIDE APPROPRIATE SIGNAGE AND SAFETY MEASURES BEFORE ANY WORK ON THE SIDEWALK. ALL WORK MUST BE PERMITTED WITH THE CITY TRAFFIC ENGINEERING OFFICE.
- 10. PROJECT WORK IS TO TAKE PLACE IN AN ACTIVE PEDESTRIAN AREA. CONTRACTOR SHALL TAKE EVERY PRECAUTION FOR THE SAFETY OF THE PEDESTRIAN DURING WORK HOURS AND WHILE THE CONTRACTOR IS NOT PRESENT.
- 11. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION SITE SAFETY. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY.
- 12. THE CONTRACTOR SHALL CHECK THE ARCHITECTURAL PLANS WITH THE SITE PLAN FOR ANY DISCREPANCIES BEFORE WORK BEGINS. THE ENGINEER IS NOT RESPONSIBLE FOR CHANGES AFTER PLANS HAVE BEEN SUBMITTED OR CHANGES MADE DURING CONSTRUCTION.
- 13. ALL PROPERTY CORNERS OBLITERATED DURING CONSTRUCTION SHALL BE RESET WITH STANDARD IRON PIN SURVEY MONUMENTS.
- 14. CONTRACTOR MUST HAVE OWNER'S APPROVAL PRIOR TO REMOVING TREES AND SHRUBS NOT SHOWN TO BE REMOVED.
- 15. CONTRACTOR TO INSTALL CONDUIT CONNECTING ALL LANDSCAPE AREAS FOR IRRIGATION AND POWER.
- 16. ALL IRRIGATION LINES ENCOUNTERED IN PROJECT AREA SHALL BE PRESERVED, RE—ROUTED, OR REPAIRED SO THAT THE IRRIGATION SYSTEM FUNCTIONS TO THE SATISFACTION OF THE OWNER. THE MAIN IRRIGATION LINES SHALL BE INSTALLED WITHIN PVC CONDUITS UNDER THE PROPOSED PAVING AND SIDEWALK AREAS. FIELD VERIFY LOCATIONS. UNLESS OTHERWISE APPROVED, ALL IRRIGATION LINES DAMAGED OR REMOVED DURING CONSTRUCTION MUST BE CAPPED WHEN DAMAGED AND RECONNECTED/REPAIRED WITHIN 48 HOURS AS TO NOT IMPACT IRRIGATED AREAS.
- 17. ANY QUESTIONS OR COORDINATION ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER IMMEDIATELY.
- 18. THE WORK REQUIRED TO RELOCATE, REMOVE, INSTALL, REPLACE, ETC. UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WITHIN THE LIMITS OF WORK.

RESURVEY OF PROPERTY

- 1. THE EXISTING PROJECT SITE HAS 20 PARCELS THAT DIVIDE THE PROPERTY AS WELL AS MULTIPLE 10-FOOT, AND A 50-FOOT RIGHT OF WAY PASSING THROUGH THE PROPERTY.
- 2. MBA ENGINEERS RECOMMENDS A SURVEY BE PERFORMED TO CONSOLIDATE THE PROPERTY AND VACATE THE EXISTING RIGHT OF WAYS.





4OMAS M. MCELRATH, ARCHITE

ARCHITECTURE and SPACE PLANNIN

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244

at

2829 W. Meighan Boulevard
for
THE CITY of GADSDEN, ALABAMA

DEMOLITION PLAN

CONSTRUCTION DOCUMENTS

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SCALE
AS NOTED
DATE
SEPTEMBER 15, 2022

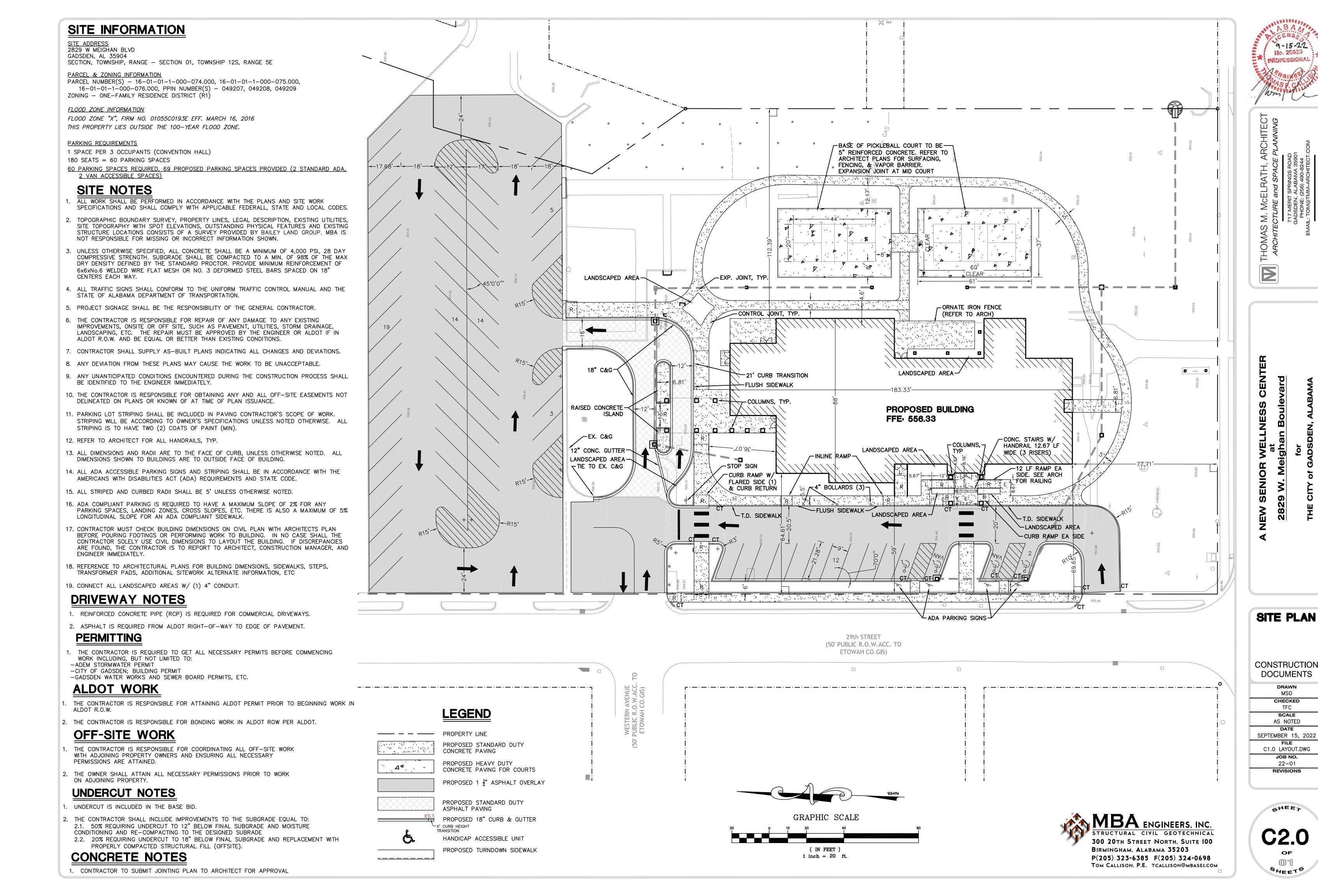
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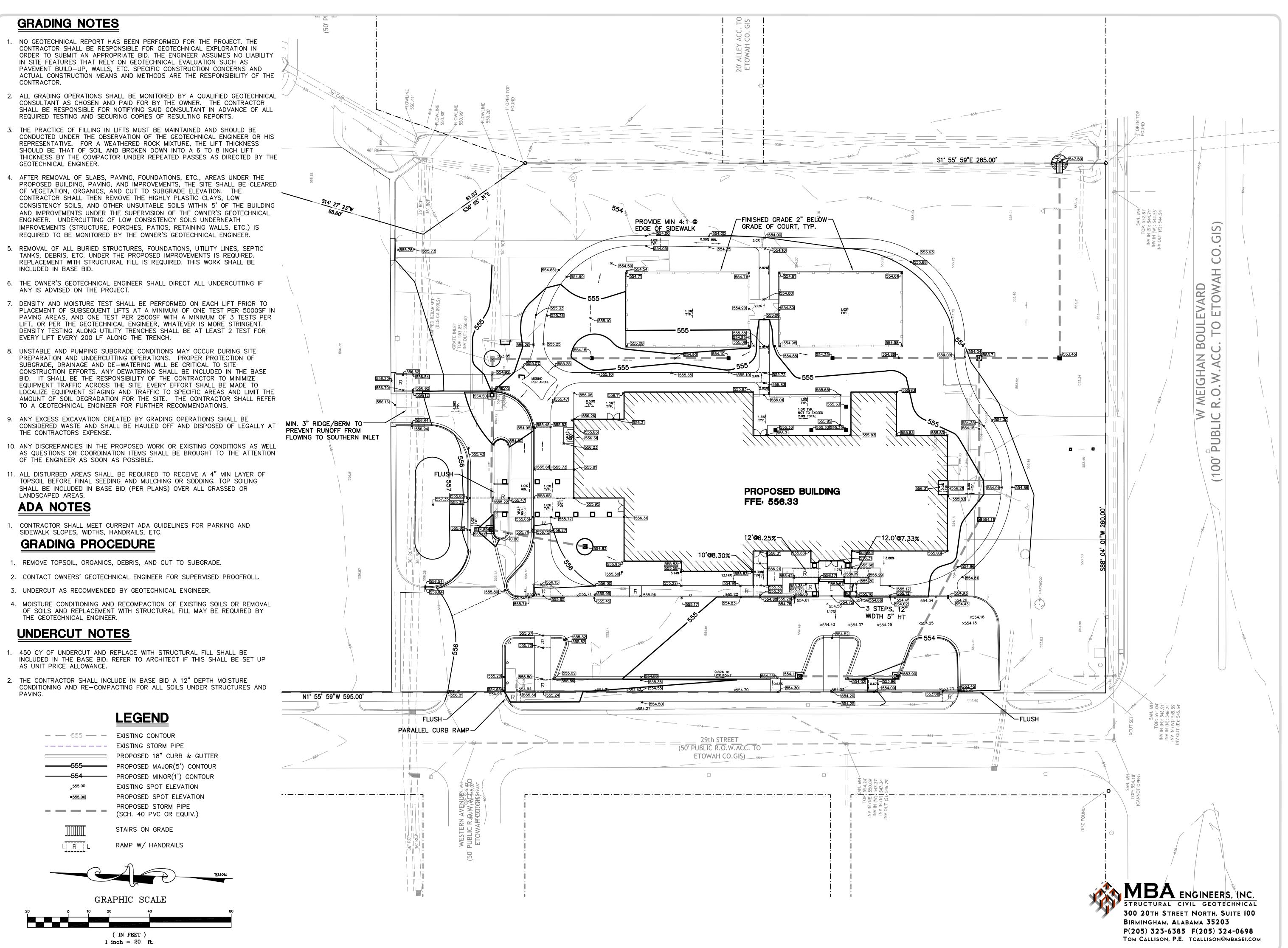
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AS M. MCELRATH, ARCHITE

TECTURE and SPACE PLANNIN

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244

ARCHI

NEW SENIOR WELLNESS CENT at 2829 W. Meighan Boulevard for

GRADING PLAN

CONSTRUCTION DOCUMENTS

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DRAINAGE NOTES DRAINAGE PROBLEMS. SEDIMENT CONTROL.

- 1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BUILD A SITE FREE OF
- 2. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DRAINAGE AWAY FROM THE PROPOSED BUILDING AND COURTS. THERE SHALL BE NO PONDING OF WATER ON THE SITE UNLESS DIRECTED BY THE ENGINEER FOR EROSION AND
- 3. ALL DRAINAGE STRUCTURES, INLETS BOXES, MANHOLES, ETC. SHALL BE POURED IN PLACE OR PRECAST CONCRETE. BRICK WILL ONLY BE ALLOWED TO ADJUST GRADE ON STORM & SANITARY MANHOLES, ETC. THE MAXIMUM ALLOWABLE HEIGHT OF BRICK SHALL BE 11 INCHES.
- 4. ALL DRAINAGE STRUCTURES, INLET BOXES, AND CATCH BASINS SHALL HAVE 2" WEEP HOLES FORMED, OR DRILLED, ON ALL SIDES WHERE DRAINAGE PIPES DO NOT CONFLICT WITH THEM. ALL WEEP HOLES SHALL HAVE GRAVEL WRAPPED WITH FILTER FABRIC AT THEIR INTERFACE WITH BACKFILL TO AID GROUNDWATER FLOW TO THE WEEP HOLE.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT PHASING AND SHALL PROVIDE THE NECESSARY TEMPORARY PIPE CONNECTIONS, DIVERSIONS, STUB-OUTS, CONNECTIONS, ETC. REQUIRED FOR COMPLETION OF PROJECT
- 6. ALL STORM PIPE UNDER PAVEMENT SHALL BE BACKFILLED FULL-DEPTH WITH CRUSHED STONE.
- 7. THE ROOFDRAIN LEADER COLLECTION PIPE NETWORK SHALL HAVE 4" CLEANOUTS AT THE UPSTREAM END OF THE LINES AND AT 100' MIN. SPACINGS. CONTRACTOR TO FIELD LOCATE.
- 8. ALL DOWNSPOUTS SHALL BE CONNECTED TO UNDERGROUND STORM SYSTEM W/ WATER-TIGHT CONNECTIONS AND STAINLESS FERNCO CONNECTIONS.

PIPE MATERIALS

- ALL STORM PIPE IN THE PUBLIC RIGHT-OF-WAY AND PRIVATE DRIVES-ACCESS EASEMENTS SHALL BE CLASS 3 REINFORCED CONCRETE PIPE (RCP).
- 2. 4-12" DIAMETER STORM PIPING AND ROOF DRAIN LEADER PIPING SHALL BE PVC SCHEDULE 40 (SCH. 40), A-2000 PVC PIPE, OR SDR 35 PVC UNLESS SPECIFIED ON THE PLANS.
- 3. ALL STORM PIPE 15" DIAMETER AND LARGER SHALL BE N-12 HDPE DOUBLE WALL SMOOTH WALL PIPE, A-2000 PVC PIPE, OR ULTRA-FLOW ALUMINIZED STEEL PIPE, UNLESS SPECIFIED ON THE PLANS.
- 4. ALL AREA DRAINS IN LANDSCAPED OR NON PAVED AREAS SHALL BE PROVIDED WITH CAST-IRON REMOVABLE GRATE PROVIDED WITH AT LEAST 12" CONC. SURROUND FOR MAINTENANCE PURPOSES.

COMBINATION CURB INLET NOTES

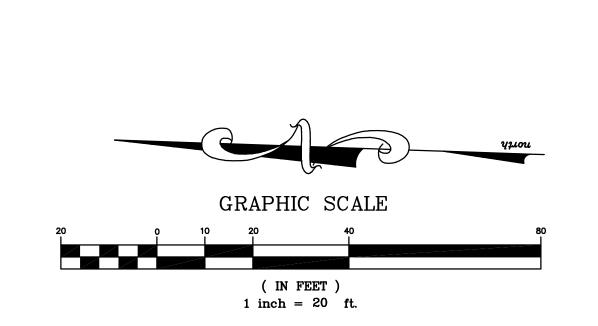
COMBINATION CURB OPENING INLETS SHALL BE EJ 7035 (OR APPROVED EQUAL)

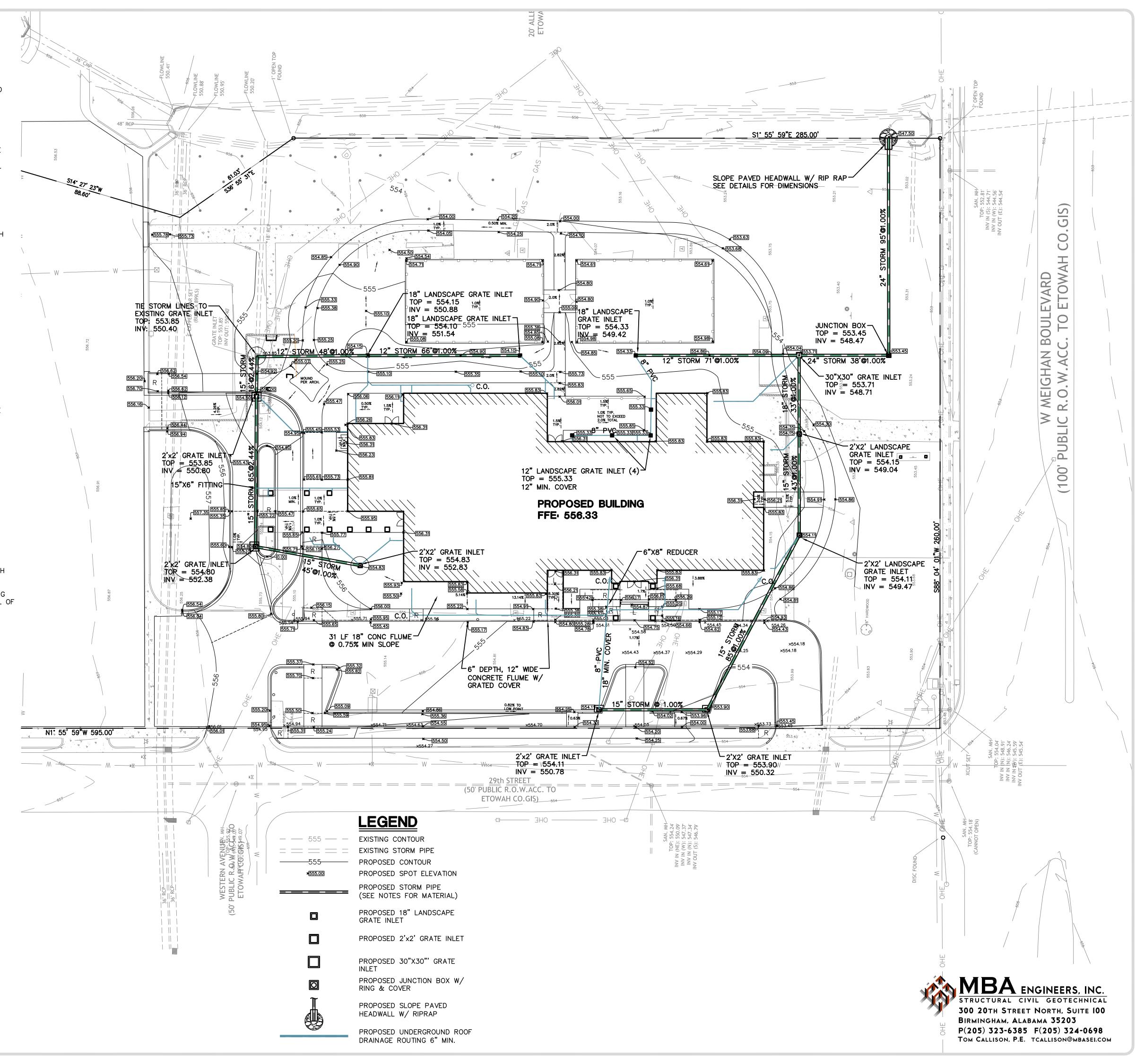
PIPE BEDDING

- 1. ALL STORM PIPE UNDER PAVEMENT SHALL BE BACKFILLED FULL-DEPTH WITH CRUSHED STONE.
- 2. PIPE BEDDING FOR STORM AND OTHER UTILITIES WITHIN 15' OF THE BUILDING SHALL BE #8910 STONE BACKFILL AND NOT 57 STONE OR OTHER MATERIAL OF HIGH PERMËABILITY.

DOWNSPOUT COLLECTION NOTES

- 1. ALL DOWNSPOUTS SHALL BE FITTED WITH CAST IRON DOWNSPOUT BOOTS (WITH CLEAN-OUT PLATES) THAT EXTEND BELOW FINISHED GRADE. REFER TO ARCHITECT. A MINIMUM COVER OF 8" IS REQUIRED.
- 2. THE ROOFDRAIN LEADER COLLECTION PIPE NETWORK SHALL HAVE 6" CLEANOUTS AT THE END OF THE LINE AND AT 150' MIN. SPACINGS. CONTRACTOR TO FIELD LOCATE. ROOFDRAIN LEADERS ARE TO BE FIT TO DOWNSPOUT SIZE. DOWNSPOUTS SHALL SLOPE WITH A 1% MINIMUM GRADE
- 4. THE DOWNSPOUT BOOTS (J.R.HOE OR APPROVED EQUAL) SHALL BE SIZED TO FIT THE DOWNSPOUT SIZE WITH A 6" MINIMUM DISCHARGE OPENING PER THE MANUFACTURER. THE CONTRACTOR SHALL USE A 45° TRANSITION ("A" SERIES TYPE - J.R. HOE)
- 5. THE CONNECTION BETWEEN THE DOWNSPOUT BOOT DISCHARGE AND THE UNDERGROUND PIPING SHALL BE MADE WITH A FLEXIBLE COUPLER WITH 316 SERIES STAINLESS HOSE CLAMPS (FERNCO OR APPROVED EQUAL) OF COMPATIBLE SIZE TO MAKE A WATERPROOF FIT.
- 6. CONNECTIONS BETWEEN FITTINGS SHALL BE WYES AND NOT TEE CONNECTIONS.





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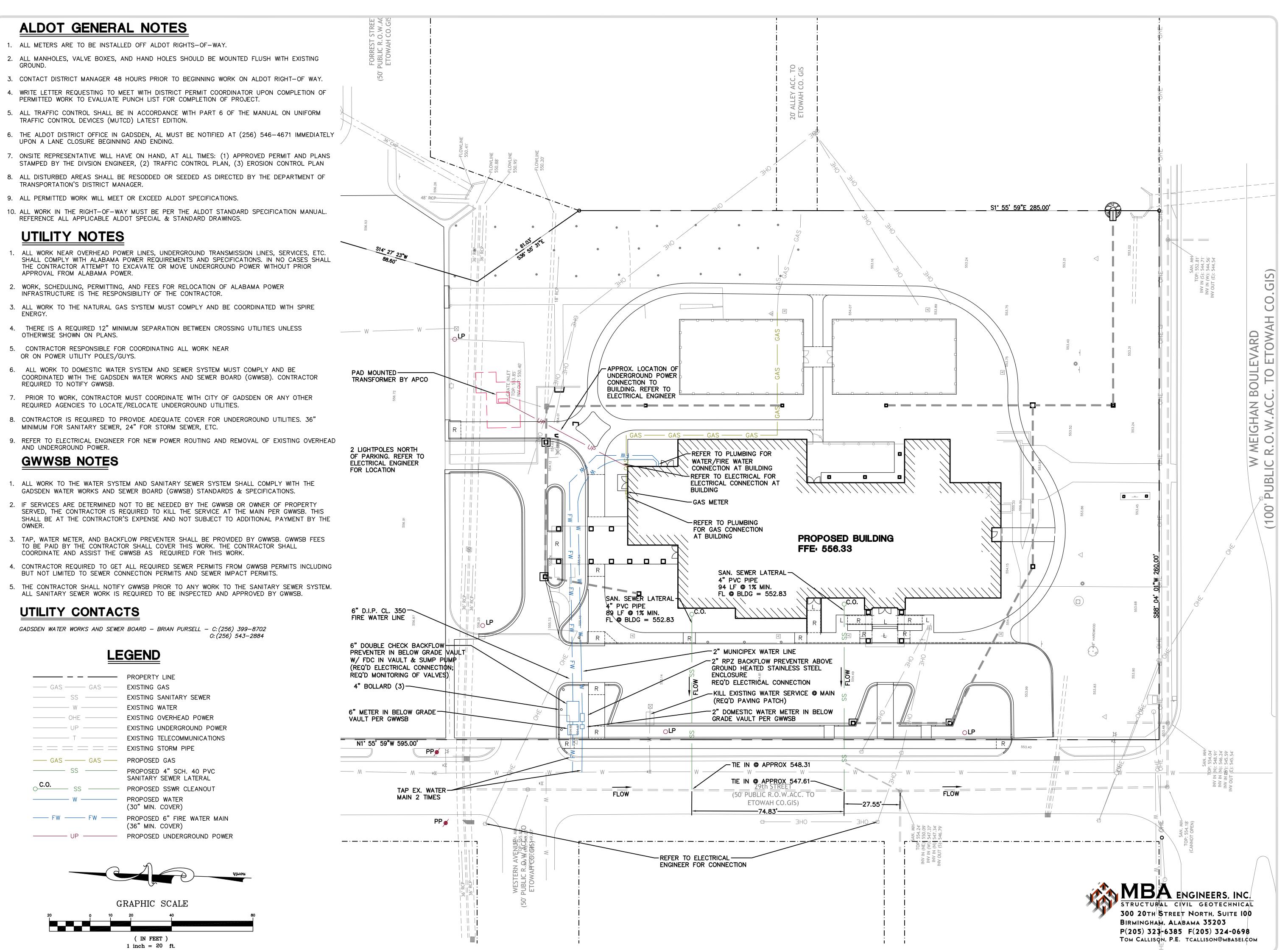
STORM PLAN

CONSTRUCTION DOCUMENTS

DRAWN MSO CHECKED TFC SCALE AS NOTED DATE SEPTEMBER 15, 2022 C1.0 LAYOUT.DWG JOB NO.

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9-15-22
No. 20020
PROPESSIONAL

HOMAS M. MCELRATH, ARCHITE ARCHITE ARCHITECTURE and SPACE PLANNIN 717 MERIT SPRINGS ROAD GADSDEN, ALABAMA 35901 PHONE: (256) 490-8244

EW SENIOR WELLNESS CENTE at 2829 W. Meighan Boulevard for

UTILITY PLAN

CONSTRUCTION DOCUMENTS

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- 1. THE BEST MANAGEMENT PRACTICES (BMP) SHOWN ON THIS PLAN SHALL BE IMPLEMENTED AND MAINTAINED DURING THE COURSE OF THIS WORK AND UNTIL DISTURBED AREAS ARE EITHER VEGETATED OR STABILIZED AGAINST EROSION. ADEQUATE PROTECTIVE MEASURES SHALL BE PROVIDED FOR THE CONTAINMENT OF HAZARDOUS SUBSTANCES AND ANY OTHER MATERIALS WHICH MAY POLLUTE STORM WATER RUNOFF, INCLUDING PETROLEUM PRODUCTS, LUBRICANTS, AND PAINT. THE CONTRACTOR SHALL PROVIDE A COMMERCIAL DUMPSTER SERVICE FOR THE COLLECTION, REMOVAL AND DISPOSAL OF SUCH MATERIALS FROM SITE.
- 2. THERE SHALL BE NO DISTINCTLY VISIBLE FLOATING SCUM, OIL OR OTHER MATTER CONTAINED IN THE STORM WATER DISCHARGE. THE STORM WATER DISCHARGE MUST NOT CAUSE AN UNNATURAL COLOR OR ODOR IN THE COMMUNITY WATERS AND MUST NOT CONTRIBUTE ANY MATERIALS IN CONCENTRATIONS SUFFICIENT TO BE HAZARDOUS OR OTHERWISE DETRIMENTAL TO HUMANS, LIVESTOCK, WILDLIFE, PLANT LIFE, OR FISH AND AQUATIC LIFE IN THE COMMUNITY WATERS.
- 3. CONTRACTOR SHALL NOTE THE REQUIREMENTS OF THE BEST MANAGEMENT PLAN (BMP) DETAILS NOTED ON THIS PLAN AND IN THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS, LATEST EDITION.
- CONTRACTOR NEEDS TO HAVE A CLEAR DIRECTION AS TO WHAT NEEDS TO BE ACCOMPLISHED BY EROSION CONTROL PLAN AND HOW IT SHALL BE MAINTAINED TO FUNCTION AT ALL TIMES FOR THE DURATION OF CONSTRUCTION ACTIVITIES. FAILURE OF THE CONTRACTOR TO WORK DOES NOT RELIEVE THE OWNER OF HIS/HER RESPONSIBILITY FOR COMPLIANCE.
- 5. CONTRACTOR SHALL INSTALL THE PERIMETER SEDIMENT BARRIERS BEFORE COMMENCING ANY DISTURBANCE ACTIVITIES.
- 6. THE CONTRACTOR SHALL PREVENT TRACKING OF SEDIMENT ONTO STREETS AND SURROUNDING PAVEMENTS. CLEAN UP IS REQUIRED DAILY. CONTRACTOR SHALL ALSO INSTALL CONSTRUCTION GRAVEL EXIT PADS OR CLEAN EQUIPMENT EACH TIME PRIOR TO LEAVING THE SITE.
- 7. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING SITE FREE FROM TRASH AND OTHER DEBRIS BY ESTABLISHING TRASH COLLECTION AREAS AND PROPERLY MAINTAINING THEM.
- 8. THE CONTRACTOR SHALL INCLUDE IN HIS BID TO OWNER ALL EROSION CONTROL ITEMS NECESSARY TO PROTECT THE SITE DURING CONSTRUCTION AND PERMANENTLY RE—ESTABLISH VEGETATION ON ALL DISTURBED AREAS OF THE SITE. INCLUDING BUT NOT LIMITED TO TEMPORARY MULCHING, SLOPE PROTECTION, DITCH LINING, REPAIR/MAINTENANCE, AND INSPECTIONS.
- 9. WHEN NOTICEABLE OR EXCESSIVE DUST IS PRESENT DURING EARTHWORK ACTIVITIES, THE CONTRACTOR SHALL USE WATER APPLIED BY WATER TRUCKS OR OTHER METHODS, TO LIMIT THE LOSS OF SOIL BY WIND EROSION.

EROSION CONTROL NOTES

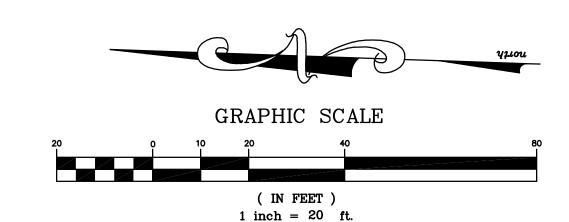
- 1. MORE THAN 1 ACRE WILL BE DISTURBED WITH THIS PROJECT SO AN ADEM PERMIT IS REQUIRED. IT IS THE CONTRACTORS RESPONSIBILITY TO ATTAIN AND PAY FOR THISPERMIT AND TO PROVIDE ALL REQUIREMENTS REQUIRED BY ADEM. SUCH AS INSPECTIONS, RECORD KEEPING, SIGNAGE, RAINFALL MONITORING, ETC.
- 2. SOLID SOD OR LANDSCAPING / MULCHING IS REQUIRED ON ALL DISTURBED AREAS.
- 3. A MINIMUM OF 4" OF TOPSOIL (AND FERTILIZING) IS REQUIRED FOR ALL DISTURBED AREAS TO RECEIVE SODDING, PERMANENT MULCHING, OR LANDSCAPING.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING EROSION AND STABILIZING ALL DISTURBED AREAS ON SITE, SEE LANDSCAPE PLAN FOR DETAILS OF ALL LANDSCAPED AREAS AND FINAL COVER.
- 5. PLASTIC SHEETING OR TEMPORARY MULCHING IS REQUIRED TO COVER ALL STOCKPILES THAT WILL REMAIN FOR 3 DAYS OR MORE. ALL STOCKPILES TO REMAIN FOR 3 DAYS OR MORE SHALL BE SURROUNDED WITH A SEDIMENT BARRIER (TYPE "A" SILT FENCE OR A 20" WATTLE.
- 6. TEMPORARY MULCHING IS REQUIRED FOR ALL DISTURBED AREAS NOT IN AN ACTIVE WORK AREA (DISTURBED AREAS WHERE ACTIVE GRADING OR WORK IS NOT PERFORMED WITHIN 13 DAYS, MINIMUM).
- 7. ALL CONSTRUCTION SEQUENCING AND TECHNIQUES CANNOT BE ANTICIPATED BY THE ENGINEER, SO THERE MAY BE ADDITIONAL BMP MEASURES THAT WILL BE NEEDED TO SUFFICIENTLY PROTECT THE SITE FROM EROSION AND SEDIMENT TRANSPORT OFF SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND CONSTRUCT THESE BMP'S AND ACCOUNT FOR ALL BMP'S SHOWN OR OTHERWISE NEEDED IN BASE BID PRICE FOR PROJECT. BMP'S SHOWN ARE THE ENGINEERS ESTIMATE OF THE MINIMUM AMOUNT NEEDED. THE CONTRACTOR SHALL NOT BE PAID ADDITIONALLY FOR ADDITIONAL BMP'S, INCLUDING TEMPORARY MULCHING OR FOR BMP MAINTENANCE, REPLACEMENT OR REMOVAL.

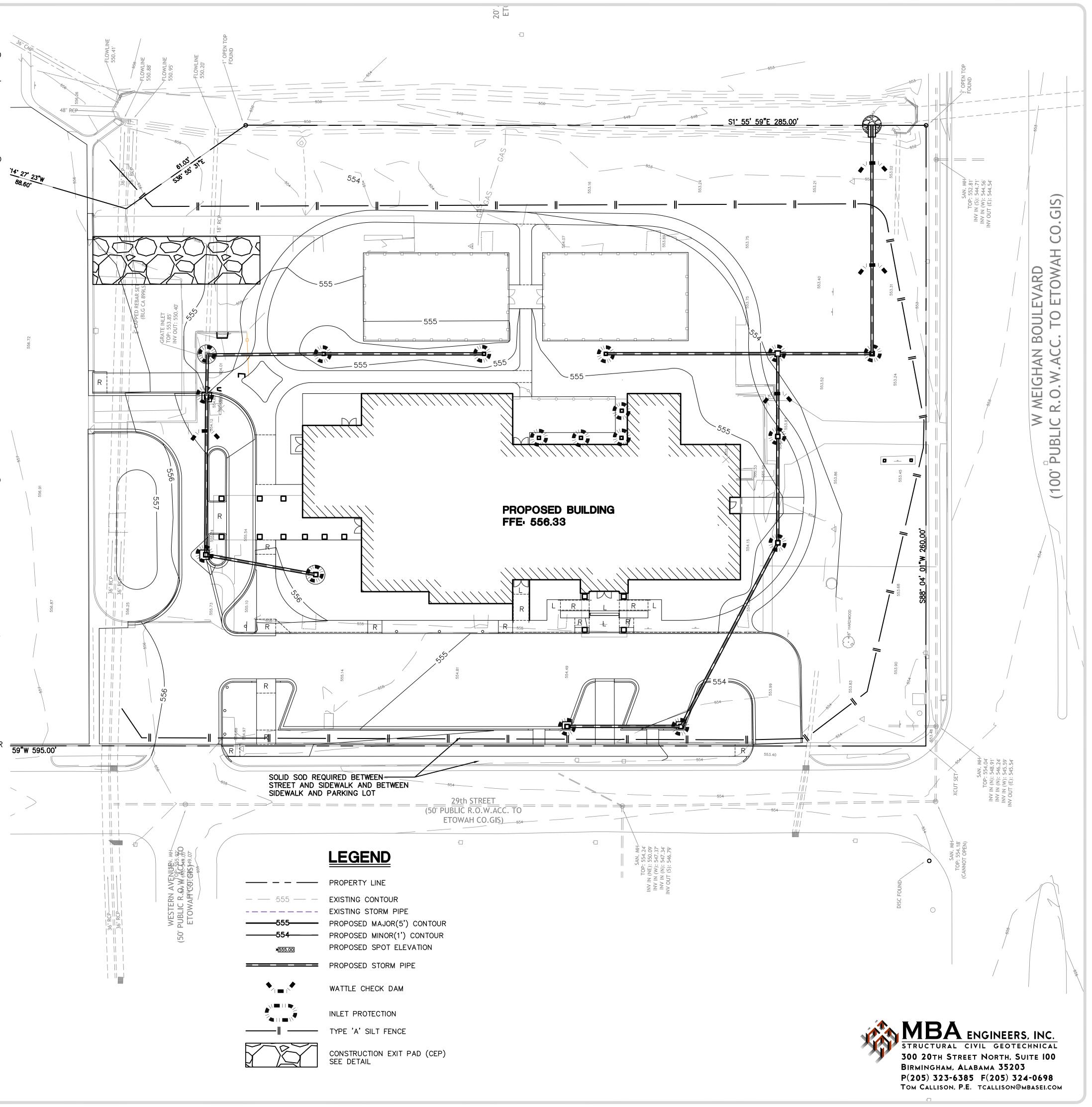
LANDSCAPING NOTES

- 1. ALL DISTURBED AREA WITHIN 25' OF THE BUILDING SHALL BE PROVIDED WITH SOLID SOD, OR LANDSCAPING AND PINE STRAW MULCH.
- 2. SOD SHALL BE BERMUDA OR ZOYSIA (PER THE ARCHITECT)
- 3. FOR ALL AREAS OUTSIDE 25' FROM THE BUILDING A 16" MINIMUM STRIP OF SOLID SOD IS REQUIRED ABUTTING ALL PAVED SURFACES AND OTHER FEATURES.
- 4. FERTILIZING IS REQUIRED
- 5. ALL OTHER AREAS SHALL RECEIVE SEEDING AND MULCHING SOD SHALL BE BERMUDA OR ZOYSIA (PER THE ARCHITECT)
- 6. REFER TO ARCHITECT FOR ALL LANDSCAPE AND PLANTING AREAS

SIGNAGE NOTES

- 1. ALL SIGNAGE SHALL COMPLY W/ CITY OF GADSDEN & THE MUTCD LATEST EDITION.
- 2. ALL PAVEMENT MARKINGS AND SIGNS SHALL BE PER ALDOT SPECIAL & STANDARD HIGHWAY DRAWINGS SPECIFICATIONS.





Ho. 20020

EROSION

CONTROL

PLAN

CONSTRUCTION

DOCUMENTS

DRAWN

CHECKED

TFC SCALE

AS NOTED

DATE
SEPTEMBER 15, 2022

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JOB NO.

22-01

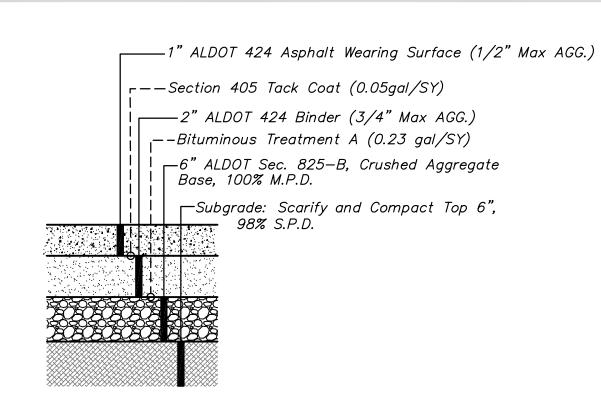
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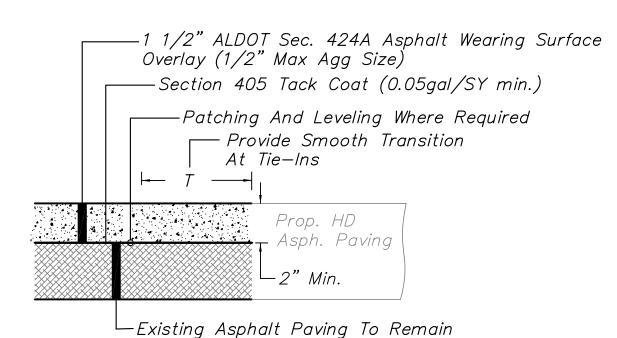
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TYPICAL SECTION STANDARD DUTY ASPHALT PAVEMENT

N. T. S.

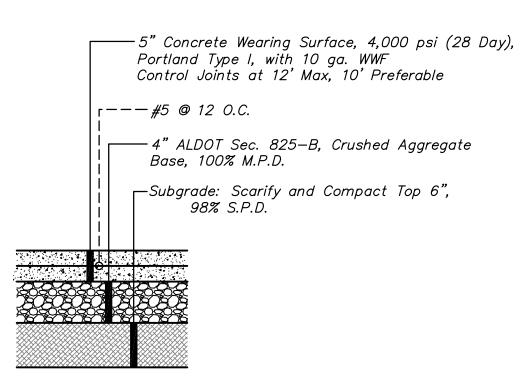


ASPHALT OVERLAY TYPICAL SECTION

N. T. S.

— 4" Concrete Wearing Surface, 4,000 psi (28 Day), Portland Type I, with 10 ga. WWF Control Joints at 12' Max, 10' Preferable 4" ALDOT Sec. 825-B, Crushed Aggregate Base, 100% M.P.D. —Subgrade: Scarify and Compact Top 6", 98% S.P.D.

TYPICAL SECTION STANDARD DUTY CONCRETE PAVEMENT N. T. S.



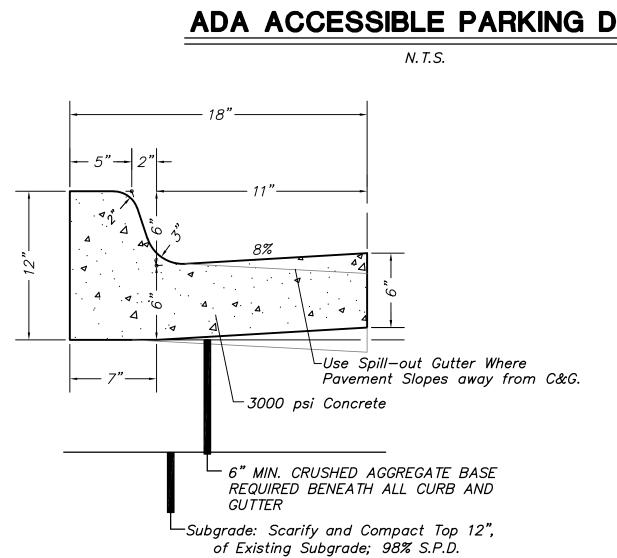
TYPICAL SECTION
REINFORCED CONCRETE PAVEMENT

CURB TERMINATION DETAIL N. T. S.

Upright Handicapped Sign (See Detail) (Coordinate With Architect For Location) Acessible /___ Route -SIDEWALK Use Spill—out Gutter Where Pavement Slopes away from C&G. 18" CURB & GUTTER 3000 psi Concrete WHEELSTOP *∽FLUSH, TYP.* ----- Acessible Route

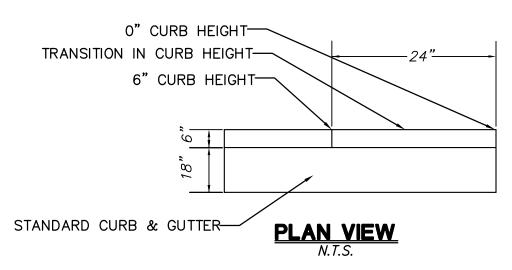
Note: 4" Wide Blue Paint Striping For Angled Parking, Spaces Shall Be Delineated As Shown On The Site Plan. Plan View

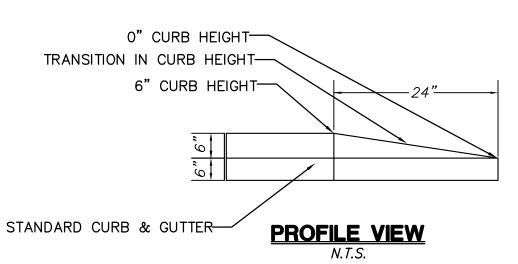
ADA ACCESSIBLE PARKING DETAIL



18° CURB AND GUTTER SECTION

Note: Control Joints @ 10' Max. Expansion Joints @ 50' Max.





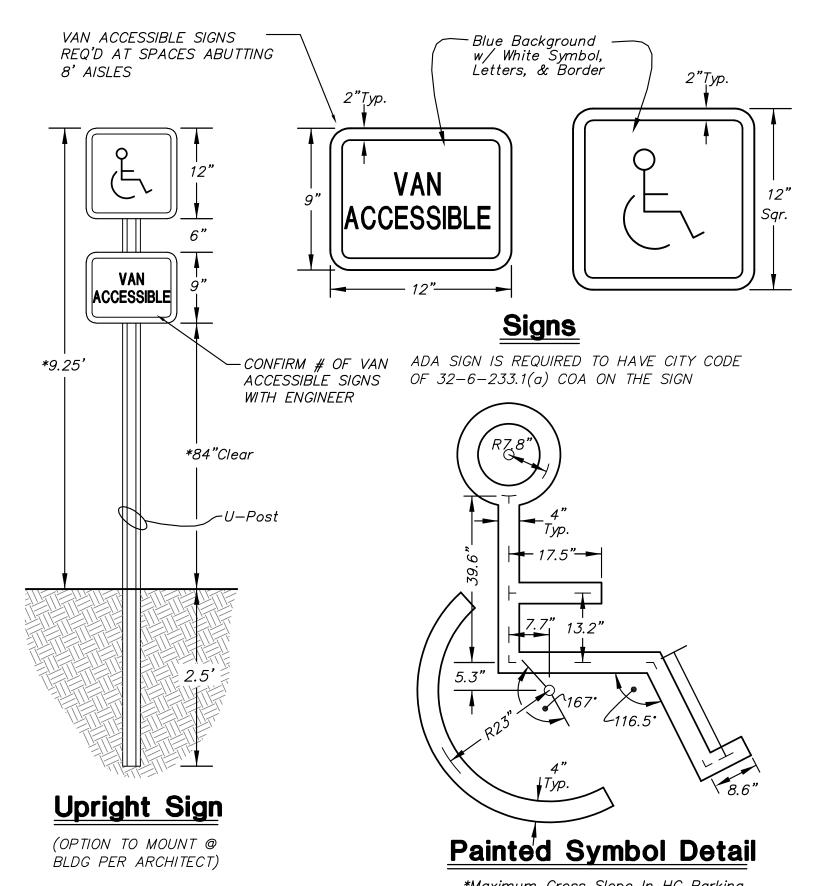
Painted Symbol Detail *Maximum Cross Slope In HC Parking, Ramp, And Sidewalk for Routing is 1:50 *5% Max Slope For Accessible Route

2% Max Slope for Landings PROPOSED SIDEWALK-WITH BROOM FINISH SIDEWALK FLUSH WITH TOP OF CURB PROPOSED RAMP-1/12 LONGITUDINAL OPTIONAL 6" CURB — STANDARD 18" CURB AND SLOPE, 2% MAX CROSS SLOPE WALL (SEE SITE AND GRADING PLANS) PROPOSED LANDING-2% MAX CROSS SLOPE -PROVIDE SLOPE ACROSS GUTTER TO DRAIN (SEE GRADING PLAN) IS 0" REDUCES TO 0" WITH RAMP. -SMOOTH ACCESS (1/4' MAXIMUM RISE) *THIS DETAIL CAN BE APPLIED TO TURN DOWN - PROPOSED SIDEWALK `_STD. 6" CURB HEIGHT CONTINUES, TYP. SIDEWALK ALSO.

IN-LINE HANDICAP CURB RAMP DETAIL

N. T. S.

STANDARD 18" CURB AND



Joint Sealer Condition –Varies– Varies __Tooled Edge (Typ.) _1" (Grass) **→** 2% Max Cross Slope Pre-Moulded, Non-Extruding Joint Sealer

3,000 psi Concrete 6"x6" #10 WWM @ Mid—Depth

∕1" Depth, Silicone

Notes:

- 1. Control Joints @ 8' Max.
- 2. Expansion Joints @ 48' Max. and Where Concrete Abuts Rigid Objects and Existing Conc.
- 2. Architect to Review and Approve Joint Sealer Prior to Construction
- 3. Refer to Architect for Details of Joint/Joint Sealer at Building.

CONCRETE SIDEWALK TYPICAL SECTION

MBA ENGINEERS, INC. STRUCTURAL CIVIL GEOTECHNICAL 300 20TH STREET NORTH, SUITE 100 BIRMINGHAM, ALABAMA 35203 P(205) 323-6385 F(205) 324-0698 TOM CALLISON, P.E. TCALLISON@MBASEI.COM



THOMAS M. ARCHITECTU

DETAILS

CONSTRUCTION

DOCUMENTS DRAWN MSO CHECKED TFC

SCALE AS NOTED DATE SEPTEMBER 15, 2022

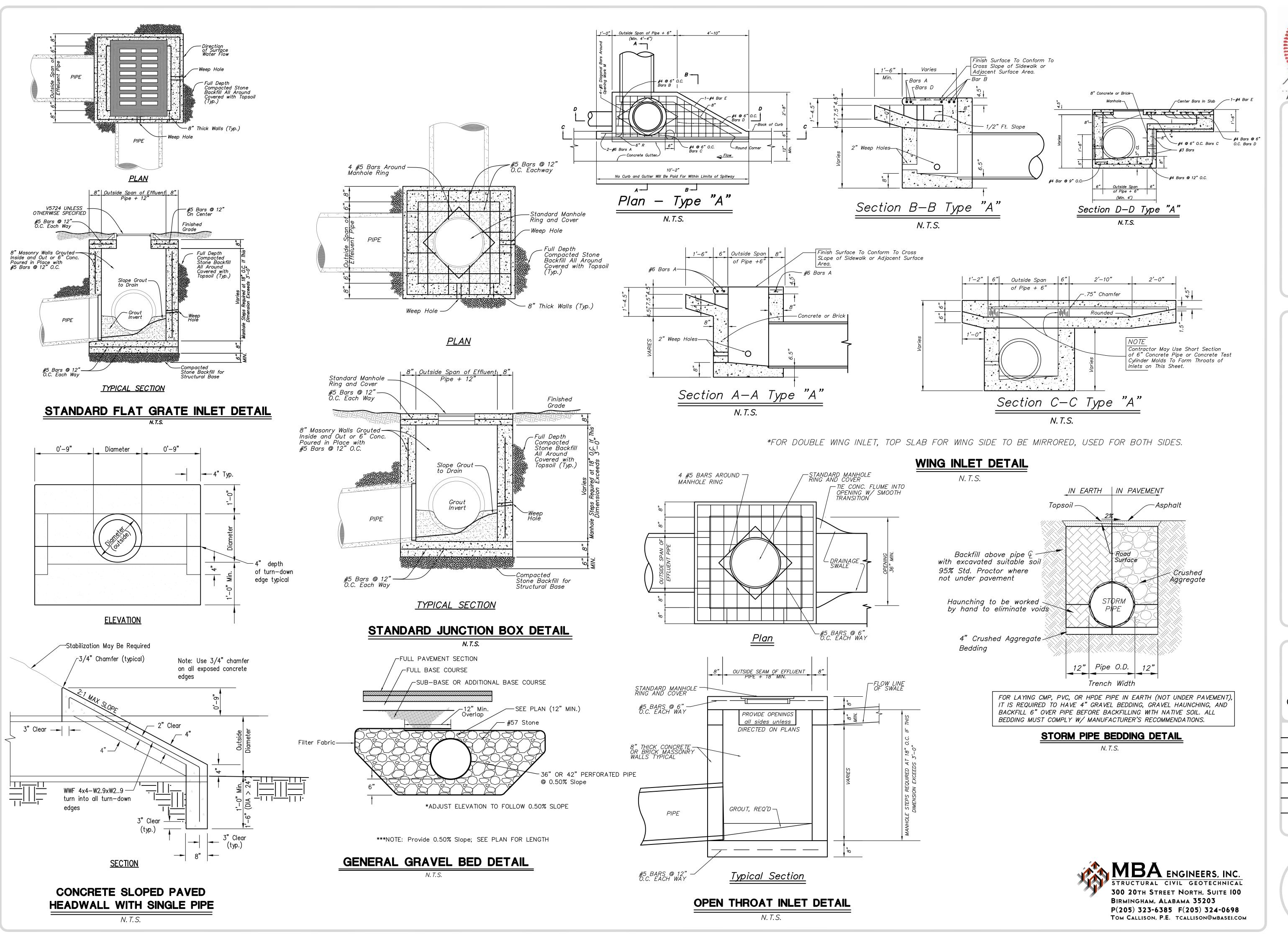
C7.0 DETAILS.DWG JOB NO. 22-01

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SHEETS

N. T. S.



9-15-22
No. 20020
PROPESSIONAL

THOMAS M. MCELRATH, ARCHITECT

ARCHITECTURE and SPACE PLANNING

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244
EMAII: TOM@TMM_ARCHITECT COM

EW SENIOR WELLNESS CENTER at 2829 W. Meighan Boulevard for

DETAILS

CONSTRUCTION

DOCUMENTS

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AS NOTED
DATE

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SEPTEMBER 15, 2022
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NOTES:

1. ALL ROOF DRAIN LEADERS AND COLLECTOR PIPE TO BE

CLASS 350 DUCTILE IRON PIPE.
2. ALL CONNECTIONS TO BE WATER-TIGHT.

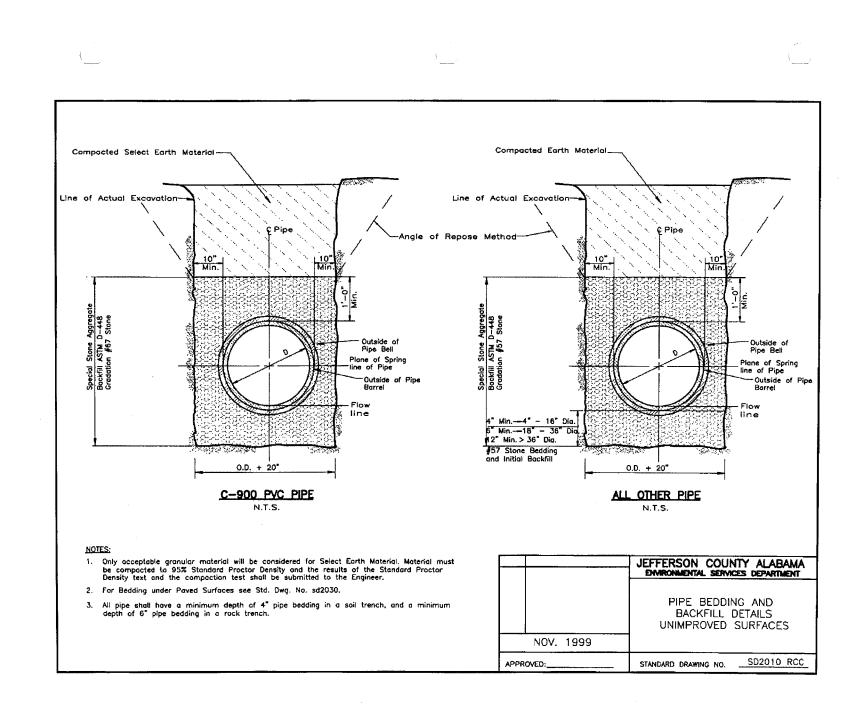
3. SIZES SHALL BE AS SHOWN ON CIVIL PLANS. IN NO CASE SHALL SIZE BE SMALLER THAN SIZE OF PLUMBING DOWN PIPE 4. MIN SLOPE 1%

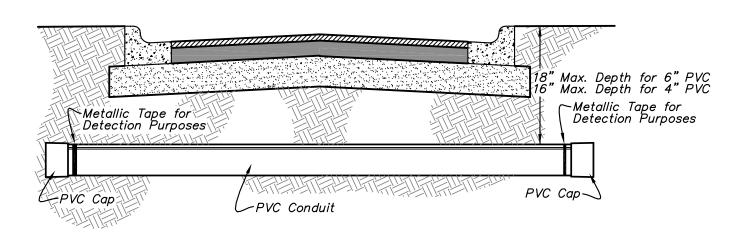
5. 24" MIN COVER

6. BACKFILL SHALL BE FULL DEPTH CRUSHED STONE UNDER PAVING

ROOF DRAIN LEADER / COLLECTOR PIPE DETAIL

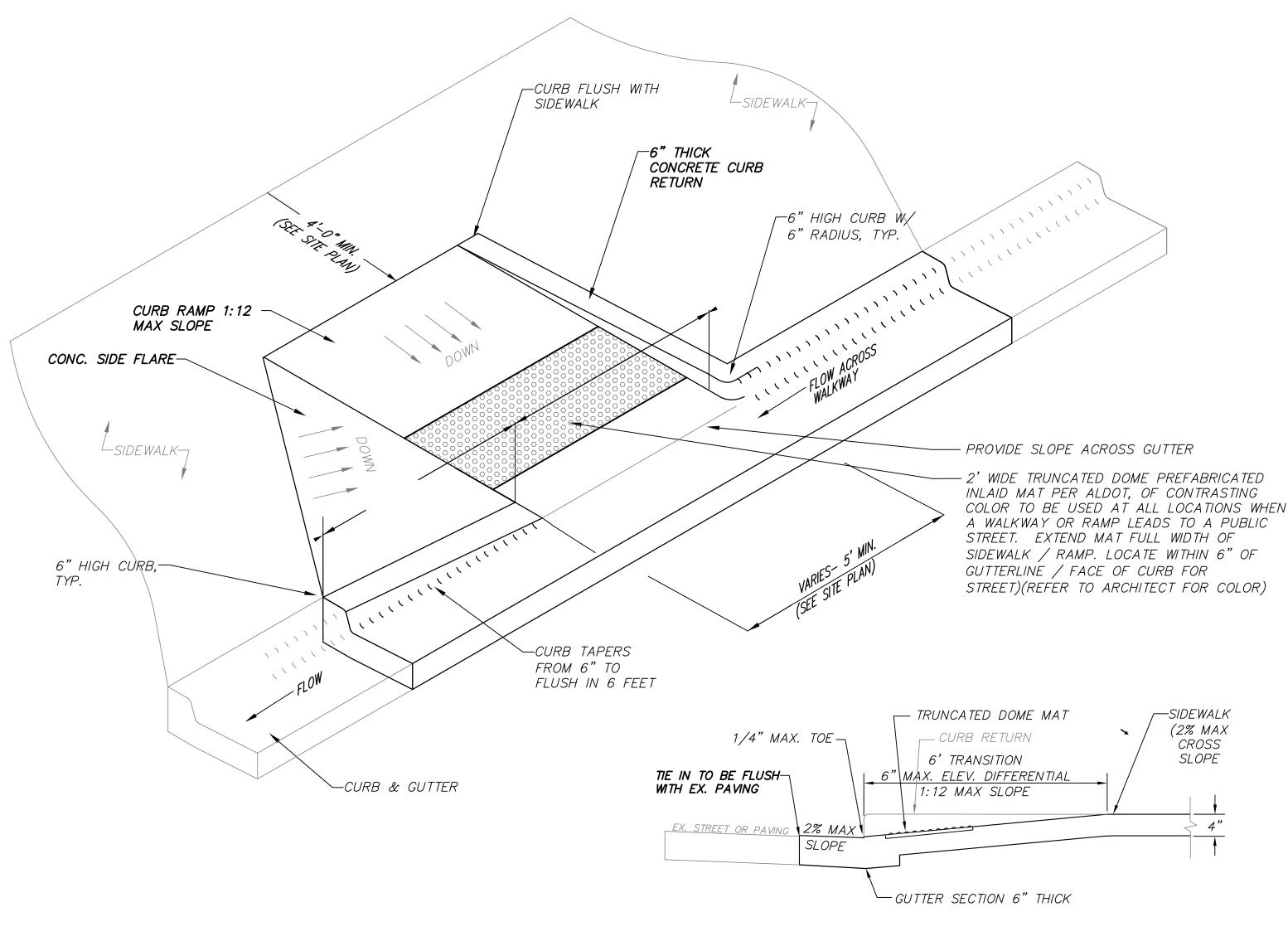
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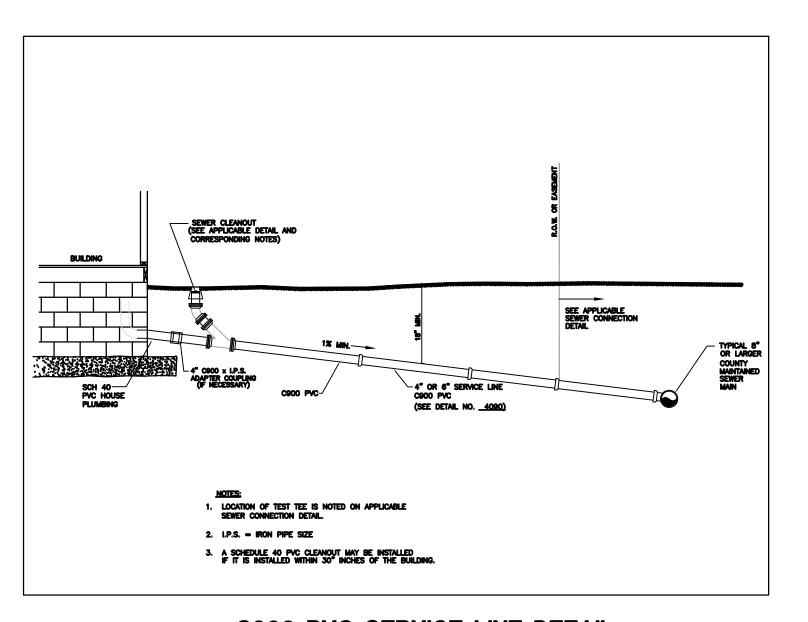
UTILITY/IRRIGATION CONDUIT DETAIL

N. T. S.



TYPE A RAMP DETAILS

N. T. S.



C900 PVC SERVICE LINE DETAIL





THOMAS M. MCELRATH, ARCHITE

ARCHITECTURE and SPACE PLANNIN

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244

at 2829 W. Meighan Boulevard

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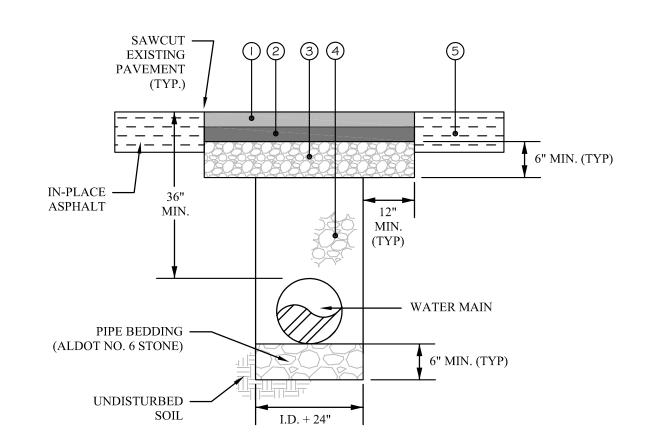
C7.0 DETAILS.DWG

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22-01

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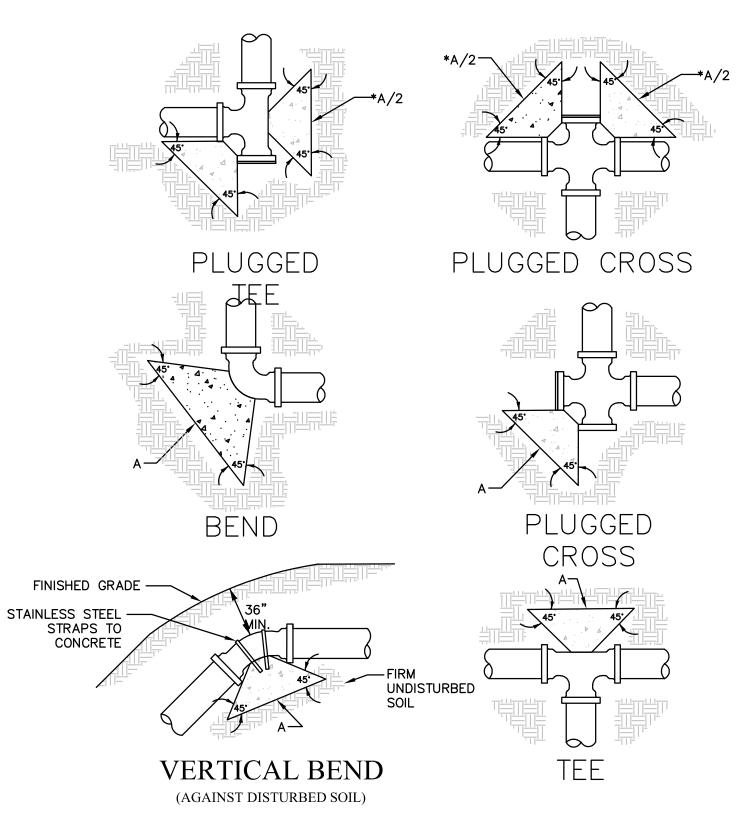
TYPICAL ROADWAY CUT/ASPHALT PATCH



TYPICAL ASPHALT BUILD-UP

- ALDOT 424A SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, 1/2" MAX. AGGREGATE SIZE MIX, ESAL RANGE C/D (APPROX. 220 LBS/SY - 2" COMPACTED THICKNESS)
- ALDOT 424B SUPERPAVE BITUMINOUS CONCRETE UPPER BINDER LAYER, 3/4" MAX. AGGREGATE SIZE MIX, ESAL RANGE C/D (APPROX. 440 LBS/SY - 4" COMPACTED THICKNESS)
- (4) ALDOT NO. 78 CRUSHED STONE BACKFILL, COMPACTED TO 95% STANDARD PROCTOR DENSITY
- (5.) IN-PLACE PAVEMENT RETAIN

TYPICAL CONCRETE THRUST BLOCK LAYOUT



FINISHED GRADE —

NON STANDARD THRUST BLOCKING WILL REQUIRE SPECIAL DETAILING PROVIDED BY A LICENSED ENGINEER APPROVED BY THE GWWSB. ALL MECHANICAL JOINT FITTINGS THAT REQUIRE THRUST BLOCKS SHALL BE WRAPPED IN PLASTIC. CONCRETE

NOT BE POURED OVER JOINTS. CLASS "B" CONCRETE SHALL BE AS DEFINED IN THE GWWSB STANDARD SPECIFICATIONS. THE PREFERRED METHOD OF THRUST RESTRAINT SHALL BE THROUGH THE USE OF EXTERNALLY RESTRAINED DEVICES SUCH AS MEGA-LUGS IN LIEU OF CONCRETE BLOCKING. CONCRETE BLOCKING SHALL ONLY WHERE APPROVED BY THE GWWSB AND SHALL NOT BE USED IN CONJUNCTION WITH APPROPRIATE LENGTH OF RESTRAINT SHALL BE CALCULATED IN ACCORDANCE MEGA-LUG RESTRAINTS. THE WITH THE MANUFACTURERS RECOMMENDATIONS.

TYPICAL AUTOMATIC AIR RELEASE VALVE

-PRECAST CONCRETE METER -BOX

CHECK VALVE ASSEMBLY

1" BRASS NIPPLE

WITH LOCKING WINGS

DOUBLE STACK BOXES AS

-1" CORPORATION STOP

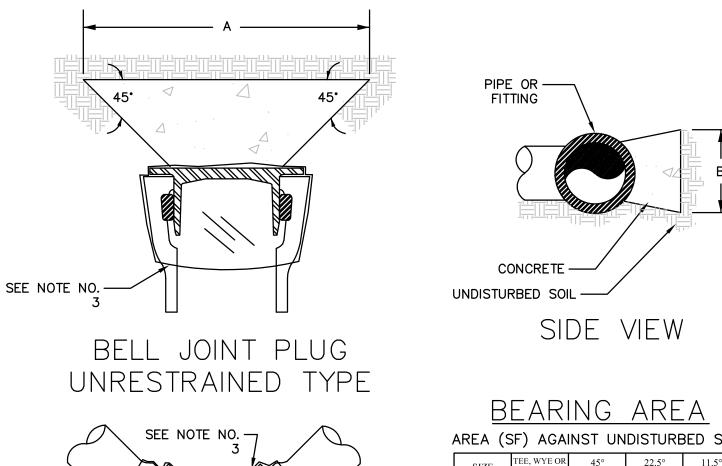
- CRUSHED STONE BACKFILL

NEEDED

MUELLER H-14242 DUAL

1" BALL VALVE / CURB STOP

TYPICAL CONCRETE THRUST BLOCK DESIGN



AREA (S	SF) AGAI			1				
SIZE	TEE, WYE OR 90° BEND	45° BEND	22.5° BEND	11.5° BEND				
4"	I	1	1	ı				
6"	3	2	1.5	ı				
8"	5	3	2	1.5				
10"	9	5	3	2				
12"	12	8	4	3				
16"	22	12	5	4				
BASED ON	2500 LB/ft. ² S	OIL.						
BEARING AREA (SF) = A X B $1<(A/B)>3$								

TYPICAL BEND THRUST BLOCK

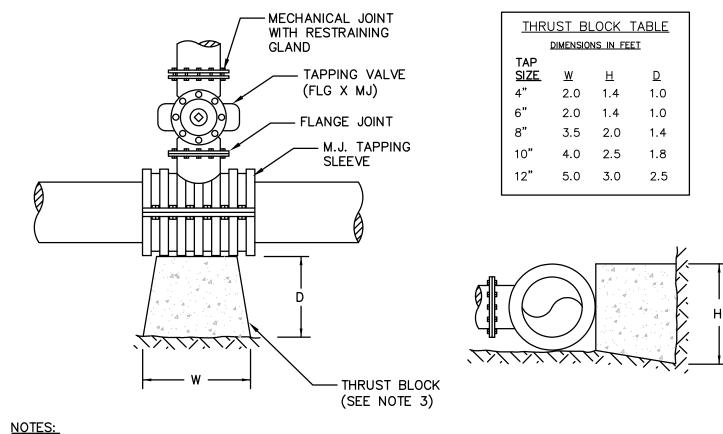
CLASS "B" CONCRETE

THRUST BLOCK

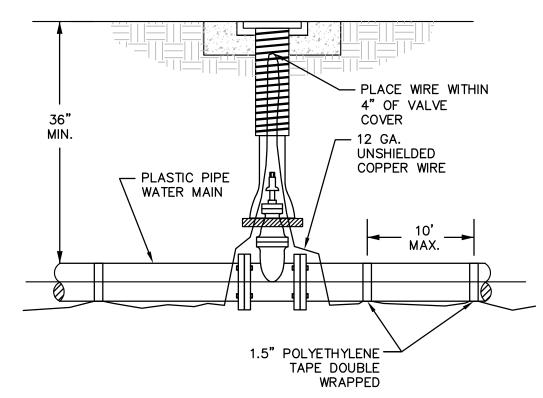
uleqFIRM UNDISTURBED SOIL

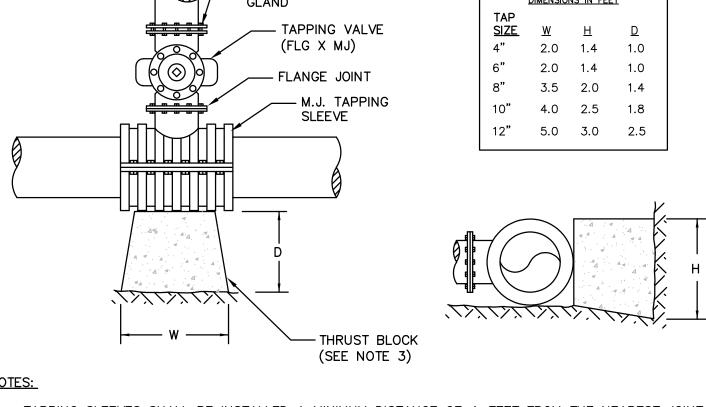
- 45 DEGREE ANGLE REQUIRED FOR ALL THRUST BLOCKS. NON STANDARD THRUST BLOCKING WILL REQUIRE SPECIAL DETAILING PROVIDED BY A LICENSED ENGINEER APPROVED BY THE GWWSB.
- 3. ALL MECHANICAL JOINT FITTINGS THAT REQUIRE THRUST BLOCKS SHALL BE WRAPPED IN PLASTIC. CONCRETE SHALL NOT BE POURED OVER JOINTS. 4. CLASS "B" CONCRETE SHALL BE AS DEFINED IN THE GWWSB STANDARD SPECIFICATIONS.
- 5. THE PREFERRED METHOD OF THRUST RESTRAINT SHALL BE THROUGH THE USE OF EXTERNALLY RESTRAINED DEVICES SUCH AS MEGA-LUGS IN LIEU OF CONCRETE BLOCKING. CONCRETE BLOCKING SHALL ONLY BE PERMITTED WHERE APPROVED BY THE GWWSB AND SHALL NOT BE USED IN CONJUNCTION WITH MEGA-LUG RESTRAINTS. THE APPROPRIATE LENGTH OF RESTRAINT SHALL BE CALCULATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

TAPPING SLEEVE

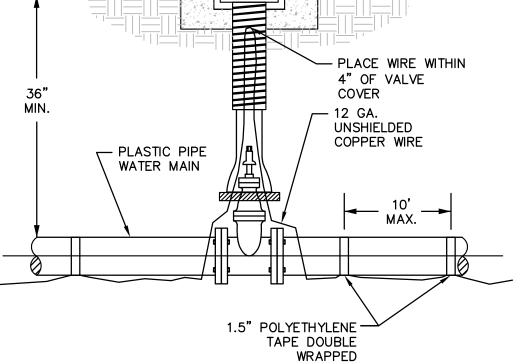


1. TAPPING SLEEVES SHALL BE INSTALLED A MINIMUM DISTANCE OF 4-FEET FROM THE NEAREST JOINT.





TRACER TAPE FOR PLASTIC PIPE







DETAILS

CONSTRUCTION

DOCUMENTS MSO CHECKED TFC

SCALE AS NOTED DATE SEPTEMBER 15, 2022

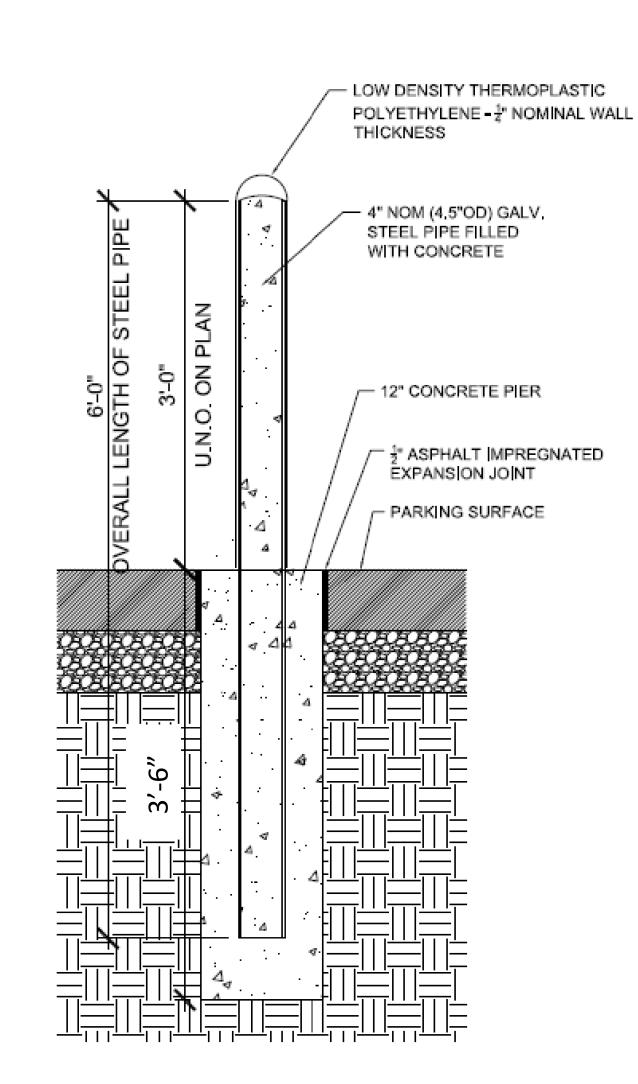
C7.0 DETAILS.DWG JOB NO. 22-01 REVISIONS

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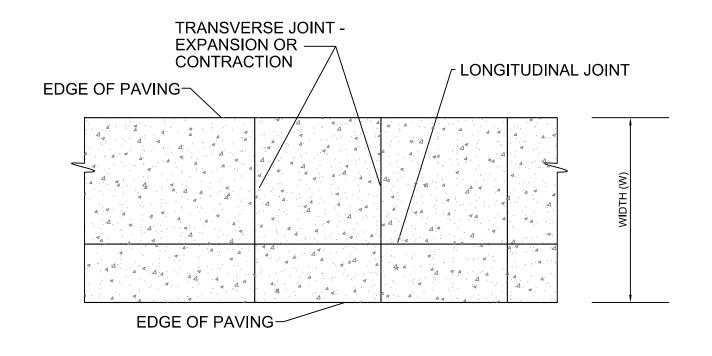
- 1. CROSSWALK LINES SHALL BE SOLID WHITE TRAFFIC CONTROL MARKINGS CLASS 2, TYPE A
- 2. CROSSWALK SHOULD EXTEND THE FULL WIDTH OF PAVEMENT FROM EP TO EP OR THE EDGE OF THE INTERSECTING CROSSWALK.
- 3. ORIENT CROSS BARS TO AS SHOWN ON THE PLAN, PARALLEL WITH TRAFFIC

PEDESTRIAN CROSSWALK DETAIL

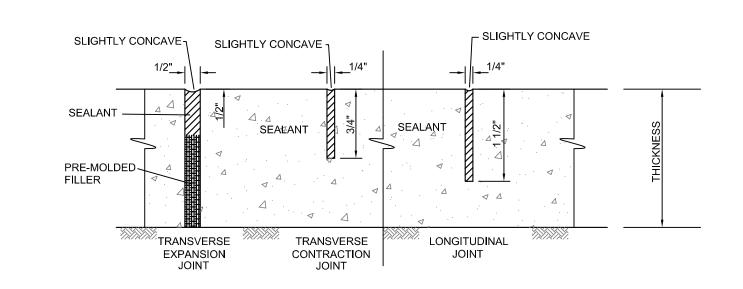


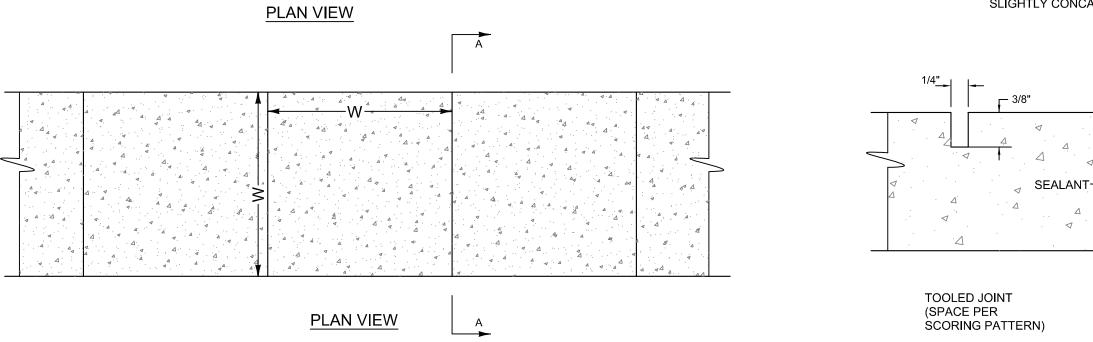
LOW BOLLARD DETAIL

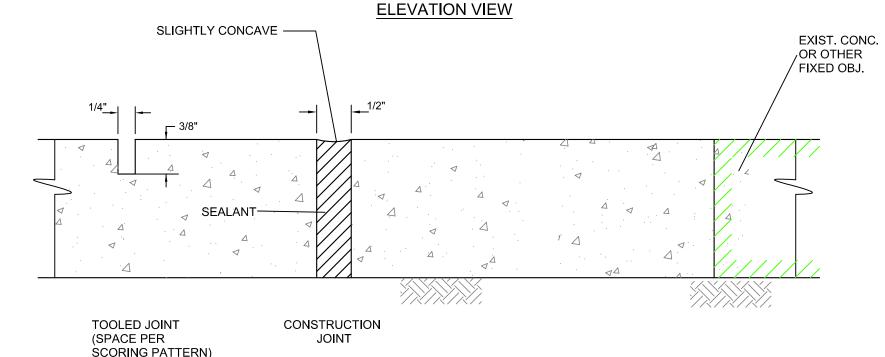
N. T. S.

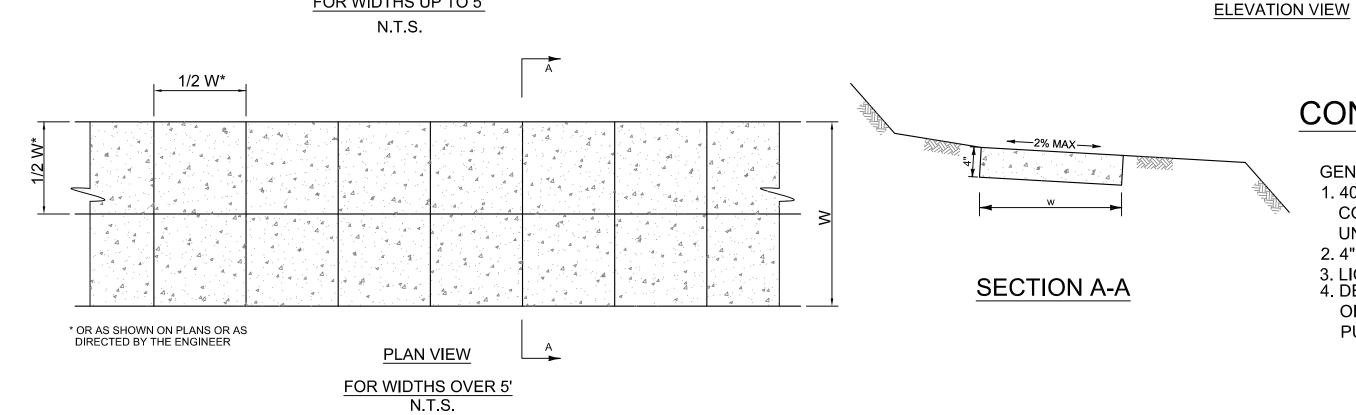


FOR WIDTHS UP TO 5









GENERAL SIDEWALK NOTES: 1. 4000 PSI CONCRETE @ 28 DAYS, NATURAL COLOR (NO COLORED CONCRETE UNLESS OTHERWISE APPROVED)

CONCRETE SIDEWALK JOINTS

2. 4" THICK (MINIMUM)

3. LIGHT BROOM FINISH 4. DESIGN AND CONSTRUCTION SHALL COMPLY WITH PUBLIC RIGHT OF WAY (PROWAG), ACCESSIBILITY GUIDELINES (LATEST EDITION) PUBLISHED BY THE UNITED STATES ACCESS BOARD.

SCORING PATTERNS SIDEWALK DETAIL

N. T. S.

JOINTING DETAILS ARE APPLICABLE UNLESS CONTRADICTED

IN THE LANDSCAPE / HARDSCAPE PLANS

DETAILS

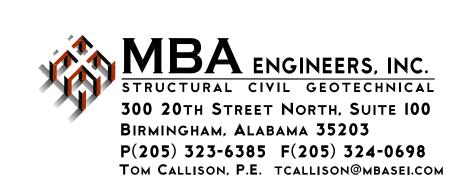
CONSTRUCTION

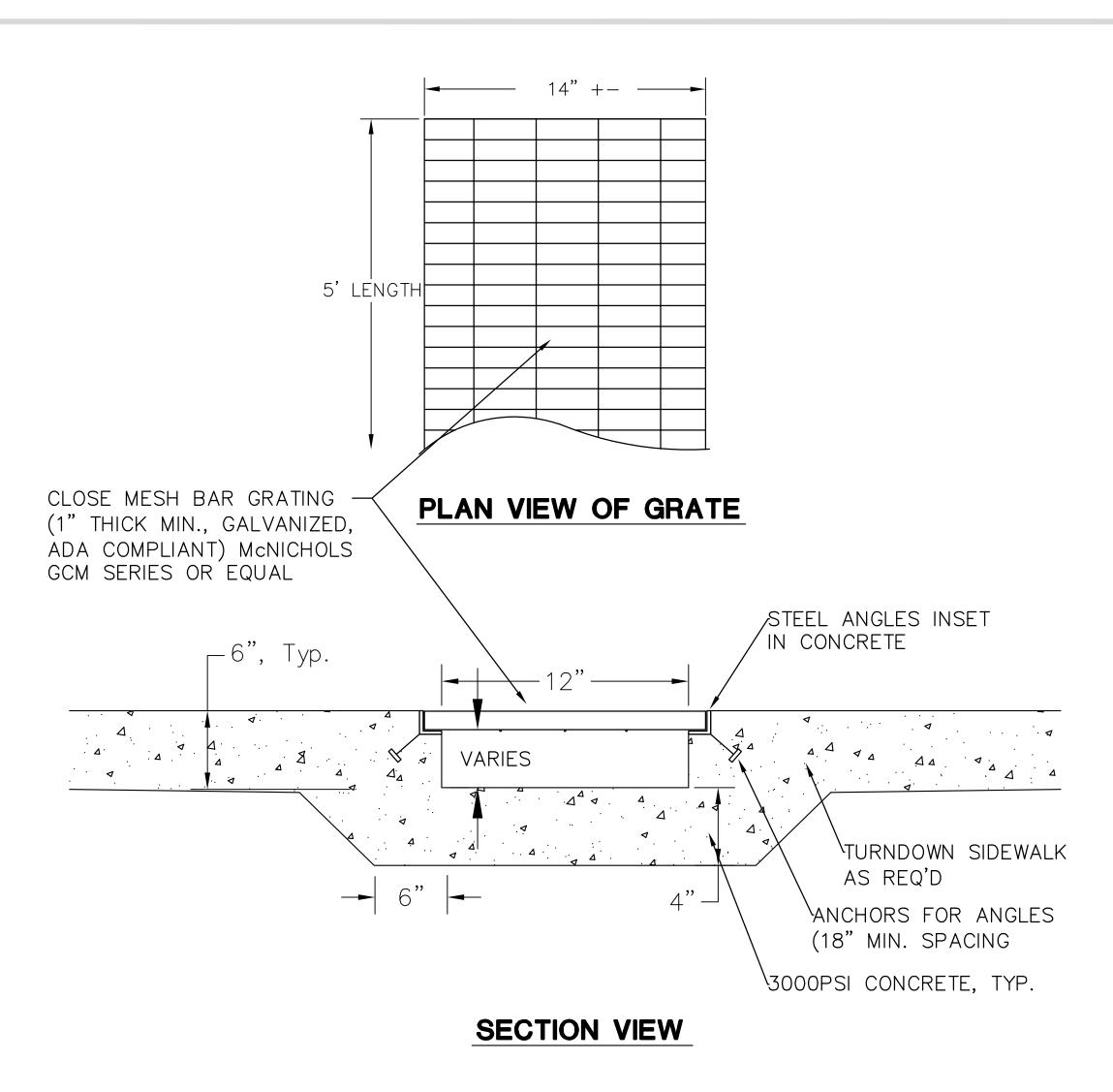
DOCUMENTS CHECKED TFC SCALE AS NOTED

DATE SEPTEMBER 15, 2022

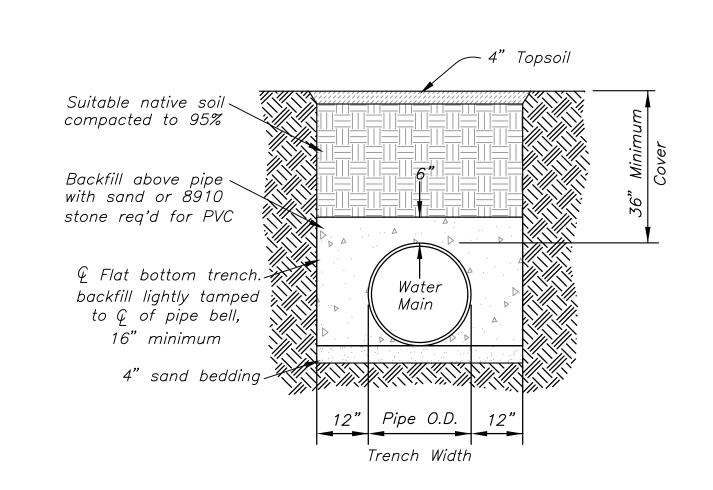
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12" FLUME DETAIL



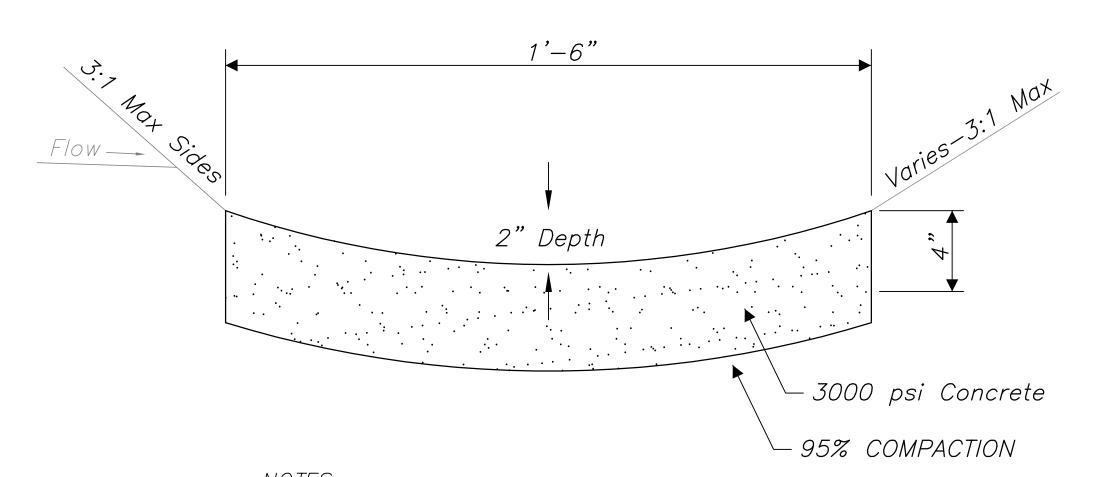
PIPE WATER BEDDING DETAIL LAYING IN SOIL WITHOUT ROCK IN LANDSCAPE AREAS

N. T. S.

TYPICAL SECTION -CLASS 2 RIPRAP OVER L2' THICK RIPRAP FILTER FABRIC

RIPRAP LINED SWALE

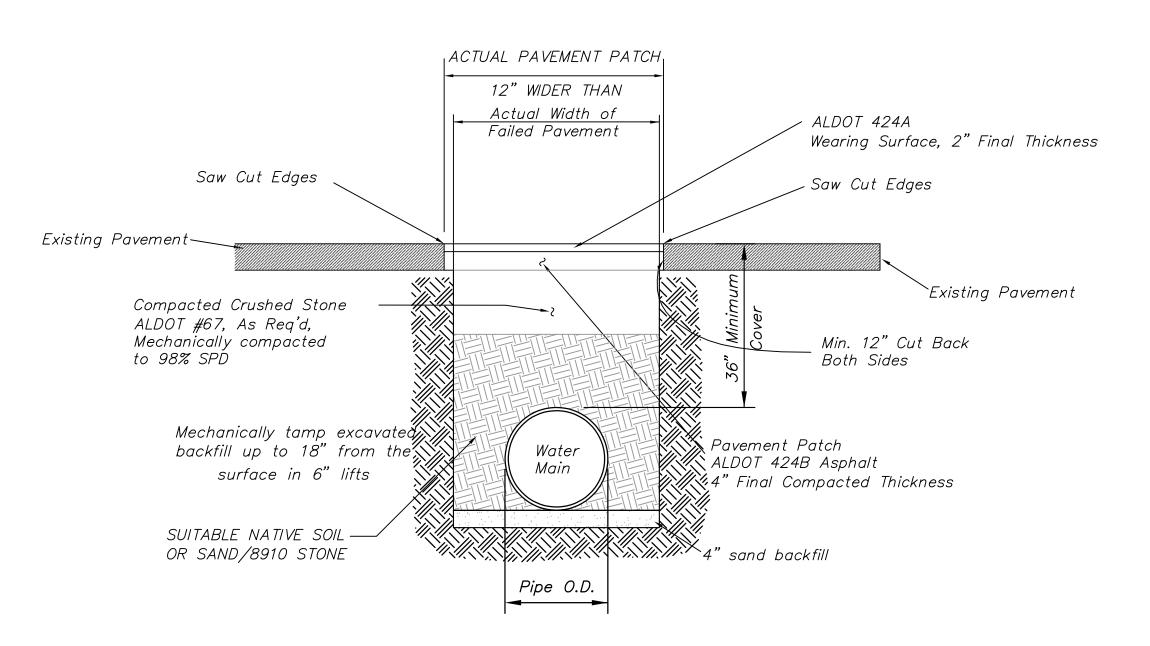
N. T. S.



<u>NOTES:</u> A. 0.5% Min. Slope Required

B. Control Joints Every 8'. Expansion Joints Every 24'.

18' CONCRETE FLUME



CITY/COUNTY STREET LAYING UNDER PAVING OPEN CUT DETAIL

N. T. S.

MBA ENGINEERS, INC. STRUCTURAL CIVIL GEOTECHNICAL 300 20TH STREET NORTH, SUITE 100 BIRMINGHAM, ALABAMA 35203 P(205) 323-6385 F(205) 324-0698 TOM CALLISON, P.E. TCALLISON@MBASEI.COM

THOMAS M. McELRATH, ARCHITECTURE and SPAC

DETAILS

CONSTRUCTION

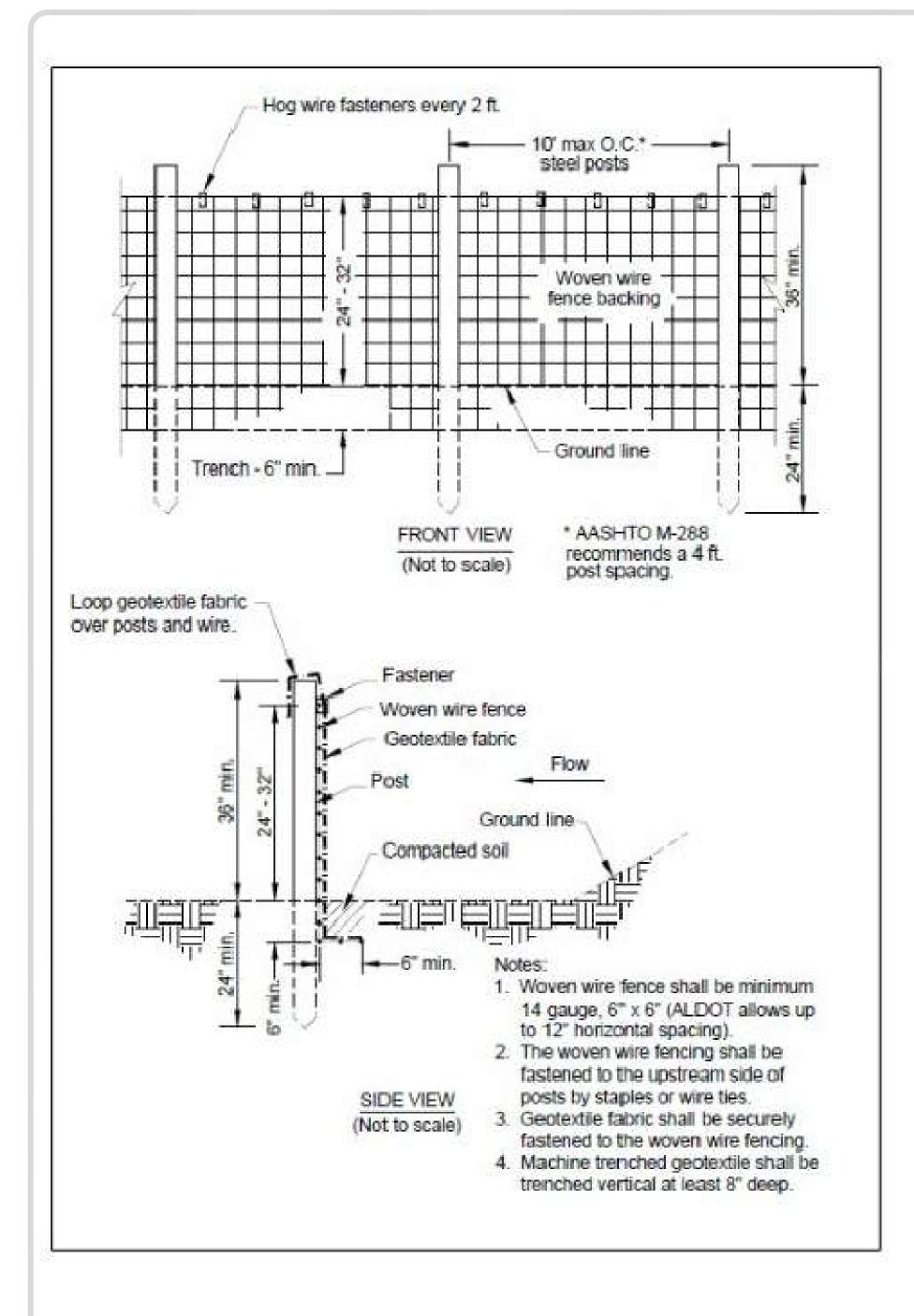
DOCUMENTS CHECKED TFC SCALE AS NOTED

DATE SEPTEMBER 15, 2022

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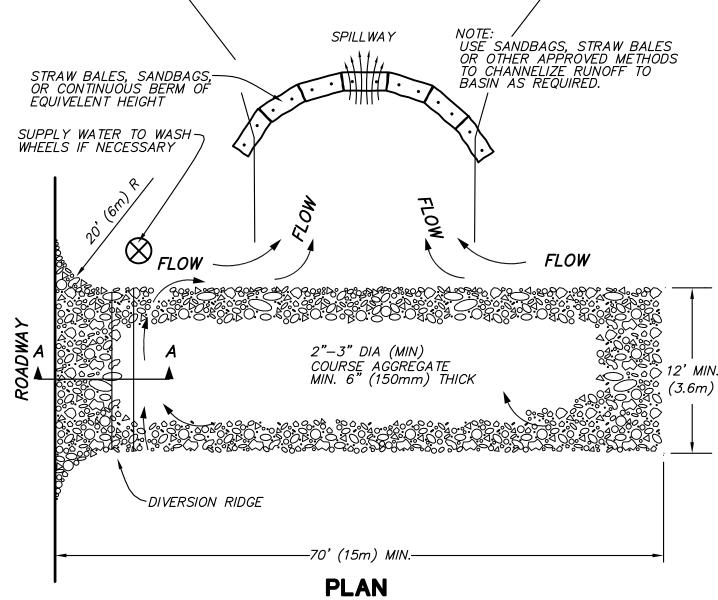
SHEETS



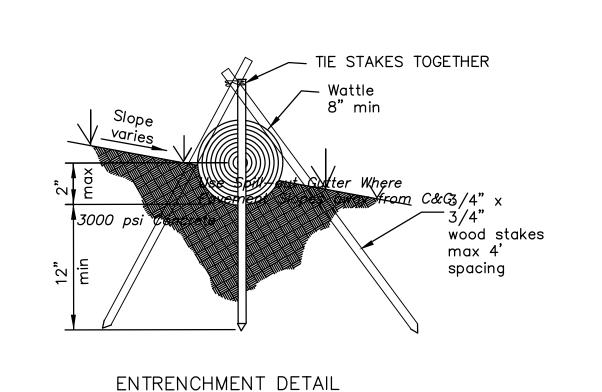
SILT FENCE (TYPE A) DETAIL

N. T. S.

SEE NOTE —



Vertical spacing measured along the face of the slope varies between 6' and 20' near slope where it transitions into a steeper slope

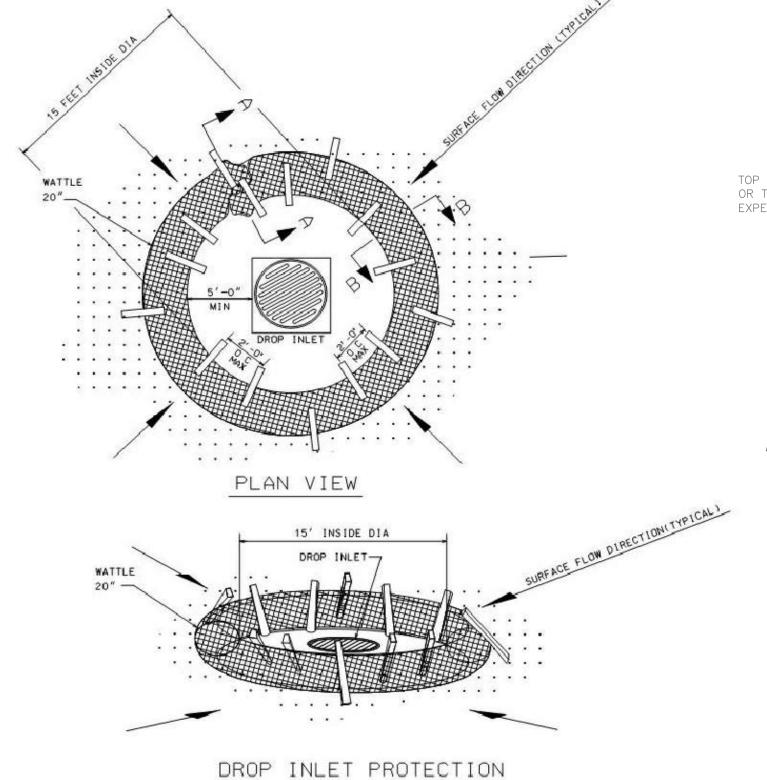


TYPICAL WATTLE INSTALLATION

1. Install wattles on a level contour where possible.

2. Turn back and form pockets to pond water on sloped applications at least every foot of fall or as required.

WATTLE DETAIL



1. ANCHORING STAKES SHALL BE SIZED, SPACED, AND BE OF A MATERIAL THAT

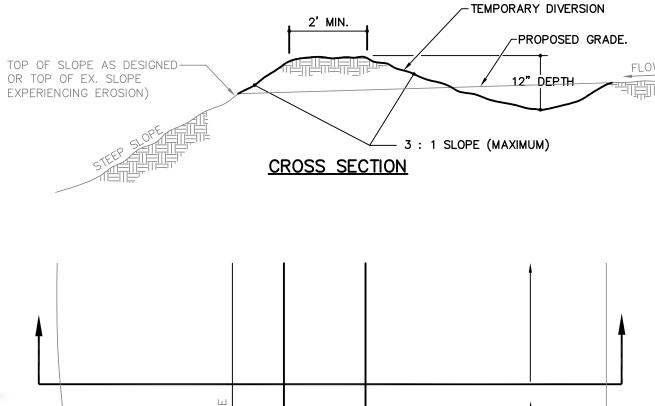
3. SEE ALDOT LIST II-24 FOR APPROVED WATTLES.

ACCEPTABLE DURING THIS STAGE.

2. OVERLAP ENDS OF WATTLES PER MANUFACTURERS RECOMMENDATIONS (1'MIN.3'MAX).

EFFECTIVELY SECURES THE WATTLE. STAKE SPACING SHALL BE A MAXIMUM OF TWO FEET.

4. SILT FENCE OR SAND BAGS MAY ALSO BE USED FOR THIS APPLICATION. HAY BALES NOT



SIDE SLOPE SLOPE DOWN 3 : 1 (MAXIMUM)

PLAN VIEW

DIVERSIONS ARE GENERALLY REQUIRED TO PREVENT EROSION ON A STEEP SLOPE, USUALLY A FILL SLOPE, BY PREVENTING RUNOFF FROM RUNNING UNCONTROLLED DOWN THE SLOPE FACE AND ALLOWING TIME FOR VEGETATION TO TAKE HOLD. DIVERSIONS SHOULD BE LOCATED AT THE TOP OF THE SLOPE AND DIRECT RUNOFF LATERALLY TO A POINT SUCH AS A TEMPORARY SLOPE DRAIN PIPE OR A RIPRAP LINED FLUME THAT CAN TRANSMIT THE RUNOFF TO THE BOTTOM OF THE SLOPE IN A CONTROLLED FASHION. IT IS ALSO REQUIRED PREVENT EROSION FROM OCCURING IN THE DIVERSION DITCH ITSELF W/ CHECK DAMS OR EROSION CONTROL NETTING.

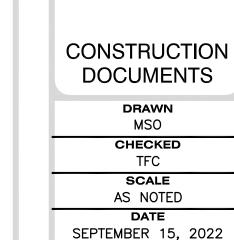
STANDARD DIVERSION DITCH

SECTION B-B

SECTION A-A

N. T. S.

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DETAILS

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WATTLE INLET PROTECTION

RIGHT-OF-WAY. 3. WHEN WASHING IS REQUIRED, IT SHALL BE

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED

DONE ON AN AREA STABLIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

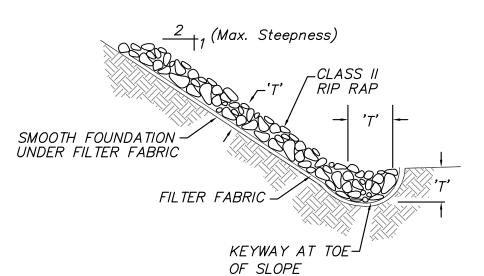
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC

NOTES:

TO TRAP SEDIMENT.

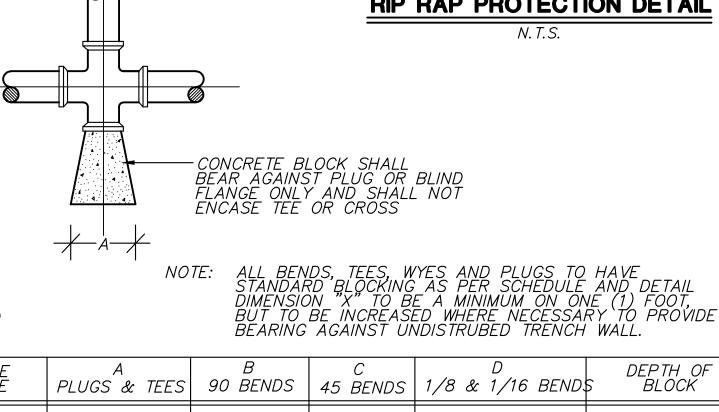
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT DETAIL

N. T. S.



T' = THICKNESS: THICKNESS SHALL BE DETERMINED BY THE ENGINEER. MINIMUM THICKNESS SHALL BE 1.5x THE MAXIMUM STONE DIAMETER

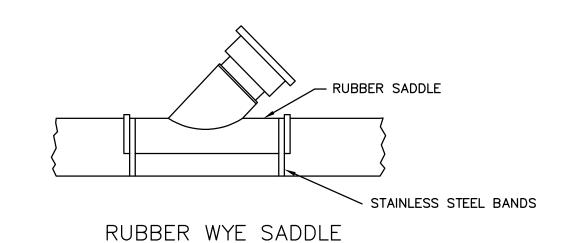
RIP RAP PROTECTION DETAIL

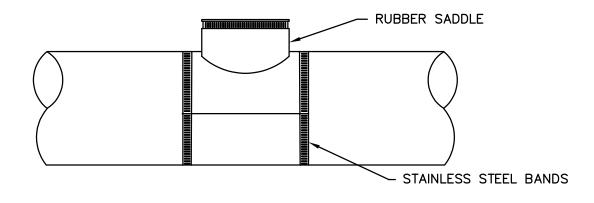


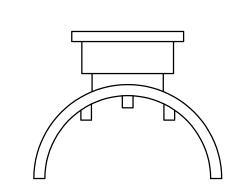
DEPTH OF BLOCK 2' - 5" 1' - 6" 6" & 8" 2' - 5" 2' - 10" 2' - 3"

FOR ALL WATER DETAILS AND SPECIFICATIONS, REFER TO THE BWWB THRUST BLOCK SCHEDULE

TYPICAL SERVICE CONNECTIONS





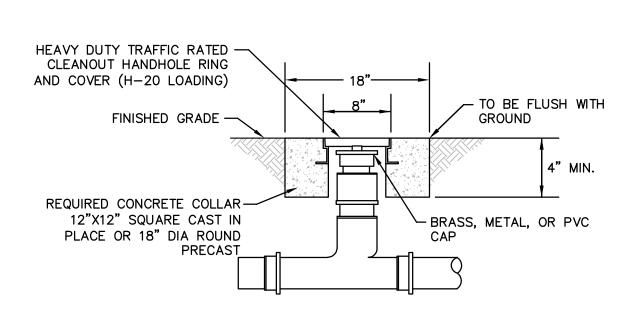


RUBBER TEE SADDLE

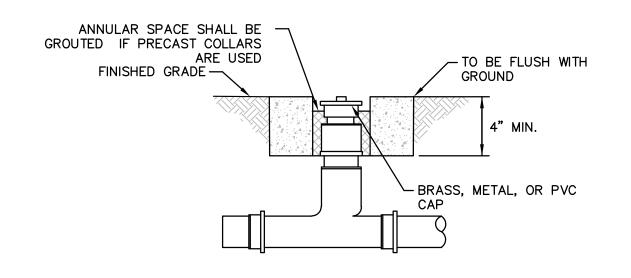
PVC TEE PVC SADDLE FOR DEL WITH MAINS 3034 OR SCH. 40-STAINLESS STEEL BANDS

ALL CONNECTIOONS SHALL BE MADE WITH AN APPROVED TYPE SADDLE FITTING. THE SADDLE SHALL PLACED OVER A CAREFULLY CUT OPENING IN THE UPPER QUADRANT OF THE SEWER MAIN AND TO THE MAIN USING STAINLESS STEEL BANDS. UNDER NO CIRCUMSTANCES SHALL ANY CONNECTIONS BE ALLOWED TO PROTRUDE INTO THE SEWER MAIN.

TYPICAL CLEANOUT

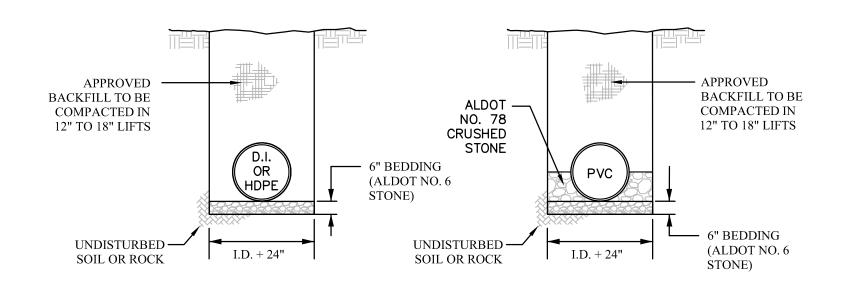


CLEANOUT IN PAVED AREAS

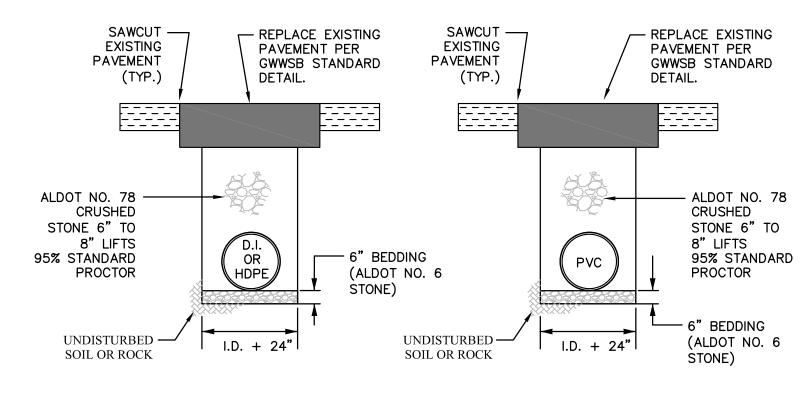


CLEANOUT IN NON-PAVED AREAS

TRENCH DETAIL FOR GRAVITY SEWER MAINS



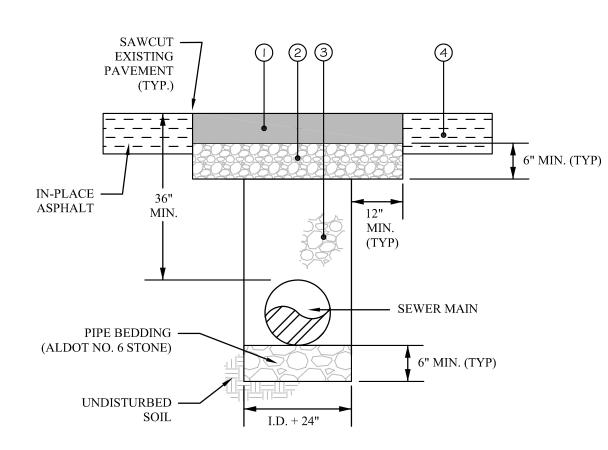
UN-PAVED TRENCH



PAVED TRENCH

- BEDDING MATERIAL SHALL BE ALDOT NO. 6 CRUSHED STONE PER ALDOT STANDARD SPECIFICATIONS. TRENCH WIDTH VARIES BASED ON WALL STABILITY. STABLE WALLS WIDTH AS NEEDED TO JOIN PIPE AND COMPACT
- 4. APPROVED BACKFILL MATERIAL INCLUDES ALDOT NO. 6 CRUSHED STONE, FLOWABLE FILL AND APPROVED SOIL. ALTERNATIVE MATERIAL MUST BE PREAPPROVED.
- 5. FLOWABLE FILL SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 50 PSI TO 200 PSI. 6. EXISTING ASPHALT SHALL BE REPLACED IN ACCORDANCE WITH GWWSB STANDARD DETAILS.

TYPICAL ROADWAY CUT/ASPHALT PATCH

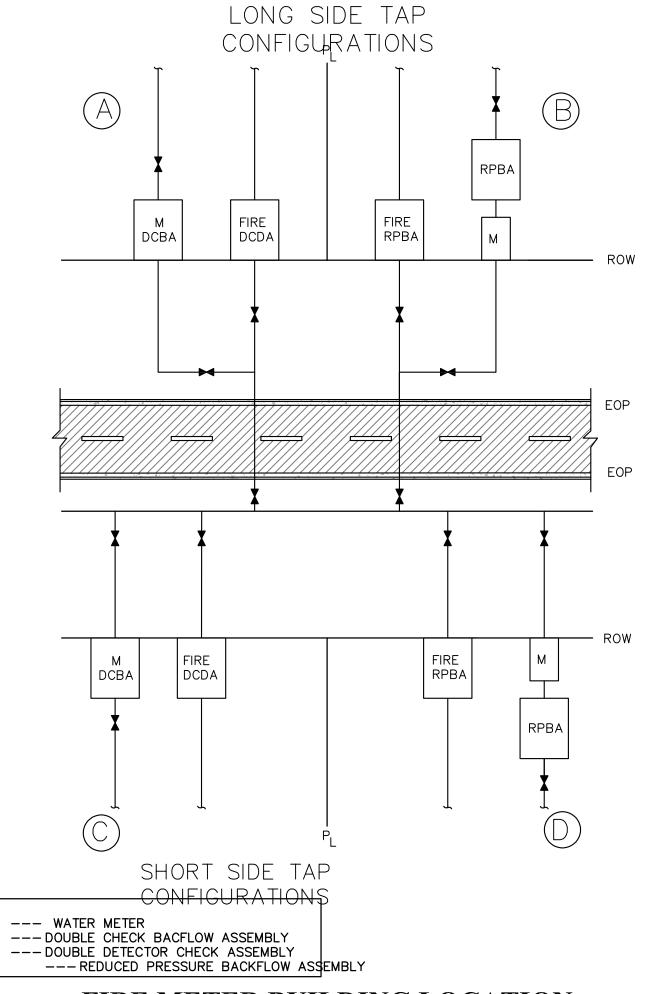


TYPICAL ASPHALT BUILD-UP

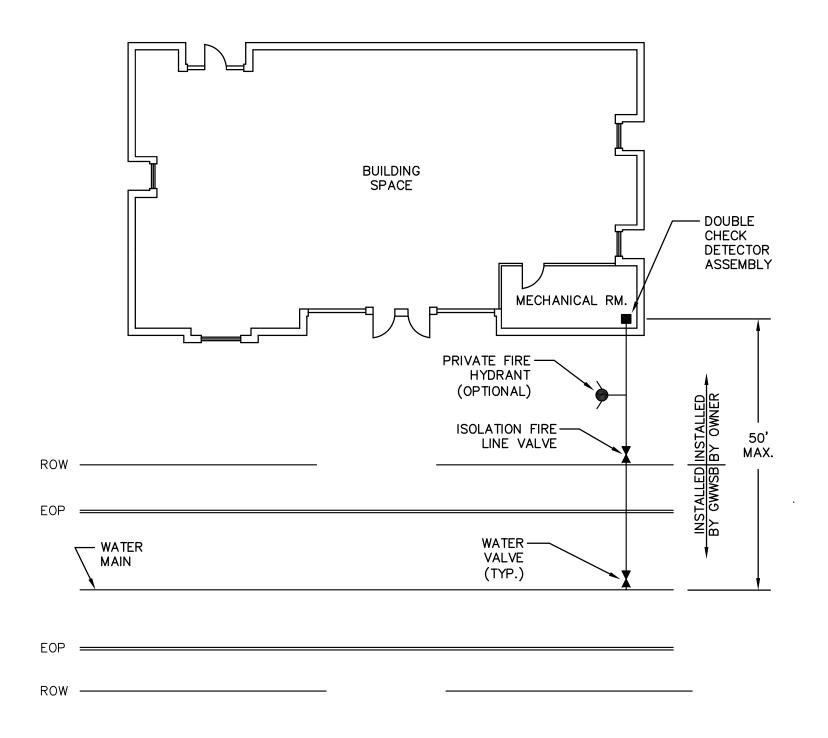
- 1.) ALDOT 424A SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, 1/2" MAX. AGGREGATE SIZE MIX, ESAL RANGE C/D (APPROX. 440 LBS/SY - 4" COMPACTED THICKNESS)
- ALDOT 424B SUPERPAVE BITUMINOUS CONCRETE UPPER BINDER LAYER, 3/4" MAX. AGGREGATE SIZE MIX, ESAL RANGE C/D (APPROX. 440 LBS/SY - 4" COMPACTED THICKNESS)
- 2) ALDOT 825B CRUSHED AGGREGATE BASE COURSE, COMPACTED TO 98% STANDARD PROCTOR DENSITY (6" COMPACTED
- 3.) ALDOT NO. 78 CRUSHED STONE BACKFILL, COMPACTED TO 95% STANDARD PROCTOR DENSITY
- 4. IN-PLACE PAVEMENT RETAIN

- 1. LAYER NO. 1 SHALL BE A MINIMUM 4-INCH COMPACTED THICKNESS AND SHALL CONSIST OF ALDOT 424A WEARING SURFACE (1/2" AGG. MIX) OR ALDOT 424B UPPER BINDER LAYER (3/4" AGG. MIX).
- 2. ASPHALT MATERIALS SHALL BE PLACED IN MINIMUM 3-INCH LOOSE LIFTS AND COMPACTED IN ACCORDANCE WITH ALDOT SPECIFICATIONS.

GENERAL SERVICE CONNECTION CONFIGURATION



FIRE METER BUILDING LOCATION



LEGEND:

DCBA DCDA RPBA

- 1. FIRE LINES TO SERVE SPRINKLERS, PRIVATE FIRE HYDRANTS, STANDPIPES AND FIRE PUMPS FOR PRIVATE PROTECTION SHALL BE DESIGNED BY THE OWNER'S ENGINEER AND APPROVED BY THE CITY OF GADSDEN FIRE
- ALL FIRE LINE CONNECTIONS SHALL HAVE A DOUBLE CHECK DETECTOR ASSEMBLY (DCDA). THE DCDA SHALL BE INSTALLED 50-FEET OR LESS FROM THE WATER MAIN CONNECTION IN A LOCATION
- ACCESSIBLE TO GWWSB PERSONNEL. 4. THE MAINTENANCE OF THE VAULT, DCDA AND APPURTENANCES ON PRIVATE PROPERTY SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.





DETAILS

CONSTRUCTION

DOCUMENTS CHECKED TFC SCALE AS NOTED

DATE SEPTEMBER 15, 2022

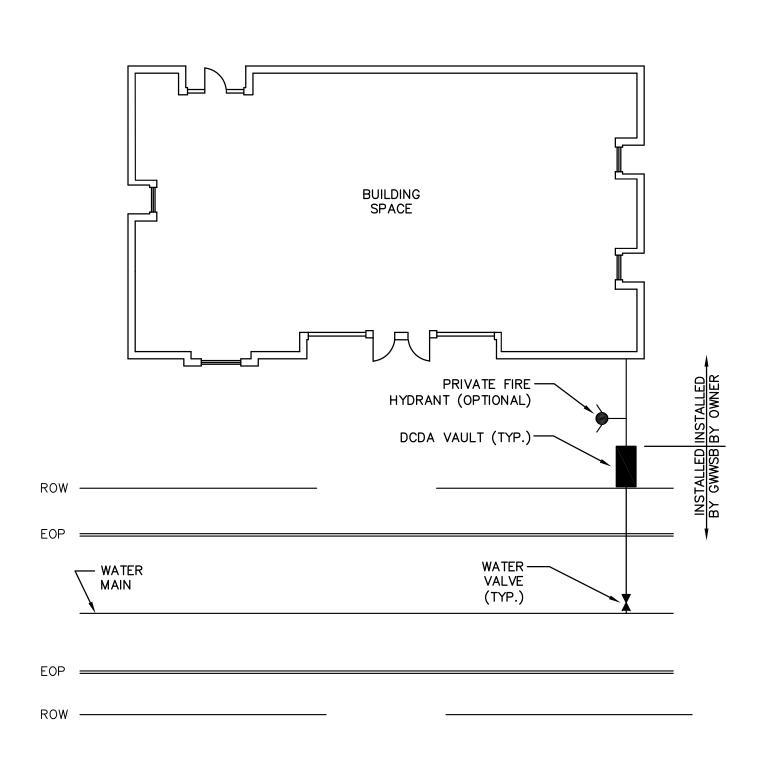
C7.0 DETAILS.DWG JOB NO. 22-01 REVISIONS

SHEET SHEETS

1. ALL CLEANOUTS SHALL BE INSTALLED OUTSIDE THE PUBLIC RIGHT-OF-WAY OR EASEMENTS, UNLESS

APPROVED OTHERWISE.

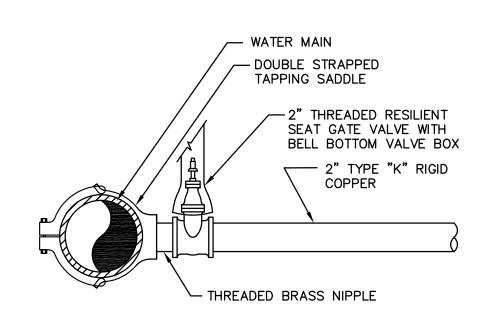
FIRE METERVAULT LOCATION



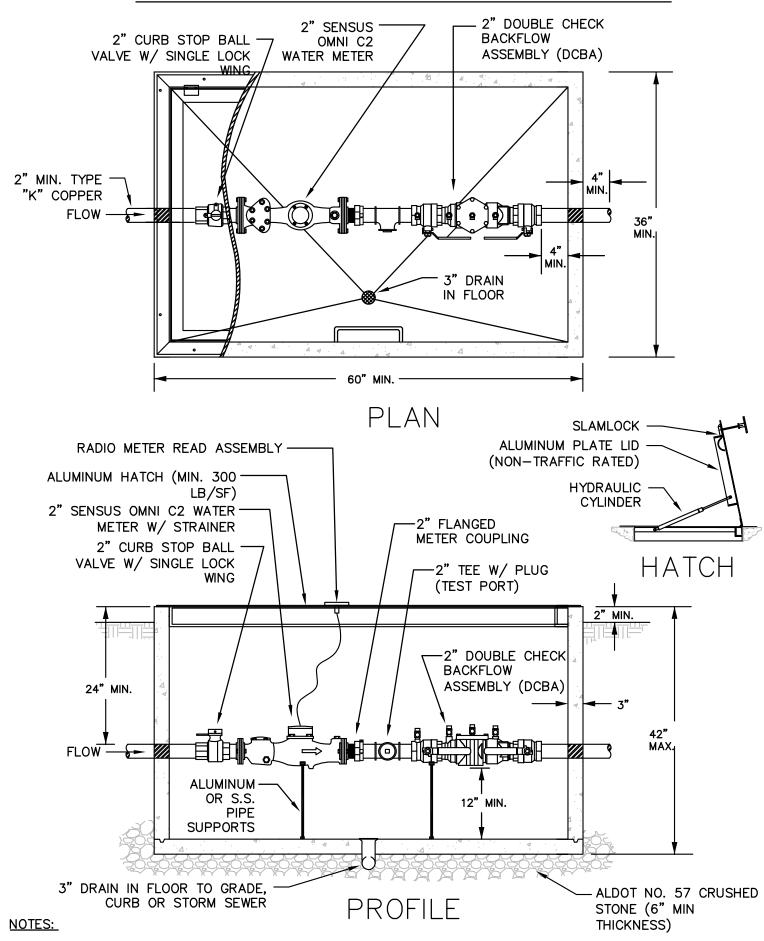
NOTES:

- FIRE LINES TO SERVE SPRINKLERS, PRIVATE FIRE HYDRANTS, STANDPIPES AND FIRE PUMPS FOR PRIVATE PROTECTION SHALL BE DESIGNED BY THE OWNER'S ENGINEER AND APPROVED BY THE CITY OF GADSDEN
- THE DCDA SHALL BE INSTALLED 50-FEET OR LESS FROM THE WATER MAIN CONNECTION IN A LOCATION ACCESSIBLE TO GWWSB PERSONNEL
- THE MAINTENANCE OF THE VAULT, DCDA AND APPURTENANCES ON PRIVATE PROPERTY SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

TYPICAL 2" SERVICE CONNECTION

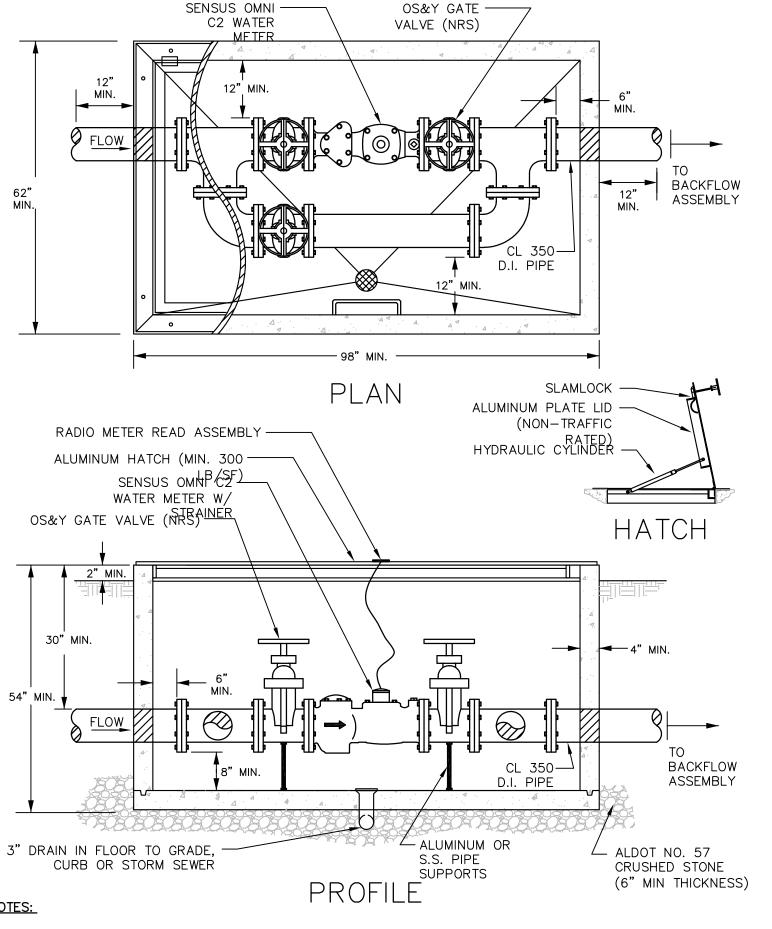


TYPICAL 2.0" METER VAULT W/ DCBA



WATER METER SHALL BE 2" SENSUS OMNI C2 METER, UNLESS OTHERWISE SPECIFIED BY GWWSB DOUBLE CHECK BACKFLOW ASSEMBLY SHALL BE 2" WATTS MODEL NO. LF007M1QT OR EQUAL. CURB STOP BALL VALVES WITH LOCK WING SHALL BE 2" A.Y. MCDONALD MODEL NO. 76101 OR EQUAL FLANGED METER COUPLING SHALL BE FORD METER BOX LOK-PAK COUPLING OR EQUAL. ALL CONCRETE SHALL BE CLASS "A" (4,000 PSI) IN ACCORDANCE WITH THE GWWSB STANDARD

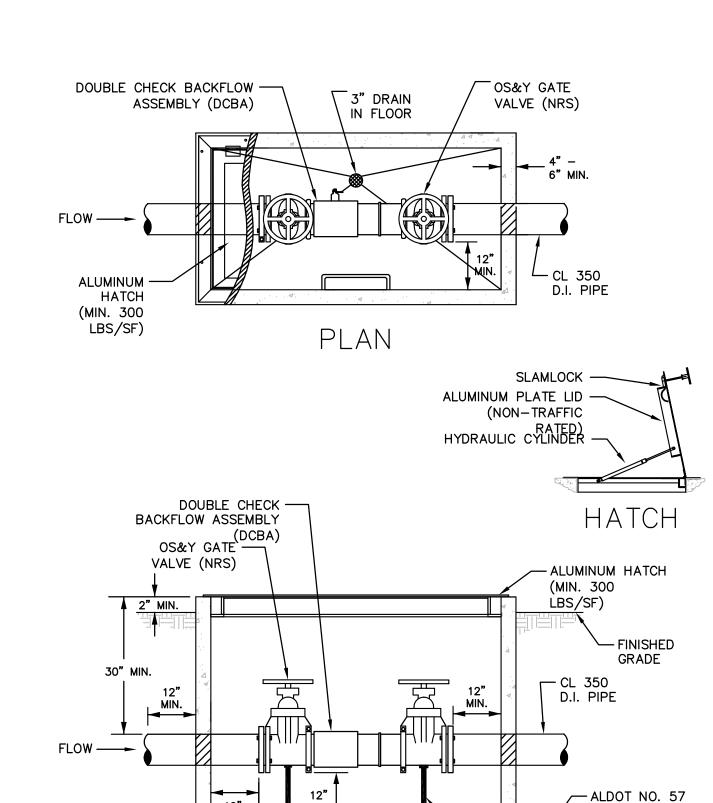
TYPICAL 4" & 6" METER VAULT



WATER METER SHALL BE SENSUS OMNI C2 METER, UNLESS OTHERWISE SPECIFIED BY GWWSB. ALL CONCRETE SHALL BE CLASS "A" (4,000 PSI) IN ACCORDANCE WITH THE GWWSB STANDARD

3. ALL PIPE AND FITTINGS SHALL BE DUCTILE IRON, PRESSURE CLASS 350. 4. BYPASS PIPING AND VALVES SHALL BE THE SAME DIAMETER AS THE METER.

DOUBLE CHECK BACKFLOW ASSEMBLY (DCBA)



3" DRAIN IN FLOOR TO GRADE,

CURB OR STORM SEWER

DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE MANUFACTURED BY AMES, WATTS, OR AN APPROVED EQUAL. 2. ALL CONCRETE SHALL BE CLASS "A" (4,000 PSI) IN ACCORDANCE WITH THE GWWSB STANDARD

PROFILE

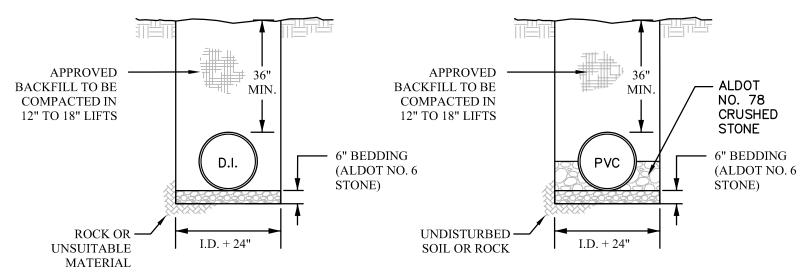
CRUSHED STONE

(6" MIN THICKNESS)

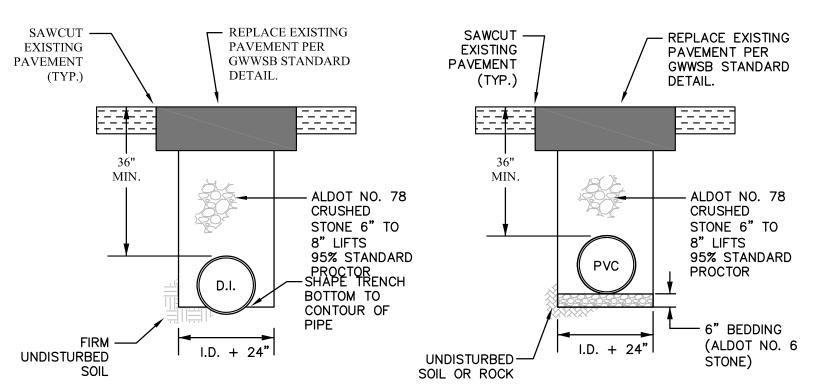
- ALUMINUM OR S.S.

PIPE SUPPORTS

TRENCH DETAIL FOR WATER MAINS



UN-PAVED TRENCH



PAVED TRENCH

- BEDDING MATERIAL SHALL BE ALDOT NO. 6 CRUSHED STONE PER ALDOT STANDARD SPECIFICATIONS. TRENCH WIDTH VARIES BASED ON WALL STABILITY. STABLE WALLS WIDTH AS NEEDED TO JOIN PIPE AND COMPACT HAUNCHING AND INITIAL BACKFILL. THE TRENCH WIDTH AT UNSTABLE WALLS SHOULD BE A MINIMUM FIVE TIMES PIPE DIAMETER.
- 3. FLOWABLE FILL CAN BE USED AS BACKFILL WITH PRIOR APPROVAL AND MUST BE ALLOWED 24 HOURS TO CURE PRIOR
- 4. APPROVED BACKFILL MATERIAL INCLUDES ALDOT NO. 6 CRUSHED STONE, FLOWABLE FILL AND APPROVED SOIL. ALTERNATIVE MATERIAL MUST BE PREAPPROVED.
- FLOWABLE FILL SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 50 PSI TO 200 PSI. 6. EXISTING ASPHALT SHALL BE REPLACED PER GWWSB STANDARD DETAILS.



DETAILS

CONSTRUCTION

DOCUMENTS CHECKED TFC SCALE AS NOTED DATE

SEPTEMBER 15, 2022 C7.0 DETAILS.DWG

JOB NO. 22-01 REVISIONS

SHEET

SHEETS

MBA ENGINEERS, INC.

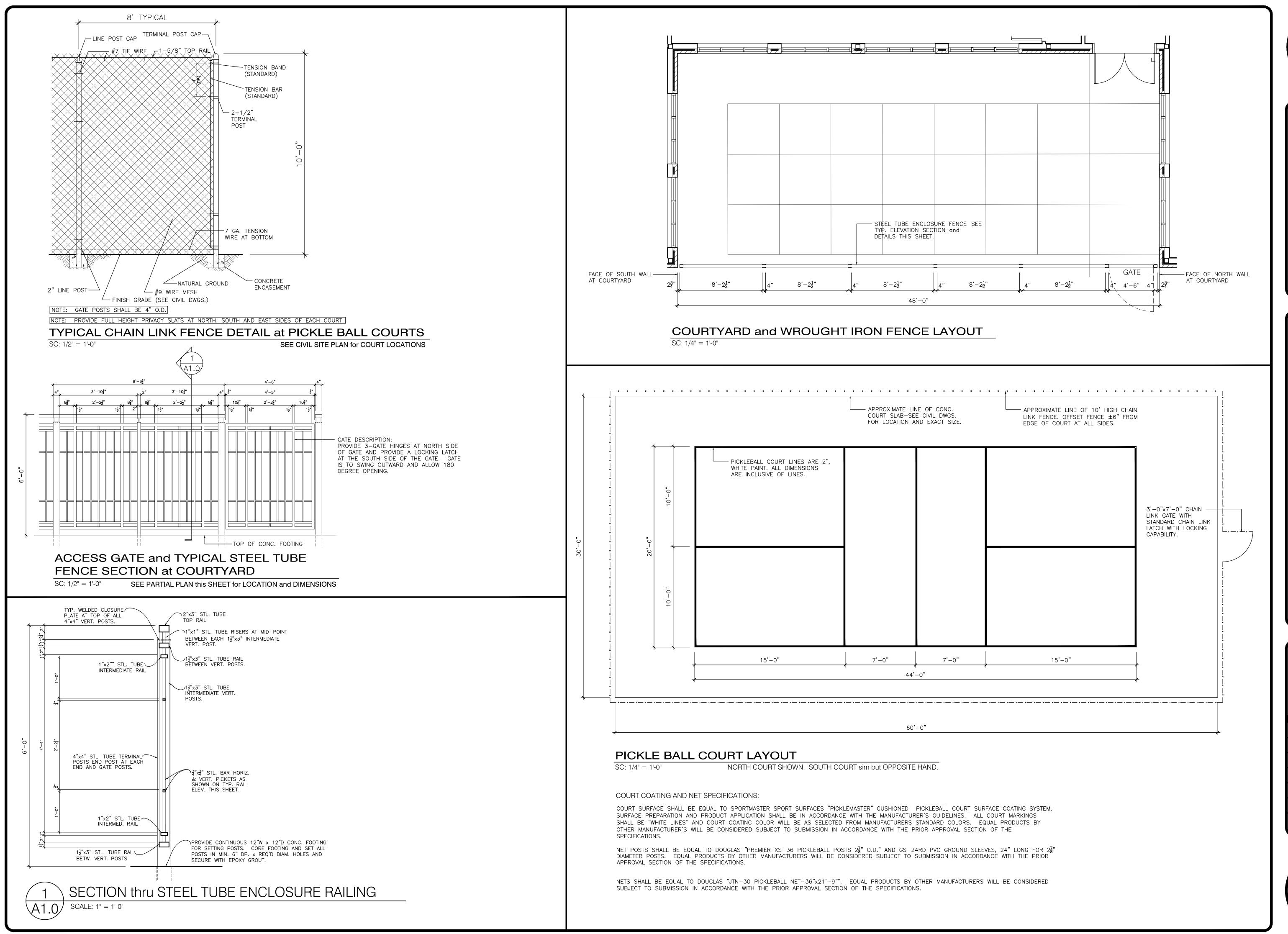
STRUCTURAL CIVIL GEOTECHNICAL

300 20TH STREET NORTH, SUITE 100

P(205) 323-6385 F(205) 324-0698

TOM CALLISON, P.E. TCALLISON@MBASEI.COM

BIRMINGHAM, ALABAMA 35203

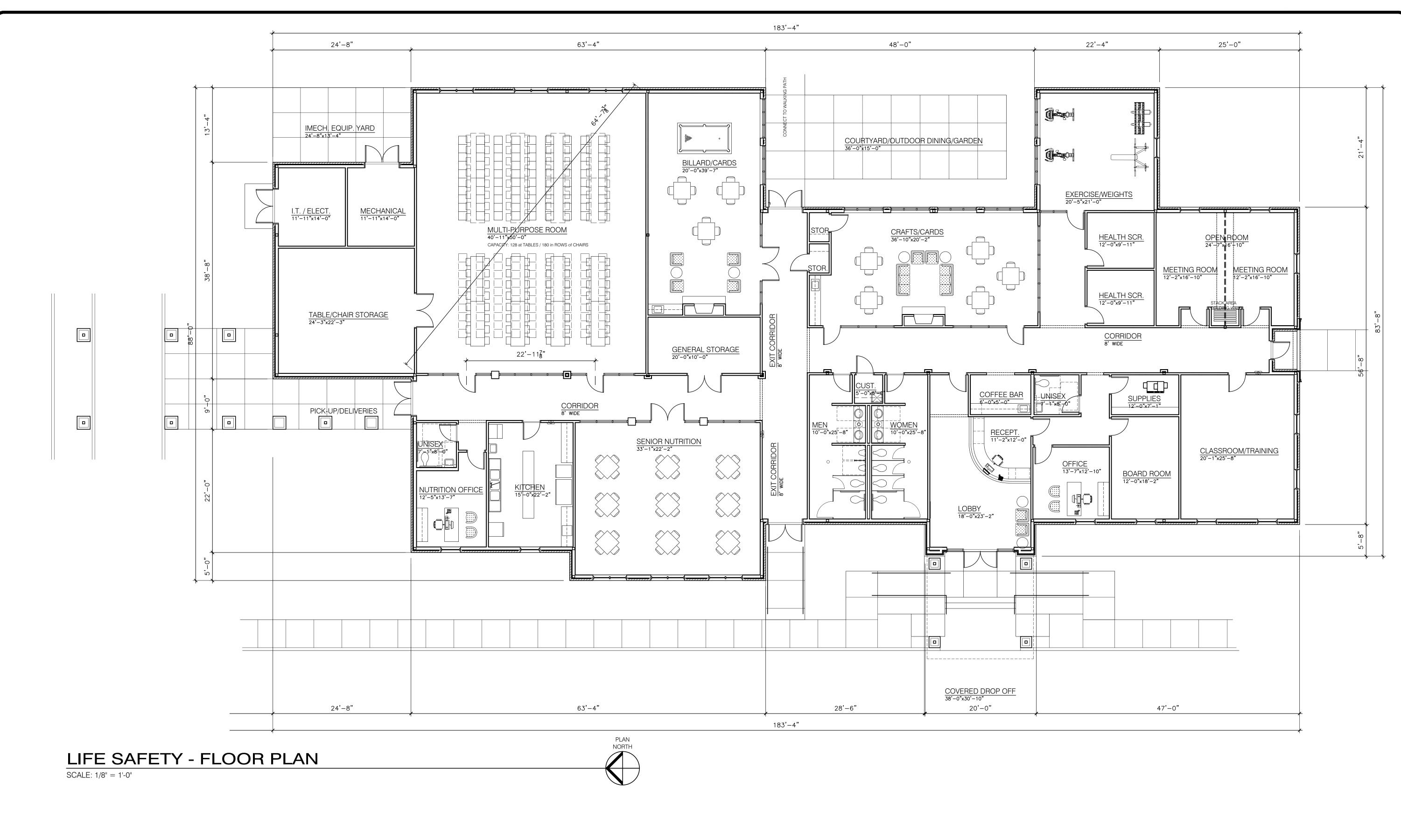




MISC. SITE **DETAILS**

CHECKED SCALE AS NOTED SEPTEMBER 15, 2022

A1.0_Misc Site Det.dwg JOB NO. 22-01 REVISIONS



BUILDING CODE/ZONING COMPLIANCE INFORMATION:

- 1. ENFORCED CODES: 2021 International Building Codes (IBC)
- 2. ZONING DISTRICT: "R-1" PER CITY OF GADSDEN ZONING MAP
- 3. TYPE OF CONSTRUCTION (Per 2021 IBC)

PROPOSED BUILDING _____ TYPE II B-FULLY SPRINKLERED

- 4. USE & OCCUPANCY CLASSIFICATION: MIXED USE UN-SEPARATED BUSINESS GROUP "B" AND ASSEMBLY GROUP "A3"(Per Section 304)
- MAXIMUM AREA, HEIGHT & NUMBER OF STORIES (For Group B; Type II-B Construction-Per T503) MAXIMUM AREA PER FLOOR _ MAXIMUM NUMBER OF STORIES_ (ONE) STORY ACTUAL NUMBER OF STORIES _ MAXIMUM ALLOWABLE HEIGHT___ ACTUAL MAXIMUM HEIGHT
- ACTUAL BUILDING AREA TABULATION-COMPLIANCE WITH 2021 IBC: ___ 12,346 G.S.F.

- 7. FIRE RESISTANCE RATINGS
- MAIN BUILDING (Per Table 601) TYPE II-B

Structural frame (columns) _____ Exterior nonbearing walls and partitions _____ ____ 0 HOURS (Per Table 601) Interior nonbearing walls and partitions _____ Floor construction (including supporting beams & joists) ______ 0 HOURS
Roof construction (including supporting beams & joists) ______ 0 HOURS ____ 0 HOURS (Per Table 1020.2)

8. EGRESS WIDTH REQUIREMENTS

Exit Access Corridors _____

MIXED USE UN-SEPARATEDD (FULLY SPRINKLERED) (Per Table 1004.5)

A. Group "B" Occupant Load: 10,300 G.S.F./150 G.S.F. per occupant = 68 B. Group "A-3" Occupant Load: 2,046 G.S.F./7 G.S.F. per occupant = 180

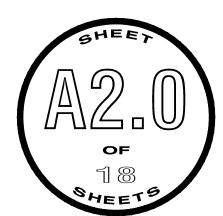
9. MINIMUM NUMBER OF REQUIRED FIRE EXTINGUISHERS (Per Directive of State Fire Marshall's Office) Fire Extinguishers are provided in the New Building at locations such that no occupant is more than 75' from an available exitinguisher. There are no "special—hazard"areas in the New Addition.

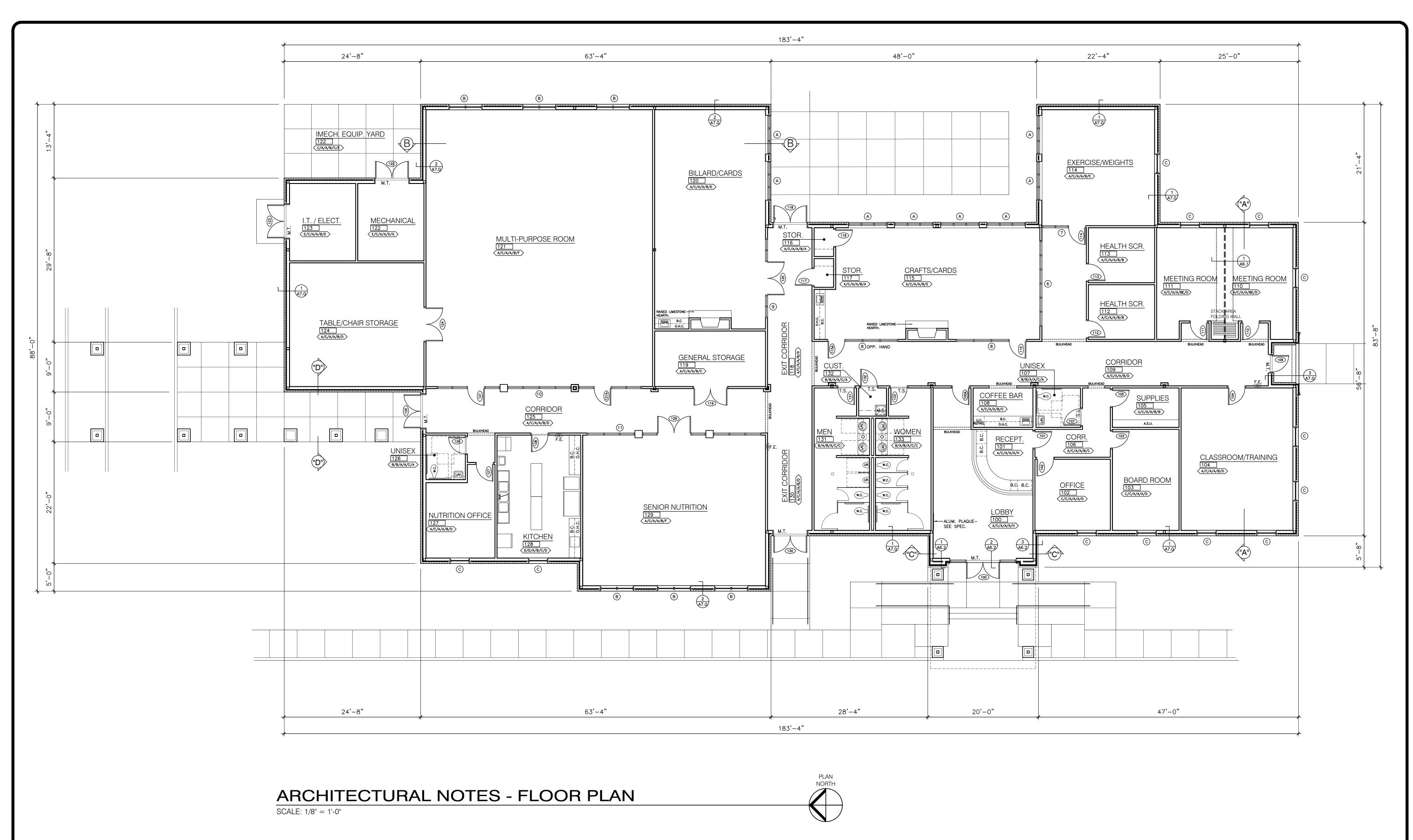


LIFE SAFETY **FLOOR PLAN**

AS NOTED SEPTEMBER 15, 2022

A2.0_LS Floor Plan.dwg JOB NO. 22-01 REVISIONS





ABBREVIATIONS: (APPLICABLE TO ALL ARCHITECTURAL FLOOR PLANS WHERE INDICATED)

- A.S.U. ADJUSTABLE SHELF UNIT
- B.C. BASE CABINET
- C.E.S. CARPET EDGE STRIP at floor
- Q CENTERLINE
- D.F. DRINKING FOUNTAIN See Plumbing
- D.S. DOWNSPOUT & SPLASHBLOCK See Roofing
- D. DRYER See Plumbing and/or Electrical D.W. DISHWASHER - N.I.C. - See Plumbing and/or Electrical M.T. METAL THRESHOLD
- F.D. FLOOR DRAIN See Plumbing
- F.E.C. FIRE EXTINGUISHER & CABINET
- F.O.B. FACE OF BLOCK OR BRICK
- F.O.S. FACE OF STUDS
- F.O.W. FACE OF WALL F.S. FEATURE STRIP at floor — 2" wide unless noted

- HCP. HANDICAP ACCESSIBLE
- H.R. HAND RAILING See Typical Details I.M. ICE MACHINE - N.I.C. - See Plumbing for Rough-in T.O.S. TOP OF SLAB
- LAV. LAVATORY See Plumbing
- L.T. LAUNDRY TUB See Plumbing
- M.B. MARKER BOARD See Specifications
- M.S. MOP SINK See Plumbing
- N.I.C NOT IN CONTRACT O.C. ON CENTER
- O.H.C. OVER HEAD CABINET
- P.B. PIPE BOLLARD See Civil P.T. PRESSURE TREATED
- REF. REFRIGERATOR

- R.S. RUBBER REDUCER STRIP at floor
- T.B. TACK BOARD See Specifications
- T.S. METAL TRANSITION STRIP AT PORC. TILE EDGE -
- See Details & Tile Spec.
- T.W.H. TANKLESS WATER HEATER See Plumbing V.S.T.R. VENT STACK THROUGH ROOF - See Plumbing
- W1. WASHING MACHINE N.I.C. See Plumbing for Rough-in
- W2. EXTRACTOR WASHING MACHINE N.I.C. See Plumbing for Rough-in
- W.C. WATER CLOSET See Plumbing

NCEALED WOOD BLOCKING at STUD PARTITIONS:
OVIDE CONCEALED 2×6 WOOD BLOCKING IN STUD PARTITIONS,
IERE REQUIRED TO ADEQUATELY ANCHOR & SUPPORT ALL
LL-MOUNTED ITEMS, INCLUDING BUT NOT LIMITED TO GRAB
RS AND OTHER TOILET ACCESSORIES, CASEWORK, MILLWORK,
UMBING FIXTURES & TRIM, WALL—MOUNTED DOOR STOPS, WALL—
OUNTED TELEVISION BRACKETS, AND HANDRAIL BRACKETS. SEE

SPECIFIC DISCIPLINES FOR LOCATIONS.

	D	QUARRY TILE (THIN-SET)			D EXPOSED STRUCTURE/INSULATION = NO FINISH CEILING
	Ε	EXPOSED CONCRETE WITH DUST— PROOF HARDENER			E GYPSUM BOARD WITH EGGSHELL LATEX ENAMEL PAINT (SEE SPEC.)
L					CEILING HGT. (U/V/W/X/Y/)
	BA	SE (U/W/W/X/Y/Z)	WA	LLS (U/V/W/W/Y/Z)	A 8'-0"
	Α	NONE	Α	GYPSUM BOARD WITH EGGSHELL ENAMEL PAINT	B 8'-8"
	В	15" HIGH THIN-SET PORCELAIN TILE	В	FRP PANELS OVER GYP. BOARD SUBSTRATE (SEE SPEC.)	C 9'-0"
	С	4" HIGH COVE RUBBER			D 10'-0"
	D	6" HIGH THIN-SET QUARRY TILE			E 11'-0"
					F 13'-0"
					G 13'-10" EXPOSED STRUCTURE
		<u> </u>			⊔ 18'_0"

(W/V/W/X/Y/Z)

A RESILIENT FLOOR TILE (LVT)

B PORCELAIN TILE (THIN-SET)

INTERIOR FINISH LEGEND

U/V/M/X/Y/Z CEILING

(U/V/W/X/)/Z

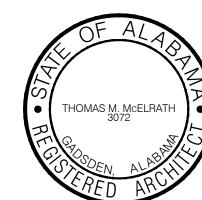
A NON-RATED LAY-IN TEGULAR-EDGE ACOUST. TILE IN 24 x 24" GRID NON-RATED LAY-IN SQUARE-EDGE

ACOUST. TILE IN 24 x 24" GRID

NON-RATED LAY-IN VINYL-FACED

GYP. BD. IN 24 x 24" GRID

EXPOSED STRUCTURE/INSULATION—



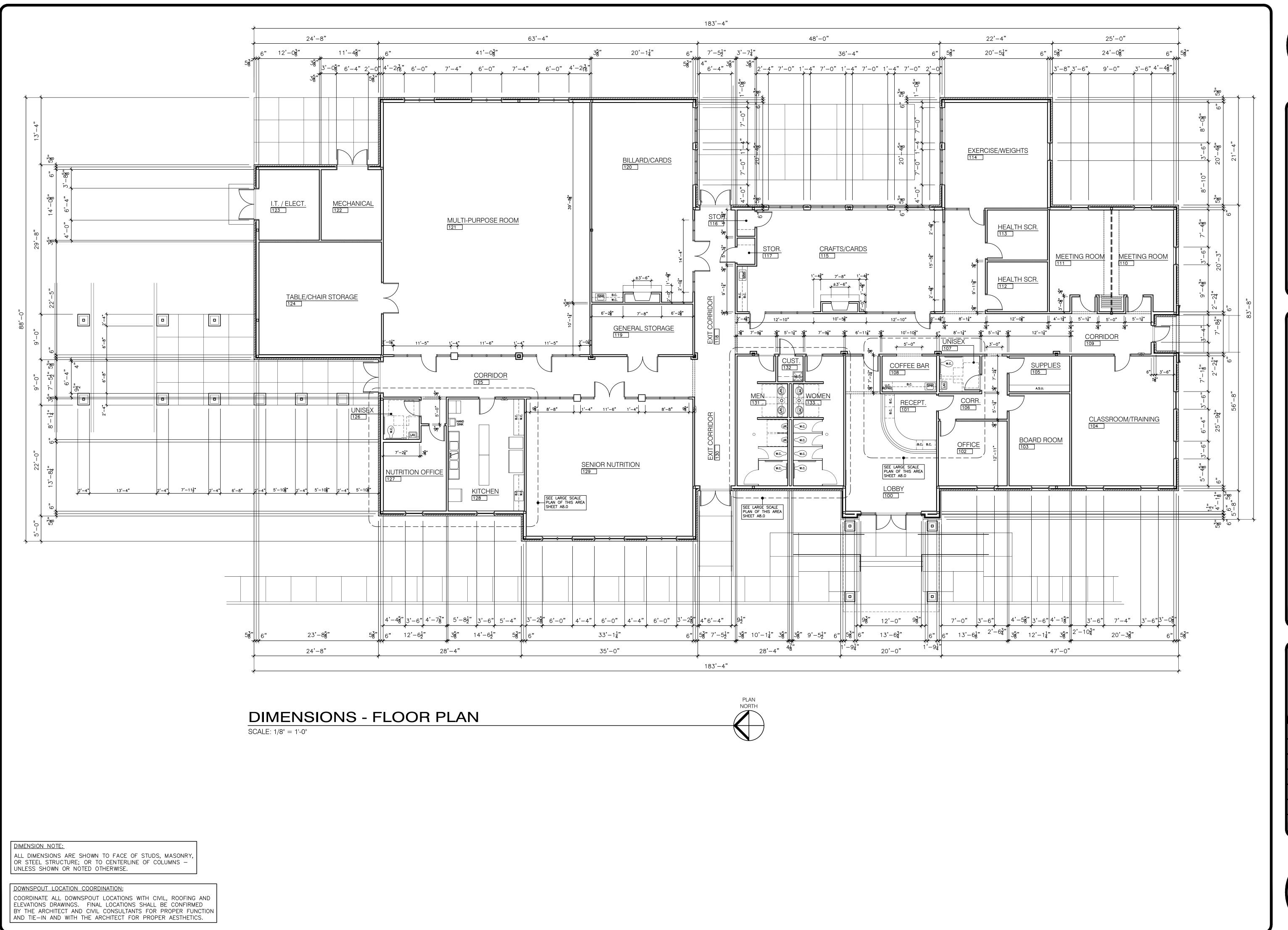
FLOOR PLAN

ARCH. NOTES

AS NOTED SEPTEMBER 15, 2022 JOB NO. 22-01

A2.1_AN Floor Plan.dwg REVISIONS







SPRINGS ROAD
ALABAMA 35901
ALABAMA 35901
ALABAMA 35901
ALABAMA 35901
ALABAMA 35901
ALABAMA 35901

ARCHITECTURE and SPA
717 MERIT SPRINGS
GADSDEN, ALABAMA
PHONE: (256) 490-8
EMAIL: TOM@TMM-ARCH

A NEW SENIOR WELLNESS CENTEF

at

2829 W. Meighan Boulevard

for

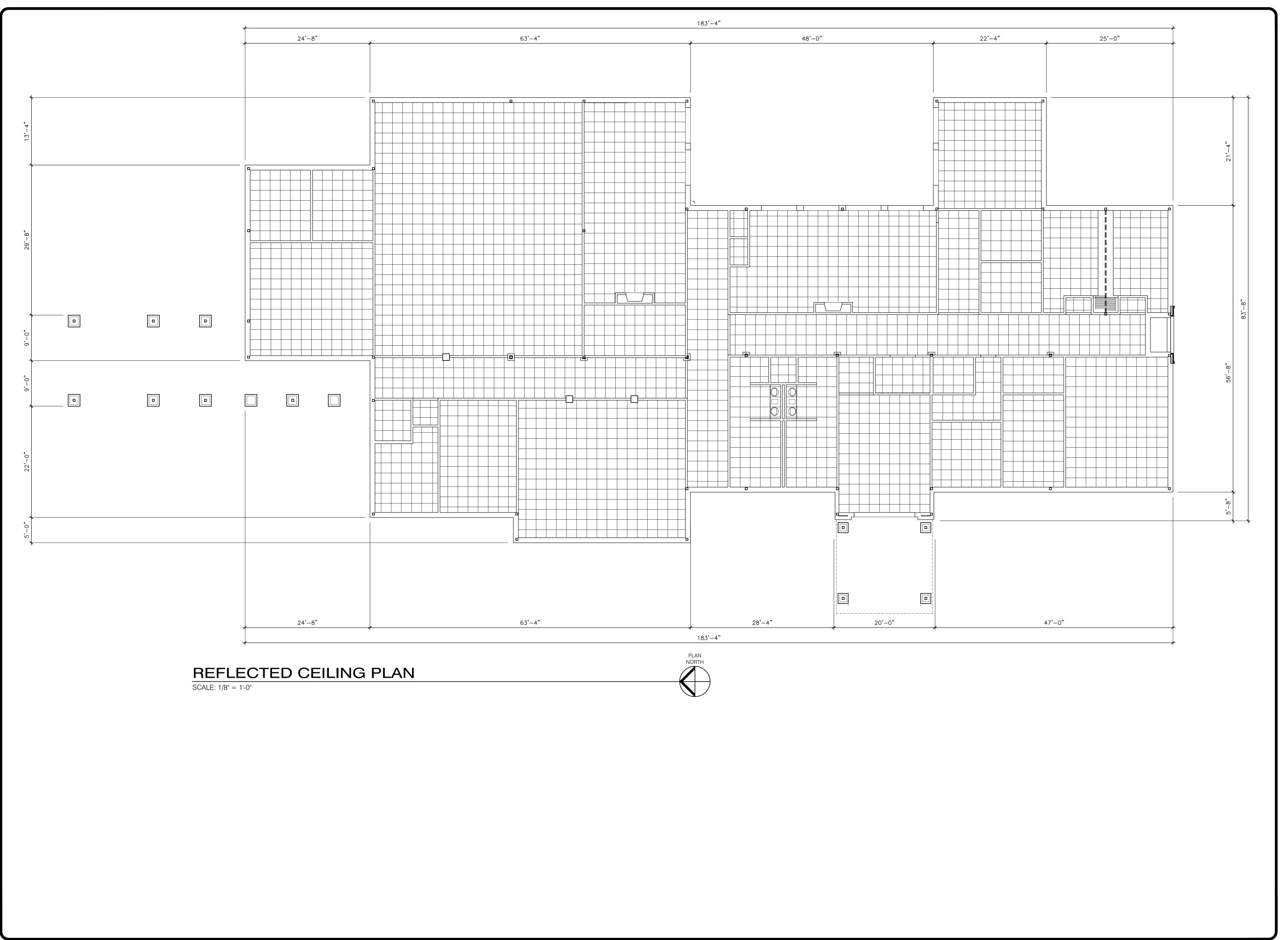
THE CITY of GADSDEN, ALABAMA

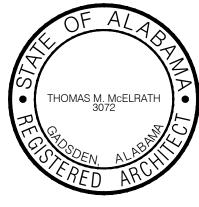
DIMENSIONS FLOOR PLAN

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DATE
SEPTEMBER 15, 2022
FILE
A2.2_Dim Floor Plan.dwg

JOB NO. 22-01 REVISIONS

SHEET OF 18 SHEETS

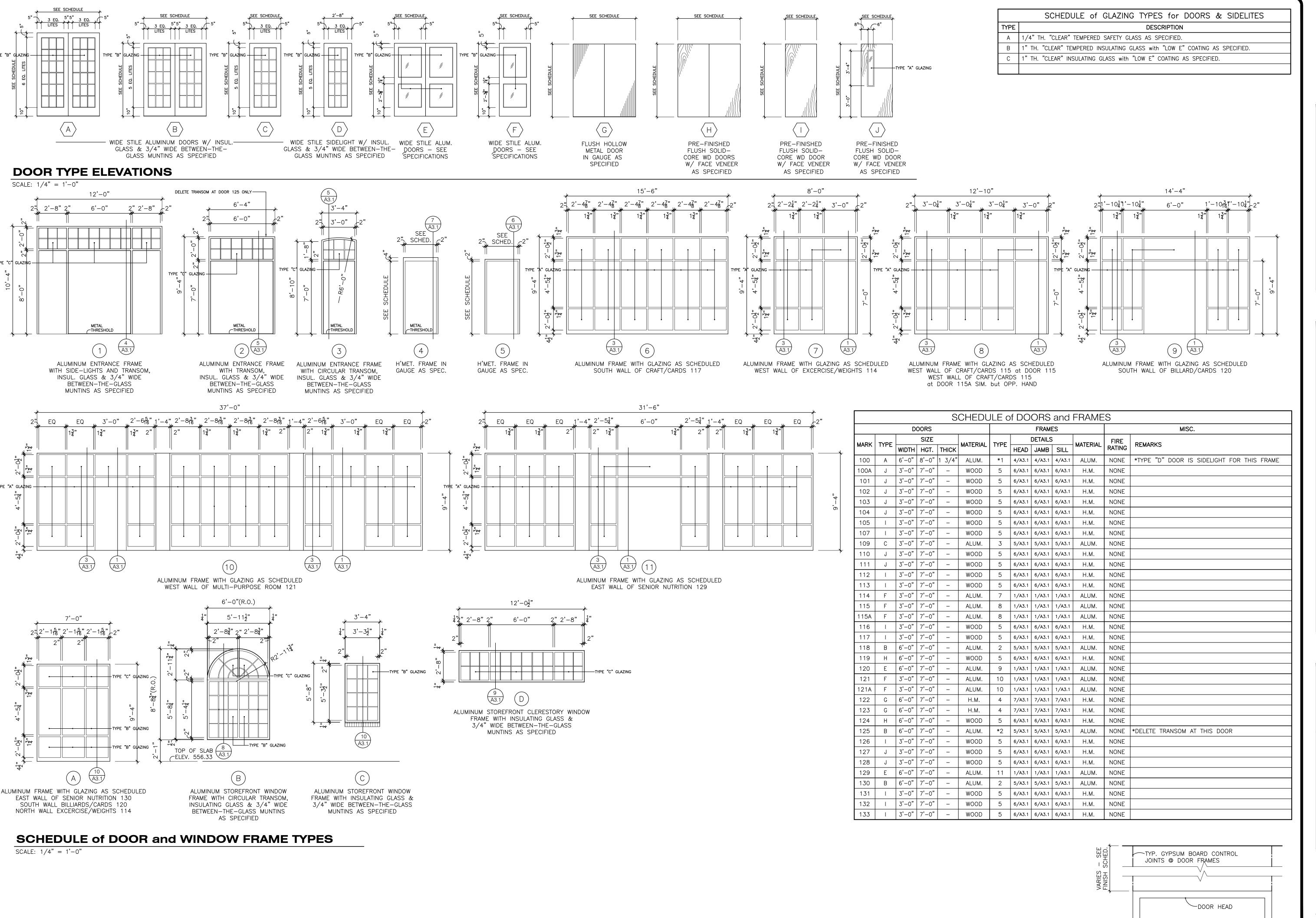




REFLECTED CEILING PLAN

SCALE AS NOTED SEPTEMBER 15, 2022 A2.3_RCP.dwg

22-01



THOMAS M. McELRATH

SCHEDULES and DETAILS

SHEET ONE

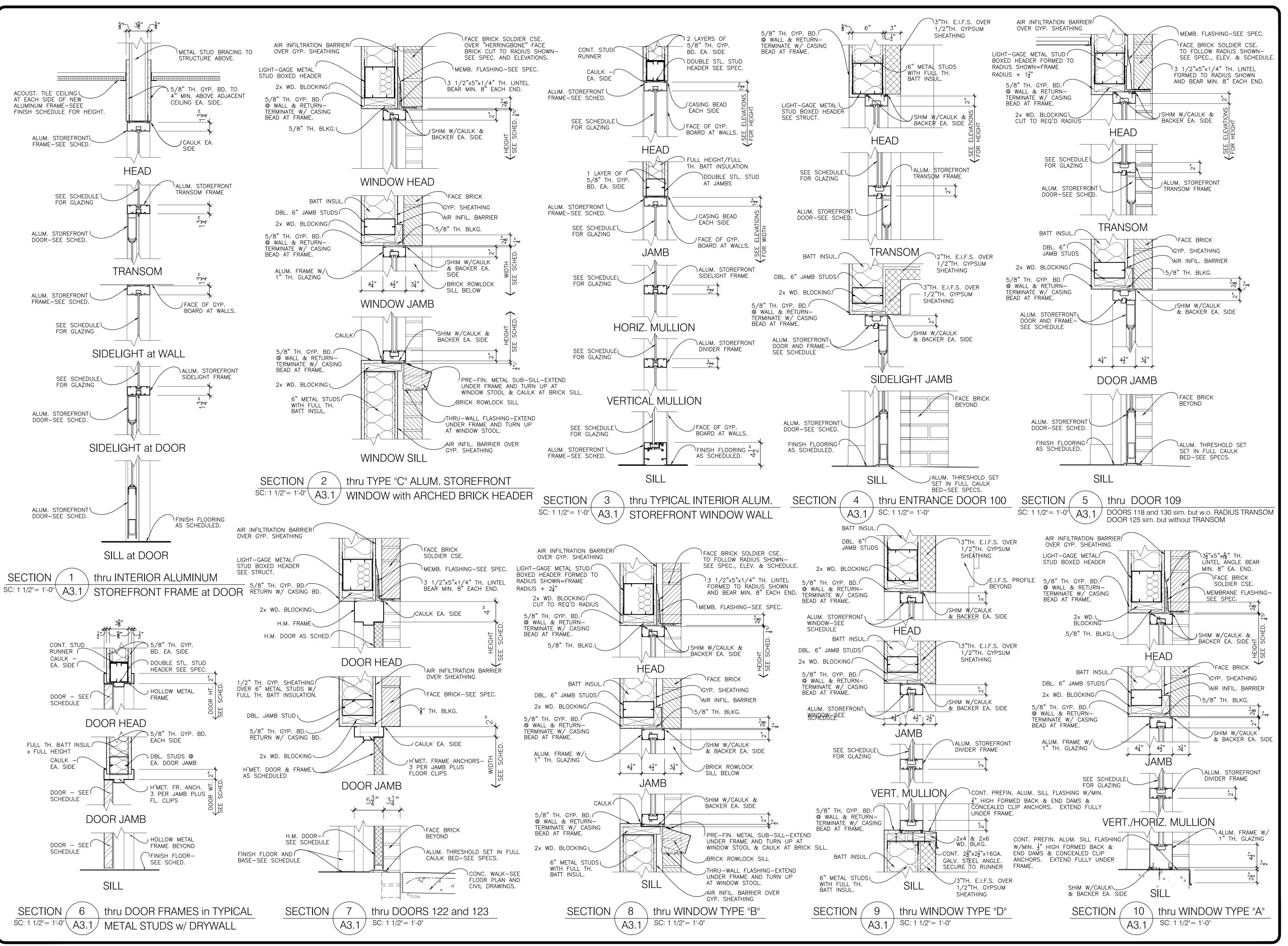
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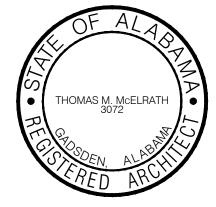
AS NOTED SEPTEMBER 15, 2022

A3.0_S&D One.dwg JOB NO. 22-01 REVISIONS



OCCURS @ ALL METAL DOOR FRAMES IN GYPSUM BOARD





SPRINGS ROAD
LABAMA 35901
56) 490-8244
M-ARCHITECT.COM

ARCHITECTURE and SPACE

717 MERIT SPRINGS ROAI

GADSDEN, ALABAMA 3590
PHONE: (256) 490-8244
EMAIL: TOM@TMM-ARCHITECT

A NEW SENIOR WELLNESS CENTER

at

2829 W. Meighan Boulevard

for

THE CITY of GADSDEN, ALABAMA

SCHEDULES and DETAILS

SHEET TWO

CHECKED

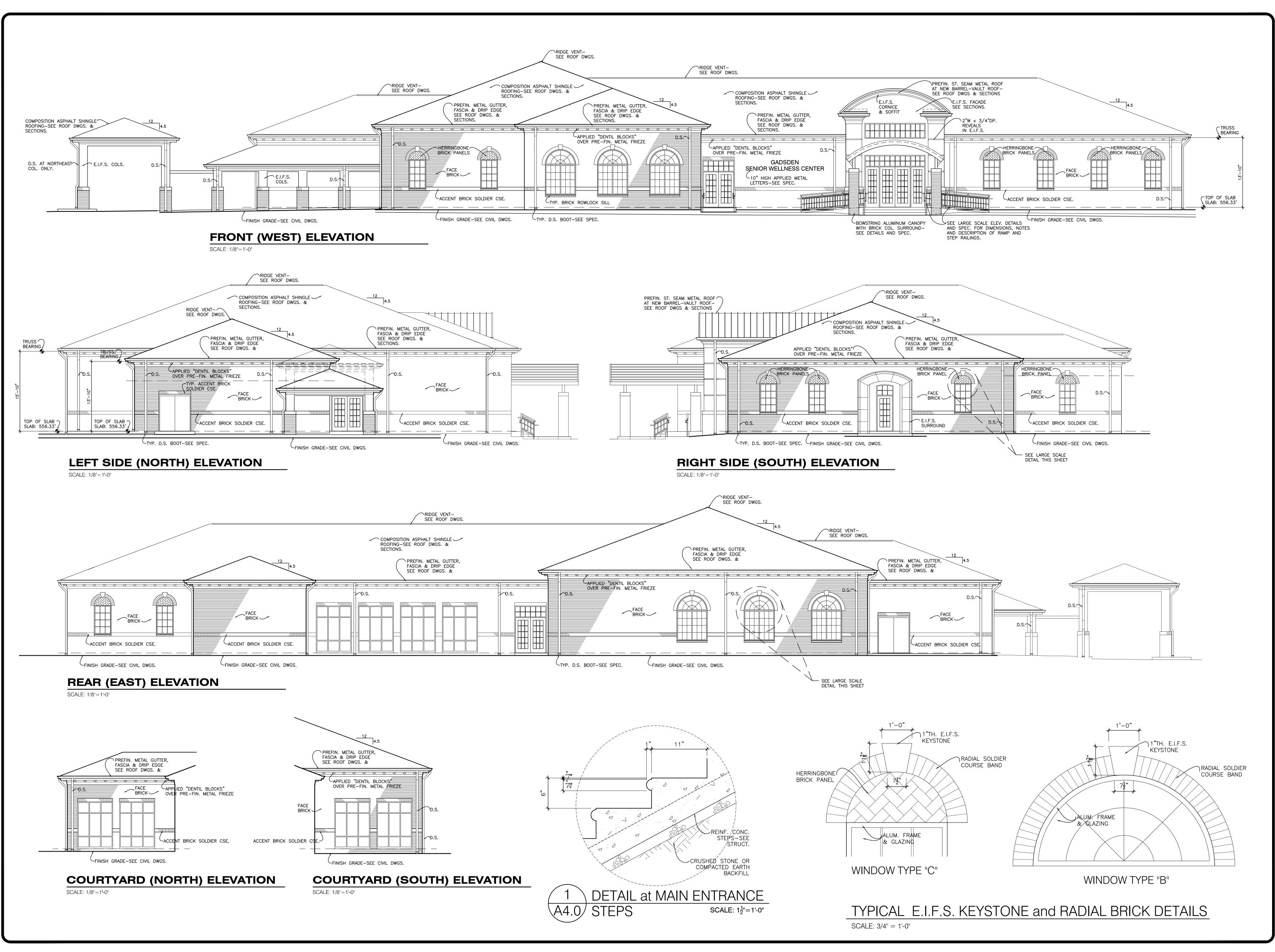
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AS NOTED

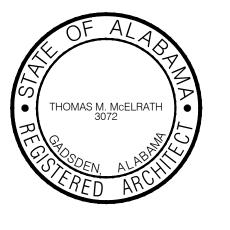
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JOB NO.
22-01
REVISIONS

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THOMAS M. MCELRATH, ARCHITECT

ARCHITECTURE and SPACE PLANNING

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244
EMAIL: TOM@TMM-ARCHITECT.COM

at at 2829 W. Meighan Boulevard for

ELEVATIONS

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AS NOTED
DATE
SEPTEMBER 15, 2022
FILE

SEPTEMBER 15, 2022

FILE

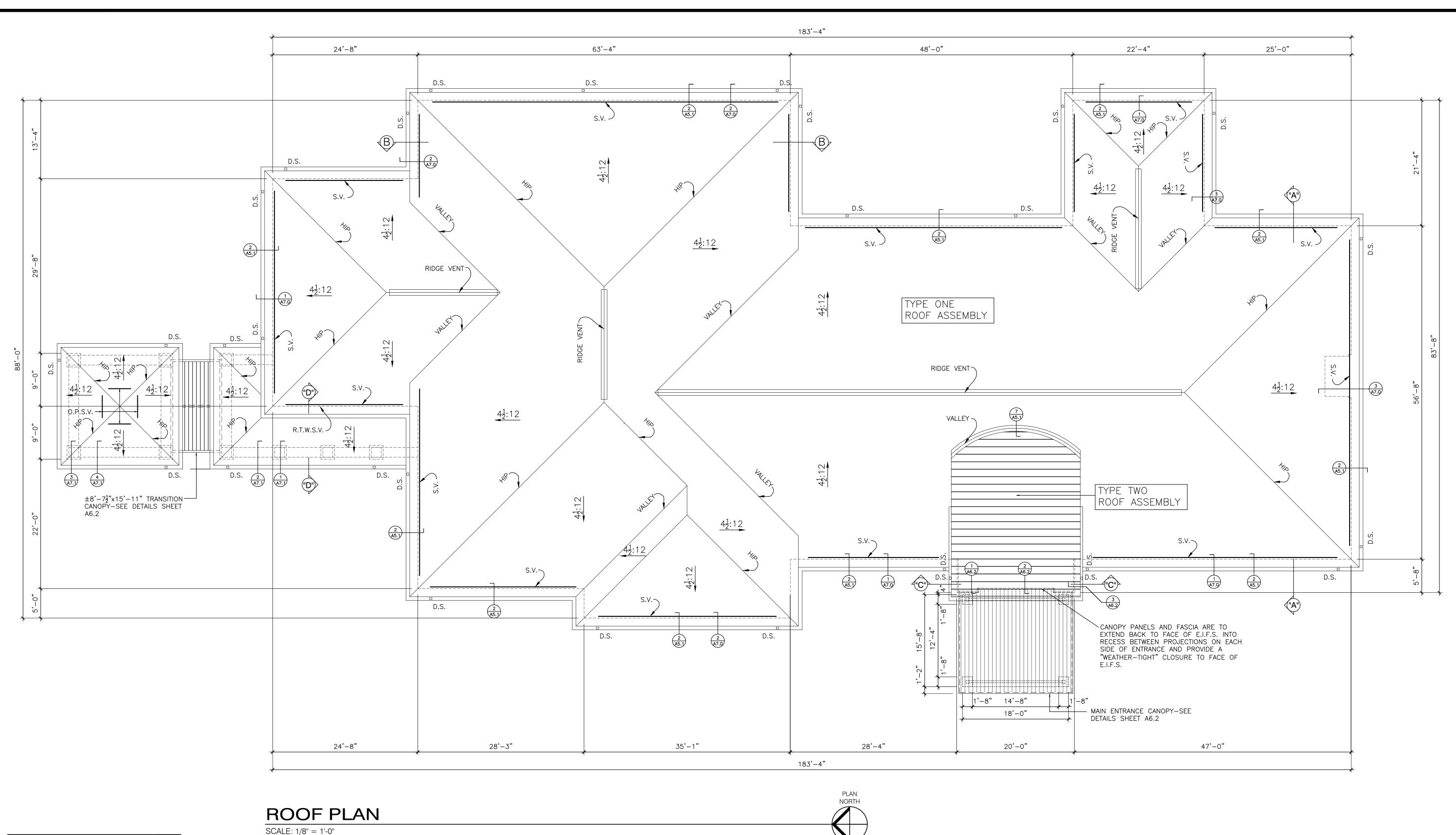
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JOB NO.

22-01

REVISIONS





ROOF PENTETRATIONS NOTE:

SEE PLUMBING AND MECHANICAL ROOF PLAN FOR ALL PLUMBING AND MECHANICAL ROOF PENETRATIONS AND DETAILS.

DOWNSPOUT LOCATION COORDINATION:

COORDINATE ALL DOWNSPOUT LOCATIONS WITH CIVIL, ROOFING AND ELEVATIONS DRAWINGS. FINAL LOCATIONS SHALL BE CONFIRMED BY THE ARCHITECT AND CIVIL CONSULTANTS FOR PROPER FUNCTION AND TIE-IN AND WITH THE ARCHITECT FOR PROPER AESTHETICS.

ROOF ASSEMBLY:

ROOF ASSEMBLY "TYPE ONE":

ARCHITECTURAL COMPOSITION SHINGLES, OVER UNDERLAYMENT AS SPECIFIED, OVER NOM. 3/4" TH. PLYWOOD DECKING, OVER 7/8" DP. METAL HAT SECTIONS (APPLIED PERPENDICULAR TO METAL DECK RIBS), OVER 1 1/2" x 22 GA. TYPE "B" FLUTED METAL DECK (SEE STRUCT.), OVER LIGHT GAUGE STEEL TRUSSES AT 48" O.C. (MAXIMUM).

ROOF ASSEMBLY "TYPE TWO":

RADIUSED PRE-FIN. STANDING SEAM METAL ROOF PANELS, OVER UNDERLAYMENT AS SPECIFIED, OVER NOM. 5/8" TH. RADIUSED PLYWOOD DECKING, OVER 7/8" DP. METAL HAT SECTIONS AT 16" O.C. (APPLIED PERPENDICULAR TO RADIUSED STEEL TUBE BEAM (SEE STRUCT.),

ROOF PLAN LEGEND:

NEW PLUMBING VENT STACK - SEE PLUMBING DWGS. ALSO SEE A5.1 ✓ V.S.T.R.

FOR FLASHING DETAILS.

DOWNSPOUT & BOOT — SEE CIVIL DWGS. FOR CONTINUATION TO OUT-FALL. D.S./B.

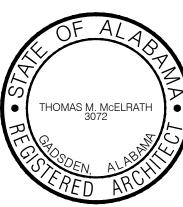
E.F.R.C. MECHANICAL EQUIPMENT/VENTS — SEE MECHANICAL DWGS.

FOR CURB FLASHING DÉTAILS.

SHINGLE-OVER ATTIC VENT - SEE SECTIONS.

ROOF-TO-WALL SHINGLE-OVER ATTIC VENT - SEE SECTIONS. R.T.W.S.V.

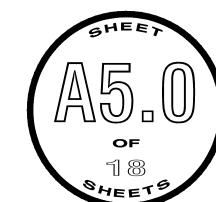
0.P.S.V. OFF-PEAK SHINGLE-OVER ATTIC VENT

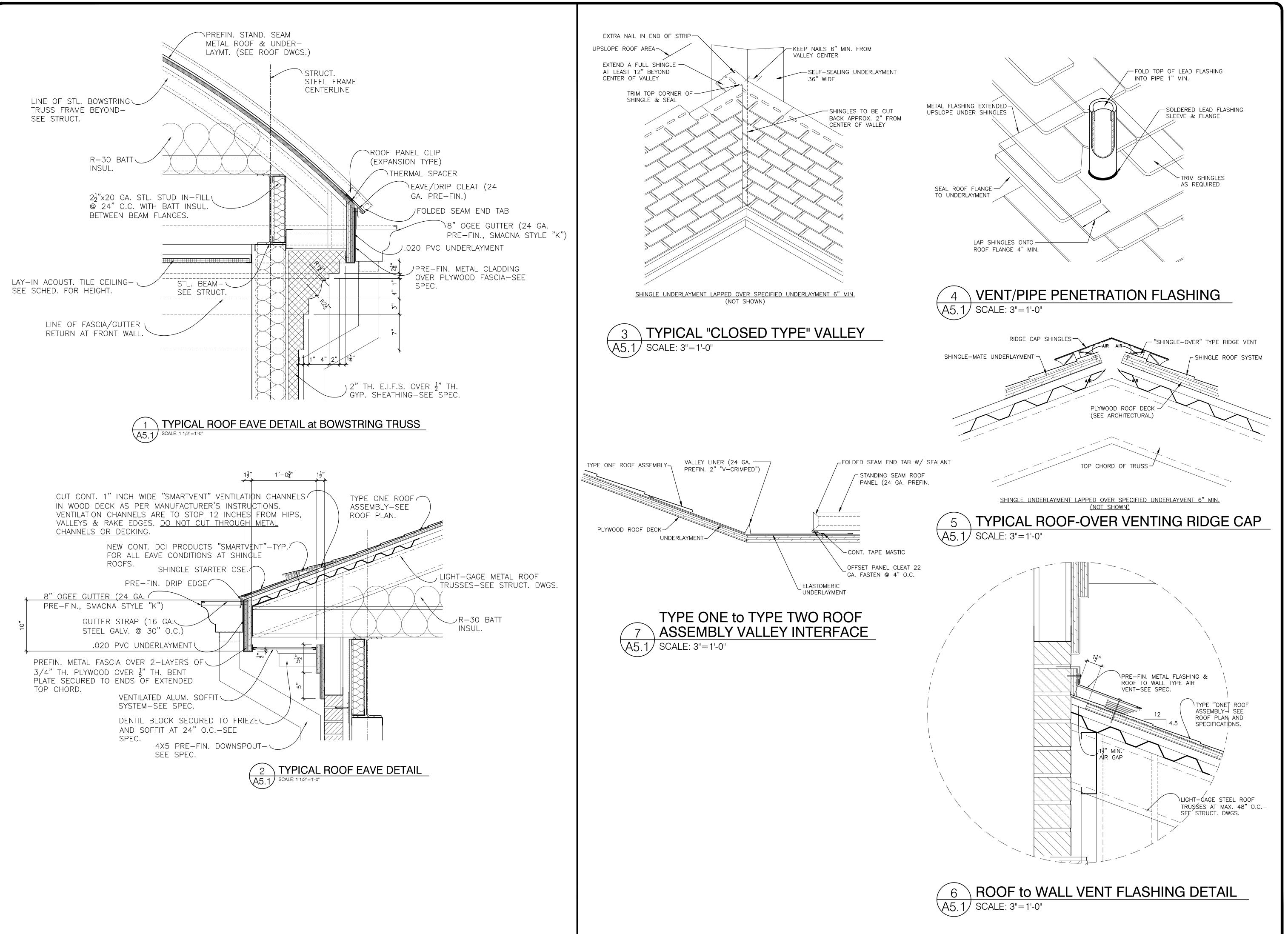


ROOF PLAN

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A5.0_Roof Plan.dwg JOB NO. 22-01







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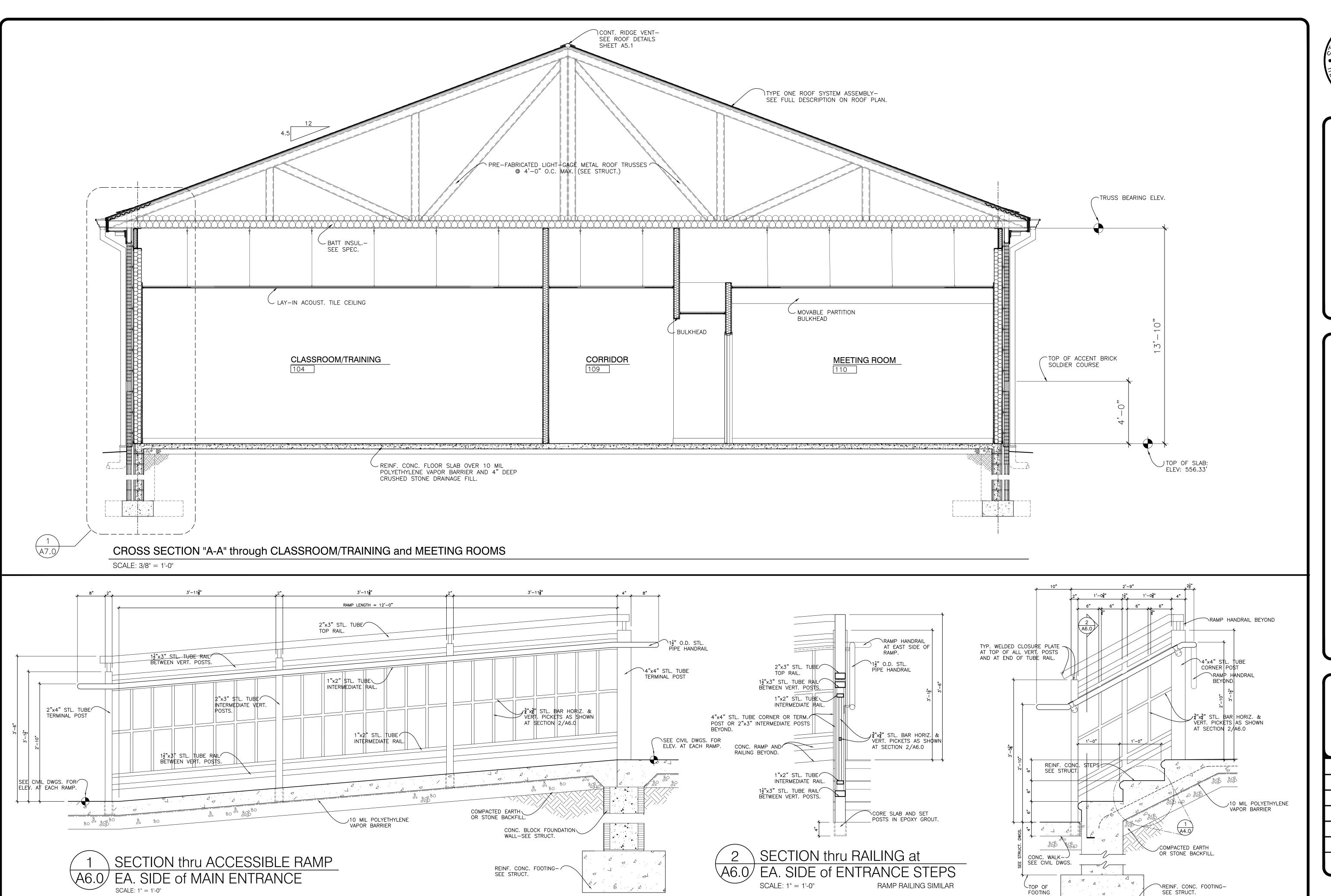
ROOF PLAN DETAILS

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JOB NO. 22-01 REVISIONS

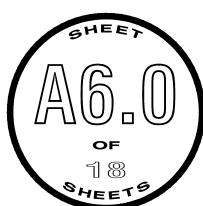
A5.1





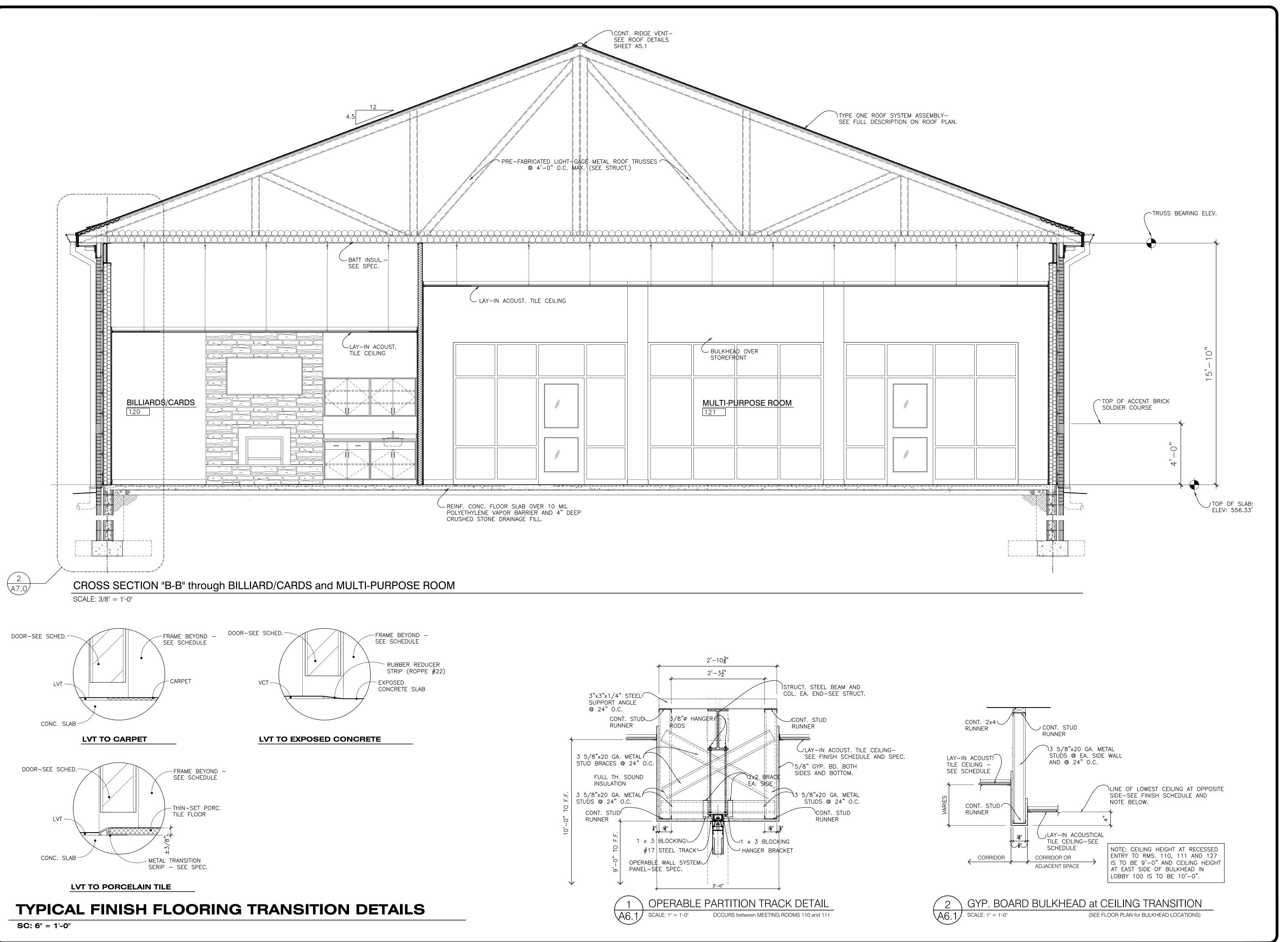
CROSS SECTIONS SHEET ONE DRAWN CHECKED TMM SCALE AS NOTED

SEPTEMBER 15, 2022 A6.0_CS 1.dwg JOB NO. 22-01 REVISIONS



SECTION thru MAIN ENTRANCE STEPS

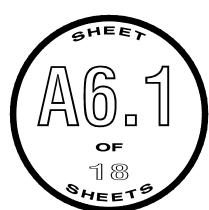
A6.0 | SCALE: 1" = 1'-0"

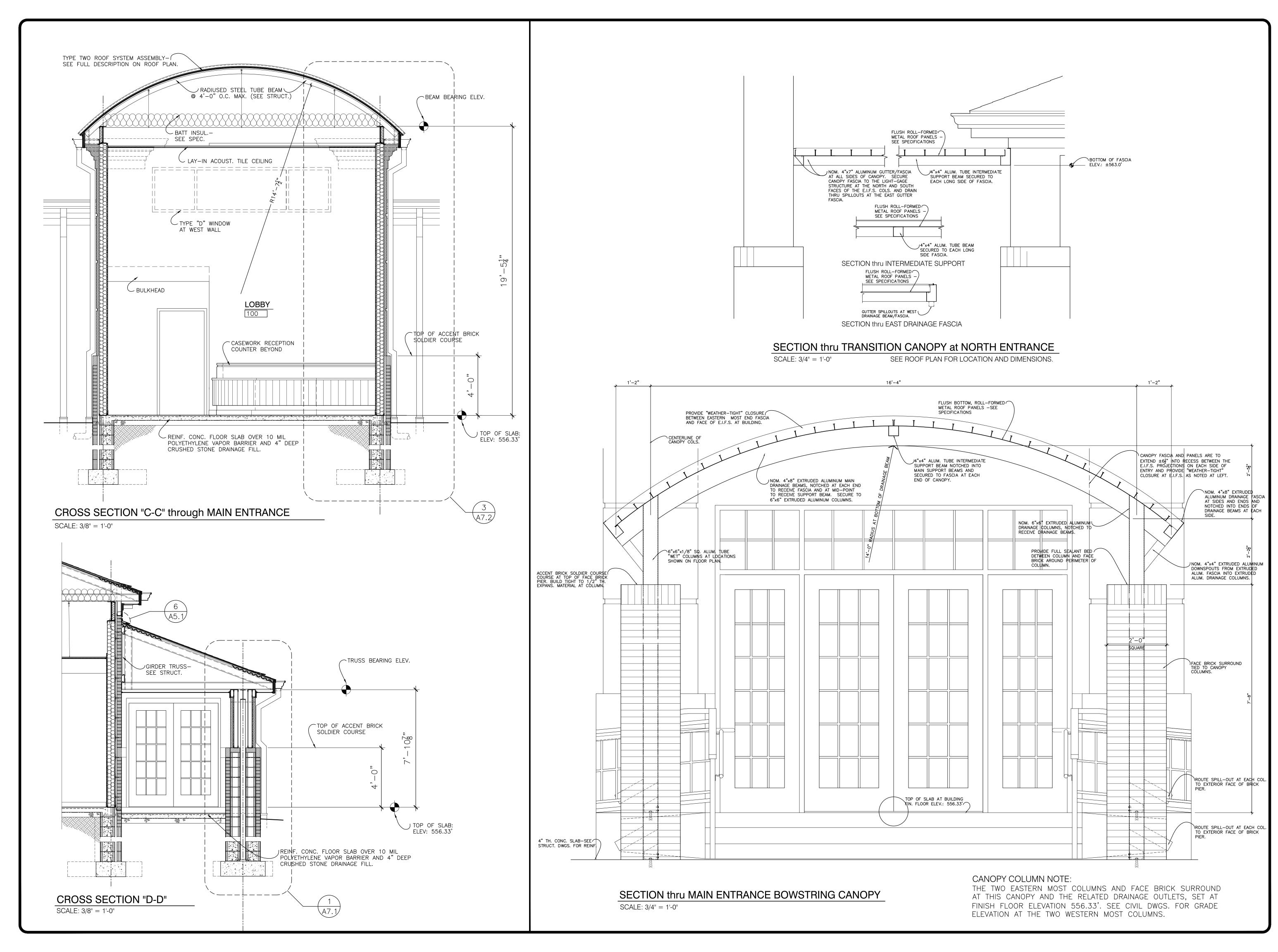


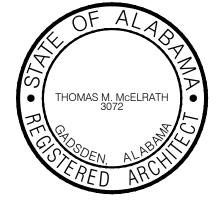


CROSS **SECTIONS** SHEET TWO CHECKED SCALE AS NOTED

SEPTEMBER 15, 2022 A6.1_CS 2.dwg JOB NO. 22-01







MAS M. MCELRATH, ARCHITE

CHITECTURE and SPACE PLANNIN

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244
EMAIL: TOM@TMM-ARCHITECT.COM

A NEW SENIOR WELLNESS CENat at 2829 W. Meighan Boulevard for

CROSS SECTIONS

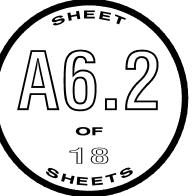
SHEET THREE

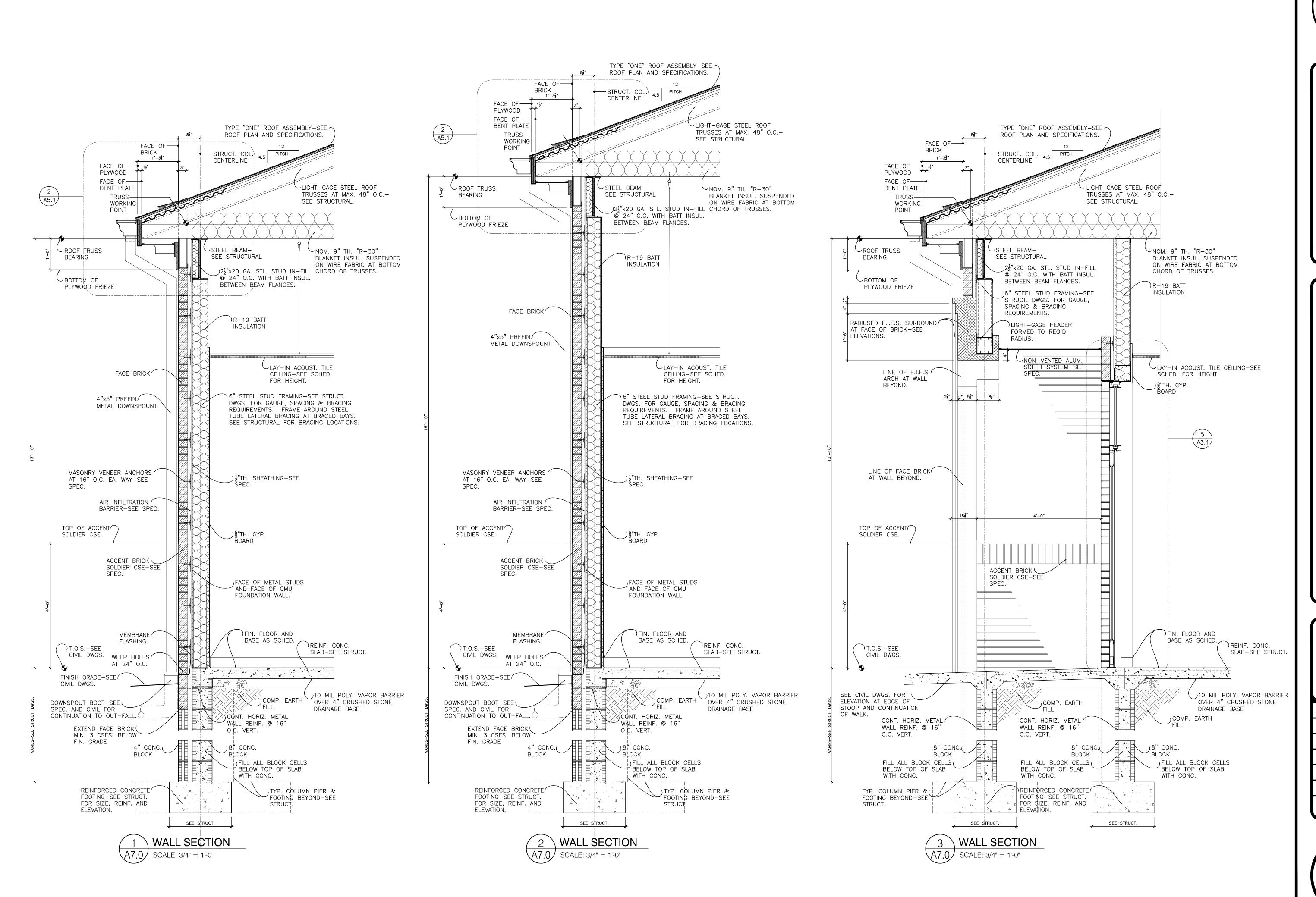
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DATE
SEPTEMBER 15, 2022

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JOB NO.
22-01

REVISIONS







THOMAS M. MCELRATH, ARCHITECT

ARCHITECTURE and SPACE PLANNING

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244
EMAIL: TOM@TMM-ARCHITECT.COM

A NEW SENIOR WELLNESS CENTER

at

2829 W. Meighan Boulevard

for

THE CITY of GADSDEN, ALABAMA

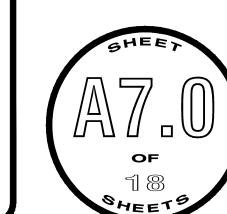
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SECTIONS

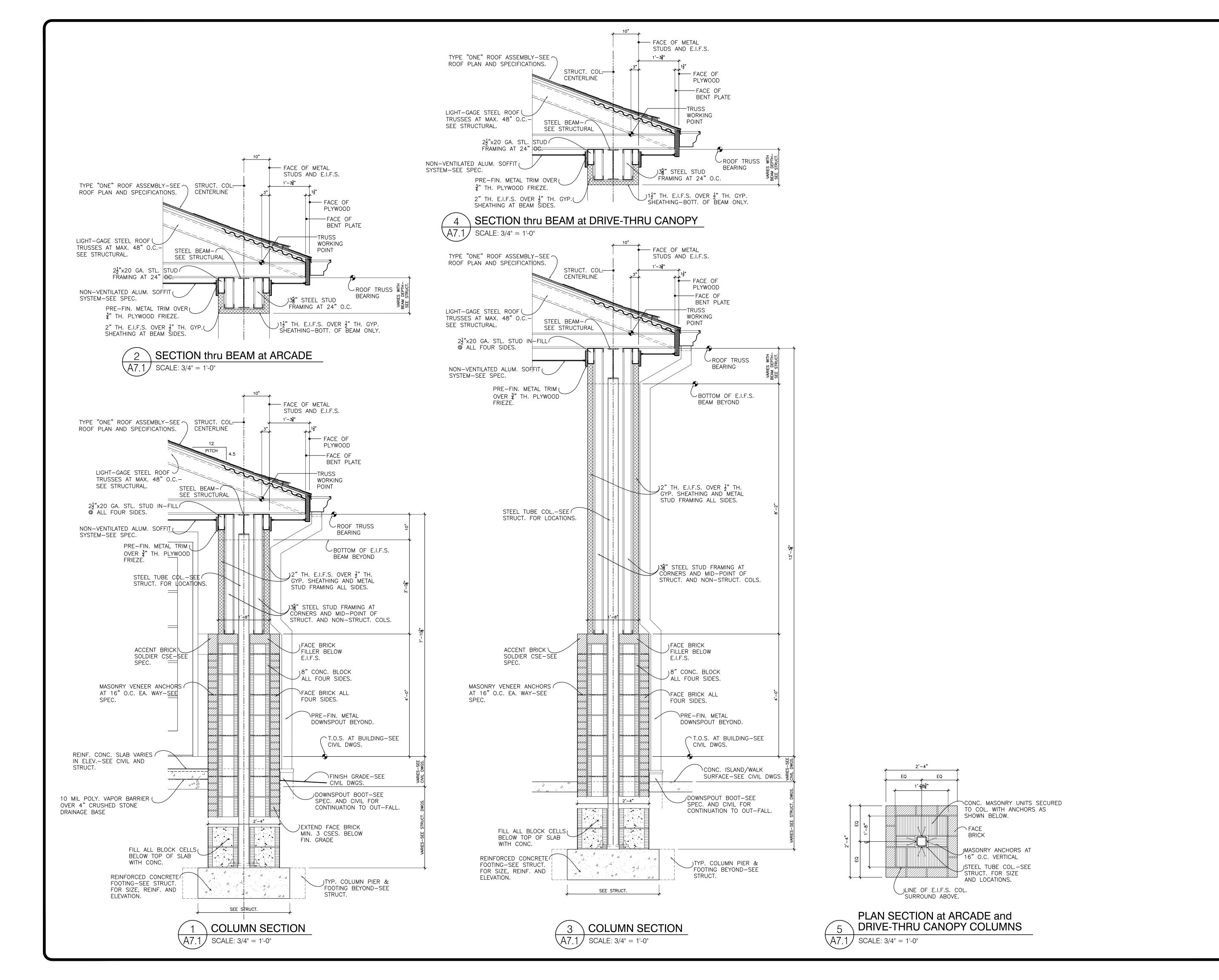
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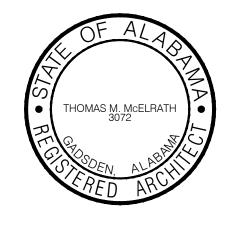
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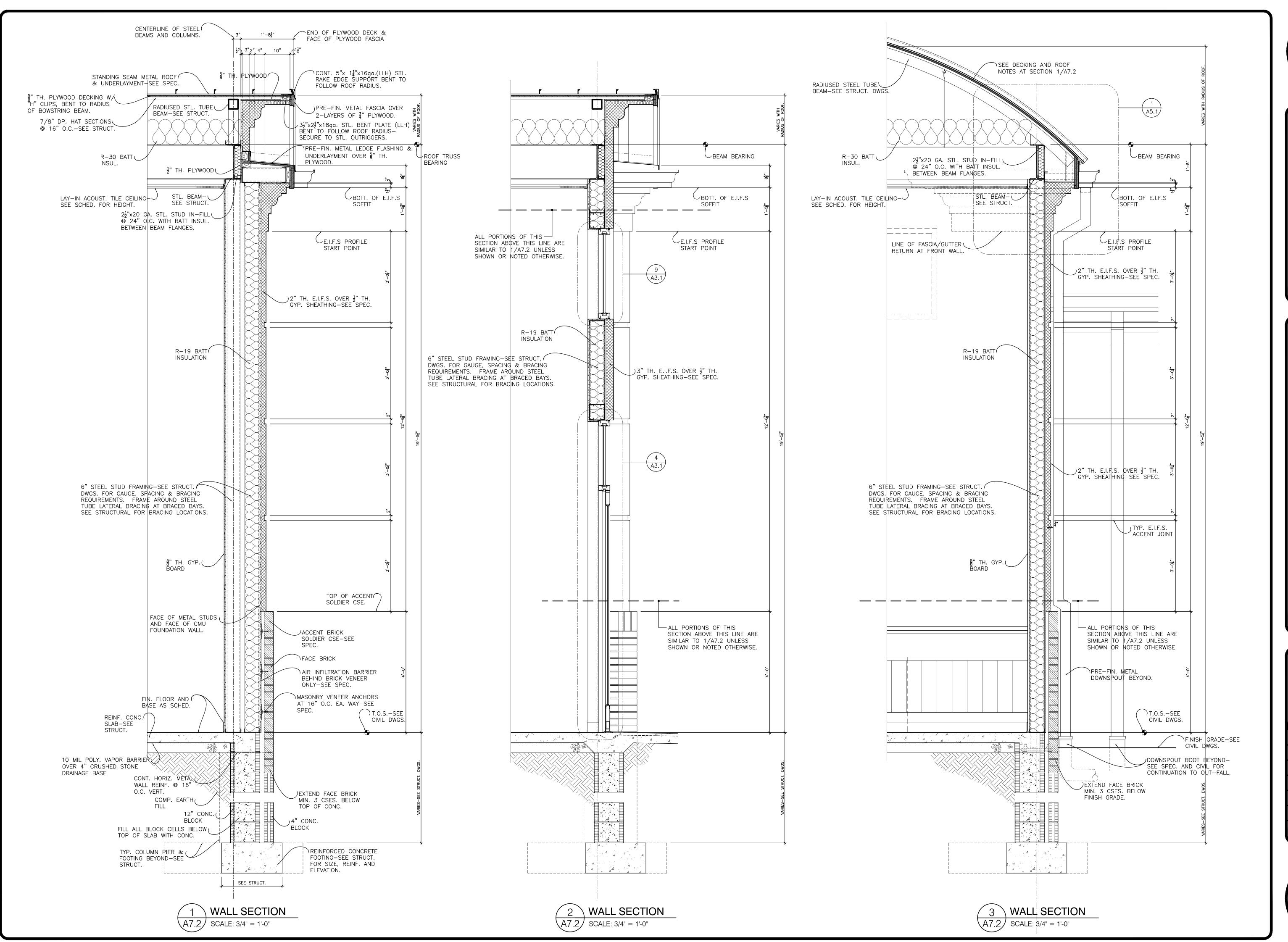
WALL **SECTIONS**

SHEET TWO

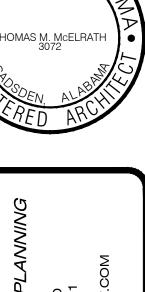
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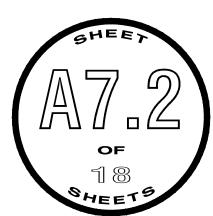


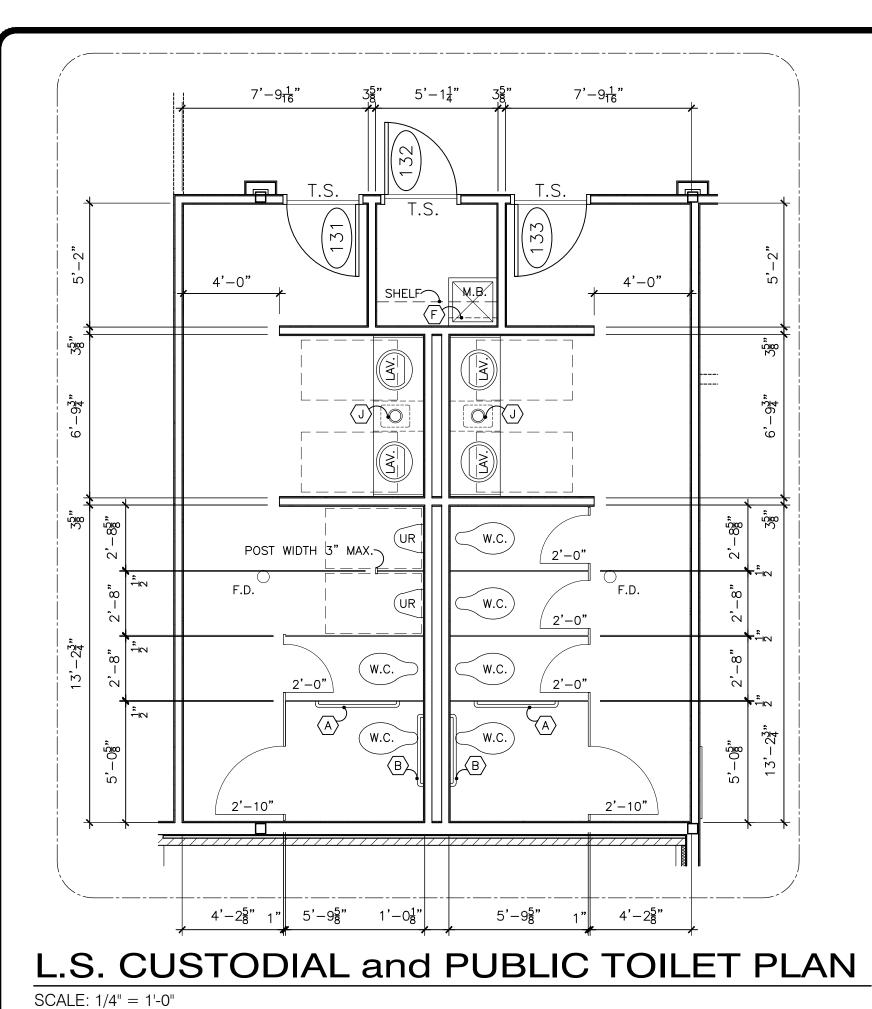


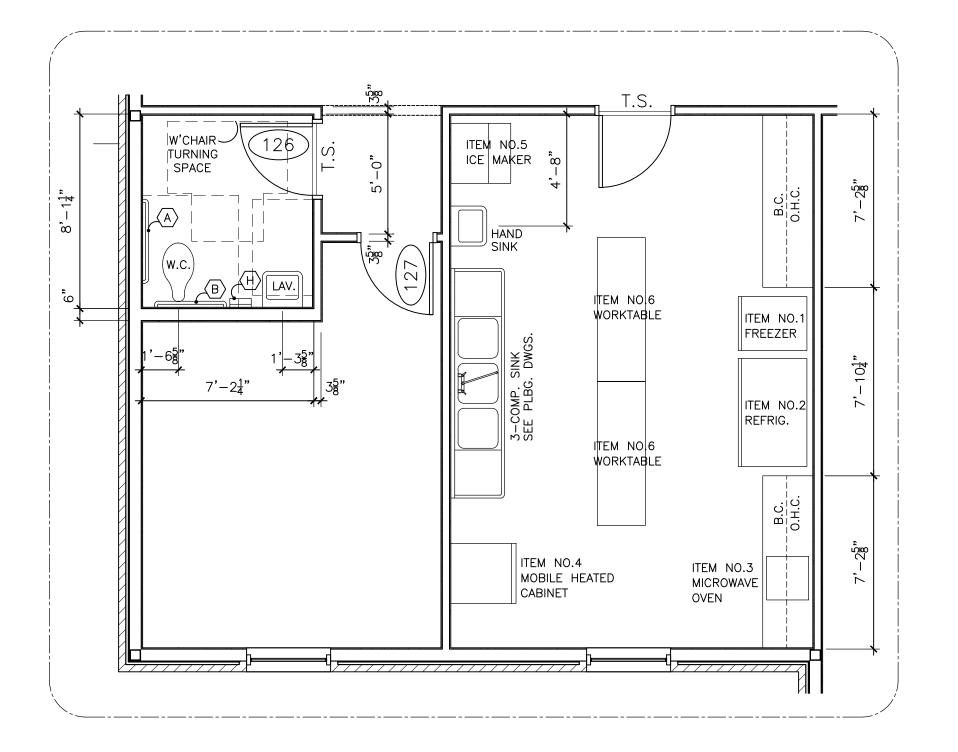


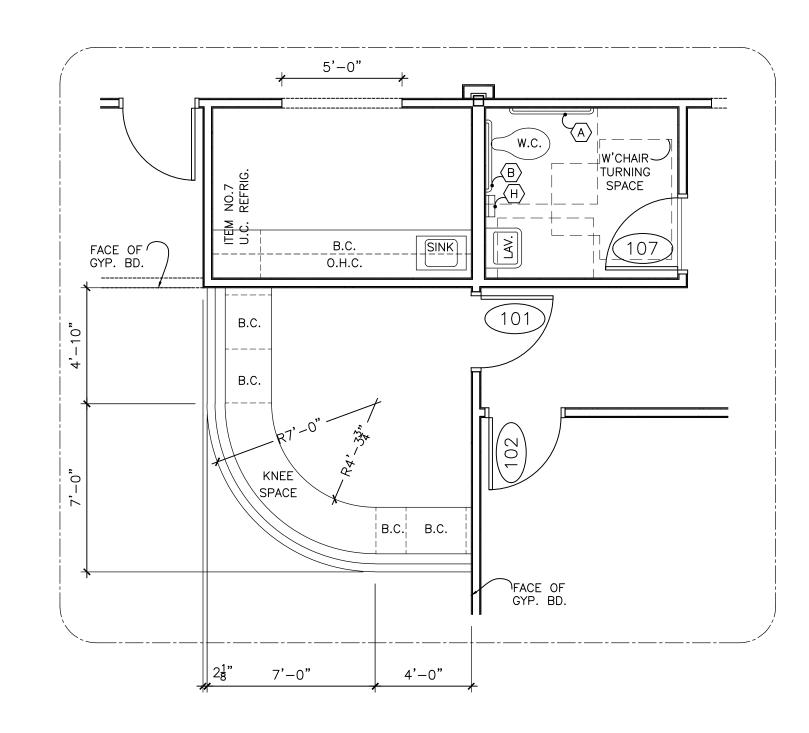


WALL **SECTIONS** SHEET THREE CHECKED TMM SCALE AS NOTED SEPTEMBER 15, 2022 A7.1_WS 2.dwg JOB NO. 22-01 REVISIONS







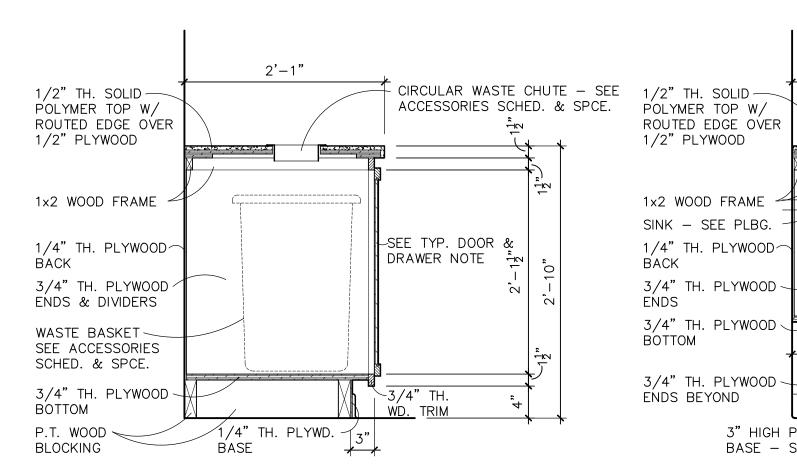


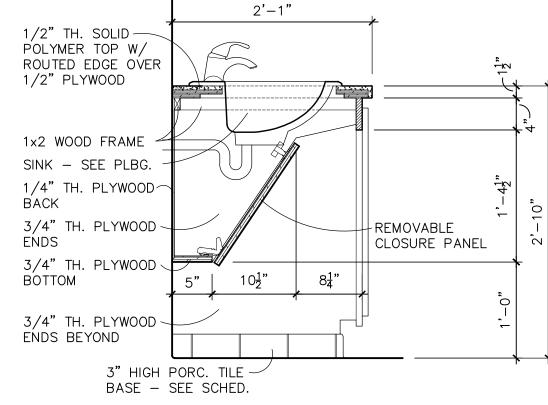
L.S. NUTRITION OFFICE and KITCHEN PLAN SCALE: 1/4" = 1'-0"

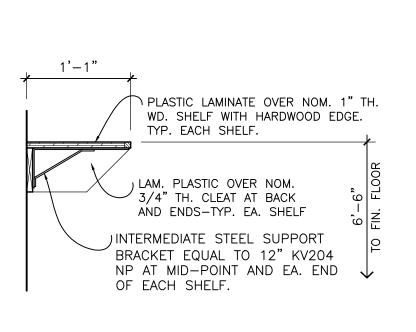
L.S. RECEPTION and STAFF TOILET PLAN

GAME STORAGE

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

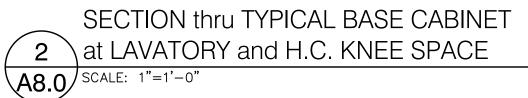






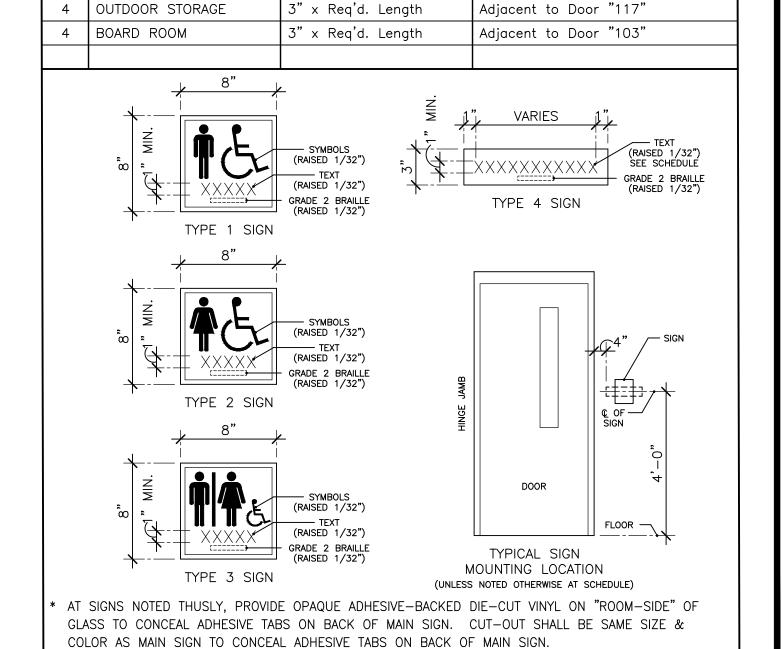
MARK TIEM		SCHEDULE		SC			
A CLOSETS B GRAB BARS AT REAR WALL OF WATER BOBRICK	MARK	ITEM	MFR.	NO.	MOUNTING HEIGHTS	TYPE	DESCRIPTION OR TEXT
B CLOSETS C SURFACE—MOUNTED DUAL—ROLL SURFACE—MOUNTED DUAL—ROLL D SURFACE—MOUNTED PAPER TOWEL D SURFACE—MOUNTED PAPER TOWEL D SURFACE—MOUNTED PAPER TOWEL DISPENSER E DUAL FEMININE NAPKIN DISPOSAL UNIT B BOBRICK B — 2621 47" TO BOTTOM OF UNIT A.F.F. F MOP & BROOM HOLDER B BOBRICK B — 223x24 5'-9" TO TOP OF UNIT A.F.F. G MIRROR 24"x36" B BOBRICK B — 165 24"x36" H AIR BLADE V HAND DRYER SEE ELECTRICAL DRAWINGS S2" TO TOP OF UNIT A.F.F. J CIRCULAR WASTE CHUTE BOBRICK B — 529 C CONCEALED MOUNTING. VERIFY MOUNTING HEIGHT AT JOB SITE MOUNTING HEIGHT AT JOB SITE K LARGE WASTE BASKET RUBBERMAID W #2806 (36 QT.) 114"x11"x18" DIRECTLY UNDER WASTE CHUTE BY TOLLET STALL MANUFACTURER S3" TO CENTERLINE A.F.F. 2 WOMEN 3 UNISEX 4 NUTRITION OFFICE 4 GENERAL STORAGE 4 TABLES AND CHAIRS 4 CLASSROOM 4 MEETING ROOM "A" 4 MEETING ROOM "A" 4 MEETING ROOM "B" 4 MEETING ROOM "B" 4 HEALTH SCREENING 1 4 HEALTH SCREENING 2 51" TO HOOK C.L. ABOVE FIN. FLOOR 4 SUPPLIES 4 CUSTODIAL	Α		BOBRICK		33" TO CENTERLINE A.F.F.	111 -	
C SURFACE—MOUNTED DAL—ROLL D SURFACE—MOUNTED PAPER TOWEL DISPENSER BOBRICK B-2621 47" TO BOTTOM OF UNIT A.F.F. D JUNISEX 4 NUTRITION OFFICE 4 GENERAL STORAGE G MIRROR 24"x36" BOBRICK B-165 24"x36" H AIR BLADE V HAND DRYER BOBRICK B-165 24"x36" BOBRICK B-165 24"x36" H AIR BLADE V HAND DRYER SEE ELECTRICAL DRAWINGS J CIRCULAR WASTE CHUTE BOBRICK B-529 CONCEALED MOUNTING. VERIFY MOUNTING HEIGHT AT JOB SITE INSTALL IN COUNTERTOP EDECT TO CENTERLINE. K LARGE WASTE BASKET RUBBERMAID #2806 (36 QT.) PLACE INSIDE BASE CABINET DIRECTLY UNDER WASTE CHUTE MANUFACTURER BOBRICK B-6867 24" TO CENTERLINE A.F.F. 4 NUTRITION OFFICE 4 GENERAL STORAGE 4 TABLES AND CHAIRS 4 CLASSROOM 4 MEETING ROOM "A" 4 MEETING ROOM "A" 4 MEETING ROOM "B" 4 HEALTH SCREENING 1 4 HEALTH SCREENING 2 4 SUPPLIES 4 CUSTODIAL	В		BOBRICK		33" TO CENTERLINE A.F.F.		
D SURFACE—MOUNTED PAPER TOWEL BOBRICK B—2621 47" TO BOTTOM OF UNIT A.F.F. E DUAL FEMININE NAPKIN DISPOSAL UNIT BOBRICK B—354 30" TO TOP OF UNIT A.F.F. F MOP & BROOM HOLDER BOBRICK B—223x24 5'—9" TO TOP OF UNIT A.F.F. G MIRROR 24"x36" BOBRICK B—165 24"x36" 40" TO BOTTOM OF MIRROR A.F.F. H AIR BLADE V HAND DRYER SEE ELECTRICAL DRAWINGS 52" TO TOP OF UNIT A.F.F. DOOR BUMPER ROCKWOOD USED FINISH MOUNTING. VERIFY MOUNTING. VERIFY MOUNTING HEIGHT AT JOB SITE INSTALL IN COUNTERTOP EDGE TO CENTERLINE. COND. CONTENTED PAPER TOWEL BOBRICK B—354 40" TO BOTTOM OF UNIT A.F.F. 4 NUTRITION OFFICE 4 GENERAL STORAGE 4 TABLES AND CHAIRS 4 CLASSROOM 4 MEETING ROOM "A" 4 MEETING ROOM "A" 4 MEETING ROOM "A" 4 MEETING ROOM "B" 51" TO HOOK C.L. ABOVE FIN. FLOOR 51" TO HOOK C.L. ABOVE FIN. FLOOR 4 CUSTODIAL	С		BOBRICK	B-6867	24" TO CENTERLINE A.F.F.	-	
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DOOR BUMPER ROCKWOOD US26D FINISH MOUNTING HEIGHT AT JOB SITE J CIRCULAR WASTE CHUTE BOBRICK B-529 S½" COUNTERTOP EDGE TO CENTERLINE. LARGE WASTE BASKET RUBBERMAID #2806 (36 QT.) 14½"x11"x18" PLACE INSIDE BASE CABINET DIRECTLY UNDER WASTE CHUTE COMB. COAT HOOK / DOOR BUMPER BY TOILET STALL MANUFACTURER BY TOILET STALL MANUFACTURER MANUFACTURER MOUNTING HEIGHT AT JOB SITE 4 MEETING ROOM "B" 4 HEALTH SCREENING 1 4 HEALTH SCREENING 2 4 SUPPLIES 4 CUSTODIAL	\vdash					4	MEETING ROOM "A"
CIRCULAR WASTE CHUTE BOBRICK S½" COUNTERTOP EDGE TO CENTERLINE.		DOOR BUMPER	ROCKWOOD	US26D FINISH	MOUNTING HEIGHT AT JOB SITE	4	MEETING ROOM "B"
LARGE WASTE BASKET RUBBERMAID 14½"x11"x18" DIRECTLY UNDER WASTE CHUTE	J	CIRCULAR WASTE CHUTE	BOBRICK	5 <mark>1</mark> "	COUNTERTOP EDGE TO CENTERLINE.	4	
COMB. COAT HOOK / DOOR BUMPER BY TOILET STALL 51" TO HOOK C.L. ABOVE FIN. FLOOR 4 SUPPLIES 4 CUSTODIAL	Κ	LARGE WASTE BASKET	RUBBERMAID			<u> </u>	
4 SUPPLIES 4 CUSTODIAL		COMB. COAT HOOK / DOOR BUMPER			51" TO HOOK C.L. ABOVE FIN. FLOOR	4	
				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		4	SUPPLIES
L L 4 COFFEE BAR						4	CUSTODIAL
						4	COFFEE BAR

SECTION thru TYPICAL BASE CABINET 1 \at WASTE RECEPTACLE and CHUTE A8.0 | SCALE: 1"=1'-0"



3 \FIXED SHELF at CUSTODIAL 132 A8.0 | SCALE: 1"=1'-0"

	FACE OF SOLID SURFACE = 4° 5° $1'-11\frac{1}{4}$ $7'-0$ RADIUS POINT.
1" TH. SOLID POLYMER TOP & ———————————————————————————————————	34" 32" CONT. DBL. PLATE W/ LAMINATE PLASTIC FACING OVER ALL
0 2x4 STUDS AT - 16" O.C.	EXPOSED SURFACES. 3" TH. PLYWOOD WITH LAMINATE PLASTIC FACING OVER ALL EXPOSED SURFACES.
LAM. PLASTIC FACING OVER 2-LAYERS OF ½" PLYWOOD FORMED TO REQ'D RADIUS. NOTCH INTO VERT. FRAME. 2 VERTICAL FRAMING-BY CASEWORK SUPPLIER.	FACE OF SOLID SURFACE = INSIDE RADIUS POINT. PROVIDE 1 TH. PLYWOOD BACK AT ALL OPEN
TH. SOLID POLYMER FACING WITH 8" "V" GROOVES AT 6" O; C. OVER 2-LAYERS OF 1" PLYWOOD FORMED TO REQUIRED RADIUS-SEE ELEVATIONS. LAM. PLASTIC FACING OVER	KNEE SPACE. 4" CASEWORK-SEE ELEVATIONS AND SCHEDULE.
2-LAYERS OF ½" PLYWOOD τω BASE - SEE FIN. SCHED.	FACE OF DOOR
4 TYPICAL SECTION thru RECEPTA8.0 SCALE: 1"=1'-0"	TION COUNTER_



SCHEDULE of INTERIOR SIGNAGE

Adjacent to Door "131"

Adjacent to Door "133"

Adjacent to Door "127"

Adjacent to Door "119"

Adjacent to Door "124"

Adjacent to Door "104"

Adjacent to Door "110"

Adjacent to Door "111"

Adjacent to Door "112"

Adjacent to Door "113"

Adjacent to Door "105"

Adjacent to Door "132"

Adjacent to Door "116"

Adjacent to Cased Opening

Adjacent to Doors "107" and "126"

8" x 8"

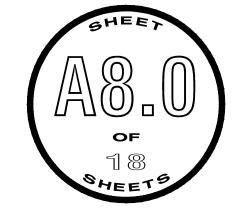
8" x 8"

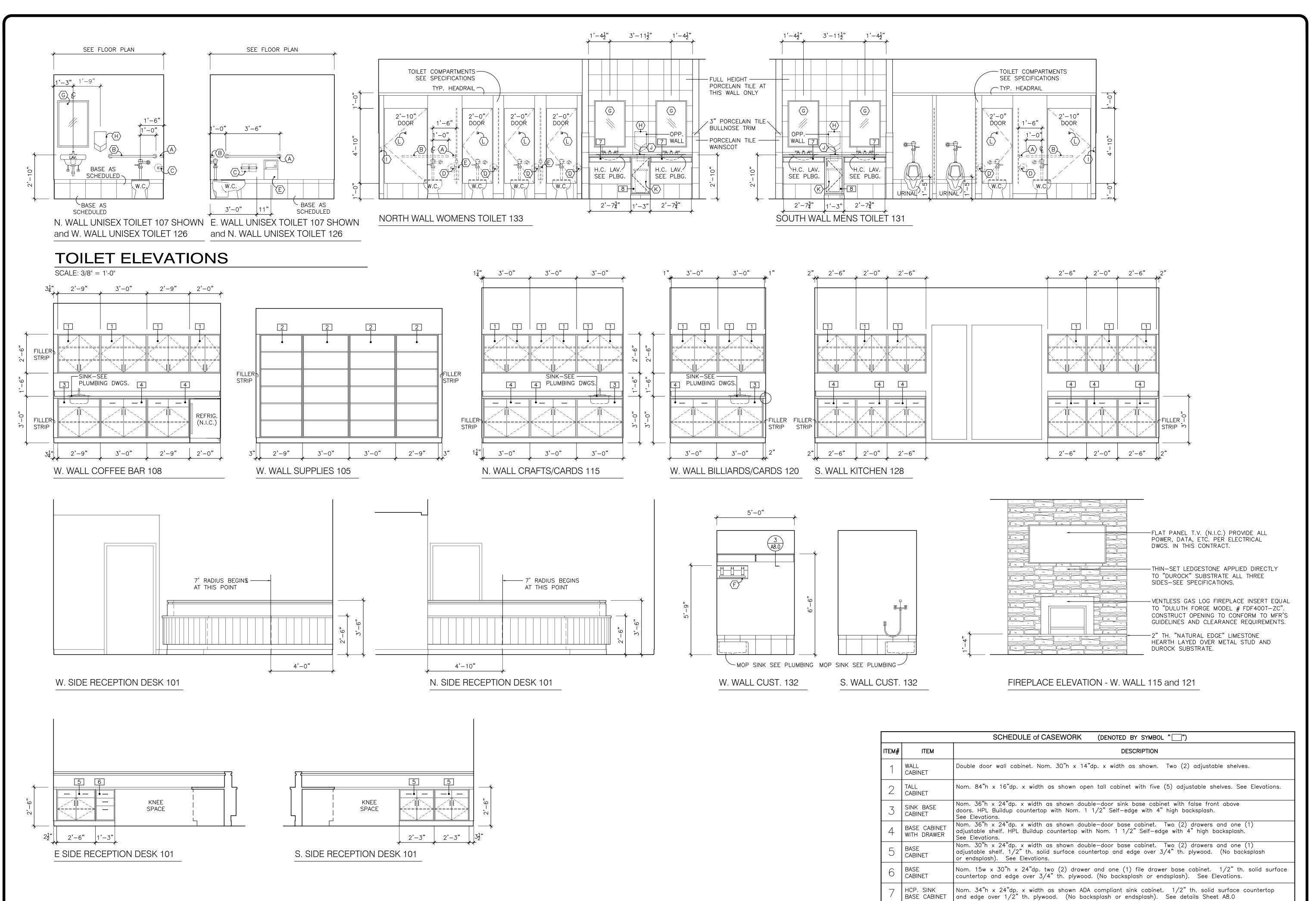
8" x 8"

3" x Req'd. Length

LARGE SCALE PARTIAL PLANS & SCHEDULES

CHECKED TMM SCALE AS NOTED SEPTEMBER 15, 2022 A8.0_LS Plans.dwg JOB NO. 22-01





MISCELLANEOUS INTERIOR ELEVATIONS

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

THOMAS M. MCELRATH

ALARM

THOMAS M. MCELRATH

THOMAS M. MCELRA

E

ENIOR WELLNESS CENTER at W. Meighan Boulevard

INTERIOR ELEVATIONS

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REVISIONS

SHEET

OF

18

Shorts

Single door base cabinet. Nom. 34"h x 24"dp. x width as shown. 1/2" th. solid surface countertop and edge over 1/2" th. plywood. (No backsplash or endsplash). See details Sheet A8.0

RUBBER BASE OR HARD TILE BASE (AS SCHEDULED FOR ROOM) SHALL BE INSTALLED AROUND EXPOSED BASE OF ALL CASEWORK.

ALL DOORS AND DRAWERS SCHEDULED TO HAVE LOCKS SHALL BE KEYED IN GROUPS OR SEPARATELY, AS DETERMINED BY THE OWNER.

8 BASE CABINET

CASEWORK NOTES:

GENERAL NOTES:

- CONTRACTOR SHALL COORDINATE BETWEEN ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DRAWINGS:
- A. ANY DISCREPANCIES OR CONFLICTS BETWEEN DRAWINGS OF DIFFERENT DISCIPLINES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. CONTRACTOR SHALL NOT PROCEED WITH SHOP DRAWING PREPARATION OR ANY CONSTRUCTION UNTIL THE ARCHITECT HAS GIVEN DIRECTION OF RESOLUTION FOR THE DISCREPANCY OR CONFLICT.
- NOT ALL OPENINGS AND OTHER COMPONENTS THAT ARE REQUIRED HAVE BEEN SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND VERIFY THE LOCATIONS AND SIZES OF CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS AT FLOORS, WALLS, AND ROOFS BETWEEN DRAWINGS OF DIFFERENT DISCIPLINES.
- 2. IN THE CASE OF INCONSISTENCIES BETWEEN DRAWINGS AND SPECIFICATIONS OR WITHIN EITHER DOCUMENT. A BIDDER WILL BE DEEMED TO HAVE INCLUDED IN ITS BID THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK INVOLVED UNLESS THE BIDDER ASKED FOR AND OBTAINED THE ARCHITECT'S WRITTEN CLARIFICATION OF THE REQUIREMENTS BEFORE SUBMISSION OF BID.
- ALL DIMENSIONS SHOWN TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS, AND DETAILS. DO NOT SCALE THE DRAWINGS.
- 4. THE DETAILS PROVIDED ON SHEETS LABELED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS, UNLESS NOTED OTHERWISE.
- ALL OF THE CONTRACTOR'S PROPOSED SUBSTITUTIONS ARE CONSIDERED CHANGE ORDERS AND SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND/OR APPROVAL PRIOR TO ANY PERTINENT WORK OR FABRICATION.
- 6. CONSTRUCTION METHODS, PROCEDURES AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL TAKE ALL THE NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION, NEW AND EXISTING, AT ALL STAGES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
- A. BRACE ALL BASEMENT-TYPE WALLS RETAINING EARTH UNTIL RESTRAINING SLABS/FLOORS HAVE BEEN INSTALLED AND REACHED REQUIRED DESIGN STRENGTH.
- B. BRACE/SHORE ALL WALLS AS REQUIRED TO MAINTAIN STABILITY DURING CONSTRUCTION.
- C. SHORE EXISTING FLOORS, WALLS, AND/OR ROOFS AS REQUIRED DURING DEMOLITION OF ANY PORTION OF EXISTING STRUCTURE UNTIL NEW SUPPORT FRAMING HAS BEEN INSTALLED.
- ALL STRUCTURAL MEMBERS, AS SHOWN, HAVE BEEN DESIGNED TO CARRY IN PLACE DESIGN LOADS ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPORT OF ANY LOADS AND FORCES IMPOSED DURING CONSTRUCTION, TRANSPORTATION, ERECTION, AND HANDLING. THE CONTRACTOR SHALL INSURE THAT CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS AND THAT THESE LOADS ARE NOT IMPOSED ON THE STRUCTURAL MEMBERS PRIOR TO THE TIME THAT CONCRETE REACHES THE FULL SPECIFIED DESIGN STRENGTH, STEEL MEMBERS AND THEIR CONNECTIONS ARE FULLY BOLTED AND / OR WELDED AND ALL OTHER FRAMING MEMBERS AND THEIR CONNECTIONS
- 8. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO ANY PERTINENT WORK OR FABRICATION. ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE NOTED ON THE SHOP DRAWINGS.
- ALL CONSTRUCTION JOINTS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE. ADDITIONAL CONSTRUCTION JOINTS TO FACILITATE CONSTRUCTION SHALL BE LOCATED AND DETAILED ON THE SHOP DRAWINGS FOR REVIEW.
- 10. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED.

SHOP DRAWINGS/SUBMITTALS

- SHOP DRAWING SUBMITTAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE PROJECT CONTRACT DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SHALL FOLLOW INDUSTRY GUIDELINES AND STANDARDS.
- ALL QUESTIONS, CLARIFICATIONS, OR MODIFICATIONS OF THE CONTRACT DOCUMENTS SHALL BE CLEARLY DOCUMENTED AND INDICATED ON THE SHOP DRAWING TRANSMITTAL OR COVER SHEET. ITEMS SHALL NOT BE CONSIDERED APPROVED UNLESS SPECIFICALLY ADDRESSED BY MBA IN THE REVIEW COMMENTS.
- 3. ALL SHOP DRAWINGS ARE TO BE NEWLY PREPARED. REPRODUCTIONS OF CONTRACT STRUCTURAL DRAWINGS FOR USE AS ERECTION DRAWINGS WILL NOT BE PERMITTED. SHOULD SHOP DRAWING SUBMITTALS CONTAIN ANY REPRODUCTIONS OF CONTRACT STRUCTURAL DRAWINGS, THEY WILL BE REJECTED AND RETURNED WITHOUT ENGINEER REVIEW.
- A. MBA MAY CONSIDER TRANSFERRING COMPUTER FILES, IN THE FORMAT CREATED. OF THE PLAN SHEETS TO PROJECT SUBCONTRACTORS TO ASSIST IN DEVELOPING SHOP DRAWINGS ON A CASE BY CASE BASIS. A SIGNED FILE TRANSFER AGREEMENT WILL BE REQUIRE PRIOR TO RELEASE OF MBA FILES.
- CONTRACTOR TO REVIEW ALL SHOP DRAWING SUBMITTALS AND STAMP WITH APPROVAL PRIOR TO SUBMISSION TO ARCHITECT/ ENGINEER. SHOP DRAWINGS RECEIVED BY ARCHITECT/ENGINEER THAT HAVE NOT BEEN REVIEWED AND COORDINATED BY THE CONTRACTOR WILL BE RETURNED WITHOUT ARCHITECT/ENGINEER'S REVIEW. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRECTING DIMENSIONS WHICH PERTAIN TO FABRICATION PROCESSES OR CONSTRUCTION TECHNIQUES PRIOR TO SUBMITTAL AND FOR COORDINATION OF WORK OF ALL TRADES.
- CONTRACTOR MAY PROVIDE REVIEWED AND APPROVED SUBMITTALS IN AN ELECTRONIC .PDF FORMAT FOR ENGINEER REVIEW AND APPROVAL. IN LIEU OF ELECTRONIC SUBMITTALS, CONTRACTOR MAY PROVIDE NO MORE THAN FOUR PAPER COPIES OF EACH STRUCTURAL SHOP DRAWING SUBMITTAL TO THE ENGINEER. THE STRUCTURAL ENGINEER WILL REVIEW AND RETURN TWO OF THE COPIES TO THE ARCHITECT. ADDITIONAL COPIES REQUIRED BY THE CONTRACTOR SHALL BE MADE BY THE CONTRACTOR AFTER THE REVIEW PROCESS.
- MBA REVIEW OF SHOP DRAWING SUBMITTALS IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. REVIEW AND/OR APPROVAL OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS OR FOR ERRORS/ OMISSIONS IN THE SHOP DRAWINGS.
- 7. RESUBMITTED SHOP DRAWINGS SHALL HAVE CHANGES AND/OR ADDITIONS CLEARLY INDICATED. REVIEW OF RESUBMITTED SHOP DRAWINGS IS LIMITED TO THE ITEMS REQUIRING CORRECTION ON THE PREVIOUS SUBMITTAL

SITE AND FOUNDATION:

- 1. ALLOWABLE SOIL BEARING PRESSURES (PSF): 2500 PSF
- 2. EXCAVATE, WHERE REQUIRED, TO BUILDING AND STRUCTURE SUBGRADE.
- 3. PROOF-ROLL THE AREA UNDER THE BUILDING, PLUS 5'-0" ON ALL SIDES, WITH A LOADED DUMP TRUCK TO LOCATE ANY SOFT AREAS. A GEOTECHNICAL ENGINEER IS TO BE PRESENT DURING THIS OPERATION. ANY SOFT AREAS DETECTED ARE TO BE UNDERCUT AND REPLACED WITH ENGINEERED FILL.
- 4. ACCEPTABLE FILL MATERIAL SHALL BE FREE OF ORGANICS, AND HAVE A P.I. OF LESS THAN 30, L.L. OF LESS THAN 50 AND A MAXIMUM DRY DENSITY OF GREATER THAN 100 PCF. CRUSHED STONE BACKFILL TO MEET REQUIREMENTS OF A.H.D. No. 57 STONE. DRAINAGE FILL SUPPORTING SLABS SHALL MEET THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER.
- 5. FILL, WHERE REQUIRED, IS TO BE PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 98% STANDARD PROCTOR (ASTM D-698), WITHIN ±2% OF OPTIMUM MOISTURE CONTENT.
- OWNER SHALL ENGAGE A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION TO PROVIDE REQUIREMENTS FOR ALL SUBGRADES, FILLS AND BACKFILLS PRIOR TO PLACEMENT OF CONCRETE. THE GEOTECHNICAL ENGINEER IS TO PROVIDE ASSURANCE THAT THE REQUIREMENTS WILL ACHIEVE THE ALLOWABLE SOIL BEARING CAPACITIES NOTED.

CONCRETE:

1. CONCRETE CONSTRUCTION AND QUALITY ASSURANCE SHALL BE IN ACCORDANCE WITH CURRENT ACI STANDARDS.

2. CONCRETE SCHEDULES

	А. В.	CONCRETE WALLS, COLUMNS, & BEAM ALL OTHER CONCRETE	4000 PSI NORMAL WEIGHT 3000 PSI NORMAL WEIGHT
2	CON		
3	. CON	CRETE COVER OVER REINFORCING (UNO)	
	A.	UNFORMED SURFACE IN CONTACT WITH EAR	TH: 3 IN.
	B.	UNFORMED SURFACE OVER VAPOR BARRIER	: 2 IN.
	C.	FORMED SURFACES EXPOSED TO EARTH OR	WEATHER
		#6 AND LARGER	2 IN.
		#5 AND SMALLER	1 1/2 IN.
	D.	FORMED SURFACES NOT EXPOSED TO EARTH	I OR WEATHER:
		WALLS SLABS.	3/4 IN

COLUMNS, BEAMS:

- 4. CONCRETE AT SLABS ON GRADE SHALL HAVE A NOMINAL MAXIMUM COARSE AGGREGATE SIZE OF 3/4 INCH. ADJUST PORTIONS OF COMBINED COARSE, INTERMEDIATE AND FINE AGGREGATES TO PROVIDE A COARSENESS FACTOR OF 60 TO 75%.
- 5. ALL REINFORCING SHALL CONFORM TO THE LATEST REVISION OF ASTM SPECIFICATION A615, GRADE 60 AND BE DETAILED IN ACCORDANCE WITH THE LATEST REVISION OF ACI STANDARD
- 6. NO REINFORCING BAR SHALL BE WELDED IN ANY MANNER, UNLESS SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS.
- 7. CONTINUOUS FOOTING REINFORCING BARS SHALL BE LAPPED 30 BAR DIAMETERS, BUT NOT LESS THAN 1'-0".
- 8. GRADE BEAM, ELEVATED BEAM, AND ELEVATED SLAB REINFORCING BARS SHALL BE SPLICED ONLY AS SHOWN ON THE DRAWINGS, EXCEPT THE REINFORCING DESIGNATED AS "CONTINUOUS" SHALL HAVE A CLASS "B" LAP SPLICE (PER ACI 318). LAP SPLICES OF CONTINUOUS REINFORCING SHALL BE MADE OVER SUPPORTS FOR BOTTOM BARS AND FOR INTERMEDIATE BARS AND AT MID-SPAN FOR TOP BARS. AT EXTERIOR SUPPORTS, TOP AND BOTTOM BARS SHALL BE HOOKED AND INTERMEDIATE BARS SHALL EXTEND TO WITHIN 2" OF EXTERIOR FACE.
- COLUMN AND WALL VERTICAL REINFORCING BARS SHALL BE LAPPED WITH A CLASS "B" SPLICE. WALL HORIZONTAL REINFORCING BARS SHALL BE LAPPED 30 DIAMETERS AT SPLICE POINTS. PROVIDE CORNER BARS FOR WALLS.
- 10. PROVIDE FULL EMBEDMENT FOR ALL DOWELS. IF NOT OTHERWISE SPECIFIED, DOWEL SIZE AND SPACING SHALL BE THE SAME AS MAIN REINFORCING.
- 11. CONSTRUCTION JOINTS IN CONCRETE BEAMS AND SLABS SHALL BE AT OR NEAR MIDSPAN. ALL CONSTRUCTION JOINTS TO BE KEYED.
- 12. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN WALLS AND BEAMS, UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
- 13. CONDUIT, PIPES, AND SLEEVES SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTER, NOT HAVE AN OUTSIDE DIAMETER GREATER THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, WALL OR BEAM IN WHICH THEY ARE EMBEDDED, AND SHALL HAVE A MINIMUM COVER OF 1 1/2 INCH FOR CONCRETE EXPOSED TO EARTH OR WEATHER AND 3/4 INCH FOR CONCRETE NOT EXPOSED TO EARTH OR WEATHER.
- 14. PIPING AND CONDUIT SHALL BE SO FABRICATED AND INSTALLED THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED.
- 15. THE CONTRACTOR SHALL SUBMIT, FOR REVIEW, SHOP DRAWINGS FOR ALL REINFORCING BARS INCLUDING DETAILS AT ALL OPENINGS AND ASSOCIATED ADDED REINFORCEMENT AS SHOWN ON TYPICAL DETAILS.

TENSION LAP SPLICE LENGTH

											<u> </u>	
		f'c = 30	000 PSI		f'c = 4000 PSI				f'c = 5000 PSI			
BAR SIZE	TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
OIZL	Α	В	Α	В	Α	В	Α	В	Α	В	Α	В
#3	22"	28"	17"	22"	19"	24"	15"	19"	17"	22"	13"	17"
#4	29"	37"	22"	29"	25"	32"	19"	25"	22"	29"	17"	22"
#5	36"	47"	28"	36"	31"	40"	24"	31"	28"	36"	22"	28"
#6	43"	56"	33"	43"	37"	48"	29"	37"	33"	43"	26"	33"
#7	63"	81"	48"	63"	54"	70"	42"	54"	49"	63"	37"	49"
#8	72"	93"	55"	72"	62"	80"	48"	62"	55"	72"	43"	55"
#9	81"	105"	62"	81"	70"	91"	54"	70"	63"	81"	48"	63"
#10	91"	118"	70"	91"	79"	102"	61"	79"	70"	91"	54"	70"
#11	101"	131"	78"	101"	87"	113"	67"	87"	78"	101"	60"	78"

STRUCTURAL STEEL:

- 1. DESIGN, CONSTRUCTION, QUALITY ASSURANCE, AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CURRENT AISC STANDARDS.
- 2. ALL STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992
- 3. ALL STRUCTURAL STEEL PLATES, ANGLES AND CHANNELS SHALL CONFORM TO ASTM
- 4. ALL STRUCTURAL STEEL SQUARE, RECTANGULAR AND ROUND HSS SECTIONS SHALL CONFORM TO ASTM A500, GRADE B.
- 5. ALL STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B
- 6. FABRICATION AND ERECTION SHALL CONFORM TO AISC CODE OF STANDARD
- 7. ALL WELDING SHALL CONFORM TO AWS STANDARDS. THICKNESS OF WELDS ARE AS SHOWN, SPECIFIED OR REQUIRED.
- 8. ALL BOLTED CONNECTIONS SHALL BE MINIMUM 3/4" DIAMETER, A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE.
- 9. ALL BEAM CONNECTIONS SHALL BE "SIMPLE SHEAR CONNECTIONS" UNLESS NOTED OTHERWISE. WHERE BEAM REACTIONS AND/OR DESIGN FORCES ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS, THE CONNECTIONS SHALL BE DESIGNED TO SUPPORT A REACTION EQUAL TO ONE-HALF THE TOTAL UNIFORM LOAD CAPACITY FROM THE MAXIMUM UNIFORM LOAD TABLE (LATEST AISC MANUAL OF STEEL PRACTICE) MULTIPLIED BY A FACTOR OF 1.2 (NON-COMPOSITE BEAMS) OR 1.45 (COMPOSITE BEAMS) FOR GIVEN SHAPE, SPAN, AND GRADE OF STEEL.

STEEL DECK:

1 1/2 IN. TO TIES

- STEEL DECK CONSTRUCTION SHALL BE IN ACCORDANCE WITHTHE LATEST EDITION OF SDI STANDARDS.
- 2. ATTACH ROOF DECK TO SUPPORTS AT 12" OC. W/ 5/8" PUDDLE WELDS. ATTACH TO PERIMETER SUPPORTS AT 6" OC. PROVIDE #10 TEK SCREW SIDELAP FASTENERS AT 12" OC. (MIN. 3 PER SPAN).
- 3. DECK SHALL BE ATTACHED TO STEEL BEAMS AT 12" O.C. EITHER BY STUDS OR 3/4" PUDDLE WELDS. SIDE LAP WELDS SHALL BE PROVIDED PER MANUFACTURER'S RECOMMENDATIONS.
- DECK SUPPORTS AROUND STEEL COLUMNS AND CLOSURE ANGLES SHALL BE SUPPLIED BY THE DECK MANUFACTURER, IF REQUIRED.
- 5. DECK SHALL BE CONTINUOUS OVER THREE OR MORE SPANS.

PRE-FABRICATED COLD-FORMED STEEL TRUSSES:

- 1. THE DESIGN, MANUFACTURE, QUALITY ASSURANCE AND ERECTION OF COLD-FORMED STEEL TRUSSES SHALL BE IN ACCORDANCE WITH THE CURRENT AISI NORTH AMERICAN STANDARDS FOR COLD-FORMED STEEL FRAMING.
- A TRUSS DESIGN PACKAGE SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION AND ERECTION. THIS PACKAGE SHALL INCLUDE, AT A MINIMUM, EACH INDIVIDUAL TRUSS DESIGN DRAWING AND CALCULATION, THE TRUSS PLACEMENT DIAGRAM, THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING METHOD AND DETAILS, AND ANY OTHER STRUCTURAL DETAILS GERMANE TO THE TRUSSES. THE TRUSS DESIGN DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF THE TRUSS DESIGNER WHO SHALL BE REGISTERED IN THE STATE OF ALABAMA.
- TRUSS TO TRUSS CONNECTIONS SHALL BE DESIGNED AND SPECIFIED BY THE TRUSS MANUFACTURER FOR THE DESIGN LOADS.
- TRUSS MANUFACTURER SHALL DESIGN AND PROVIDE COLD-FORMED STEEL FRAMING FOR ALL RIDGE, HIP RIDGE AND VALLEY MEMBERS.
- ALL TEMPORARY AND PERMANENT BRACING MEMBERS AND CONNECTIONS REQUIRED FOR TRUSSES SHALL BE DESIGNED AND DETAILED BY THE TRUSS DESIGNER. AT A MINIMUM, TRUSS INSTALLER SHALL COMPLY WITH THE "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING, AND BRACING OF COLD-FORMED STEEL TRUSSES" BY THE COLD-FORMED STEEL COUNCIL.
- 6. TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING SUPERIMPOSED LOADS: ROOF TOP CHORD DEAD LOAD----ROOF BOTTOM CHORD DEAD LOAD-----10 PSF ROOF TOP CHORD LIVE LOAD-------20 PSF
- TRUSSES SHALL BE DESIGNED FOR COMPONENT AND CLADDING WIND LOADS BASED ON THE PROVIDED DESIGN CRITERIA AND COMPONENT AND CLADDING WIND LOAD TABLES.
- TRUSS DESIGNER SHALL VERIFY THAT ALL EQUIPMENT WEIGHTS, CONCENTRATED LOADS, AND LOCATIONS ARE PROVIDED BY THE GENERAL CONTRACTOR. GENERAL CONTRACTOR SHALL PROVIDE THIS INFORMATION TO THE TRUSS DESIGNER. THE LOADS AND CORRESPONDING LOCATIONS SHALL BE IDENTIFIED ON THE TRUSS PLACEMENT DIAGRAM.
- MECHANICAL DUCT OPENINGS IN TRUSSES SHALL BE COORDINATED WITH THE MECHANICAL DRAWINGS TO ACCOMMODATE THE DUCT LOCATION AND SIZE WITH

DESIGN CRITERIA:

- 1. GOVERNING CODE:
- A. INTERNATIONAL BUILDING CODE, I.B.C. 2018

2. GRAVITY DESIGN LOADS:

- A. DEAD
- 1. DESIGN DEAD LOADS ARE BASED ON THE SELF WEIGHT OF CONSTRUCTION MATERIALS SHOWN IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. ANY ALTERNATE MATERIALS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER TO REVIEW.

B. LIVE:

1	TYPICAL FLOOR	60 PSF + 20 PSF PARTITION LOA
	STAIRS, RAMPS	100 PSF
3.	CORRIDORS	100 PSF
4.	LOBBIES	100 PSF
6.	ROOF	20 PSF
SNI	\cap W	

C. SNOW

- 1. GROUND SNOW LOAD (Pg) = _ PSF 2. FLAT ROOF SNOW LOAD (Pf) = 5 PSF 3. SNOW EXPOSURE FACTOR (Ce) = 1.0 4. SNOW LOAD IMPORTANCE FACTOR (Is) = 1.0 5. THERMAL FACTOR (Ct) = 1.0
- 3. LATERAL DESIGN LOADS:

A. WIND

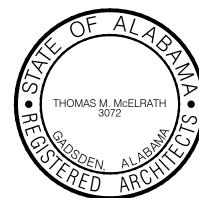
- 1. DESIGNED PER ASCE 7-16 2. ULTIMATE WIND SPEED = 106 MPH 3. NOMINAL WIND SPEED = 82 MPH
- RISK CATEGORY = II
- BUILDING CATEGORY = ENCLOSED EXPOSURE CATEGORY = C
- 7. INTERNAL PRESSURE COEFFICIENT (GCpi) = ±0.18 8. COMPONENTS & CLADDING WIND PRESSURES SEE CHART

B. EARTHQUAKE

- SEISMIC RISK CATEGORY = II
- SEISMIC IMPORTANCE FACTOR (Ie) = 1.0
- 3. MAPPED SPECTRAL RESPONSE ACCELERATIONS
- A. Ss = 0.273B. S1 = 0.101
- 4. SOIL SITE CLASS = C 5. DESIGN SPECTRAL RESPONSE ACCELERATIONS
- A. Sds = 0.237B. Sd1 = 0.101
- 6. SEISMIC DESIGN CATEGORY = B

EQUIVALENT LATERAL FORCE

- 7. BASIC SEISMIC-FORCE-RESISTING SYSTEM STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC
- RESISTANCE 8. DESIGN BASE SHEAR = 62 KIPS
- 9. SEISMIC RESPONSE COEFFICIENT (Cs) = 0.096
- 10. RESPONSE MODIFICATION FACTOR (R) = 3 11. ANALYSIS PROCEDURE:
- **SPECIAL INSPECTIONS:**
- 1. THE OWNER SHALL EMPLOY A QUALIFIED TESTING AGENT/ENGINEER TO PROVIDE SPECIAL INSPECTIONS. SPECIAL INSPECTORS SHALL SUBMIT RESUME OF EXPERIENCE AND QUALIFICATIONS OF ALL INDIVIDUALS PERFORMING WORK TO THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED. SPECIAL INSPECTIONS SHOULD BE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2018 ED. AND AS INDICATED IN THE SPECIFICATIONS.



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GENERAL NOTES CHECKED KLO SCALE AS NOTED DATE SEPTEMBER 15, 2022 JOB NO. 22-01

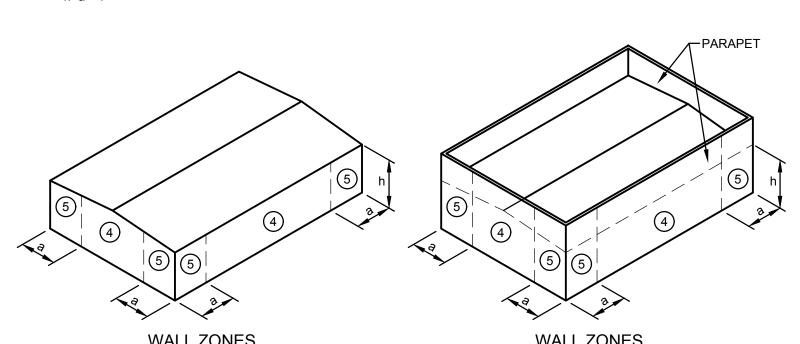


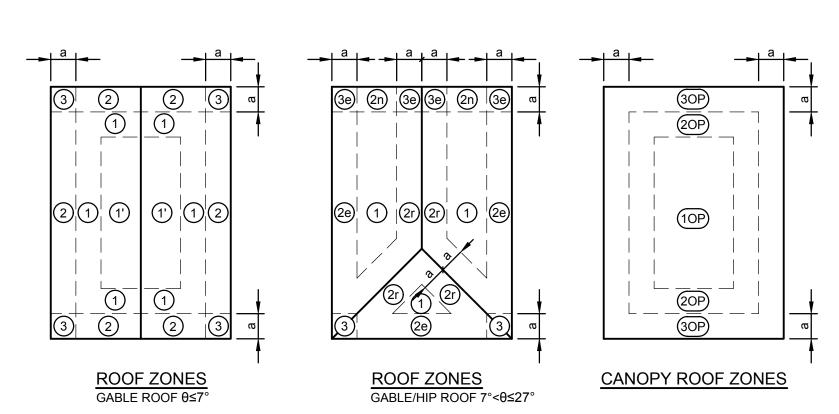


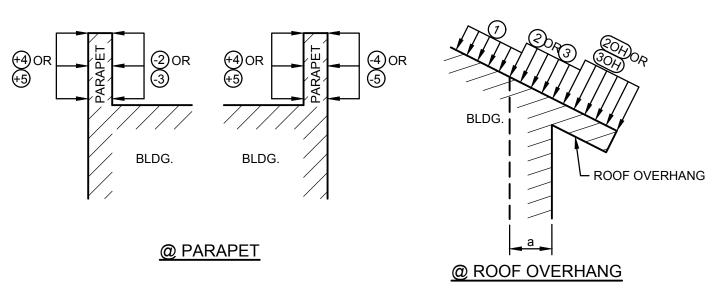
COMPONENTS AND CLADDING DESIGN WIND PRESSURES (PSF)

	EFFECTIVE WIND AREA													
ZONE	10	SF	20	20 SF		SF	100) SF	200 SF					
	XXX	-XXX	XXX	-XXX	XXX	-XXX	XXX	-XXX	XXX	-XXX				
1	18	-42	16	-42	14	-36	12	-31	12	-31				
2e	18	-42	16	-42	14	-36	12	-31	12	-31				
2n	18	-67	16	-59	14	-48	12	-39	12	-39				
2r	18	-67	16	-59	14	-48	12	-39	12	-39				
3e	18	-67	16	-59	14	-48	12	-39	12	-39				
3r	18	-86	16	-70	14	-50	12	-39	12	-39				
20H	-	-98	-	-89	-	-76	-	-66	-	-50				
3OH	-	-130	-	-111	-	-88	-	-84	-	-66				
4	30	-32	28	-31	27	-29	25	-28	25	-84				
5	30	-40	28	-37	27	-33	25	-31	25	-28				
10P	38	-38	37	-38	37	-38	37	-38	38	-31				
20P	56	-57	56	-57	55	-56	55	-56	36	-37				
30D	7.1	76	7.1	76	55	E6	55	E.G.	26	27				

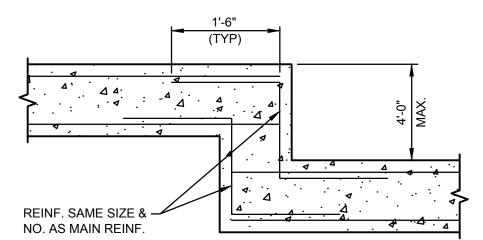
- 2. PRESSURE ZONE LOCATIONS ARE IN ACCORDANCE WITH ASCE 7-16.
- 3. PRESSURES INDICATED ARE BASED ON ULTIMATE WIND SPEEDS PER ASCE 7-16. TO CONVERT PRESSURES TO NOMINAL LOADS, MULTIPLY VALUES IN CHART BY A FACTOR OF 0.6.



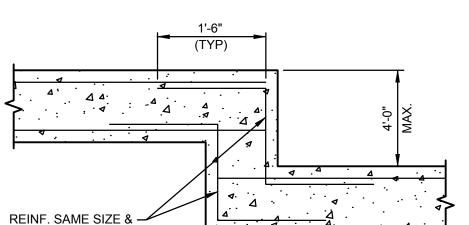




ZONE LAYOUT DIAGRAMS



TYPICAL FOOTING STEP DETAIL



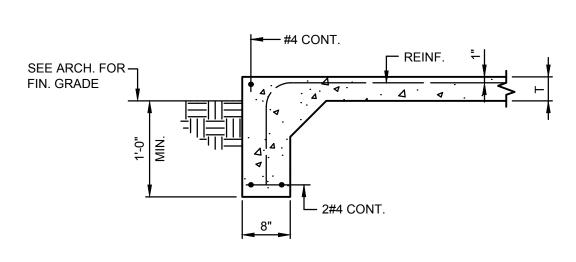
BRICK VENEER,-SEE ARCH'T FRONT OF L-AGAINST BACK OF BRICK NOTE: RADIUS ANGLE WHERE REQ'D. —L3 1/2x3 1/2x5/16 @ 4'-0" MAX.OPNG. L5x3 1/2x3/8 (LLV) @ 6'-0" MAX.OPNG. L6x3 1/2x3/8 (LLV) @ 8'-0" MAX.OPNG.

TYPICAL LOOSE LINTEL DETAILS NOTE: BEAR LINTELS 6" MIN. EACH SIDE OF OPENING

DISCONTINUE -REINF. @ JOINT T/3 DEPTH OF SAW CUT

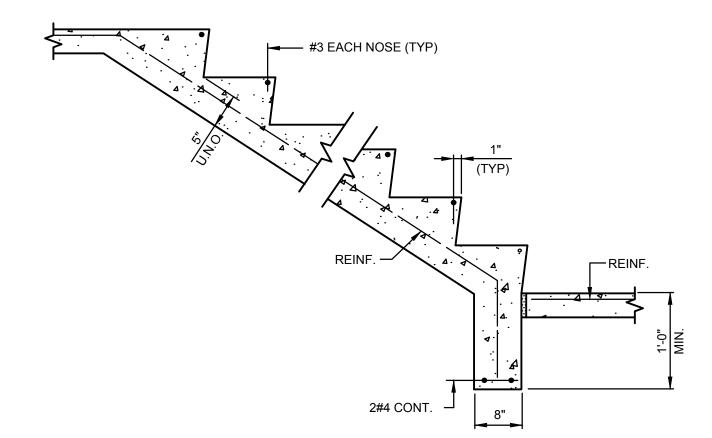
TYPICAL SAWED CONTROL JOINT

- USE SAWS, BLADES AND SKID PLATES BY SOFF-CUT INTERNATIONAL OR EQUAL. SEE PLAN FOR JOINT LAYOUT OR PROVIDE @ 12'-0" OC. MAX. EA. WAY. START CUTTING SAWED JOINTS AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT RAVELING OR DISLODGING OF AGGREGATES. THIS WILL TYPICALLY BE FROM 1 HOUR IN HOT WEATHER TO 4 HOURS IN COLD WEATHER AFTER COMPLETING FINISHING OF SLAB IN THAT JOINT LOCATION.
- COLUMNS, DRAINS AND OTHER PENETRATIONS IN THE PATH OF A DEFINED JOINT. IMPLEMENT METHODS AND TIMING OF THE SAW CUT BEYOND THE LIMITS OF THE SOFF-CUT SAW REACH TO PROVIDE A CONSISTENT DEPTH OF CUT WITH MINIMAL
- 5. T = SLAB THICKNESS (SEE PLAN).

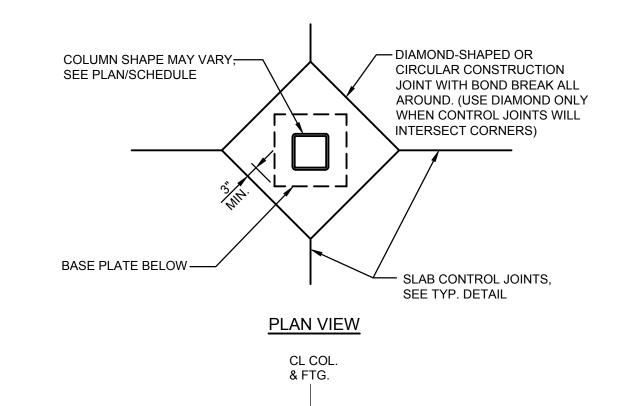


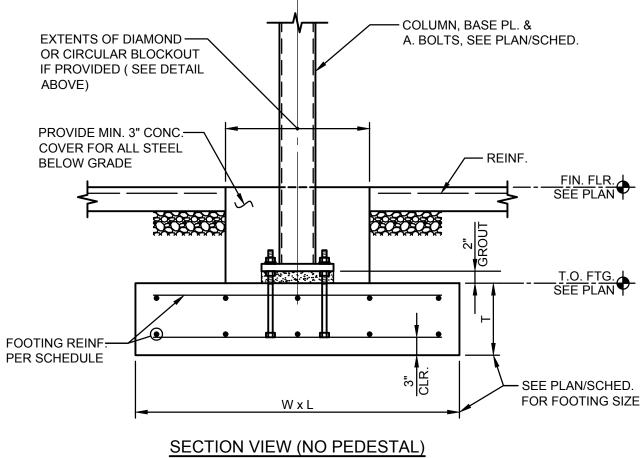
TYPICAL TURNDOWN SLAB DETAIL

NOTE: T = SLAB THICKNESS (SEE PLAN)

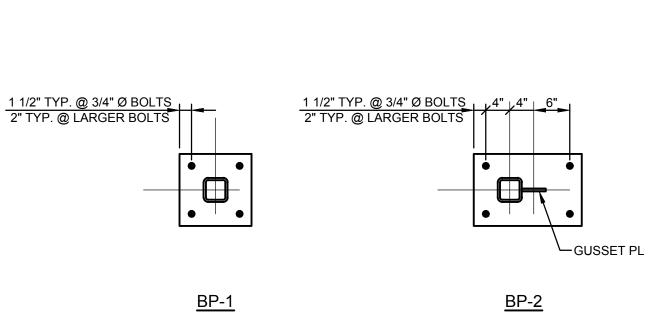


TYPICAL STAIR ON GRADE

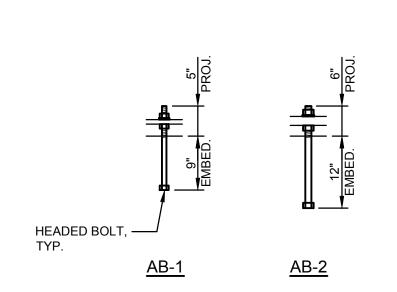




TYPICAL COLUMN FOOTING DETAILS

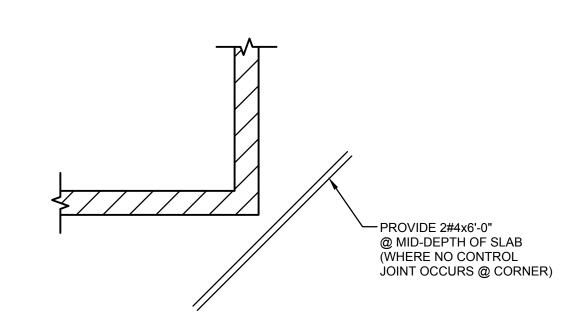


TYPICAL BASE PLATE DETAILS

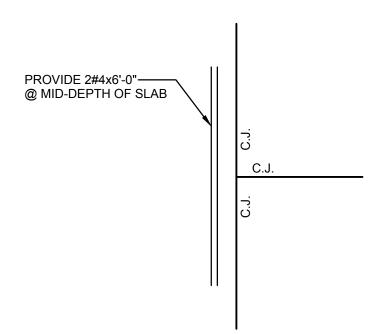


TYPICAL ANCHOR BOLT DETAILS

USE ASTM F1554 GRADE 55 WITH WELDABILITY SUPPLEMENT S1 FOR ALL ANCHOR BOLTS UNO.



@ RE-ENTRANT CORNERS



@ DISCONTINUOUS CONTROL JOINTS

TYPICAL ADDITIONAL REINFORCING @ SLAB ON GRADE

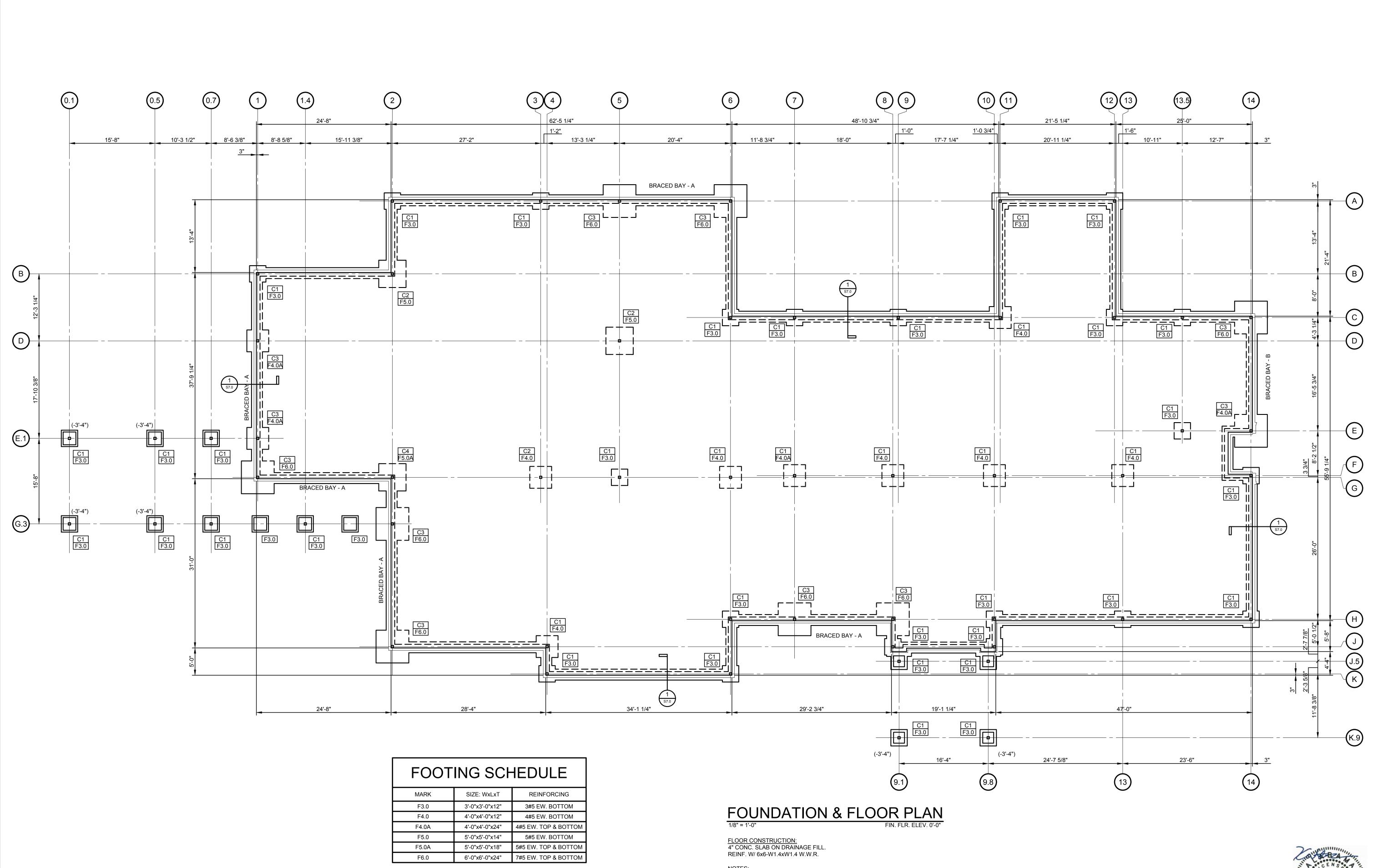






GENERAL NOTES CHECKED KLO AS NOTED DATE SEPTEMBER 15, 2022 JOB NO. 22-01 REVISIONS







MAS M. MCELRATH, ARCHITE

CHITECTURE and SPACE PLANNII

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244
FMAII : TOM@TWM-ARCHITECT COM

A NEW SENIOR WELLNESS CENTER at 2829 W. Meighan Boulevard for

PRAWN
KLO
CHECKED
KLO
SCALE
AS NOTED
DATE
SEPTEMBER 15, 2022
FILE



MBA ENGINEERS, INC.

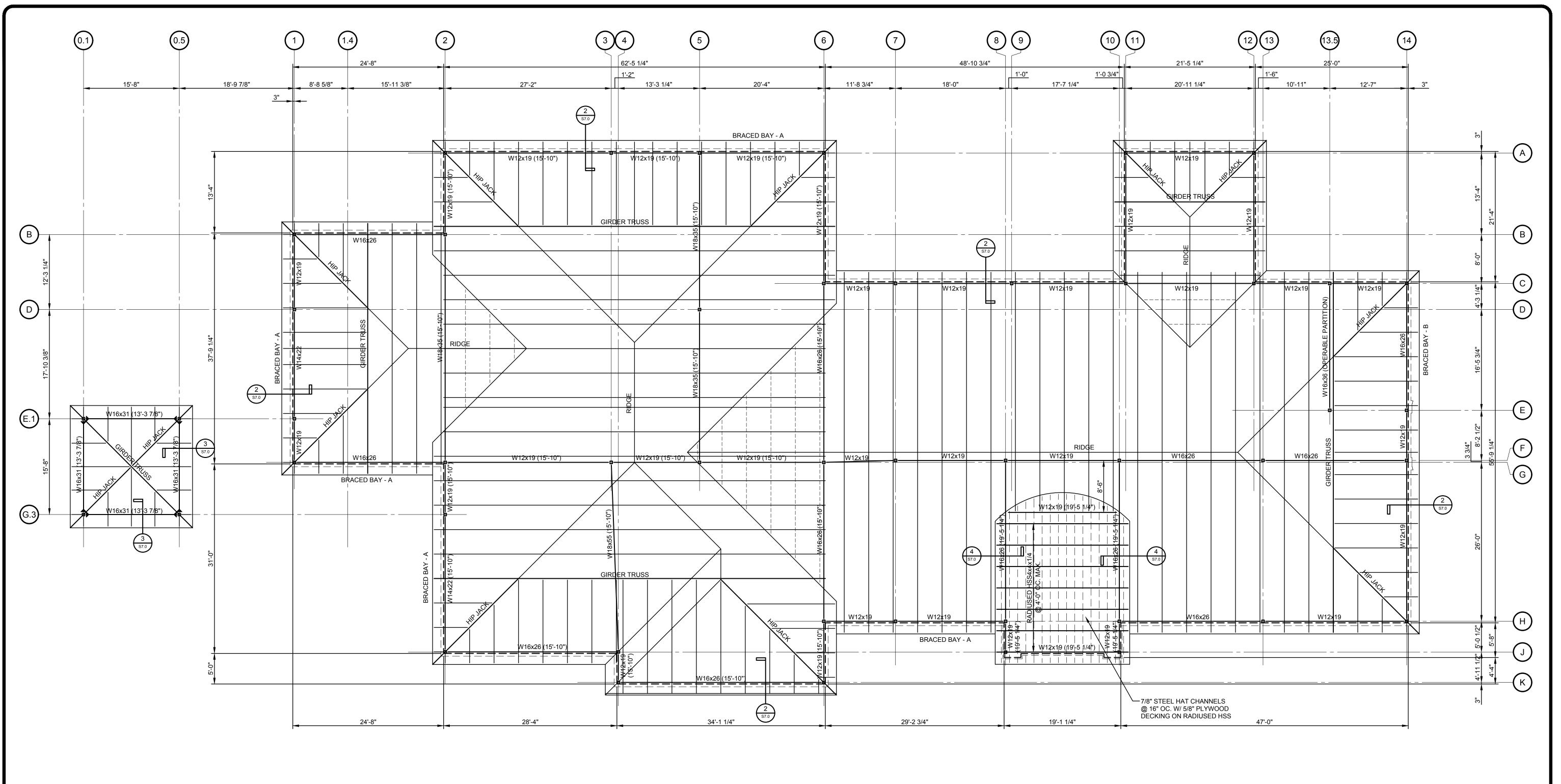
STRUCTURAL CIVIL GEOTECHNICAL

JOB NO.

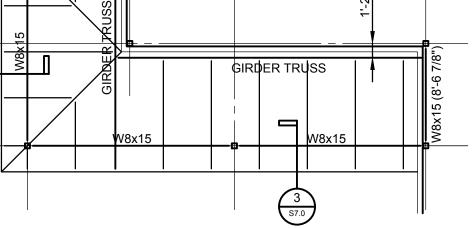
22-01

COLUMN SCHEDULE												
MARK	SIZE	BASE PLATE	BASE PLATE DETAIL	ANCHOR BOLTS	ANCHOR BOLTS DETAIL	REMARKS						
C1	HSS5x5x1/4	12x3/4x1'-0"	BP-1	4-3/4"Ø	AB-1							
C2	HSS5x5x3/8	12x3/4x1'-0"	BP-1	4-3/4"Ø	AB-1							
C3	HSS5x5x1/4	18x1x1'-0"	BP-2	6-1"Ø	AB-2							
C4	HSS5x5x3/8	18x1x1'-0"	BP-2	6-1"Ø	AB-2							

NOTES:
1. TOP OF FOOTING ELEV. (-2'-0") U.N.O.







LOW ROOF FRAMING PLAN 1/8" = 1'-0"

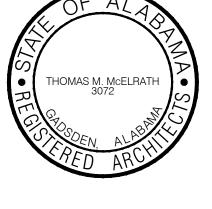
ROOF CONSTRUCTION: 1 1/2" DEEP, 22 GA. GALV., WIDE RIB (TYPE "B") METAL ROOF DECK.

NOTES:
1. TOP OF STEEL ELEV. (7'-10 7/8") U.N.O.

ROOF FRAMING PLAN 1/8" = 1'-0"

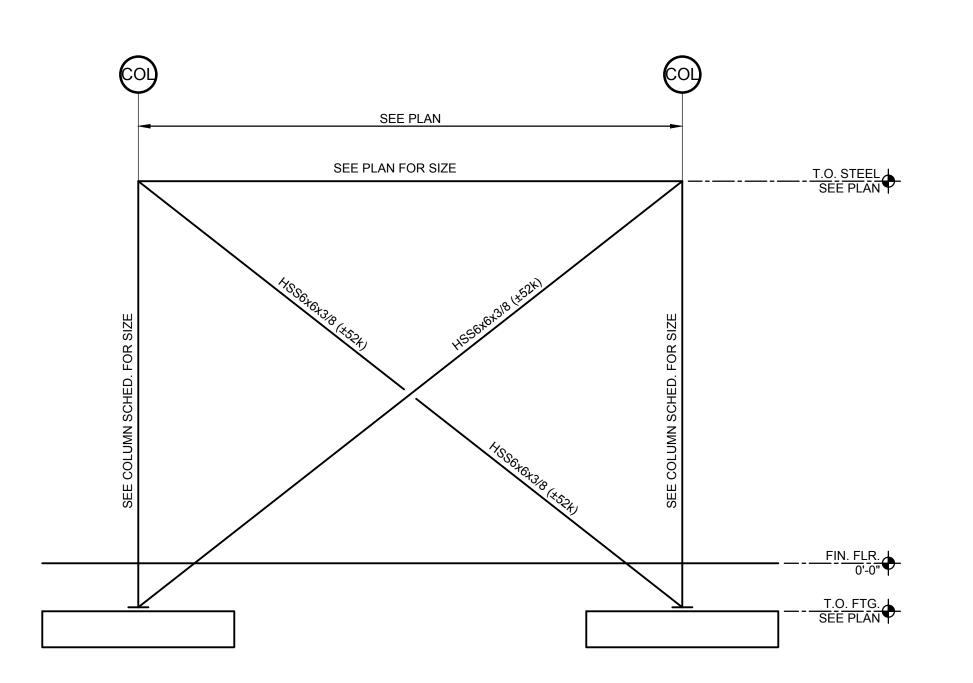
ROOF CONSTRUCTION: 1 1/2" DEEP, 22 GA. GALV., WIDE RIB (TYPE "B") METAL ROOF DECK.

NOTES:
1. TOP OF STEEL ELEV. (13'-10") U.N.O.
2. ▶ - DENOTES MOMENT CONNECTION.

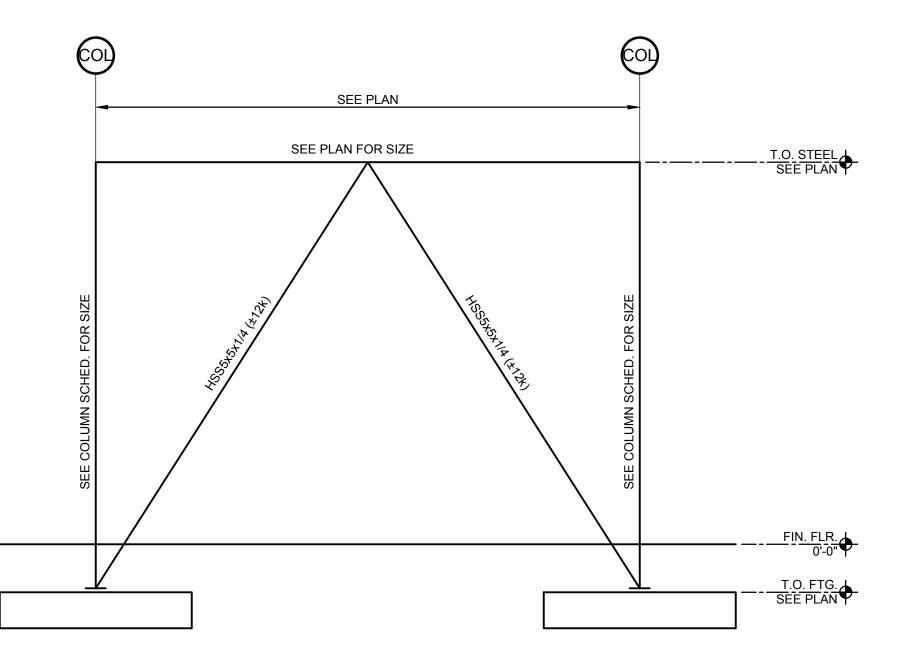


ROOF FRAMING PLA CHECKED KLO AS NOTED DATE SEPTEMBER 15, 2022 JOB NO. 22-01

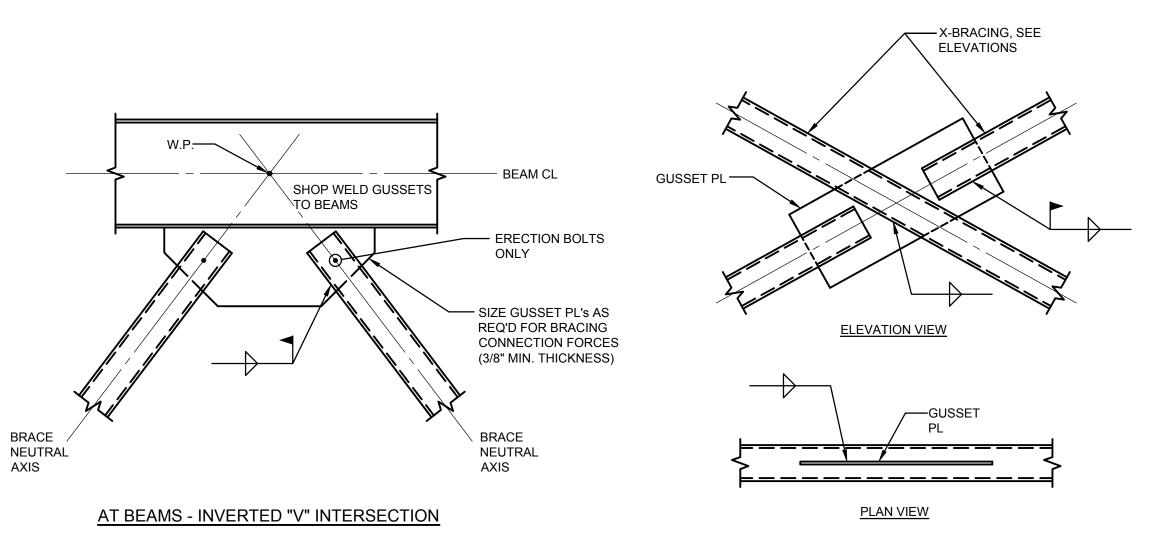


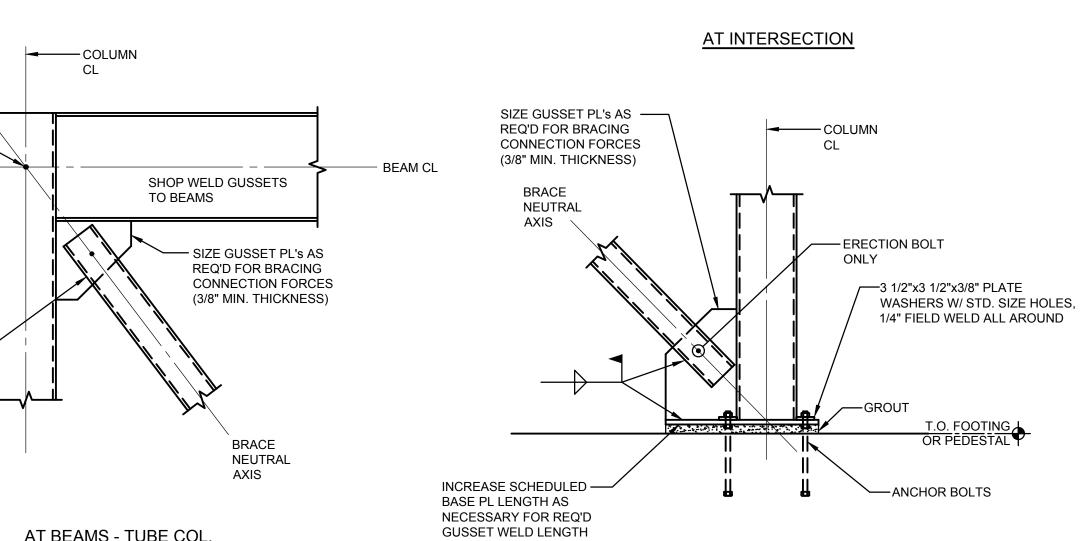


BRACED BAY - A



BRACED BAY - B





- 3 5/8" METAL STUD BRACES @ 2'-0" OC. @ 2'-0" OC. ─ FOLDING PARTITION

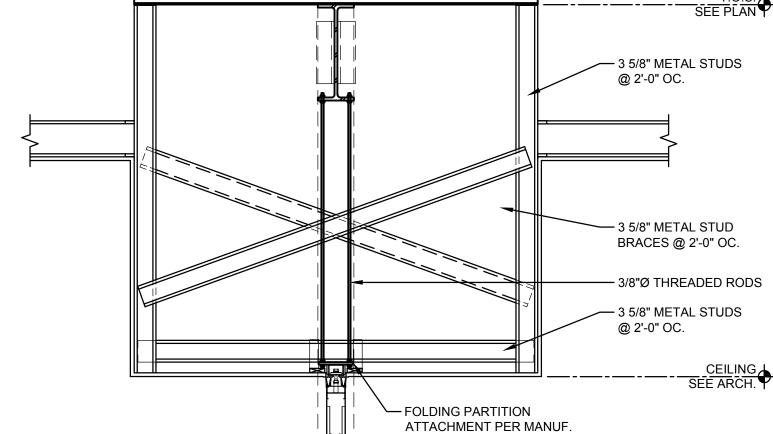
SEE ARCH.

TYPICAL OPERABLE PARTITION SUPPORT DETAIL





____L3x3x1/4 @ 2'-0" OC.







BRACED BAYS & TYPICAL DETAILS

CHECKED

KLO

SCALE

AS NOTED DATE

SEPTEMBER 15, 2022

JOB NO. 22-01 REVISIONS

AT BASEPLATES

AT BEAMS - TUBE COL.

FILE: 22085-NOTES.dwg TAB: S3.0 PD: 11/4/2005 11: 04 AM PB: Troy Poist

TYPICAL BRACING CONNECTION DETAILS

BRACING NOTES:

1. MEMBER DESIGN FORCES SHOWN () ARE SERVICE LEVEL (UNFACTORED)
PER IBC 2018 ALLOWABLE STRESS DESIGN LOAD COMBINATIONS

2. ALL FIELD CONNECTIONS SHALL BE WELDED. FIELD BOLTING W/ 3/4" DIA.

A-325 BOLTS SHALL BE ALLOWED FOR ERECTION PURPOSES ONLY.

4. BRACING CONNECTIONS SHALL BE DESIGNED FOR THE FULL DESIGN AXIAL

5. LAY OUT MEMBERS SO THAT NEUTRAL AXIS OR GAGE LINES OF MEMBERS

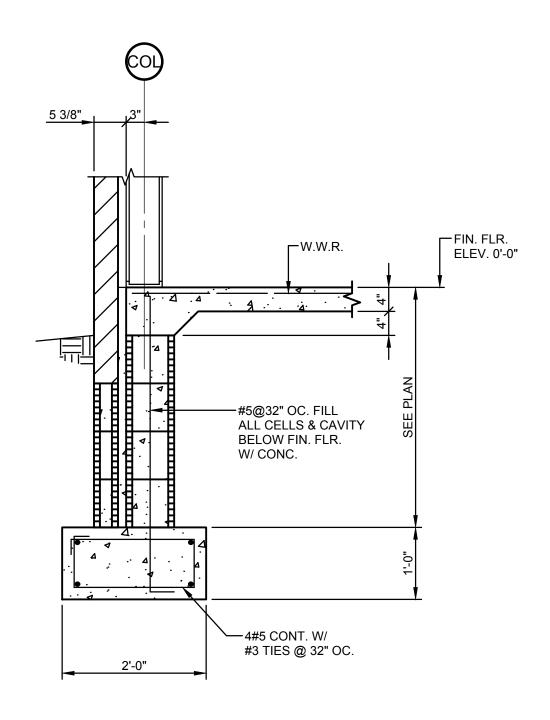
INTERSECT AT PANEL POINTS AND WORKING POINTS.

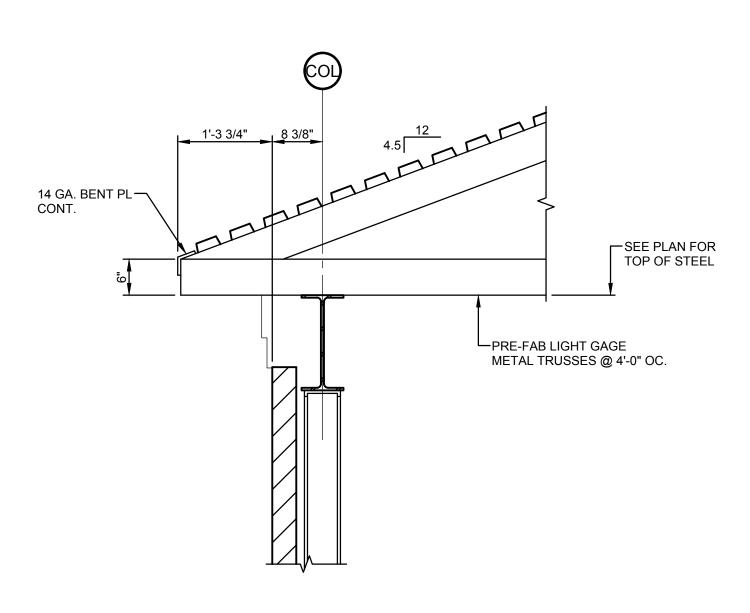
+ DENOTES TENSION

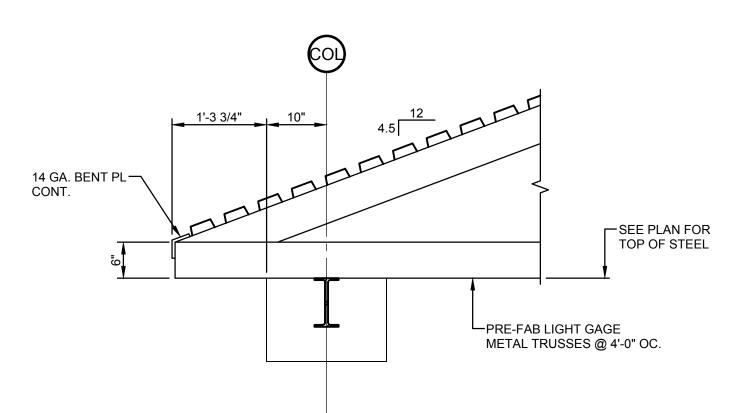
FORCE AS SHOWN.

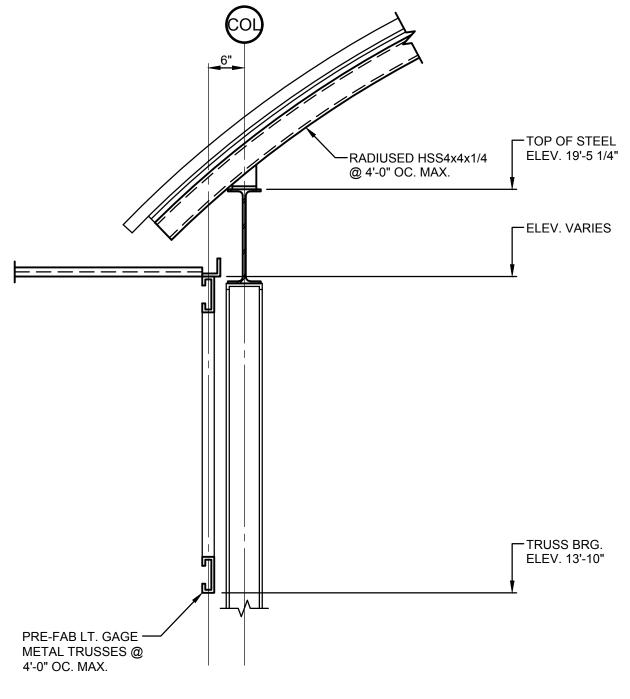
- DENOTES COMPRESSION

3. ALL SHOP CONNECTIONS SHALL BE WELDED.









4 SECTION 3/4" = 1'-0"

1 SECTION S7.0 3/4" = 1'-0" 2 SECTION S7.0 3/4" = 1'-0" 3 SECTION S7.0 3/4" = 1'-0"





A NEW SENIOR WELLNESS CENTER at 2829 W. Meighan Boulevard

DRAWN
KLO
CHECKED
KLO
SCALE
AS NOTED
DATE
SEPTEMBER 15, 2022
FILE

JOB NO.



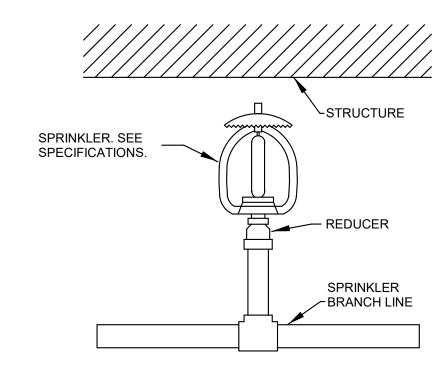
22-01

FIRE PROTECTION GENERAL NOTES

- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BID. CONTRACTOR SHALL VERIFY EXACT SIZE, LOCATION, ELEVATION OF EXISTING STRUCTURE, CEILINGS, MECHANICAL, AND ELECTRICAL PRIOR TO INSTALLING ANY NEW PIPE.
- CONTRACTOR SHALL COORDINATE ALL PIPE ROUTING TO AVOID CONFLICTS WITH ALL STRUCTURAL, ELECTRICAL, AND MECHANICAL FEATURES OF THE BUILDING.
- ALL HORIZONTAL PIPING IS RUN ABOVE THE CEILING OR IN JOIST SPACE. ALL PIPING SHALL DRAIN DOWN AS REQUIRED BY NFPA 13. PIPING TO BE INSTALLED TO CONCEAL AS MUCH AS POSSIBLE.
- INSTALL ALL FIRE PROTECTION MATERIALS IN AREAS WITH EXPOSED CEILINGS IN A NEAT FIRST CLASS MANNER. ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH INDUSTRY BEST PRACTICES. PIPING SHALL BE INSTALLED PARALLEL AND/OR PERPENDICULAR TO BUILDING STRUCTURE UNLESS INDICATED OTHERWISE.
- CONTRACTOR IS RESPONSIBLE FOR NOTIFYING PROJECT ENGINEERS FOR INSPECTION AND TESTING. PROVIDE A MINIMUM OF A WEEK.
- CONTRACTOR TO REFER TO ARCHITECTURAL DRAWINGS FOR NEW WORK AREAS, CEILING HEIGHTS, SECTIONS, AND RATED WALLS.
- CONTRACTOR RESPONSIBLE FOR COORDINATION OF PIPING WEIGHT AND

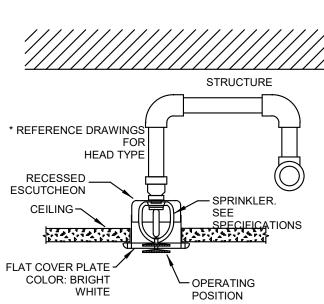
LOCATION PRIOR TO INSTALLATION OF ANY PIPE.

- PIPING LAYOUT AND SIZING SHOWN ON PLANS IS DIAGRAMMATIC AND SHOWN FOR SPACE REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR LAYOUT SHOP DRAWINGS, CALCULATIONS, SUBMITTAL DATA, TESTING, OWNER TRAINING AND CERTIFYING SYSTEM MEETS NFPA 13 AND CONTRACT DOCUMENTS.
- CONTRACTOR SHALL OBTAIN APPROVAL FROM ARCHITECT PRIOR TO INSTALLING ANY SPRINKLER HEADS DIFFERENT FROM THE SPECIFIED SPRINKLERS HEADS.
- 10. CONTRACTOR SHALL OBTAIN APPROVAL OF "SPRINKLER HEAD TYPE" FROM ARCHITECT PRIOR TO INSTALLING ANY SPRINKLER HEADS.
- 11. CONTRACTOR SHALL PAINT ALL EXPOSED PIPING TO MATCH STRUCTURE. COORDINATE EXACT COLOR WITH ARCHITECT.

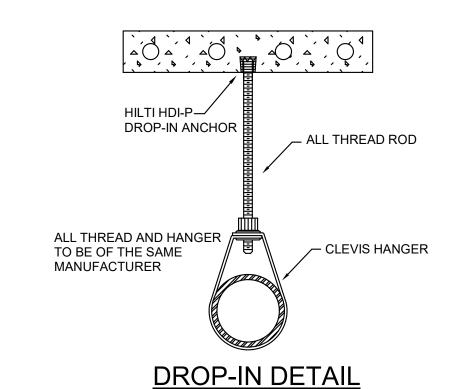


QUICK RESPONSE UPRIGHT SPRINKLER

NO SCALE



NO SCALE

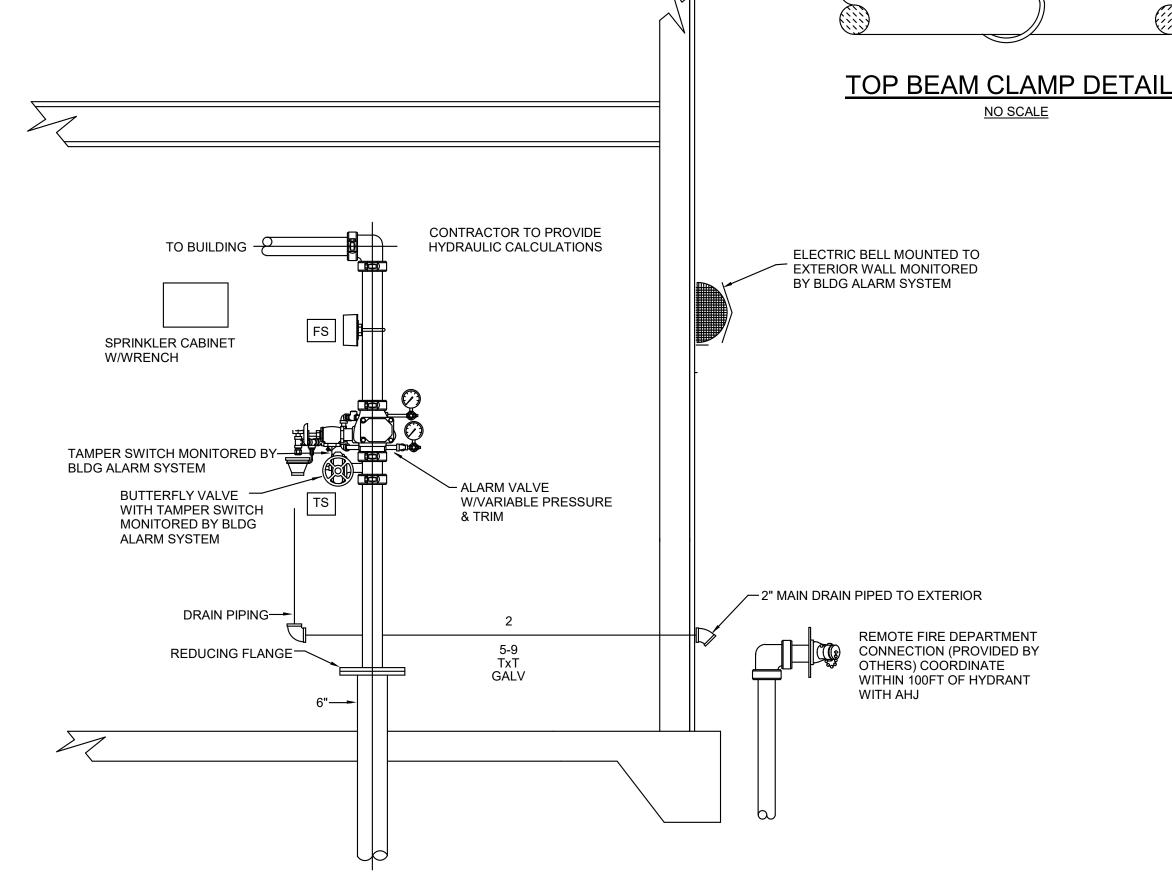


FIRE PROTECTION SHOP DRAWINGS AND SUBMITTALS

- 1. PROVIDE A NFPA 13 COMPLIANT SYSTEM TO PROVIDE COVERAGE TO NEW WORK AREA. CONTRACTOR RESPONSIBLE TO PROVIDE DETAILED SHOP DRAWINGS AND CALCULATIONS
- 2. SHOP DRAWINGS SHALL INCLUDE:
- A. A REFLECTED CEILING PLAN INDICATING LOCATION OF SPRINKLER HEADS, LIGHTS, CEILING DEVICES, GRILLES, AUDIO VISUAL AND ANY DEVICES ATTACHED TO
- LIFT OUT CEILINGS. ALL SPRINKLER HEADS IN LAYIN CEILINGS TO BE CENTERED IN TILES. B. PREPARE A WORKING PIPE SHOP DRAWING BASED ON HYDRAULIC CALCULATIONS. THE PIPING DRAWINGS SHALL INDICATE THE ELEVATION OF THE PIPE, THE CONFIGURATION OF THE PIPING AND HANGERS, SIZE OF THE PIPE AND COORDINATION
- OF PIPING WITH OTHER DISCIPLINES, STRUCTURE AND DUCTWORK. C. HYDRAULIC CALCULATIONS ARE TO BE PREPARED USING A FLOW TEST WITHIN 90
- D. THE CONTRACTOR IS RESPONSIBLE FOR INCORPORATING LOCAL AUTHORITY
- HAVING JURISDICTION COMMENTS FOR COMPLIANCE. ALL ADDITIONAL MATERIALS TO BE INDICATED ON SHOP DRAWINGS.
- ALL LOW-POINT DRAIN DOWN LOCATION AND PENETRATIONS OF BUILDING STRUCTURE TO BE INDICATED ON SHOP DRAWINGS.
- 3. CONTRACTOR SHALL BE LICENSED IN THE STATE IN WHICH THE WORK IS PREFORMED. THE CONTRACTOR SHALL BE A NICET LEVEL III OR LEVEL IV OR SPECIAL HAZARD SUPPRESSION SYSTEMS. THE NICET LEVEL III DESIGNER SHALL BE AN EMPLOYEE OF FIRE PROTECTION CONTRACTOR.
- 4. ALL ELECTRICAL FIRE ALARM REQUIREMENTS TO BE COORDINATED WITH THE ELECTRICAL THE FLOW AND TAMPER SWITCHES TO BE PROVIDED UNDER FIRE PROTECTION CONTRACT. CONDUIT, ALARM WIRING AND PROGRAMMING THE RESPONSIBILITY OF THE FIRE ALARM CONTRACT AND SHALL BE COORDINATED WITH ELECTRICAL.
- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS WITHIN 45 DAYS PRIOR TO THE START OF THE SPRINKLER SYSTEM INSTALLATION.
- HYDRAULIC CALCULATIONS AND SPRINKLER SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF AN ENGINEER LICENSED IN THE STATE OF ALABAMA AND BEAR HIS OR HER SEAL WITH SIGNATURE AND DATE.

TOP BEAM TOP BEAM--CLAMP CLAMP -ALL THREAD ROD ALL THREAD ROD STEEL---NUTS AND BOLTS AT NUTS AND BOLTS AT → STEEL TOP AND BOTTOM TOP AND BOTTOM ALL THREAD ROD UNISTRUT ALL THREAD, CLAMP AND HANGER TO OF THE SAME MANUFACTURER CLEVIS HANGER

TRAPEZE HANGER DETAIL - UNISTRUT NO SCALE



FIRE SERVICE ENTRY - BUILDING NO SCALE

FIRE PROTECTION HYDRAULIC DEMANDS

1. SPRINKLER PROTECTION

STEEL -

- A. ALL OFFICES, LOBBIES, VESTIBULES, BILLARD/CARD ROOMS, FITNESS AREAS, CLASSROOMS, TOILETS, COMMON AREAS, CORRIDORS: LIGHT HAZARD 0.10 GPM OVER HYDRAULICALLY MOST REMOTE 1500 SQ. FT.
- B. MECHANICAL EQUIPMENT ROOMS, TRANSFORMER ROOMS, GENERAL PURPOSE STORAGE LESS THAN 100 SQ. FT.: ORDINARY HAZARD, GROUP 2, 0.20 GPM OVER HYDRAULICALLY MOST REMOTE 2000 SQ. FT.
- C. GENERAL STORAGE, STORAGE HEIGHT LIMIT LESS THAN 12FT, LIMITED COMBUSTIBLES LESS THAN 25 GALLONS: ORDINARY GROUP 1 PER NFPA 13, 0.15 GPM PER 1500 SQ. FT.
- 2. HYDRAULIC CALCULATION SHALL BE CALCULATED WITH 10% SAFETY FACTOR OF SUPPLY CURVE.
- 3. FLOW DATA TO BE RESPONSIBILITY OF CONTRACTOR.

FIRE PROTECTION DESIGN ANALYSIS

REFER TO ARCHITECTURAL PLANS FOR COMPLIANCE NFPA 101 TYPE OF CONSTRUCTION: REFER TO ARCHITECTURAL

OCCUPANCY: REFERENCE ARCHITECTURAL LIFE SAFETY PLAN

FIRE DESIGN CODES /STANDARDS

APPLICABLE CODES AND STANDARDS:

INTERNATIONAL BUILDING CODE (IBC)

INTERNATIONAL FIRE CODE (IFC)

INTERNATIONAL PLUMBING CODE (IPC)

NATIONAL ELECTRIC CODE (NEC) NATIONAL FIRE ALARM CODE NFPA 72

NATIONAL ENERGY CODE

— TOP BEAM CLAMP

- ALL THREAD ROD

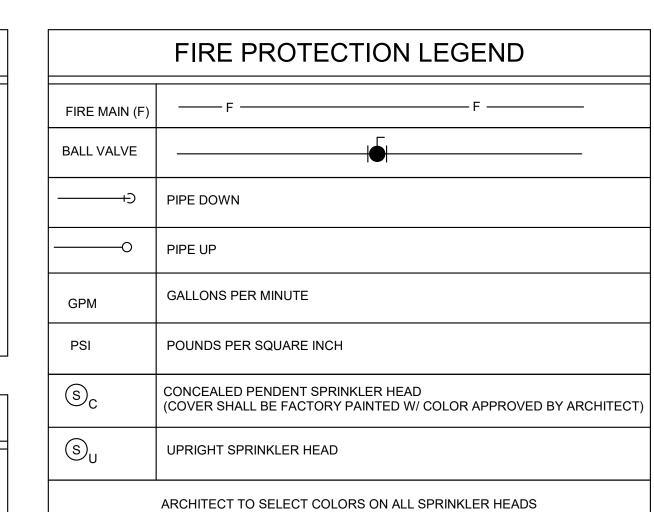
THE SAME MANUFACTURER

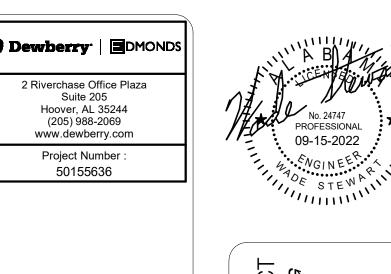
ALL THREAD, CLAMP

CLEVIS HANGER

AND HANGER TO BE OF

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13,24,101





McELRATH, ARCHITECTINE and SPACE PLANNING THOMAS

E

DRAWN ALV **CHECKED**

> SCALE AS NOTED DATE 09/15/2022 FILE JOB NO.

SMC

22-01 **REVISIONS**

SHEET



THOMAS M. McELRATH, ARCHITECT ARCHITECT ARCHITECTURE and SPACE PLANNING

No. 24747 PROFESSIONAL 09-15-2022

eighan Boulevard for the

DRAWN ALV

CHECKED SMC SCALE AS NOTED DATE

09/15/2022 FILE JOB NO. 22-01



GENERAL NOTES PLUMBING LEGEND LOCATIONS OF UTILITIES SHOWN ON PLANS ARE APPROXIMATE. VERIFY WITH DOMESTIC COLD WATER LOCAL UTILITY PRIOR TO BIDDING. DOMESTIC HOT WATER SUPPLY CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, AND ELEVATION OF ALL EXISTING SERVICES PRIOR TO INSTALLING ANY NEW PIPE. DOMESTIC HOT WATER RETURN _____ ALL OUTSIDE CLEANOUTS SHALL BE BROUGHT TO GRADE AND EMBEDDED IN SOIL, WASTE, OR SANITARY SEWER | ABV | ABOVE 18"X18"X16" THICK CONCRETE PAD. (J.R. SMITH 4258 OR EQUAL.) WHEREVER DISSIMILAR METALS ARE CONNECTED ON WATER LINES, A _ _ _ _ _ _ _ DIELECTRIC UNION SHALL BE USED. PIPE TURNING DOWN ALL HORIZONTAL WATER AND VENT PIPING SHALL BE RUN ABOVE CEILING ON PLAN WHERE SHOWN UNLESS OTHERWISE NOTED. PIPE TURNING UP ALL HORIZONTAL SANITARY PIPING IS RUN BELOW FLOOR ON PLAN WHERE TEE DOWN SHOWN UNLESS OTHERWISE NOTED. ALL WATER PIPING BELOW SLAB ON GRADE SHALL BE BENT UP AT ENDS SO THAT NO JOINTS OCCUR BELOW FLOOR. UNION COORDINATE ALL PIPE ROUTING TO AVOIDE CONFLICTS WITH STRUCTURAL, MECHANICAL, AND ELECTRICAL FEATURES OF BUILDING. −GW− **GREASE WASTE** ALL WALL HYDRANTS AND HOSE BIBBS SHALL BE MOUNTED 24" ABOVE FINISH BALANCE VALVE GRADE OF FINISH FLOOR UNLESS OTHERWISE NOTED. BALL VALVE 10. ALL WATER PIPING INSTALLED IN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF THE EXTERIOR WALL INSULATION. CAP ON END OF PIPE 11. NO VENT THRU ROOF IS TO BE LOCATED WITHIN 10 FEET OF ANY BUILDING AIR INTAKES, PER CODE. COORDINATE WITH MECHANIAL AND GENERAL # RISER NUMBER CONTRACTORS. PLUMBING FIXTURE P-# 12. DOMESTIC WATER PIPING AND FIRE PROTECTION PIPING LOCATED ABOVE THE CEILING, SHALL BE INSTALLED BELOW CEILING INSULATION. WATER HEATER WH - # 13. CONTRACTOR SHALL COORDINATE MECHANICAL FLOOR DRAIN LOCATIONS WITH MECHANICAL EQUIPMENT PRIOR TO INSTALLATION. 14. CONTRACTOR SHALL PROVIDE SHOCK ARRESTORS ON ALL BRANCH LINES. 15. CONTRACTOR SHALL COORDINATE ALL SINKS WITH CASEWORK PRIOR TO 16. DOMESTIC WATER PIPING SHALL NOT BE INSTALLED IN EXTERIOR WALLS. TW TO LAVATORY 17. PROVIDE DISINFECTION OF WATER PIPING SYSTEM WITH CHLORINE SOLUTION AS PER CODE.

18. INSTALLATION OF BACKFLOW PREVENTER SHALL COMPLY WITH CURRENT

INTERNATIONAL BUILDING CODE AND CURRENT INTERNATIONAL PLUMBING

19. ALL OVERHEAD WATER PIPING TO BE RUN BELOW INSULATION AT BOTTOM OF

21. ALL FLOOR DRAINS AND INDIRECT DRAINS TO HAVE INSULATED DEEP SEAL P-TRAPS WITH TRAP SEAL PROTECTION AS APPROVED BY LOCAL AUTHORITY.

22. ALL WALL HYDRANTS TO BE FREEZE PROOF AND TO HAVE VACUUM BREAKERS.

SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL WATER CLOSETS TO BE

23. INSULATION ON ALL PIPING SHALL MEET SMOKE/ FLAME RATING OF 25 & 50.

25. THE LOCATION OF LAVATORIES AND WATER CLOSETS RELATIVE TO THE

FINISHED WALL IS CRITICAL. REFER TO ARCHITECTURAL AND THE

26. WATER HAMMER ARRESTORS ARE REQUIRED TO PROTECT WATER PIPING SYSTEMS WHERE QUICK-CLOSING VALVES ARE UTILIZED. WATER HAMMER

THESE DRAWINGS NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT

IS INTENDED THAT A COMPLETE PLUMBING SYSTEM BE PROVIDED WITH ALL

NECESSARY EQUIPMENT, APPURTENANCES AND CONTROLS, COMPLETELY

REQUIRED FOR A COMPLETE PLUMBING SYSTEM IN ACCORDANCE WITH ALL

APPLICABLE CODES, STANDARDS AND THESE CONTRACT DOCUMENTS SHALL

BE FURNISHED WITHOUT INCURRING ANY ADDITIONAL COST TO THE PROJECT, CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF OTHER

COORDINATE PLUMBING PIPING WITH STRUCTURAL, PLUMBING, HVAC, AND

30. NO PIPING TO BE RUN ABOVE ELECTRICAL PANELS. MAINTAIN ALL REQUIRED

BEFORE SUBMITTING A PRICE, ORDERING MATERIALS OR PERFORMING ANY WORK. NOTIFY THE ARCHITECT OF ANY DEVIATION FROM PLUMBING PLAN.

32. MAINTAIN A MAXIMUM OF 55 PSIG WATER PRESSURE AT PLUMBING FIXTURES,

33. VENTS THRU ROOF MUST BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ANY

34. SUPPORT PIPE AS REQUIRED BY THE CURRENT INTERNATIONAL PLUMBING

35. ALL FOOTINGS AT PLUMBING CHASE WALLS SHALL BE MIN 24" BELOW FINISHED

36. FIRESTOP ALL RATED WALL AND FLOOR PENETRATIONS. SEE ARCHITECTURAL

VERIFIED AND GRADING OF ENTIRE SYSTEM CAN BE DETERMINED (EVEN IF

38. DO NOT BEGIN WORK UNTIL ELEVATION OF FINAL CONNECTION POINT IS

FINAL CONNECTION IS SPECIFIED UNDER ANOTHER SECTION).

31. CONTRACTOR SHALL VISIT JOB SITE AND VERIFY EXISTING CONDITIONS

TRADES WITHOUT ANY ADDITIONAL COST TO THE PROJECT.

29. COORDINATE ALL PLUMBING IN SLAB WITH BUILDING FOOTINGS.

ELECTRICAL. MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER

COORDINATED WITH ALL DISCIPLINES. ALL PARAMETERS GIVEN IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH ANY ITEMS AND LABOR

18" FROM FINISH WALL TO CENTER OF WATER CLOSET.

ARRESTORS SHALL CONFORM TO ASSE 1010.

TRADES BEFORE PREPARING SHOP DRAWINGS.

CONSISTENT WITH ADEQUATE FLOW RATES.

GRADE TO COORDINATE WITH WASTE PIPING IN SLAB.

DRAWINGS FOR RATED WALL AND FLOOR LOCATIONS.

37. OFFSET ALL VTR'S TO BACKSIDE OF ROOF RIDGE.

CLEARANCES.

OUTSIDE AIR INTAKE.

20. ALL INDIRECT DRAINS TO HAVE INSULATED DEEP SEAL P-TRAPS.

TRUSSES FOR FREEZE PROTECTION.

24. NO JOINTS IN WATER PIPING BELOW SLAB.

3	END)	PLUMBING FIXTURE SCHEDULE								
			MARK	FIXTURE	WASTE	CW	HW	REMARKS			
	CO	CLEANOUT	FD	FLOOR DRAIN	3"	-	-	J.R. SMITH #2010 WITH 6" ROUND NICKEL BRONZE GRATE. PROVIDE WITH J.R. SMITH TRAP INSERT.			
	FD	FLOOR DRAIN	FS	FLOOR SINK	4"	-	-	J.R. SMITH #3100, 8" SQUARE, PORCELAIN ENAMELED CAST IRON INTERIOR WITH 3/4 CAST IRON PORCELAIN ENAMELED GRATE AND DOME BOTTOM STRAINERS. PROVIDE WITH J.R. SMITH TRAP INSERT.			
			MFD	MECHANICAL FLOOR DRAIN	4"	-	-	J.R. SMITH #2242 WITH SEDIMENT BUCKET. PROVIDE WITH J.R. SMITH TRAP INSERT.			
	WH	WALL HYDRANT	P-1	WATER CLOSET - ADA COMPLIANT	4"	1"	-	FLOOR MOUNTED - KOHLER K-96057-SS-0 COMPLETE SLOAN ROYAL #111 FLUSH VALVE WITH YJ BRACKET AND CHURCH "DURA GUARD" MODEL # 2155 SSC SEAT.			
R	ABV	ABOVE	P-2	WATER CLOSET	4"	1"	-	FLOOR MOUNTED - KOHLER K-96053-SS-0 COMPLETE SLOAN ROYAL #111 FLUSH VALVE WITH YJ BRACKET AND CHURCH "DURA GUARD" MODEL #2155 SSC SEAT.			
	AFF	ABOVE FINISHED FLOOR	P-3	URINAL - ADA COMPLIANT	3"	1"	-	WALL MOUNTED-KOHLER K-5016-ET COMPLETE, K-9183 STAINLESS STEEL STRAINER, J.R. SMITH #623 FIXTURE SUPPORT, AND SLOAN #186 FLUSH VALVE WITH YJ BRACKET. SET LIP 17" AFF.			
	BFF	BELOW FINISHED FLOOR	P-4	URINAL	3"	1"	-	WALL MOUNTED-KOHLER K-5016-ET COMPLETE, K-9183 STAINLESS STEEL STRAINER, J.R. SMITH #623 FIXTURE SUPPORT, AND SLOAN #186 FLUSH VALVE WITH YJ BRACKET.			
	CW	COLD WATER	P-5	LAVATORY - ADA COMPLIANT	1 1/4"	1/2"	1/2"	WALL HUNG - KOHLER K-2032 (20" X 18") COMPLETE, SYMMONS S-20-0 FAUCET, K7715 OUTLET WITH TAILPIECE, J.R. SMITH #700-M31-Z FIXTURE			
	DN	DOWN						SUPPORT, MCGUIRE #165 SUPPLIES WITH STOPS AND MCGUIRE #8872 P-TRAP. INSULATE P-TRAP, STOPS AND SUPPLIES WITH "PRO-WRAP" BY MCGUIRE. MOUNT WITH RIM MAXIMUM 34" AFF. PROVIDE LAWLER 570 THERMOSTATIC MIXING VALVE MOUNTED BELOW LAVATORY. RUN 100° F WATER TO FAUCET. MUST MEET A.D.A. GUIDELINES.			
	GPM	GALLONS PER MINUTE	P-6	LAVATORY	1 1/4"	1/2"	1/2"	WALL HUNG - KOHLER K-2032 (20" X 18") COMPLETE, SYMMONS S-20-0 FAUCET, K7715 OUTLET WITH TAILPIECE, J.R. SMITH #700-M31-Z FIXTURE			
	HW	HOT WATER						SUPPORT, MCGUIRE #165 SUPPLIES WITH STOPS AND MCGUIRE #8872 P-TRAP. INSULATE P-TRAP, STOPS AND SUPPLIES WITH "PRO-WRAP" BY MCGUIRE. MOUNT WITH RIM MAXIMUM 34" AFF. PROVIDE LAWLER 570 THERMOSTATIC MIXING VALVE MOUNTED BELOW LAVATORY. RUN 100° F WATER TO FAUCET.			
	HWR	HOT WATER RETURN	P-7	UNDERMOUNT SINK	1 1/4"	1/2"	1/2"	ELKAY LRAD-2219 DRAIN OFFSET TO BACK, LK-35 STRAINER, SYMMONS DIA S-3510-PD-1.0 GPM FAUCET, MCGUIRE #1912 P-TRAP AND #165 STOPS WITH SUPPLIES.			
	TYP	TYPICAL	P-8	MOP SINK	3"	1/2"	1/2"	STERN WILLIAMS #SBC-1700 (24" X 24") COMPLETE, T-35 HOSE WITH WALL HOOK, STAINLESS STEEL BACKSPLASH AND CHICAGO FAUCET #897 FAUCET.			
	VS	VENT STACK	P-9	COFFEE MAKER	-	1/2"	-	FURNISHED AND INSTALLED UNDER ANOTHER SECTION, ROUGH AND CONNECT COMPLETE, PROVIDE BALL VALVE STOP ON SUPPLY. PROVIDE WATTS SD-3 ON COLD WATER SUPPLY IF REQUIRED BY LOCAL CODES.			
	VSTR	VENT THROUGH ROOF	P-10	DRAIN BOX	1 1/2"	-	-	PROVIDE A SIOUX CHIEF MODEL #696-3F DRAIN BOX, #696-LC LOUVERED COVER, #696-CF SECONDARY DRAINAGE FUNNEL, AND J.R. SMITH TRAP SEAL INSERT. BOX TO COME COMPLETE WITH WALL FLANGE AND LOUVER. COORDINATE WITH MECHANICAL TO RECEIVE CONDENSATE WASTE.			
	MFD	MECHANICAL FLOOR DRAIN						COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ARCHITECT.			
			P-11	SINK							
	WS	WASTE STACK									

	WA	TER HEATER SCHEDULE
ELEC INFO.	GAS INPUT	REMARKS
115V; 1/12 HP	-	ARMSTRONG COMPASS 1/12 HP, 115/1/60. ALL BRONZE. PROVIDE WITH HONEYWELL AQUASTAT AND TIMER.RATED FOR (100°F - 160°F).
-	-	AMTROL THERM - X-TROL #ST-12 EXPANSION TANK, PRE-CHARGED, WELDED STEEL CONSTRUCTION. ISOLATION BETWEEN WATER AND AIR SHALL BE BY A BUTYL DIAPHRAM.
120V CONTROL PANEL	199.9 CFH	NAVIEN NPE-240S-NG COMMERCIAL TANKLESS COMPLETE WITH COMMERCIAL SERVICE VALVE ON BOTH INLET AND OUTLET. UNIT SHALL PROVIDE 4.4 GPM AT 90°F RISE.SET OUTLET TEMPERATURE AT 140°F. WALL MOUNT WITH ADEQUATE CLEARANCE FOR PIPING AND SERVICING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

INDIRECT WASTE -CW SUPPLY DRAIN BOX -LOUVERED FACE THERMOSTATIC MIXING VALVE —

DETAIL OF DRAIN BOX & TMV AT LAVATORY/ SINK

NO SCALE

FIXTURE

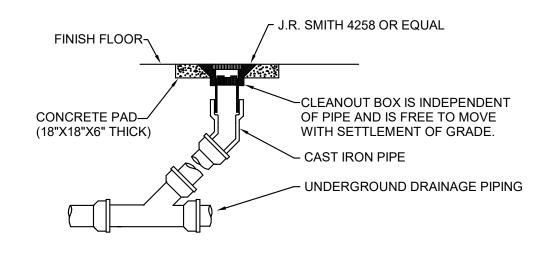
CIRCULATION PUMP

GAS TANKLESS WATER HEATER

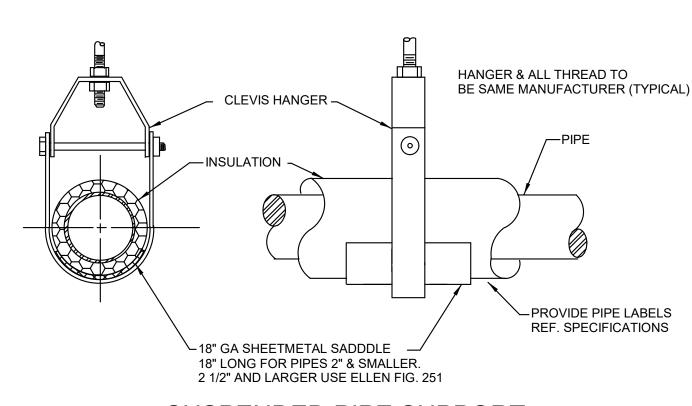
EXPANSION TANK

CP-1

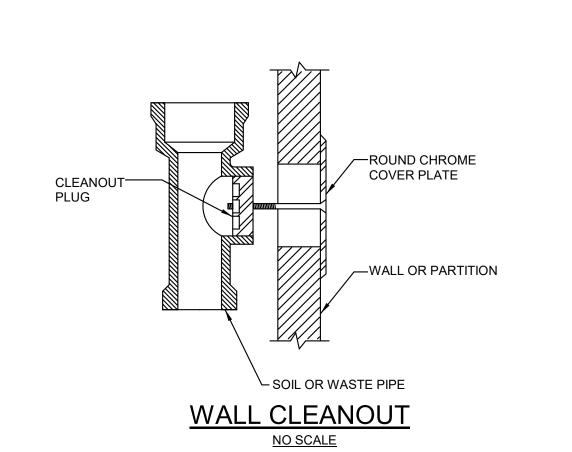
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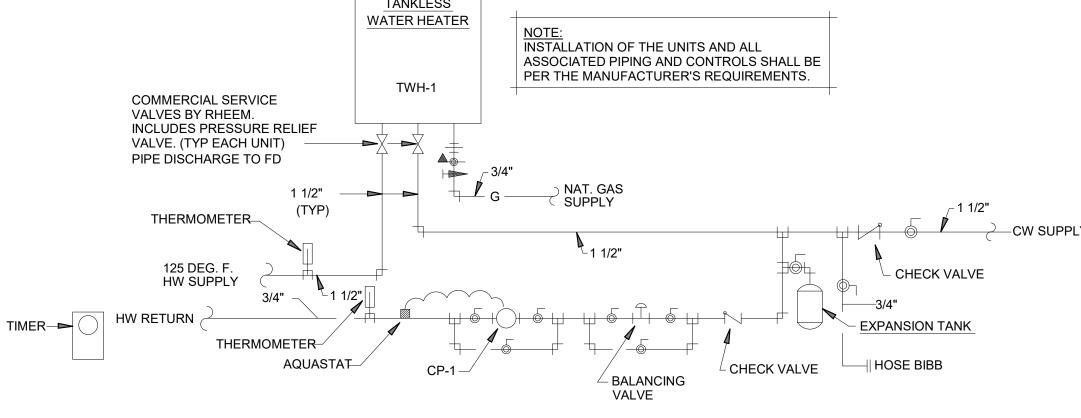


DETAIL OF CLEANOUT TO GRADE **NO SCALE**



SUSPENDED PIPE SUPPORT
NO SCALE





DETAIL of PIPING at TANKLESS WATER HEATERS

NO SCALE

WITH ARCHITECT AND AUTHORITY HAVING JURISDICTION TYP. GAS CONNECTION NO SCALE

CONTRACTOR SHALL COORDINATE EXACT PAINT COLOR

Hoover, AL 35244 (205) 988-2069 www.dewberry.com Project Number 50155636

Dewberry □ DMONDS

2 Riverchase Office Plaza

Suite 205

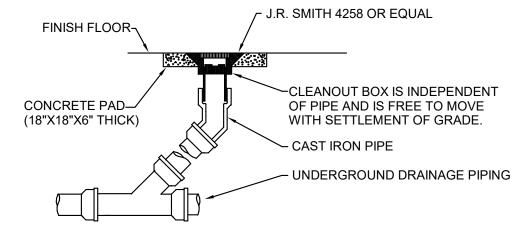
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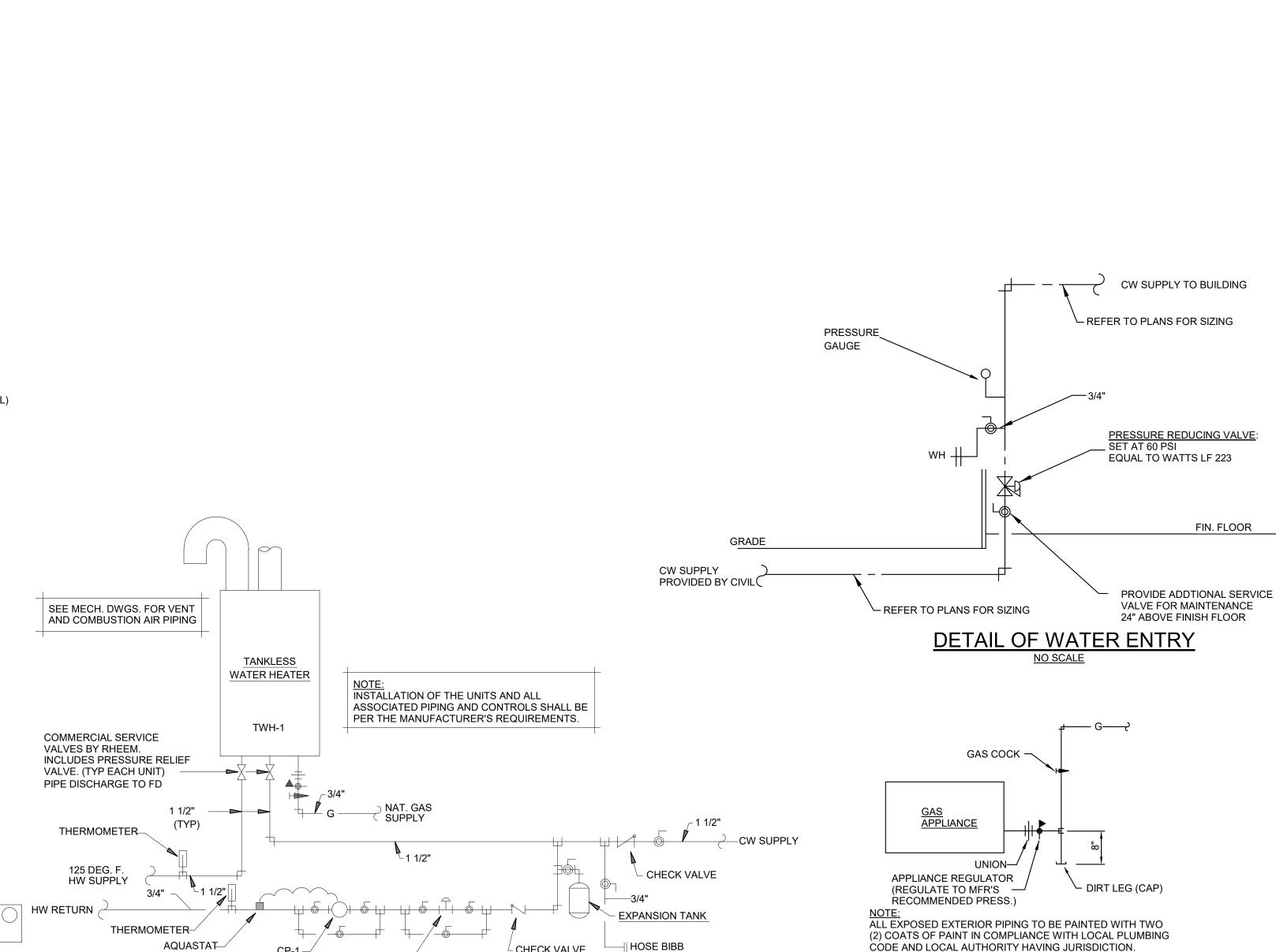
JOB NO. 22-01 REVISIONS

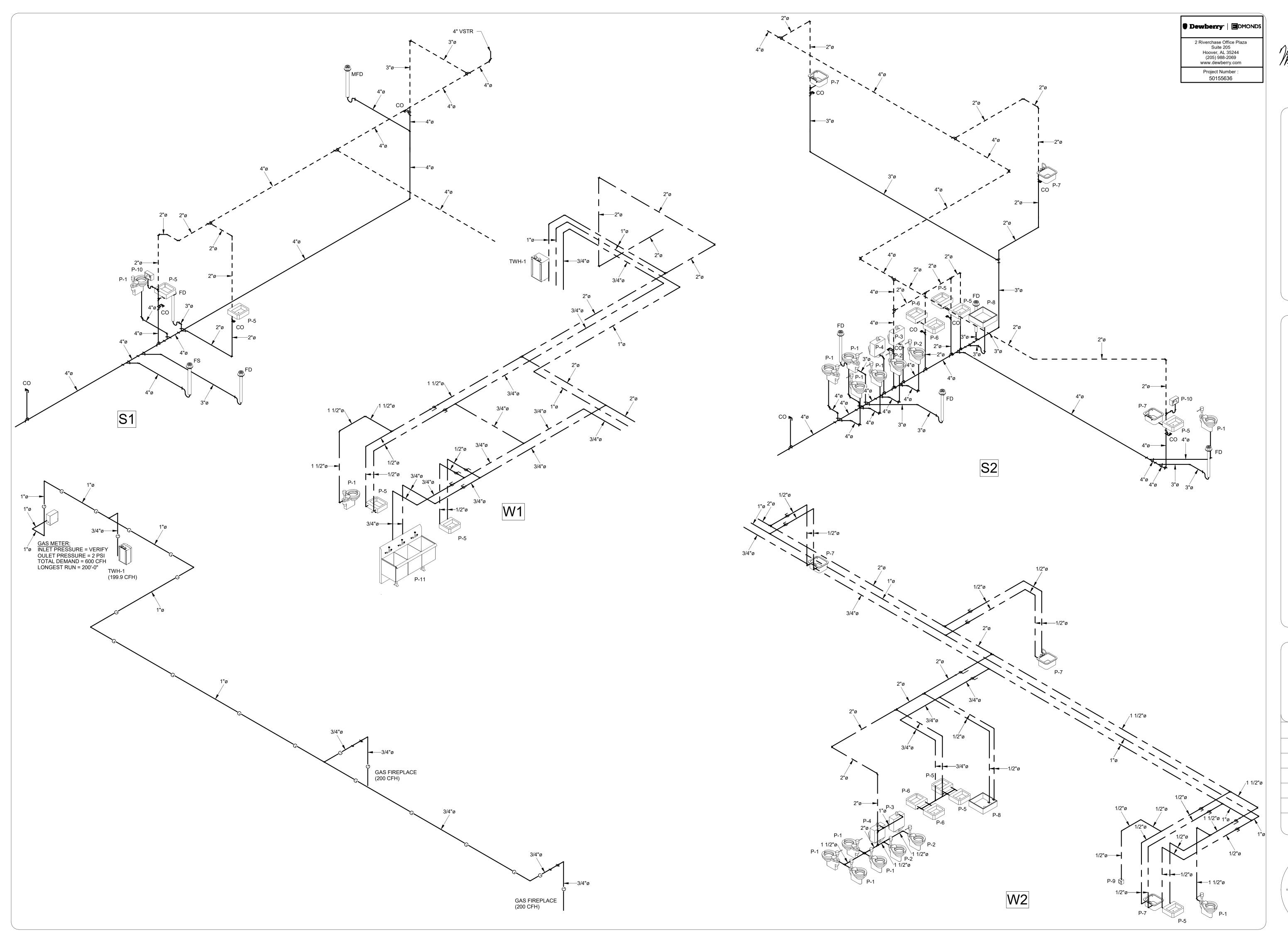
SHEET



DETAIL OF CLEANOUT TO GRADE

NO SCALE









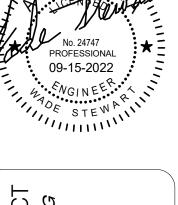
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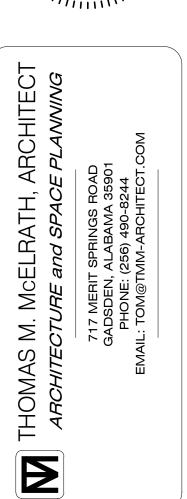
DATE 09/15/2022

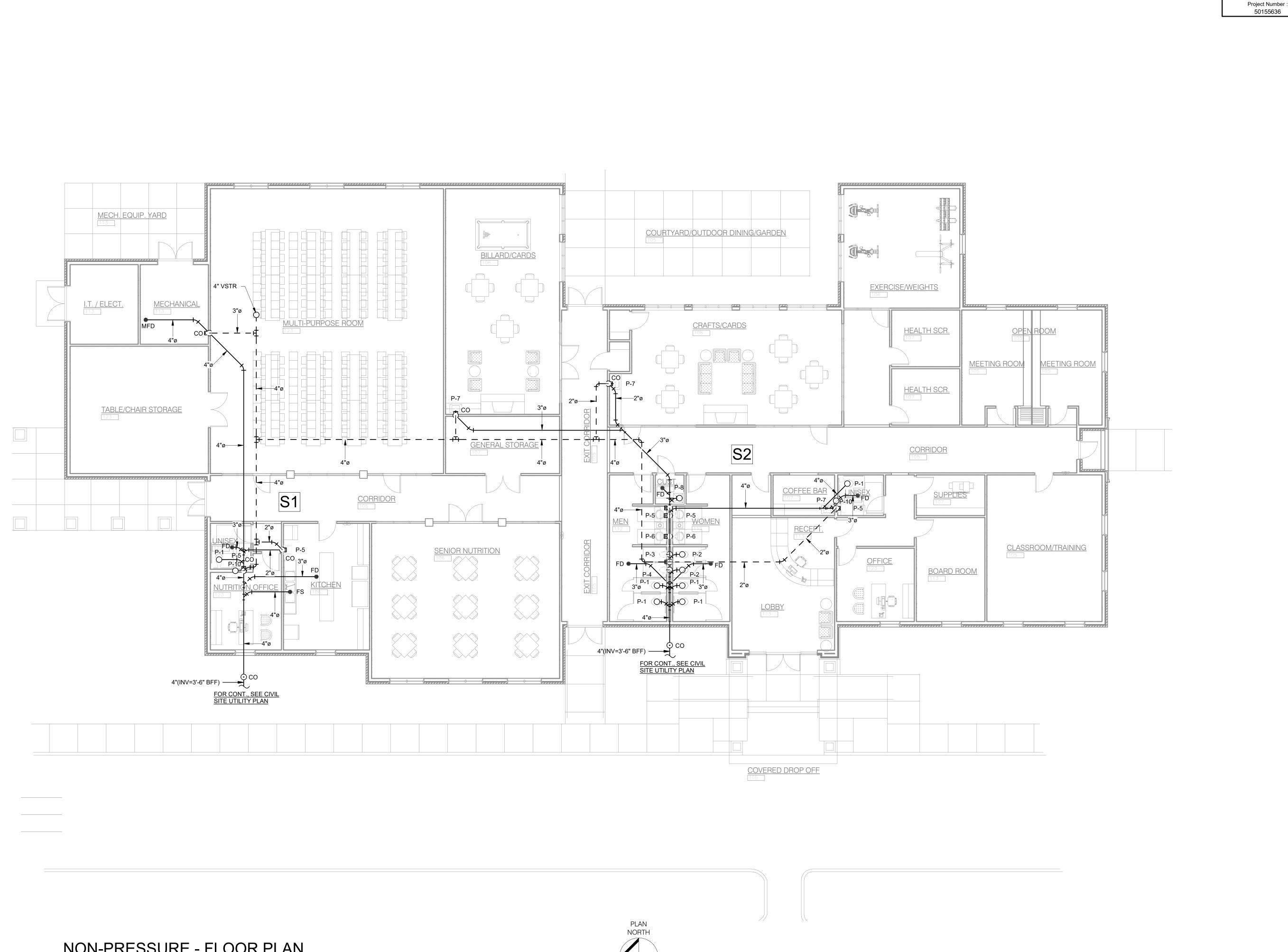
FILE

JOB NO. 22-01 REVISIONS

SHEET







No. 24747 PROFESSIONAL 09-15-2022

THOMAS M. McELRATH, ARCHITECT ARCHITECT ARCHITECTURE and SPACE PLANNING

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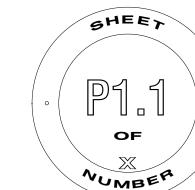
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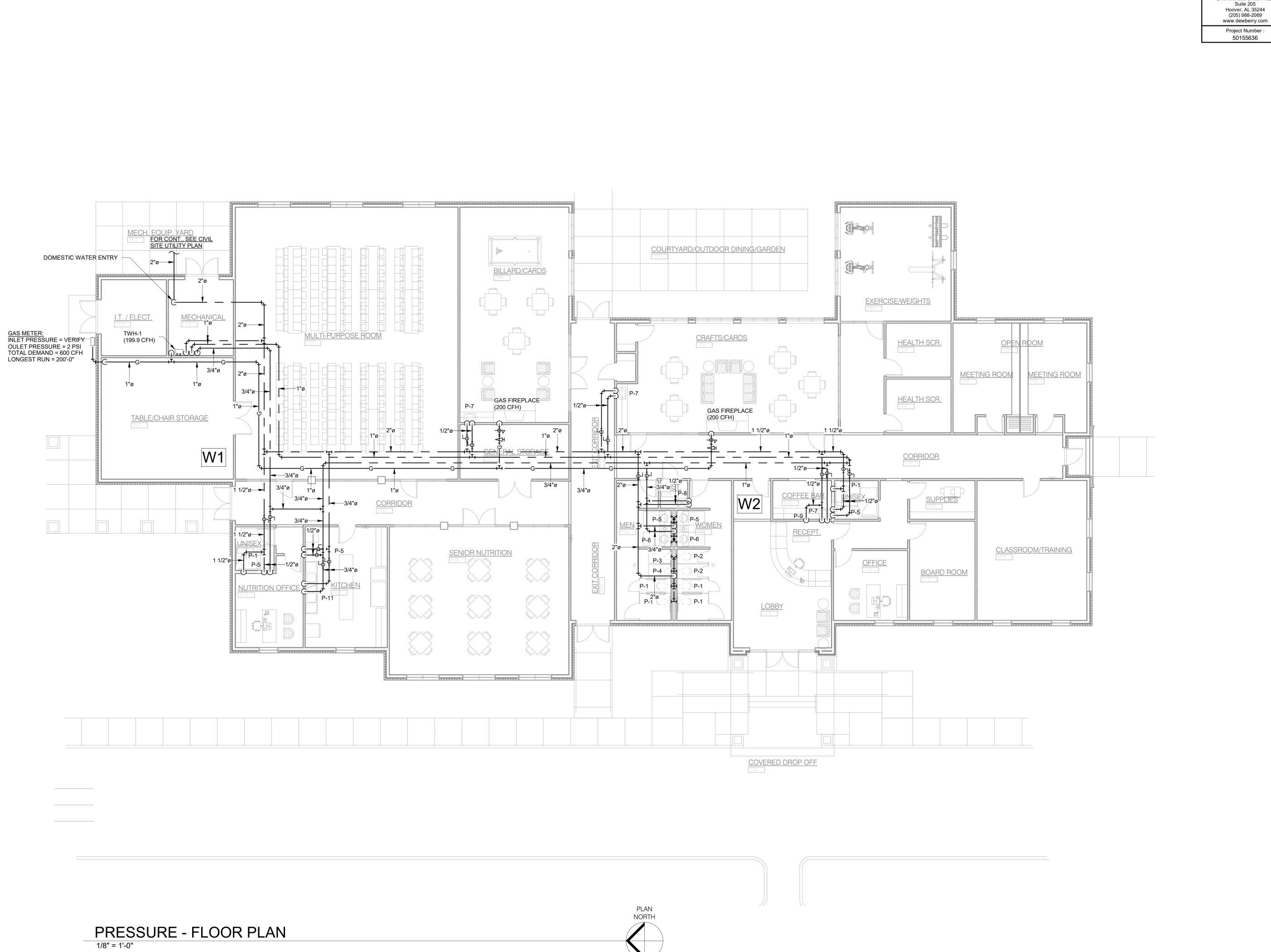
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DRAWN ALV

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THOMAS M. McELRATH, ARCHITECT ARCHITECT ARCHITECTURE and SPACE PLANNING

PROFESSIONAL 09-15-2022

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> FILE JOB NO. 22-01

QUANTITY*

1 PER MINI INDOOR UNIT

AIRGENICS AND BIOXGEN SUBJECT TO SPECIFICATION COMPLIANCE.

2. MOUNT BI-POLAR ION GENERATOR WHERE INDICATED ON SCHEDULE.

COORDINATE ALL ELECTRICAL AND MECHANICAL CHANGES.

OR INDOOR SPLIT UNIT

VERTICAL UNITS OR EQUAL.

* PROVIDE FOR ALL INDOOR SPLITS AND MINI SPLITS.

GPS MODEL

VOLTAGE | WATTS

208

4. BI-POLAR IONIZATION SYSTEMS REQUIRING PERISHABLE GLASS TUBES ARE NOT ACCEPTABLE. 5. ALL MANUFACTURER'S MUST PASS UL-867-2007 OZONE CHAMBER TESTING BY EITHER US OR ETL.

1. BASIS OF DESIGN: PHENOMENAL AIRE: APPROVED EQUALS BY GLOBAL PLASMA SOLUTIONS, ACTIVE AIR,

3. IF CONTRACTOR SUBSTITUTES BASIS OF DESIGN WITH ANOTHER MANUFACTURER, CONTRACTOR SHALL

6. PROVIDE GPS-FC-2 FOR CEILING CASSETTES AND HORIZONTAL ABOVE CEILING UNITS AND GPS-FC-48 FOR

CONNECT TO EXISTING, FIELD VERIFY EXACT SIZE AND LOCATION.

	LEAVING AIR TEMPERATURE LEAVING WATER TEMPERATURE	DP	DIFFERENTIAL PRESSURE SENSOR
	MAXIMUM	ы	DILL EVENTIAL I VEGOCIAL SENSON
	MIXED AIR TEMPERATURE		
	1000 BTUH		INTERLOCK WITH FIRE ALARM SYSTEM
	MINIMUM CIRCUIT AMPACITY MINIMUM		
	MAXIMUM OVER CURRENT PROTECTION		
	NORMALLY OPEN	(M)——	FAN/PUMP MOTOR
	NORMALLY CLOSED		
	NON-STAND PART LOAD VALUE	\ (ED.	
	OUTSIDE AIR	VFD	VARIABLE FREQUENCY DRIVE
	OUTSIDE DIAMETER		
	POUNDS PER SQUARE INCH	СТ	CURRENT TRANSDUCER
	PSI ATMOSPHERIC	OT.	CONNENT TRANSDUCEN
	PSI GAUGE RETURN AIR	FS	ELOW OWITOU
	RETURN AIR RETURN AIR TEMPERATURE		FLOW SWITCH
	RELATIVE HUMIDITY	7	
	RATED LOAD AMPS		DIRECTION OF FLOW
	REVOLUTIONS PER MINUTE		BINLESTICK OF FLOW
	SUPPLY AIR	(TS)—==	PIPE MOUNTED TEMPERATURE SENSOR
	SUPPLY AIR TEMPERATURE		
	TOTAL STATIC PRESSURE		2-WAY AUTOMATIC VALVE
	TRANSFER DUCT		
	TOP OF DUCT	\Box	0.144.)/ 4.1.17.0.44.7.10.1/41.1/5
	UNLESS NOTED OTHERWISE		3-WAY AUTOMATIC VALVE
	VOLUME VOLTS/PHASE/HERTZ		LIAND OFF ALITO SWITCH
	WATER GAGE	H-O-A	HAND-OFF-AUTO SWITCH
	WIDTH	AFM	AIR FLOW MONITOR.
	WET BULB		(PROVIDE ACCESS DOOR AT EACH AIR FLOW MONITOR
			·
	AID DUDIELOATI		
4	AIR PURIFICATI	011 20	JUCDOF

LOCATION

TEMPERATURE SENSOR

120V HVAC CONTROLS POWER

AVERAGING TEMPERATURE SENSOR

DUCT MOUNTED HUMIDITY SENSOR

DUCT MOUNTED SMOKE DETECTOR. SMOKE

ELECTRICAL CONTRACTOR, INSTALLED IN DUCT

NOTES

1 TO 6

DENSITY(IONS/CC)

20 MILLION

DETECTOR FURNISHED AND WIRED BY

HAND-OFF-AUTO MAGNETIC STARTER

BY MECHANICAL CONTRACTOR.

DUCT STATIC PRESSURE SENSOR

HUMIDITY SENSOR

ANALOG OUTPUT

ANALOG INPUT

DIGITAL OUTPUT

DIGITAL INPUT

CO2 MONITOR

		AIR DEVICE	LEGEND	
MARK	EXAMPLE	DESCRIPTION	SIZE	BASIS OF DESIG
"S"	200S CFM	PLAQUE FACE CEILING DIFFUSER WITH ROUND NECK. ALL CEILING DIFFUSERS TO HAVE A 24X24 CEILING PANEL (EXCEPT WHERE SHOWN AS 12X12). ALL CEILING DIFFUSERS TO HAVE ROUND NECKS.	CFM SHOWN ON PLANS. NECK & RUN-OUT SIZED PER THE FOLLOWING: CFM NECK SIZE RUN-OUT SIZE 0 - 100 6" 6" 101 - 200 8" 8" 201 - 300 10" 10" 301 - 500 12" 12" 501 - 750 15" 15" 751 - 1000 18" 18"	TITUS OMNI
"LD"	200LD CFM	LOUVER FACE CEILING DIFFUSER WITH SQUARE NECK. ALL CEILING DIFFUSERS TO HAVE A 24X24 CEILING PANEL (EXCEPT WHERE SHOWN AS 12X12). ALL CEILING DIFFUSERS TO HAVE SQUARE NECKS.	CFM SHOWN ON PLANS. NECK & RUN-OUT SIZED PER THE FOLLOWING: CFM NECK SIZE RUN-OUT SIZE 0 - 100 6"x6" 6" 101 - 200 9"x9" 8" 201 - 300 12"x12" 10" 301 - 500 15"x15" 12" 501 - 750 18"x18" 15" 751 - 1000 21"x21" 18"	TITUS TDCA-AA
"R", "E", "T"	200R CFM R24 SQUARE NECK SIZE	CEILING MOUNTED RETURN (R), EXHAUST (E), OR TRANSFER (T) EGGCRATE GRILLE. ALL GRILLES IN A LAY-IN CEILING TO HAVE A 24X24 CEILING PANEL.	CFM SHOWN ON PLANS. NECK SIZED PER THE FOLLOWING: <u>CFM</u> <u>NECK SIZE</u> 0 - 100 6x6 101 - 200 8x8 201 - 350 10x10 351 - 500 12x12 501 - 750 14x14 751 - 950 16x16 951 - 1200 18x18 1201 - 1500 20x20 1501 - 2000 24x24	TITUS 50F
SR	SR12X6 200 / CFM W x H	SIDEWALL SUPPLY REGISTER.	SIZE (WxH) IN INCHES & CFM SHOWN.	TITUS 272FL
WRG / WTG	WRG12X6 200 CFM-WxH	WALL RETURN GRILLE / WALL TRANSFER GRILLE.	SIZE (WxH) IN INCHES & CFM SHOWN.	TITUS 350FL

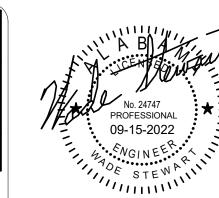
SEE SPECIFICATIONS FOR FINISH AND CONSTRUCTION MATERIAL FOR EACH AIR DEVICE

COORDINATE WITH ARCHITECT'S CEILING PLAN FOR LAY-IN OR SURFACE MOUNTING OF CEILING MOUNTED

COORDINATE LOCATIONS OF CEILING MOUNTED AIR DEVICES WITH LIGHT FIXTURES, SPRINKLER HEADS,

AND OTHER CEILING MOUNTED DEVICES. DO NOT SCALE MECHANICAL DRAWINGS FOR LOCATIONS.

		● Dewberry · ■DMONDS
& RUN-OUT	BASIS OF DESIGN TITUS OMNI	2 Riverchase Office Plaza Suite 205 Hoover, AL 35244 (205) 988-2069 www.dewberry.com
ING: OUT SIZE 6" 8" 10" 12" 15" 18"		Project Number : 50155636
& RUN-OUT ING: OUT SIZE 6" 8" 10" 12" 15" 18"	TITUS TDCA-AA	
SIZED PER	TITUS 50F	
M SHOWN.	TITUS 272FL	



B

WITH LOCKING TYPE TAMPER RESISTANT

5. REFRIGERANT CIRCUIT ACCESS PORTS

LOCATED OUTDOORS SHALL BE FITTED

4. HEATING CAP	PACITY RA	ATED AT 47°F.				CA					
MARK	TYPE	COOLING CAPACITY	HEATING CAPACITY		·	ELECTRIC	EFFIC	BASIS OF			
IVIARA				V	PH	HZ	MCA	MOCP	SEER	HSPF	DESIGN
OHP-123	1	18 MBH	19 MBH	208 V	1	60	11 A	28 A	24.6	11.0	MITSUBISHI
OHP-124	1	18 MBH	19 MBH	208 V	1	60	11 A	28 A	19.9	10.2	MITSUBISHI
OHP-ELEC	1	24 MBH	26 MBH	208 V	1	60	17 A	27 A	19.5	10.6	MITSUBISHI
OHP-MECH	1	18 MBH	19 MBH	208 V	1	60	11 A	28 A	19.8	11.2	MITSUBISHI

OUTDOOR HEAT PUMP (DUCTLESS SPLIT SYSTEM) SCHEDULE

INDOOR HEAT PUMP (DUCTLESS SPLIT SYSTEM) SCHEDULE

PIPING LEGEND

CHILLED WATER SUPPLY PIPING

CHILLED WATER RETURN PIPING

HOT WATER SUPPLY PIPING

HOT WATER RETURN PIPING

DRAIN PIPING

GATE VALVE

GLOBE VALVE

BALL VALVE

AAV

AAV-AUTO. AIR VENT

(MARKED OR SHOWN)

TWO-WAY AUTO CONTROL

BUTTERFLY VALVE.

BUTTERFLY VALVE.

PIPE TURNING UP

PIPE TURNING DOWN.

PRESSURE REDUCING VALVE.

BRANCH OFF TOP OF MAIN.

BRANCH OFF SIDE OF MAIN.

CALIBRATED BALACING VALVE

FLEXIBLE CONNECTION IN PIPING

SLOPE DOWN IN DIRECTION OF ARROW

ASME PRESSURE RELIEF VALVE.

ECCENTRIC REDUCER

STRAINER (Y)

PETES PLUG

CHECK VALVE

UNION

BRANCH OFF BOTTOM OF MAIN.

THREE-WAY AUTO CONTROL VALVE.

1. INDOOR, WALL MOUNT

2. INDOOR, HORIZTONAL DUCTED 3. INDOOR, CEILING CASSETTE

NOTES:

FAN TYPE:

1. AIRFLOW RATED AT HIGH FAN SPEED.

2. POWER FOR INDOOR UNIT IS FED FROM OUTDOOR UNIT.

. OUTDOOR HEAT PUMP

. AIRFLOW RATED AT HIGH FAN SPEED.

COOLING CAPACITY RATED AT 95°F.

.. POWER FOR INDOOR UNIT IS FED FROM OUTDOOR UNIT

3. COOLING CAPACITY RATED AT 95°F.

4 HEATING CAPACITY RATED AT 47°F

ACCESSORIES:

1. 3-POLE DISCONNECT SWITCH.

2. HARD WIRED UNIT CONTROLLER.

3. FULL PORT BALL VALVES & SCHRADER VALVES WITH

FLARED CONNECTIONS.

4. CONDENSATE PUMP (120/1/60) - 1 GPH @ 33 FT. HD.

4. HEATING C			1 1 .									
MARK	TYPE	OSA	AIRFLOW	COOLING CAPACITY	HEATING CAPACITY	DIMENSIONS		ELECT	RICAL		ACCESSORIES	BASIS OF DESIGN
IVIAIN	1176	OSA	AIRILOW			(WxLxH)	V	PH	HZ	MCA	ACCESSORIES	
IHP-123	3	0	480	18 MBH	19 MBH	33" x 37" x 10"	208 V	1	60	1 A	1,2,3,4	MITSUBISHI
IHP-124	2	90	600	18 MBH	19 MBH	46" x 29" x 10"	208 V	1	60	1.69 A	1,2,3,4	MITSUBISHI
IHP-ELEC	1	0	700	24 MBH	26 MBH	46" x 12" x 14"	208 V	1	60	1 A	1,2,3,4	MITSUBISHI
IHP-MECH	1	0	425	18 MBH	19 MBH	36" x 10" x 12"	208 V	1	60	1 A	1,2,3,4	MITSUBISHI

FAN SCHEDULE

1. CEILING MOUNTED EXHAUST FAN

2. IN-LINE EXHAUST FAN 3. ATTIC VENTILATION FAN **FAN ACCESSORIES:**

1. BACKDRAFT DAMPER.

6. MOTOR SIDE GUARD

2. DISCONNECT SWITCH. 3. ALUMINUM CEILING GRILLE.

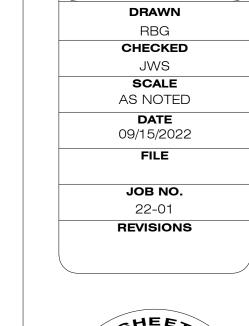
7. WALL LOUVER AND AUTO

DAMPER.

8. INTERLOCK WITH THERMOSTAT. 4. 5A-120V FAN SPEED CONTROLLER.

E INTEDLOCK WITH LICHT SWITCH

							5. IN H	<u>=RLOCK V</u>	WITH LI	GHT SV	VIICH.		
MARK FA	FAN TYPE	QUANTITY	AIRFLOW (CFM)	E.S.P. (in-wg)	WHEEL SIZE	RPM	MOTOR (HP / W)	ELECTRICAL			ACCESSORIES	BASIS OF DESIGN	
	FANTIFE							V	PH	HZ	ACCESSORIES	MANUFACTURER	MODEL
EF-1	1	1	70	0.33	N/A	900	34.4 W	120 V	1	60	1,2,3,4,5	Loren Cook Company	GC
EF-1A	3	6	1200	0.38	N/A	1100	1/4 HP	120 V	1	60	1,2,6,7,8	BROAN	BROAN 355
EF-2	2	1	610	0.50	12"	1677	1/4 HP	120 V	1	60	1,2,3,4,5	Loren Cook Company	100SQN
FF-3	1	1	70	0.33	N/A	900	34 4 W	120 V	1	60	12345	Loren Cook Company	GC





E

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REVISIONS

SHEET

INDOOR AIR HANDLING UNIT SCHEDULE - COMBINED HEAT PUMP

OUTDOOR HEAT PUMP UNIT SCHEDULE

TYPE: AIR COOLED OUTDOOR HEAT PUMP.

1. CAPACITY TO BALANCE RESPECTIVE INDOOR AC UNIT.

2. CAPACITY BASED ON 95 degF AMBIENT.

3. UL LISTED, AHRI CERTIFIED, ASHRAE 90.1-2007 COMPLIANT.

4. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TAMPER-RESISTANT CAPS. ANY ACCESS DEVICE REQUIRED SHALL BE LEFT ON SITE WITH THE OWNER AT PROJECT CLOSE OUT.

ACCESSORIES:

- 1. PHASE PROTECTION.
- 2. MICROPROCESSOR CONTROLS.
- 3. ISOLATION VALVES.
- 4. LIQUID LINE REFRIGERANT FILTER DRIER.
- 5. ANTI SHORT CYCLE TIMER.
- 6. LOW AMBIENT CONTROL DOWN TO 0 degF.
- 7. HAIL / VANDAL GUARDS.
- 8. THERMAL EXPANSION VALVE.

MADIZ	NOMINAL		BASIS OF				
MARK	CAPACITY	Voltage	PH	HZ	MCA	MOCP	DESIGN
CU-1	10	208 V	3	60 Hz	41 A	50 A	Trane
CU-2	5	208 V	3	60 Hz	21 A	35 A	Trane
CU-3	5	208 V	3	60 Hz	21 A	35 A	Trane
CU-4	3.5	208 V	3	60 Hz	18 A	30 A	Trane
CU-5	3.5	208 V	3	60 Hz	18 A	30 A	Trane
CU-6	2.5	208 V	1	60 Hz	17 A	25 A	Trane

AIR HANDLER UNIT TYPE:

- 1. SPLIT SYSTEM HEAT PUMP. HORIZONTAL INDOOR AIR HANDLER WITH DX COIL, ELECTRIC HEAT.
- SUPPLY FAN, & MATCHING OUTDOOR UNIT.
- 2.. SPLIT SYSTEM HEAT PUMP. VERTICAL INDOOR AIR HANDLER WITH DX COIL, ELECTRIC HEAT SUPPLY FAN, & MATCHING OUTDOOR UNIT.

- 1. COOLING CAPACITY IS NET CAPACITY @ 95°F AMBIENT.
- 2. UL LISTED. AHRI CERTIFIED.
- 3. SEE PLANS FOR AIRFLOW CONFIGURATION.

ACCESSORIES:

- 1. SINGLE POINT POWER CONNECTION.
- 2. FILTER RACK WITH 2" THICK 30% EFF. FILTERS.
- 3. INTERNALLY ISOLATED SUPPLY FAN UNITS ≤ 5T, DIRECT DRIVE; UNITS > 5T, BELT DRIVE
- 4. DX COOLING COIL MATCHED TO OUTDOOR HEAT PUMP.
- 5. ELECTRIC HEAT.
- 6. 3-POLE DISCONNECT SWITCH.
- 7. HARD WIRED UNIT CONTROLLER
- 8. FULL PORT BALL VALVES & SCHRADER VALVES WITH FLARED CONNECTIONS.

		S	UPPLY FAN		MAX OUTSIDE		DX COOLING CO	IL CAPACITY		DX H	EATING CAPACI	TY	ELEC	HEAT		El	LECTRICAL				
MARK	TYPE	AIRFLOW	E.S.P.	MOTOR	AIR	TOTAL	SENSIBLE	EAT (DB/WB)	NOMINAL TONS	TOTAL	EAT (DB)	AMBIENT (DB)	KW	STAGES	VOLTAGE	PH	HZ	MCA	МОСР	ACCESSORIES	BASIS OF DESIGN
AC-1	2	4,000	1.0	3.0	640 CFM	120 MBH	92.93 MBH	78.3°F / 65°F	10	77.87 MBH	61.6°F	17°F	34.91	2	208	3	60	103 A	110 A	1,2,3,4,5,6,7,8	Trane
AC-2	1	1,800	1.0	0.75	195 CFM	60 MBH	41.9 MBH	77.2°F / 64.2°F	5	53.5 MBH	64.3°F	17°F	10.8	1	208	3	60	45 A	45 A	1,2,3,4,5,6,7,8	Trane
AC-3	1	1,800	1.0	0.75	230 CFM	60 MBH	41.9 MBH	77.6°F / 64.5°F	5	53.5 MBH	63.3°F	17°F	10.8	1	208	3	60	45 A	45 A	1,2,3,4,5,6,7,8	Trane
AC-4	1	1,400	0.75	0.75	20 CFM	41 MBH	32.4 MBH	77.3°F / 64.3°F	3.5	38.5 MBH	64°F	17°F	10.8	1	208	3	60	45 A	45 A	1,2,3,4,5,6,7,8	Trane
AC-5	1	1,400	0.75	0.75	160 CFM	41 MBH	32.4 MBH	77.3°F / 64.3°F	3.5	38.5 MBH	64°F	17°F	10.8	1	208	3	60	45 A	45 A	1,2,3,4,5,6,7,8	Trane
AC-6	1	1.000	0.75	0.33	35 CFM	30 MBH	22.2 MBH	75.7°F / 63.1°F	2.5	27.8 MBH	68.2°F	17°F	7.2	1	208	1	60	47 A	50 A	1.2.3.4.5.6.7.8	Trane

SEE SCHEDULE DISCONNECT SWITCH **FURNISHED & INSTALLED** BY ELECTRICAL. (TYP.) TRANSITION TO FULL SIZE OF AC UNIT LOW VOLTAGE CONTROL OPENING WITH FLEX WIRING TO OUTDOOR CONNECTION AT UNIT. CONDENSING UNIT, UNIT MOUNTED PROVIDED & INSTALLED CONTROL PANEL BY MECHANICAL. INDOOR HEAT PUMP WALL MOUNTED CO2 FAN MONITOR. (WHERE REFRIGERANT LINE SET. SHOWN ON PLANS). SIZE PER MANUFACTURER WALL MOUNTED RECOMMEDATIONS. SEE SCHEDULE PROGRAMMABLE THERMOSTAT. FILTER PROVIDE 20 GA AUXILIARY— FLEXIBLE-DRAIN PAN WITH ALL SEAMS CONNECTION WELDED. 3" LARGER THAN OUTDOOR AC UNIT ON ALL SIDES AND HEAT PUMP 3" DEEP. PROVIDE WATER MIXED AIR PLENUM LEVEL DETECTION DEVICE DRAIN PIPING TO (WIRED TO SHUT DOWN AC FLOOR DRAIN. WATER LEVEL DETECTION

SPLIT SYSTEM CONTROL SEQUENCE

EACH AC UNIT SHALL BE STARTED AND STOPPED BY WALL MOUNTED PROGRAMMABLE THERMOSTAT, SUBJECT TO FACTORY SAFETIES AND THE DUCT MOUNTED SMOKE DETECTOR (WHERE INDICATED ON PLANS OR SCHEDULE).

WHEN AC UNIT AND CORRESPONDING CONDENSING UNIT IS ENERGIZED, THE AC UNIT SUPPLY FAN SHALL START.

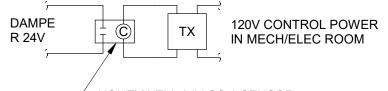
DURING OCCUPIED HOURS, THE THERMOSTAT SHALL ENERGIZE THE OUTDOOR HEAT PUMP CONTROLS UPON A RISE IN ROOM TEMPERATURE PROVIDE COOLING BY LOADING AND UNLOADING COMPRESSORS IN STAGES AS NEEDED TO SATISFY SPACE TEMPERATURE SETPOINT (74°F - ADJUSTABLE) DURING SUMMER MONTHS. UPON A DROP IN SPACE TEMPERATURE DURING WINTER MONTHS, THE OUTDOOR HEAT PUMP SHALL STAGE ON TO MAINTAIN SPACE TEMPERATURE SETPOINT (70°F - ADJUSTABLE). IF THE HEAT PUMP CANNOT SATISFY SPACE TEMP, THE ELECTRIC HEAT SHALL STAGE ON. OCCUPIED HOURS TO BE DETERMINED BY THE OWNER. RECOMMENDED OCCUPIED HOURS ARE MONDAY THRU FRIDAY, 7 A.M. TO 6 P.M.

PROVIDE NIGHTTIME SETBACK TEMPERATURE THRU PROGRAMMABLE THERMOSTAT TO MAINTAIN 78°F (SUMMER), 66°F (WINTER), AFTER HOURS. UPON ACTIVATION OF NIGHT LOW LIMIT THERMOSTAT UNIT SHALL OPERATE IN OCCUPIED MODE UNTIL SATISFIED.

FOR AC UNITS WITH WALL MOUNTED CO2 MONITOR, OSA AUTO DAMPER TO OPEN WHEN CO2 RISES ABOVE 1000 PPM.

FOR AC UNITS WITHOUT WALL MOUNTED CO2 MONITOR, OSA AUTO DAMPER TO OPEN TO SCHEDULED POSITION DURING OCCUPIED PERIODS. DAMPER SHALL REMAINED CLOSED DURING UNOCCUPIED PERIODS.

SPLIT SYSTEM CONTROLS (NO BUILDING AUTOMATION SYSTEM)

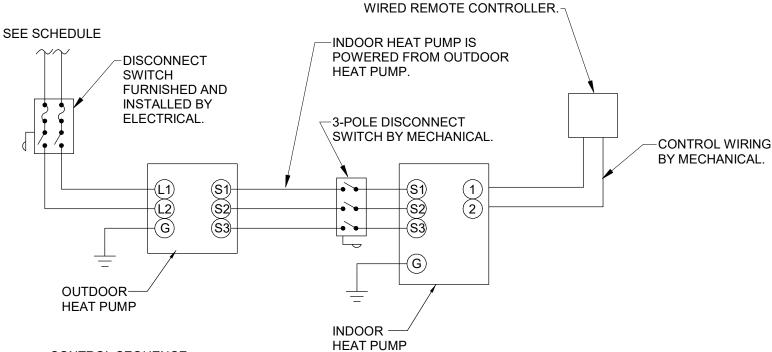


WITH DIGITAL READOUT AND HIGH LIMIT DRY CONTACT CLOSURE. MIN. 0-2000 PPM.

CONTROL SEQUENCE

WHEN THE SPACE CO2 LEVEL RISES ABOVE 1000 PPM AS MEASURED BY THE WALL MOUNTED CO2 SENSOR, THE OSA DAMPER SHALL OPEN TO PROVIDE THE SCHEDULED OUTSIDE AIR TO THE SPACE. WHEN THE SPACE CO2 LEVEL FALLS BELOW 900 PPM, THE OSA DAMPER SHALL CLOSE.

OSA AD CONTROLS

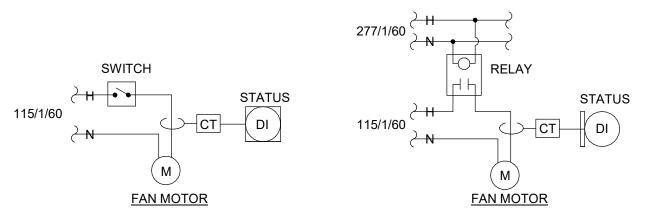


CONTROL SEQUENCE:

THE AC UNIT SHALL BE CONTROLLED BY A WIRED WALL MOUNTED REMOTE CONTROLLER. THE CONTROLLER SHALL CYCLE ON COMPRESSOR(S) TO MAINTAIN COOLING SETPOINT (74°F - ADJUSTABLE) AND HEATING SETPOINT (70°F - ADJUSTABLE). ÀLL MINI-SPLIT AC UNITS THAT SERVE ELECTRICAL AND IT ROOMS SHALL NOT SET THEIR TEMPERATURE BACK AT NIGHT. FOR ALL MINI-SPLIT AC UNITS THAT SERVE OFFICES, CLASSROOMS, ETC. SHALL SET THEIR TEMPERATURE BACK TO 4°F ABOVE SETPOINT IN SUMMER AND 4°F BELOW SETPOINT IN THE WINTER. COORDINATE WITH OWNER TO ESTABLISH OCCUPIED / UNOCCUPIED SCHEDULES.

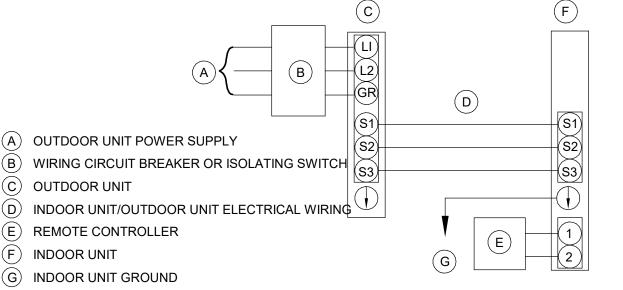
DUCTLESS SPLIT SYSTEM CONTROLS

NO SCALE



EXHAUST FAN CONTROLLED BY SWITCH. EXHAUST FAN CONTROLLED BY LIGHTING CIRCUIT. THE BAS SHALL MONITOR FAN STATUS VIA A CURRENT TRANSDUCER.

EXHAUST FAN CONTROLS



WIRING DETAIL FOR DUCTLESS MINI-SPLIT

TRUSS--METAL STUDS -REFRIGERANT PIPING CEILING--OUTDOOR HEAT PUMP ANCHOR UNISTRUT TO **CONCRETE PAD & CLAMP** REFRIGERANT PIPING TO UNISTRUT -PROVIDE ALUMINUM COVER OVER REFRIGERANT PIPING -CONRETE PAD FLOOR-(SEE DETAIL) PROVIDE PIPE SLEEVE AT WALL WHERE PIPING EXITS WALL (SEE PIPE WALL PENETETRATION

CONDENSING UNIT INSTALLATION DETAIL

AC UNIT SUSPENDED FROM STRUCTURE

INSULATION

ALUMINUM JACKET WITH FACTORY——

APPLIED MOISTURE BARRIER EXTEND 2"

BOTH SIDES AND SECURE BOTH ENDS

IF PIPING IS NOT INSULATED)

REFRIGERANT LINE-

WITH A BAND. (OMIT ALUMINUM JACKET

INSULATEION (WHERE REQUIRED)-

WATER TIGHT SEALANT-

OR EXPANDED FOAM

FIBERGLASS INSULATION-

EXTERIOR WALL-

THERMOPLASTIC ELASTOMER—

MAIN TRUNK DUCT:

-PROVIDE 1/4" GAP

ALL AROUND PIPE

PIPE PENETRATION DETAIL

REFRIGERANT LINE SUPPORT DETAIL

NO SCALE

-PROVIDE ESCUTCHEON

LOCK-TYPE LONGITUDINAL SEAM.)

-STAINLESS STEEL CLAMP

UNISTRUT

- MANUAL DAMPER

STAINLESS STEEL

FOR EXPOSED PIPING

PIPE HANGER - SEE SPECS

- 20 GAGE GALVANIZED

STEEL PROTECTOR 8"

HANGER SEE

RECTANGULAR

TAKE-OFF

SPECS

LONG

INSULATED LINES

8" LONG X 1/2" THICK

SECTION OF FOAM PLASTIC

UNINSULATED LINES

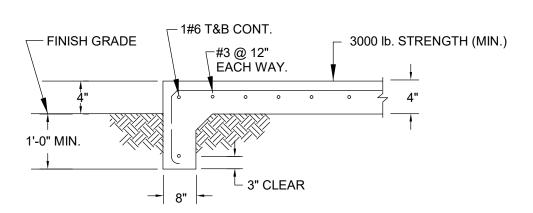
REFRIGERANT PIPING HANGER DETAIL

D = W/4, 4" MIN.

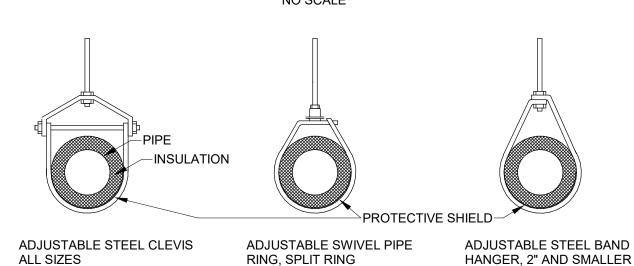
- · · · · · = 45 DEGREE ENTRY

20 GAUGE GALVANIZED

STEEL PROTECTOR 8"



CONCRETE PAD DETAIL



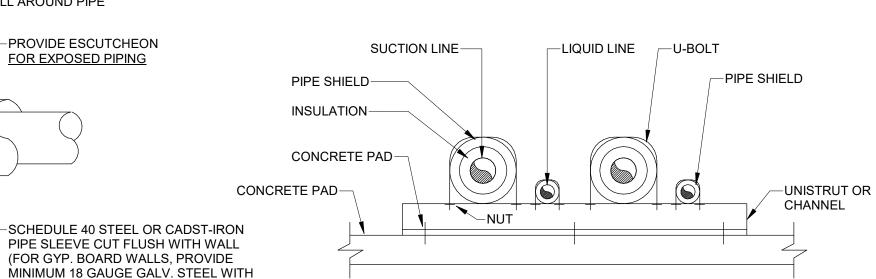
				2" AN	ID SMAL	LER						
PIPE SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"
ROD DIAMETER	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	5/8"	3/4"	7/8"	7/8"
SPACING	6'	8'	8'	8'	10'	10'	10'	10'	10'	10'	10'	10'

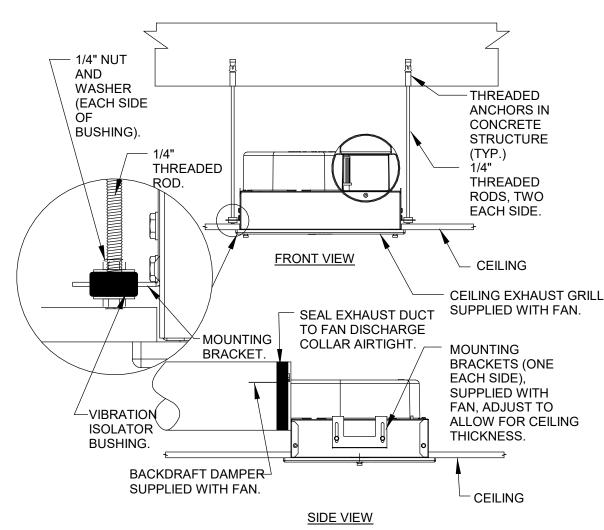
NOTE: LOCATE ADDITIONAL HANGERS AT VALVES AND AT CHANGES IN DIRECTION.

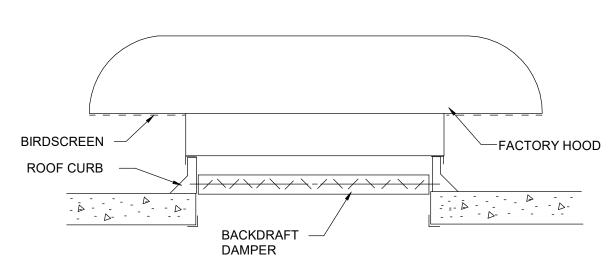
* SPACING FOR PIPE HANGERS FOR PIPE SIZES LARGER THAN 3" AND HUNG FROM BAR JOISES SHALL BE DETERMINED BY STRUCTURAL ENGINEER. SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS.

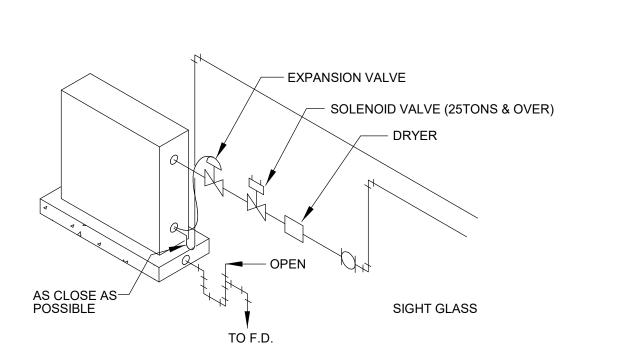
PIPE HANGER DETAIL

NO SCALE

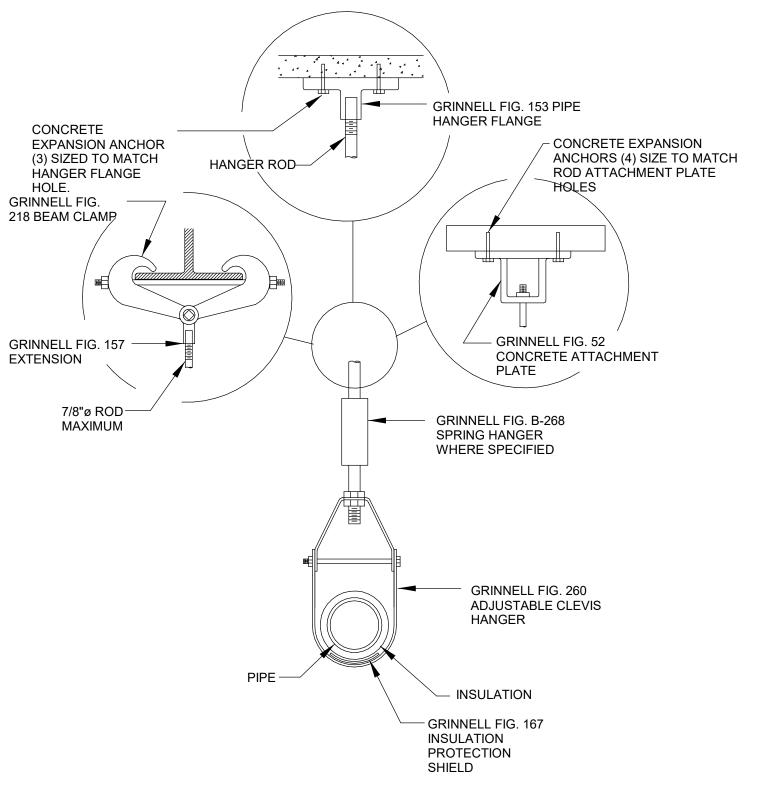








DX COIL PIPING DETAIL



CLEVIS HANGER DETAIL NO SCALE

AC TONS

0 TO 20

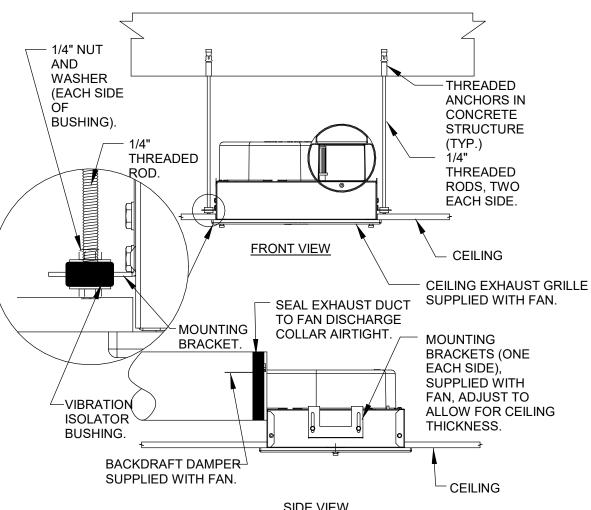
MINIMUM CONDENSATE PIPE SIZE

MIN. DRAIN SIZE

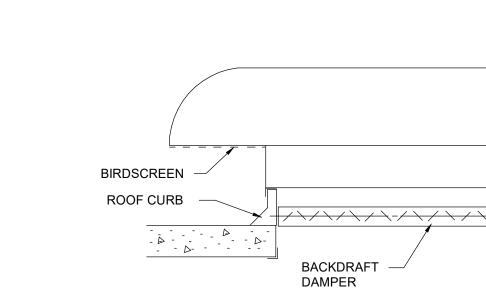
	21 TO 40	1-1/4"	
	41 TO 60	1-1/2"	
	61 TO 100	2"	
	101 TO 250	3"	
	251 & LARGER	4"	
A = FULL SIZE AC UN CONNECTION, O	DRAIN PAN NIT DRAIN R PER SCHEDULE EVER IS LARGER.) N STATIC PRESS.	G SLEEVE. ASING SETAIL UNION C	PEN FLOOR DRAIN
AC	UNIT DRA	IN TRAP D	ETAIL

AC DIVIT DRAIN TRAF DETAIL NO SCALE

REFRIGERANT PIPE SUPPORT FROM **CONCRETE PAD DETAIL**



CEILING EXHAUST FAN DETAIL



EXHAUST HOOD DETAIL



● Dewberry: | ■DMONDS

2 Riverchase Office Plaza

Suite 205 Hoover, AL 35244

(205) 988-2069

www.dewberry.com

Project Number

50155636

THOMAS M. McELRATH, ARCHITEC ARCHITEC ARCHITECTURE and SPACE PLANNING

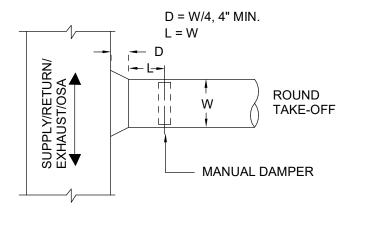
E

DRAWN RBG

CHECKED JWS SCALE AS NOTED DATE 09/15/2022 FILE

JOB NO. 22-01 REVISIONS





RECTANGULAR DUCT TAKE-OFF

ROUND DUCT TAKE-OFF

DUCT TAKE-OFF CONNECTION DETAIL



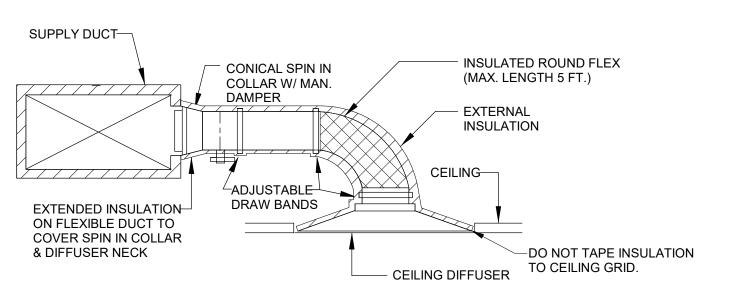
 $^{\perp}$ 45° ENTRY FITTING

D = W/4, (4" MIN.)

L = W (WIDTH OF DUCT)



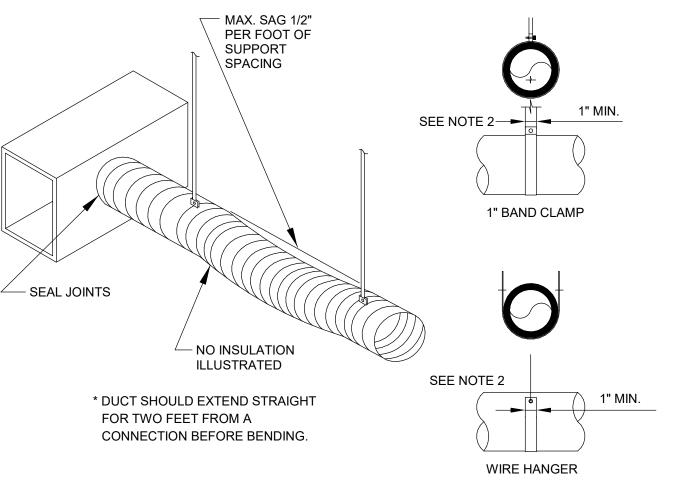
THOMAS M. McELRATH, ARCHITEC-ARCHITECTARCHITECTURE and SPACE PLANNING



- 1. WHEREVER THE SUPPLY DUCT HEIGHT IS INSUFFICIENT TO CONNECT THE SPIN-IN, THE SPIN-IN MAY BE CONNECTED TO THE TOP OR BOTTOM OF THE DUCT. IF THE BRANCH DUCT MUST BE CONNECTED TO THE SIDE OF THE MAIN DUCT, USE A RECTANGULAR BRANCH DUCT CONNECTION OF EQUAL AIR VELOCITY AND TRANSITION TO ROUND DUCT. REFER TO SPECIFICATION FOR MAXIMUM TURNS IN FLEX DUCT.
- 2. PROVIDE EXTERNAL INSULATION ON ALL ROUND BRANCH DUCTWORK.SEE SPECS FOR THICKNESS AND EXTENT.
- 3. PROVIDE EXTERNAL INSULATION ON BACK SIDE OF CEILING DIFFUSERS. THICKNESS TO MATCH BRANCH DUCT INSULATION THICKNESS.

CEILING DIFFUSER INSTALLATION DETAIL

NO SCALE

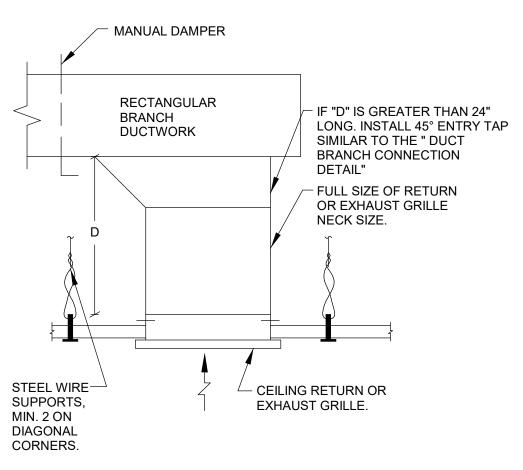


NOTES:

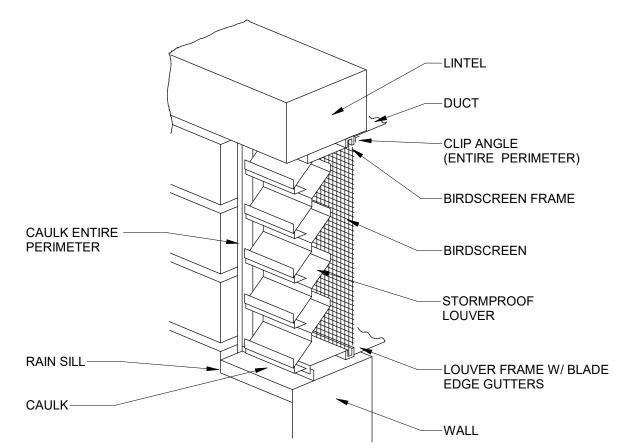
- 1. SUPPORT SYSTEM MUST NOT DAMAGE DUCT OR CAUSE OUT OF ROUND SHAPE. 2. DUCTS ARE FLEXIBLE WITH EXTERNAL INSULATION AND VAPOR BARRIER JACKETING.
- 3. MIN. CENTER LINE BEND LINE RADIUS IS ONE DIA. (OR INSIDE RADIUS OF D/2). 4. FLEXIBLE DUCT LENGTH SHALL NOT EXCEED 5 LINEAR FEET.

FLEXIBLE DUCT SUPPORT DETAIL

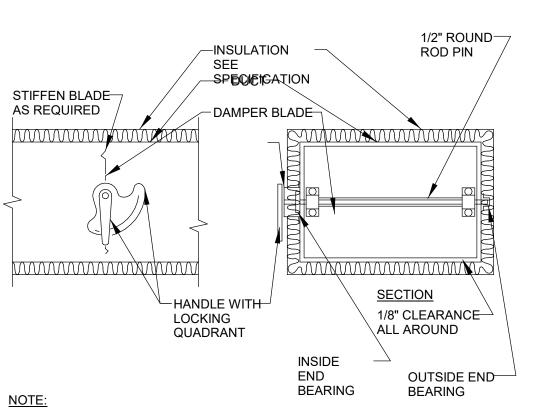
NO SCALE



CEILING RETURN/EXHAUST BRANCH CONNECTION DETAIL



TYPICAL HVAC WALL LOUVER



- 1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
- 2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.
- 3. MANUAL DAMPERS SHALL BE EQUAL TO RUSKIN MD35 (FOR RECTANGULAR DUCTS) AND SHALL BE EQUAL TO RUSKIN MDRS25 (FOR ROUND DUCTS).

MANUAL DAMPER DETAIL

NO SCALE



S

DRAWN CHECKED

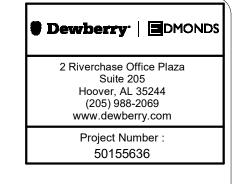
> JWS SCALE AS NOTED DATE 09/15/2022 FILE

> JOB NO. 22-01 REVISIONS



THOMAS M. McELRATH, ARCHITECT ARCHITECT ARCHITECTURE and SPACE PLANNING

2829 W. Meighan Boulevard for the City of Gadsden, Alabama



			Zone Floor Area (square ft)	Zone Max Occupancy	Table 6.1 OA per Occupant	Table 6.1 cfm/ft2	Pz * Rp	Az * Ra	Table 6.2 Ventilation Effectiveness	Outdoor Air to Zone (CFM) with Ez correction
Zone Tag	Facility Type	Zone Use	Az	Pz	Rp	Ra	Pz * Rp	Az * Ra	Ez	(Vbz/Ez)
105 - CLASSROOM/TRAINING	General	Classrooms (AGE 9 +)	514.0	18.0	5.0	0.12	90	62	0.8	190 OA required per VF
one Height (feet) lesired Outside Air (Vo) IAQP lupply Air (Vs) leturn Air (Vr) lecirc. Flow Factor (R) leritation Effectiveness (Ez) level of Physical Activity liter Location VAC Flow Type lutdoor Air Flow Type	12 90 600 510 0.85 0.8 Sedentary B Constant	(1-R)V _r \[\begin{align*} & \begin{align*}	$\begin{array}{c} \begin{bmatrix} B \\ (V_r + V_o) \end{bmatrix} \\ \\ \begin{array}{c} Occupied\ Zone \\ e,\ N,\ C_s \end{array}$	5000 - 5000 - 4000 - 3000 - 2000 - 1000 - 0	5000	2590	dioxide**	http://www.cc 1 = ASHRAE & 2 = C02 Level at 3 = C02 Level at **Carbon dioxide for gathering der setpoints. The N commissioned b	dc.gov/niosh/npg/np NIOSH C02 Limit : Ventilation Rate C : IAQ Procedure OA	DA Flow Rate A Flow Rate If for reference only ation (DCV) Council was prove C02 is
					1 2	3		purification to co	ontrol the other cont	taminants
Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA)	Steady State Using the IAQ Method (Reduced OA)	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate	Filtration Effectiveness	Cognizant Authority***	purification to co		taminants
Generated By People & From Outdoors	(PPM)	Using the VRP* (Prescribed OA) Plasma Off	Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Authority***	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors	(PPM) 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01113	Using the IAQ Method (Reduced OA) Plasma On 0.00147	Is Steady State Level Acceptable at Reduced OA Levels? Yes	Contaminant Generation Rate (PPM) 0.00032	Filtration Effectiveness	Authority*** OSHA	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors etaldehyde etone	(PPM) 100.0 250.0	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433	Filtration Effectiveness 50% 50%	Authority*** OSHA NIOSH	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors etaldehyde etone nmonia	(PPM) 100.0 250.0 25.00	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210	Filtration Effectiveness 50% 50% 50%	Authority*** OSHA NIOSH NIOSH	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors etaldehyde etone nmonia enzene	(PPM) 100.0 250.0 25.00 1.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015	Filtration Effectiveness 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors etaldehyde etone nmonia enzene Butanone (MEK)	(PPM) 100.0 250.0 25.00 1.0000 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088	Filtration Effectiveness 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide**	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292	Filtration Effectiveness 50% 50% 50% 50% 50% 0%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide**	(PPM) 100.0 250.0 25.00 1.0000 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088	Filtration Effectiveness 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors setaldehyde setone mmonia enzene Butanone (MEK) arbon dioxide** alloroform oxane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021 1381 0.00011	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007 2590 0.00002	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide** hloroform oxane ydrogen Sulfide	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021 1381 0.00011 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007 2590 0.00002 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.000088 292 0.00003 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide** hloroform ioxane ydrogen Sulfide ethane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021 1381 0.00011 0.00000 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00034 0.00007 2590 0.00002 0.00000 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.000088 292 0.00003 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors .cetaldehyde .cetone .mmonia .enzene - Butanone (MEK) .arbon dioxide** .hloroform .ioxane .ydrogen Sulfide lethane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021 1381 0.00011 0.00000 0.00000 1.68094 0.00000 0.00079	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00000 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 0% 50% 5	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NA	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021 1381 0.00011 0.00000 0.00000 1.68094 0.00000 0.00079 0.00998	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007 2590 0.00002 0.00000 1.68094 0.00000 0.00000 0.00001 0.00001	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.000	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021 1381 0.00011 0.00000 0.00000 1.68094 0.00000 0.00079 0.00998 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00014 0.00998 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH OSHA NIOSH OSHA NIOSH OSHA	purification to co	ontrol the other conf ound on submarines	taminants
Generated By People	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0	Using the VRP* (Prescribed OA) Plasma Off 0.01113 0.00178 0.01859 0.00252 0.00021 1381 0.00011 0.00000 0.00000 1.68094 0.00000 0.00079 0.00998	Using the IAQ Method (Reduced OA) Plasma On 0.00147 0.00045 0.00949 0.00034 0.00007 2590 0.00002 0.00000 1.68094 0.00000 0.00000 0.00001 0.00001	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH	purification to co	ontrol the other conf ound on submarines	taminants

				Zone	Table 6.1				Table 6.2	Outdoor Air to
				Max	OA per	Table 6.1	Pz * Rp	Az * Ra	Ventilation	Zone (CFM) wit
			Zone Floor Area (square ft)	Occupancy	Occupant	cfm/ft2			Effectiveness	Ez correction
Zone Tag	Facility Type	Zone Use	Az	Pz	Rp	Ra	Pz * Rp	Az * Ra	Ez	(Vbz/Ez)
106 - CRAFTS/CARDS	General	Conference/Meeting	779.0	28.0	5.0	0.06	140	47	0.8	233
100 01011 107011100	General	comercinee/wiceting	775.0	20.0	5.0	0.00	140	47	0.0	OA required per \
one Height (feet)	12	(1-R)V _r			Cl				'	
Desired Outside Air (Vo) IAQP	140	(1-10)**			Carbon dio	oxide		***OSHA, NIOSH	H & WHO most con	nservative values use
Supply Air (Vs)	900			6000 —				http://www.cd	lc.gov/niosh/npg/np	qsyn-a.html
Return Air (Vr)	760	E _f A			5000			1 = ASHRAE &	NIOSH C02 Limit	-
Recirc. Flow Factor (R)	0.84	RV,		V _r 5000 -				2 = C02 Level at	Ventilation Rate O	A Flow Rate
/entilation Effectiveness (Ez)	0.8	V.,C.	В	4000 +	_			3 = C02 Level at	IAQ Procedure OA	Flow Rate
evel of Physical Activity	Sedentary	L <u>F</u> r_	_	3000		2590		**Carbon dioxide	has been provided	for reference only
ilter Location	В	F _r	$(V_r + V_o)$		1640				nand control ventila	,
HVAC Flow Type	Constant]		2000 +	25.5	■ Carbon	dioxide**		lational Research C	
Outdoor Air Flow Type	Constant	1	Occupied Zone e, N, C,	1000			dioxide	commissioned b	y the US Navy to p	rove C02 is
								of concern, as fo	dina on Sabinamics	-
Indoor Contaminants	Т	Steady State	Stoady State	le Steady State Level	Contaminant	I		or concern, as io	and on Submannes	
Indoor Contaminants	Maximum Threshold Value	Steady State	Steady State	Is Steady State Level	Contaminant Generation	Filtration	Cognizant	or concern, as to		
Generated By People	Maximum Threshold Value	Using the VRP*	Using the IAQ Method	Acceptable at Reduced	Generation	Filtration	Cognizant	or concern, as to	* = worst case	
	Maximum Threshold Value (PPM)	Using the VRP* (Prescribed OA)	Using the IAQ Method (Reduced OA)	,	Generation Rate	Filtration Effectiveness	Cognizant Authority***	or concern, as to		
Generated By People & From Outdoors	(PPM)	Using the VRP* (Prescribed OA) Plasma Off	Using the IAQ Method (Reduced OA) Plasma On	Acceptable at Reduced OA Levels?	Generation Rate (PPM)	Effectiveness	Authority***	or concern, as to		
Generated By People & From Outdoors Acetaldehyde	(PPM) 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114	Using the IAQ Method (Reduced OA) Plasma On 0.00151	Acceptable at Reduced OA Levels? Yes	Generation Rate (PPM) 0.00032	Effectiveness 50%	Authority***	on concern, as to		
Generated By People & From Outdoors Acetaldehyde Acetone	(PPM) 100.0 250.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046	Acceptable at Reduced OA Levels? Yes Yes	Generation Rate (PPM) 0.00032 0.00433	Effectiveness 50% 50%	Authority*** OSHA NIOSH	on concern, as to		
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia	(PPM) 100.0 250.0 25.00	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980	Acceptable at Reduced OA Levels? Yes Yes Yes Yes	Generation Rate (PPM) 0.00032 0.00433 0.14210	50% 50% 50%	Authority*** OSHA NIOSH NIOSH	on concern, as to		
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia	(PPM) 100.0 250.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046	Acceptable at Reduced OA Levels? Yes Yes	Generation Rate (PPM) 0.00032 0.00433	Effectiveness 50% 50%	Authority*** OSHA NIOSH	on concern, as to		
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene	(PPM) 100.0 250.0 25.00 1.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015	50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA	on concern, as to		
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK)	(PPM) 100.0 250.0 25.00 1.0000 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088	50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH	on concern, as to		
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene Benzene Butanone (MEK) Carbon dioxide**	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292	50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH	l concern, as to		
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene Benzene Butanone (MEK) Carbon dioxide**	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007 2590 0.00002	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003	50% 50% 50% 50% 50% 50% 0% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH	l concern, as to		
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene Benzene Butanone (MEK) Carbon dioxide** Chloroform Dioxane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007 2590 0.00002 0.00002	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH OSHA	l concern, as to		
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene - Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007 2590 0.00002 0.00000	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH	on concern, as to		
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene - Butanone (MEK) Carbon dioxide** Chloroform Dioxane dydrogen Sulfide Methane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 0.00000 1.68094	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH			
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Carbon dioxide** Chiloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 0.00000 1.68094 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 0% 50% 5	Authority*** OSHA NIOSH NIOSH OSHA NIOSH	on concern, as to		
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Idenzene - Butanone (MEK) Arbon dioxide** Chloroform Idioxane Ilydrogen Sulfide Methane Ilethanol Ilethylene Chloride Propane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 1.68094 0.00000 0.00000 0.00000 0.00001 0.00098 0.00998 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015 0.00998 0.00000	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 0% 50% 5	Authority*** OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA			
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Carbon dioxide** Chloroform Dioxane Bydrogen Sulfide Methane Methanol Methylene Chloride Propane Fetrachloroethane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 1000.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 0.00000 1.68094 0.00000 0.000081 0.00998 0.00000 0.000037	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00005 0.00098 0.00098 0.00098 0.00098 0.00000	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 60% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH OSHA NIOSH OSHA OSHA OSHA OSHA	on concern, as to		
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Carbon dioxide** Chloroform Dioxane Bydrogen Sulfide Methane Methanol Methylene Chloride Propane etrachloroethylene Goluene	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 100.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 1.68094 0.00000 0.00000 0.00081 0.00998 0.00000 0.000037 0.00534	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00005 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015 0.00998 0.00000 0.00000 0.00000 0.000005 0.000005 0.000073	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH OSHA NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH			
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Ammo	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 100.0 100.0 350.0000 100.0000 350.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 1.68094 0.00000 0.00000 0.00000 0.00001 0.00998 0.00000 0.00037 0.000534 0.00079	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00005 0.00007 2590 0.00002 0.00000 1.68094 0.00000 0.000015 0.00098 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH			
Generated By People & From Outdoors cetaldehyde cetone mmonia enzene - Butanone (MEK) arbon dioxide** hloroform ioxane ydrogen Sulfide lethane lethanol lethylene Chloride ropane etrachloroethane etrachloroethylene bluene	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 100.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 1.68094 0.00000 0.00000 0.00081 0.00998 0.00000 0.000037 0.00534	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00005 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015 0.00998 0.00000 0.00000 0.00000 0.000005 0.000005 0.000073	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH OSHA NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH			
Generated By People & From Outdoors cetaldehyde cetone mmonia enzene - Butanone (MEK) arbon dioxide** hloroform ioxane ydrogen Sulfide lethane lethanol lethylene Chloride ropane etrachloroethane etrachloroethylene bluene .1,1 - Trichloroethane	(PPM) 100.0 250.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 100.0000 100.0000 100.0000 100.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00191 0.02303 0.00253 0.00023 1640 0.00011 0.00000 1.68094 0.00000 0.00000 0.00000 0.00001 0.00998 0.00000 0.00037 0.000534 0.00079	Using the IAQ Method (Reduced OA) Plasma On 0.00151 0.00046 0.00980 0.00005 0.00007 2590 0.00002 0.00000 1.68094 0.00000 0.000015 0.00098 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH			

Is IAQ acceptable at reduced outside air levels?

Yes

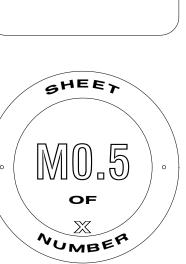
Building materials and furnishings assumed to have no VOCs and off-gassing is complete

				Zone	Table 6.1				Table 6.2	Outdoor Air to
				Max	OA per	Table 6.1	Pz * Rp	Az * Ra	Ventilation	Zone (CFM) with
			Zone Floor Area (square ft)	Occupancy	Occupant	cfm/ft2			Effectiveness	Ez correction
Zone Tag	Facility Type	Zone Use	Az	Pz	Rp	Ra	Pz * Rp	Az * Ra	Ez	(Vbz/Ez)
106 - KITCHEN	General	Cafeteria/Fast Food Dining	333.0	3.0	5.0	0.18	15	60	0.8	94
100 - KITCHEN	General	Careteria/rast rood Dining	333.0	5.0	5.0	0.10	15	00	0.0	OA required per V
one Height (feet)	12	(1-R)V _r			Carbon die	ovido**			'	•
esired Outside Air (Vo) IAQP	15				Carbon die	DXIGE		***OSHA, NIOSH	H & WHO most cor	nservative values used
Supply Air (Vs)	400	E _r A		6000 —					c.gov/niosh/npg/np	gsyn-a.html
Return Air (Vr)	385			5000	5000			1 = ASHRAE &		
ecirc. Flow Factor (R)	0.96	RV,		V _r 5000 +				2 = C02 Level at	Ventilation Rate O	A Flow Rate
entilation Effectiveness (Ez)	0.8	Vo,Co Ef	$^{I}\mathbf{B}$	4000 +				3 = C02 Level at	IAQ Procedure OA	A Flow Rate
evel of Physical Activity	Sedentary		$(V_r + V_o)$	3000	_	2590		**Carbon dioxide	has been provided	for reference only
ilter Location	В		(v r · v o)	2000					nand control ventila	
IVAC Flow Type	Constant			2000	724	Carbon	dioxide**	setpoints. The N	ational Research C	Council was
Outdoor Air Flow Type	Constant		Occupied Zone e, N, C,	1000 +	731				y the US Navy to p	
		_	e, 14, C,	0 +					nt of concern when	
					1 2	3		purification to co		
					1 2	3			ntrol the other cont und on submarines	
Indoor Conteminants		Stoody State	Stoody State			3				
Indoor Contaminants	Maximum Throshold Value	Steady State	Steady State	Is Steady State Level	Contaminant	<u> </u>	Cognizant		und on submarines	
Generated By People	Maximum Threshold Value	Using the VRP*	Using the IAQ Method	Is Steady State Level Acceptable at Reduced	Contaminant Generation	Filtration	Cognizant			
	Maximum Threshold Value (PPM)	Using the VRP* (Prescribed OA)	Using the IAQ Method (Reduced OA)	Is Steady State Level	Contaminant Generation Rate	<u> </u>	Cognizant Authority***		und on submarines	
Generated By People & From Outdoors		Using the VRP* (Prescribed OA) Plasma Off	Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Authority***		und on submarines	
Generated By People	(PPM)	Using the VRP* (Prescribed OA)	Using the IAQ Method (Reduced OA)	Is Steady State Level Acceptable at Reduced	Contaminant Generation Rate	Filtration			und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone	(PPM) 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01110	Using the IAQ Method (Reduced OA) Plasma On 0.00041	Is Steady State Level Acceptable at Reduced OA Levels? Yes	Contaminant Generation Rate (PPM) 0.00032	Filtration Effectiveness 50%	Authority*** OSHA		und on submarines	
Generated By People & From Outdoors	(PPM) 100.0 250.0	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433	Filtration Effectiveness 50% 50%	Authority*** OSHA NIOSH		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene	(PPM) 100.0 250.0 25.00	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210	Filtration Effectiveness 50% 50% 50%	Authority*** OSHA NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia	(PPM) 100.0 250.0 25.00 1.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015	Filtration Effectiveness 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene Benzene Butanone (MEK)	(PPM) 100.0 250.0 25.00 1.0000 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088	Filtration Effectiveness 50% 50% 50% 50% 50% 0% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Carbon dioxide**	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.00002 2590	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292	Filtration Effectiveness 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Barbon dioxide** Chloroform Bioxane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.00002 2590 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003	Filtration Effectiveness 50% 50% 50% 50% 50% 0% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors acetaldehyde acetone ammonia denzene - Butanone (MEK) arbon dioxide** chloroform dioxane lydrogen Sulfide	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.00002 2590 0.00000 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Carbon dioxide**	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011 0.00000 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.00002 2590 0.00000 0.00000 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Acetanone (MEK) Acarbon dioxide** Achloroform Alloroform Allorofor	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011 0.00000 0.00000 1.68094 0.00000 0.00072	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.00002 2590 0.00000 0.00000 0.00000 1.68094 0.00004	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH OSHA		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Ammo	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011 0.00000 0.00000 1.68094 0.00000 0.00072 0.00998	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.00002 2590 0.00000 0.00000 1.68094 0.00004 0.00004 0.00098	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00080 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Ammo	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.000	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011 0.00000 0.00000 1.68094 0.00000 0.00072 0.00998 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.00002 2590 0.00000 0.00000 1.68094 0.00000 0.00004 0.00998 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH OSHA NIOSH OSHA NIOSH OSHA		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Arbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methane Methane Methanel Methylene Chloride Propane etrachloroethane Metrachloroethylene	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 100.0 NA 200.0 25.0 1000.0 5.0000 100.00 100.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011 0.00000 0.00000 1.68094 0.00000 0.00072 0.0098 0.00000 0.00000 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.000002 2590 0.000000 0.000000 1.68094 0.00000 0.00004 0.00998 0.00000 0.00000 0.000000 0.000000 0.000000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NA NIOSH OSHA NIOSH OSHA OSHA OSHA		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Carbon dioxide** Chloroform Dioxane Bydrogen Sulfide Acthane Methanol Methylene Chloride Propane Petrachloroethane Petrachloroethylene Foluene	(PPM) 100.0 250.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 100.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011 0.00000 0.00000 1.68094 0.00000 0.00072 0.0098 0.00000 0.00000 0.00000 0.000072 0.00998 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.00000 0.00000 0.00000 1.68094 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 0% 50% 50% 0% 50% 0% 50% 5	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH		und on submarines	
Generated By People & From Outdoors Accetaldehyde Accetone Ammonia Benzene - Butanone (MEK) Arbon dioxide** Chloroform Bioxane Bydrogen Sulfide Methane Metha	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 100.0 NA 200.0 25.0 1000.0 5.0000 100.00 100.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01110 0.00144 0.00741 0.00251 0.00014 731 0.00011 0.00000 0.00000 1.68094 0.00000 0.00072 0.0098 0.00000 0.00000 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00041 0.00012 0.00263 0.00009 0.000002 2590 0.000000 0.000000 1.68094 0.00000 0.00004 0.00998 0.00000 0.00000 0.000000 0.000000 0.000000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NA NIOSH OSHA NIOSH OSHA OSHA OSHA		und on submarines	

				Zone	Table 6.1	T.I. 64	5 * 5	4 + 5	Table 6.2	Outdoor Air t
(Quantity) Zone Tag	Facility Type	Zone Use	l	Max	OA per	Table 6.1	Pz * Rp	Az * Ra	Ventilation	Zone (CFM) wi
	1		Zone Floor Area (square ft)	Occupancy	Occupant	cfm/ft2			Effectiveness	Ez correction
			Az	Pz	Rp	Ra	Pz * Rp	Az * Ra	Ez	(Vbz/Ez)
(2) - 105 - MEETING ROOM	General	Conference/Meeting	454.0	22.0	5.0	0.06	110	27	0.8	172
Zone Height (feet)	12	$(1-R)V_r$			6 I II					OA required per
Desired Outside Air (Vo) IAQP	110	(1-10) V			Carbon dio	xide**		***OSHA, NIOSI	H & WHO most cor	nservative values us
Supply Air (Vs)	500	1		6000 —				http://www.co	dc.gov/niosh/npg/np	qsyn-a.html
Return Air (Vr)	390	E _r A			5000			1 = ASHRAE &	NIOSH C02 Limit	
Recirc. Flow Factor (R)	0.78	RV r		V _r 5000 -				2 = C02 Level at	Ventilation Rate O	A Flow Rate
Ventilation Effectiveness (Ez)	0.8	Vo,Co Ef	7 p	4000	_			3 = C02 Level at	t IAQ Procedure OA	A Flow Rate
evel of Physical Activity	Sedentary	L Er		3000		2590		**Carbon diovide	e has been provided	for reference only
Filter Location	В	Fr	$(V_r + V_o)$		1725	_			mand control ventila	,
HVAC Flow Type	Constant	1 1		2000 —	1/23		J::J-**		lational Research C	
Outdoor Air Flow Type	Constant	1	Occupied Zone	1000		II Carbon	dioxide**		by the US Navy to p	
outdoor / iii / low Type	Onotan	_	e, N, C,						nt of concern when	
				0 +					ontrol the other cont	
					1 2	3			ound on submarines	
								_		
Indoor Contaminants		Steady State	Steady State	Is Steady State Level	Contaminant					
Generated By People	Maximum Threshold Value	Using the VRP*	Using the IAQ Method	Acceptable at Reduced	Generation	Filtration	Cognizant		* = worst case	
& From Outdoors	(PPM)	(Prescribed OA)	(Reduced OA)	OA Levels?	Rate	Effectiveness	Authority***			
		Plasma Off	Plasma On		(PPM)					
Acetaldehyde	100.0	0.01114	0.00203	Yes	0.00032	50%	OSHA			
Acetone	250.0	0.00196	0.00062	Yes	0.00433	50%	NIOSH	_		
Ammonia	25.00	0.02450	0.01312	Yes	0.14210	50%	NIOSH	4		
						50%	OSHA			
Benzene	1.0000	0.00253	0.00046	Yes	0.00015			-		
2- Butanone (MEK)	200.0	0.00024	0.00010	Yes	0.00088	50%	NIOSH			
2- Butanone (MEK) Carbon dioxide**	200.0 5000	0.00024 1725	0.00010 2590	Yes Yes	0.00088 292	50% 0%	NIOSH NIOSH			
2- Butanone (MEK) Carbon dioxide** Chloroform	200.0 5000 2.0000	0.00024 1725 0.00011	0.00010 2590 0.00002	Yes Yes Yes	0.00088 292 0.00003	50% 0% 50%	NIOSH NIOSH NIOSH	- - - -		
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane	200.0 5000 2.0000 100.0	0.00024 1725 0.00011 0.00000	0.00010 2590 0.00002 0.00000	Yes Yes Yes Yes	0.00088 292 0.00003 0.00000	50% 0% 50% 50%	NIOSH NIOSH NIOSH OSHA	- - - - -		
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide	200.0 5000 2.0000 100.0 10.0	0.00024 1725 0.00011 0.00000 0.00000	0.00010 2590 0.00002 0.00000 0.00000	Yes Yes Yes Yes Yes	0.00088 292 0.00003 0.00000 0.00000	50% 0% 50% 50% 50%	NIOSH NIOSH NIOSH OSHA NIOSH			
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane	200.0 5000 2.0000 100.0 10.0 NA	0.00024 1725 0.00011 0.00000 0.00000 1.68094	0.00010 2590 0.00002 0.00000 0.00000 1.68094	Yes Yes Yes Yes Yes Yes Yes Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000	50% 0% 50% 50% 50% 0%	NIOSH NIOSH NIOSH OSHA NIOSH NA			
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol	200.0 5000 2.0000 100.0 10.0 NA 200.0	0.00024 1725 0.00011 0.00000 0.00000 1.68094 0.00000	0.00010 2590 0.00002 0.00000 0.00000 1.68094 0.00000	Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000	50% 0% 50% 50% 50% 0%	NIOSH NIOSH NIOSH OSHA NIOSH NA	- - - - - - -		
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane	200.0 5000 2.0000 100.0 10.0 NA	0.00024 1725 0.00011 0.00000 0.00000 1.68094	0.00010 2590 0.00002 0.00000 0.00000 1.68094	Yes Yes Yes Yes Yes Yes Yes Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000	50% 0% 50% 50% 50% 0%	NIOSH NIOSH NIOSH OSHA NIOSH NA	- - - - - - -		
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride	200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0	0.00024 1725 0.00011 0.00000 0.00000 1.68094 0.00000 0.00082	0.00010 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00020	Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000	50% 0% 50% 50% 50% 0% 0%	NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA	- - - - - - - -		
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane	200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0	0.00024 1725 0.00011 0.00000 0.00000 1.68094 0.00000 0.00082 0.00998	0.00010 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00020 0.00998	Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00080 0.00000	50% 0% 50% 50% 50% 0% 0% 0% 50% 50%	NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH			
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane Tetrachloroethane	200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000	0.00024 1725 0.00011 0.00000 0.00000 1.68094 0.00000 0.00082 0.00998 0.00000	0.00010 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00020 0.00998	Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 0% 50% 50% 50% 0% 0% 50% 0% 50%	NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH			
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane Tetrachloroethane	200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000	0.00024 1725 0.00011 0.00000 0.00000 1.68094 0.00000 0.00082 0.00998 0.00000 0.00037	0.00010 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00020 0.00020 0.00998 0.00000	Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00080 0.00000 0.00000 0.00000	50% 0% 50% 50% 50% 0% 0% 0% 50% 50%	NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA OSHA			
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane Fetrachloroethane Tetrachloroethylene Toluene	200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 100.0000	0.00024 1725 0.00011 0.00000 0.00000 1.68094 0.00000 0.00082 0.00998 0.00000 0.00037 0.00037	0.00010 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00020 0.00020 0.00998 0.00000 0.00007	Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00080 0.00000 0.00000 0.00000	50% 0% 50% 50% 50% 0% 0% 50% 50% 50% 50%	NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA OSHA OSHA NIOSH			
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane Fetrachloroethane Fetrachloroethylene Toluene 1,1,1 - Trichloroethane Kylene	200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 100.0000 100.0000 350.0000	0.00024 1725 0.00011 0.00000 0.00000 1.68094 0.00000 0.00082 0.00998 0.00000 0.00007 0.00037	0.00010 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00020 0.00020 0.00998 0.00000 0.00007 0.00098 0.00017 0.00042	Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00080 0.00000 0.00000 0.00001 0.00021 0.00038	50% 0% 50% 50% 50% 0% 0% 50% 50% 50% 50%	NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH NIOSH NIOSH			
2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane Fetrachloroethane Foluene 1,1,1 - Trichloroethane	200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 100.0000 100.0000 350.0000	0.00024 1725 0.00011 0.00000 0.00000 1.68094 0.00000 0.00082 0.00998 0.00000 0.00007 0.00037	0.00010 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00020 0.00998 0.00000 0.00007 0.00098 0.00007	Yes	0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00080 0.00000 0.00000 0.00001 0.00021 0.00038	50% 0% 50% 50% 50% 0% 0% 50% 50% 50% 50%	NIOSH NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH NIOSH NIOSH			

Facility Type General 12 90	Zone Use Conference/Meeting	Zone Floor Area (square ft) Az 791.0	Max Occupancy Pz 18.0	OA per Occupant Rp 5.0	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra	Ventilation	
General 12	Conference/Meeting	Az	Pz	Rp	Ra	Pz * Rn			Zone (CFM) with
General 12	Conference/Meeting	Az				Pz * Rn		Effectiveness	Ez correction
12		791.0	18.0	5.0	0.05	1 - 110	Az * Ra	Ez	(Vbz/Ez)
			10.0	3.0	0.06	90	47	0.8	172
					•			•	OA required per VF
90	$(1-R)V_r$			Carbon di	-v:d-**				
	(1-10)17			Carbon di	oxide		***OSHA, NIOSH	H & WHO most cor	nservative values used
575	ErA		6000 —				http://www.cd	lc.gov/niosh/npg/np	gsyn-a.html
485	L - - J		5000	5000			1 = ASHRAE &	NIOSH C02 Limit	
0.84	RV,		V _r 5000				2 = C02 Level at	: Ventilation Rate O	A Flow Rate
0.8	Vo,Co	В	4000				3 = C02 Level at	IAQ Procedure OA	A Flow Rate
Sedentary		_	3000		2590		**Carbon dioxide	e has been provided	I for reference only
В	T	(vr + vo)		1482					
Constant	_ '		2000	1482	■ Carbon				
Constant			1000		- Carbon	a londe			
		0, 14, 0,							
				4 2	,		purification to co	ontrol the other cont	taminants
				1 2	3		of concern, as fo	ound on submarines	S.
							,		
	Steady State	Steady State	Is Steady State Level	Contaminant			1		
mum Threshold Value	Using the VRP*	Using the IAQ Method	Acceptable at Reduced	Generation	Filtration	Cognizant		* = worst case	
(PPM)	(Prescribed OA)	(Reduced OA)	OA Levels?	Rate	Effectiveness	Authority***			
• •	Plasma Off	Plasma On	1	(PPM)		,			
100.0	0.01113	0.00152	Yes	0.00032	50%	OSHA]		
	0.00183	0.00046	Yes						
25.00				0.00433	50%	NIOSH			
	0.02033	0.00985	Yes	0.14210	50%	NIOSH			
1.0000	0.00252	0.00985 0.00035	Yes Yes	0.14210 0.00015	50% 50%	NIOSH OSHA			
1.0000 200.0	0.00252 0.00022	0.00985 0.00035 0.00007	Yes Yes Yes	0.14210 0.00015 0.00088	50% 50% 50%	NIOSH OSHA NIOSH			
1.0000 200.0 5000	0.00252 0.00022 1482	0.00985 0.00035 0.00007 2590	Yes Yes Yes Yes	0.14210 0.00015 0.00088 292	50% 50% 50% 0%	NIOSH OSHA NIOSH NIOSH			
1.0000 200.0 5000 2.0000	0.00252 0.00022 1482 0.00011	0.00985 0.00035 0.00007 2590 0.00002	Yes Yes Yes Yes Yes Yes Yes	0.14210 0.00015 0.00088 292 0.00003	50% 50% 50% 0% 50%	NIOSH OSHA NIOSH NIOSH NIOSH			
1.0000 200.0 5000 2.0000 100.0	0.00252 0.00022 1482 0.00011 0.00000	0.00985 0.00035 0.00007 2590 0.00002 0.00000	Yes Yes Yes Yes Yes Yes Yes Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000	50% 50% 50% 0% 50% 50%	NIOSH OSHA NIOSH NIOSH NIOSH OSHA			
1.0000 200.0 5000 2.0000 100.0 10.0	0.00252 0.00022 1482 0.00011 0.00000 0.00000	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000	Yes Yes Yes Yes Yes Yes Yes Yes Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50%	NIOSH OSHA NIOSH NIOSH NIOSH OSHA NIOSH			
1.0000 200.0 5000 2.0000 100.0 10.0 NA	0.00252 0.00022 1482 0.00011 0.00000 0.00000 1.68094	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094	Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50% 50%	NIOSH OSHA NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH			
1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0	0.00252 0.00022 1482 0.00011 0.00000 0.00000 1.68094 0.00000	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000	Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50% 0%	NIOSH OSHA NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NA NIOSH			
1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0	0.00252 0.00022 1482 0.00011 0.00000 0.00000 1.68094 0.00000 0.00080	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015	Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50% 0% 0%	NIOSH OSHA NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NA NIOSH OSHA			
1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0	0.00252 0.00022 1482 0.00011 0.00000 0.00000 1.68094 0.00000 0.00080 0.00998	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015 0.00998	Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50% 0% 0% 50%	NIOSH OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH			
1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000	0.00252 0.00022 1482 0.00011 0.00000 0.00000 1.68094 0.00000 0.00080 0.00998 0.00000	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015 0.00998 0.00000	Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50% 0% 0% 50%	NIOSH OSHA NIOSH NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA			
1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000	0.00252 0.00022 1482 0.00011 0.00000 0.00000 1.68094 0.00000 0.00080 0.00998 0.00099	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015 0.00998 0.00000 0.00000	Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50% 0% 0% 50% 50%	NIOSH OSHA NIOSH NIOSH OSHA NIOSH NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA OSHA			
1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000 100.0000	0.00252 0.00022 1482 0.00011 0.00000 0.00000 1.68094 0.00000 0.00080 0.00998 0.00099 0.00000 0.00037 0.00534	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015 0.00998 0.00000 0.00005 0.00005	Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50% 0% 0% 0% 0% 50% 5	NIOSH OSHA NIOSH NIOSH OSHA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH			
1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.0000	0.00252 0.00022 1482 0.00011 0.00000 0.00000 1.68094 0.00000 0.00080 0.00998 0.00099	0.00985 0.00035 0.00007 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00015 0.00998 0.00000 0.00000	Yes	0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 0% 50% 50% 50% 0% 0% 50% 50%	NIOSH OSHA NIOSH NIOSH OSHA NIOSH NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA OSHA			
	0.8 Sedentary B Constant Constant	O.8 Sedentary B Constant Constant Steady State Using the VRP* (PPM) (PPM) Plasma Off 100.0 0.01113	Sedentary B Constant Constant Constant Steady State Using the VRP* (PPM) (Prescribed OA) Plasma Off Plasma On 100.0 Positive Constant Occupied Zone e, N, C, B Fr (Vr + Vo) Steady State Using the VRP* Using the IAQ Method (Reduced OA) Plasma Off Plasma On 0.00152	O.8 Sedentary B Constant Constant Constant Steady State Using the VRP* (PPM) (PPM) Plasma Off 100.0 100.0 4000 Steady State Pr (Vr + Vo) Steady State Using the VRP* (Prescribed OA) Plasma Off Plasma On 100.0 4000 Steady State Using the VRP* Using the IAQ Method (Reduced OA) Plasma On 100.0 0.00152 Yes	Sedentary B Constant Constant Steady State Using the VRP* (Prescribed OA) Plasma Off Plasma On 100.0 Steady State Using the VRP* (PPM) Plasma Off Plasma On 100.0 Vo.,Co. Er B 4000 3000 2000 1482 1000 0 1 2 Contaminant Generation Generation (Reduced OA) OA Levels? Rate (PPM) 100.0 0.00152 Yes 0.00032	Sedentary B Constant Constant Constant Steady State Using the VRP* (PPM) (PPM) Using the VRP* (Prescribed OA) Plasma Off Plasma On Plasma Off Plasma On 100.0 1	Sedentary B Constant Contaminant Generation (Prescribed OA) (Prescribed OA) Plasma Off Plasma On Plasma On Contaminant Generation Rate (PPM) Filtration Cognizant Authority*** Authority*** Authority***	Sedentary B Constant Constant Constant Steady State Using the VRP* (PPM) (PPM) Plasma Off Plasma Off 100.0 100.0 100.0 Sedentary Steady State Using the VRP* (Prescribed OA) Plasma Off Plasma On 100.0 Sedentary Steady State Using the IAQ Method (Reduced OA) Plasma Off Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma Off Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma Off Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On Plasma On 100.0 Steady State Using the IAQ Method (Reduced OA) Plasma On 100.0 Steady State Using the IAQ Method Acceptable at Reduced Generation Filtration Cognizant Authority*** Authority***	3 = C02 Level at IAQ Procedure OA Sedentary B Constant Constant Constant Constant Steady State Using the VRP* (PPM) (PPM) 100.0 100.

				Zone	Table 6.1				Table 6.2	Outdoor Air t
				Max	OA per	Table 6.1	Pz * Rp	Az * Ra	Ventilation	Zone (CFM) wi
			Zone Floor Area (square ft)	Occupancy	Occupant	cfm/ft2			Effectiveness	Ez correction
Zone Tag	Facility Type	Zone Use	Az	Pz	Rp	Ra	Pz * Rp	Az * Ra	Ez	(Vbz/Ez)
106 - EXERCISE/WEIGHTS	General	Health Club/Aerobics Room	425.0	6.0	5.0	0.06	30	26	0.8	69
100 EXERCISE, WEIGHTS	Ceneral	Ticatai ciasyriciosios noom	12010		5.0	0.00		20	0.0	OA required per
Cone Height (feet)	12	(1-R)V _r								or troquired por
Desired Outside Air (Vo) IAQP	30	(1-R)V _r			Carbon dio	oxide**		***OSHA, NIOSH	& WHO most cor	nservative values us
Supply Air (Vs)	580			6000 -					c.gov/niosh/npg/np	
Return Air (Vr)	550	E _f A			5000			1 = ASHRAE & I	VIOSH C02 Limit	
Recirc. Flow Factor (R)	0.95	RV,		V _r 5000 -				2 = C02 Level at	Ventilation Rate O	A Flow Rate
/entilation Effectiveness (Ez)	0.8	V. C		4000 -				3 = C02 Level at	IAQ Procedure OA	A Flow Rate
evel of Physical Activity	Sedentary	Er	В	3000 -		2590				I for reference only
Filter Location	B	F _r ($(V_r + V_o)$						nas been provided nand control ventila	
HVAC Flow Type	Constant	⊣		2000 -	1294	II Cook on	dioxide**		ational Research C	
Outdoor Air Flow Type	Constant	-	Occupied Zone	1000 -		= Carbon	dioxide		y the US Navy to p	
		_	e, N, C _s	0 -					nt of concern when	
								purification to cor	ntrol the other cont	taminants
					1 2	3			ntrol the other cont und on submarines	
					1 2	3				
Indoor Contaminants	1	Steady State	Steady State	Is Steady State Level	1 2	3				
Indoor Contaminants Generated By People	Maximum Threshold Value	Steady State Using the VRP*	Steady State Using the IAQ Method		Contaminant	3 Filtration	Cognizant			
	Maximum Threshold Value (PPM)	1	-	Is Steady State Level	Contaminant Generation Rate	<u> </u>	Cognizant Authority***		und on submarines	
Generated By People		Using the VRP*	Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced	Contaminant Generation	Filtration Effectiveness			und on submarines	
Generated By People	(PPM) 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112	Using the IAQ Method (Reduced OA) Plasma On 0.00055	Is Steady State Level Acceptable at Reduced OA Levels? Yes	Contaminant Generation Rate (PPM) 0.00032	Filtration Effectiveness	Authority*** OSHA		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone	(PPM) 100.0 250.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433	Filtration Effectiveness 50% 50%	Authority*** OSHA NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia	(PPM) 100.0 250.0 25.00	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210	Filtration Effectiveness 50% 50% 50%	Authority*** OSHA NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene	(PPM) 100.0 250.0 25.00 1.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015	Filtration Effectiveness 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK)	(PPM) 100.0 250.0 25.00 1.0000 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088	Filtration Effectiveness 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene P- Butanone (MEK) Carbon dioxide**	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088	Filtration Effectiveness 50% 50% 50% 50% 50% 0%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene P- Butanone (MEK) Carbon dioxide**	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003	Filtration Effectiveness 50% 50% 50% 50% 50% 60% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene - Butanone (MEK) Carbon dioxide** Chloroform Dioxane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.000088 292 0.00003 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH OSHA		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene P- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.000088 292 0.00003 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000 0.00000 1.68094	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000 0.00000 1.68094	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.000088 292 0.00003 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol	(PPM) 100.0 250.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000 0.00000 1.68094 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000 0.00000 1.68094 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene P- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000 0.00000 1.68094	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000 0.00000 1.68094	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.000088 292 0.00003 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000 0.00000 1.68094 0.00000 0.00000 0.00000 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000 0.00000 1.68094 0.00005	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH OSHA		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000 0.00000 1.68094 0.00000 0.00000 0.00078 0.00998	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000 0.00000 1.68094 0.00000 0.00005 0.00005 0.00005 0.000098 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 60% 50% 50% 0% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH NA NIOSH OSHA OSHA OSHA OSHA OSHA OSHA		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene 2- Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methanol Methylene Chloride Propane Fetrachloroethane	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.000 25.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000 0.00000 1.68094 0.00000 0.00008 0.00078 0.00998 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000 0.00000 1.68094 0.00000 0.00005 0.00998 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 50% 50% 50	Authority*** OSHA NIOSH NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA		und on submarines	
Generated By People & From Outdoors Acetaldehyde Acetone Ammonia Benzene Butanone (MEK) Carbon dioxide** Chloroform Dioxane Hydrogen Sulfide Methane Methane Methylene Chloride Propane Tetrachloroethane Tetrachloroethylene	(PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 5.000 1000.0	Using the VRP* (Prescribed OA) Plasma Off 0.01112 0.00173 0.01709 0.00252 0.00020 1294 0.00011 0.00000 0.00000 1.68094 0.00000 0.00078 0.00098 0.00000 0.00000 0.00000	Using the IAQ Method (Reduced OA) Plasma On 0.00055 0.00017 0.00358 0.00013 0.00003 2590 0.00001 0.00000 0.00000 1.68094 0.00000 0.00005 0.00005 0.00005 0.000098 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	Filtration Effectiveness 50% 50% 50% 50% 50% 50% 50% 60% 50% 50% 0% 50% 50% 50% 50%	Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH NA NIOSH OSHA OSHA OSHA OSHA OSHA OSHA		und on submarines	



CHECKED JWS SCALE AS NOTED

DATE 09/15/2022

FILE

JOB NO. 22-01 REVISIONS

	1		1	Zone	Table 6.1		1		Table 6.2	Outdoor Air to
				Max	OA per	Table 6.1	Pz * Rp	Az * Ra	Ventilation	Zone (CFM) with
(Quantity) - Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft)	Occupancy	Occupant	cfm/ft2		/ 2 / 1.0	Effectiveness	Ez correction
			Az	Pz	Rp	Ra	Pz * Rp	Az * Ra	Ez	(Vbz/Ez)
(2) - 107 - Health SCR	General	Office Space	118.0	1.0	5.0	0.06	5	7	0.8	15
(2) - 107 - Health 3CK	Gelleral	Office Space	116.0	1.0	3.0	0.00		,	0.0	OA required per VRP
one Height (feet)	12	1								OA required per VRP
Desired Outside Air (Vo) IAQP	5	(1-R)V _r			Carbon die	oxide**		***OSHA NIOSH	4 & WHO most co	nservative values used
Supply Air (Vs)	80								c.qov/niosh/npq/np	
eturn Air (Vr)	75	E _f A		6000 —	5000			1 = ASHRAE &		goyn a.nam
ecirc. Flow Factor (R)	0.94	RV,		V. 5000 -					Ventilation Rate O	A Flow Rate
entilation Effectiveness (Ez)	0.8	V.,C.	7	4000					IAQ Procedure OA	
· · · · · · · · · · · · · · · · · · ·		V _o ,C _o	B			2590				
evel of Physical Activity	Sedentary B	F	$(V_r + V_o)$	3000		2,350				for reference only
ilter Location		-		2000 —	4004	_			nand control ventila	
HVAC Flow Type	Constant	-	Occupied Zone	1000	1084	■ Carbon	dioxide**		ational Research C	
Outdoor Air Flow Type	Constant	J	e, N, C,	1000					y the US Navy to p nt of concern when	
				o +-					ntrol the other cont	
					1 2	3			und on submarines	
								or concern, as io	unu on submannes).
Indoor Contaminants		Steady State	Steady State	Is Steady State Level	Contaminant	1	I	1		
Generated By People	Maximum Threshold Value	Using the VRP*	Using the IAQ Method	Acceptable at Reduced	Generation	Filtration	Cognizant		* = worst case	
& From Outdoors	(PPM)	(Prescribed OA)	(Reduced OA)	OA Levels?	Rate	Effectiveness	Authority***		WOIST CUSC	
a i iom outdoors	(,	Plasma Off	Plasma On	OA Levels:	(PPM)	Lifectiveness	Authority			
Acetaldehyde	100.0	0.01111	0.00066	Yes	0.00032	50%	OSHA	4		
Acetone	250.0	0.00162	0.00020	Yes	0.00433	50%	NIOSH	-		
mmonia	25.00	0.01349	0.00428	Yes	0.14210	50%	NIOSH	1		
Benzene	1.0000	0.00252	0.00015	Yes	0.00015	50%	OSHA	1		
- Butanone (MEK)	200.0	0.00017	0.00003	Yes	0.00088	50%	NIOSH	1		
arbon dioxide**	5000	1084	2590	Yes	292	0%	NIOSH	1		
hloroform	2.0000	0.00011	0.00001	Yes	0.00003	50%	NIOSH	7		
ioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA			
ydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH			
lethane	NA	1.68094	1.68094	Yes	0.00000	0%	NA			
Nethanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH			
lethylene Chloride	25.0	0.00076	0.00006	Yes	0.00080	50%	OSHA	_		
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH			
etrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA	1		
etrachloroethylene	100.0000	0.00037	0.00002	Yes	0.00001	50%	OSHA	4		
oluene	100.0000	0.00533	0.00032	Yes	0.00021	50%	NIOSH	4		
,1,1 - Trichloroethane	350.0000	0.00076	0.00005	Yes	0.00038	50%	NIOSH	4		
ylene	100.0000	0.00230	0.00014	Yes	0.00000	50%	OSHA	_		
	have no VCCs and att gassing is complete		Is IAQ acceptable at reduced							
building materials and furnishings assumed to I	nave no vocs and on-gassing is complete		outside air levels?	Yes						

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
123 - Multi - Purpose Room	General	Multi-purpose Assembly	2,042.0	128.0	5.0	0.06	640	123	0.8	953
one Height (feet) esired Outside Air (Vo) IAQP iupply Air (Vs) eturn Air (Vr) ecirc. Flow Factor (R) entillation Effectiveness (Ez) evel of Physical Activity	12 640 3,800 3160 0.83 0.8 Sedentary B	L	$\begin{bmatrix} \mathbf{B} \\ (\mathbf{V}_r + \mathbf{V}_o) \end{bmatrix}$	6000 5000 4000 3000 2000	5000 1788	2590		http://www.cc 1 = ASHRAE & 2 = C02 Level at 3 = C02 Level at **Carbon dioxide for gathering der	H & WHO most cor c.gov/niosh/npg/np NIOSH C02 Limit Ventilation Rate O IAQ Procedure OA has been provided nand control ventila ational Research O	A Flow Rate A Flow Rate I for reference only tion (DCV)
21	Constant Constant	∃ '	Occupied Zone e, N, C _s	1000	1 2	■ Carbon	dioxide**	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont ound on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors		Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA)		Contaminant Generation Rate		Cognizant Authority***	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont	rove C02 is using air aminants
Outdoor Air Flow Type Indoor Contaminants Generated By People	Constant Maximum Threshold Value (PPM) 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162	Is Steady State Level Acceptable at Reduced OA Levels? Yes	Contaminant Generation Rate (PPM) 0.00032	Filtration Effectiveness	Cognizant Authority***	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone	Maximum Threshold Value (PPM) 100.0 250.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433	Filtration Effectiveness 50% 50%	Cognizant Authority*** OSHA NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia	Maximum Threshold Value (PPM) 100.0 250.0 25.00	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210	Filtration Effectiveness 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015	50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH OSHA	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK)	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088	50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH OSHA NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide**	Constant Maximum Threshold Value (PPM) 100.0 250.0 250.0 1.0000 200.0 5000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292	50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH OSHA NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide**	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003	50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH OSHA NIOSH NIOSH NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide** hloroform ioxane	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000	50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH OSHA NIOSH NIOSH NIOSH OSHA	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene • Butanone (MEK) arbon dioxide** hloroform ioxane ydrogen Sulfide	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 100.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000 0.00000	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.000088 292 0.00003 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene - Butanone (MEK) arbon dioxide** hloroform ioxane ydrogen Sulfide lethane	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 100.0 NA	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000 0.00000 1.68094	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000 0.00000 1.68094	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH OSHA NIOSH NIOSH NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide** holoroform oxane ydrogen Sulfide ethane ethanol	Constant Maximum Threshold Value (PPM) 100.0 250.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 100.0 NA 200.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000 0.00000 1.68094 0.00000	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000 1.68094 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide** holoroform oxane ydrogen Sulfide ethanol ethylene Chloride	Constant Maximum Threshold Value (PPM) 100.0 250.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 100.0 NA 200.0 25.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000 0.00000 1.68094 0.00000 0.000083	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000 0.00000 1.68094 0.00000 0.00001	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH NA	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide** hloroform oxane ydrogen Sulfide ethane ethanol ethylene Chloride opane	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000 0.00000 1.68094 0.00000 0.000083 0.00998	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000 1.68094 0.00000 0.00001 0.00001 0.00016 0.00098	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH OSHA NIOSH	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene Butanone (MEK) arbon dioxide** hloroform ioxane ydrogen Sulfide lethane lethanol ethylene Chloride ropane etrachloroethane	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 25.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000 0.00000 1.68094 0.00000 0.000083 0.00998 0.00000	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000 1.68094 0.00000 0.00001 0.00016 0.00998 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors cetaldehyde cetone mmonia enzene - Butanone (MEK) arbon dioxide** hloroform ioxane ydrogen Sulfide lethanol lethylene Chloride ropane etrachloroethane etrachloroethylene	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 NA 200.0 25.0 1000.0 25.0 1000.0 5.0000	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000 0.00000 1.68094 0.00000 0.00003 0.00098 0.00098 0.00000 0.00000	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000 1.68094 0.00000 0.00001 0.00001 0.00001 0.00001 0.00000 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA OSHA	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants
Indoor Contaminants Generated By People & From Outdoors	Constant Maximum Threshold Value (PPM) 100.0 250.0 25.00 1.0000 200.0 5000 2.0000 100.0 10.0 NA 200.0 25.0 1000.0 25.0	Using the VRP* (Prescribed OA) Plasma Off 0.01114 0.00199 0.02558 0.00253 0.00025 1788 0.00011 0.00000 0.00000 1.68094 0.00000 0.000083 0.00998 0.00000	Steady State Using the IAQ Method (Reduced OA) Plasma On 0.00162 0.00049 0.01049 0.00037 0.00008 2590 0.00002 0.00000 1.68094 0.00000 0.00001 0.00016 0.00998 0.00000	Is Steady State Level Acceptable at Reduced OA Levels? Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Contaminant Generation Rate (PPM) 0.00032 0.00433 0.14210 0.00015 0.00088 292 0.00003 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	50% 50% 50% 50% 50% 50% 50% 50%	Cognizant Authority*** OSHA NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NIOSH NA NIOSH OSHA NIOSH OSHA NIOSH OSHA NIOSH OSHA	commissioned b not a contamina purification to co	y the US Navy to p nt of concern when ntrol the other cont und on submarines	rove C02 is using air aminants

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CHECKED JWS SCALE AS NOTED DATE 09/15/2022

> JOB NO. 22-01







● Dewberry· | ■DMONDS

2 Riverchase Office Plaza Suite 205 Hoover, AL 35244

(205) 988-2069 www.dewberry.com Project Number : 50155636

(3) MOUNT AC-1 ON RETURN AIR PLENUM. PROVIDE ANGLED STEEL FOR FRAMING - SEE DETAIL. CONNECT SA & RA WITH FLEX CONNECTIONS AT UNIT. 125S 125S <u>CU-6</u> 260S IHP-MECH 580R_ 125S 10x14 40x14 18x12 16x12 MD 10x12 10x12 RDS 250S 120S 225S 220S MD IN VERTICAL 225S 225S AC-6 MD 100R₇ // TO 90 OSA. CORRECT 145S 12x10 SR 300 CFM 175S 2008 (2) - 12x10 SR 300 CFM EACH 150S 150S 175S 2008 175S COVERED DROP OFF

KEYED NOTES

(1) EXHAUST DUCT UP THRU ROOF TO RELIEF HOOD.

(2) OUTSIDE AIR DUCT WITH AUTO DAMPER UP THRU ROOF TO INTAKE HOOD.

THOMAS M. McELRATH, ARCHITECT ARCHITECTURE and SPACE PLANNING

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DRAWN RBG CHECKED JWS

SCALE AS NOTED DATE 09/15/2022 FILE

JOB NO. 22-01 REVISIONS

SHEET

-IHP-ELEC

12x12 EXHAUST -LOUVER

DIRECTION.



eighan Boulevard for the

CHECKED JWS SCALE AS NOTED **DATE** 09/15/2022

JOB NO. 22-01



THOMAS M. McELRATH, ARCHITECT ARCHITECT ARCHITECTURE and SPACE PLANNING

2 ROUTE CONDENSATE DRAIN LINE AS HIGH AS POSSIBLE TO JANITORS SINK. ROUTE CONDENSATE DRAIN LINES AS HIGH AS POSSIBLE TO DRAIN BOX (SEE PLUMBING). 4 PROVIDE 4" CONCRETE PAD.

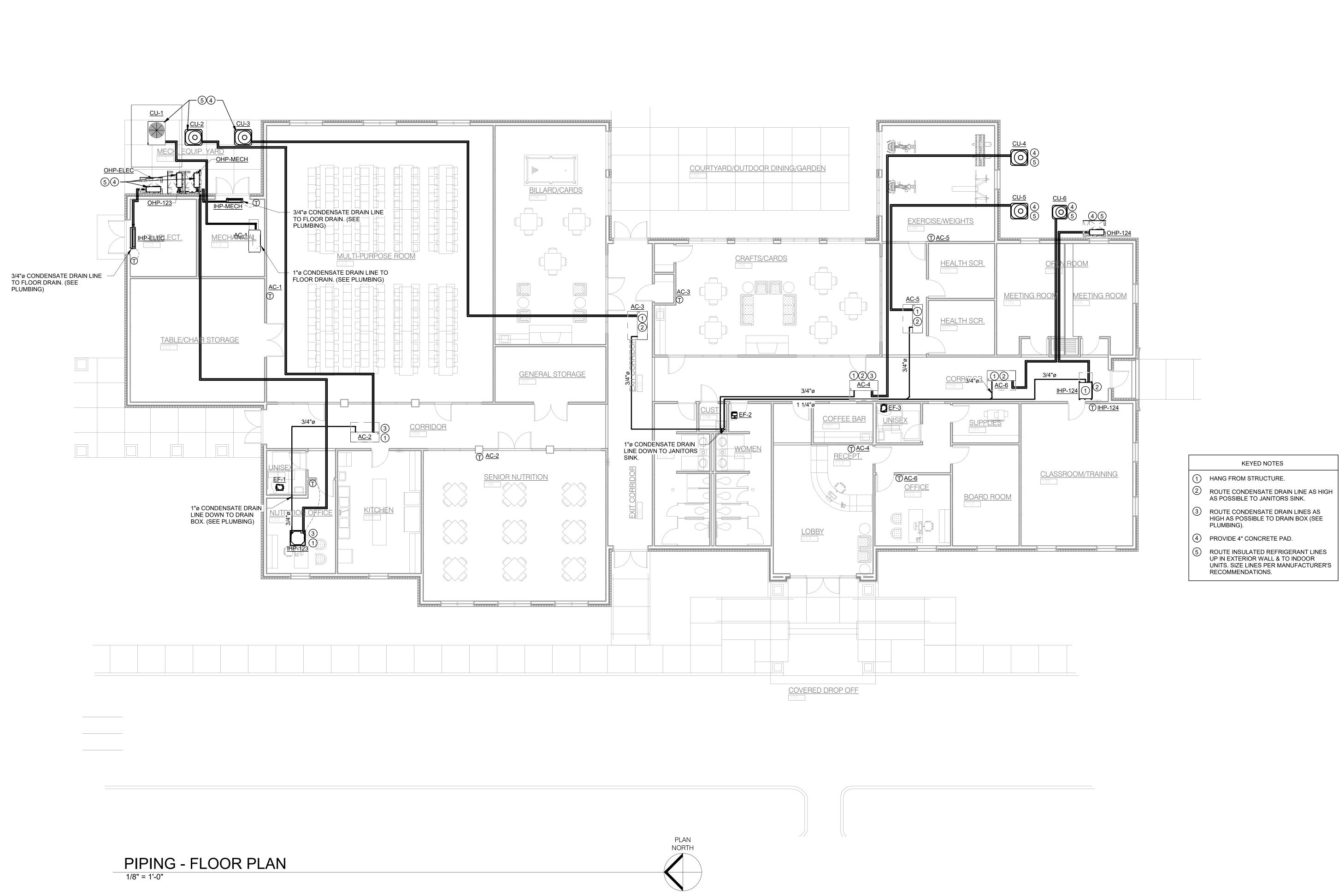
> DRAWN RBG CHECKED JWS SCALE AS NOTED

DATE 09/15/2022

FILE JOB NO. 22-01

REVISIONS

SHEET



ELECTRICAL LEGEND

DRAWN CHECKED

SCALE AS NOTED SEPTEMBER 15, 2022

> JOB NO. 22-01 REVISIONS

LIGHTING

- SURFACE OR RECESSED CEILING OUTLET FIXTURE TYPE '#' CEILING OUTLET - FIXTURE SINGLE OR CONTINUOUS LENGTHS
- CEILING OUTLET FIXTURE SINGLE OR CONTINUOUS LENGTHS CONNECTED TO EMERGENCY INVERTER OR INTEGRAL BATTERY.
- CEILING OUTLET FIXTURE SINGLE OR CONTINUOUS LENGTHS
- CEILING OUTLET FIXTURE SINGLE OR CONTINUOUS LENGTHS CONNECTED TO EMERGENCY INVERTER OR INTEGRAL BATTERY.
- SINGLE SIDE EXIT SIGN WITH DIRECTIONAL CHEVRONS AS SHOWN. BATTERY BACK UP
- DOUBLE SIDE EXIT SIGN WITH DIRECTIONAL CHEVRONS AS SHOWN. BATTERY BACK UP
- CEILING OR WALL MOUNTED EMERGENCY LIGHT, BATTERY BACKUP.
- \Box SITE POLE — POLE MOUNTED

1-POLE, 20A, 125/277V, SEE SPECIFICATIONS

POWER

- POWER PANEL SEE SCHEDULE AND SPECIFICATIONS
- RECESSED MOUNTED POWER PANEL SEE SCHEDULE AND SPECIFICATIONS, PROVIDE 4 EA. 1" EMPTY CONDUIT TO ABOVE CEILING FOR FUTURE USE.
- TRANSFORMER SEE SCHEDULE AND SPECIFICATIONS, 80°C RISE, FLOOR MOUNTED ON FACTORY
- MOTOR-HORSEPOWER AS SHOWN (HP) HORSEPOWER (TYPICAL)
- FAN CEILING/INLINE/ROOF MOUNTED EXHAUST FAN
- FUSIBLE PULLOUT TYPE DISCONNECT SWITCH SEE SPECIFICATIONS FOR IDENTIFICATION.
- FUSED DISCONNECT SWITCH 600V HEAVY DUTY TYPE, RATING AND ENCLOSURE AS SHOWN. SEE SPECIFICATIONS FOR IDENTIFICATION. FURNISH AND INSTALL NAME PLATES PER DETAIL. FUSE PER EQUIPMENT MANUFACTURER.
- NON-FUSED DISCONNECT SWITCH 600V HEAVY DUTY TYPE, RATING AND ENCLOSURE AS SHOWN. SEE SPECIFICATIONS FOR IDENTIFICATION. FURNISH AND INSTALL NAME PLATES
- CIRCUIT BREAKER WITH ENCLOSURE (BREAKER SIZE AS INDICATED) 600V RATING AND ENCLOUSURE AS SHOWN - SEE SPECIFICATIONS. FOR IDENTIFICATION. FURNISH AND INSTALL
- MANUAL MOTOR STARTER HORSEPOWER RATED, WITH THERMAL OVERLOAD UNITS AND ENCLOSURE CONSISTENT WITH ENVIRONMENT.
- VARIABLE FREQUENCY DRIVE FURNISHED BY MECHANICAL SEE PLANS
- HAND DRYER, EXCEL MODEL# XLERATOR OR MACHFLOW MODEL# M09**-UL (OR PRE-APPROVED EQUAL), 120 VAC, STAINLESS STEEL FINISH, MOUNTED ON 4" SQUARE BOX WITH SINGLE GANG RAISED COVER HEIGHT PER ADAAG LATEST EDITION.
- STUB UP TO PRE-WIRED FURNITURE. CONCEAL CONDUCTORS IN CHASE OF FURNITURE. COORDINATE WITH APPROVED FURNITURE SUBMITTALS PRIOR TO ANY/ALL ROUGHING.
- JUNCTION BOX WITH FLEXIBLE CONNECTION TO EQUIPMENT. SEE PLANS.
- CEILING MOUNTED JUNCTION BOX. SEE PLANS.
- WALL MOUNTED JUNCTION BOX. SEE PLANS.
- EMERGENCY GAS SHUT-OFF, SEE PLANS AND DETAILS.
- JUNCTION BOX WITH FLEXIBLE CONNECTION TO DOOR CONTROLLER OR MOTORED DOOR OPERATOR; 120V

HOMERUN TO PANELBOARD - #10 AWG WIRE WITH NEC CODE AND CONDUIT PER NEC

- HOMERUN TO PANELBOARD ANY CIRCUIT, WITHOUT FURTHER DESIGNATION IS 2 NO. 12, 1#12 GRN, 3/4" C. 4 NO. 12, 1#12 GRN, 3/4" C. 6 NO. 12, 1#12 GRN, 3/4" C. AS PER N.E.C.
- BRANCH CIRCUIT ROUTED ABOVE CEILING OR IN WALL (SEE SPECIFICATIONS)
 - BRANCH CIRCUIT ROUTED IN FLOOR (SEE SPECIFICATIONS) BRANCH CIRCUIT - EXPOSED (SEE SPECIFICATIONS).
- EMPTY CONDUIT WITH NO. 14 IRON FISH WIRE
 - FEEDER OVERHEAD FEEDER - UNDERGROUND

RECEPTACLES

- DUPLEX RECEPTACLE, NEMA 5-20R, SEE SPECIFICATIONS.
- DUPLEX RECEPTACLE, NEMA 5-20R, SEE SPECIFICATIONS. COORDINATE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGHING.
- DUPLEX RECEPTACLE, NEMA 5-20R, WR GROUND FAULT INTERRUPTER IN METAL BOX WITH METAL IN-USE TYPE COVER
- DUPLEX RECEPTACLE, 15A., 125V., 2 POLE, 3W., NEMA 5-15R, WITH TWO USB CHARGING
- DUPLEX RECEPTACLE, NEMA 5-20R, SELF TEST GROUND FAULT INTERRUPTER, FEED-THRU.
 - QUADRAPLEX, NEMA 5-20R WITH SINGLE PLATE.
- QUADRAPLEX, NEMA 5-20R WITH SINGLE PLATE. COORDINATE MOUNTING HEIGHTS WITH
- WALL OUTLET SINGLE OUTLET, SEE PLANS FOR NEMA CONFIGURATION. VERIFY NEMA
- CONFIGURATION WITH OWNER PRIOR TO ANY/ALL ORDERING. WALL OUTLET - NEMA 5-20R, CONNECTION FOR UNDER COUNTER REFRIGERATOR, COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS.

AUXILIARY

- DATA OUTLET (NUMBER OF DATA AS INDICATED) WALL MOUNTED SEE DETAIL. COORDINATE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO KOUGHING.
- EMPTY AUXILIARY OUTLET WALL MOUNTED SEE DETAIL
- WAP DATA OUTLET (FOR WIRELESS ACCESS POINT) SEE DETAIL

INCLUDE ALL HARDWARE AS REQUIRED FOR MOUNTING.

CONTRACTOR AND PER MANUFACTURER'S RECOMMENDATIONS.

- WALL-MOUNTED DISPLAY LOCATION. VERIFY HEIGHT WITH ARCHITECTURAL ELEVATIONS PRIOR TO ANY ROUGH-IN. FURNISH AND INSTALL ONE (1) EACH FLUSH MOUNTED SINGLE GANG BOX. FURNISH AND INSTALL SINGLE GANG FACEPLATE WITH TWO (2) EACH RJ45 JACKS AND ONE (1) EACH 'F' CONNECTOR. ROUTE TWO (2) EACH CAT6 CABLES AND ONE (1) EACH RG6 CABLE (IN 1"C) FROM OUTLET TO NEAREST CABLE TRAY/ AUXILIARY BACKBOARD. TERMINATE CAT6 CABLES ON PATCH PANES AS REQUIRED. PIGTAIL COAX FOR CONNECTION TO SPLITTER.
- SLEEVE SIZE CONDUIT SLEEVE FOR LOW-VOLTAGE CABLING. FIRST NUMBER INDICATES SLEEVE QUANTITY, SECOND NUMBER INDICATES SLEEVE SIZE. ALL FIRE RATED PENETRATIONS SHOWN WITH 2" OR 4" SLEEVES SHALL
 - INCLUDE WIREMOLD FLAMESTOPPER. CAULK, WOOL AND PUTTY WILL NOT BE ACCEPTABLE FIRE RATED SEALS FOR 2" AND 4" SLEEVES -CT- WIRE BASKET CABLE TRAY SHALL BE CABLOFIL# CF105/ 150 6"W, 4"D AND SHALL BE CENTER HUNG.
 - ACCESS CONTROL DOOR CARD READER. FURNISH AND INSTALL SURFACE MOUNTED CARD READER (ISONAS# RC-04) ON NON-SECURE SIDE OF DOOR AND CONNECT TO ACCESS CONTROL SYSTEM AS REQUIRED. FURNISH AND INSTALL ONE EACH CAT6 CABLE IN 1"C FROM READER TO BB113. COORDINATE WITH DOOR HARDWARE AND CONNECT TO ACCESS CONTROL SYSTEM AS REQUIRED FOR DOOR RELEASE. SEE PLANS, SPECS AND GENERAL NOTES. CABLING TO BE ROUTED IN CONDUIT IN NEW WALL OF MECHANICAL ROOM. EQUIPMENT TO BE INSTALLED AND CONNECTED BY MANUFACTURER'S CERTIFIED
 - DM DOOR MONITOR. FURNISH AND INSTALL DOOR CONTACTS (SECURITRON# DPS-=M-BK) AT DOOR AND CONNECT TO ACCESS CONTROL SYSTEM AS REQUIRED. EACH INDIVIDUAL DOOR CONTACT SHALL BE CONNECTED TO A DEDICATED INPUT AT THE ACCESS CONTROL PANEL. SEE PLANS, SPECS AND GENERAL
 - HANDICAP DOOR OPERATOR FURNISHED AND INSTALLED BY OTHERS WITH FINAL CONNECTIONS BY ELECTRICAL CONTRACTOR. POWER FOR OPERATOR TO BE SWITCHED BY "HS". SEE "HS" IN LEGEND.
 - HS HANDICAP DOOR OPERATOR SWITCH. FURNISH AND INSTALL FLUSH MOUNTED 4" SQUARE BOX WITH SINGLE GANG RAISED COVER AND MOTOR RATED SWITCH. 120V POWER FOR DOOR OPERATOR "HO" TO BE CONTROLLED BY MOTOR RATED SWITCH. PROVIDE ENGRAVED FACEPLATE INDICATING "ON", "OFF" AND LOAD SERVED. VERIFY EXACT LOCATION WITH OWNER/ ARCHITECT PRIOR TO ANY ROUGH-IN.
 - SB WIRELESS PUSHBUTTON FOR HANDICAP DOOR OPERATOR (SECURE SIDE OF DOOR). FURNISH AND INSTALL FLUSH MOUNTED 4" SQUARE BOX WITH PLASTER RING AS REQUIRED. PUSHBUTTON TO BE FURNISHED AND INSTALLED BY OTHERS.
 - MB WIRELESS PUSHBUTTON FOR HANDICAP DOOR OPERATOR (NON-SECURE SIDE OF DOOR). FURNISH AND INSTALL FLUSH MOUNTED 4" SQUARE BOX WITH PLASTER RING AS REQUIRED. PUSHBUTTON TO BE FURNISHED AND INSTALLED BY OTHERS.
 - RB REMOTE RELEASE PUSHBUTTON FOR DOOR LOCK REMOTE RELEASE. FURNISH AND INSTALL FLUSH MOUNTED 4" SQUARE BOX WITH SINGLE-GANG PLASTER RING AND PUSHBUTTON FOR REMOTE DOOR RELEASE. PROVIDE ENGRAVED PLATE INDICATING CONTROL FUNCTION. VERIFY LOCATION AND MOUNTING TYPE WITH OWNER/ ARCHITECT PRIOR TO ROUGH-IN. CONNECT BUTTON TO ACCESS CONTROL SYSTEM AS REQUIRED TO RELEASE DOOR NOTED WITH "RR". SEE "RR" IN LEGEND.
 - RR REMOTE RELEASE FOR DOOR LOCK. CONNECT BUTTON TO ACCESS CONTROL SYSTEM AS REQUIRED TO RELEASE DOOR NOTED WITH DEPRESSION OF "RB" BUTTON. SEE "RB" IN LEGEND.
 - ▼ CC) VIDEO SURVEILLANCE CAMERA CEILING MOUNTED SEE DETAILS
- → (CW) VIDEO SURVEILLANCE CAMERA WALL MOUNTED SEE DETAILS

4" ABOVE COUNTER-2" ABOVE BACKSPLASH -----

TYPICAL MOUNTING HEIGHTS NOT TO SCALE

- 1. INDICATED MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO BOTTOM OF OUTLET BOX, UNLESS OTHERWISE NOTED.
- 2. REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL REQUIREMENTS.
- 3. INSTALL OUTLETS THAT ARE IN CLOSE PROXIMITY ON THE SAME CENTERLINE.
- 4. INDICATED DEVICES MOUNTED IN A BLOCK WALL SHALL BE 4'-0" TO TOP OF COVER PLATE.

FIRE ALARM

- FIRE ALARM CONTROL PANEL NOTIFIER NFS320E INTELLIGENT ADDRESSABLE FIRE DETECTION CONTROL PANEL WITH STAND-BY BATTERY SURFACE MOUNTED AT 5'-0" TO CENTERLINE
 - FURNISH AND INSTALL INTEGRAL VOICE EVACUATION
 - PROVIDE FACTORY INSTALLED BATTERY BACKUP AND FACTORY INSTALLED SURGE SUPPRESSION DEVICE IN FACP.
 - CONTRACTOR SHALL PROVIDE COMPLETE, INDEPENDENT 2EA. CAT5E TELEPHONE LINE FROM AUXILIARY BACKBOARD/ MDF: BB1 TO FIRE ALARM CONTROL PANEL. CATSE SHALL BE ROUTED IN 3/4" EMT CONDUIT FROM POINT "A" TO POINT "B" AND TERMINATED AS REQUIRED BY FIRE ALARM TECHNICIAN.
 - FURNISH AND INSTALL INTEGRAL WEB SERVER ACCESS CARD.
 - FURNISH AND INSTALL POINT ID CELLULAR DIALER FOR PRIMARY AND BACK-UP AT FACP.
 - REMOTE FIRE ALARM ANNUNCIATOR PANEL NOTIFIER AFP100 IN FLUSH MOUNTED SERIES BOX. PROVIDE REMOTE MICROPHONE ADJACENT O ANNUNCIATOR IN SAME FLUSH MOUNTED BOX.
 - MANUAL PULL STATION EDWARDS MODEL E85001-0279 W/ FLUSH MOUNTED BACKBOX (4" SQUARE BOX WITH SINGLE GANG RAISED COVER) MOUNTED @ + 44" A.F.F. TO BOTTOM.
 - FIRE ALARM STROBE EDWARDS MODEL GCF-VM CEILING MOUNTED ON FLUSH 4" SQUARE BOX WITH 1-1/2" EXTENSION RING
 - FIRE ALARM SPEAKER STROBE EDWARDS MODEL GCF-52VM CEILING MOUNTED ON FLUSH 4" SQUARE BOX WITH 1-1/2" EXTENSION
- WEATHERPROOF FIRE ALARM HORN STROBE EDWARDS MODEL 4WGWF-SVMC WALL MOUNTED ON FLUSH 4" SQUARE BOX @ +144 INCHES (12') AFG
- SMOKE DETECTOR EDWARDS MODEL E85001-0651 WITH BASE/CEILING MOUNTED ON FLUSH 4" SQUARE BOX
- DUCT DETECTOR (S=SUPPLY AIR R= RETURN AIR) EDWARDS MODEL E85001-0584 W/ SAMPLING TUBE & RELAY FURNISHED BY FIRE ALARM CONTRACTOR, INSTALLED IN DUCT BY MECHANICAL, FINAL CONNECTIONS BY FIRE ALARM CONTRACTOR.
 - HEAT DETECTOR EDWARDS MODEL E85001-0620 WITH BASE/CEILING MOUNTED ON FLUSH 4" SQUARE BOX
- FLOW SWITCH MONITOR MODULE EDWARDS MODEL GSA-CT1. FLOW SWITCH FURNISHED AND INSTALLED BY OTHERS, MODULE FURNISHED AND INSTALLED BY FIRE ALARM CONTRACTOR. CONNECT TO FACP AS A SEPARATE ZONE.
- TAMPER SWITCH MONITOR MODULE EDWARDS MODEL GSA-CT1 TAMPER SWITCH FURNISHED AND INSTALLED BY OTHERS, MODULE FURNISHED AND INSTALLED BY FIRE ALARM CONTRACTOR. CONNECT TO FACE AS REQUIRED.
- REMOTE TEST STATION (KEY OPERATED) KEY BOX TYPE, FLUSH MOUNTED, HEIGHT CONDUIT AND WIRE TO DUCT DETECTOR AS REQUIRED. PROVIDE FINAL CONNECTIONS AS REQUIRED
- WIRE GUARD W/ TAMPER PROOF SCREWS REQUIRED IN GYM, AUXILIARY GYM, AND WHERE SHOWN
- F FIRE ALARM CONDUIT & WIRE SEE FIRE SYSTEM NOTES.
- ZAM ZONE ADDRESSABLE MODULE, MONITOR (INPUT TO FIRE ALARM PANEL FROM A DEVICE OR SYSTEM)
- ZAM ZONE ADDRESSABLE MODULE, CONTROL (OUTPUT FROM FIRE ALARM PANEL TO A DEVICE OR SYSTEM)
- R INTERPOSING RELAY FOR USE WITH CONTROL ZAM, 20 AMP CONTACTS

FIRE ALARM SYSTEM NOTES

- 1. FIRE ALARM CONTRACTOR TO INCLUDE IN BID PRICE REQUIRED PROGRAMMING SERVICES SUCH THAT THE FINAL ROOM NUMBERS (PER THE APPROVED OWNERS SIGNAGE SCHEME) FOR EACH F.A. SYSTEM DEVICE SUCH THAT ALARMS AND DEVICE LOCATIONS MATCH BUILDING SIGNAGE.
- 2. FIRE ALARM SUB-CONTRACTOR TO FURNISH POINT TO POINT WIRING DIAGRAM BY THE FIRE ALARM MANUFACTURER WITH FIRE ALARM SYSTEM SUBMITTALS. POINT TO POINT WIRING DIAGRAMS SHALL INCLUDE ALL WIRING INFORMATION AND CONDUIT SIZES. REQUIRED WIRING DIAGRAMS SHALL BE FURNISHED WITH THE ELECTRICAL SUBMITTAL PACKAGE, SUBMITTAL PACKAGES WITHOUT THESE DRAWINGS AND THE REQUIRED MAINTENANCE AND EXPANSION INFORMATION (SEE SPECIFICATIONS) WILL NOT BE ACCEPTED.
- 3. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WIRING REQUIREMENTS WITH THE FIRE ALARM SYSTEM SUBCONTRACTOR PRIOR TO BIDDING AND/OR ROUGHING. FURNISH AND INSTALL ALL REQUIRED 120V. CIRCUITS FOR AMPLIFIERS, FIELD CHARGING PANELS, RELAY PANELS, ETC...
- 4. ALL FIRE ALARM CABLING SHALL BE INSTALLED CONCEALED IN CONDUIT, 3/4" MINIMUM (NO EXCEPTIONS). ALL FIRE ALARM CONDUITS SHALL BE RED TRUE COLOR EMT AS MANUFACTURED BY ALLIED TUBE AND CONDUIT.
- 5. FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND INSTALL REMOTE TEST STATION(S) FOR ALL DUCT MOUNTED SMOKE DETECTORS. THESE STATIONS SHALL BE LABELED WITH THE DEVICE NUMBER AND THE UNIT NUMBER. THE REMOTE TEST STATION(S) SHALL BE LOCATED IN AN ACCESSIBLE LOCATION.
- 6. THE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATIONS FOR ALL FIRE PROTECTION SYSTEM VALVES WITH THE FINAL FIRE PROTECTION SYSTEM PLANS PRIOR TO BIDDING AND/OR ROUGHING. AT EACH CONTROL VALVE, THE CONTRACTOR SHALL PROVIDE FIRE ALARM SYSTEM CONNECTIONS TO THE FLOW AND TAMPER SWITCHES (FURNISHED AND INSTALLED BY OTHERS).
- 7. DUCT MOUNTED SMOKE DETECTORS FURNISHED BY THE ELECTRICAL CONTRACTOR. AND INSTALLED BY THE MECHANICAL CONTRACTOR LOCATIONS SHOWN ARE FOR REFERENCE ONLY. COORDINATE EXACT LOCATION WITH THE MECHANICAL PLANS AND FINAL CONNECTIONS BY FIRE ALARM CONTRACTOR. PROVIDE ALL EQUIPMENT REQUIRED FOR SHUTDOWN OF THE UNITS BY THE FIRE ALARM CONTROL PANEL AS REQUIRED.
- 8. CONTRACTOR SHALL PROVIDE WITH THE FIRE ALARM SUBMITTAL PACKAGE THE FOLLOWING INFORMATION PER IBC 2015:
- COPY OF STATE OF ALABAMA FIRE ALARM CONTRACTOR LICENSE/PERMIT LOCATION OF ALARM INITIATING DEVICES
- CONDUCTOR TYPES AND SIZES AND TERMINATING EQUIPMENT
- MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT DEVICES AND MATERIALS 9. THE NEW FIRE ALARM SYSTEMS WILL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES:
- INTERNATIONAL BUILDING CODE 2015
- INTERNATIONAL FIRE CODE 2015
- NFPA 72 2013 ALL REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION
- 10. THE CERTIFIED FIRE ALARM ACT REQUIRES THAT EVERY BUSINESS WHO INSTALLS FIRE ALARM SYSTEMS IN COMMERCIAL OCCUPANCIES MUST BE LICENSED AS A CERTIFIED FIRE ALARM CONTRACTOR. THE CONTRACTOR MUST HAVE A NICET LEVEL III TECHNICIAN IN A POSITION OF RESPONSIBILITY, AND THE LICENSE WILL BE ISSUED IN THE NAME OF THE CERTIFICATE HOLDER AND THE CONTRACTOR. THE CERTIFIED FIRE ALARM ACT ALSO REQUIRES THAT TECHNICIANS WORKING FOR THE CERTIFIED CONTRACTOR MUST HOLD A CURRENT NICET LEVEL II, OR EQUIVALENT, CERTIFICATION. CONTRACTORS TO SHOW EVIDENCE WITH SUBMITTAL PACKAGE THAT HE/SHE MEETS THE CERTIFICATION REQUIREMENTS OF THE ACT AND HOLDS A PERMIT ISSUED BY THE STATE FIRE MARSHALL.
- 11. THE FIRE DETECTION AND ALARM SYSTEM CONTROLS CONTRACTOR SHALL HOLD A PERMIT FROM THE ALABAMA STATE FIRE MARSHAL. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE A COPY OF THE STATE FIRE MARSHAL'S PERMIT TO THE GENERAL CONTRACTOR SO THAT THE ENGINEER MAY REVIEW THE CONTRACTOR'S QUALIFICATIONS PRIOR TO ANY WORK TAKING PLACE. SEE SPECIFICATIONS SECTION 266520A. APPENDIX FOR COPY OF STATE REQUIREMENTS FOR FIRE ALARM CONTRACTORS DESIRING TO BID THIS PROJECT.

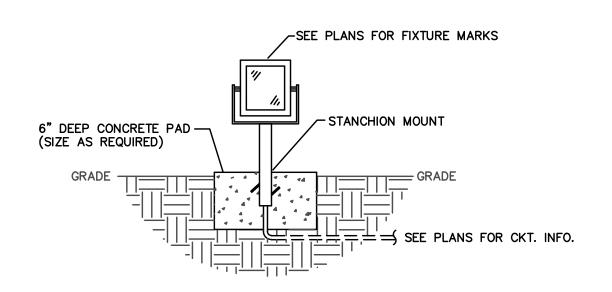
SPECIAL FIRE ALARM NOTE:

NEW FIRE ALARM SYSTEM (FIRE ALARM CONTROL PANEL, FIRE ALARM DEVICES, FIRE ALARM CABLING, FIRE ALARM SYSTEM SET-UP AND PROGRAMMING) TO BE FURNISHED AND INSTALLED BY OWNER'S STATE CERTIFIED FIRE ALARM CONTRACTOR, NOT IN CONTRACT. ALL ROUGH-IN FOR NEW FIRE ALARM SYSTEM TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNDER PROJECT BID. OWNER'S FIRE ALARM CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ROUGH-IN AND POWER REQUIREMENTS. NEW FIRE ALARM SYSTEM TO BE INSTALLED CONCURRENT WITH OTHER RENOVATION WORK. NEW FIRE ALARM SYSTEM FOR RENOVATED BUILDINGS WILL BE MONITORED SEPARATELY FROM AND OPERATE INDEPENDENTLY OF ANY OTHER FIRE ALARM SYSTEMS ON CAMPUS.

LUMINAIRE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	#LAMPS	LAMPS LUMENS/WATTS	TYPE	MO TYPE	UNTING RECESS DEPTH	REMARKS	EQUALS
LA2	ACUITY BRANDS	CPX 2X2 ALO7 SWW6	1	3356L/29W (NOMINAL)	LED	RECESSED		2X2 RECESSED FLAT PANEL, WITH 0-10V DIMMING. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVEI
L2	ACUITY BRANDS	CPX 2X2 ALO7 SWW7	1	3356L/29W (NOMINAL)	LED	RECESSED	3-1/4"	2X2 RECESSED FLAT PANEL, WITH 0-10V DIMMING. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVEI
L2E	ACUITY BRANDS	CPX 2X2 ALO7 SWW7 ILBLP CP10 HE SD A	1	3356L/29W (NOMINAL)	LED	RECESSED	3-1/4"	2X2 RECESSED FLAT PANEL, WITH 0-10V DIMMING. FIXTURE FURNISHED WITH INTEGRAL BATTERY. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
L4	ACUITY BRANDS	CPX 2X4 ALO8 SWW7	1	6050L/50W (NOMINAL)	LED	RECESSED	1 3-1/A"	2X4 RECESSED FLAT PANEL, WITH 0-10V DIMMING. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
L4E	ACUITY BRANDS	CPX 2X4 ALO8 SWW7 ILBLP CP10 HE SD A	1	4469L/36W (NOMINAL)	LED	RECESSED		2X4 RECESSED FLAT PANEL, WITH 0-10V DIMMING. FIXTURE FURNISHED WITH INTEGRAL BATTERY. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
LA4	ACUITY BRANDS	2BLT4 72L ADP LP835 MVOLT GZ10	1	7200L/53W (NOMINAL)	LED	RECESSED		2X4 RECESSED VOLUMETERIC, WITH 0-10V DIMMING. FIXTURE FURNISHED WITH INTEGRAL BATTERY. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
LA4E	ACUITY BRANDS	2BLT4 72L ADP LP835 MVOLT GZ10 EL14L	1	7200L/53W (NOMINAL)	LED	RECESSED	3-1/4"	2X4 RECESSED VOLUMETERIC, WITH 0-10V DIMMING. FIXTURE FURNISHED WITH INTEGRAL BATTERY. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
LS4	ACUITY BRANDS	CLX L48 3000LM SEF RDL WD MVOLT GZ10	1	3000L/30W (NOMINAL)	LED	SURFACE	l	4FT STRIP FIXTURE, LENSED, WITH 0-10V DIMMING. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
С6Н	ACUITY BRANDS	LDN6 35/30 L06AR LSS MVOLT GZ10	1	3000L/35W (NOMINAL)	LED	RECESSED	6-1/2"	6" DIA RECESSED DOWNLIGHT, WITH 0-10V DIMMING. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
C6HE	ACUITY BRANDS	LDN6 35/30 L06AR LSS MVOLT GZ10 EL	1	3000L/35W (NOMINAL)	LED	RECESSED		6" DIA RECESSED DOWNLIGHT, WITH 0-10V DIMMING AND INTERGAL EMERGENCY BATTERY. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
C8	ACUITY BRANDS	LDN8 40/80 L08AR LSS MVOLT GZ10 WL	1	8000L/92W (NOMINAL)	LED	RECESSED	13"	8" DIA RECESSED DOWNLIGHT, WITH 0-10V DIMMING. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
L6	ACUITY BRANDS	SL2L LOP 6 FLP XX 80CRI 35K 600LMF MIN10 120 ZT	1	3389L/35W (NOMINAL)	LED	RECESSED	4-3/8"	6FT RECESSED SLOT FIXTURE, LENSED, WITH 0- 10V DIMMING. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
L6E	ACUITY BRANDS	SL2L LOP 6 FLP XX 80CRI 35K 600LMF MIN10 120 ZT E10WLCP	1	3389L/35W (NOMINAL)	LED	RECESSED	4-3/8"	6FT RECESSED SLOT FIXTURE, LENSED, WITH 0- 10V DIMMING. FURNISHED WITH INTEGRAL EMERGENCY BATTERY. COORDINATE CEILING TYPE WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
PT	US ARCHITECTURAL	CMP-VLED-IV-64LED-350mA-NW	1	6771L/69W (NOMINAL)	LED	POLE MOUNTED		POST TOP DECORATIVE LED FIXTURE 15'-0" MOUNTING HEIGHT. POLE BASE (SEE DETAIL). POLE SHALL MEET CURRENT IBC WIND LOAD RATING FOR THIS REGION. COLOR/FINISH TO BE SELECTED BY ARCHITECT/OWNER.	OR PRIOR APPROVE EQUAL
WP	US ARCHITECTURAL	RZR-WM1 PLED-IV 40LED 525mA NW 120 XX	1	7556L/65W (NOMINAL)	LED	SURFACE WALL	N .	LED WALL PACK, COLOR/FINISH TO BE SELECTED BY ARCHITECT/OWNER. SEE PLANS FOR MOUNTING HEIGHT.	OR PRIOR APPROVE EQUAL
WPE	US ARCHITECTURAL	RZR-WM1 PLED-IV 40LED 525mA NW 120 XX EM1	1	7556L/65W (NOMINAL)	LED	SURFACE WALL		LED WALL PACK, COLOR/FINISH TO BE SELECTED BY ARCHITECT/OWNER. SEE PLANS FOR MOUNTING HEIGHT. FURNISHED WITH INTEGRAL BATTERY PACK.	OR PRIOR APPROVE EQUAL
PL3HS	US ARCHITECTURAL	RZR PLED III W 80LED 875mA 40K 120 1 XX HS	1	28760L/219W (NOMINAL)	LED	POLE MOUNTED		SINGLE LED HEAD MOUNTED 30'-0" ABOVE FINISHED GRADE, L.E.D. LUMINAIRE, TYPE 3 WIDE DISTRIBUTION, 4000K, MOUNTED ON CONCRETE BASE (SEE DETAIL). POLE SHALL MEET CURRENT IBC WIND LOAD RATING FOR THIS REGION. COLOR/FINISH TO BE SELECTED BY ARCHITECT/OWNER.	OR PRIOR APPROVE EQUAL
PL32HS	US ARCHITECTURAL	RZR PLED III W 80LED 875mA 40K 120 2-180 XX HS	2	57520L/438W (NOMINAL)	LED	POLE MOUNTED		DUAL LED HEAD MOUNTED 30'-0" ABOVE FINISHED GRADE, L.E.D. LUMINAIRE, TYPE 3 WIDE DISTRIBUTION, 4000K, MOUNTED ON CONCRETE BASE (SEE DETAIL). POLE SHALL MEET CURRENT IBC WIND LOAD RATING FOR THIS REGION. COLOR/FINISH TO BE SELECTED BY ARCHITECT/OWNER.	OR PRIOR APPROVE EQUAL
FL	ACUITY BRANDS	DSXF1 LED P2 40K HMF MVOLT THK XX	1	4245L/42W (NOMINAL)	LED	STANCHION KNUCKLE		LED FLOOD LIGHT. LIGHTING MANUFACTURER TO PROVIDE PHOTOMETRIC STUDY OF FLOOD LIGHT PRIOR TO ANY/ALL ORDERING. ARCHITECT TO PROVIDE ELEVATIONS OF AREA TO BE ILLUMINATED FOR PHOTOMETRIC STUDY. COLOR/FINISH TO BE SELECTED BY ARCHITECT.	OR PRIOR APPROVE EQUAL
CF	PINNACLE LIGHTING	EX3D BW 840SO XX S U FSD 1 XX	1	3000L/24W (NOMINAL)	LED	SURFACE		LED CANOPY FIXTURE. COORDINATE MOUNTING TYPE WITH ARCHITECTURAL PLANS PRIOR TO ANY/ALL WORK/ROUGHING.	OR PRIOR APPROVE EQUAL
CFE	PINNACLE LIGHTING	EX3D BW 840SO XX S U FSD 1 XX ILL	2	3000L/24W (NOMINAL)	LED	SURFACE		LED CANOPY FIXTURE WITH EMERGENCY BATTERY. COORDINATE MOUNTING TYPE WITH ARCHITECTURAL PLANS PRIOR TO ANY/ALL WORK/ROUGHING.	OR PRIOR APPROVE EQUAL
X1	EMERGI-LITE	PNR6-AD		WITH UNIT	I	SURFACE WALL/CEILING		SINGLE/ DOUBLE FACE UNIVERSAL EDGE LIT EXIT FIXTURE WITH RED LETTERING FURNISHED WITH INTEGRAL BATTERY. PROVIDE UNIVERSAL MOUNTING KIT.	OR PRIOR APPROVE EQUAL
EM1	EMERGI-LITE	EL-2RHL-AD		WITH UNIT		SURFACE WALL/CEILING		TWO HEAD LED EMERGENCY FIXTURE.	OR PRIOR APPROVE EQUAL
VF	NUVO	60-6581	1	60W MAX WATTAGE	MED	SURFACE WALL		VANITY FIXTURE WITH MEDIUM LAMP BASE. PROVIDE LED EQUIVALENT. VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCHITECT.	OR PRIOR APPROVE EQUAL
SF	PRUDENTIAL LIGHTING	BPRO4-PER-FLSH-LED35-LO-12-**-PFL-LP-SC-** (15W PER 4FT)	1	5967L/45W (NOMINAL)	LED	RECESSED		4" PERIMETER LED. COORDINATE EXACT LENGTH, CEILING TYPE, AND COLOR/FINISH WITH ARCHITECT PRIOR TO ANY/ALL WORK/ORDERING. 84" DIAMETER LED PENDANT WITH AIR CRAFT	OR PRIOR APPROVE EQUAL
S1	LUNA	971LU-84D-35K-120-S-MM-**-**-DIML	1	10743L/118W (NOMINAL)	LED	PENDANT		CABLE MOUNTING. COORDINATE MOUNTING HEIGHT AND COLOR/FINISH WITH ARCHITECT PRIOR TO ANY/ALL ORDERING/WORK.	OR PRIOR APPROVE EQUAL
	FLUXWERK	 PA1-A-B-A-35-**-R4-G-F1-M-**		4188L/33W	LED	SUSPENED		SUSPENDED RECTANGULAR LED FIXTURE. POOL TABLE LIGHTING. COORDINATE SUSPENSION	OR PRIOR APPROVE





GRADE-MOUNTED FLOOD LIGHTING

NOT TO SCALE

FIXTURE MARK: "FL"

"LCP"

		LIGHT	ring	CONT	ROL PAN	EL SCHEDULE				
PANEL	NAME: LCP			LOCA	LOCATION: IT/ELECTRICAL 123					
MOUNT	ING: SURFAC	Œ		PANE	PANEL TYPE: SEE NOTES					
CONTR	OL PANEL VOL	TAGE: 120V		REMA	REMARKS:					
RELAY NO.	OVERRIDE SWITCH ZONE	PANEL/ CIRC. NO.	V.	AMPS	RELAY CONTROLS	ZONE DESCRIPTION	CYCLE			
1		RP1: 40	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	CANOPY LIGHTING	SITE LIGHTING			
2		RP1: 41	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	CANOPY LIGHTING	SITE LIGHTING			
3		RP1: 42	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	FLOOD LIGHTING	SITE LIGHTING			
4		RP2:1	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	POST TOP LIGHTING	SITE LIGHTING			
5		RP2: 6	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	SITE LIGHTING	SITE LIGHTING			
6		RP2: 7	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	SITE LIGHTING	SITE LIGHTING			
7		RP2:11	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	BUILDING MOUNTED LIGHTING	SITE LIGHTING			
8		RP2:12	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	BUILDING MOUNTED LIGHTING	SITE LIGHTING			
9		RP2:13	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	BUILDING MOUNTED LIGHTING	SITE LIGHTING			
10		RP2:14	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	BUILDING MOUNTED LIGHTING	SITE LIGHTING			
11		RP2:15	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	SITE LIGHTING				
12		RP2:16	120V;	20	TIME CLOCK ON/OFF PHOTOCELL	SITE LIGHTING				
13				20		SPARE				
14				20		SPARE				
15				20		SPARE				
16				20		SPARE				

SURFACE MOUNTED LIGHTING CONTROL PANEL, 16 RELAY, SINGLE/DOUBLE POLE CAPACITY, NEMA 1 ENCLOSURE, 0-10V DIMMING, DIGITAL ASTRONOMICAL TIME CLOCK WITH MODEM, DUAL VOLTAGE TRANSFORMER WITH 2 VOLTAGE BARRIERS, REFER TO SCHEDULE FOR NUMBER AND TYPE OF RELAYS. nLIGHT MODEL# ARP INTENCO(#)-MVOLT-2VB-DTC-0-10V DIMMING AS SHOWN OR APPROVED EQUAL.

- ** COORDINATE WITH OWNER TIMECLOCK PROGRAMMING FOR ALL EXTERIOR LUMINAIRES. ** DIMMING WIRING NOT SHOWN. PROVIDE ALL REQUIRED DIMMING DEVICES REQUIRED TO HAVE A
- FULLY FUNCTIONING SYSTEM. ** MOUNT PHOTO CELL AS HIGH AS POSSIBLE ON BUILDING EXTERIOR ON NORTH SIDE OF BUILDING. ** INTERCONNECT ALL LIGHTING CONTROL PANELS THIS PROJECT AS REQUIRED PER MANUFACTURERS RECOMMENDATIONS.

LIGHTING CONTROL SYSTEMS LEGEND

- WALL MOUNTED THREE BUTTON DIGITAL SWITCH, ON/OFF ONLY FOR CONNECTION TO MOTION SENSORS. PROVIDE WALL BOX ADAPTER OPTION LUTRON MODEL NO. PJ2-2B OR APPROVED EQUAL
- WALL MOUNTED THREE BUTTON DIGITAL SWITCH, ON/OFF, RAISE LOWER, FOR CONNECTION TO MOTION SENSORS. PROVIDE WALL BOX ADAPTER OPTION LUTRON MODEL NO. PJ2-3BRL OR APPROVED EQUAL
- WALL MOUNTED VACANCY SINGLE POLE SWITCH, ON/OFF, RAISE LOWER, 0-10V DIMMING, 8A MAX INPUT LED, 120/277V; LUTRON MODEL NO. MS-Z101-V-XX OR APPROVED EQUAL
- DT\$ WALL MOUNTED DUAL TECHNOLOGY SINGLE POLE SWITCH, 120/277V; LUTRON MODEL NO. MS-B102-XX OR APPROVED EQUAL
- CEILING MOUNTED MULTI-TECHNOLOGY OCCUPANCY SENSOR, 360° COVERAGE, LOW VOLTAGE. COORDINATE WITH ARCHITECTURAL DRAWINGS ON CEILING TYPES. LUTRON MODEL NO. LRF2-OCR2B-P-WH OR APPROVED EQUAL
- CEILING MOUNTED MULTI-TECHNOLOGY VACANCY SENSOR, 360° COVERAGE, LOW VOLTAGE. COORDINATE WITH ARCHITECTURAL DRAWINGS ON CEILING TYPES. LUTRON MODEL NO. LRF2-VSR2B-P-WH OR APPROVED EQUAL
- CEILING MOUNTED WIRELESS HALLWAY OCCUPANCY SENSOR. PROVIDE FLEXIBLE MOUNTING ARM (LRF-ARM-WH)
- POWER PACK WITH INTEGRAL UL924 RELAY, WITH 0-10V DIMMING, MOUNT ABOVE CEILING WHERE APPLICABLE, 120-277V; 8A OF LIGHTING LOAD PER POWER PACK. PROVIDE NUMBER OF POWER PACKS PER MANUFACTURERS RECOMMENDATIONS.

LUTRON MODEL NO. RMJS-8T-DV-B-EM-CCO OR APPROVED EQUAL

POWER PACK WITH INTEGRAL UL924 RELAY, WITH NO DIMMING, MOUNT ABOVE CEILING WHERE APPLICABLE, 120-277V; 16A OF LIGHTING LOAD PER POWER PACKS PER MANUFACTURERS RECOMMENDATIONS.

LUTRON MODEL NO. RMJS-16R-DV-B-EM-CCO OR APPROVED EQUAL

LIGHTING CONTROL NOTES

- 1. ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO
- 2. ULTRASONIC CEILING MOUNT SENSORS SHOULD BE LOCATED A MINIMUM OF SIX (6) FEET FROM HVAC SUPPLY/RETURN VENTS.
- 3. FIELD VERIFY PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR NON-ADAPTIVE PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK
- 4. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS:
- 4.1. A MINIMUM OF ONE POWER PACK IS REQUIRED FOR EACH CONTROLLED CIRCUIT/ZONE (SEE PLANS).
- 4.2. EACH POWER PACK CAN SUPPLY UP TO 150mA. REFER TO INSTALLATION GUIDE FOR MAXIMUM NUMBER OR SENSORS CONNECTED TO POWER PACK.
- 4.3. IF MULTIPLE CIRCUITS ARE TO BE CONTROLLED BY A SINGLE SENSOR, AUXILIARY RELAYS MAY BE USED IN CONJUNCTION WITH A POWER PACK.
- 5. SENSORS MOUNTED OVER DOORWAYS SHOULD BE PLACED ONE (1) FOOT INSIDE THRESHOLD.
- 6. THE LIGHTING CONTROL SYSTEM IS DESIGNED AROUND LUTRON LIGHTING CONTROLS AND ALL PRE-APPROVED EQUAL MANUFACTURERS SHALL PROVIDE SITE SPECIFIC INSTALLATION DRAWINGS, CUT SHEETS AND WIRING DIAGRAMS WITH PRE-APPROVAL REQUEST. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE SYSTEM IN THE CONTRACT DOCUMENTS. 10 DAY PRIOR APPROVAL ON ALL ALTERNATE MANUFACTURERS IS REQUIRED.
- 7. THE LIGHTING CONTROL SYSTEM MANUFACTURER SHALL PROVIDE SHOP DRAWINGS AND FACTORY STARTUP.
- 8. LIGHTING CONTROL MANUFACTURER SHALL INCLUDE IN SUBMITTAL PACKAGE A CONTROL BLOCK DIAGRAM, SPECIFIC SENSOR MOUNTING LOCATIONS, AND CONTROL WIRING CONFIGURATION AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM AS INDICATED

PANELBOARD SCHEDULE

	T		1	NA A INIO		1		DD ANOUEO					1		
NAME PLATE INFORMATION	MARK	TYPE	TYPE	MAINS AMPS	SERVICE	1-POLE	2-POLE	BRANCHES 3-POLE	SPARES	SPACES	MTD.	REMARKS	APPROVED EQUALS	AVAILABLE FAULT CURRENT	SURGE PROTECTION DEVICE
MP2 120/208V 3P,4W FED FROM UTILITY	MP2	SQUARE 'D' I-LINE HCM 400AMP	MB	400	120/208V 3P,4W			1-30 A, 1- 150 A, 2- 200 A, 1- 250 A,	1-200/3		SURFACE	IT/ELECTRICAL 113	G.E., SIEMENS, CUTLER HAMMER	22,069	SURGE SUPPRESSION INC. CSEA3Y1-21
MP1 120/208V 3P,4W FED FROM UTILITY	MP1	SQUARE 'D' I-LINE HCM 600AMP	МВ	600	120/208V 3P,4W			1-30 A, 2- 45 A, 1-125 A, 1-225 A,	1-45/3, - 225/3		SURFACE	IT/ELECTRICAL 113	G.E., SIEMENS, CUTLER HAMMER	27,463	SURGE SUPPRESSION INC. CSEA3Y1-21
RP1 120/208V 3P,4W FED FROM MP2	RP1	SQUARE 'D' NQOD 225AMP	MLO	200	120/208V 3P,4W	36-20 A, 3- 20 A GFCI,		1-50 A,			SURFACE	IT/ELECTRICAL 113	G.E., SIEMENS, CUTLER HAMMER	19,263	NONE
RP2 120/208V 3P,4W FED FROM MP2	RP2	SQUARE 'D' NQOD 225AMP	MLO	200	120/208V 3P,4W	16-20 A,			10-20/1	16-1P	SURFACE	IT/ELECTRICAL 113	G.E., SIEMENS, CUTLER HAMMER	18,090	NONE
RP3 120/208V 3P,4W FED FROM MP2	RP3	SQUARE 'D' NQOD 400AMP	MLO	250	120/208V 3P,4W	38-20 A, 2- 20 A GFCI,	1-20 A, 1- 50 A,	2-45 A,	10-20/1		FLUSH	COORODOR , TWO SECTION PANEL 30 POSITIONS EACH PANEL FURNISHED WITH FEED-THRU LUGS	G.E., SIEMENS, CUTLER HAMMER	7,325	NONE
RPM1 120/208V 3P,4W FED FROM MP1	RPM1	SQUARE 'D' I-LINE HCM 225AMP	MLO	225	120/208V 3P,4W		3-30 A,	2-45 A, 1- 125 A,	1-30/2, 1- 45/3	3-1P	SURFACE	NEMA 3R	G.E., SIEMENS, CUTLER HAMMER	18,411	NONE
RPM2 120/208V 3P,4W FED FROM MP2	RPM2	SQUARE 'D' NQOD 225AMP	MLO	150	120/208V 3P,4W		1-25 A, 1- 30 A,	2-30 A,	1-30/2, 1- 30/3	15-1P	SURFACE	NEMA 3R	G.E., SIEMENS, CUTLER HAMMER	6,482	NONE

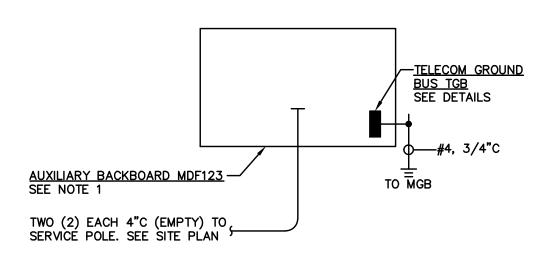


ELECTRICAL SCHEDULES AND DETAILS

DRAWN CHECKED AS NOTED SEPTEMBER 15, 2022

> JOB NO. 22-01



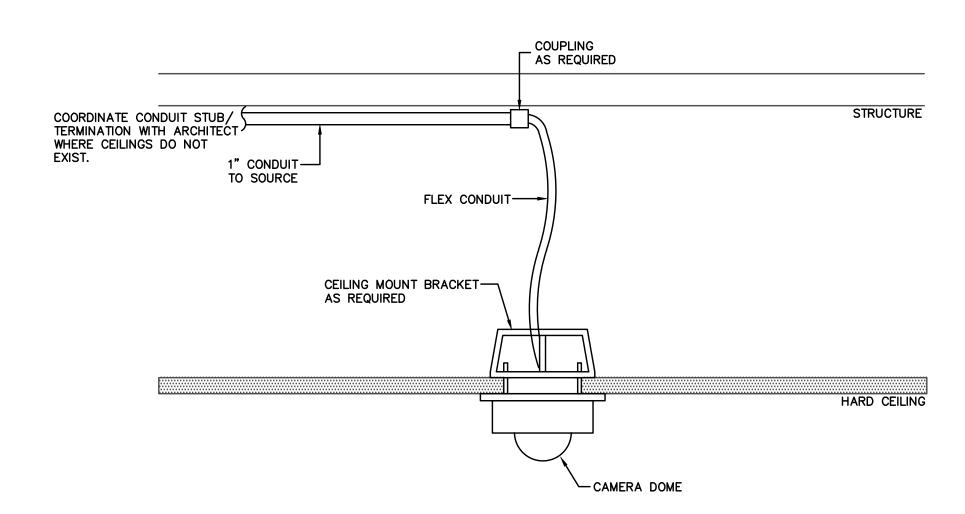


AUXILIARY RISER

SCALE: NOT TO SCALE

AUXILIARY RISER NOTES:

- 1. AUXILIARY BACKBOARD SHALL BE 4FT WIDE, 8FT HIGH, 3/4" PLYWOOD PAINTED TWO COATS, BOTH SIDES WITH FIRE RETARDANT PAINT. SEE FLOOR PLANS FOR BACKBOARD LOCATION. AT BACKBOARD, FURNISH AND INSTALL ALL EQUIPMENT AS LISTED BELOW/ REQUIRED:
- FURNISH AND INSTALL ONE (1) EACH EQUIPMENT RACK (MIDDLE ATLANTIC# WRK-44-32LRD WITH SEISMIC BRACKETS, LEVELING FEET,
- 24 PORT PATCH PANEL SHALL BE LEVITON# 69586-U24 (24-PORT, CAT6 HIGH-DENSITY PATCH PANEL). PROVIDE QUANTITY AT EACH LOCATION AS REQUIRED FOR ALL HORIZONTAL DATA AND VOICE CABLE TERMINATIONS WITH ADDITIONAL SPACE FOR 10% FUTURE GROWTH. COORDINATE RACK LAYOUT WITH CITY OF MADISON IT DEPARTMENT PRIOR TO ANY WORK.
- 48 PORT PATCH PANEL SHALL BE LEVITON# 69586-U48 (48-PORT, CAT6 HIGH-DENSITY PATCH PANEL). PROVIDE QUANTITY AT EACH LOCATION AS REQUIRED FOR ALL HORIZONTAL DATA AND VOICE CABLE TERMINATIONS WITH ADDITIONAL SPACE FOR 10% FUTURE GROWTH. COORDINATE RACK LAYOUT WITH CITY OF MADISON IT DEPARTMENT PRIOR TO ANY WORK.
- 1 RACK UNIT HORIZONTAL CABLE MANAGER SHALL BE LEVITON# 491RU—HFR. PROVIDE QUANITY AT EACH LOCATION AS REQUIRED FOR ALL HORIZONTAL DATA AND VOICE CABLE TERMINATIONS WITH ADDITIONAL SPACE FOR 10% FUTURE GROWTH. PROVIDE 2 RACK UNITS OF HORIZONTAL CABLE MANAGEMENT PER EACH 24 PATCH OR SWITCH PORTS (ABOVE OR BELOW ASSOCIATED PATCH PANEL). ASSUME 1 SWITCH PORT FOR EACH PATCH PORT.
- 2 RACK UNIT HORIZONTAL CABLE MANAGER SHALL BE LEVITON# 492RU—HFR. PROVIDE QUANITY AT EACH LOCATION AS REQUIRED FOR ALL HORIZONTAL DATA AND VOICE CABLE TERMINATIONS WITH ADDITIONAL SPACE FOR 10% FUTURE GROWTH. PROVIDE 2 RACK UNITS OF HORIZONTAL CABLE MANAGEMENT PER EACH 24 PATCH OR SWITCH PORTS (ABOVE OR BELOW ASSOCIATED PATCH PANEL). ASSUME 1 SWITCH PORT FOR EACH PATCH PORT.
- BLANK FILLER PANEL SHALL BE LEVITON# 49254-BP2, 2 RU./ 49254-BP1, 1 RU. PROVIDE QUANITY AS REQUIRED FOR ALL BLANK SPACES IN CABINET.
- PROVIDE 1 RACK GROUNDING KIT PER RACK AND CONNECT TO TELECOM GROUND BAR.
- PROVIDE 1 RACK GROUND BUS (MIDDLE ATLANTIC# BB-44-1) PER RACK AND CONNECT TO TELECOM GROUND BAR.
- AT EACH CABINET PROVIDE, AT A MINIMUM, THE FOLLOWING ACCESSORIES: COLOR CODED CABLE MANAGEMENT STRAPS (TO COORDINATE COLOR SCHEME WITH OWNER PRIOR TO ORDERING), 24" TUBULAR RUNWAY FOR ALL HORIZONTAL AND BACKBONE ENTRIES INTO RACK, 2 EACH VERTICAL POWER STRIPS (20AMP, 12 POSITION, WITH AMP METER — NO SWITCH), EQUIPMENT GROUND ASSEMBLY AND LADDER RACK SUPPORT.
- FURNISH AND INSTALL ONE (1) EACH UPS (5KVA) BY APC MODEL# APC SMART-UPS ON-LINE RT 5000VA RM 208V TO 208/120V, RACK MOUNT WITH NETWORK CARD (COORDINATE OUTPUT CONFIGURATION WITH UAH IT DEPARTMENT). 1 UPS PER RACK.
- NETWORK SWITCHES TO BE FURNISHED AND INSTALLED BY OWNER
- WIRELESS ACCESS POINTS (WIRELESS ROUTERS) AND THEIR ASSOCIATED CONTROLLERS TO BE FURNISHED AND INSTALLED BY OWNER.

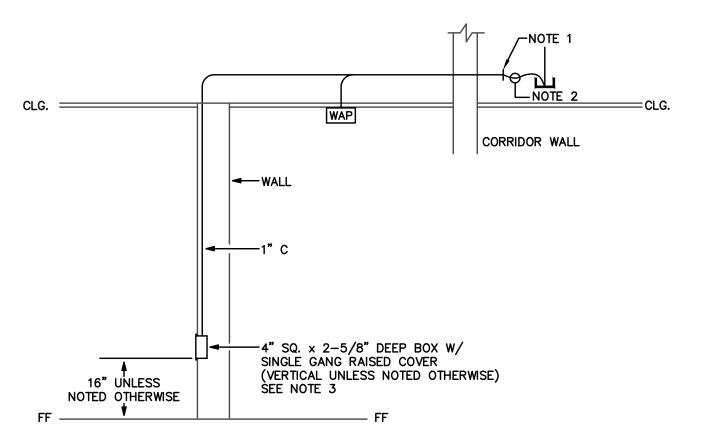


DETAIL: CEILING MOUNTED CAMERA HARD CEILING

NOT TO SCALE

DETAIL NOTES

- 1. ROUTE ALL AUXILIARY CONDUITS TO NEAREST CABLE TRAY/AUXILIARY BACKBOARD. TERMINATE CONDUITS WITH SMOOTH BUSHING. LABEL ALL CONDUITS PER SPECIFICATIONS. PROVIDE PULL WIRE IN ALL CONDUITS.
- 2. ALL CAMERA CABLES SHALL BE ROUTED TO NEAREST AUXILIARY BACKBOARD VIA CONDUIT/ CABLE TRAY AND TERMINATED AS DIRECTED BY OWNER. LABEL ALL CABLES PER SPECIFICATIONS. ALL CABLES, BOTH ENDS, SHALL BE LABELED AND TERMINATED PER SPECS/ AS DIRECTED BY OWNER. PROVIDE 10FT SERVICE LOOP ABOVE CEILING AT WORK AREA OUTLET FOR ALL CABLES. NO CABLE SHALL BE UNSUPPORTED FOR A DISTANCE GREATER THAN 5FT.
- 3. CAMERA OUTLETS SHALL BE MOUNTED AS SHOWN AND SHALL BE CONFIGURED AS SHOWN.
- CEILING CAMERA OUTLET FLUSH MOUNTED IN 4" SQUARE BOX WITH SINGLE GANG RAISED COVER. FURNISH AND INSTALL TWO (2) EACH CAT6 CONNECTORS, ONE EACH FACEPLATE (MATCH OTHER DEVICE FACEPLATES WITH PORT CAPACITY AS REQUIRED TO PROVIDE ONE FUTURE PORT) WITH ONE EACH BLANK. FURNISH AND INSTALL TWO (2) EACH CAT6 PLENUM RATED CABLES FROM OUTLET TO NEAREST AUXILIARY BACKBOARD/CABLE TRAY VIA CONDUIT. ALL CABLES SHALL BE TERMINATED, BOTH ENDS, AS DIRECTED BY OWNER. CAMERAS TO BE FURNISHED AND INSTALLED BY OTHERS.



AUXILIARY OUTLET DETAIL

NOT TO SCALE

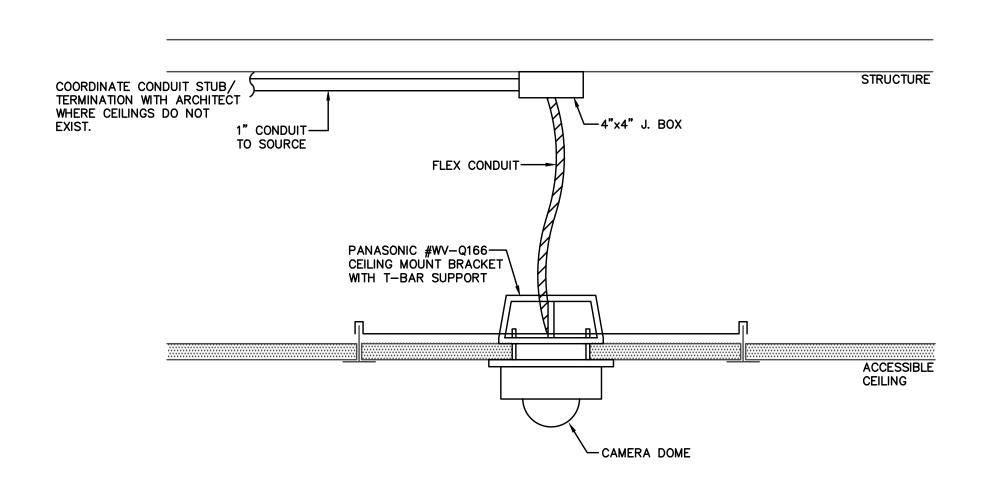
AUXILIARY OUTLET DETAIL NOTES

- 1. ROUTE ALL AUXILIARY CONDUITS TO NEAREST CABLE TRAY (SEE PLANS FOR CABLE TRAY LOCATIONS)/ CONDUIT SLEEVE/ AUXILIARY BACKBOARD. TERMINATE CONDUITS WITH SMOOTH BUSHING. LABEL ALL CONDUITS PER SPECIFICATIONS. PROVIDE PULL WIRE IN ALL CONDUITS.
- 2. ALL DATA/ VOICE CABLES SHALL BE ROUTED TO BACKBOARD MDF123 VIA CONDUIT/ CONDUIT SLEEVES/ CABLE TRAY AND TERMINATED AS DIRECTED BY OWNER. LABEL ALL CABLES PER SPECIFICATIONS. ALL DATA/ VOICE CABLES, BOTH ENDS, SHALL BE LABELED AND TERMINATED PER SPECS/ AS DIRECTED BY OWNER. PROVIDE 10FT SERVICE LOOP ABOVE CEILING AT WORK AREA OUTLET FOR ALL CABLES. NO CABLE SHALL BE UNSUPPORTED FOR A DISTANCE GREATER THAN 3FT.
- 3. AUXILIARY OUTLETS SHALL BE MOUNTED AT +18" ABOVE FINISHED FLOOR (UNLESS SHOWN OTHERWISE) AND SHALL BE CONFIGURED AS FOLLOWS WITH DEVICE, PLATE AND ICON COLORS AS DIRECTED BY ARCHITECT.
 - DATA OUTLET (# DATA AS INDICATED) FLUSH MOUNTED IN 4" SQUARE BOX WITH SINGLE GANG RAISED COVER. FURNISH AND INSTALL CAT6 CONNECTOR (LEVITON# 61110—R*6) WITH DATA ICONS FOR EACH DATA JACK AS INDICATED, ONE EACH UNBREAKABLE NYLON FACEPLATE WITH PORT CAPACITY AS REQUIRED TO PROVIDE ONE FUTURE PORT) WITH ONE EACH BLANK (LEVITON# 41084—B*B). FURNISH AND INSTALL CAT6 PLENUM RATED CABLES (# AS INDICATED FOR DATA) FROM

BE TERMINATED, BOTH ENDS, AS DIRECTED BY OWNER.

DATA OUTLET (FOR WIRELESS ACCESS POINT) — FLUSH MOUNTED IN 4" SQUARE BOX IN CEILING WITH SINGLE GANG RAISED COVER. FURNISH AND INSTALL TWO EACH CAT6 CONNECTORS (LEVITON# 61110—R*6) WITH DATA ICONS FOR EACH DATA JACK AS INDICATED, ONE EACH UNBREAKABLE NYLON FACEPLATE WITH PORT CAPACITY AS REQUIRED TO PROVIDE ONE FUTURE PORT) WITH ONE EACH BLANK (LEVITON# 41084—B*B). FURNISH AND INSTALL CAT6 PLENUM RATED CABLES FROM OUTLET TO SPECIFIED BACKBOARD (SEE DETAIL NOTE 2) VIA CONDUIT, J—HOOKS, SLEEVES AND/ OR CABLE TRAY. ALL CABLES SHALL BE TERMINATED, BOTH ENDS, AS DIRECTED BY OWNER. PROVIDE A MINIMUM 20FT SERVICE LOOP AT WAP LOCATION COILED ABOVE ACCESSIBLE CEILING.

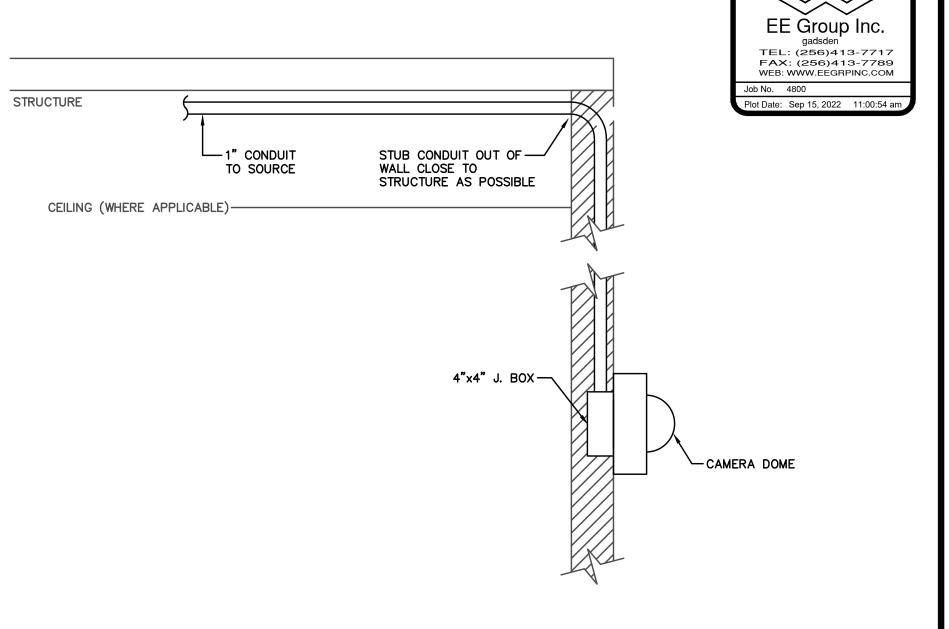
OUTLET TO NEAREST AUXILIARY BACKBOARD VIA CONDUIT, J-HOOKS, SLEEVES AND/ OR CABLE TRAY. ALL CABLES SHALL



DETAIL: CEILING MOUNTED CAMERA - L.A.T.

DETAIL NOTES

- 1. ROUTE ALL AUXILIARY CONDUITS TO NEAREST CABLE TRAY/AUXILIARY BACKBOARD. TERMINATE CONDUITS WITH SMOOTH BUSHING. LABEL ALL CONDUITS PER SPECIFICATIONS. PROVIDE PULL WIRE IN ALL CONDUITS.
- . ALL CAMERA CABLES SHALL BE ROUTED TO NEAREST AUXILIARY BACKBOARD VIA CONDUIT/ CABLE TRAY AND TERMINATED AS DIRECTED BY OWNER. LABEL ALL CABLES PER SPECIFICATIONS. ALL CABLES, BOTH ENDS, SHALL BE LABELED AND TERMINATED PER SPECS/ AS DIRECTED BY OWNER. PROVIDE 10FT SERVICE LOOP ABOVE CEILING AT WORK AREA OUTLET FOR ALL CABLES. NO CABLE SHALL BE UNSUPPORTED FOR A DISTANCE GREATER THAN 5FT.
- 3. CAMERA OUTLETS SHALL BE MOUNTED AS SHOWN AND SHALL BE CONFIGURED AS SHOWN.
- CEILING CAMERA OUTLET FLUSH MOUNTED IN 4" SQUARE BOX WITH SINGLE GANG RAISED COVER. FURNISH AND INSTALL TWO (2) EACH CAT6 CONNECTORS, ONE EACH FACEPLATE (MATCH OTHER DEVICE FACEPLATES WITH PORT CAPACITY AS REQUIRED TO PROVIDE ONE FUTURE PORT) WITH ONE EACH BLANK. FURNISH AND INSTALL TWO (2) EACH CAT6 PLENUM RATED CABLES FROM OUTLET TO NEAREST AUXILIARY BACKBOARD/CABLE TRAY VIA CONDUIT. ALL CABLES SHALL BE TERMINATED, BOTH ENDS, AS DIRECTED BY OWNER. CAMERAS TO BE FURNISHED AND INSTALLED BY OTHERS.



DETAIL: WALL MOUNTED CAMERA, EXTERIOR NOT TO SCALE

DETAIL NOTES

- . ROUTE ALL AUXILIARY CONDUITS TO NEAREST CABLE TRAY/AUXILIARY BACKBOARD. TERMINATE CONDUITS WITH SMOOTH BUSHING. LABEL ALL CONDUITS PER SPECIFICATIONS. PROVIDE PULL WIRE IN ALL CONDUITS.
- 2. ALL CAMERA CABLES SHALL BE ROUTED TO NEAREST AUXILIARY BACKBOARD VIA CONDUIT/ CABLE TRAY AND TERMINATED AS DIRECTED BY OWNER. LABEL ALL CABLES PER SPECIFICATIONS. ALL CABLES, BOTH ENDS, SHALL BE LABELED AND TERMINATED PER SPECS/ AS DIRECTED BY OWNER. PROVIDE 10FT SERVICE LOOP ABOVE CEILING AT WORK AREA OUTLET FOR ALL CABLES. NO CABLE SHALL BE UNSUPPORTED FOR A DISTANCE GREATER THAN 5FT.
- 3. CAMERA OUTLETS SHALL BE MOUNTED AS SHOWN AND SHALL BE CONFIGURED AS SHOWN.
- WALL CAMERA OUTLET FLUSH MOUNTED IN 4" SQUARE BOX WITH SINGLE GANG RAISED COVER. FURNISH AND INSTALL TWO (2) EACH CAT6 CONNECTORS, ONE EACH FACEPLATE (MATCH OTHER DEVICE FACEPLATES WITH PORT CAPACITY AS REQUIRED TO PROVIDE ONE FUTURE PORT) WITH ONE EACH BLANK. FURNISH AND INSTALL TWO (2) EACH CAT6 PLENUM RATED CABLES FROM OUTLET TO NEAREST AUXILIARY BACKBOARD/ CABLE TRAY VIA CONDUIT. ALL CABLES SHALL BE TERMINATED, BOTH ENDS, AS DIRECTED BY OWNER. CAMERAS TO BE FURNISHED AND INSTALLED BY OTHERS.



SPRINGS ROAD
LABAMA 35901
56) 490-8244
M-ARCHITECT.COM

ARCHITECTURE and Si

717 MERIT SPRING
GADSDEN, ALABA
PHONE: (256) 49
EMAIL: TOM@TMM-AR

an Boulevard

for THE CITY of GADSDI

AUXILIARY DETAILS

CHECKED

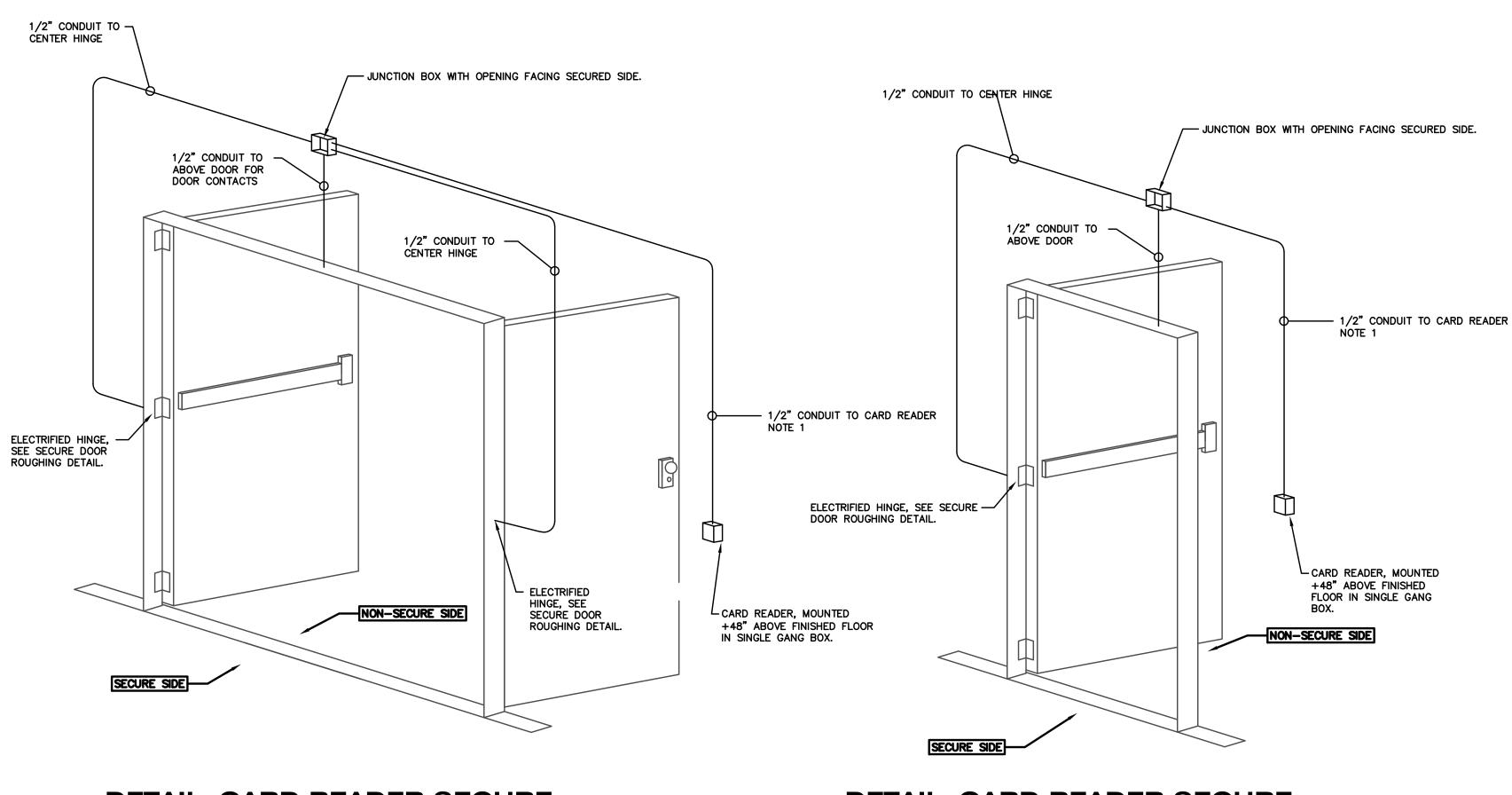
SCALE
AS NOTED

DATE

SEPTEMBER 15, 2022

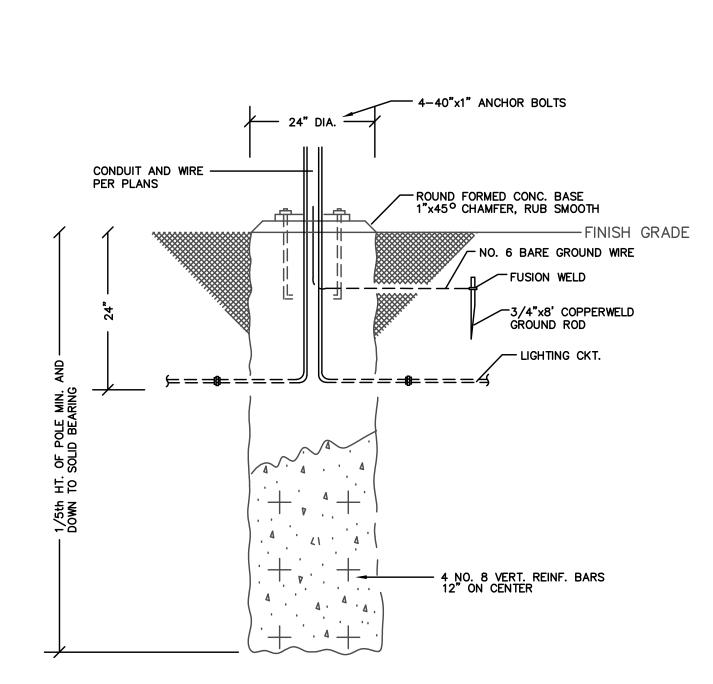
JOB NO. 22-01 REVISIONS

SHEET SHEET OF SHEET



DETAIL: CARD READER SECURE DOOR (DOUBLE)

NOT TO SCALE



AT-GRADE POLE BASE

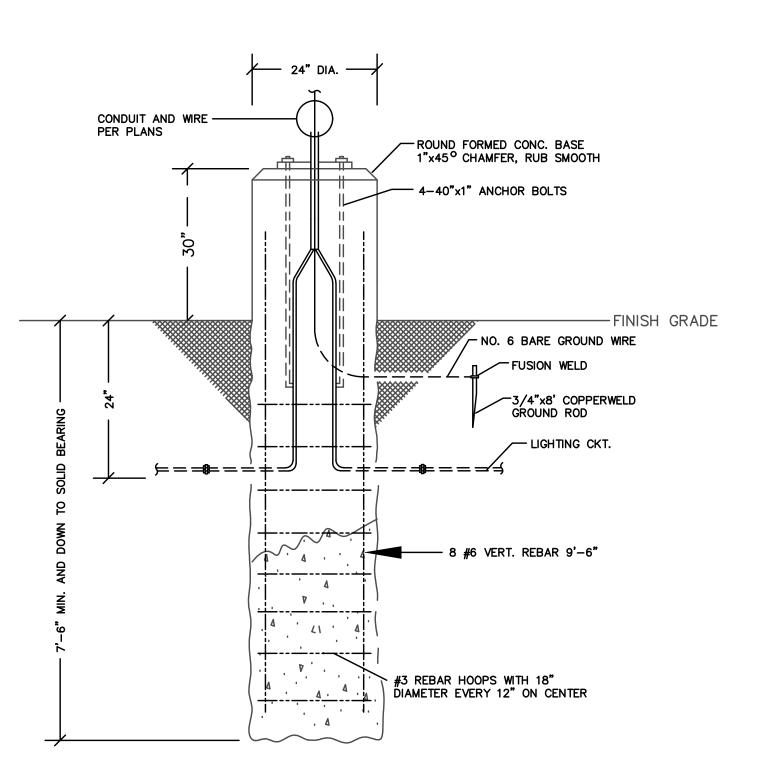
NOT TO SCALE FIXTURE: "PT"

DETAIL NOTES:

- 1. 3500 PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH CONCRETE WITH GRADE 60 RE-BARS.
- 2. IF WATER IS PRESENT IN HOLE, REMOVE BEFORE POURING CONCRETE.
- 3. FOUNDATION EXCAVATION SHALL BE BY 24" AUGAR IN UNDISTURBED OR PROPERLY COMPACTED FILL.
- 4. MINIMUM ALLOWABLE SOIL BEARING PRESSURE 3000 PSF. NOTIFY ENGINEER IF BEARING PRESSURE IS LESS.
- 5. AIR ENTRAINMENT: 4 TO 6%.

DETAIL: CARD READER SECURE DOOR (SINGLE)

NOT TO SCALE



PARKING AREA POLE BASE

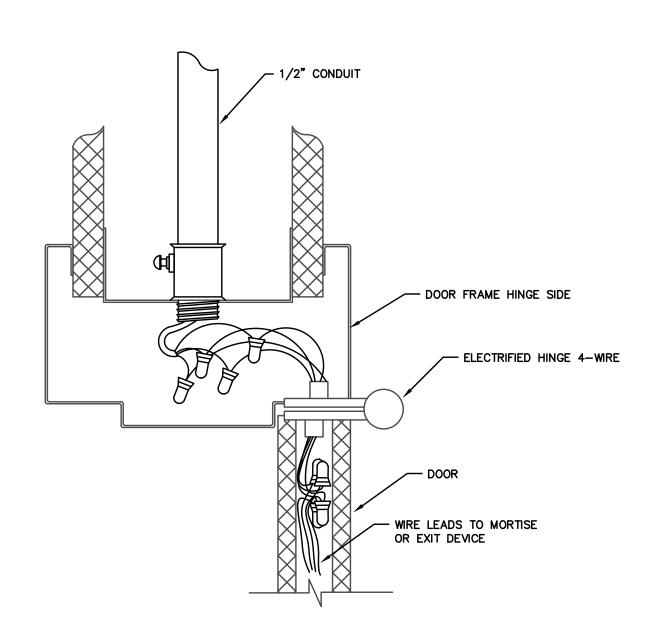
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PARKING AREA POLE NOTES:

UNDISTURBED OR PROPERLY COMPACTED FILL.

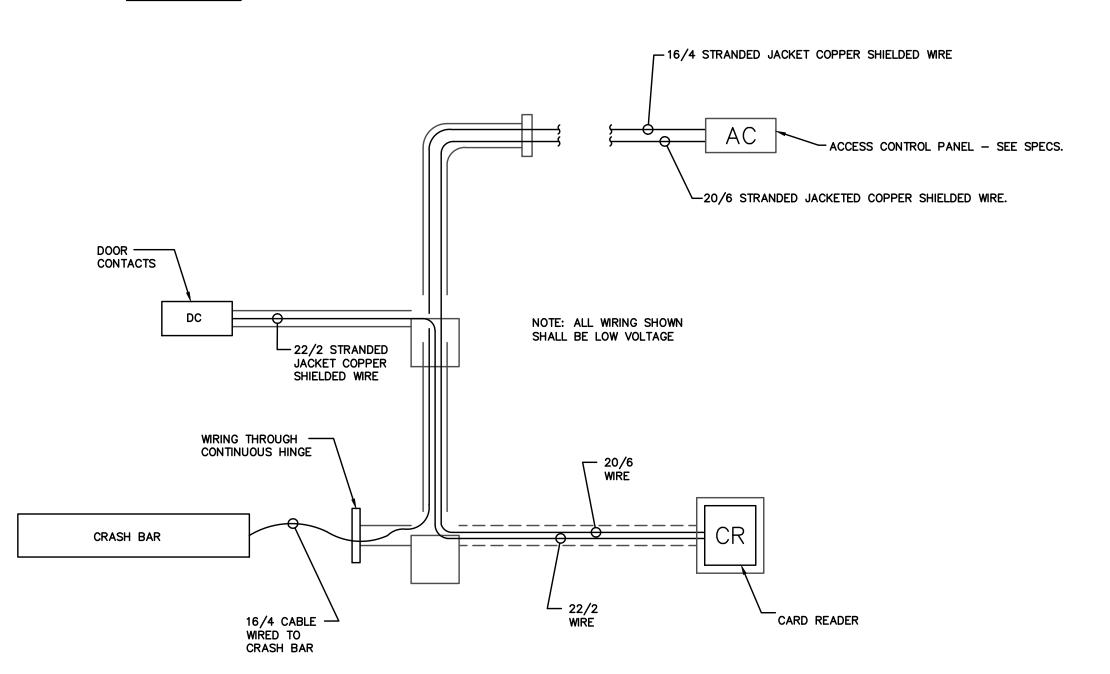
- 1. 3500 PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH CONCRETE WITH GRADE 60 RE-BARS.
- 2. IF WATER IS PRESENT IN HOLE, REMOVE BEFORE POURING
- CONCRETE.

 3. FOUNDATION EXCAVATION SHALL BE BY 24" AUGAR IN
- 4. MINIMUM ALLOWABLE SOIL BEARING PRESSURE 3000 PSF. NOTIFY ENGINEER IF BEARING PRESSURE IS LESS.
- 5. AIR ENTRAINMENT: 4 TO 6%.



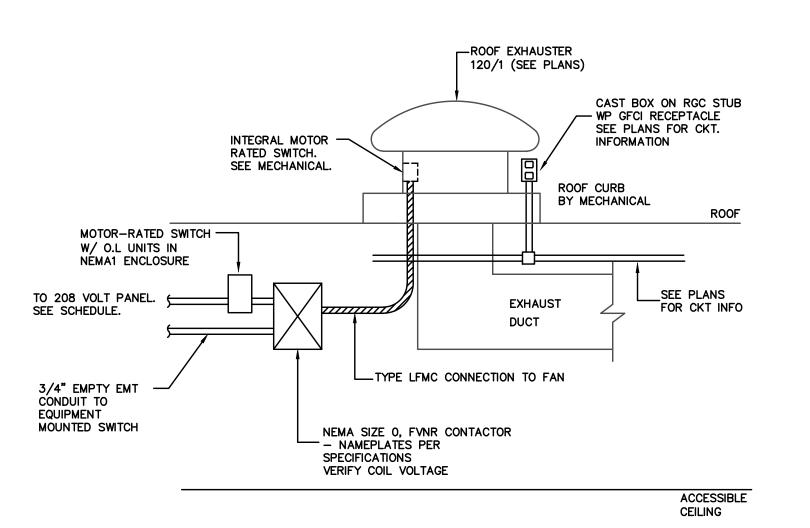
DETAIL: SECURE DOOR ROUGHING

NOT TO SCALE



DOOR SECURITY WIRING DIAGRAM

NOT TO SCALE



120V-1PH ROOF FAN

FAN CONTROLLED BY EQUIPMENT SWITCH NOT-TO-SCALE



EE Group Inc.

TEL: (256)413-7717
FAX: (256)413-7789
WEB: WWW.EEGRPINC.COM

HOMAS M. MCELRATH, ARCHITECT

ARCHITECTURE and SPACE PLANNING

717 MERIT SPRINGS ROAD
GADSDEN, ALABAMA 35901
PHONE: (256) 490-8244
FMAIL: TOM@TMM-ARCHITECT COM

2829 W. Meighan Boulevard for THE CITY of GADSDEN. ALABAMA

DETAILS - 1

DRAWN

CHECKED

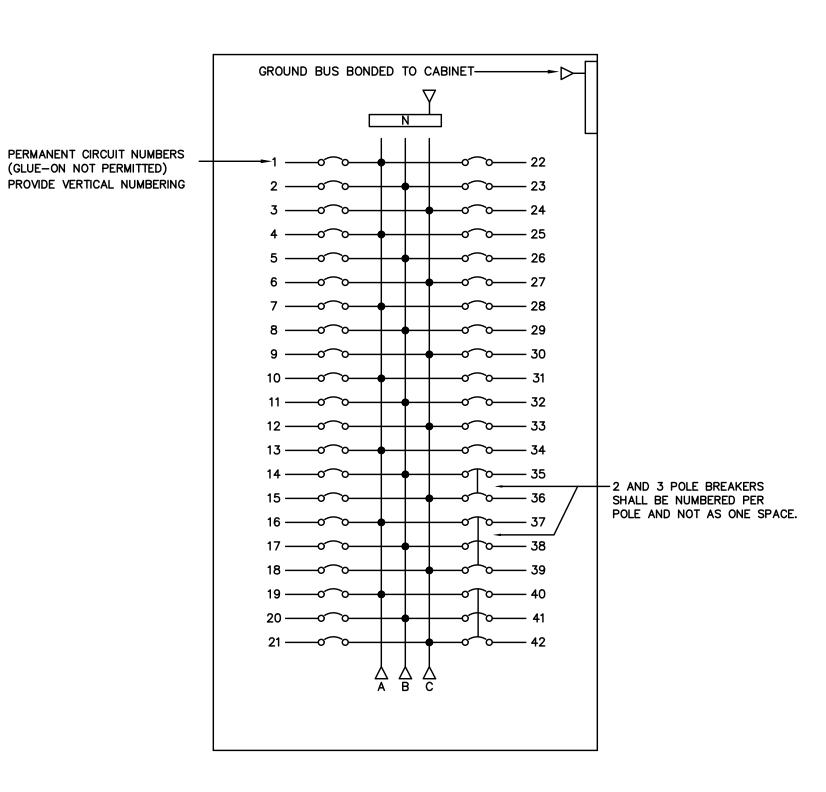
SCALE
AS NOTED

DATE
SEPTEMBER 15, 2022

FILE

JOB NO.
22-01



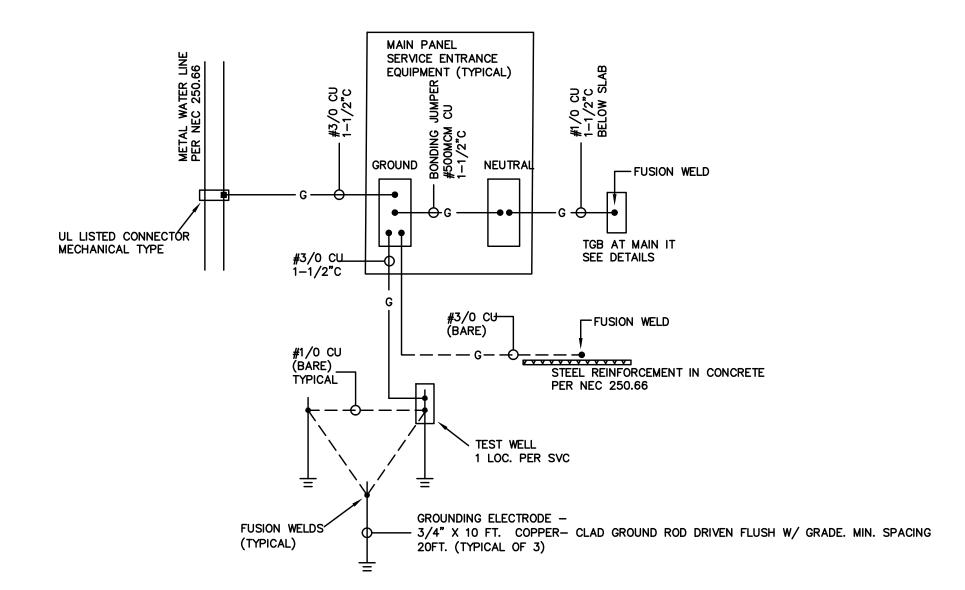


PANELBOARD NOTES

NOT TO SCALE

DETAIL NOTES:

- ARRANGE BREAKERS AS FOLLOWS: 1 POLE, LOW TO HIGH TRIP; 2 POLE, LOW TO HIGH TRIP; 3 POLE, LOW TO HIGH TRIP; SPARES THEN SPACE.
- 2. ALL PANELS TO HAVE DOOR-IN-DOOR (HINGED TRIM) CONSTRUCTION.
- 3. FOR SURFACE MOUNTED PANELS INSTALL ALL NAMEPLATES (PER DETAILS) USING MACHINE SCREWS. FOR FLUSH PANELS IN FINISHED SPACES, INSTALL NAMEPLATES TO INSIDE OF DOOR USING 2 PART EPOXY (12HR)
- 4. FOR ALL FLUSH PANELS, FURNISH AND INSTALL 4EA. 1" EMPTY CONDUITS TO ABOVE NEAREST ACCESSIBLE CLG, LABELS AS SPARES AND PROVIDE REQD. FIRESTOP.
- 5. ALL PANELS TO HAVE WELDED METAL DIRECTORY CARD HOLDERS.

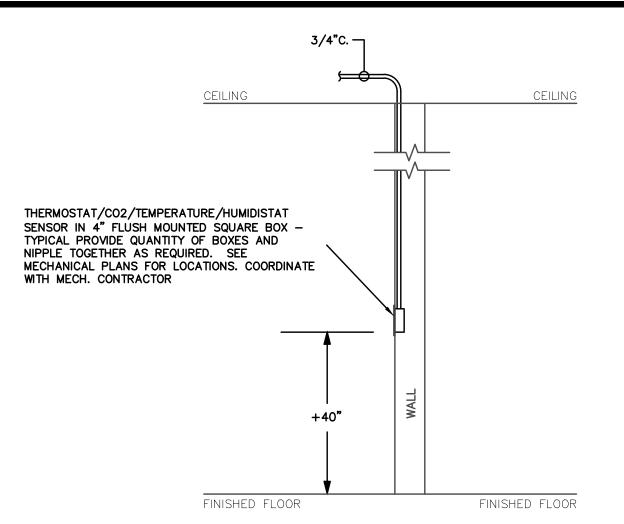


SERVICE ENTRANCE GROUNDING

NOT TO SCALE

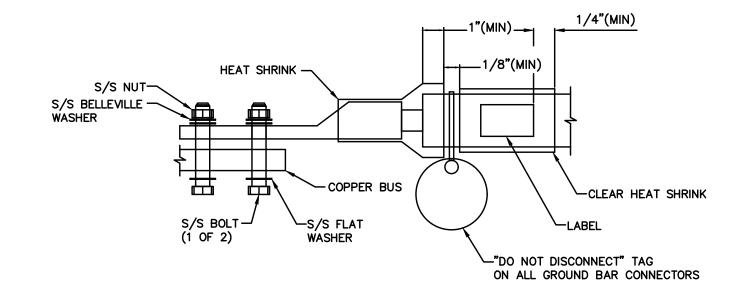
(PNL MP1 AND MP2)

1. BOND METAL PIPING SYSTEMS INCLUDING GAS PIPING TO THE SERVICE EQUIPMENT ENCLOSURE PER NEC 250.104(B), SIZED PER 250.122 BASED ON THE SIZE OF THE CIRCUIT SUPPLYING THE EQUIPMENT.



MECHANICAL CONTROLS

FLUSH MOUNTED WHERE SHOWN ON NEW WALLS SYMBOLS: S T C NOT TO SCALE



TYPICAL GROUNDING LUG

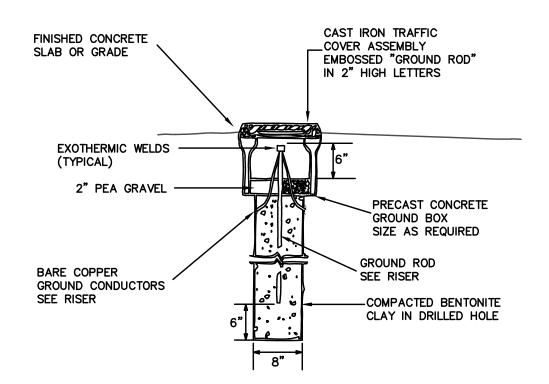
NOT TO SCALE

GENERAL BAR NOTES:

- 1. FURNISH AND INSTALL BUS BAR AND CONDUCTORS AS SHOWN UNLESS OTHERWISE NOTED.
- 2. LABEL ALL BUS BARS WITH PERMANENT ENGRAVED NAMEPLATE.
- 3. GROUNDING CONDUCTORS, OTHER THAN AC POWER FEEDERS SHALL BE INSTALLED IN NON-METALLIC RIGID CONDUITS EXCEPT
- 4. GROUND BAR CONDUCTORS SHALL NOT SHARE CONDUITS OR PULL BOXES WITH CONDUCTORS OR CABLES OF OTHER SYSTEMS.
- 5. PULL BOX USED FOR GROUND CONDUCTORS SHALL BE NONMETALLIC.
- 6. SEE SPECIFICATIONS FOR REQUIRED MAXIMUM RESISTANCE TO GROUND.
- 7. PROVIDE AND INSTALL IDENTIFICATION ON BOTH ENDS OF EACH GROUNDING CONDUCTOR INDICATING DESTINATION.

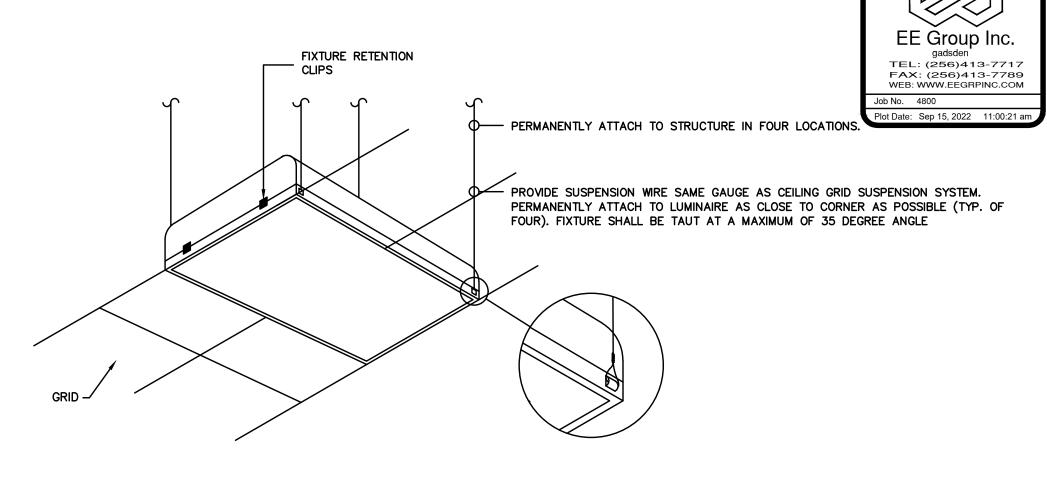
GENERAL GROUNDING LUG NOTES:

- 1. ALL HARDWARE SHALL BE STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING,
- 2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH KOPR-SHIELD.



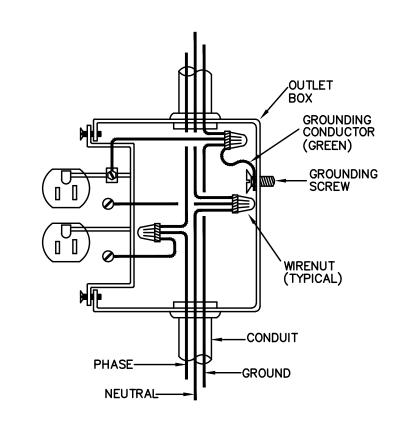
GROUND ROD TEST WELLS (1 REQD. PER SERVICE)

NOT TO SCALE



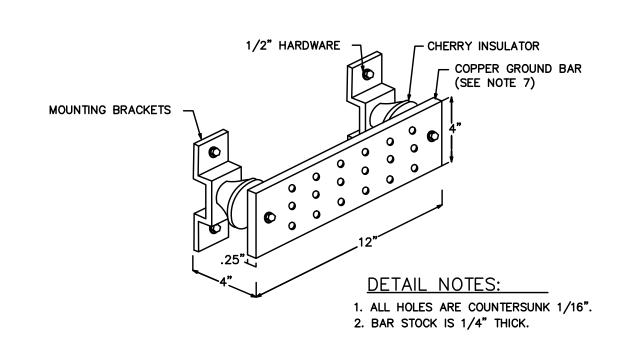
RECESSED FIXTURE SUPPORTS

NOT TO SCALE



RECEPTACLE INSTALLATION

NOT TO SCALE



TYPICAL GROUND BUS

NOT TO SCALE

<u>DETAIL NOTES:</u>

- 1. FURNISH AND INSTALL BUS BAR AND CONDUCTORS AS SHOWN UNLESS OTHERWISE NOTED.
- 2. LABEL ALL BUS BARS WITH PERMANENT ENGRAVED NAMEPLATE.
- 3. GROUNDING CONDUCTORS, OTHER THAN AC POWER FEEDERS SHALL BE INSTALLED IN NONMETALLIC RIGID CONDUITS EXCEPT AS NOTED.
- 4. GROUND BAR CONDUCTORS SHALL NOT SHARE CONDUITS OR PULL BOXES WITH CONDUCTORS OR CABLES OF OTHER SYSTEMS.
- 5. PULL BOX USED FOR GROUND CONDUCTORS SHALL BE NONMETALLIC.
- 6. SEE SPECIFICATIONS FOR REQUIRED MAXIMUM RESISTANCE TO GROUND.
- 7. GROUND BAR KIT SHALL BE OTRONICS# WWBB-12 MOUNT INSULATORS DIRECT TO INSIDE BACKING OF NEMA 3R ENCLOSURE (SEE EQUIPMENT ELEVATIONS FOR APPROXIMATE LOCATION). ENCLOSURE SHALL BE SIZE SUCH THAT ADIQUATE WIRE BENDING SPACE IS PROVIDED ON ALL SIDES.
- 8. FURNISH AND INSTALL A MAIN GROUND BUS AT EACH SERVICE LOCATION.



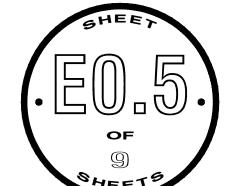
ELECTRICAL DETAILS - 2

DRAWN

CHECKED

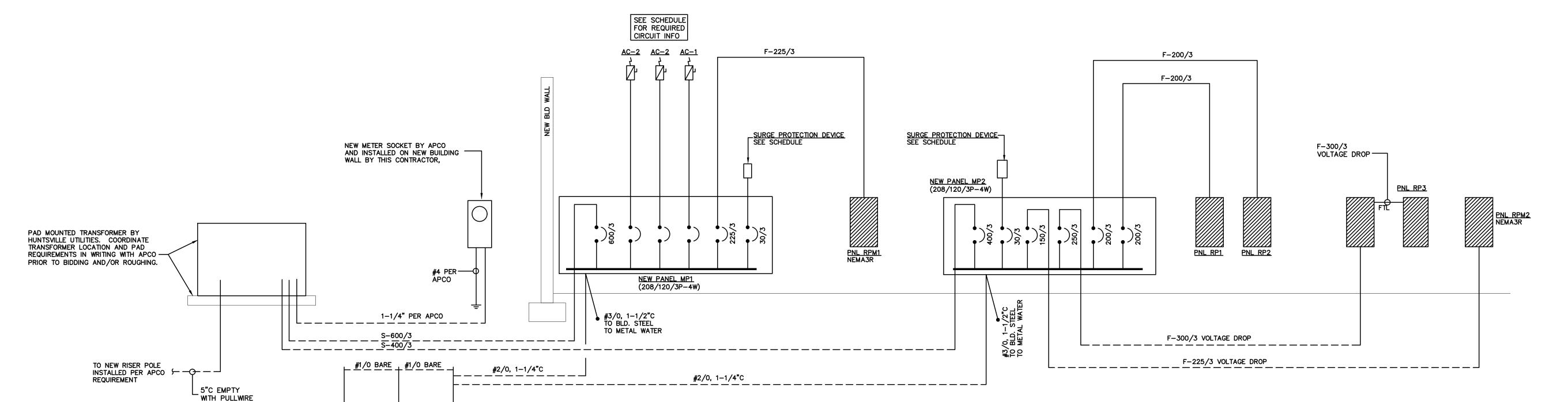
AS NOTED SEPTEMBER 15, 2022

> JOB NO. 22-01







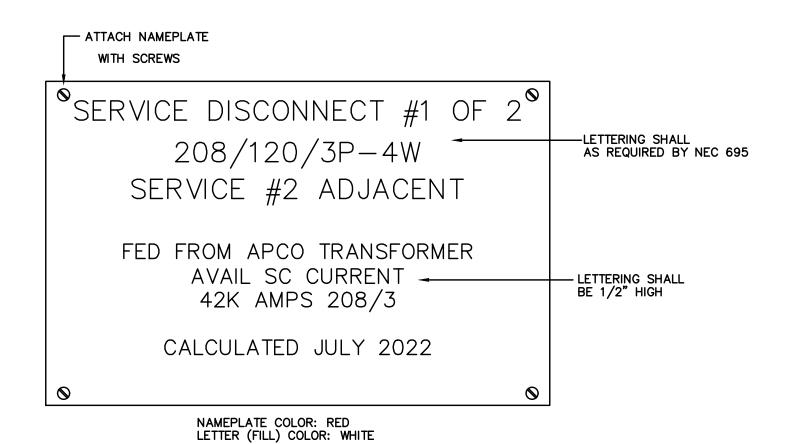


SINGLE LINE DIAGRAM

NOT TO SCALE

- COORDINATE ALL ELECTRICAL SERVICE REQUIREMENTS WITH ALABAMA POWER COMPANY PRIOR TO BIDDING. ALL AID TO CONSTRUCTION CHARGES BY ALABAMA POWER CO. FOR THE REQUIRED ELECTRICAL SERVICE AS SHOWN ON THE PLANS WILL BE PAID DIRECT BY THE OWNER. COORDINATE ALL ASPECTS OF THE REQUIRED ELECTRICAL SERVICE IN WRITING WITH ALABAMA POWER CO. PRIOR TO BIDDING AND/OR ROUGHING.
- 2. FURNISH AND INSTALL JOB NAMEPLATE ON MP1 PER DETAIL
- 3. FURNISH AND INSTALL ENGRAVED NAMEPLATES ON EACH BREAKER IN PANELS MP1 AND MP2 INDICATING LOAD SERVED.
- 4. FURNISH AND INSTALL ENGRAVED NAMEPLATES ON ALL ELECTRICAL EQUIPMENT PER DETAIL
- 5. FURNISH HINGED TRIM FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUIT PANELS THIS PROJECT.
- 6. PROVIDE REQUIRED GROUNDING ELECTRODE CONNECTIONS AS SHOWN ON DETAIL.

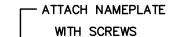
7. FURNISH AND INSTALL LINE WARNING TAPE ON ALL UNDERGROUND CONDUITS,



SERVICE ENTRANCE NAMEPLATES NOT TO SCALE

CONDUCTOR/CONDUIT SCHEDULE

FEEDER IDENTIFIER	MOCP	SERVICE FEEDER EQUIPMENT	COPPER WIRE AND CONDUIT SIZE *				
S-400/3	400/3	APCO TX	4#600KCMIL, 3-1/2°C				
S-600/3	600/3	APCO TX	2-RUNS 4#350KCMIL, 3"C				
F-50/3	50/3	FEEDER	4#8, 1#10(G)-3/4"C.				
F-70/3	70/3	FEEDER	4#4, 1#8(G)-1-1/4"C.				
F-100/3	100/3	FEEDER	4#3, 1#8(G)-1 1/4"C.				
F-125/3	125/3	FEEDER	4#1, 1#6(G), 1-1/2"C.				
F-150/3	150/3	FEEDER	4#1/0, 1#6(G), 2"C.				
F-200/3	200/3	FEEDER	4#3/0, 1#6(G), 2"C.				
F-225/3	225/3	FEEDER	4#4/0, 1#4(G), 2-1/2°C.				
F-300/3	225/3	FEEDER	4#350MCM, 1#4(G), 3"C., VOLTAGE DROP				



WITH SCREWS	
SERVICE DISCONNECT #2 OF 2	8
208/120/3P-4W	LETTERING SHALL AS REQUIRED BY NEC 69
SERVICE #1 ADJACENT	
FED FROM APCO TRANSFORMER AVAIL SC CURRENT	LETTERING SHALL BE 1/2" HIGH
CALCULATED JULY 2022	
©	<u> </u>
NAMEPLATE COLOR: RED LETTER (FILL) COLOR: WHITE	

SERVICE ENTRANCE NAMEPLATES

NOT TO SCALE

ARC FLASH HAZARD LABEL

COMPLY WITH ANSI Z535.4-1998
HIGH-TACK ADHESIVE LABELS
UV/CHEMICAL RESISTANT 3.2 MIL LAMINATED VINYL

ALL ELECTRICAL EQUIPMENT PER SPECIFICATIONS NOT TO SCALE

3/4"x10 FT. COPPER CLAD GROUND ROD DRIVEN FLUSH WITH GRADE, SPACED 20 FT.

APPROX. 5"

EQUIPMENT NAME

VOLTAGE/PHASE

FEEDER EQUIPMENT

NAMEPLATES DETAIL

AT LEAST 4" X 6", COMPLY WITH NEC 110.16

or death. Wear protective

MARNING

NOT TO SCALE

ALL ELECTRICAL EQUIPMENT PER SPECIFICATIONS

Electric Arc Flash Hazard

Will cause severe injury

equipment before opening or

measurements while energized. (see NFPA 70E)

performing diagnostic

277/480 VOLT EQUIPMENT RED MICARTA W/ WHITE LETTERS

120/208 VOLT EQUIPMENT BLUE MICARTA W/ WHITE LETTERS

-ROUNDED CORNERS

TO RESIST PEELING

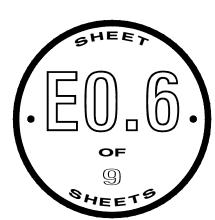


ELECTRICAL SINGLE LINE DIAGRAM

DRAWN CHECKED AS NOTED SEPTEMBER 15, 2022

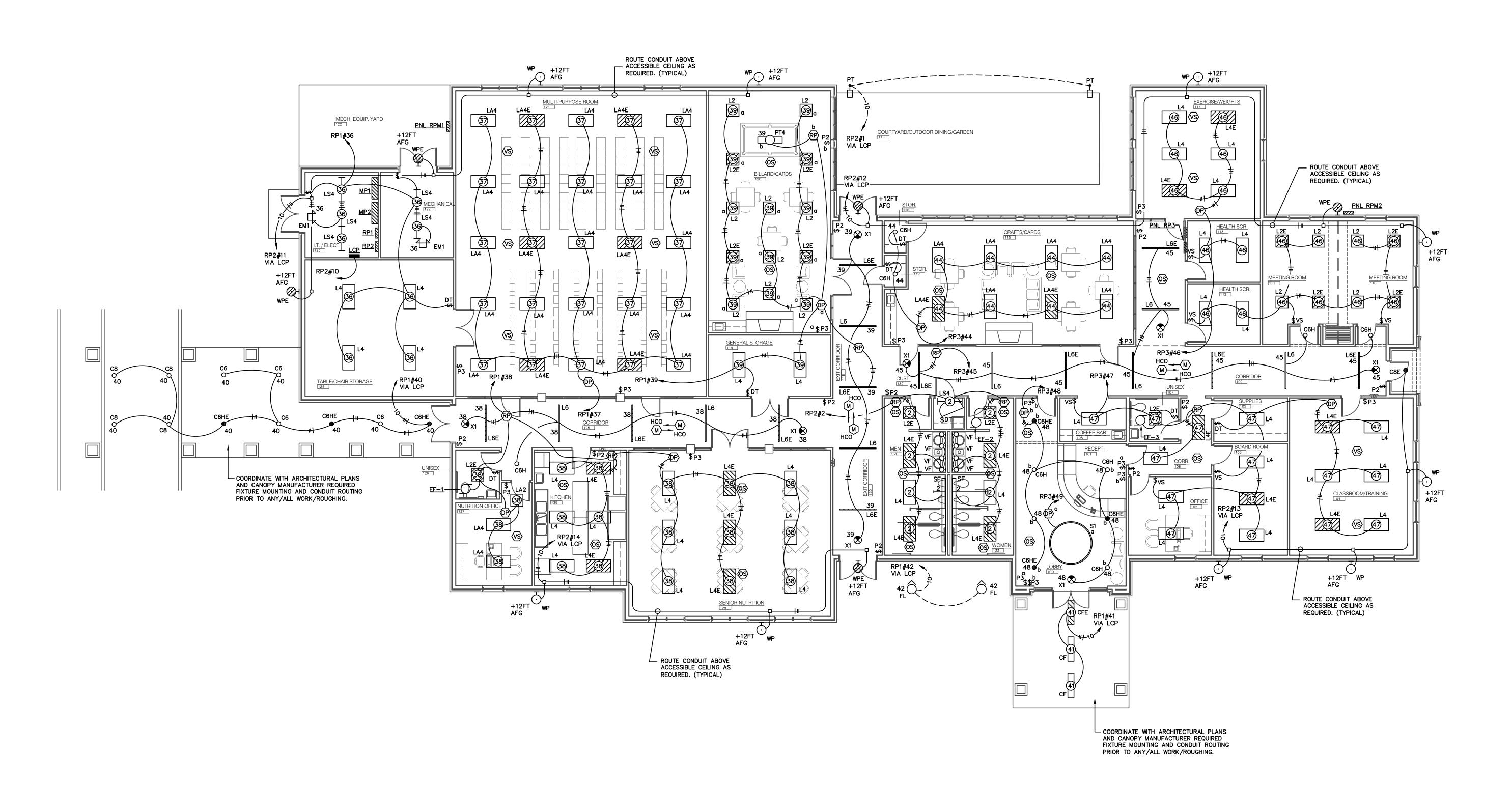
JOB NO.

22-01











A NEW SENIOR WELLNESS CE at

> FLOOR PLAN -LIGHTING

> > DRAWN

SCALE
AS NOTED

DATE

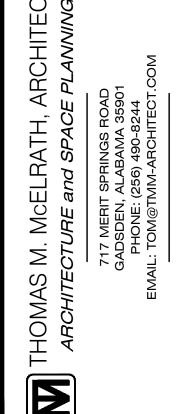
SEPTEMBER 15, 2022

JOB NO. 22-01 REVISIONS









at
2829 W. Meighan Boulevard
for
THE CITY of GADSDEN, ALABAMA

FLOOR PLAN POWER

DRAWN
CHECKED

SCALE
AS NOTED

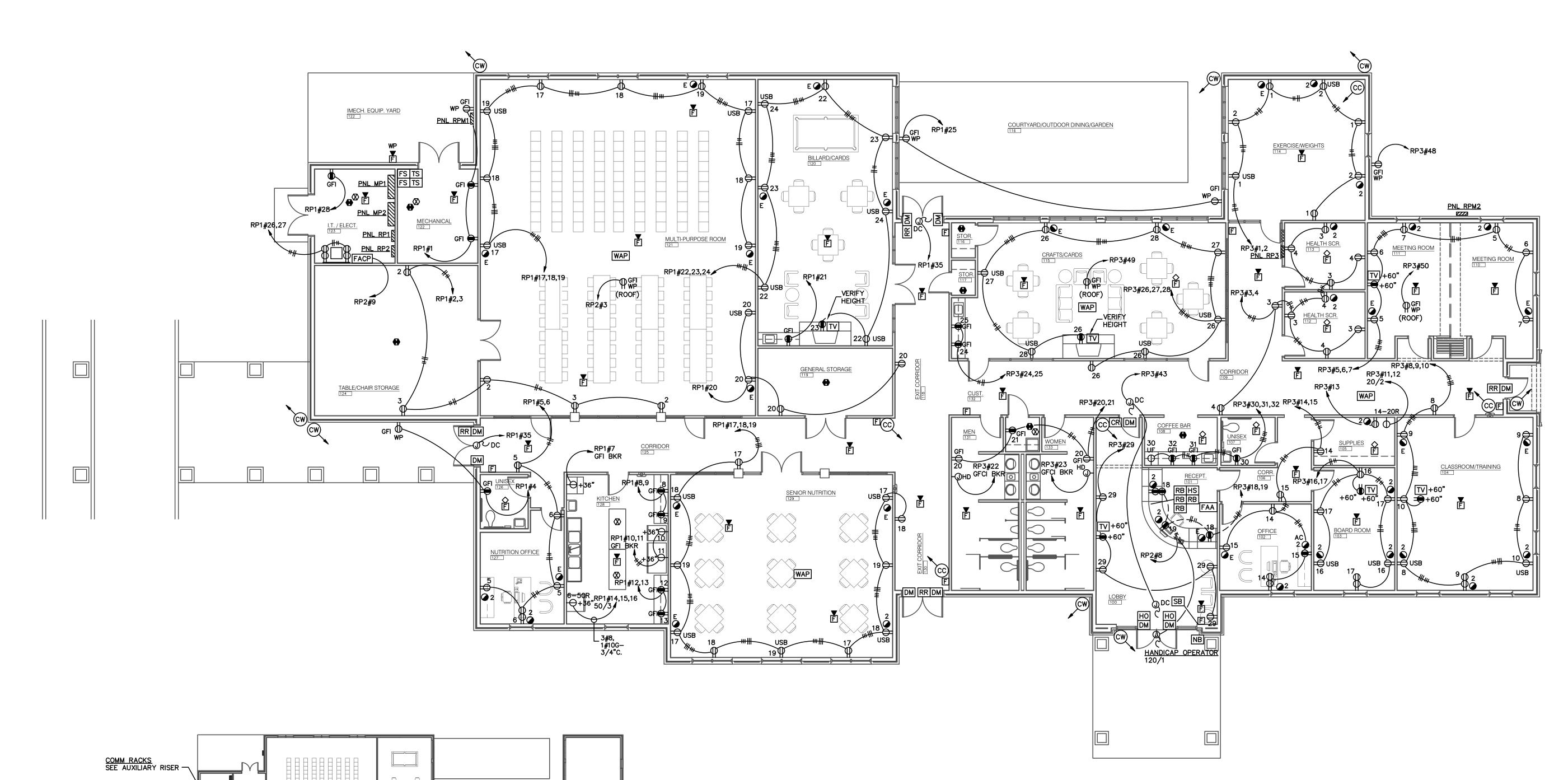
DATE

SEPTEMBER 15, 2022

FILE

JOB NO. 22-01 REVISIONS

SHEET OF Q



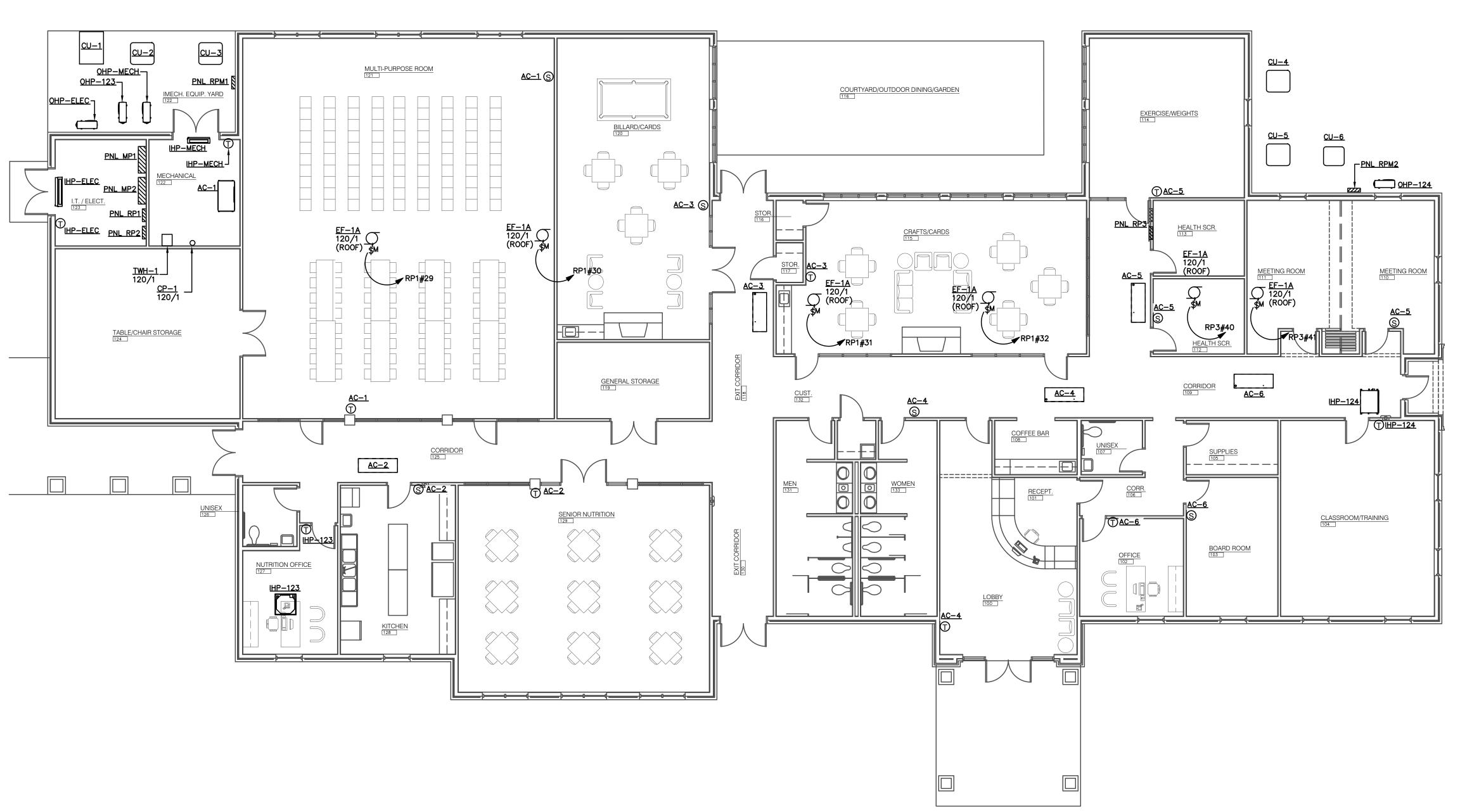
FLOOR PLAN - POWER AND AUXILIARY



AUXILIARY BACKBOARD MDF123 SEE AUXILIARY RISER





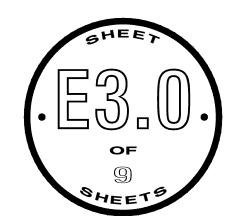


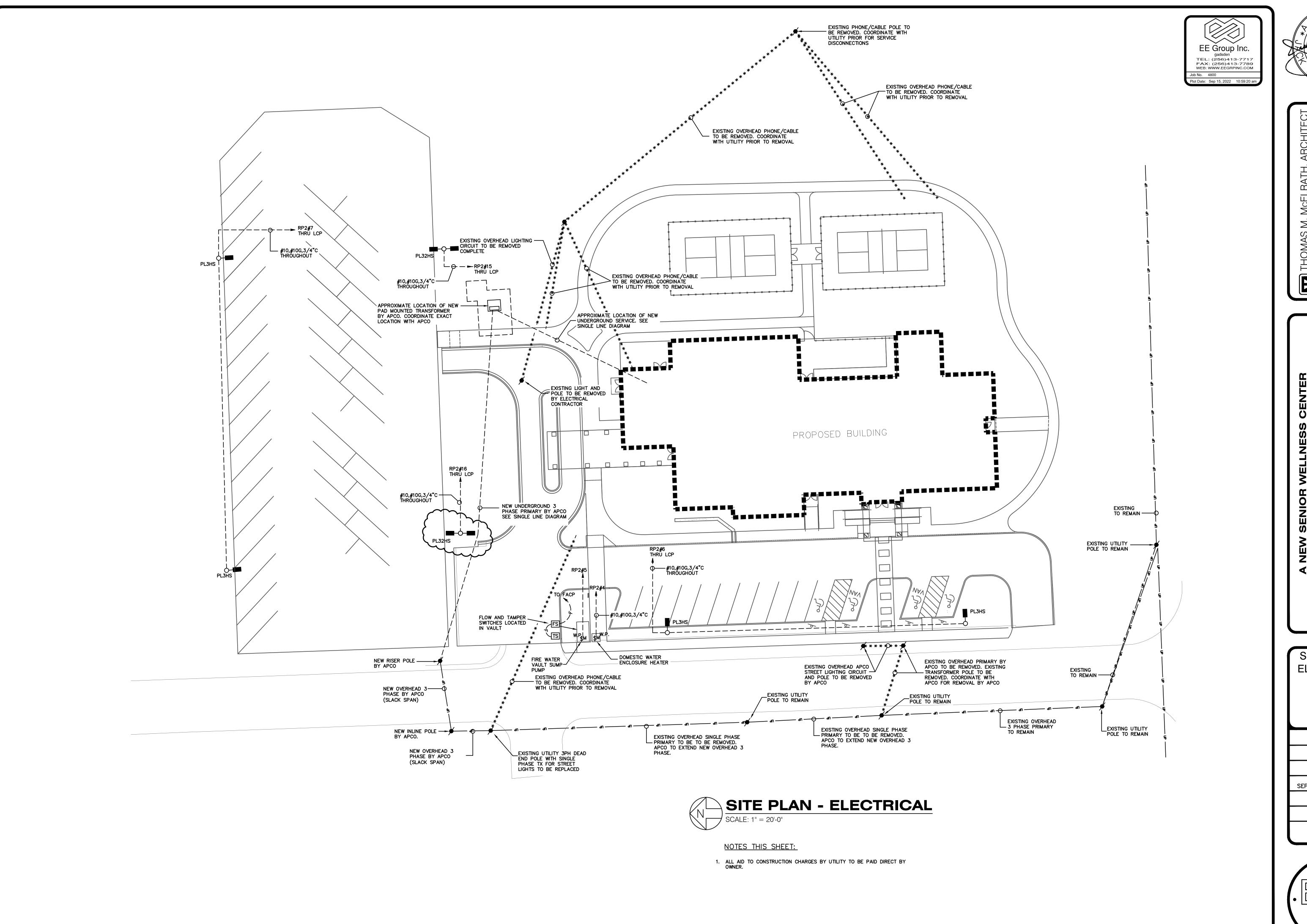
M&P ELECTRICAL CONNECTIONS SCHEDULE

MARK	VOLTAGE / DESCRIPTION PHASE		TERMINATION AT EQUIPMENT	MOCP	WIRE & CONDUIT	PANEL & CKT		
OHP-123	208/1	OUTDOOR HEAT PUMP		30/2	2#10,1#10G,3/4"C	RPM1#1,2		
OHP-124	208/1	OUTDOOR HEAT PUMP		30/2	2#10,1#10G,3/4"C	RPM2#1,2		
OHP-ELEC	208/1	OUTDOOR HEAT PUMP		30/2	2#10,1#10G,3/4"C	RPM1#3,4		
OHP-MECH	208/1	OUTDOOR HEAT PUMP		30/2	2#10,1#10G,3/4"C	RPM1#5,6		
IHP-123	INDOOR HEAT PUMP POWERED BY OUTDOOR HEAT PUMP THROUGH FIELD SUPPLIED INTERCONNECTED WIRING							
IHP-124		INDOOR HEAT PUMP POWERED BY OL	JTDOOR HEAT PUMP THROUGH FIELD SUP	PLIED INTE	RCONNECTED WIRING			
IHP-ELEC		INDOOR HEAT PUMP POWERED BY OL	JTDOOR HEAT PUMP THROUGH FIELD SUP	PLIED INTE	RCONNECTED WIRING			
IHP-MECH		INDOOR HEAT PUMP POWERED BY OL	JTDOOR HEAT PUMP THROUGH FIELD SUP	PLIED INTE	RCONNECTED WIRING	MAMAHANANANANANANANANANANANANANANANANANA		
CU-1	208/3	CONDENSING UNIT		50/3	3#8,1#10G,3/4"C	RPM1#7,8,9		
CU-2	208/3	CONDENSING UNIT		35/3	3#8,1#10G,3/4"C	RPM1#10,11,1		
CU-3	208/3	CONDENSING UNIT		35/3	3#8,1#10G,3/4"C	RPM1#13,14,1		
CU-4	208/3	CONDENSING UNIT		30/3	3#10,1#10G,3/4"C	RPM2#3,4,5		
CU-5	208/3	CONDENSING UNIT		30/3	3#10,1#10G,3/4"C	RPM2#6,7,8		
CU-6	208/1	CONDENSING UNIT		25/2	2#10,1#10G,3/4"C	RPM2#9,10		
AC-1	208/3	INDOOR AIR HANDLING UNIT	200/3 SAFETY SWITCH	125/3	3#1,1#6G,1-1/2"C	MP1		
AC-2	208/3	INDOOR AIR HANDLING UNIT	60/3 SAFETY SWITCH	45/3	3#8,1#10G,3/4"C	MP1		
AC-3	208/3	INDOOR AIR HANDLING UNIT	60/3 SAFETY SWITCH	45/3	3#8,1#10G,3/4"C	MP1		
AC-4	208/3	INDOOR AIR HANDLING UNIT	60/3 SAFETY SWITCH	45/3	3#8,1#10G,3/4"C	RP3#35,36,37		
AC-5	208/3	INDOOR AIR HANDLING UNIT	60/3 SAFETY SWITCH	45/3	3#8,1#10G,3/4"C	RP3#38,39,40		
AC-6	208/1	INDOOR AIR HANDLING UNIT	60/2 SAFETY SWITCH	50/2	2#8,1#10G,3/4"C	RP3#33,34		
TWH-1	120/1	GAS TANKLESS WATER HEATER	MOTOR RATED SWITCH	20/1	2#12,1#12G, 3/4"C	RP1#33		
CP-1	120/1	CIRCULATING PUMP	MOTOR RATED SWITCH	20/1	2#12,1#12G, 3/4"C	RP1#34		

FLOOR PLAN - M&P CONNECTIONS SCALE: 1/8" = 1'-0"
SCALE: 1/8" = 1'-0"

FLOOR PLAN -CONNECTIONS AS NOTED SEPTEMBER 15, 2022







SITE PLAN -**ELECTRICAL**

DRAWN

CHECKED SCALE

AS NOTED SEPTEMBER 15, 2022

> JOB NO. 22-01 REVISIONS