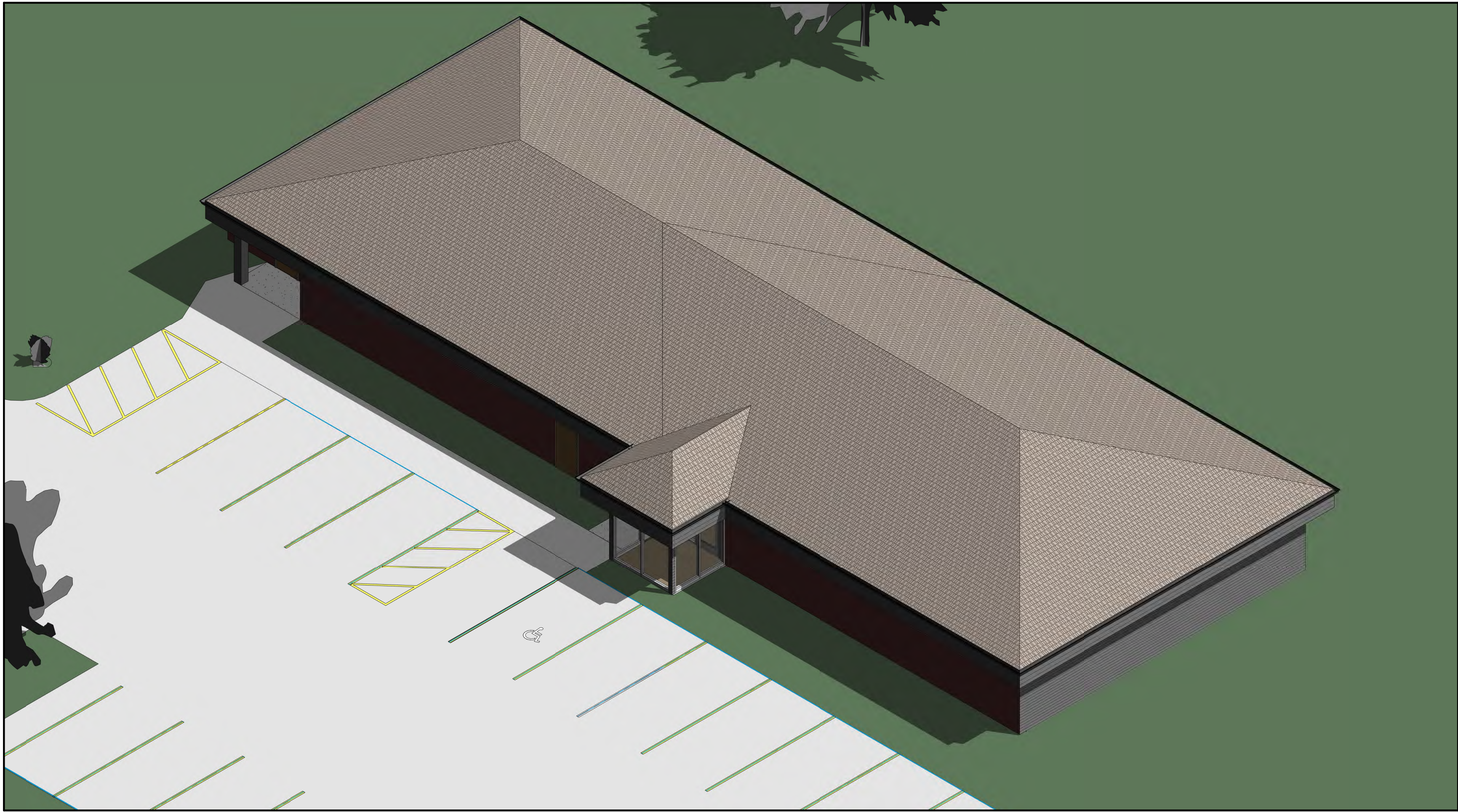


Addition to GHS FQHC  
2298 S. Center Rd, Burton, MI 48519



PROJECT TEAM

ARCHITECT SEDGEWICK & FERWEDA ARCHITECTS  
CONTACT: JEFFREY S. FERWEDA, AIA  
410 EAST COURT STREET  
FLINT, MICHIGAN 48503  
T: 810-238-9647  
JEFFREY@SFARCH.US  
OWNER GENESEE HEALTH SYSTEMS  
2298 S CENTER RD  
BURTON, MICHIGAN 48519  
T:  
@GMAIL.COM

GENERAL PROJECT AND SITE

PARCEL ID: 59-80-172-002  
LOT SIZE: 1.129 ACRES  
PARCEL ZONING: RO: RESTRICTED OFFICE  
LEGAL DESCRIPTION: LOT 69 SUPERVISORS PLAT

BUILDING DATA

AREA OF EXISTING: 2,367 SQ FT  
AREA OF ADDITION: 2,067 SQ FT  
TOTAL AREA: 4,434 SQ FT  
USE GROUP: 'B' BUSINESS  
BLDG TYPE: VB - COMBUSTABLE UNPROTECTED  
ALLOWABLE AREA: 2 STORIES 9,000 SQ FT  
FIRE PROTECTION: NONE REQUIRED  
OCCUPANCY: 1/100 FT SQ 24 PERSONS

BUILDING CODES

- BUILDING CODES TO REFERENCE  
(CHECK ALL TO BE USED)
- ☐ MICHIGAN BUILDING CODE 2015 EDITION
  - ☐ MICHIGAN RESIDENTIAL BUILDING CODE 2015 EDITION
  - ☒ MICHIGAN REHABILITATION CODE 2015 EDITION - LEVEL 2
  - ☒ MECHANICAL - MICHIGAN MECHANICAL CODE 2015 EDITION
  - ☒ PLUMBING - MICHIGAN PLUMBING CODE 2018 EDITION
  - ☒ ELECTRICAL - NATIONAL ELECTRICAL CODE 2017 EDITION
  - ☐ MICHIGAN ENERGY CODE - ASHRAE 90.1-2013
  - ☐ NFPA 101 LIFE SAFETY CODE 2015 EDITION

DRAWING INDEX			
SHEET NO.	SHEET NAME	CURRENT REVISION	CURRENT REVISION DATE
A0.0	Cover Page		
A0.1	General Notes		
A1.0	Site Plan		
A2.0	Floor Plans		
A2.1	Reflected Ceiling Plans		
A3.0	Exterior Elevations		
A4.0	Sections and Roof Framing Plan		
A5.0	Interior Elevations		
A6.0	Schedules & Details		
A6.1	Finish Plan		
A8.0	Specifications		
P1.0	Plumbing Plan		
M1.0	Mechanical Plan		
E1.0	Electrical Plan		
E2.0	Lighting Plan		
E3.0	Specifications		

GENERAL NOTES

- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY WORK.
- ALL WORK SHALL CONFORM TO ALL GOVERNING CODES AND REGULATIONS.

KEY TO DIMENSIONING:  
DIMENSIONS SHOWN ARE FROM ROUGH STUD FACE TO ROUGH STUD FACE, ROUGH FACE TO COLUMN CENTERLINE, AND COLUMN CENTERLINE TO COLUMN CENTERLINE, UNLESS NOTED OTHERWISE.

OWNERSHIP OF DRAWINGS

ALL PLANS, DRAWINGS, AND SPECIFICATIONS (THE DOCUMENTS) ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT WHETHER THE PROJECT FOR WHICH THEY WERE MADE IS EXECUTED OR NOT. OWNER SHALL NOT USE THE DOCUMENTS ON OTHER PROJECTS, FOR EXTENSIONS OR ADDITIONS TO THE PROJECT, OR FOR THE COMPLETION OF THE PROJECT BY OTHER EXCEPT IN AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE DESIGNER. THE OWNER SHALL HOLD THE ARCHITECT HARMLESS FROM ALL CLAIMS, ACTIONS, CAUSE OF ACTIONS, LIABILITY, LOSSES, DAMAGES, COST AND EXPENSE, INCLUDING ATTORNEYS FEES AND COSTS ARISING FROM SUCH UNAUTHORIZED USE. REPRODUCTION COPIES CAN BE PROVIDED AT THE OWNERS REQUEST AND EXPENSE.

SEAL OF ARCHITECT

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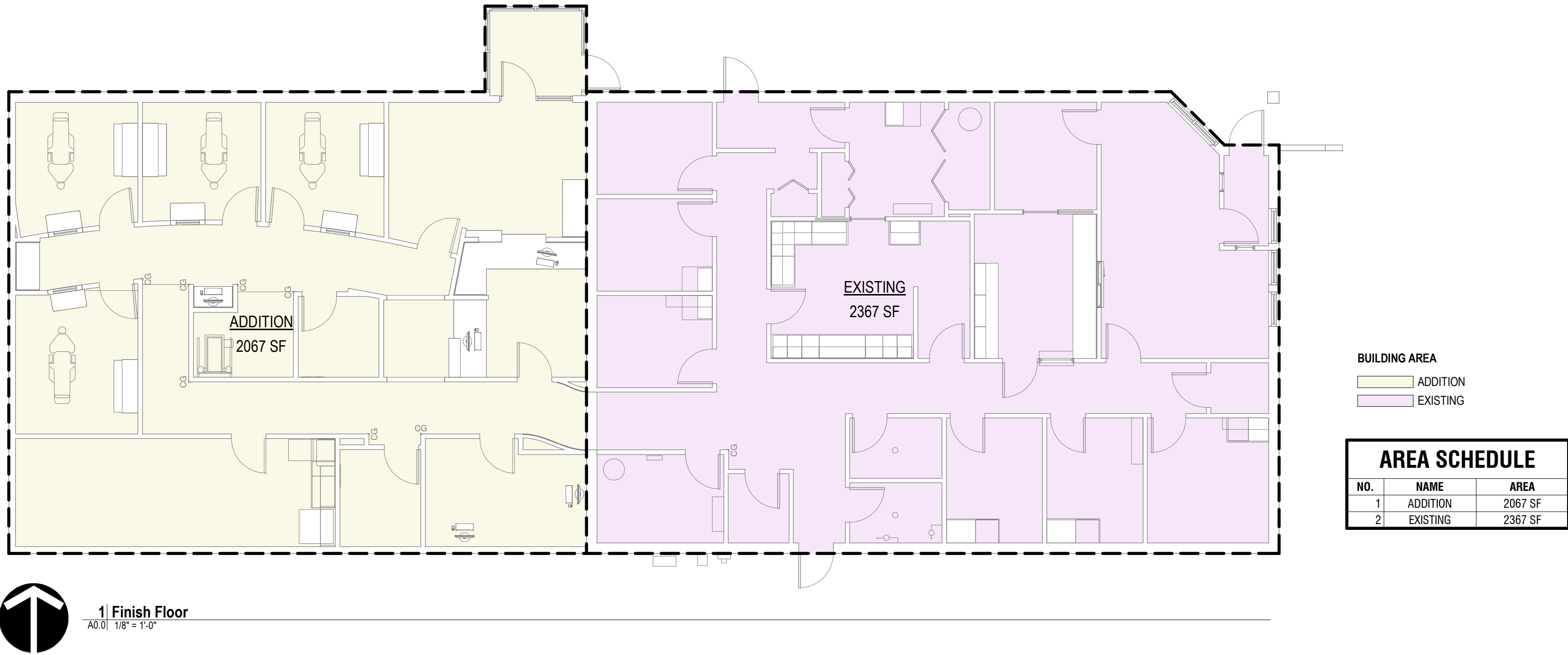
410 East Court Street Flint, MI 48503  
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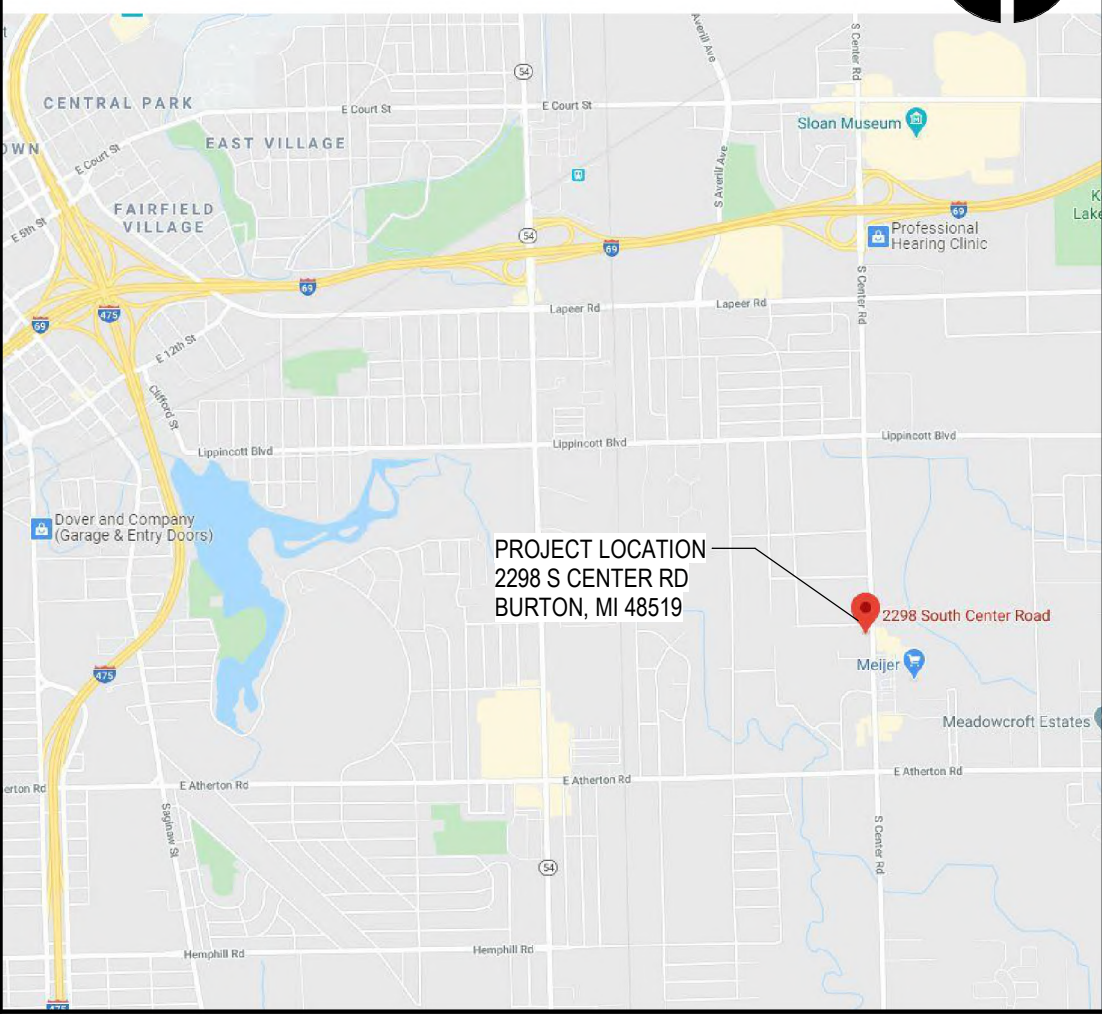


REVISIONS

Date	Description



PROJECT VICINITY MAP



Project Addition to GHS FQHC

2298 S. Center Rd  
Burton, MI 48519

Drawing

Cover Page

DRAWN BY: LJK  
CHECKED BY: JSF

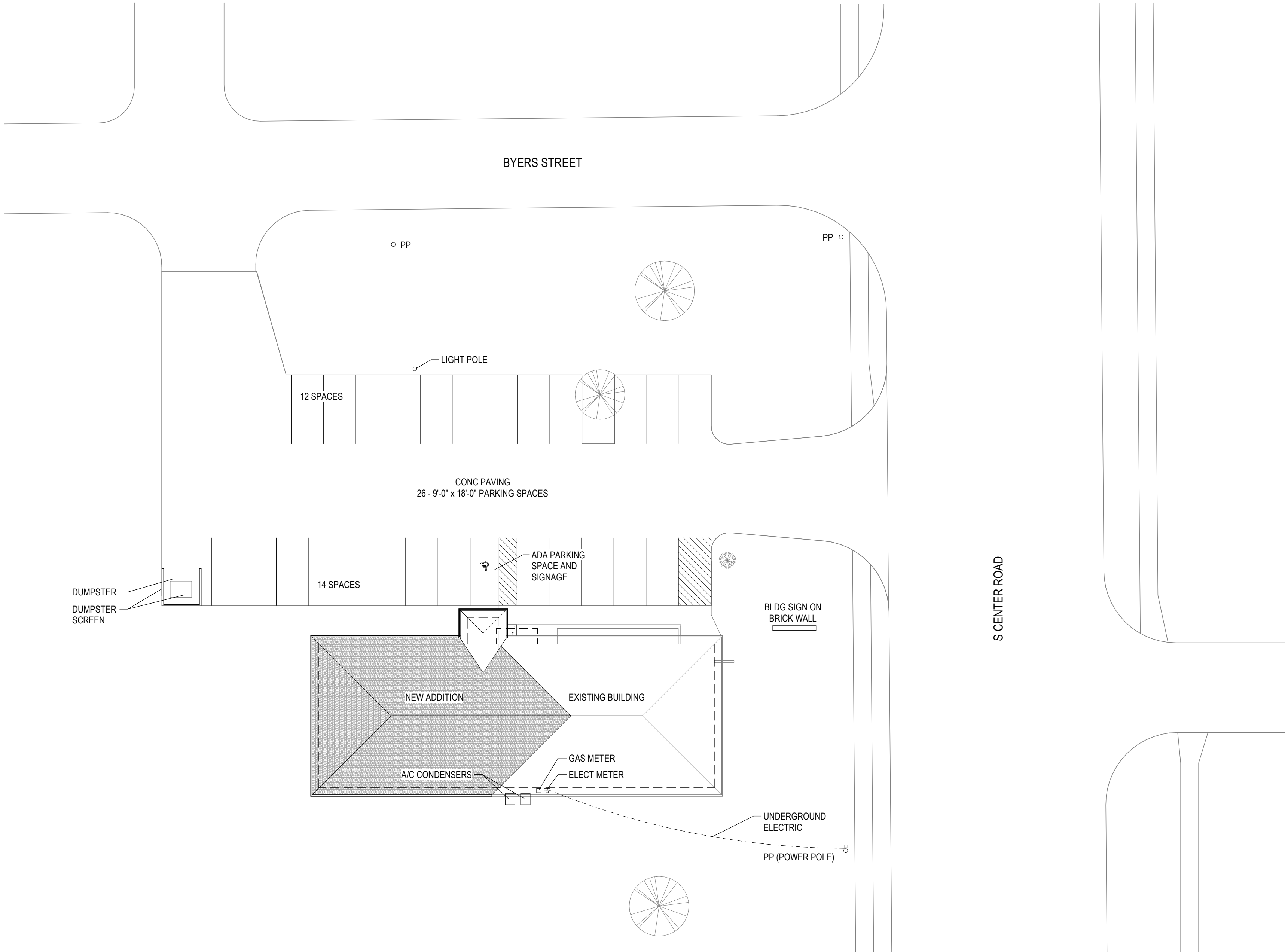
PROJECT NUMBER 22-016  
DATE 02/21/2023  
SCALE 1/8" = 1'-0"  
SHEET NUMBER

A0.0









1| Site Plan  
A1.0 | 1" = 20'-0"

Project

**Addition to GHS FQHC**  
**2298 S. Center Rd**  
**Burton, MI 48519**

Drawing

**Site Plan**

DRAWN BY: LJK  
CHECKED BY: JSF

PROJECT NUMBER **22-016**  
DATE **02/21/2023**  
SCALE **1" = 20'-0"**  
SHEET NUMBER

**A1.0**

ARCHITECT

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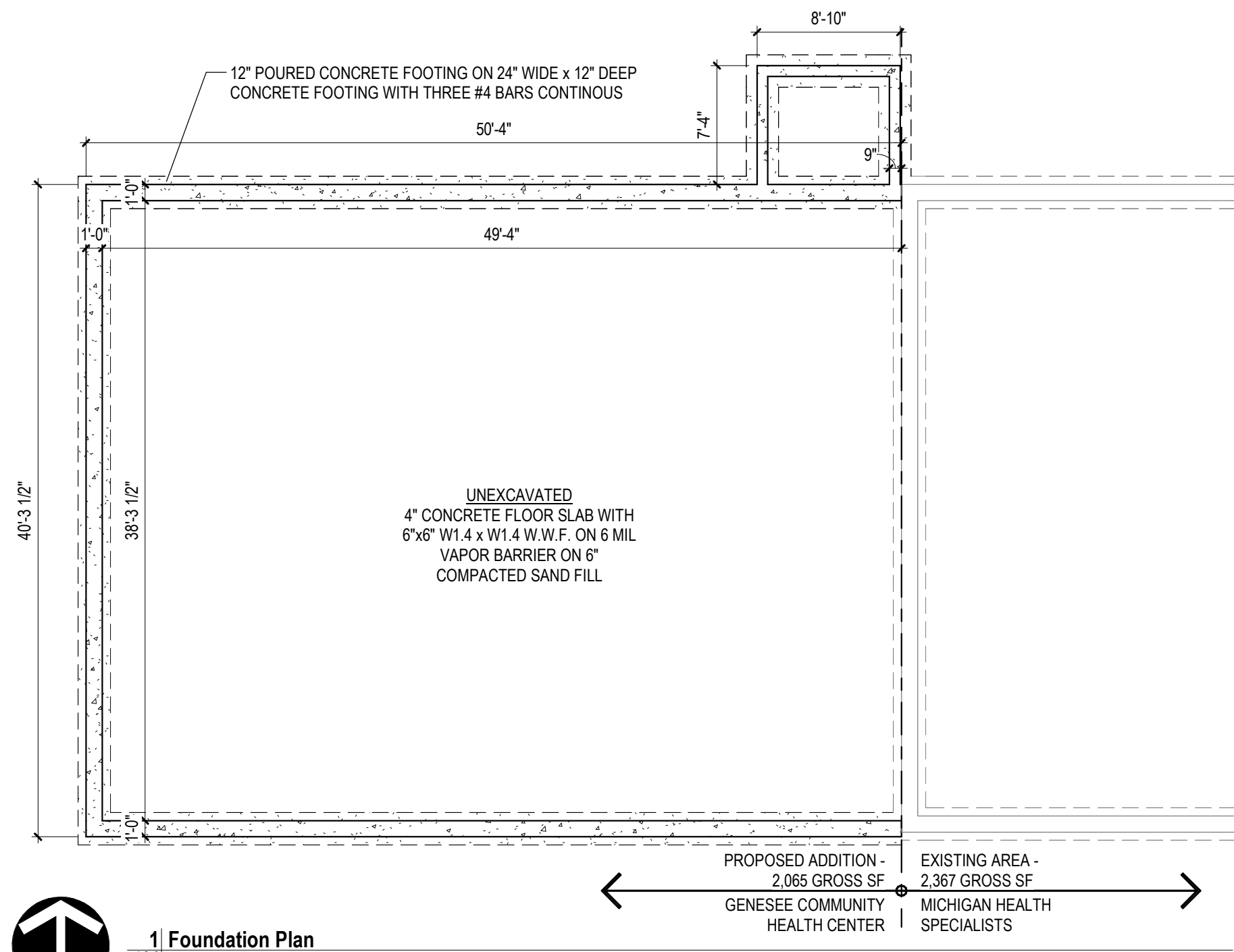
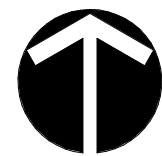
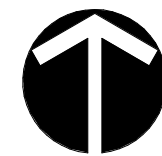
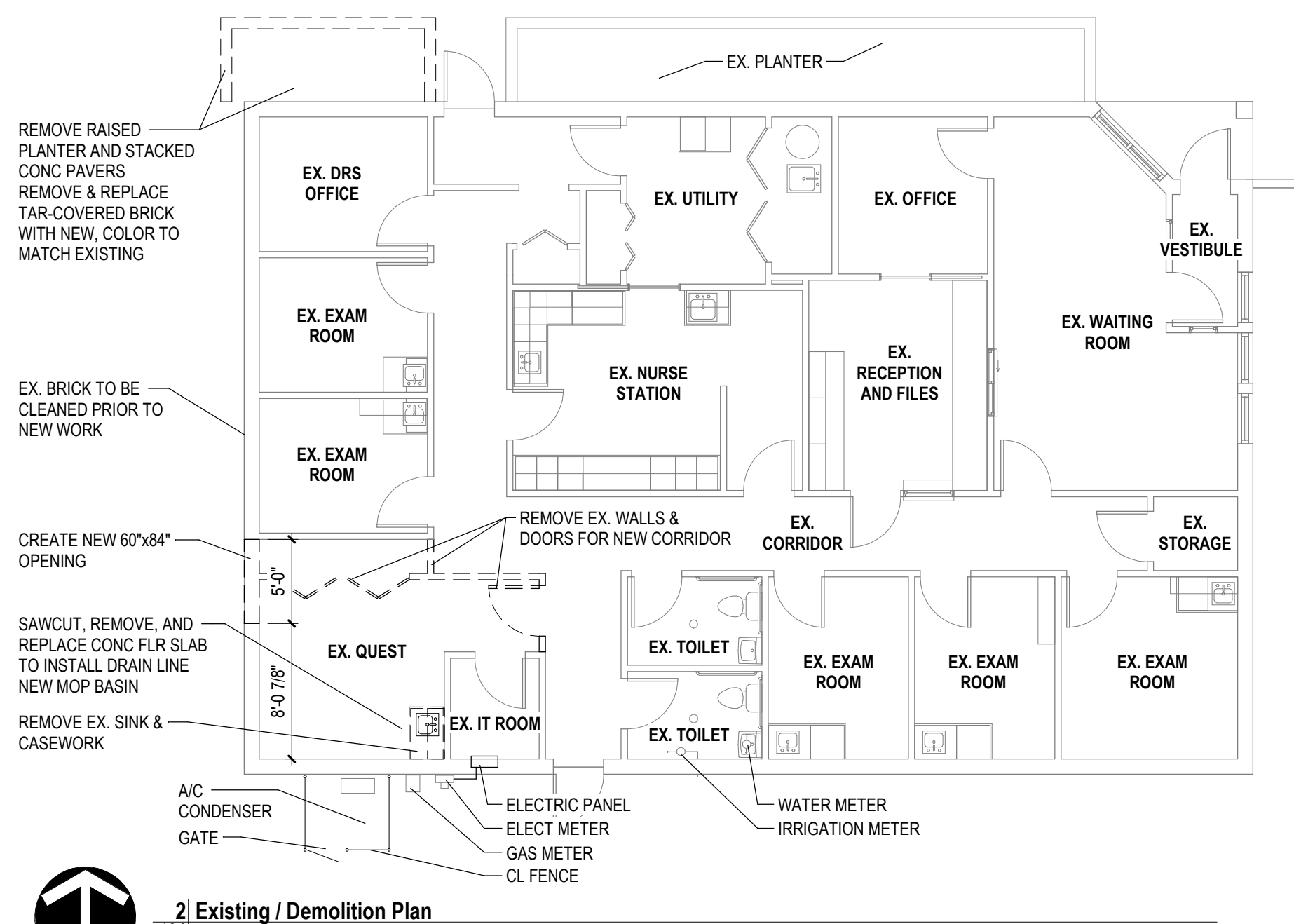
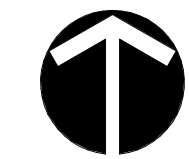
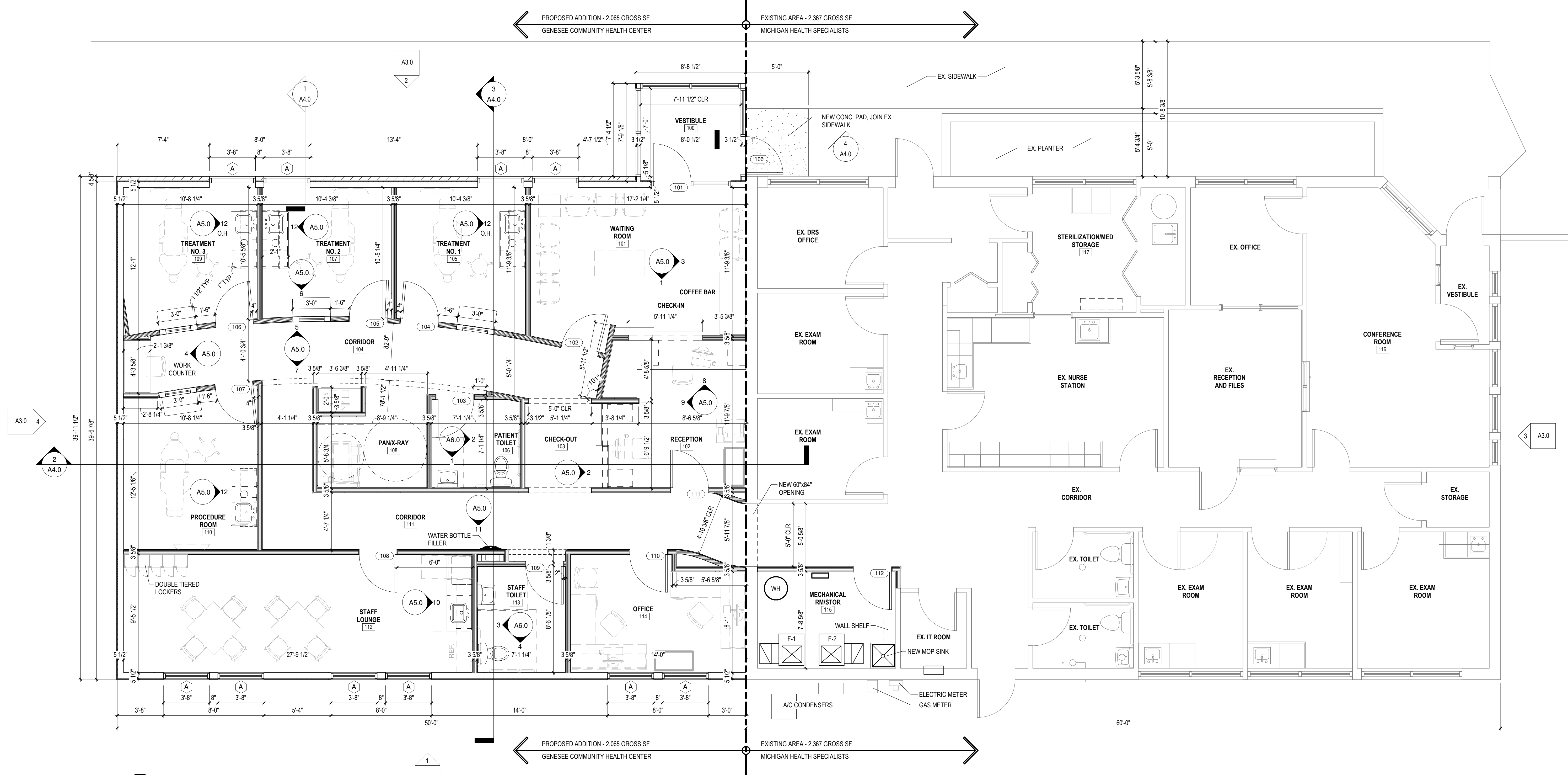
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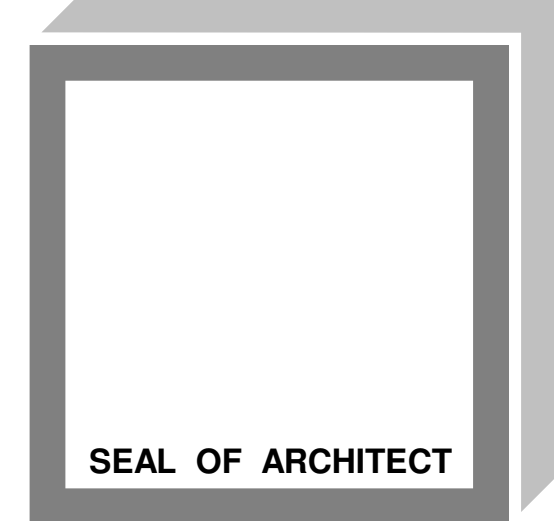


REVISIONS	
Date	Description

SEAL OF ARCHITECT



GENERAL FLOOR PLAN LEGEND	
	PROPOSED WALL TO 6" ABOVE CEILING
	PROPOSED DEMOLISHED WALL
	PROPOSED 1-HR RATED ASSEMBLY
	PROPOSED PARTIAL HT. WALL
	EX. WALL
	WALL TYPE TAG NOTE: ALL WALLS IN INDIVIDUAL ROOMS SAME TYPE U.N.O.
	SEMI-RECESSED FIRE EXTINGUISHER CABINET



ARCHITECT  
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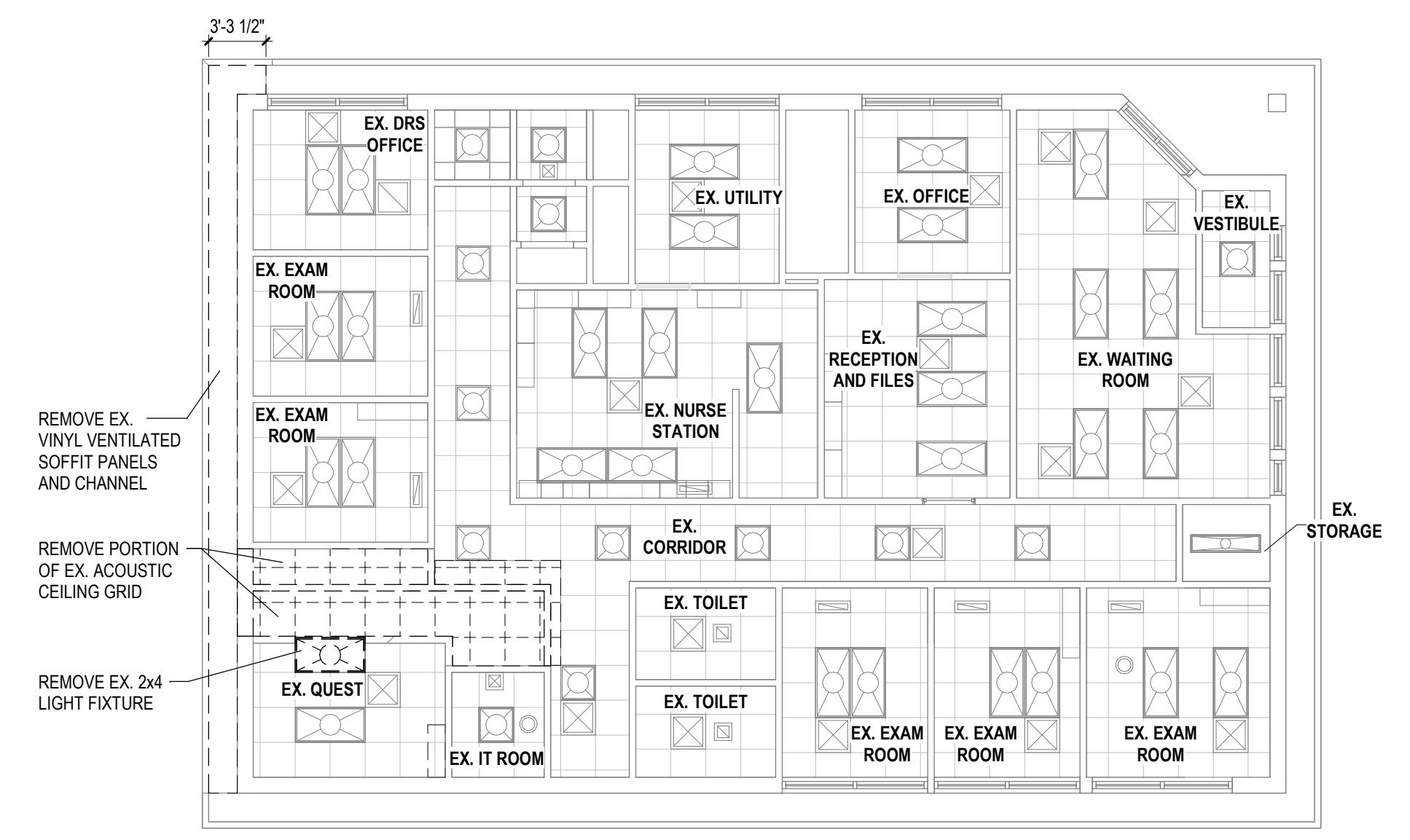
Project  
**Addition to GHS FQHC**  
**2298 S. Center Rd**  
**Burton, MI 48519**  
Drawing  
**Floor Plans**

DRAWN BY: LJK  
CHECKED BY: JSF  
PROJECT NUMBER **22-016**  
DATE **02/21/2023**  
SCALE **As indicated**  
SHEET NUMBER  
**A2.0**

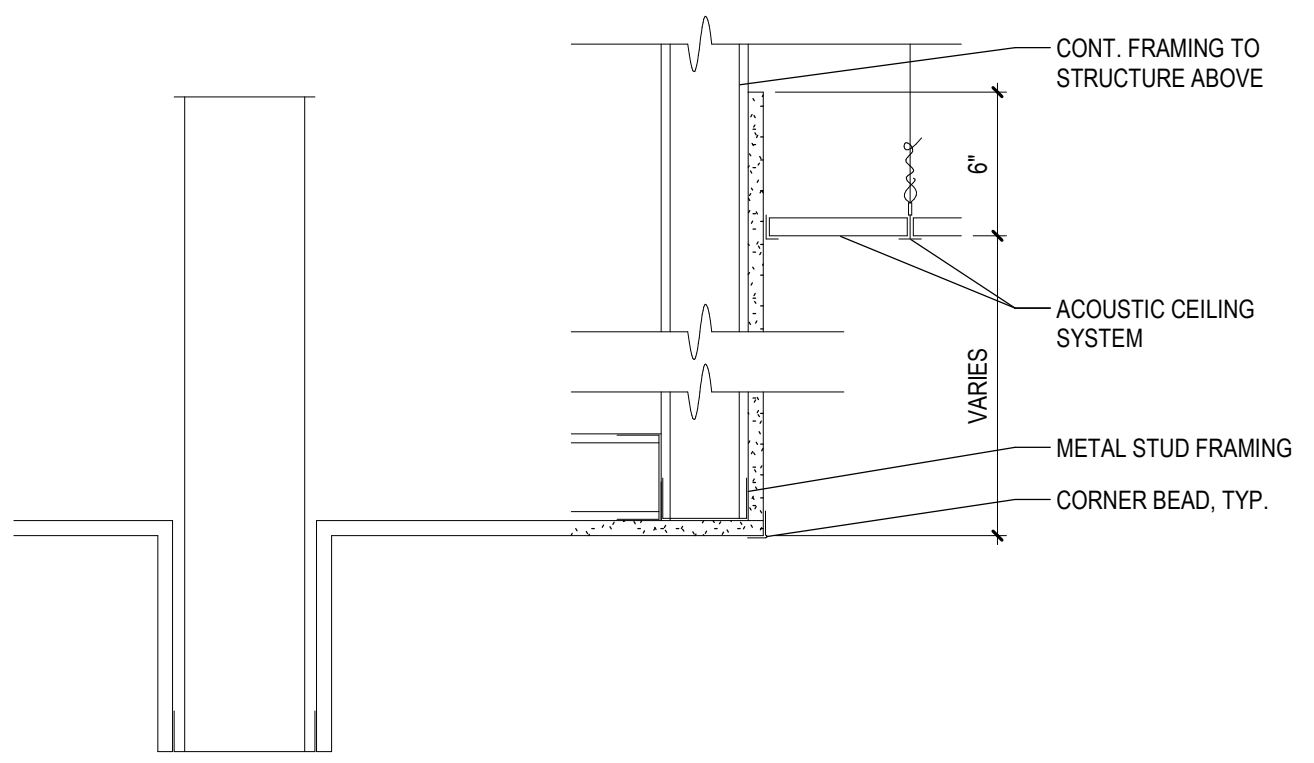
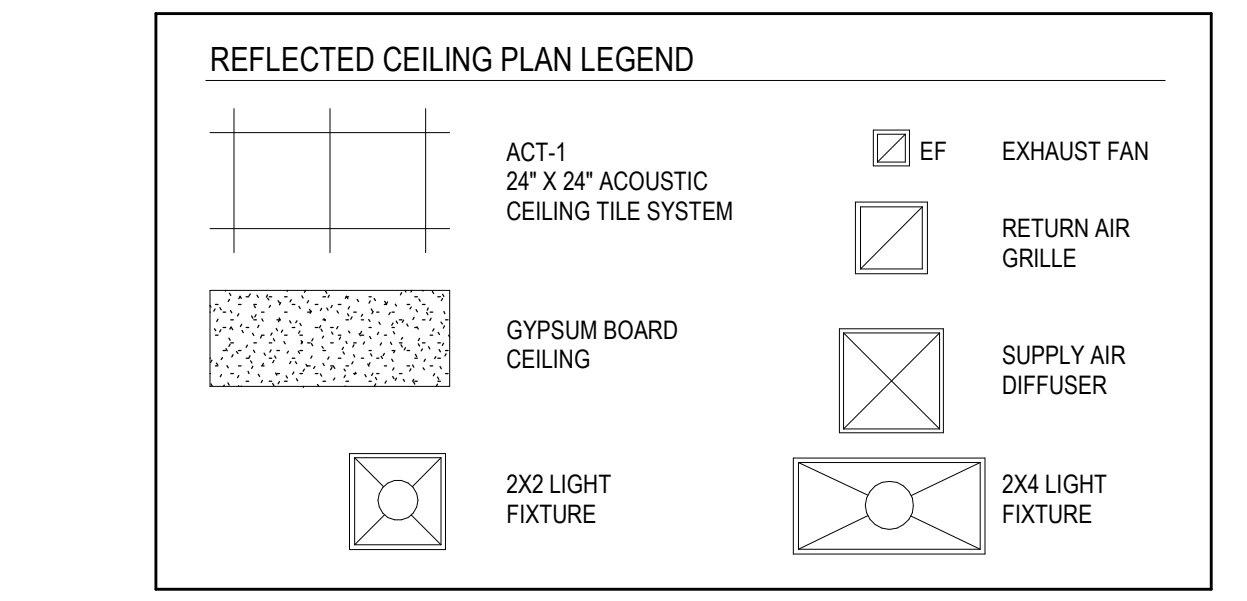




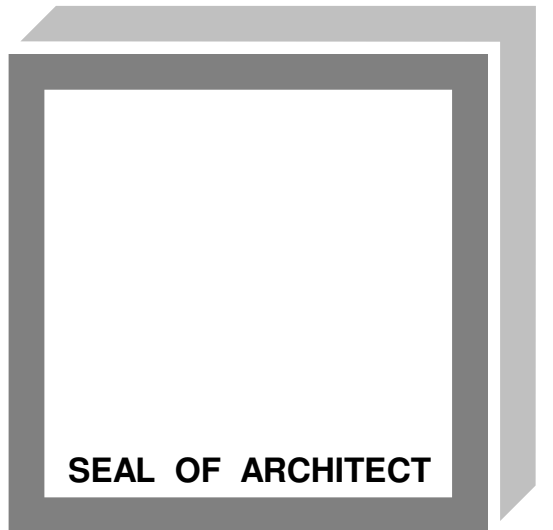
3 First Floor Reflected Ceiling Plan  
A2.1 | 1/4" = 1'-0"



1 Existing / Demolition Reflected Ceiling Plan  
A2.1 | 1/8" = 1'-0"



4 Typ. Ceiling Soffit Section Detail  
A2.1 | 1/16" = 1'-0"



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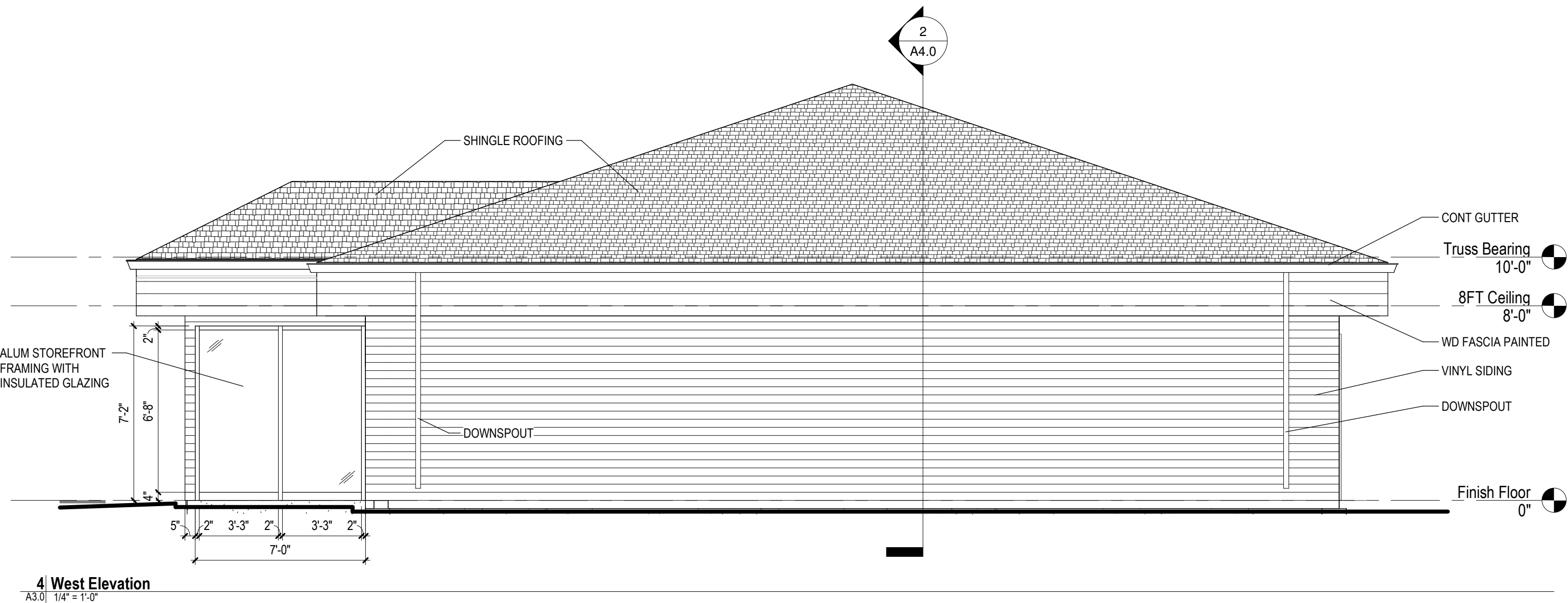
REVISIONS	
Date	Description

Project  
**Addition to GHS FQHC**  
**2298 S. Center Rd**  
**Burton, MI 48519**  
Drawing  
**Reflected Ceiling Plans**

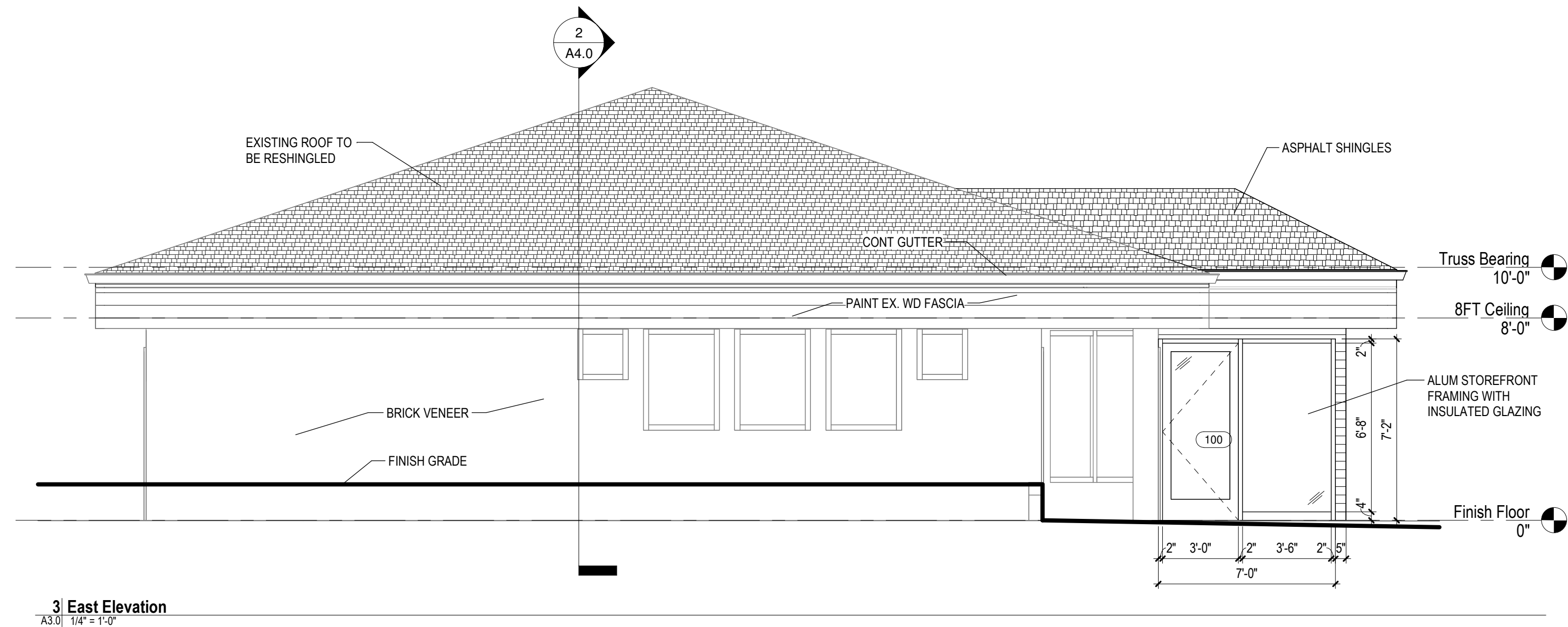
DRAWN BY: SJS  
CHECKED BY: JSF  
PROJECT NUMBER 22-016  
DATE 02/21/2023  
SCALE As indicated  
SHEET NUMBER  
**A2.1**



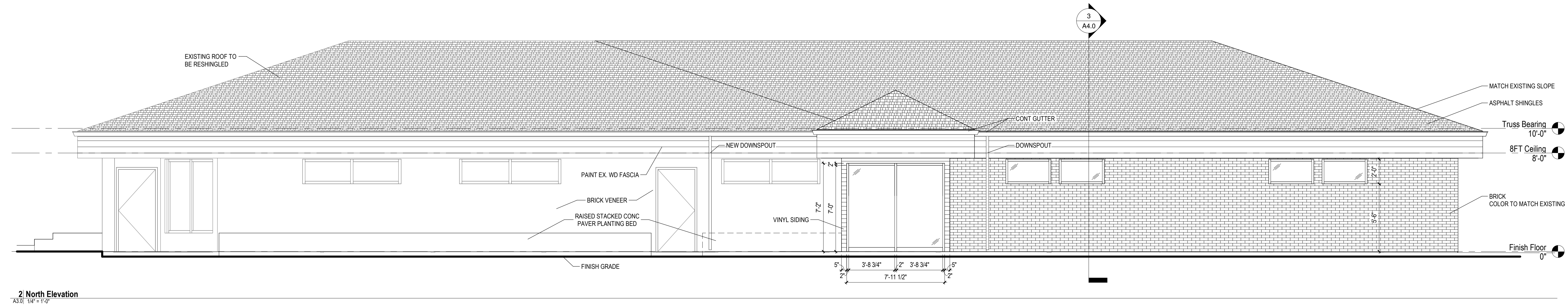
4/4/2023 2:18:13 PM



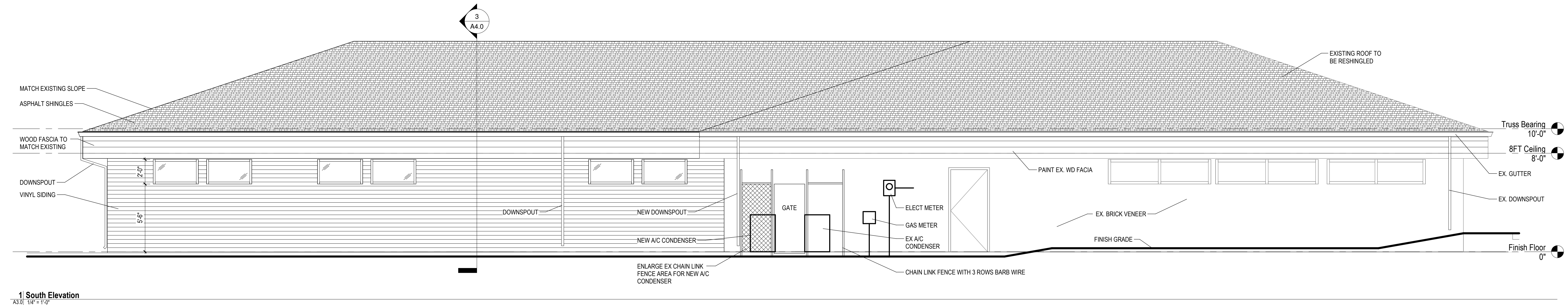
4 West Elevation  
A3.0 | 1/4" = 1'-0"



3 East Elevation  
A3.0 | 1/4" = 1'-0"



2 North Elevation  
A3.0 | 1/4" = 1'-0"



1 South Elevation  
A3.0 | 1/4" = 1'-0"

SEAL OF ARCHITECT

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Date	Description

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**Addition to GHS FQHC**  
**2298 S. Center Rd**  
**Burton, MI 48519**

Drawing

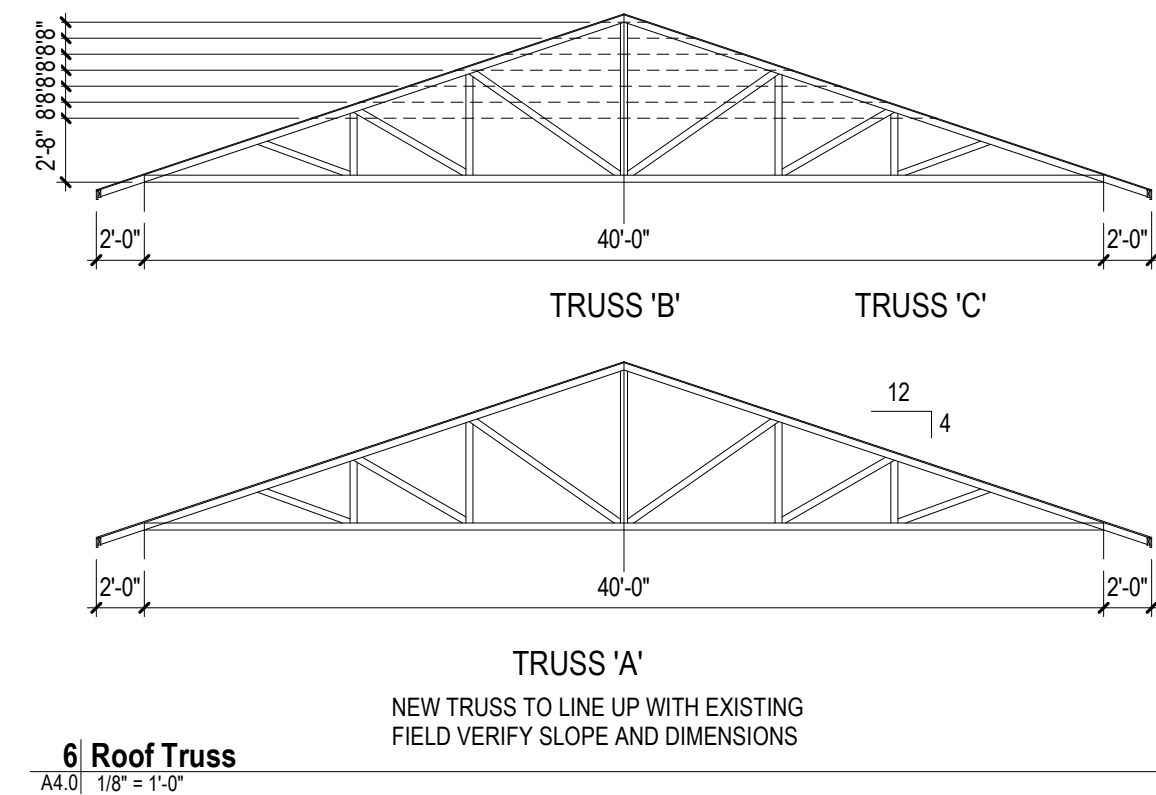
**Exterior Elevations**

DRAWN BY: SJS  
CHECKED BY: JSF

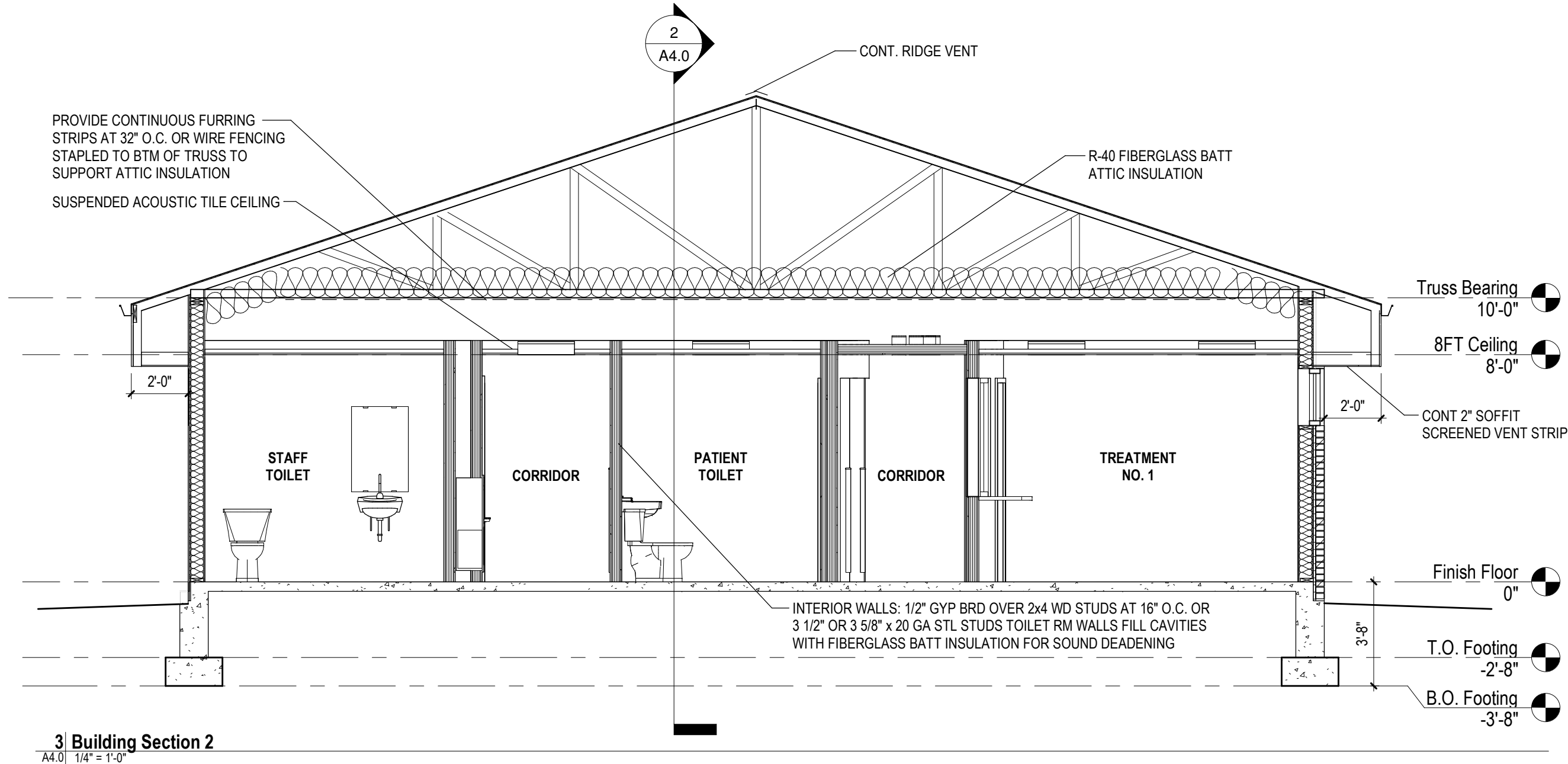
PROJECT NUMBER 22-016  
DATE 02/21/2023  
SCALE 1/4" = 1'-0"  
SHEET NUMBER

**A3.0**

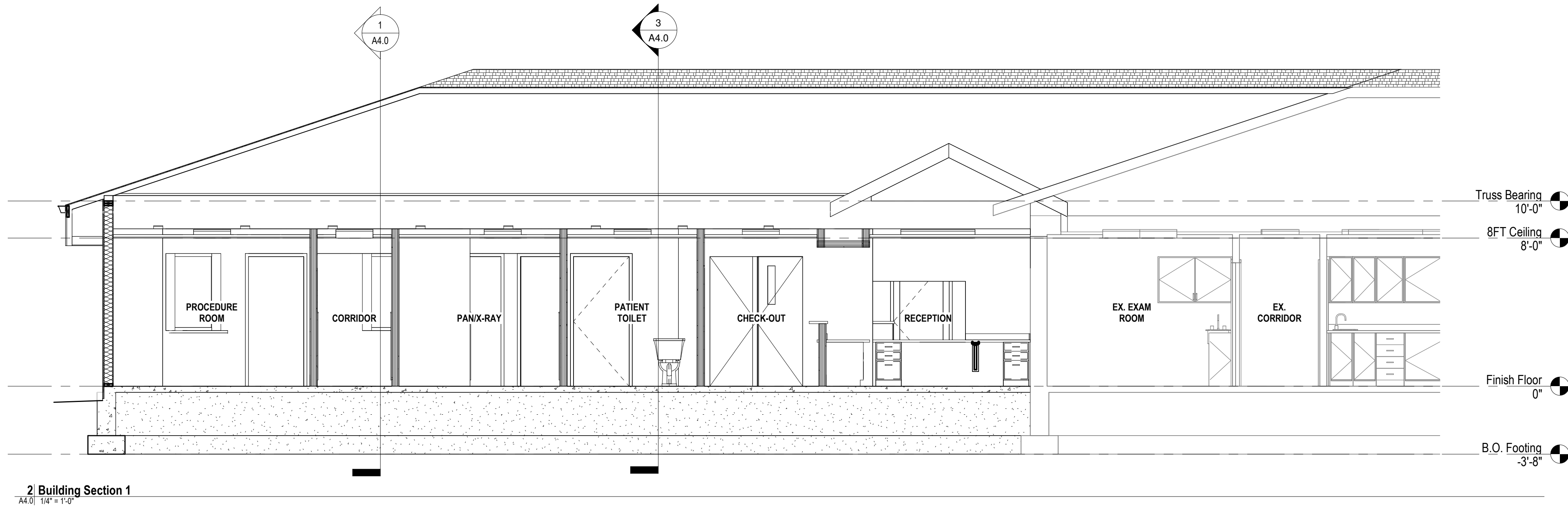




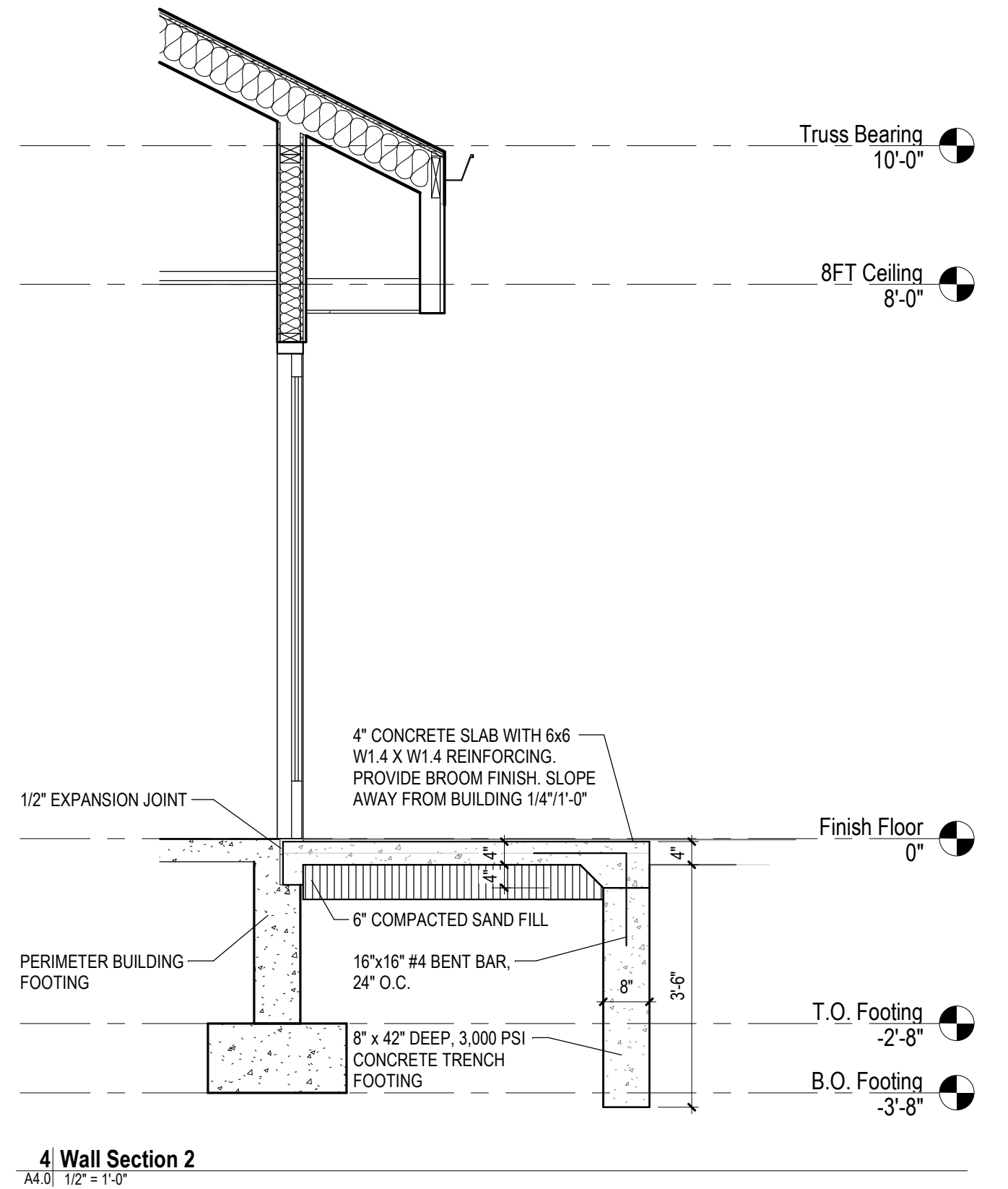
5 Roof Framing Plan  
A4.0 1/8" = 1'-0"



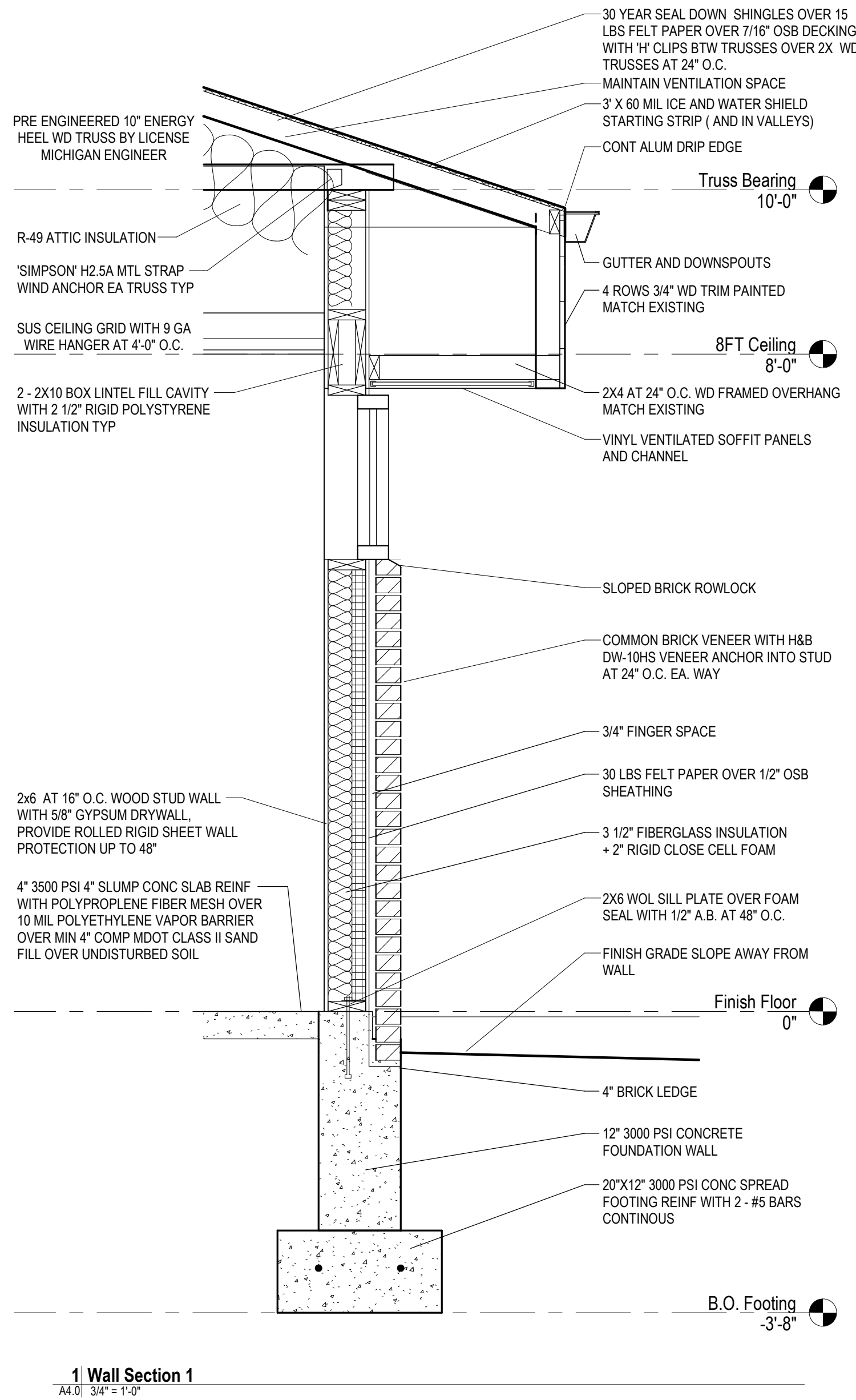
3 Building Section 2  
A4.0 1/4" = 1'-0"



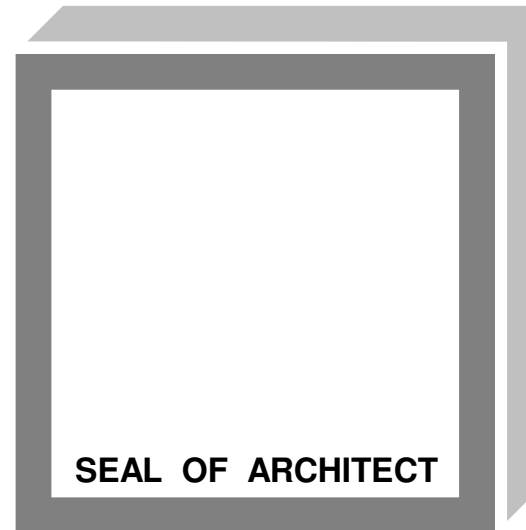
2 Building Section 1  
A4.0 1/4" = 1'-0"



4 Wall Section 2  
A4.0 1/2" = 1'-0"



1 Wall Section 1  
A4.0 3/4" = 1'-0"



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Project

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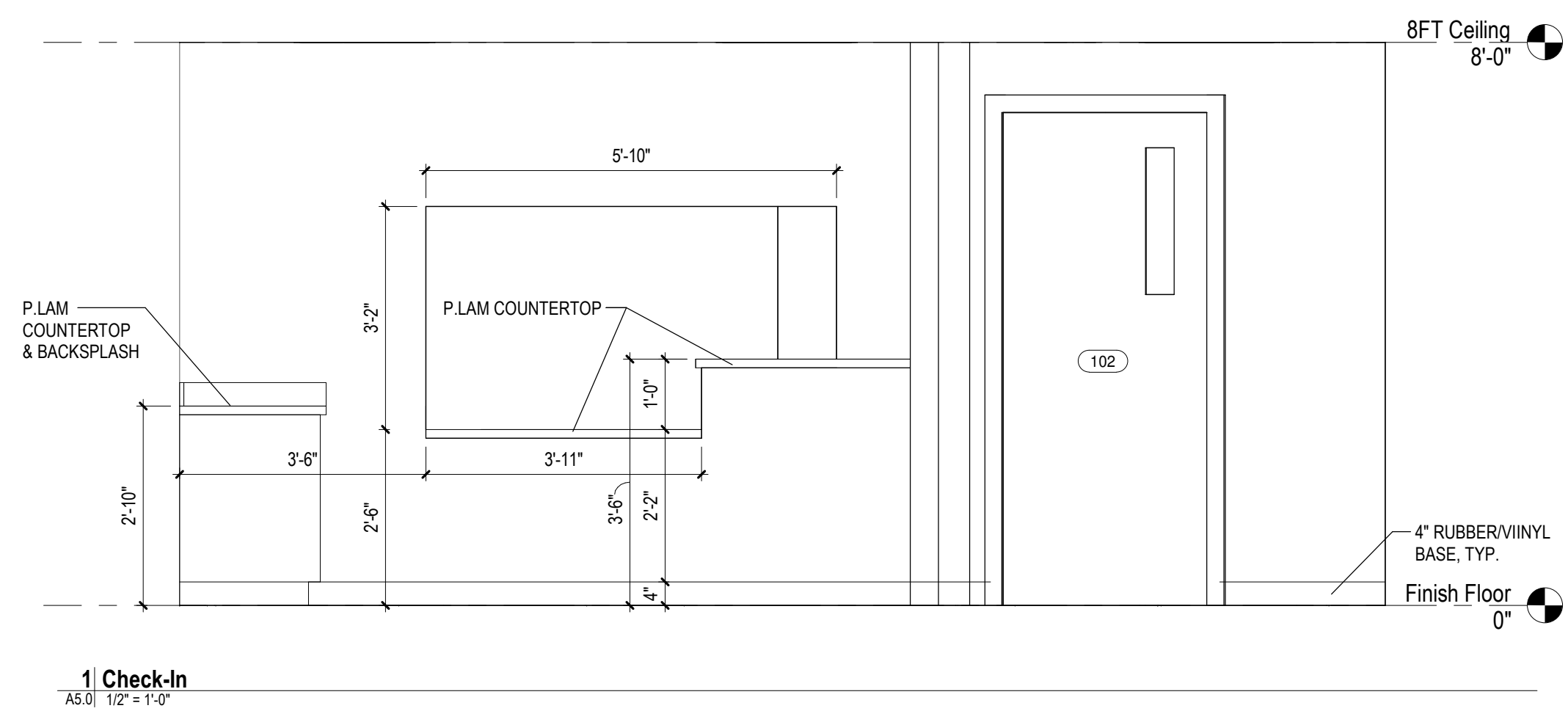
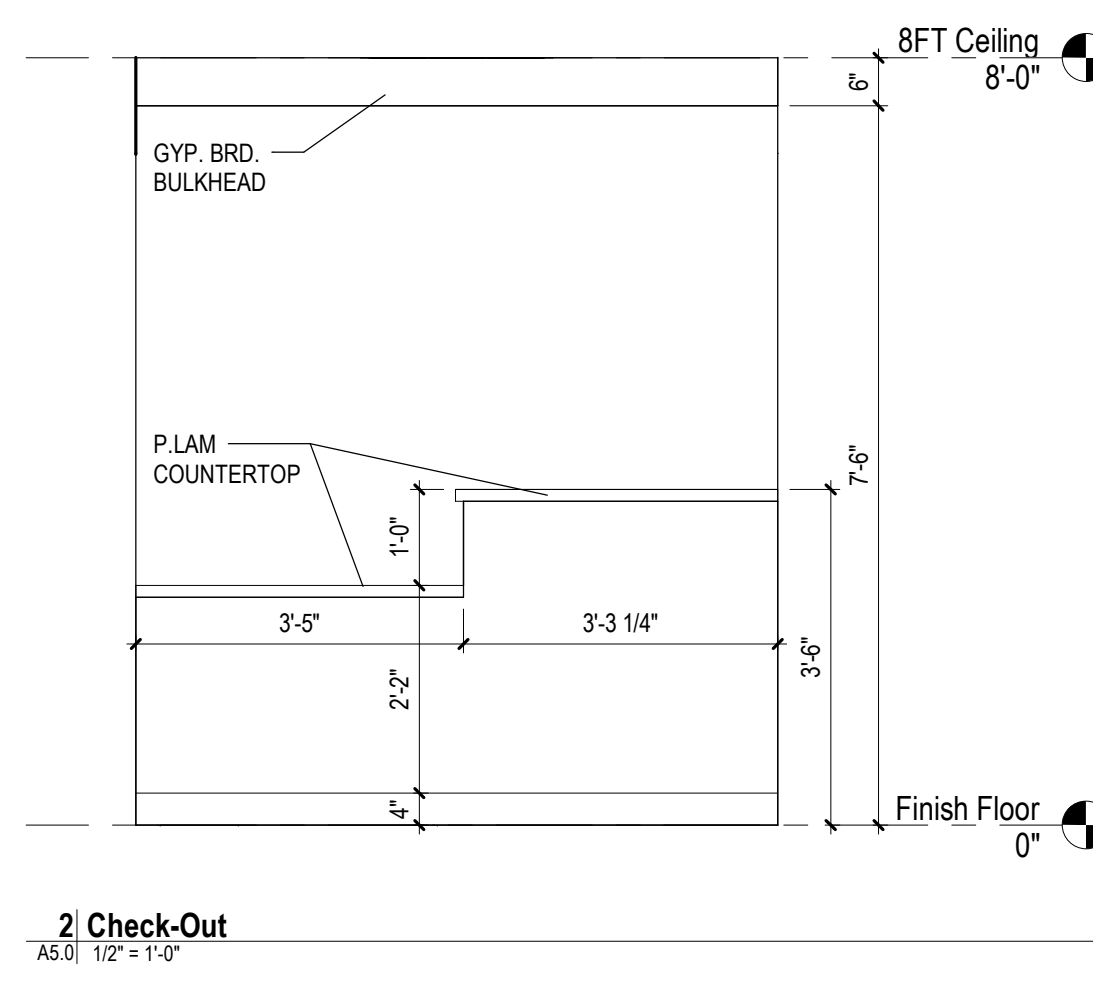
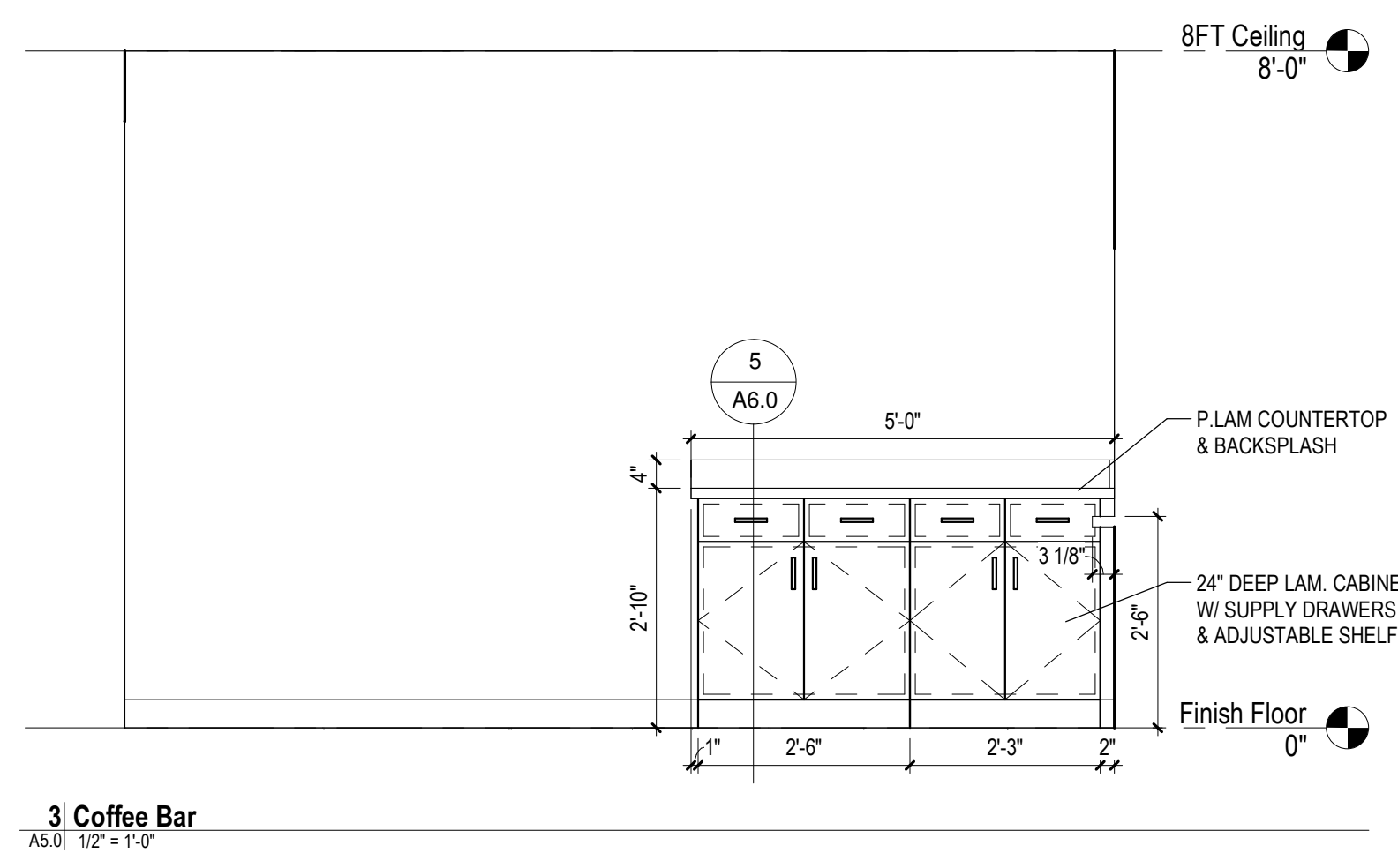
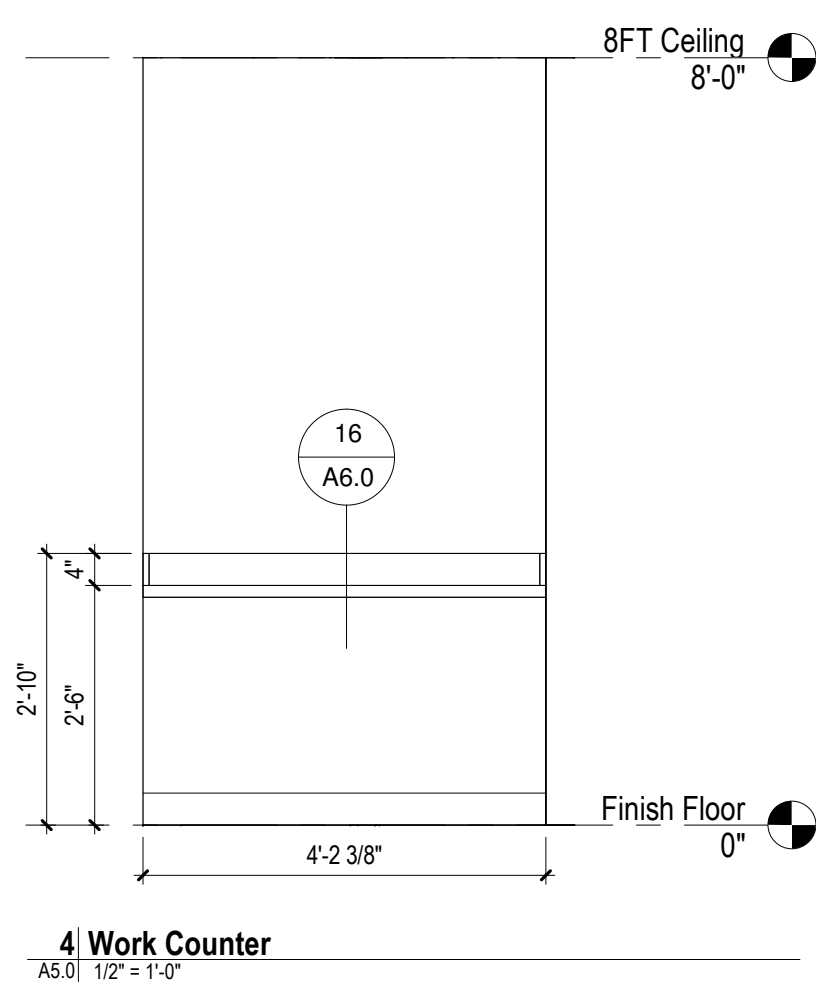
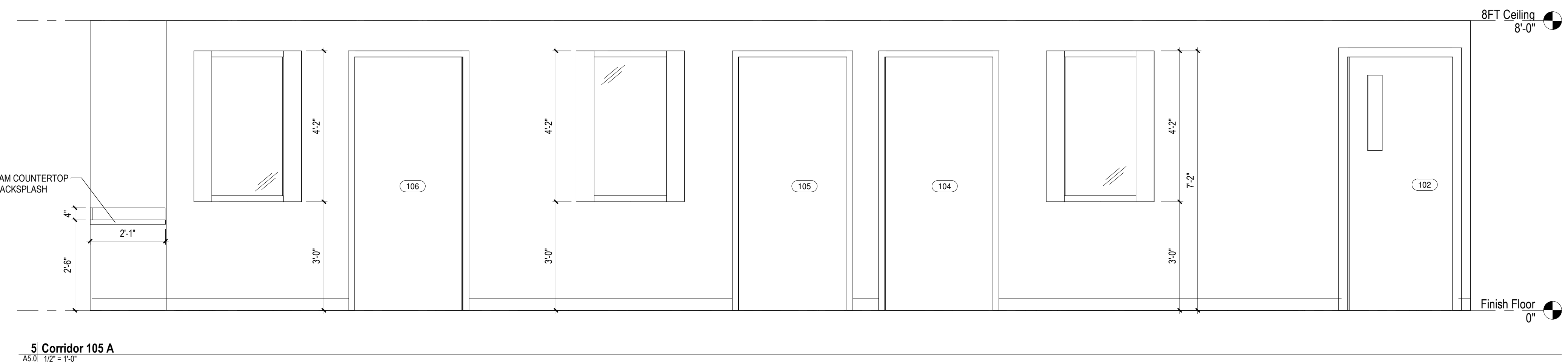
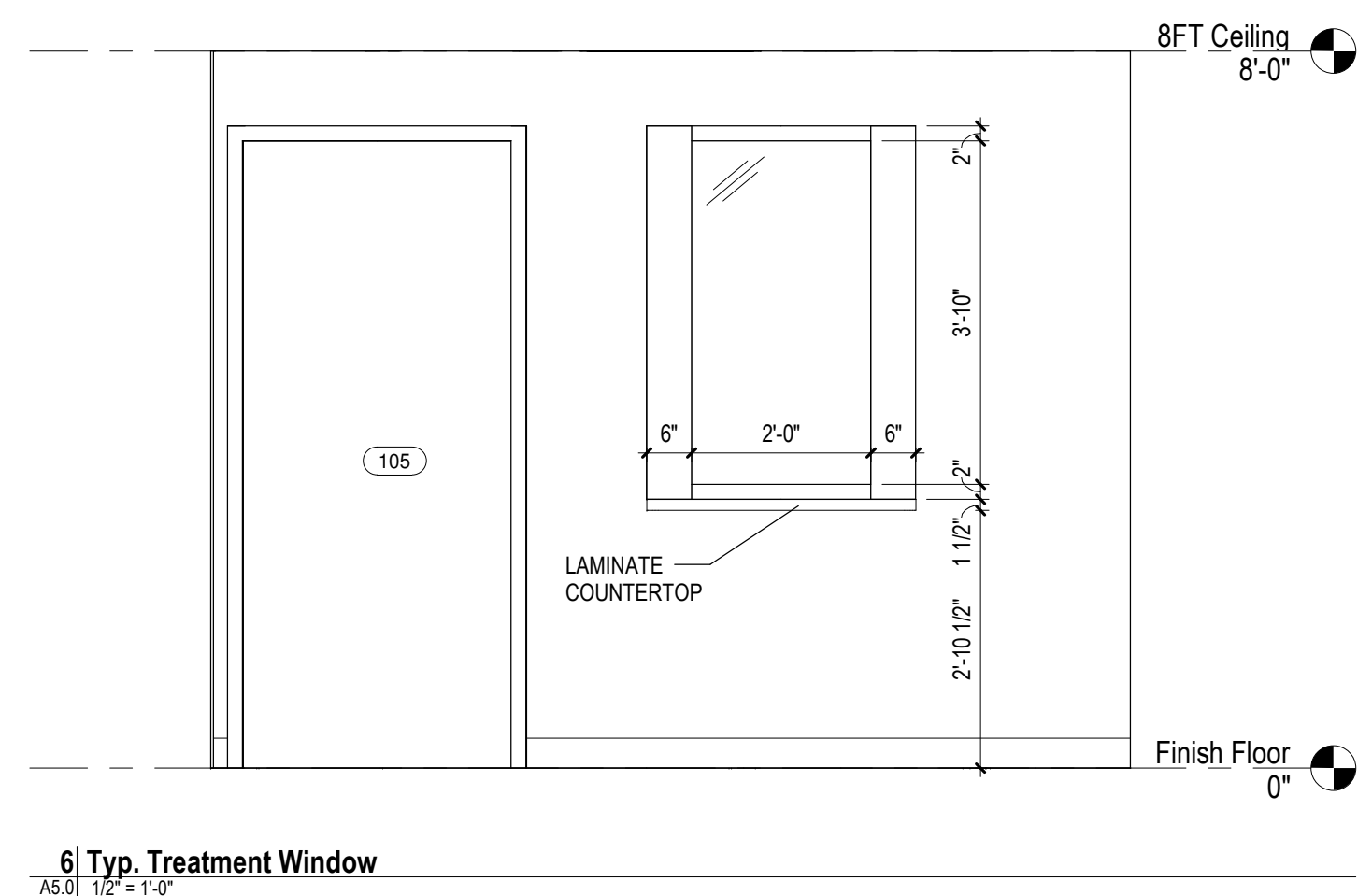
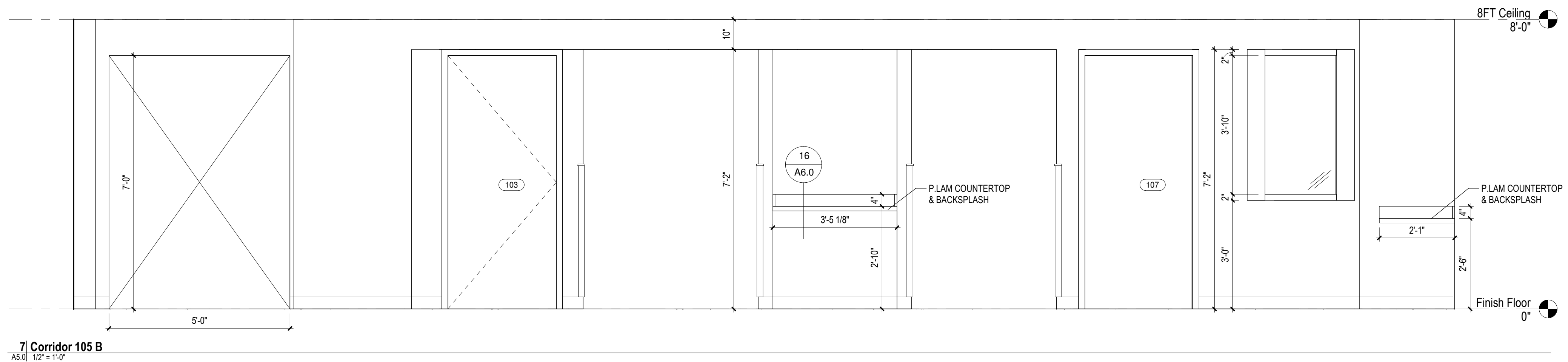
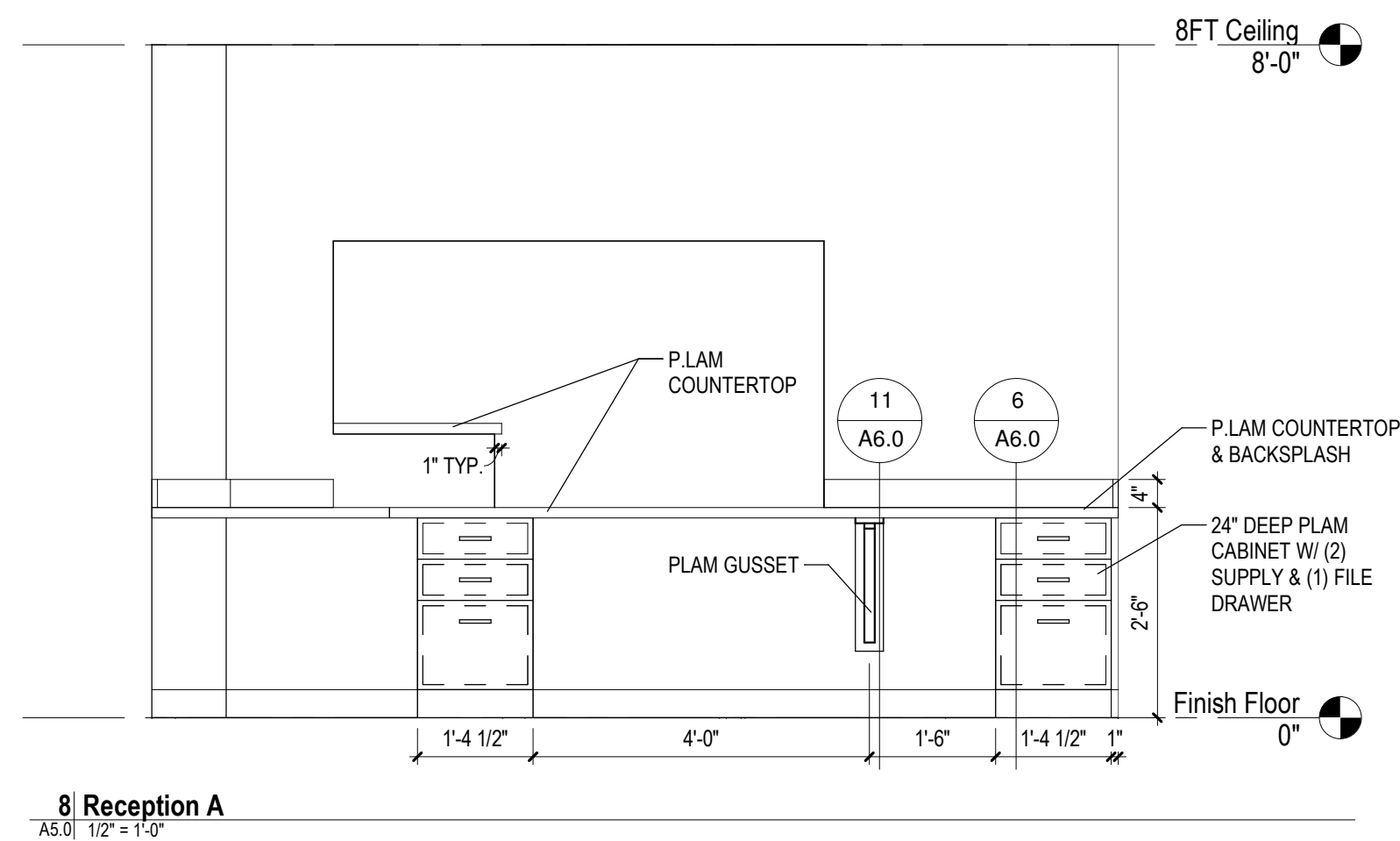
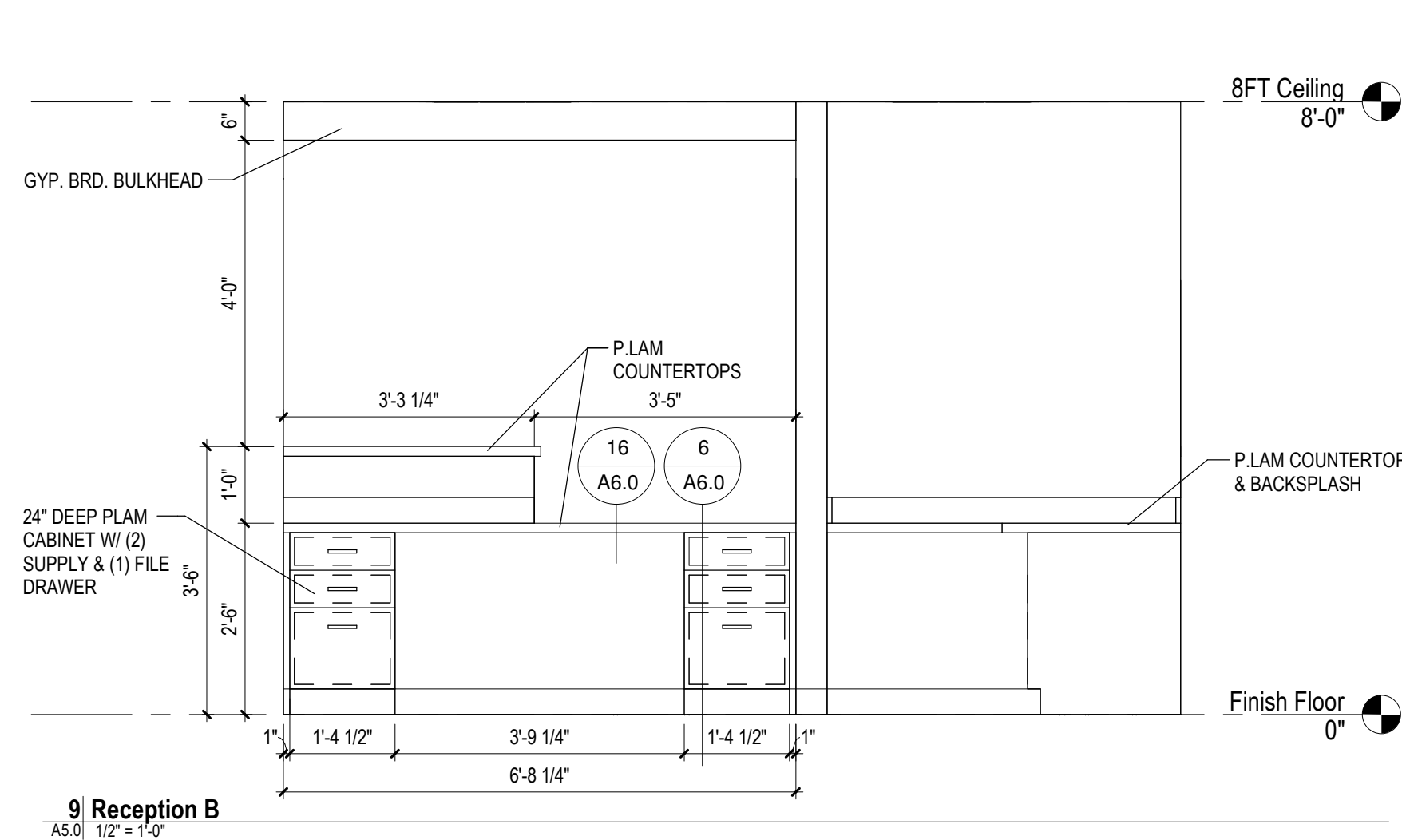
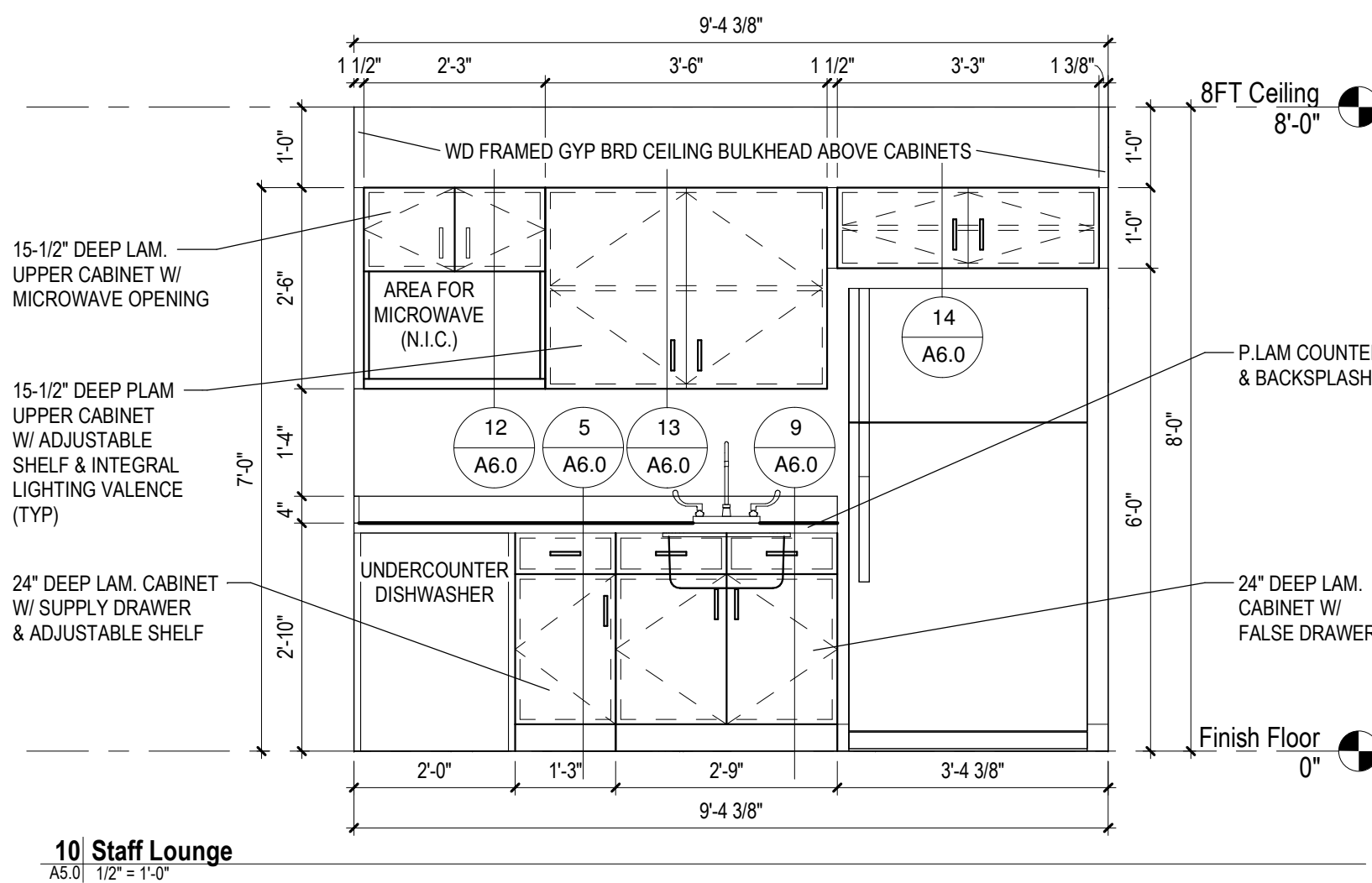
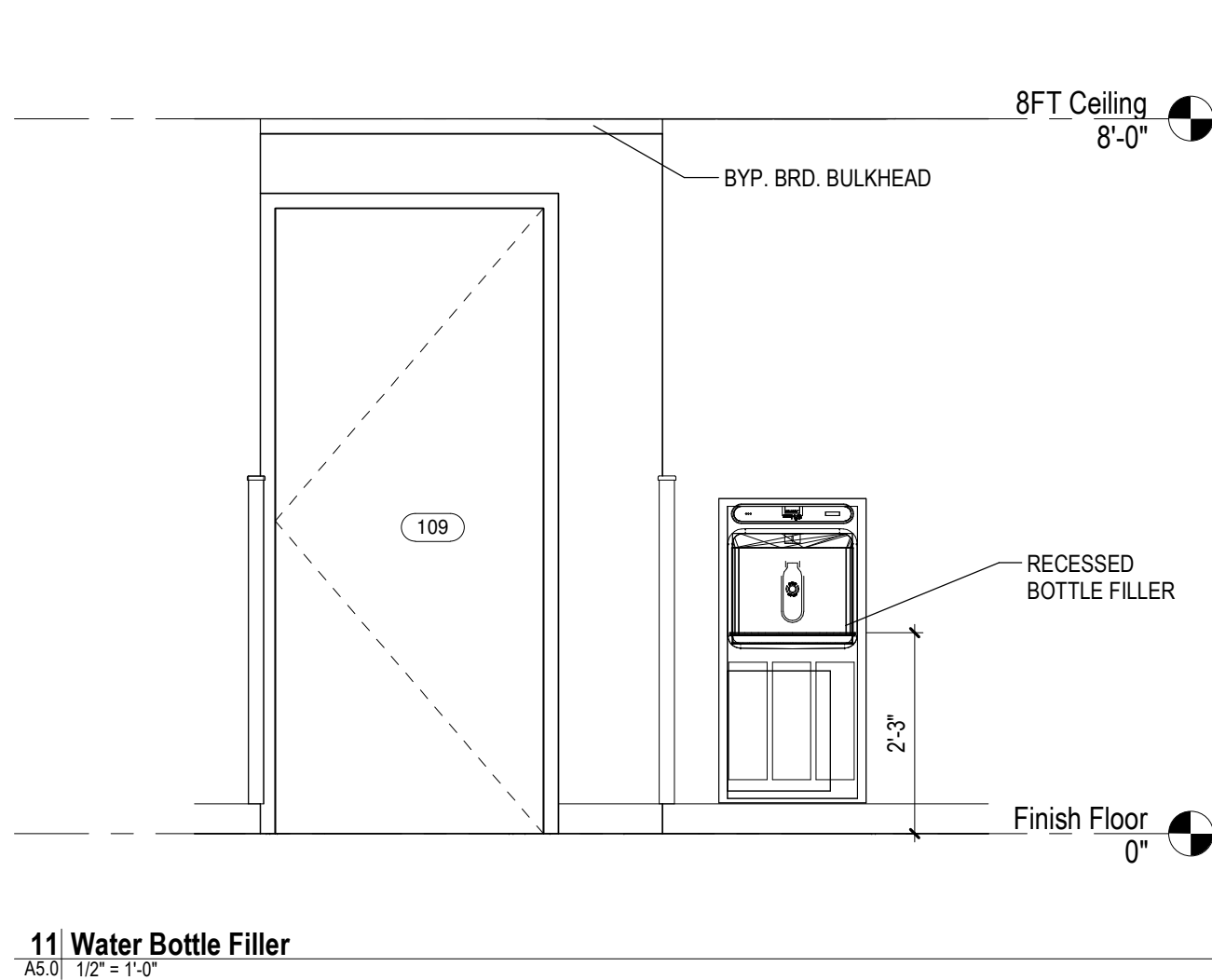
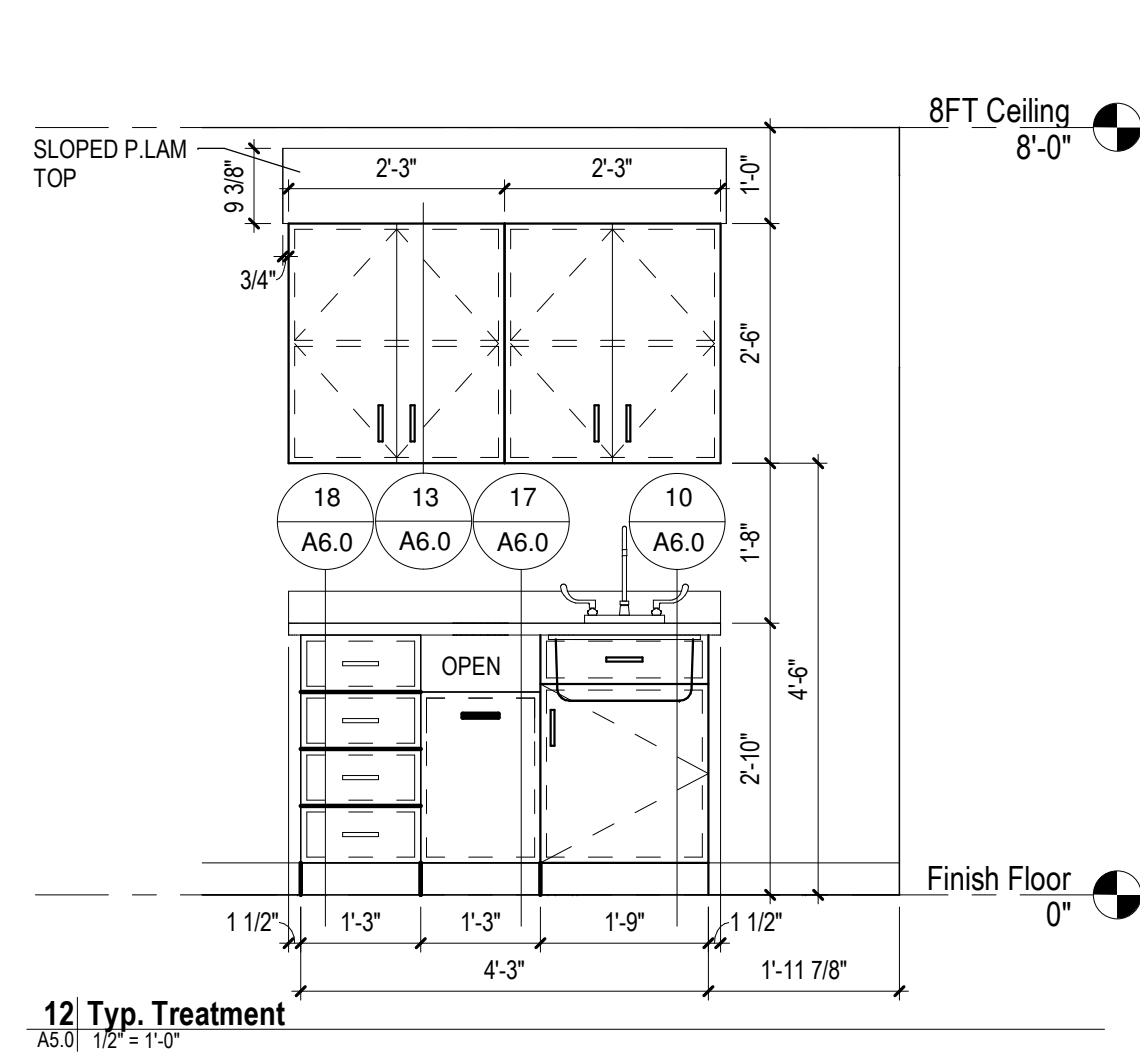
Drawing

**Sections and Roof Framing Plan**

DRAWN BY: SJS  
CHECKED BY: JSF

PROJECT NUMBER 22-016  
DATE 02/21/2023  
SCALE As indicated  
SHEET NUMBER

**A4.0**



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REVISIONS	
Date	Description

Project

**Addition to GHS FQHC  
22298 S. Center Rd  
Burton, MI 48519**

### Drawing

## Interior Elevations

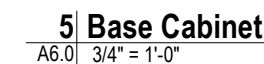
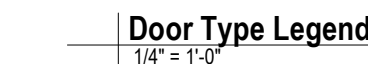
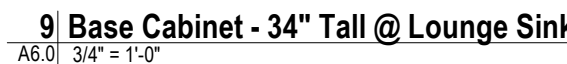
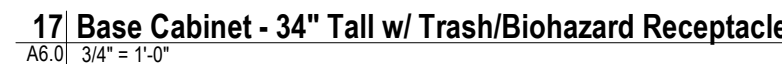
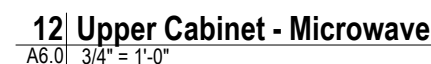
DRAWN BY: LJK  
CHECKED BY: JSF

PROJECT NUMBER **22-016**  
DATE **02/21/2023**

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

## A5.0





NOTE: FINISHES BY OTHERS.

DOOR SCHEDULE								
DOOR NO.	TYPE	DESCRIPTION	DOOR		DOOR MATERIAL	FRAME TYPE	FRAME FINISH	COMMENTS
			WIDTH	HEIGHT				
100		ALUMINUM STOREFRONT	3'-0"	7'-0"				
101	A2	ALUMINUM STOREFRONT	3'-0"	7'-0"	ALUM. & GLASS	2	ANOD. ALUM.	
102	B2	SINGLE FLUSH WITH VISION PANEL	3'-0"	7'-0"	WOOD & GLASS	1	PAINT	
103	B1	SINGLE FLUSH	3'-0"	7'-0"	WOOD	1	PAINT	
104	B1	SINGLE FLUSH	3'-0"	7'-0"	WOOD	1	PAINT	
105	B1	SINGLE FLUSH	3'-0"	7'-0"	WOOD	1	PAINT	
106	B1	SINGLE FLUSH	3'-0"	7'-0"	WOOD	1	PAINT	
107	B1	SINGLE FLUSH	3'-0"	7'-0"	WOOD	1	PAINT	
108	B2	SINGLE FLUSH WITH VISION PANEL	3'-0"	7'-0"	WOOD & GLASS	1	PAINT	
109	B1	SINGLE FLUSH	3'-0"	7'-0"	WOOD	1	PAINT	
110	B2	SINGLE FLUSH WITH VISION PANEL	3'-0"	7'-0"	WOOD & GLASS	1	PAINT	
111	B1	SINGLE FLUSH	3'-0"	7'-0"	WOOD	1	PAINT	
112	B1	SINGLE FLUSH	3'-0"	7'-0"	WOOD	1	PAINT	

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REVISIONS	
Date	Description

**Addition to GHS FQHC  
2298 S. Center Rd  
Burton, MI 48519**

## Drawing Schedules & Details

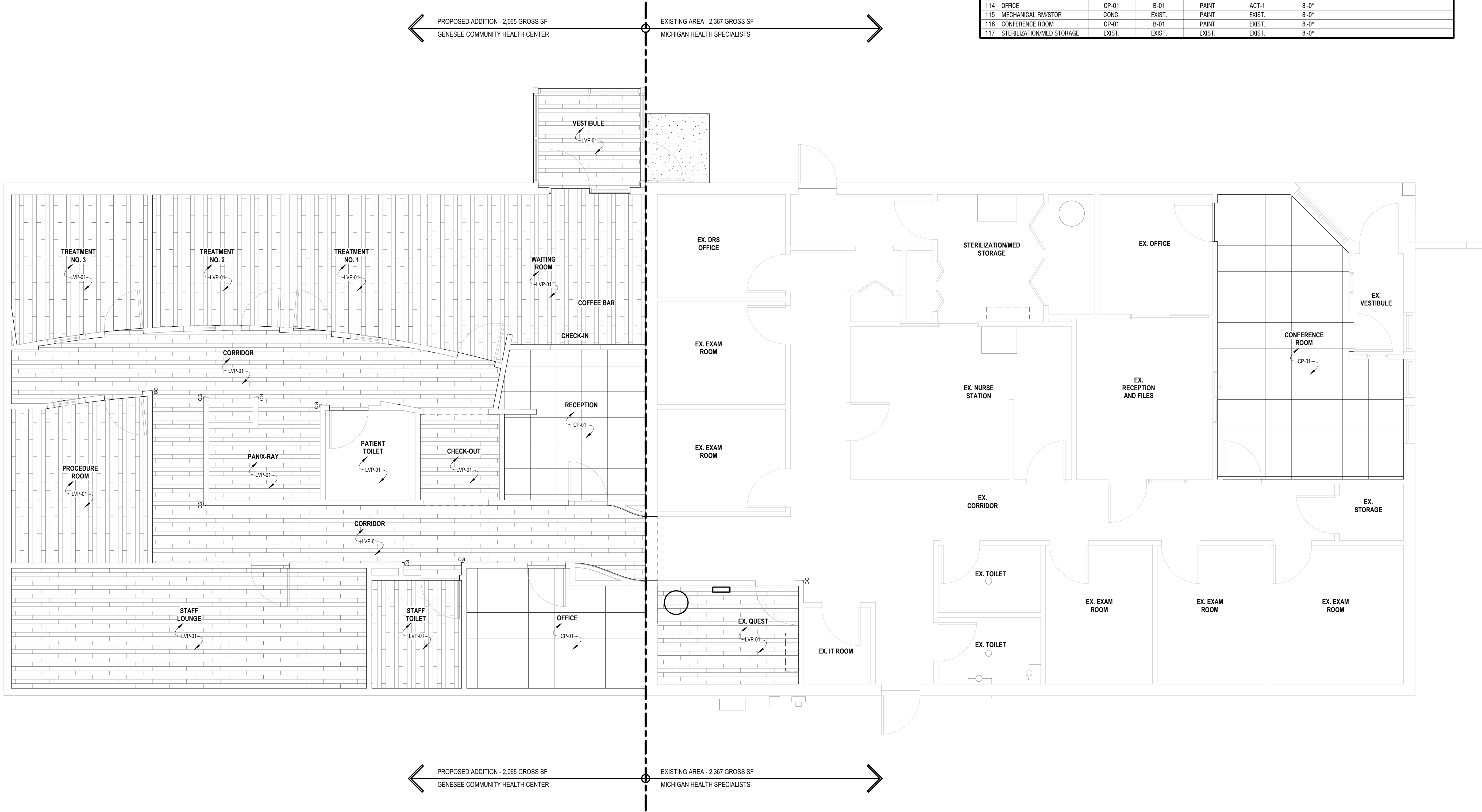
Project

DRAWN BY: LJK  
CHECKED BY: JSF

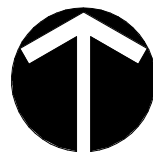
PROJECT NUMBER **22-016**  
DATE **02/21/2023**  
SCALE **As indicated**  
SHEET NUMBER

## A6.0





ROOM SCHEDULE							
ROOM NO.	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	CEILING HEIGHT	COMMENTS
100	VESTIBULE	LVP-01	B-01	PAINT	ACT-1	8'-0"	
101	WAITING ROOM	LVP-01	B-01	PAINT	ACT-1	8'-0"	
102	RECEPTION	CP-01	B-01	PAINT	ACT-1	8'-0"	
103	CHECK-OUT	LVP-01	B-01	PAINT	ACT-1	8'-0"	
104	CORRIDOR	LVP-01	B-01	PAINT	ACT-1	8'-0"	
105	TREATMENT NO. 1	LVP-01	B-01	PAINT	ACT-1	8'-0"	
106	PATIENT TOILET	LVP-01	B-01	PAINT	ACT-1	8'-0"	
107	TREATMENT NO. 2	LVP-01	B-01	PAINT	ACT-1	8'-0"	
108	PAN/X-RAY	LVP-01	B-01	PAINT	ACT-1	8'-0"	
109	TREATMENT NO. 3	LVP-01	B-01	PAINT	ACT-1	8'-0"	
110	PROCEDURE ROOM	LVP-01	B-01	PAINT	ACT-1	8'-0"	
111	CORRIDOR	LVP-01	B-01	PAINT	ACT-1	8'-0"	
112	STAFF LOUNGE	LVP-01	B-01	PAINT	ACT-1	8'-0"	
113	STAFF TOILET	LVP-01	B-01	PAINT	ACT-1	8'-0"	
114	OFFICE	CP-01	B-01	PAINT	ACT-1	8'-0"	
115	MECHANICAL RM/STOR	CONC.	EXIST.	PAINT	EXIST.	8'-0"	
116	CONFERENCE ROOM	CP-01	B-01	PAINT	EXIST.	8'-0"	
117	STERILIZATION/MED STORAGE	EXIST.	EXIST.	EXIST.	EXIST.	8'-0"	



1 First Floor Plan  
A6.1 1/4" = 1'-0"

FLOOR MATERIAL TAKEOFF		
NAME	AREA	
CP-01	510 SF	
LVP-01	1698 SF	
Grand total:	2208 SF	

CORNER GUARD SCHEDULE			
QTY	MANUFACTURER	MODEL	HEIGHT
8	InPro Corp	G2-160 48	4'-0"

CORNER GUARDS:  
CG-01 2" INPRO CORPORATION 'G2' SERIES PVC-FREE GUARD  
STYLE: G2-160 SERIES  
COLOR: PEPPERDUST 0119 48" HEIGHT ALL LOC.  
PROVIDE ON ALL OUTSIDE WALL CORNERS THROUGHOUT.

Project

Addition to GHS FQHC  
2298 S. Center Rd  
Burton, MI 48519

Drawing

Finish Plan

ARCHITECT

SEDGEWICK + FERWEDA ARCHITECTS

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REVISIONS	
Date	Description

DRAWN BY: LJK  
CHECKED BY: JSF

PROJECT NUMBER 22-016

DATE 02/21/2023

SCALE 1/4" = 1'-0"

SHEET NUMBER

A6.1



GENERAL REQUIREMENTS

**SUMMARY** PLANS AND THESE SPECIFICATIONS DELINEATE MATERIALS, ASSEMBLIES, PERFORMANCES AND RESULTS DESIRED. IT IS NOT TO SPELL OUT MATERIALS AND METHODS IN DETAIL. CONTRACTOR TO PROVIDE A BUILDING READY FOR OCCUPANCY WITH ALL SYSTEMS FUNCTIONING.

**SCOPE OF WORK** INCLUDES ARCHITECTURAL, FURNISH ALL LABOR, MATERIALS, SUPERVISION SERVICES FOR A COMPLETE AND FINISHED PIECE OF WORK IN COMPLIANCE WITH PLANS AND SPECIFICATIONS.

**PROJECT COORDINATION** CONTRACTOR TO EXAMINE SITE, COMPARE WORK CALLED FOR, WITH THE CONTRACT DOCUMENTS. IF ANY DISCREPANCIES FOUND, NOTIFY ARCHITECT.

CONTRACTOR TO COORDINATE ALL WORK FOR ALL TRADES USED ON PROJECT. PROVIDE SUPERVISION WITH COMPETENT PERSONNEL AT JOB SITE. TO PROVIDE AND PAY FOR ALL PERMITS, BONDS, INSPECTIONS, OR OTHER FEES REQUIRED BY LOCAL GOVERNING AUTHORITIES, AND PUBLIC UTILITIES. SUCH COSTS TO BE INCLUDED IN THE BID.

**MATERIALS** COMPLIANCE WITH INDUSTRY SPECIFICATIONS; FURNISH, INSTALL, AND/OR ERECT ALL MATERIALS AND SYSTEMS AS PER MANUFACTURER'S RECOMMENDATIONS, TESTING SOCIETY STANDARDS, AND GOVERNING CODES AND REGULATIONS.

**SAFETY** GENERAL SAFETY RULES AND REGULATIONS FOR CONSTRUCTION, AS PER CONSTRUCTION SAFETY ACT #89, PUBLIC ACTS OF 1983 AS REVISED AND/OR AMENDED, APPLY IN FULL TO THIS PROJECT. IN ADDITION TO OSHA AND MISHA REQUIREMENTS.

**PAYMENTS** MONTHLY, ITEMIZED BREAKDOWN, REQUISITION, MADE OUT IN THE AMOUNT OF WORK COMPLETED AT THAT TIME. IF THE REQUISITION IS ACCURATE AND ACCEPTED, CONTRACTOR WILL BE PAID TO 90% OF SUCH REQUISITION. THE 10% WITHHELD WILL BE PAID 30 DAYS AFTER SUBSTANTIAL COMPLETION. WAIVERS OF LIEN FROM ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS TO BE FURNISHED PRIOR TO PAYMENT. IF AFTER THE 30 DAYS SOME WORK IS STILL UNCOMPLETED, OWNER WILL HOLD 2-1/2 TIMES VALUE OF SUCH WORK.

**INSURANCES** CONTRACTOR TO PROVIDE ALL REQUIRED INSURANCES INCLUDING:

BUILDERS RISK  
COMPREHENSIVE GENERAL LIABILITY  
PROPERTY DAMAGE AND LIABILITY IN FACE AMOUNTS OF \$1,000,000 EACH INCIDENCE, \$2,000,000 TOTAL  
PERSONAL LIABILITY OF NOT LESS THAN \$500,000 FOR PERSONAL INJURY, INCLUDING ACCIDENTAL DEATH, \$1,000,000 PER OCCURRENCE  
INSURE WORKERS AND SUBCONTRACTORS WITH STATUTORY WORKMAN'S COMP.  
CONTRACTOR TO MAINTAIN LIABILITY INSURANCE FOR OWNER TO PROTECT HIM AGAINST CLAIMS WHICH MAY ARISE FROM OPERATION OF THE CONTRACT.  
ARCHITECT AND OWNER TO BE NAMED ON POLICIES AS COINSURED.

NO WORK TO COMMENCE ON SITE UNTIL CERTIFICATES OF INSURANCE ARE ON FILE WITH ARCHITECT.

OWNER'S INSURANCE TO PROVIDE EXTENDED COVERAGE INCLUDING FIRE, WIND, AND MALICIOUS DAMAGE.

**PROTECTION** MAINTAIN JOB SITE SO THAT NORMAL PEDESTRIAN AND VEHICLE TRAFFIC WILL NOT BE HINDERED BY THE BUILDING PROJECT. PROTECT THE SITE OF THE WORK AGAINST UNAUTHORIZED INTRUSION BY PUBLIC. PROVIDE ALL NECESSARY BARRICADES, COVERS, DUST PROOF SHIELD, WALLS, LOCKED ENTRIES, ETC. AS NECESSARY TO SECURE THE SITE OF THE WORK. PROTECT WORK AGAINST FROST OR FREEZING DAMAGE.

**PROJECT CLOSEOUT** CONTRACTOR TO PROVIDE GUARANTEES AND WARRANTIES ON ALL WORK DONE TOGETHER WITH FIVE YEAR WRITTEN GUARANTEE AGAINST DEFECTS DUE TO LABOR AND MATERIALS.

BE RESPONSIBLE FOR ALL GENERAL CLEANUP. REMOVE ALL DRIPPINGS, FOREIGN MATERIALS, AND SOULS FROM ALL VISIBLE SURFACES. WASH EXTERIORS OF WINDOWS PRIOR TO DELIVERY TO OWNER.

**EQUAL OPPORTUNITY** CONTRACTOR TO INSURE THAT EMPLOYEES AND APPLICANTS FOR EMPLOYMENT ARE NOT DISCRIMINATED AGAINST BECAUSE OF RACE, COLOR, RELIGION, SEX, OR NATIONAL ORIGINS. SUCH NON-DISCRIMINATION SHALL BE ACCORDANCE WITH EXECUTIVE ORDER 11246, EQUAL EMPLOYMENT OPPORTUNITY. CONTRACTOR TO COMPLY WITH EQUAL OPPORTUNITY AND AFFIRMATIVE ACTIONS AS LISTED IN AFORESAID ACT OF 1965. CONTRACTOR SHALL POST IN A CONSPICUOUS PLACE, NOTICE OF SECTION 202 OF SAID ORDER. THIS IS AN EQUAL OPPORTUNITY PROJECT.

**GRADING** - PREMISES ARE AS FOUND. REMOVE ALL BRUSH, TREES, AND/OR VEGETATION THAT MAY INTERFERE WITH BUILDING AND CONSTRUCTION IMPROVEMENTS. STRIP AND STOCKPILE TOP SOIL TO BE REUSED FOR FINAL GRADING. PROVIDE ADDITIONAL TOP SOIL IF NECESSARY. REMOVE EXCESS SPOIL MATERIALS AND TOP SOIL FROM SITE. GRADE TO LINES AND LEVELS SHOWN.

**LANDSCAPE** - INSTALL TREES, SHRUBS, SIZES AS SHOWN. DO NOT PLANT UNTIL FINAL GRADES ARE ESTABLISHED AND LAWNS ARE SEEDED. IN AREAS OF SHRUBS, PROVIDE A PRE-EMERGENT WEED KILLER SUCH AS BANLON. UTILIZE LANDSCAPE CLOTH UNDER MULCH. OVER SUBGRADE. PLANT AS PER NURSERY STANDARDS. FERTILIZE. ALL TREES AND SHRUBS, PLANT WITH 6" SHREDDED BARK MULCH.

LAWN SEED FORMULATION, 40% KENTUCKY BLUE, 40% CREEPING RED, AND 20% FIESTA FINE LEAF RYE. SEEDING MAY BE DONE WITH STRAW MULCH OR HYDROSEEDING.

CONCRETE

ALL WORK IN ACCORDANCE WITH ACI-318 LATEST EDITION

FOOTING: 3000 PSI AT 28 DAYS  
SLABS AND SIDEWALK: 3500 PSI AT 28 DAYS

NOTE: ALL EXTERIOR CONCRETE 8 TO 10% AIR ENTRAINMENT BY VOLUME.

CEMENT, ASTM C 150-85, TYPE I OR II AGGREGATE ASTM C-38 WASHED GRAVEL OR STONE.

FINISH INTERIORS - STEEL TROWEL. EXTERIOR - FLOAT/BROOM FINISH.

INCISED CONTROL JOINTS AT 5'-0" CENTERS, SIDE WALKS, OR NOT OVER 20'-0" APART. SLABS, USE PREMOLDED COLORED GRAY. EXPANSION JOINTS, 1/4" AT VERTICAL SURFACES, AND 30'-0" O.C. SIDEWALKS. FOAMED VINYL, ASTM D-1752.

ALL CONCRETE TO BE PROPERLY CURED. REINFORCING STEEL ASTM A615 GRADE 60 OR WELDED WIRE FABRIC ASTM A185. GENERAL REQUIREMENTS FOR REINFORCEMENT AS PER ACI318.

PERIMETER INSULATION, 1-1/2" ESB, 4'-0" WIDE X 2" THICK.

PROVIDE TEST CYLINDERS EACH 100 YD<sup>3</sup> OR LESS DAILY POURS. ASTM C-0172, C-39. BREAK AT 7 AND 28 DAYS BY INDEPENDENT LAB.

GENERAL REQUIREMENTS FOR REINFORCEMENT AS PER ACI 318

FOR EXTERIOR SLAB-ON-GRADE CONSTRUCTION, PROVIDE 6X6 1'4X1'4 REIN-FORCING (MESH) AS REQUIRED.

LAP ADJACENT SHEETS OF MESH 6", AND WIRE SECURELY IN PLACE. SUPPORT MESH TO MAINTAIN POSITION IN MIDDLE OF SLAB DURING POUR.

DETAIL, FABRICATE, AND ERECT REINFORCING IN ACCORD WITH ACI MANUAL ACI 315.

ALL CONCRETE SHALL MEET ASTM C-94-74, "READY-MIXED CONCRETE". ONE COPY OF EACH TRIP TICKET, SHOWING MIX, FIELD WATER, TIME OF DELIVERY WILL BE PROVIDED.

CONCRETE CURING IS TO COMPLY WITH THE REQUIREMENT OF ACI 318. COMPLY WITH ACI STANDARD " RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING".

CURING COMPOUND: ASTM C-309 TRANSLUCENT COMPOUND BECOMING INCONSPICUOUS IN 7 DAYS.

ALL CONCRETE SHALL BE PLACED IN A MANNER CONSISTENT WITH GOOD PRACTICE STANDARDS AS ESTABLISHED IN THE "RECOMMENDED PRACTICE FOR MEASURING, MIXING AND PLACING CONCRETE", ACI 614-59 AND ACE CODE 301.

MASONRY

LIGHTWEIGHT, HOLLOW CORE SPLIT FACE OR BURNISHED. MASONRY UNITS ASTM C-90 TO BE USED WHERE SHOWN. MORTAR TYPE "N" FOR LOAD BEARING UNITS, TYPE N OR S FOR NON-LOAD BEARING AND VENEERS. ASTM C-270.

MORTAR IN CONTACT WITH EARTH, FOUNDATION WALLS ONLY, WILL CONFORM TO "PROPORTION SPECIFICATIONS", ASTM C-270, MORTAR FOR UNIT MASONRY, TYPE "M", WATERPROOF, 2500 PSI MINIMUM STRENGTH.

FOR ALL OTHER MORTAR, CONFORM TO ASTM C-270, TYPE "N", 1800 PSI MINIMUM STRENGTH.

PORTLAND CEMENT SHALL MEET ASTM C-150, "PORTLAND CEMENT", TYPE I.

HYDRATED LINE SHALL MEET ASTM C-207, TYPE "S".

AGGREGATES FOR MORTAR/MASONS SAND MEETING ASTM C-144. PROVIDE FROM SINGLE SOURCE FOR DURATION OF PROJECT.

COLORING PIGMENTS SHALL BE PURE MINERAL OXIDES. PIGMENTS FOR COLORS SHALL BE FACTORY ADDED. PROPORTIONING TO REMAIN THE SAME THROUGH THE PROJECT. MORTER COLOR TO MATCH BLOCK COLOR

ALL WORK IN ACCORDANCE WITH NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA), "SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF LOAD-BEARING CONCRETE MASONRY", LATEST ISSUE IN USE. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI A11.2), "BUILDING CODE REQUIREMENTS FOR REINFORCEMENT MASONRY", LATEST ISSUE IN USE.

SUBCONTRACTOR SHALL INSPECT CONCRETE FOOTINGS AND FOUNDATIONS, AND REPORT CONDITIONS AFFECTING CORRECT INSTALLATIONS OF HIS WORK. ONCE COMMENCING WORK, HE SHALL BE HELD RESPONSIBLE FOR CONDITIONS FOUND.

LAY FULL MORTAR COVERAGE ON FOUNDATION BED, OR DAMP PROOF COURSE SET IN MORTAR FOR STARTING JOINT. PROVIDE FULL MORTAR COVERAGE ON FACE SHELLS & ON WEBS SURROUNDING CELLS TO BE GROUTED.

SET LINTELS, ANCHOR BOLTS AND BEARING PLATES, SUPPLIED BY OTHERS, IN FULL BED OR MORTAR. TOOL JOINTS TO PRODUCE A SLIGHTLY CONCAVE PROFILE UNLESS DETAILED OTHERWISE.

HOLLOW CONCRETE MASONRY UNITS, ASTM C-90. USE TYPE "M" MORTAR, ASTM C-270, FOR FOUNDATION WALLS.

REINFORCE HORIZONTAL MORTAR BEDS, EVERY 2'-0" VERTICALLY WITH LADDER TYPE 9 GA. G.I. DUR-O-WALL.

CLEAN AS PER MANUFACTURER'S RECOMMENDATIONS. MURIATIC ACID FOR BRICK. WASH SPLIT FACE. RINSE. SEAL ALL MASONRY SURFACES, 16% SOLUTION OF SOLIDS, MASONRY WATER REPELLENT TREATMENTS, EQUIVALENT TO HYDROZO 16.

**FLASHING** ON SHELF ANGLES UNDER SILLS, AND AT FOUNDATION WALLS, THROUGH WALL FLASHING, 4 OZ COPPER FLASHED WASCO OR EQUIVALENT. USE AT ALL LINTELS, WINDOW SILLS, AND AT FOUNDATION WALLS. WEEP HOLES 2'-8" C ABOVE FLASHING.

METALS

**COLD FORMED FRAMING** LIGHT GAUGE, FORMED METAL FRAMING COMPLETE WITH RUNNER TRACK AND BRIDGING. STEEL 30KSI, ASTM A-570-66T, A-606, AND ASTM A-57-75. SIZES AS SHOWN ON PRINTS. FASTENERS TO BE SCREWS OR WELDS. SUPPLY ALL NECESSARY FASTENERS, FLAT STRAPPING, ANGLES, STIFFENERS, AND SEATS. ALL WORK IS TO CONFORM AISI S302-1 AND S303-3 STANDARDS FOR LIGHT GAUGE STEEL FRAMING. COLD FORMED STEEL STRUCTURAL MEMBERS STUDS ASTM C995 STANDARD.

TRACK SAME SIZE AS STUDS, TO BE SECURELY ANCHORED. STUDS TO BE SEATED SQUARELY IN THE TRACK. HORIZONTAL BRIDGE, OR REINFORCE WITH 2" NOMINAL LUMBER FIRE TREATED AT ALL GRAB BARS, RAILS, LAVATORIES, COUNTERS, ETC., AS REQUIRED, AND ALL DOOR FRAME JAMBS. PROVIDE CLIP ANGLES WHERE STUDS ARE ATTACHED TO MASONRY OF STEEL FRAMING MEMBERS OR AS REQUIRED FOR SUPPORTING FRAMING MEMBERS.

FLASHING AND SHEET METAL

FABRICATE AND INSTALL IN ACCORD WITH SMACNA CRITERIA AND THE ARCHITECTURAL SHEET METAL MANUAL.

**FLASHING** - MINIMUM .018" EXPOSED, .018" CONCEALED, BAKED ENAMEL FINISHED ALUMINUM OR 26A GA. SHEET METAL, PERMANENT FINISH. USE FOR FASCIAS, AND USE PERFORATED SYSTEMS FOR SOFFITS. ALL VERTICAL JOINTS, SEALED AND LAPPED. SEAL JOINTS WITH CLEAR SILICONE. COLOR SELECTED BY OWNER.

**ROOF SPECIALTIES** RIDGE VENTS UNPEAK BY RIDGE, VENT, MATCH COLOR TO ROOF. SOFFIT LOUVERS, CORRUGATED PERFORATED SECTIONS, ALUMINUM, LEIGH PRODUCTS OR EQUAL.

SHINGLES - 23# GRANULAR, FIBERGLASS REINFORCED ASPHALT. 12" X 36" SELF SEALING, 3 TAB. LAY 5" TO WEATHER. UL CLASS C, ASTM C-255. COLOR AS SELECTED. PROVIDE 15 YEAR WARRANTY AND 2 YEAR CONTRACTOR REPLACEMENT GUARANTEE.

SHINGLE UNDERLAYMENT-1 LAYER 15# ASPHALTIC FELT MEETING ASTM D266.

OVERHANGS AND VALLEYS - 3'-0" WIDE, R, W. GRACE'S "ICE AND WATERSHIELD" UNDERLAYMENT. ALL EDGES, EDGE BEADS 1/2" OVERHANG.

LOUVERS, STORMPROOF, 4" THICK, BIRD SCREEN, SHAPE AS SHOWN.

VENT STACKS, NEOPRENE OR HOODED TYPES.

**VAPOR AND AIR RETARDER** INTERIOR SURFACES OF EXTERIOR WALLS BENEATH GYP BOARD, 6 MIL POLYURETHANE. ALSO BENEATH FLOOR SLAB.

**INSULATION** FIBERGLASS BUILDING INSULATION, TYPE 1 OR 2 ASTM C665, NON-COMBUSTIBLE, ASTM E136-25 R = 3.25 MIN./INCH.

RIGID INSULATION, ASTM C-578-85, TYPE I EXPANDED POLYSTYRENE, 1-1/2 LB DENSITY. **JOINT SEALERS** INTERIOR CAULKING - CLASS A SEALANT/FLEXIBLE WATER BASE, NON-BLEEDING, OR ASTM C-920 & C-929, TYPE 25, NON LATEX.

COMPLETELY SEAL CONSTRUCTION TO MOISTURE AND OUTSIDE AIR.

EXTERIOR - ONE OR TWO COMPONENT POLYURETHANE OR POLYSULFIDE, NON SAG, FEDERAL SPECIFICATION ITS 00227E, CLASS A, ASTM C920-86. AS NECESSARY, FILL JOINTS WITH EXPANDED POLYURETHANE ROPE.

BATHROOMS, CAULK, SILICONE, GE OR DOW. FFFT-15-143A. COLOR AS SELECTED.

**APPLICATION** CAULK AROUND DOOR & WINDOW OPENINGS, AT FLASHING INTERSECTIONS INTO BLOCK AND AROUND VENT OPENINGS. CAULKING NOT ALLOWED WHEN THE TEMPERATURE IS BELOW 40°F. PROVIDE CAULK AT ALL DISSIMILAR MATERIALS.

**FIRE RATED CAULKING** AS MANUFACTURED BY USG, 3M, OR EQUIVALENT. CAULK AROUND ALL PIPE, WIRE, CABLE, DUCTS, ETC. PENETRATING FIRE RATED WALLS.

PLASTIC PIPE AND CONDUIT FIRE WALL PENETRATIONS AS PER U.L. W-1-2241, STL PIPE PENETRATIONS AS PER UL W-1-1168, 4" PVC PIPE PENETRATIONS AS PER UL W-1-2237, CABLE FIRE WALL PENETRATIONS AS PER U.L. W-1-3169, STUD WALL TO MASONRY WALL UL WW-D-0103

ROUGH CARPENTRY

ALL WOOD JOISTS WHEN USED TO BE S4S #2 KD, MINIMUM FIBER STRESS 1450# F<sub>b</sub> BRIDGE ALL SPANS OVER 7'-0" @ 7'-0" O.C. SOLID BRIDGE OVER WALLS. STUDS SPF GRADE 950# FB. USE DOUBLERS AT WINDOW OPENINGS.

ROOF SHEATHING - 1/2" MINIMUM THICKNESS CDX GRADE, 5-PLY PLYWOOD. PROVIDE H CLIPS MID SPAN BETWEEN TRUSSES. GAP BETWEEN 4 X 8 SHEETS.

WALL SHEATHING: 7/16" OSB, EXPOSURE I.

**TRUSSES** WOOD TRUSSES PREFABRICATED DESIGNED IN ACCORDANCE WITH HUD BULLETIN 4950.2, TO BE INSTALLED WITH PROPER BRIDGING AND BRACING. MANUFACTURER TO PROVIDE ERECTION DRAWINGS.

PREFABRICATED ROOF TRUSSES SECURED TO BUILDING STRUCTURE WITH TRUSS CLIPS EQUAL TO SIMPSON OR TECO, H SERIES, DATA AND DRAWINGS, TRUSS TYPES PREPARED AND SEALED BY LICENSED ENGINEER IN THE STATE OF MICHIGAN.

ROUGH CARPENTRY INCLUDING BLOCKING, CLIPS, HEADERS, CLEATS, AND OTHER EQUIVALENT WORK.

LABOR, MATERIAL, AND EQUIPMENT TO PERFORM ALL CARPENTRY WORK SHOWN. BLOCKING, NAILERS, CODE REQUIREMENT MEMBERS, NECESSARY ANCHORS, CLIPS, METAL STRAPS, AND RAILING TO BE PROVIDED.

FINISH CARPENTRY

**QUALITY ASSURANCE** REQUIREMENTS OF "ARCHITECTURAL WOODWORK QUALITY STANDARDS AND GUIDE SPECIFICATIONS", PUBLISHED 1973 BY THE ARCHITECTURAL WOOD WORK INSTITUTE (AWI), SHALL FORM A PART OF THESE SPECIFICATIONS EXCEPT AS OTHERWISE NOTED.

WOOD VENEER SOLID CORE DOORS, RED OAK, GRADE I, QUARTER SLICED, BOOK MATCHED AND MATCHED FOR COLOR AND GRAIN VENEER AT JOINTS.

FABRICATE IN ACCORDANCE WITH ARCHITECTURAL WOODWORK QUALITY STANDARD, ARCHITECTURAL WOODWORK INSTITUTE.

PARTICLE BOARD, DEPT. OF COMMERCE STANDARD C236-66.

SHELVING - EDGE Banded, 3/4" FINISHED PLYWOOD, OR SOLID SAWN.

WINDOW SILLS, AND APRONS TO BE CORIAN.

**COUNTERS** PLASTIC LAMINATE COUNTER AND BACKSPLASH, AND FRONT RAIL.

ALL PLASTIC LAMINATE TO BE GENERAL PURPOSE, "POST-FORMING", OR "SELF-EDGED" TYPE. ALL COLORS TO BE FROM THE STANDARD COLORS AND PATTERNS OF THE APPROVED MANUFACTURER. PLASTIC LAMINATE CORE TO BE 3/4" THICK PARTICLE BOARD, OR 5-PLY HARDWOOD PLYWOOD, TYPE II, GRADE BD, OR BETTER WITH MINIMUM 3/4" THICKNESS.

DOORS AND WINDOWS

**STEEL DOOR FRAMES** ALL FRAMES HOLLOW METAL, 18 GA. MINIMUM METAL THICKNESS, 16 GA. FOR LABELED DOORS. BONDERIZE, FACTORY PRIME, REINFORCE FOR HARDWARE AND KNOCKOUT. SUPPLY WITH VINYL SILENCERS AND ADJUSTABLE LOCK STRIKE. UTILIZE 16 GA. FLOOR CLIPS AND JAMB ANCHORS. ALL WORK IN ACCORD WITH STEEL DOOR INSTITUTES, SPEC. SDA100. INTEGRAL WEATHERSTRIP EXTERIOR FRAMES.

**HOLLOW METAL DOORS** 18 GA. SKINS, EXTERIOR R=7 MINIMUM INSULATION, WEATHER STRIP, HEAD AND SILL RAIN CAPS EXTERIOR DOORS. SPEC. SDA100. AIR LEAKAGE NOT TO EXCEED 0.37 CFM/LIN. FT. @ 25 MPH. ASTM E-283.

**WOOD DOORS** NWMA I.S. 1-80, 18" VENEER, SOLID STAVES, RATED 20 MIN. FOR FIRE LABEL DOORS WHERE REQUIRED. FURNISH GLASS PANELS WHERE SHOWN.

**ALUMINUM DOORS AND FRAMES** PROVIDE ANODIZED ALUMINUM DOORS AND FRAMES, 3" X 7" NARROW STILE, EXTRA DUTY, 6063-T5 ALLOY, 0.125" THICK, REINFORCED FOR HARDWARE. PROVIDE COMPLETE WITH HARDWARE PANIC DEVICES, 4" BUTT HINGES, 1-1/2 PR., LOCKSET.

PILE WEATHER STRIP, TOPRAIL 4-1/2", BOTTOM RAIL 6", 12" WIDE CENTER MUNTIN FOR PUSH-PULL. PANIC DEVICE EQUAL TO VON DUPRIN, HOLD OPEN ARMS, FLUSH HEAD AND FOOT BOLTS, INACTIVE LEAF. LOCK CYLINDER BY OWNER.

FRP/ALUMINUM HYBRID DOORS: STYLES AND RAILS 6063-T6 ALUMINUM ALLOY MITERED CORNERS 0.120" SPEC/ITE3 FACE SHEETS PEBBLE GRAIN RABBETED SECURED WITH FULL LENGTH INTEGRAL REGLETS POURED IN PLACE CLOSED-CELL POLYURETHANE CORE AS MANUFACTURED BY SPECIAL-LITE SL-17 OR APPROVED EQUAL. FIRE DOORS SPECIAL-LITE AF-FR SERIES

WINDOWS SASH TO BE KAWNEER SEALAIR WINDOW 8225T OR APPROVED EQUAL FRAMES AND SASH ALUMINUM ALLOY 6063-T5 EXTRUSIONS, SEALANT POLYURETHANE VULKEM COLOR TO MATCH BLOCK. STOREFRONT FRAMING ALUM. 4-1/2" X 1-3/4", NATURAL ALUM. TO RECEIVE 7/8" THERMOPANE. SASH TO MEET ZONE II AIR LEAKAGE REQUIREMENTS, ASTM E-203.

GLASS AND GLAZING

MATERIALS

**WINDOW GLASS** PROVIDE GLASS MEETING FEDERAL SPEC DD-G-451C, CLASS I, QUALITY 43. TEMPERED GLASS DD-G-4403. MIRRORS 1/4" PLATE SILVER BEVELED EDGE WITH MOUNTING BRACKETS. COLORS TO BE SELECTED. EXTERIOR GLAZING TINTED. INSULATED GLASS, 7/8" TWO LAYERS 3/16" PLATE OR FLOAT, SEALED EDGES, LOW 'E' COATING.

INTERIOR DOOR AND WINDOW OPENINGS FIRE RATED OR 1/4" PLATE PROVIDE ALTERNATE PRICE FOR LAMINATED GLASS 1/8"-0.030" FILM-1/8"

FINISH HARDWARE

FURNISH AND INSTALL HARDWARE CONFORMING WITH THE MICHIGAN BUILDING CODE, THE AMERICAN DISABILITIES ACT, AND NFPA 80. THE CONTRACTOR SHALL BE FAMILAR WITH THE ELECTRONIC HARDWARE SPECIFIED AND COORDINATE WITH THE OWNERS EXISTING CARDIFAB ELECTRONIC DOOR SYSTEM AND ELEC. CONTR. AND TO PROVIDE SHOP DRAWING INDICATING WIRE SIZE AND NO. INCLUDING POINT TO POINT HOOK UP FOR ALL COMPONENTS. ALSO TO PROVIDE HARDWARE COMPATABLE WITH OWNER PROVIDED KEYED CYLINDERS.

**FINISHES** GENERALLY DULL CHROME US26/BHMA 626

**HINGES** HINGES 4-1/2" MINIMUM, FIVE KNUCKLE, NRP, BALL BEARING. DORRS WITH ELECTRONIC LOCKS USE POWER TRANSFER HINGE. CONTINUOUS HINGE 6063-T6 ALUM 1" LESS THAN DOOR HEIGHT FASTEN WITH 1224X1/2" #3 PHILIPS KEEN FORM STAINLESS STL SELF TAPPING OR 12X1/2" #3 PHILIPS FLATHEAD AT WOOD DOORS

**LOCKSETS** HEAVY DUTY, COMMERCIAL, MEETING REQUIREMENTS OF ANSI A156.3, 1994, GRADE 1, FULL MORTISE, FEDERAL SPEC. 86 AND 87, 2 3/4" BACKSET, LEVER HANDLES, KEYED FOR FIVE OR SIX PIN TUMBLERS.

**EXIT DEVICES** TOUCH BAR TYPE EQUAL TO VON DUPRIN SERIES 98, AS REQUIRED ON EXIT DOORS. COMPLETE WITH DOGGING KEYS. MORTISE EXIT DEVICES, RIM AND VERTICLE ROD TO MEET ANSI A156.3, 1994, GRADE1

**CLOSERS** CERTIFIED UNDER ANSI 156.4, PT-1 PERFORMANCE LEVEL, BHMA STANDARD 301 CONCEALED MOUNT, ADAPTER PLATES AS NECESSARY, INTERIOR AND EXTERIOR DOORS, EQUAL TO 4111 OR 4011, LCN. TO CLOSE FROM FULL OPEN TO 3" FROM LATCH IN 3 SECONDS.

THRESHOLDS ZERO 1/4"x 5"x WIDTH OF DOOR ALUMINUM

**PUSH PULLS** EQUAL TO IVES, STYLE VR900 SERIES VANDAL RESISTANT PULLS. 3-1/2" X 14" PUSH PLATES, BEVELED EDGES STAINLESS STL. 0.120" THICK

**KICK PLATES** 2'-10" X 10" STAINLESS STEEL 0.050" BEVELED 4 SIDES WITH COUNTERSUNK FASTENERS

**ELECTRONIC STRIKE** VON DUPRIN SERIES 6000.

**MISCELLANEOUS** STOPS OVER HEAD, 90S BY GLYNN JOHNSON, SURFACE APPLIED. WALL STOPS, WS447 OR WS33(X) BY IVES

EXTERIOR DOORS, EXCEPT ALUMINUM DOORS, PROVIDE COMPLETE WEATHER STIPPING, JAMBS AND HEADS, STANLEY 5700 EXCEPT WHEN INTEGRALLY PART OF DOOR FRAME, ADJUSTABLE ASTRAGLS, STANLEY 5620 FOR PASS DOORS. THERMAL BARRIER THRESHOLD 1/2" THICK, WITH BOTTOM DOOR SEALS, SWEEP TYPE.

EXTERIOR DOORS WITH NO CANOPY PROTECTION. INSTALL RAIN DRIP CAPS, HEAD SILL, STANLEY 5909 SERIES.

ACOUSTIC PRESSURE SEAL, ALL DOORS WHERE SCHEDULED.

FINISHES

**GYPSUM WALLBOARD** - ASTM C36 "STANDARD SPECIFICATION FOR GYPSUM WALLBOARD" TAPERED EDGE TYPE. GYPSUM ASSOCIATION GA 214 RECOMMENDED LEVELS OF GYPSUM BOARD FINISHAND 216 APPLICATION AND FINISHING OF GYPSUM PANEL PRODUCTS. BEHIND CERAMIC TILE ASTM C-630 INSTALLATION SPECIFICATION GA-216

JOINT REINFORCING TAPE AND COMPOUND, ASTM C475 "STANDARD SPECIFICATION FOR JOINT TREATMENT MATERIALS FOR GYPSUM WALLBOARD CONSTRUCTION"

SCREWS TYPE 'S' TO MEET THE MINIMUM REQUIREMENTS OF ASTM C646 MIN. SPACING 12" O.C. FOR CEILINGS 15" FOR WALLS

APPLICATION OF GYPSUM BOARD SHALL CONFORM TO 'STANDARD SPECIFICATION FOR APPLICATION AND FINISHING OF WALLBOARD LEVEL 4 FINISH

ACOUSTIC TILE CEILING

ACOUSTIC TILE CEILINGS: ARMSTRONG 'GIRRS' MINERAL FIBER MEDIUM TEXTURE HIGH NRC CONFORMING TO ASTM E1264 CLASSIFICATION TYPE 111 FORM 1, PATTERN E 1. FIRE CLASS A, FIRE CLASSIFICATION ASTM E84 FLAME SPREAD INDEX OF 25 OR LESS. SMOKE DEVELOPED INDEX OF 50 OR LESS. ITEM NO 576 9/16 BEVELED REGULAR EDGE 24X24X7/8 WITH NRC 0.70 AND CAC 40. SUSPENSION SYSTEM 'PRELUDE' 15/16" FACE, 2'X2' STL GRID FACTORY WHITE BAKED ENAMEL FINISH. INSTALL GRID SYSTEM WITH LESS THAN 1/360 DEFLECTION OR APPROVED EQUAL.

**CERAMIC TILE** - FLOOR, BASE, IN VESTIBULE 8X40X3/8 NOMINAL, COVED BASE, BULL NOSE TOPS, COLOR AND PATTERN AS SELECTED. TOILET RMS 12X24X3/8 SEE FINISH SCHEDULE

CERAMIC TILE, ABSORPTION RATE 13% AVERAGE, ASTM C-373, BREAKING STRENGTH AVERAGE 130# ASTM C-648, THERMAL SHOCK ASTM C-84.

INSTALLATION AS PER TILE COUNCIL OF AMERICA INC 'HANDBOOK FOR CERAMIC TILE INSTALLATION' METHOD F113-01 THIN SET DRY SET MORTAR ANSI A118.1 GROUT ANSI A118.6 OVER CONCRETE FLOOR INSTALLATION SPECIFICATION TILE ANSI A108.5 GROUT ANSI A108.10, WALLS CER TILE OVER GYP BRD AND MTL STUDS W243-01 DRY SET MORTAR ANSI A118.1 GROUT ANSI A108.6 INSTALLATION SPECIFICATION TILE ANSI A108.5 GROUT ANSI A108.10

**CARPET** - CARPETING SHALL SATISFY HUD/FHA STANDARD FOR CARPET CERTIFICATION PROGRAM UM 44d/UM72 BULLETINS AS PUBLISHED BY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, FEDERAL HOUSING AUTHORITY

CARPET SHALL DISSIPATES UNWANTED STATIC ELECTRICITY, AND PREVENTS STATIC BUILD UP IN EXCESS OF 3.0 KV AT 70 DEG F, 20% RELATIVE HUMIDITY, AATCC-134 FLAMMABILITY, PASSES DOC-FF-1-70 PILL TEST. MEETS NFPA CLASS 1 WHEN TESTED UNDER ASTM E-648 AND NBS SMOKE CHAMBER NFPA-258 450 OR LESS FLAMING MASS

CARPET 23 OZ TUFTED YARN LOOPED ECO SOLUTION NYLON FILAMENT 100% SOLUTION DYED WITH INTEGRAL CUSHION BACKING FOR DIRECT GLUE DOWN

**RESILIENT FLOORING** - RESILIENT FLOORING MATERIALS SHALL SATISFY RATINGS OF 25 OR LESS FOR FLAME SPREAD CHARACTERISTICS AS TESTED UNDER ASTM TEST E84-70 'STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS'

**PAINT** - PAINT WITH COLORS AS SELECTED. ALL SURFACES TO BE DRY AND FREE FROM FOREIGN MATERIALS PRIOR TO START OF WORK. PREPARE ALL SURFACES WITH SPACKLING OR OTHER, AND SAND TO MAKE SURE THERE IS A SMOOTH LEVEL SURFACE.

INTERIOR PAINT, GYPSUM WALL AND CEILING BOARD, 1 COAT TINTED PRIMER, 2 COATS LOW VOC LAYTEX EGGSHELL SP-2.

INTERIOR DOORS: WOOD PREFINISHED. FRAME - 2 COATS ALKYD BASE SEMI-GLOSS SP-4. EXTERIOR MTL DOORS FINISH EGGSHELL SP-2

PAINT INTERIOR HEATING AND VENTILATING DUCTS, FLAT BLACK WHERE EXPOSED TO VIEW.

**CABINETS AND VANITIES** - CABINETS SHALL BE SHOP BUILT, PREFINISHED CABINETS AS SHOWN ON DRAWINGS. OR AS APPROVED BY ARCHITECT. ALL CABINETS SHALL HAVE SOLID WOOD FRONTS, SIDE RAILS, AND ENDS AND COMPLY WITH ANSI SPEC. A161.1. DOORS SHALL BE EQUIPPED WITH HINGES HAVING SPRING CLOSER

PLASTIC LAMINATE

ALL PLASTIC LAMINATE TO BE GENERAL PURPOSE, "POST-FORMING", OR "SELF-EDGED" TYPE. ALL COLORS TO BE FROM THE STANDARD COLORS AND PATTERNS OF THE APPROVED MANUFACTURER. PLASTIC LAMINATE CORE TO BE 3/4" THICK PARTICLE BOARD



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ABBREVIATIONS

AD	ACCESS DOOR	RZP-	REDUCED ZONE BACKFLOW
AFF	ABOVE FINISHED FLOOR	BFP	PREVENTER
ASR	AUTOMATIC SPRINKLER RISER	SK	SINK
B	BOILER	SA	SUPPLY AIR
BDD	BACKDRAFT DAMPER	SAD	SUPPLY AIR DIFFUSER
CA	COMBUSTION AIR	SAG	SUPPLY AIR GRILLE
CI	CAST IRON	SHR	SHOWER
CO	CLEAN OUT	MS	MOP SINK
CU	CONDENSING UNIT	TAG	TRANSFER AIR GRILLE
CP	CIRCULATING PUMPS	TH	THERMOMETER
CONN	CONNECTION	UH	UNIT HEATER
CVB	CONSTANT VOLUME BOX	UR	URINAL
EAG	EXHAUST AIR GRILLE	VD	VOLUME DAMPER
EC	ELECTRICAL CONTRACTOR	VTR	VENT THROUGH ROOF
EF	EXHAUST FAN	WC	WATER CLOSET
EWC	ELECTRIC WATER COOLER	WCO	WALL CLEAN OUT
EWB	ELECTRIC WALL HEATER	WH	WATER HEATER
EXH	EXHAUST	W/V	WASTE/VENT
F	FURNACE	BPW	BED PAN WASHER
FD	FLOOR DRAIN	TCP	TEMPERATURE CONTROL PANEL
FLR	FLOOR	DWV	DRAINAGE WASTE AND VENT
FP	FREEZE PROOF	WB	WATER BOX
FS	FLOOR SINK	F.U	FIXTURE UNITS DRAINAGE
FTFD	FUNNEL TYPE FLOOR DRAIN	GV	GATE VALVE
GC	GENERAL CONTRACTOR	GLV	GLOBE VALVE
L	LAVATORY	H.B	HOSE BIBB
LD	LINEAR DIFFUSER	H.C	HOSE CABINET
LT	LAUNDRY TUB	HYD.	HYDRANT
MC	MECHANICAL CONTRACTOR	H.O	HUB OUTLET
OA	OUTSIDE AIR	I.E	INVERT ELEVATION
PG	PRESSURE GAUGE	M.H	MANHOLE
PH	PHYSICALLY HANDICAPPED	N.I.C	NOT IN CONTRACT
PRW	PRESSURE REGULATING VALVE	R.C	ROOF CONDUCTOR
RA	RETURN AIR	R.D	ROOF DRAIN
RAG	RETURN AIR GRILLE	TYP.	TYPICAL
RH	RADIANT HEATER	W	WASTE
RS	ROOF SUMP	ERV	ENERGY RECOVERY VENTILATOR
RTU	ROOFTOP UNIT	PH	PHYSICALLY HANDICAPPED

MECHANICAL LEGEND

---	COLD WATER
---	HOT WATER
---	HOT WATER RETURN
-G-	NATURAL GAS
-L-	LIQUID (REFRIGERANT)
-S-	SUCTION (REFRIGERANT)
-SAN-	SANITARY
-ST-	STORM
-V-	VENT
---FP---	FIRE PROTECTION
---	EXISTING
---	DEMOLISHED
---	NEW
---	RETURN GRILLE
---	SUPPLY DIFFUSER
---	FIRE DAMPER HORIZONTAL
---	FIRE DAMPER VERTICAL
---	VOLUME DAMPER
---	SMOKE/FIRE DAMPER
---	BALL VALVE
---	CHECK VALVE
---	CONTROL VALVE
---	EXPANSION JOINT
---	UNION
---	GATE VALVE
---	SOLENOID VALVE
---	EXPANSION JOINT
---	FLOW ARROW
---	FLOW SWITCH
---	MOTORIZED DAMPER
---	SENSOR
---	THERMOSTAT
---	SMOKE DETECTOR
---	THERMOMETER

FIXTURE SCHEDULE

WC-1	KOHLER MODEL #K-3519-T-O (16 1/2" HDCP.) WELLWORTH. W/ FLUSH LEVER TO OPEN. SIDE OF ROOM. ELONGATED TANK TYPE. SEAT - "BEMIS" NO. 1955SSTFR, WHITE MCGUIRE NO. 2166CC CLOSET SUPPLY (1/2" CW, 4"W., 2"V.)
L-1	KOHLER "KINGSTON" WALL HUNG 20"x18" CHINA, WHITE, NO. K2005-0, SLOAN FAUCET NO. S3382118, PROFLO NO. PGD101 GRID DRAIN DEARBORN BRASS TRAP NO.701-1 (PVC) MCGUIRE W/20" RISERS MO.2166CC W/ POINT OF USE TEMPERING VALVE (ASSE 1070), (1/2" CW, 1/2"H.W., 1-1/2"V., 1-1/2"V.) PROVIDE FLOOR-MOUNT CONCEALED ARM CARRIER EQUAL TO JOSAM MOD. 17100
MB-1	ZURN SERVICE SINK MODEL NO. Z1996-24-SD-B5-WG-HH-MH WITH MODEL NO. Z843M1-RC-XL WALL MOUNTED FAUCET WITH BRACKET AND PAUL HOOK (3/4"C.W., 3/4"H.W., 2"W., 1-1/2"V.)
FD-1	6" ROUND PVC FLOOR DRAIN ZURN FR06NI-CS-P 3 S-CC WITH ZN400BZ-VP STRAINER, AND WITH TRAP SEAL (3"W).
WH-1	A.O. SMITH "CYCLONE" COMMERCIAL GAS WATER HEATER MOD. NO. BTX-80 RECOVERY RATING - 86 GPH @ 100", 50 GAL. CAPACITY.76 MBTU NAT GAS, 94% EFFICIENT 3/4" H. & C. W., 3" PVC FLUE SIDEWALL VENTED, INSTALLED AS PER MANUFACTURES RECOMMENDATIONS.
WHA	MECHANICAL WATER HAMMER ARRESTOR. LOCATE & INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
MV	WATTS MMV-M1, ASSE 1070 MIXING VALVE, 2 GPM @ 10 PSIG PD.
AAV	AIR ADMITTANCE VALVE - STUDOR MINI VENT
WH	WOODFORD 65-C FREEZELESS WALL HYDRANT
CP-1	HOT WATER RETURN CIRCULATING PUMP. ALL BRONZE, B & G #NBF-6S/LW, 120V/60HZ, 39 WATTS, AQUA-STAT, (1/2" SOLDERED COPPER CONN.), 5 GPM @ 5' HD.
ET-1	EXPANSION TANK, AMTROL ST-1, ASME RATED, 5 GALLON
EWC	ELKAY MOD EZSTLR8C HIGH/LOW ELECTRIC WATER COOLER 12060/1 4 AMPS
SK-1	ELKAY MODEL "LUSTERTONE" LR2519 18 GA TYPE 304 STAINLESS STEEL SINK WITH LK530 BH4 KITCHEN FAUCET WITH 4" BLADE HANDLES AND GOOSENECK, MCGUIRE W/20" RISERS MO.2166CC, DEARBORN BRASS TRAP NO. 704-2 (PVC), PROFLO PGD101 GRID DRAIN (1/2" CW, 1/2" HW, 1 1/2" W, 1 1/2" V) ASSE 1070 TEMPERING VALVE. CABINET INSTALLER TO CUT OPENINGS.
SK-2	ELKAY MODEL ELX1616 ELKAY QUARTZ LUXE SINGLE BOWL SINK BLACK (CA) WITH DELTA DSP-L-35849LF NICOLI COLLECTION TWO HANDLE WIDESPREAD DECK MOUNT FAUCET, MCGUIRE W/20" RISERS MO.2166CC, DEARBORN BRASS TRAP NO. 704-2 (PVC), PROFLO PGD101 GRID DRAIN (1/2" CW, 1/2" HW, 1 1/2" W, 1 1/2" V) ASSE 1070 TEMPERING VALVE. CABINET INSTALLER TO CUT OPENINGS.

PLUMBING NOTES

SCOPE

- THE WORK TO BE PERFORMED UNDER THE PLUMBING PLANS AND SPECIFICATIONS CONSISTS OF FURNISHINGS ALL MATERIAL AND LABOR FOR THE COMPLETE INSTALLATION FOR ALL PLUMBING SYSTEMS FOR TENANT SPACES. THE WORK SHALL INCLUDE BUT NOT LIMITED TO THE FOLLOWINGS:
  - COLD AND HOT WATER SYSTEMS
  - DRAINAGE AND VENT SYSTEMS
  - INSULATION
  - GAS PIPING
- CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADE TO AVOID CONFLICT AND TO FACILITATE THE WORK WITHOUT CAUSING UNNECESSARY DELAYS. IMMEDIATELY REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER. ALL CHANGES AND/OR ALTERATIONS REQUIRE REVIEW AND APPROVAL BY THE ENGINEER.
- CONTRACTOR SHALL COORDINATE WITH EQUIPMENT VENDOR AND PROVIDE FOR ALL PIPING, VALVES, CONNECTIONS, ETC. AS INDICATED.

GENERAL

- ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE NATIONAL STANDARD PLUMBING CODE, MPC-2015, ALL LOCAL CODES, AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK MATERIALS AND LABOR TO SATISFY A COMPLETE AND WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
- DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, DIMENSIONS, ETC. AT THE JOB SITE.
- LOCATIONS OF EXISTING EQUIPMENT, PIPING, VENTS, ETC. HAVE BEEN TAKEN FROM BEST AVAILABLE INFORMATION. THE DRAWINGS ARE INTENDED TO BE USED FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR IS NOT TO SCALE DRAWINGS OR ASSUME THAT ALL COMPONENTS ARE SHOWN. HE SHALL VISIT THE SITE TO DETERMINE THE TOTAL EXTENT OF REMOVALS AND NEW WORK AS DIAGRAMMED ON THE PLANS. EXTRA COMPENSATIONS FOR FAILURE TO COMPLY WITH THE ABOVE STATEMENT WILL NOT BE CONSIDERED.
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITH A COMPLETE SET OF M/PE ARCHITECTURAL AND EQUIPMENT VENDOR DESIGN DRAWINGS IF APPLICABLE. IMMEDIATELY REPORT ANY DISCREPANCIES TO THE ENGINEERS OFFICE.
- THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES REQUIRED.
- ALL PLUMBING FIXTURES SHALL BE SEPARATELY VALVED
- ALL WATER BRANCHES AND RISERS SHALL BE SEPARATELY VALVED.
- CONTRACTOR SHALL MAKE ALL PLUMBING CONNECTIONS REQUIRED TO EQUIPMENT SUPPLIED BY OTHERS.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL HOT AND COLD WATER CONNECTIONS TO THE PLUMBING FIXTURES.
- CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR THE INSTALLATION OF METAL ACCESS DOORS BY MILCOR STYLE "DW" (NON FIRE RATED) OR STYLE "UFR" (1 1/2 HOUR FIRE RATED) AT ALL LOCATIONS REQUIRED TO ACCESS VALVES, DEVICES, ETC. CONCEALED ABOVE CEILINGS OR IN WALLS.
- CONTRACTOR SHALL PROVIDE WATER HAMMER ARRESTORS ON APPLIANCES/FIXTURES THAT HAVE FAST CLOSING VALVES. APPLIANCES/FIXTURES SHALL INCLUDE BUT NOT NECESSARILY LIMITED TO CLOTHES WASHER, DISH WASHER, SELF CLOSING VALVES, PULSATING SHOWER HEADS, ETC.
- CONTRACTOR SHALL PROVIDE FOR OR COORDINATE WITH G.C. SAW CUTTING, EXCAVATION, BACKFILL AND RESTORATION TO MATCH EXISTING CONDITIONS AS NEEDED FOR PROPERLY EXECUTING THE PLUMBING SCOPE OF WORK. NOTE DEMOLITION NOTES ARE ALSO NOTED ON ARCHITECTURAL DEMOLITION DRAWINGS.
- ALL PLUMBING FIXTURES ROUGH IN AND INSTALLATION AS PER MICHIGAN BUILDING CODE 2015 AND THE AMERICAN DISABILITY ACT.

DEMOLITION

- CONTRACTOR IS RESPONSIBLE FOR SELECTIVE DEMOLITION IN ALL AREAS AS REQUIRED TO ACCOMMODATE THE PROJECTS SCOPE OF WORK. ALL SYSTEMS AND ANILARY COMPONENTS MADE OBSOLETE SHALL BE COMPLETELY REMOVED AND DISPOSED. INSTALL BY-PASS WHERE REQUIRED TO MAINTAIN THE INTEGRITY OF OVERALL SYSTEMS REMAINING AND SERVING AREAS OUTSIDE THE SCOPE OF WORK AREA.
- CONTRACTOR SHALL PERFORM A SITE INSPECTION TO ESTABLISH EXTENT OF DEMOLITION PRIOR TO BID.

SUBSTITUTES

- SUBSTITUTES AND "OR EQUAL" SUBMISSION MUST BE APPROVED IN WRITING BY ENGINEER PRIOR TO SUBMISSION OF BID.

IDENTIFICATIONS

- PROVIDE STENCILED PIPE MARKERS OR PLASTIC TAPE WITH COLOR COMPLYING WITH ANSI A13.1 INCLUDE DIRECTION OF FLOW.
- LOCATE MARKERS NEAR VALVES. EACH BRANCH TAKE OFF AND NEAR MAJOR EQUIPMENT. MAXIMUM SPACE INTERVALS SHALL NOT EXCEED 50'-0"

INSULATION

- ALL HOT AND COLD WATER PIPING TO BE INSULATED WITH A MINIMUM OF 1" FIBERGLASS JACKETED INSULATION (ASTM C547, CLASS 1) WITH A FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50.

ESCUTCHEONS

- ALL EXPOSED PIPING EXCEPT AS OTHERWISE DESCRIBED PASSING THROUGH WALLS, FLOORS, CEILING, ETC. IN FINISHED SPACES SHALL BE PROVIDED WITH SOLID PATTERN BRASS CHROME PLATED ESCUTCHEONS WITH SET SCREW.

BARRIER FREE REQUIREMENT

- ALL EXPOSED WASTE AND WATER PIPING WITHIN A BARRIER FREE BATHROOM SHALL BE INSULATED WITH A PRODUCT EQUAL TO IPS CORP. "TRUEBRO" LAV GUARD 2 UNDERSINK PROTECTIVE PIPE COVERS WITH INTERNAL EZ TEAR-TO-FIT TRIM FEATURE FOR SQUARE CLEAN TRIMMING. INTERNAL RIBS AND BUILT-IN, CONCEALED E-Z GRIP FASTENERS (NO CABLE TIE FASTENERS ALLOWED).

NATURAL GAS PIPING

- BLACK STEEL, SCH 40, ASTM A-120, WITH MALLEABLE IRON THREADED FITTING
- GAS PIPING TO BE PAINTED AND LABELED
- MATERIALS AND INSTALLATION AS PER MPC-2015 AND IFGC-2015 (INTERNATIONAL FUEL GAS CODE)

SOIL WASTE AND VENT PIPING

- SOIL WASTE PIPING AND FITTINGS SHALL BE ABS, SCHEDULE 40 DWV (ASTM D2661).
- VENT PIPING AND FITTINGS SHALL BE ABS, SCHEDULE 40 DWV (ASTM D2661).
- ALL VENT PIPING SHALL HAVE A MINIMUM SLOPE OF 1/4" PER FOOT AND SHALL DRAIN TO FIXTURES.
- ALL WASTE PIPING SHALL SLOPE AS FOLLOWS:
  - A. 3" AND SMALLER SHALL HAVE A SLOPE OF 1/4" PER FOOT
  - B. 4" AND LARGER SHALL HAVE A SLOPE OF 1/8" PER FOOT
- PROVIDE EXTRA DEEP TRAP WITH "SURE SEAL" INLINE FLOOR DRAIN TRAP SEALERS ON ALL FLOOR DRAINS AND FLOOR SINKS.
- SUPPORT PIPING AT MAXIMUM 4'-0" INTERVALS.

WATER PIPING

- DOMESTIC WATER PIPING SHALL BE TYPE "1" COPPER TUBING ABOVE GROUND OR TYPE "K" BELOW GROUND WITH SOLDERED JOINTS USING LEAD FREE SOLDER, PROPERLY CLEANED, USING AN APPROVED FLUX.
- SUPPORT PIPING AT MAXIMUM 5'-0" INTERVALS FOR PIPING UP TO 2" AND AT 8'-0" INTERVALS FOR 2 1/2" AND UP.
- DOMESTIC HOT WATER TEMPERATURES SHALL BE AS FOLLOWS:
  - A. PUBLIC HAND WASHING FACILITIES - 120°F
  - B. SINKS - 120°F
  - C. SERVICE/MOP SINKS - 120°F
- PROVIDE LEONARD POINT OF USE THERMOSTATIC MIXING VALVES MODEL 270-LF OR EQUAL AT MAXIMUM SET POINT OF 105°F AS FOLLOWS:
  - A. IN PUBLIC TOILET ROOMS
  - B. WASH FOUNTAINS
  - C. WASH SINKS

FIRESTOP

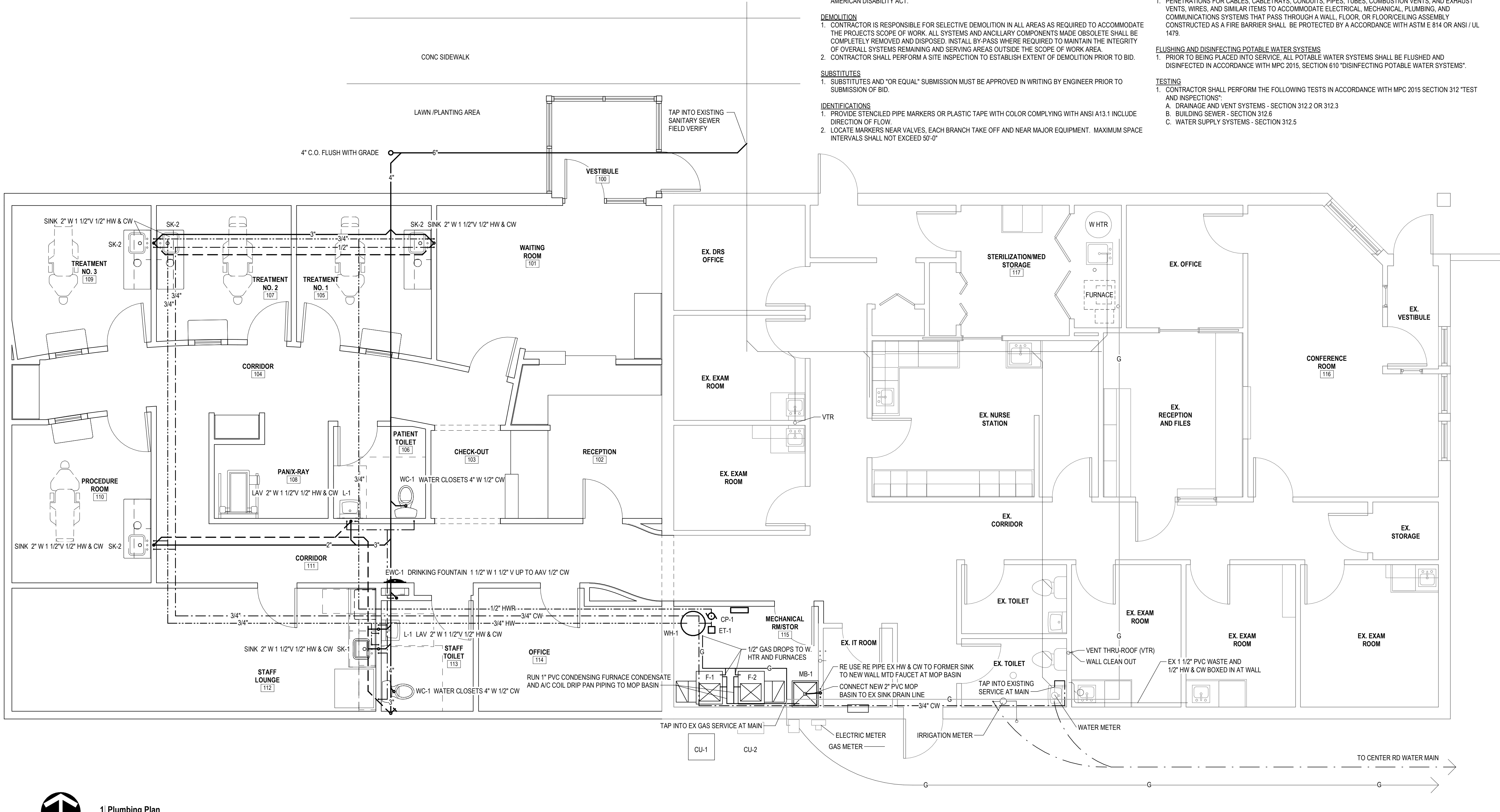
- PENETRATIONS FOR CABLES, CABLETRAYS, CONDUITS, PIPES, TUBES, COMBUSTION VENTS, AND EXHAUST VENTS, WIRES, AND SIMILAR ITEMS TO ACCOMMODATE ELECTRICAL, MECHANICAL, PLUMBING, AND COMMUNICATIONS SYSTEMS THAT PASS THROUGH A WALL, FLOOR, OR FLOOR/CEILING ASSEMBLY CONSTRUCTED AS A FIRE BARRIER SHALL BE PROTECTED BY A ACCORDANCE WITH ASTM E 814 OR ANSI / UL 1479.

FLUSHING AND DISINFECTING POTABLE WATER SYSTEMS

- PRIOR TO BEING PLACED INTO SERVICE, ALL POTABLE WATER SYSTEMS SHALL BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH MPC 2015, SECTION 610 "DISINFECTING POTABLE WATER SYSTEMS".

TESTING

- CONTRACTOR SHALL PERFORM THE FOLLOWING TESTS IN ACCORDANCE WITH MPC 2015 SECTION 312 "TEST AND INSPECTIONS":
  - A. DRAINAGE AND VENT SYSTEMS - SECTION 312.2 OR 312.3
  - B. BUILDING SEWER - SECTION 312.6
  - C. WATER SUPPLY SYSTEMS - SECTION 312.5



1 | Plumbing Plan  
P1.0 1/4" = 1'-0"

ARCHITECT

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REVISIONS

Date Description

Project

**Addition to GHS FQHC**  
**2298 S. Center Rd**  
**Burton, MI 48519**

Drawing

**Plumbing Plan**

DRAWN BY: SJS  
CHECKED BY: JSF

PROJECT NUMBER **22-016**

DATE **02/21/2023**

SCALE **As indicated**

SHEET NUMBER

**P1.0**

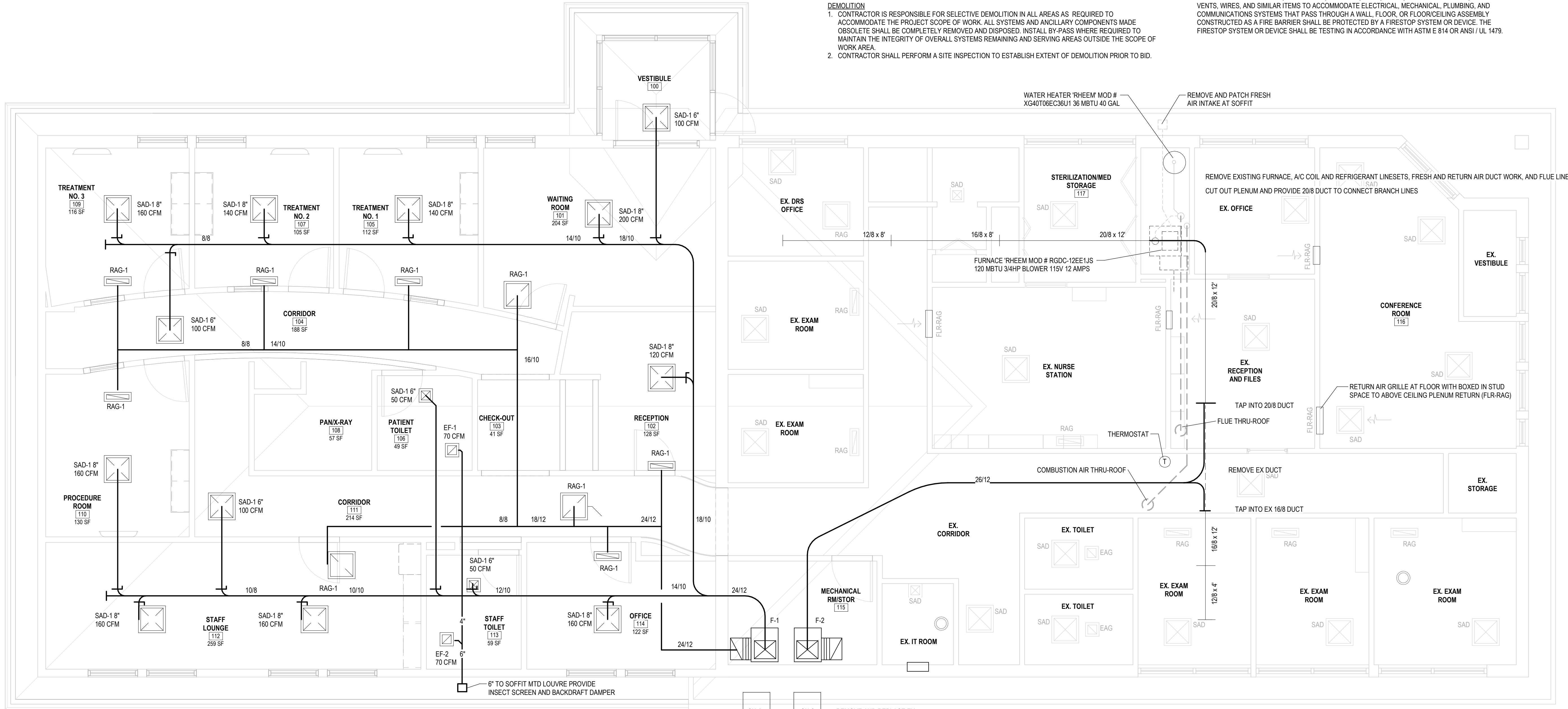




1 Mechanical Plan

MTD 1/4" = 1'-0"

NOTE: HOT AND COLD WATER LINES LOOPED UNDERFLOOR, TYP



VENTILATION SCHEDULE

OFFICE:	1865 SQ FT @ 5 PERSONS/1000 SQ FT = 9 PERSONS X 5 CFM = 45 CFM 1865 SQ FT X 0.06 CFM/SQ FT = 112 CFM
RECEPTION:	200 SQ FT @ 30 PERSONS/1000 SQ FT = 6 PERSONS X 5 CFM = 30 CFM 200 SQ FT X 0.06 CFM/SQ FT = 12 CFM
TOILET RMS:	Voz = 200 CFM ZONE OUTDOOR AIRFLOW Voz = Vbz / Ez Voz = 200/1 OR 200 CFM Ez = CEILING SUPPLY AND RETURN MMC TABLE 403.3.1.2 NOTE g Vol = SINGLE ZONE SYSTEM (1) X Voz (200 CFM) OR 200 CFM
	2 WATER CLOSETS X 70 CFM = 140 CFM
	TOTAL F-1 OUTSIDE AIR 200 CFM
OFFICE:	2080 SQ FT @ 5 PERSONS/1000 SQ FT = 10 PERSONS X 5 CFM = 50 CFM 2080 SQ FT X 0.06 CFM/SQ FT = 125 CFM
RECEPTION:	286 SQ FT @ 30 PERSONS/1000 SQ FT = 9 PERSONS X 5 CFM = 45 CFM 286 SQ FT X 0.06 CFM/SQ FT = 17 CFM
TOILET RMS:	2 WATER CLOSETS X 70 CFM = 140 CFM
	Voz = 237 CFM ZONE OUTDOOR AIRFLOW Voz = Vbz / Ez Voz = 237/1 OR 237 CFM Ez = CEILING SUPPLY AND RETURN MMC TABLE 403.3.1.2 NOTE g Vol = SINGLE ZONE SYSTEM (1) X Voz ( 237 CFM) OR 237 CFM
	TOTAL F-2 OUTSIDE AIR 237 CFM

EQUIPMENT SCHEDULE

F-1	FURNACE EQUAL TO 'GOODMAN' GM9C96 1005ONAUP FLOW, VARIABLE SPEED, TWO STAGE HEATING, 96 AFUE, 100 MBTU HEATING, NAT GAS, 1800 CFM NOMINAL, 1 HP AT 1075 RPM, 115/160 13.3 MCA 20 AMP BREAKER WITH ENCASED COIL, PROVIDE 1" PVC CONDENSATE PIPING FROM A/C COIL DRAIN PAN AND CONDENSING FURNACE TO FLOOR DRAIN, EXTERIOR MTD 2" MERV-8 FILTER BANK
F-2	FURNACE EQUAL TO 'GOODMAN' GM9C96 1205DNA UP FLOW, VARIABLE SPEED, TWO STAGE HEATING, 96 AFUE, 120 MBTU HEATING, NAT GAS, 2000 CFM NOMINAL, 1 HP AT 1075 RPM, 115/160 13.3 MCA 20 AMP BREAKER WITH ENCASED COIL, PROVIDE 1" PVC CONDENSATE PIPING FROM A/C COIL DRAIN PAN AND CONDENSING FURNACE TO FLOOR DRAIN, EXTERIOR MTD 2" MERV-8 FILTER BANK
CU-1	A/C CONDENSER 4.5 TON EQUAL TO 'GOODMAN' GSX16 0481F NOMINAL COOLING 45500 BTU, 230/1/60 23.7 MCA 40 AMP 2-P CIRCUIT BREAKER, R-410A REFRIGERANT, AND PAINTED HOUSING
CU-2	A/C CONDENSER 5 TON EQUAL TO 'GOODMAN' GSX16 0601F NOMINAL COOLING 54000 BTU, 230/1/60 29.6 MCA 50 AMP 2-P CIRCUIT BREAKER, R-410A REFRIGERANT, AND PAINTED HOUSING
EF-1 & 2	GREENHECK SP-B70-QD DIRECT DRIVE 70 CFM AT 0.125" SP 120/60/1 45 WATTS WITH BACKDRAFT DAMPER & 4" MTL DUCT
SAD-1	CEILING DIFFUSER TITUS TODA OR EQUAL SQUARE 4 WAY DISTRIBUTION STEEL WITH WHITE POWDER COAT FINISH ADJUSTABLE HORIZONTAL TO VERTICAL AIRFLOW PATTERN FRAME FOR LAY-IN CEILING 500 FPM MAX. NECK VELOCITY AND 20 MAX. NO LEVEL CFM NECK SIZE 0-100 6" DIA. 101-200 8" DIA. 201-325 10" DIA. 326-470 12" DIA.
SAD-2	SAME AS CD-1 ONLY FRAME FOR PLASTER CEILING
RAG-1/ EAG-1	RETURN AIR GRILLE TITUS 50F EGGRATE OR EQUAL WHITE FINISH FRAME FOR LAY-IN CEILING PAINT DUCT DUCT BLACK VISIBLE BEHIND GRILLE CFM NECK SIZE FACE SIZE 0-130 6X6 12X12 131-250 8X8 12X12 251-450 10X10 12X12 451-1000 10X22 12X24
RAG-2/ EAG-2	SAME AS RAG-1/EAG-1 ONLY FRAME FOR PLASTER CEILING
WR-1	WALL DIFFUSER 2 WAY ADJUSTABLE DUCT MTD

HVAC NOTES

SCOPE

- PROVIDE ALL MATERIALS AND EQUIPMENT INDICATED ON THESE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS AND LABOR TO SATISFY A COMPLETE AND WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED
  - WORK TO BE PERFORMED UNDER THE MECHANICAL SPECIFICATIONS AND DRAWINGS CONSISTS OF FURNISHINGS ALL LABOR AND MATERIAL FOR THE INDICATED SPACE INCLUDING BUT NOT LIMITED TO:  
A. EXHAUST FANS AND ACCESSORIES  
B. DUCTWORK, DIFFUSERS, AND ACCESSORIES
  - CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES TO AVOID CONFLICT AND TO FACILITATE THE WORK WITHOUT CAUSING UNNECESSARY DELAYS. IMMEDIATELY REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER ALL CHANGES AND/OR ALTERATIONS REQUIRE REVIEW AND APPROVAL BY THE ENGINEER.
- GENERAL
- ALL EQUIPMENT SHALL BE INSTALLED IN A WORKMAN LIKE MANNER MEETING THE ACCEPTED STANDARDS OF THE HVAC INDUSTRY. WORK SHALL BE PERFORMED BY FIRMS AND CRAFTSMAN REGULARLY ENGAGING IN WORK OF THIS NATURE.
  - ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE OF THE TYPE AND CAPACITIES INDICATED ON THE DRAWINGS, OR APPROVED EQUAL AND/OR SUBSTITUTION SHALL BE UNCONDITIONAL.
  - ALL EQUIPMENT AND MATERIALS PROVIDED UNDER THESE SPECIFICATIONS SHALL BE LIMITED TO PRODUCTS REGULARLY PRODUCED AND RECOMMENDED FOR THE PROPOSED SERVICE.
  - SUBSTITUTIONS AND/OR EQUAL PRODUCTS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO INSTALLATION.
  - GUARANTEE IN WRITING ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNERS ACCEPTANCE. GUARANTEE SHALL BE UNCONDITIONAL.
  - DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, DIMENSIONS, ETC. AT THE JOB SITE.
  - ALL EXTERIOR WALL OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH LOW VOLATILE ORGANIC COMPOUND SEALANT TO PREVENT INFILTRATION OF OUTSIDE AIR INTO ROOMS.
  - CONTRACTOR SHALL INSTALL EXHAUST FANS, INCLUDING ALL DUCTWORK, BACK DRAFT DAMPERS, CAPS, SCREENING, AND RELATED HARDWARE TO PROVIDE EXHAUST TO EXTERIOR OF BUILDINGS.
  - LOCATIONS OF EXISTING EQUIPMENT, INCLUDING PIPING, DUCTWORK, DIFFUSERS, AND REGISTERS, HAVE BEEN TAKEN FROM THE BEST AVAILABLE INFORMATION. THE DRAWINGS ARE INTENDED TO BE USED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS NOT TO SCALE DRAWINGS OR ASSUME THAT ALL EQUIPMENT IS SHOWN. THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE TOTAL EXTENT OF REMOVALS AND NEW WORK AS DIAGRAMED ON THE PLANS. EXTRA COMPENSATION FOR FAILURE TO COMPLY WITH THE ABOVE STATEMENTS WILL NOT BE CONSIDERED.
  - CONTRACTORS SHALL VISIT THE PROJECT PRIOR TO SUBMITTAL OF PROPOSAL AND THOROUGHLY FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND CONDITIONS THAT WILL AFFECT THE PERFORMANCE OF THEIR WORK. FAILURE TO DO SO WILL NOT ENTITLE THEM TO ANY ADDITIONAL COMPENSATION FOR PROVIDING A COMPLETE AND APPROVED SYSTEM.
  - CONTRACTOR SHALL REFER TO ALL DRAWINGS FOR INFORMATION, SPECIFICATIONS, AND/OR INSTRUCTIONS RELATIVE TO THE PROJECT SCOPE OF WORK AND PROVIDE WORK/COORDINATION REQUIRED TO FACILITATE OTHER CONTRACTORS.
  - THERMOSTATS SHALL BE MOUNTED SO THAT OPERABLE PARTS ARE LOCATED NO HIGHER THAN 48" ABOVE FINISHED FLOOR. IF THE REACH IS OVER AN OBSTRUCTION BETWEEN 20" AND 25" IN DEPTH THE MAXIMUM HEIGHT SHALL BE 46"
  - CONTRACTOR SHALL PROVIDE LOOKABLE METAL, VENTED, THERMOSTAT COVERS FOR ALL THERMOSTATS.
  - MECHANICAL CONTRACTOR SHALL PROVIDE CERTIFIED CHECK, TEST, AND START UP SERVICES, TO PROVIDE DRAWINGS OF THE INSTALLED SYSTEM, OWNER TRAINING OF THE CONTROL SYSTEM OPERATION AND EQUIPMENT WARRANTIES.
  - MAINTAIN 10 FT SEPARATION BETWEEN AIR INTAKES AND EXHAUST AIR OR PLUMBING VENTS. FRESH AIR INTAKES TO BE A MIN 3 FT ABOVE ROOF.
  - EXHAUST FANS TO BE MANUALLY STARTED AND STOPPED SWITCHED BY ELECTRICAL CONTRACTOR

DEMOLITION

- CONTRACTOR IS RESPONSIBLE FOR SELECTIVE DEMOLITION IN ALL AREAS AS REQUIRED TO ACCOMMODATE THE PROJECT SCOPE OF WORK. ALL SYSTEMS AND ANCILLARY COMPONENTS MADE OBSOLETE SHALL BE COMPLETELY REMOVED AND DISPOSED. INSTALL BY-PASS WHERE REQUIRED TO MAINTAIN THE INTEGRITY OF OVERALL SYSTEMS REMAINING AND SERVING AREAS OUTSIDE THE SCOPE OF WORK AREA.
- CONTRACTOR SHALL PERFORM A SITE INSPECTION TO ESTABLISH EXTENT OF DEMOLITION PRIOR TO BID.

CODES AND STANDARDS

- ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF INTERNATIONAL MECHANICAL CODE, MICHIGAN MECHANICAL CODE-2015, MICHIGAN ENERGY CODE ASHRA 90.1 2015, NFPA, SMACNA, LOCAL CODES, AND REGULATIONS GOVERNING WORK OF THIS NATURE.
- CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS, AND PAY ANY AND ALL FEES AS REQUIRED.

COORDINATION

- THIS CONTRACTOR SHALL COORDINATE ALL WORK WITH A COMPLETE SET OF M/P/E AND ARCHITECTURAL DESIGN DRAWINGS. IMMEDIATELY REPORT ANY DISCREPANCIES TO THE ENGINEERS OFFICE.
- CONTRACTOR IS TO COORDINATE AND PROVIDE FOR INTERIOR WALL OPENINGS FOR DUCT PENETRATIONS.
- CONTRACTOR IS TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATIONS OF WIRING FOR EACH EXHAUST FAN.
- CONTRACTOR SHALL COORDINATE AND PROVIDE FOR UNDERCUTTING AND/OR LOUVRE DOOR AS INDICATED TO ALLOW ADEQUATE AIR RETURN TO AIR HANDLING UNIT.
- CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

MAINTENANCE

- CONTRACTOR SHALL SERVICE EXISTING HVAC EQUIPMENT TO ASSURE OPERATIONS IS IN COMPLIANCE WITH MANUFACTURERS SPECIFICATIONS. CLEAN UNIT, REPLACE FILTERS, AND RECHARGE REFRIGERANT AS NEEDED.

DUCTWORK

- SMOOTH TURN RADIUS DUCTWORK OF DOUBLE THICKNESS TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 500 CFM.
- ALL JOINTS TO BE SEALED WITH DUCT MASTIC AND TAPE IN ACCORDANCE WITH SMACNA STANDARDS CLASS 'C'.
- ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED AS LONG AS NET FREE FACE AREA IS MAINTAINED.
- SUPPORT DUCTWORK AT A MAXIMUM INTERVAL OF 16'-0" AND NO MORE THAN 2'-0" FROM FITTINGS AND BRANCH TAKEOFFS.
- ALL BRANCH DUCTS SHALL HAVE A VOLUME DAMPER.
- ALL BRANCH DUCT TAKEOFFS SHALL BE MADE WITH 45° ENTRY TYPE FITTINGS.
- CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.
- USE OF "FLEX" DUCTWORK SHALL BE LIMITED TO NO MORE THAN 6' LINEAR FEET PER RUN UNLESS OTHERWISE INDICATED.
- ALL DUCTWORK GALVANIZED SHEETMETAL SUPPLY AND RETURN AIR DUCT 2" WG EXHAUST DUCT 1" WG SMACNA CONSTRUCTION STANDARDS

INSULATION

- CONCEALED SUPPLY / RETURN / OUTSIDE AIR DUCTWORK SHALL BE WRAPPED WITH 1 1/2" THICK FIBERGLASS DUCT INSULATION WITH A MINIMUM INSTALLED R VALUE OF 4.2. SYSTEM SHALL INCLUDE FRK EXTERIOR. EXPOSED DUCTWORK TO OCCUPIED SPACES SHALL BE PROVIDED WITH 1" BARRIER TO PREVENT CONDENSATION. INSULATION SHALL HAVE A FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50.

TESTING AND BALANCING AIR SYSTEMS

- CONTRACTOR SHALL PROVIDE FOR BALANCING OF AIR SYSTEMS TO ACHIEVE VALUES SHOWN ON THE DRAWINGS.
- PROVIDE DOCUMENTATION TO ENGINEERS OFFICE BY AN INDEPENDENT NEBB OR AABC CERTIFIED TEST AND BALANCE AGENCY FOR REVIEW AND APPROVAL, INDICATING RESULTING AIR FLOWS FROM PERFORMANCE OF BALANCING. RE-BALANCE SYSTEM AS REQUIRED TO SATISFY SYSTEM REQUIREMENTS.

FIRESTOP

- PENETRATIONS FOR CABLES, CABLETRAYS, CONDUITS, PIPES, TUBES, COMBUSTION VENTS, AND EXHAUST VENTS, WIRES, AND SIMILAR ITEMS TO ACCOMMODATE ELECTRICAL, MECHANICAL, PLUMBING, AND COMMUNICATIONS SYSTEMS THAT PASS THROUGH A WALL, FLOOR, OR FLOOR/CEILING ASSEMBLY CONSTRUCTED AS A FIRE BARRIER SHALL BE PROTECTED BY A FIRESTOP SYSTEM OR DEVICE. THE FIRESTOP SYSTEM OR DEVICE SHALL BE TESTING IN ACCORDANCE WITH ASTM E 814 OR ANSI / UL 1479.

ARCHITECT

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REVISIONS

Date	Description

Project

**Addition to GHS FQHC**  
**2298 S. Center Rd**  
**Burton, MI 48519**

Drawing

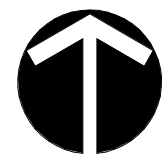
**Mechanical Plan**

DRAWN BY: SJS  
CHECKED BY: JSF

PROJECT NUMBER **22-016**  
DATE **02/21/2023**  
SCALE **As indicated**  
SHEET NUMBER

**M1.0**





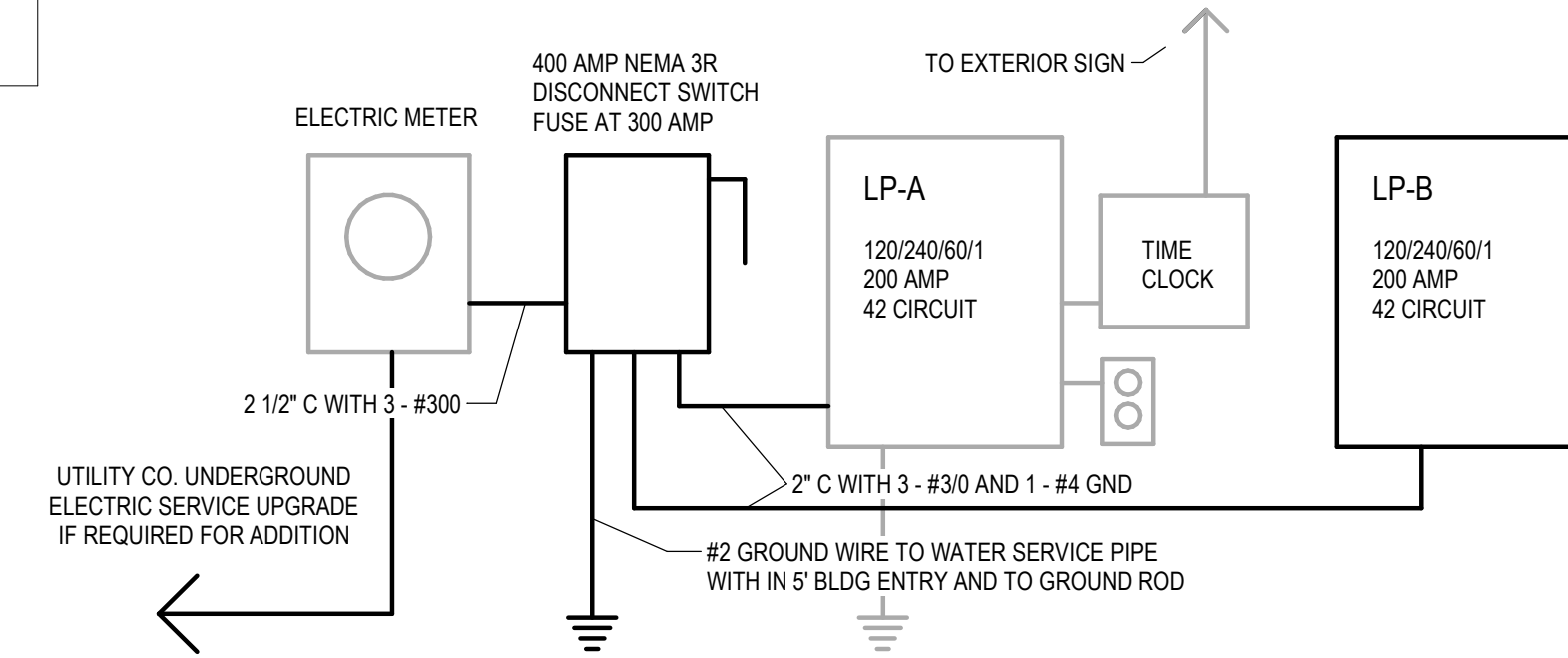
1) Electrical Plan  
E1.0 1/4" = 1'-0"



LP-B						
120/240V 60 HZ 1 PHASE 3 WIRE			200 AMP M.B.		10K A.I.C.	
NO	BKR	DESCRIPTION	LOAD	PHASE	LOAD	DESCRIPTION
1	20A	RECEPTACLE RM 105	0.72	A	2.72	4.5 TON A/C
3	20A	RECEPTACLE RM 105	0.54	B	2.72	
5	20A	RECEPTACLE RM 107	0.72	A		SPARE
7	20A	RECEPTACLE RM 107	0.54	B	1.45	FURNACE
9	20A	RECEPTACLE RM 103	0.72	A	1.20	COPY MACHINE
11	20A	RECEPTACLE RM 103	0.54	B	1.20	
13	20A	RECEPTACLE RM 110	0.72	A	0.54	RECEPTACLE RM 102
15	20A	RECEPTACLE RM 110	0.54	B	0.54	RECEPTACLE RM 102
17	20A	RECEPTACLE RM 104	0.36	A	0.36	RECEPTACLE RM 102
19	20A	RECEPTACLE RM 104,108	0.72	B	0.72	RECEPTACLE RM 101
21	20A	X-RAY MACHINE	1.20	A	1.20	RECEPTACLE RM 101 COFFEE
23	2P		1.20	B	0.54	RECEPTACLE RM 114
25	20A	RECEPTACLE RM 106,111,113	0.72	A	0.54	RECEPTACLE RM 114
27	20A	RECEPTACLE RM 112 KITCHEN	1.20	B	0.36	RECEPTACLE RM 114
29	20A	RECEPTACLE RM 112	1.08	A		SPARE
31	20A	LIGHTING	0.92	B	0.60	LIGHTING
33	20A	SPARE		A		BLANK
35	20A	SPARE		B		BLANK
37		BLANK		A		BLANK
39		BLANK		B		BLANK

A = 12.80 KVA  
B = 12.50 KVA    CONNECTED LOAD 25.30 KVA = 105.46 AMPS

LIGHTING	1.52 KVA	AT 125%	=	1900 VA
RECEPTACLE	10.0 KVA	AT 100%	=	10000 VA
	1.52 KVA	AT 50%	=	760 VA
MISC	8.65 KVA	AT 80%	=	6920 VA
A/C	5.44 KVA	AT 100%	=	5440 VA
25% LARGEST MOTOR LOAD	.25 X 5.44 KVA		=	1360 VA
TOTAL: CONNECTED	25.30 KVA	DEMAND	=	26380 VA    109.92 AMPS



2) Electric Riser Diagram  
E1.0 3/8" = 1'-0"

ELECTRICAL LEGEND

- TELEPHONE OUTLET

TELEPHONE OUTLET & DATA

DATA OUTLET

JUNCTION BOX

JUNCTION BOX EXISTING

MOTOR SINGLE PHASE

MOTOR THREE PHASE

POWER ASSIST OPENER

JUNCTION BOX (ELECTRIC DOOR STRIKE)

DISCONNECT

DISCONNECT NON-FUSED

CARD READER

DOOR HOLD OPEN MAGNET

SMOKE DETECTOR

SPEAKER

VOLUME CONTROL
- EXISTING OUTLET

DUPLEX RECEPTACLE

QUADRAPLEX RECEPTACLE

DUPLEX RECEPTACLE

DUPLEX RECEPTACLE

DUPLEX RECEPTACLE

DEDICATED CIRCUIT

WEATHERPROOF

SINGLE POLE SWITCH

SINGLE POLE SWITCH EXISTING

THREE WAY SWITCH

DIMMER SWITCH

CAMERA OUTLET (EACH OUTLET TO BE HOME RUN TO TV CONTROL PANEL)

DOOR BUZZER/RELEASE WITH INTERCOM (AT RECEPTION)

PUSH BUTTON REMOTE DOOR CONTROLLER

MASTER INTERCOM SYSTEM

INTERCOM SUB-STATION WITH BUZZER

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Drawing  
Electrical Plan

DRAWN BY: SJS  
CHECKED BY: JSF

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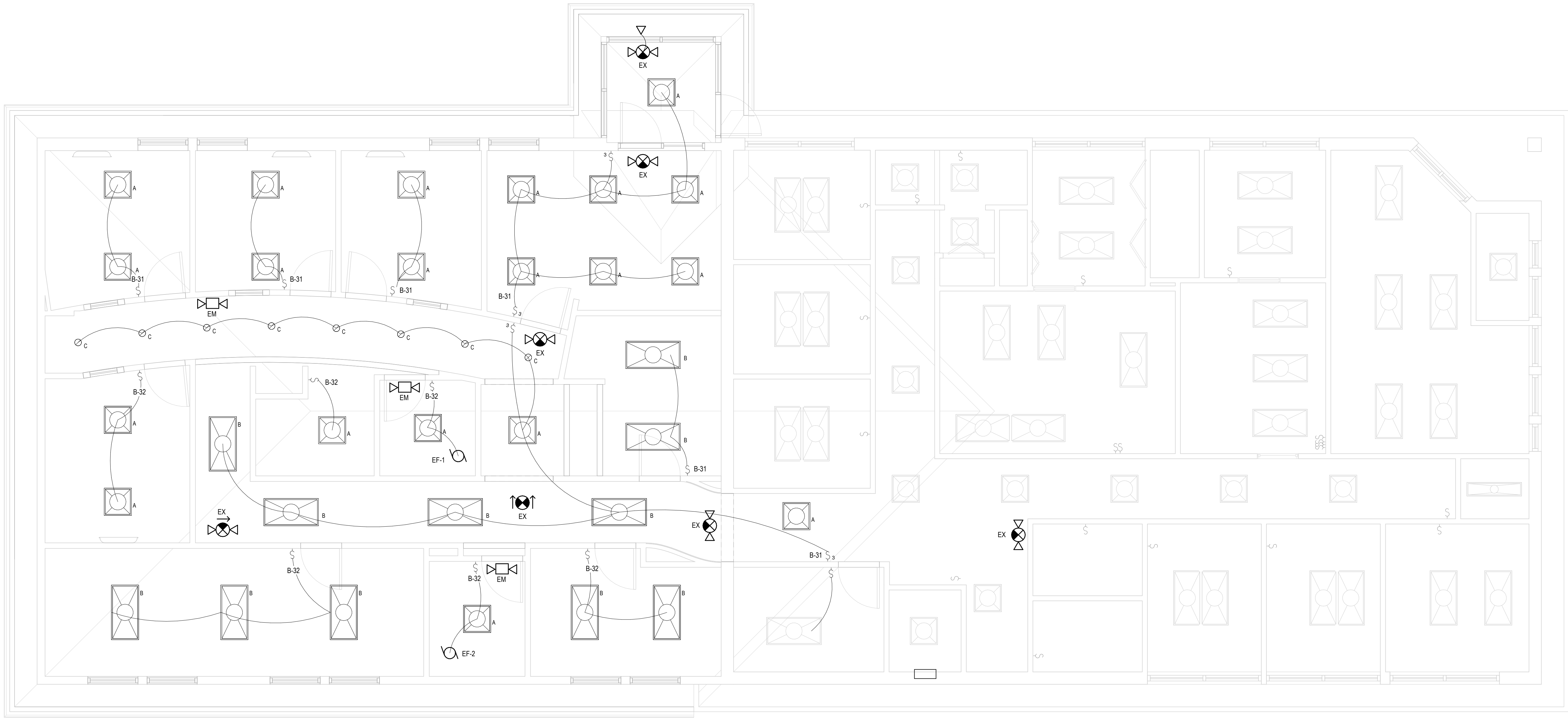
E1.0



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1 Lighting Plan  
E2.0 1/4" = 1'-0"



LIGHTING FIXTURE SCHEDULE

A	'LITHONIA'	2FSL2 33L E21 LP835	2'X4' LED RECESSED BASKET STYLE TROFFER, WITH ONE-PIECE COLD ROLLED STEEL HOUSING WITH COATED POLYESTER PAINTED WHITE FINISH, SATIN WHITE LENS, UNIVERSAL MVOLT ELECTRONIC DRIVER, 3300 LUMENS AND DIMMING DRIVER 1 - 35 WATT LED LAMP
B	'LITHONIA'	2FSL4 48L E21 LP835	2'X4' LED RECESSED BASKET STYLE TROFFER, WITH ONE-PIECE COLD ROLLED STEEL HOUSING WITH COATED POLYESTER PAINTED WHITE FINISH, SATIN WHITE LENS, UNIVERSAL MVOLT ELECTRONIC DRIVER, 4800 LUMENS AND DIMMING DRIVER 1 - 47 WATT LED LAMP
C	'JUNO'	TC22LED G4 14LM 35K 90CRI MVOLT E21	6" DIAMETER LED RECESSED DOWNLIGHT, WITH SELF FLANGED SEMI SPECULAR REFLECTOR FINISH 18 GA UGE GALVANIZED STEEL HOUSING, 1.0 SPACING TO MOUNTING HEIGHT LIGHT DISTRIBUTION, 120 VOLT, ELECTRONIC DRIVER, 1400 LUMENS, AND CLEAR APERTURE/TRIM COLOR: 1 - 18 WATT LED LAMP
D	'LITHONIA'	ZL1N L24 3500LM FST MVOLT 35K 80CRI WH	CABLE MTD LOW PROFILE 'Z' STRIP CHANNEL LED FIXTURE COLD ROLLED STL, HIGH GLOSS BAKED WHITE ENAMEL WITH STRAIGHT BLAD LOUVRE MULTI-VOLT INPUT 0-10V DIMMING DRIVER LAMP 80CRI AT 3500 K 3500 LUMENS 31 WATTS
EX	'LITHONIA'	EXR LED EL M6	EXIT LIGHT WALL/CEILING MOUNTED WHITE THERMOPLASTIC HOUSING RED LETTER, DIRECTIONAL ARROW KNOCK OUTS SINGLE OR DOUBLE FACED 120V WITH 90 MIN NI CAD EMERGENCY BATTERY PACK , REMOTE HEAD ELA Q WITH L0309 LED LAMP WHERE SHOWN
EM	'LITHONIA'	ELM6L	EMERGENCY LIGHT WALL/CEILING MOUNTED WHITE THERMOPLASTIC HOUSING, WITH 90 MIN NI CAD EMERGENCY BATTERY PACK 1000 LUMENS

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CHECKED BY: Checker

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SHEET NUMBER

E2.0



ELECTRICAL SPECIFICATIONS

**GENERAL**  
ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF N.E.C., LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS, INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

**WORK INCLUDED**  
THE CONTRACTOR SHALL PROVIDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS, OR METHODS MENTIONED, LISTED OR SCHEDULED ON THE DRAWINGS AND IN THESE SPECIFICATIONS, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, AND ALL INCIDENTALS NECESSARY REQUIRED FOR THE COMPLETION AND OPERATION OF ALL SYSTEMS.

THE INSTALLATION SHALL BE MADE SO THAT ALL COMPONENT PARTS FUNCTION TOGETHER AS A WORKABLE SYSTEM; IT SHALL BE COMPLETE WITH ALL ACCESSORIES NECESSARY FOR PROPER OPERATION. WHEN THE INSTALLATION IS COMPLETE, ALL EQUIPMENT SHALL BE OPERATIVE AND IN PROPER ADJUSTMENT. ALL WORK SHALL BE EXECUTED IN CONFORMITY WITH THE BEST PRACTICE SO AS TO CONTRIBUTE TO EFFICIENCY OF OPERATION, MINIMUM MAINTENANCE, ACCESSIBILITY AND SIGHTLINESS.

**LOCAL CONDITIONS**  
THE CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH CONDITIONS WHICH WILL AFFECT THE WORK HE IS TO PERFORM. THE SUBMISSION OF A PROPOSAL BY THIS CONTRACTOR SHALL BE CONCLUSIVE EVIDENCE THAT THIS CONTRACTOR HAS VISITED THE SITE AND HAS GIVEN PROPER CONSIDERATION AND EVALUATION OF THESE CONDITIONS IN THE PREPARATION OF HIS PROPOSAL. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE ON HIS BEHALF FOR EXTRA EXPENSE INCURRED DUE TO FAILURE OR NEGLECT ON HIS PART TO MAKE THIS VISIT AND EXAMINATION.

**PERMITS & INSPECTIONS**  
THE CONTRACTOR SHALL TAKE OUT ALL PERMITS AND ARRANGE FOR ALL NECESSARY INSPECTIONS AND SHALL PAY ALL FEES AND EXPENSES IN CONNECTION THEREWITH AS A PART OF HIS WORK UNDER THEIR CONTRACT.

**DEMOLITION**  
DISCONNECT, REMOVE, OR RELOCATE PRESENT EQUIPMENT, OUTLETS, FIXTURES, DEVICES, ETC., AS INDICATED ON PLAN, HEREIN SPECIFIED, OR AS OTHERWISE REQUIRED TO CONFORM TO THE ELECTRICAL, MECHANICAL OR ARCHITECTURAL REVISIONS.

REMOVED MATERIALS, EXCEPT AS OTHERWISE INDICATED, SHALL NOT BE REUSED. THIS CONTRACTOR SHALL REMOVE SAME FROM THE PREMISES EXCEPT ITEMS AS MAY BE DESIGNATED AS SALVAGEABLE BY THE OWNERS REPRESENTATIVE AND THESE ITEMS SHALL BE DELIVERED TO THE OWNER FOR THEIR DISPOSITION. DELIVERY SHALL INCLUDE PLACING THE ITEMS AT ANY LOCATION WITHIN THE BUILDING AS SO DIRECTED BY THE OWNER.

**EXTRA WORK**  
FOR ANY EXTRA ELECTRICAL WORK WHICH MAY BE PROPOSED, THIS CONTRACTOR SHALL FURNISH TO THE ARCHITECT/OWNER AN ITEMIZED BREAKDOWN OF THE ESTIMATED COST OF THE MATERIALS AND LABOR REQUIRED TO COMPLETE THIS WORK. THE CONTRACTOR SHALL PROCEED ONLY AFTER RECEIVING A WRITTEN ORDER FROM THE ARCHITECT/OWNER ESTABLISHING THE AGREED PRICE AND DESCRIBING THE WORK TO BE DONE.

**SCHEDULE OF WORK**  
COORDINATE ALL WORK WITH THAT OF OTHER TRADES. PERFORM WORK IN A PHASED MANNER AS REQUIRED TO ACCOMMODATE THE PROJECT CONSTRUCTION SCHEDULE. COORDINATE ALL WORK AND THE SEQUENCE OF INSTALLATION WITH THE GC/CONSTRUCTION MANAGER.

**GUARANTEE & WARRANTY**  
CONTRACTOR SHALL GUARANTEE ALL WORK INSTALLED BY HIM OR HIS SUBCONTRACTORS TO BE FREE FROM DEFECT IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE WORK, UNLESS A LONGER PERIOD IS STIPULATED UNDER SPECIFIC HEADINGS, AND HE SHALL REPAIR OR REPLACE AT NO ADDITIONAL COST TO THE OWNER, ANY MATERIAL OR EQUIPMENT DEVELOPING DEFECTS AND SHALL ALSO MAKE GOOD ANY DAMAGE CAUSED BY SUCH DEFECTS OR THE CORRECTION OF DEFECTS.

**CUTTING & PATCHING**  
NO CUTTING OR BURNING OF HOLES THROUGH BEAMS OR OTHER STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE SPECIFIC PERMISSION OF THE ARCHITECT.

ALL OPENINGS IN WALLS, CEILINGS, OR FLOORS MADE BY THE CONTRACTOR SHALL BE NEATLY PATCHED BY THE SAME AFTER OTHER WORK IS DONE.

ALL MEASUREMENTS NECESSARY FOR THE PROPER INSTALLATION OF MATERIALS OR APPARATUS SHALL BE TAKEN IN THE FIELD. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE CORRECT FIT OF WORK INSTALLED.

**GROUNDING**  
ALL CABINETS, CONDUIT SYSTEMS, PANELBOARDS, ETC., SHALL BE THOROUGHLY GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

PROVIDE A SEPARATE GROUND WIRE IN EACH RACEWAY.

**CONDUITS & FITTINGS**  
CONDUIT IN MASONRY PARTITIONS, EXPOSED IN MECHANICAL AREAS, OUTSIDE OF MECHANICAL AREAS WITHIN 48" OF FLOOR AND CONDUIT LARGER THAN 2" SHALL BE HOT-DIP GALVANIZED, RIGID HEAVYWALL TYPE, UNLESS OTHERWISE NOTED.

CONDUIT 2" AND SMALLER WHICH IS CONCEALED IN DRYWALL PARTITIONS, ABOVE ACCESSIBLE CEILINGS AND WHERE EXPOSED ABOVE 48" AFF, SHALL BE ELECTRICAL METALLIC TUBING.

CONDUITS EXPOSED TO THE WEATHER SHALL BE RIGID GALVANIZED CONDUITS. CONDUIT FITTINGS AT THESE LOCATIONS SHALL BE NONFERROUS CAST TYPE EQUIPPED WITH GASKETED COVERS.

CONDUIT SHALL BE DELIVERED TO THE SITE IN STANDARD 10 FOOT LENGTHS, EACH LENGTH BEARING THE UL LABEL. HOT-DIP GALVANIZED CONDUIT SHALL BE SO LABELED.

MINIMUM SIZE OF CONDUIT SHALL BE 3/4", UNLESS OTHERWISE NOTED.

ALL CONDUIT SHALL BE SECURELY FASTENED IN PLACE WITH APPROVED CLAMPS AND CAREFULLY REAMED BEFORE INSTALLING.

CONDUITS IN MECHANICAL EQUIPMENT SPACES AND UNFINISHED AREAS MAY BE RUN EXPOSED. ALL OTHER CONDUIT SHALL BE CONCEALED, UNLESS OTHERWISE NOTED. EXPOSED CONDUIT SHALL BE INSTALLED PARALLEL, OR AT RIGHT ANGLES TO ADJACENT BUILDING LINES AND SHALL BE SUPPORTED AT INTERVALS NOT EXCEEDING EIGHT FEET.

GROUPS OF CONDUITS, WHERE SUSPENDED, SHALL BE SUPPORTED ON TRAPEZE TYPE HANGERS, USING 3/8" ROD AND CHANNEL IRON OR UNISTRUT. INDIVIDUAL CONDUITS NOT SUPPORTED ON PIPE STRAPS SHALL BE PROVIDED WITH CONDUIT CLAMPS OR RING HANGERS SUSPENDED ON RODS. PERFORATED IRON STRAPS OR SOFT IRON WIRE FOR PIPE SUPPORTS SHALL NOT BE USED.

CONNECTORS AND COUPLINGS FOR ELECTRICAL METALLIC TUBING SHALL BE OF THE SET-SCREW TYPE AS MANUFACTURED BY T & B, MIDWEST, OR ELECTRIC TUBE PRODUCTS CO.

ALL CONDUITS CALLED OUT TO BE STUBBED OFF, SHALL HAVE PROPER BUSHINGS, FINISH, ETC. SO THAT NO ROUGH EDGES ARE LEFT AT END OF CONDUITS.

ALL WIRING SHALL BE ENCLOSED IN A METAL RACEWAY, UNLESS OTHERWISE NOTED.

ALL EMPTY CONDUITS SHALL HAVE A NYLON "FISH TAPE" LEFT IN THEM.

ALL WALL AND FLOOR PENETRATIONS SHALL BE FIRE RATED TO MAINTAIN RATING OF SURFACE PENETRATED, OR 1 HOUR RATING MINIMUM. SEALING SHALL BE WITH 3M #CP25 FIRE PUTTY OR EQUAL BY NELSON.

**OUTLET BOXES**  
ALL FLUSH MOUNTED OUTLET BOXES SHALL BE STANDARD GALVANIZED STEEL TYPE NOT LESS THAN 1-1/2" DEEP, OF TYPE AND SIZE TO ACCOMMODATE DEVICES SPECIFIED WITH PROPER SPACE FOR WIRE AND SUPPORTS. BOXES SHALL BE EQUIPPED WITH PLASTER RINGS OR COVERS AS REQUIRED.

ALL OUTLET BOXES, PULL BOXES AND JUNCTION BOXES SHALL BE RIGIDLY SECURED IN PLACE IN AN APPROVED METHOD.

CONDUCTORS OF FIRE ALARM AND FIRE PROTECTION CIRCUITS SHALL NOT BE INSTALLED IN THE SAME CONDUIT WITH CIRCUITS OF OTHER SYSTEMS. NO OUTLET BOX FOR ONE CONDUIT SYSTEM SHALL BE USED AS A JUNCTION BOX FOR ANY OTHER SYSTEM.

**NSTALLATION OF CABLES**  
BEFORE CONDUCTORS ARE INSTALLED IN CONDUIT RUNS, THE CONDUITS SHALL BE SWABBED OR THE EQUIVALENT TO ENSURE THEIR DRYNESS AND FREEDOM FROM FOREIGN MATTER DETRIMENTAL TO THE CONDUCTOR INSULATION. ALL WIRING SHALL BE INSTALLED BEFORE FINISHES ARE APPLIED TO WALL AND CEILING SURFACES.

**WIRES & CABLES**  
ALL WIRE AND CABLE SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE CURRENT EDITION OF THE NEC AND SHALL MEET ALL ASTM SPECIFICATIONS. WIRE AND CABLE SHALL BE NEW; SHALL HAVE SIZE, GRADE OF INSULATION, VOLTAGE AND MANUFACTURER'S NAME PERMANENTLY MARKED ON OUTER COVERING AT REGULAR INTERVALS; SHALL BE DELIVERED IN COMPLETE COILS OR REELS WITH IDENTIFYING SIZE AND INSULATION TAGS.

WIRE AND CABLE SHALL BE SUITABLY PROTECTED FROM WEATHER AND DAMAGE DURING STORAGE AND HANDLING AND SHALL BE IN FIRST-CLASS CONDITION WHEN INSTALLED.

ALL WIRING SHALL BE THHN, THWN, XHHW OR TYPE THW UNLESS A HIGHER TEMPERATURE WIRE IS REQUIRED TO FEED LIGHTING FIXTURES, HIGH TEMPERATURE CUTOUTS, ETC.

ALL CONDUCTORS SHALL BE STRANDED, SOFT-DRAWN COPPER UNLESS OTHERWISE NOTED.

WIRE AND CABLE SHALL BE AS MANUFACTURED BY SOUTHWIRE, GENERAL CABLE, OKONITE OR ANACONDA.

MINIMUM SIZE WIRE SHALL BE #12 AWG UNLESS OTHERWISE NOTED.

PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT.

**WIRE CONNECTORS**  
SPICES IN CONDUCTORS NO. 8 AND SMALLER SHALL BE MADE BY PREINSULATED "SCOTCH- LOCK" OR IDEAL "WING-NUT" SPRING TENSION CONNECTORS, INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. SPICES OF NO. 6 CONDUCTORS AND LARGER SHALL BE MADE WITH SOLDERLESS, COMPRESSION TYPE CONNECTORS, U.L. LABELED AND COMPRESSED WITH APPROVED TOOLS.

ALL SPICES SHALL BE INSULATED WITH AN APPROVED VINYL PLASTIC ALL WEATHER TAPE TO A THICKNESS EQUIVALENT OF THE CONDUCTOR INSULATION.

**WIRING DEVICES**  
GENERAL PURPOSE WIRING DEVICES: COMPLY WITH NEMA WD1.

RECEPTACLES: UL 498, HEAVY-DUTY GRADE EXCEPT AS INDICATED OTHERWISE.

GROUND-FAULT CIRCUIT INTERRUPTER RECEPTACLES: UL 943, FEED-THROUGH TYPE, WITH INTEGRAL NEMA 5-20R DUPLEX RECEPTACLE; FOR INSTALLATION IN A 2 3/4 INCH DEEP OUTLET BOX WITHOUT AN ADAPTER.

SNAP SWITCHES: QUIET-TYPE AC TOGGLE SWITCHES, 120/277V, 20A, COMPLYING WITH UL 20.

DEVICE BODIES SHALL BE WHITE FOR GENERAL USE DEVICES, ORANGE FOR ISOLATED GROUND RECEPTACLES, AND BROWN IN MECHANICAL SPACES, UNLESS OTHERWISE NOTED.

ACCEPTABLE MANUFACTURERS OF GENERAL PURPOSE WIRING DEVICES ARE AS FOLLOWS: ARROW-HART, BRYANT, HUBBELL, PASS & SEYMOUR, AND LEVITON

INSTALL DEVICES AND ASSEMBLIES PLUMB AND SECURE. MOUNT DEVICES FLUSH, WITH LONG DIMENSION VERTICAL, AND GROUNDING TERMINAL OF RECEPTACLES ON BOTTOM. GROUP ADJACENT SWITCHES USING MULTIGANG WALL OUTLET BOXES. DO NOT USE GANGABLE TYPE BOXES.

PROTECT DEVICES AND ASSEMBLIES DURING PAINTING. INSTALL WALL PLATES WHEN PAINTING IS COMPLETE.

**LABELING**  
PROVIDE ENGRAVED THREE LAYER LAMINATED PLASTIC NAME PLATES TO IDENTIFY ALL ELECTRICAL EQUIPMENT INSTALLED UNDER THIS CONTRACT OR AS NOTED.

EQUIPMENT TO RECEIVE NAME PLATE SHALL INCLUDE, BUT NOT BE LIMITED TO: PANELBOARDS, SAFETY SWITCHES, BUS PLUGS, CONTROL PANELS, STARTERS.

NAME PLATES SHALL INCLUDE THE FOLLOWING INFORMATION - EQUIPMENT IDENTIFICATION, CIRCUIT NUMBER, CIRCUIT ORIGINATION OR LOAD SERVED (AS APPROPRIATE).

NAME PLATES SHALL BE SECURED TO PANELBOARDS, SAFETY SWITCHES, ENCLOSED CIRCUIT BREAKERS, IN CONSPICUOUS LOCATION, PARALLEL TO EQUIPMENT LINES USING SCREWS, RIVETS, OR PERMANENT ADHESIVE. NAME PLATES ON BUS PLUGS OR BUS TAP BOXES SHALL BE LOCATED ON BOTTOM OF PLUG OR BOX TO BE FED FROM FINISH FLOOR.

ALL SWITCHES AND RECEPTACLES SHALL BE IDENTIFIED AS TO CIRCUIT NUMBER AND PANELBOARD FED FROM USING PERMANENT MARKER ON INSIDE FACE OF DEVICE COVER PLATE. ALL JUNCTION AND PULL BOXES LOCATED ABOVE SUSPENDED CEILINGS SHALL BE MARKED ON THE OUTSIDE OF COVER TO IDENTIFY THE PANEL FED FROM AND THE CIRCUIT NUMBER USING PERMANENT MARKER.

ALL BOXES LOCATED IN EXPOSED CEILING AREAS SHALL BE MARKED ON THE INSIDE OF COVERS TO IDENTIFY THE PANEL FED FROM AND CIRCUIT NUMBER USING PERMANENT MARKER.

**FUSES**  
ALL MAIN FUSES AND ALL FUSES ABOVE 600 AMPS SHALL BE HIGH-CAPACITY, CURRENT- LIMITING FUSES WITH A MINIMUM SHORT-CIRCUIT RATING OF 200,000 RMS AMPS, SHALL HAVE CHARACTERISTICS TO COORDINATE WITH OTHER FUSES AS NOTED, AND DIMENSIONS TO MOUNT IN SWITCHGEAR AS SPECIFIED. FUSES SHALL BE BUSSMAN "HI-CAP", TYPE KRP-C.

ALL OTHER FUSES SHALL BE DUAL ELEMENT, CURRENT LIMITING CARTRIDGE TYPE AND SHALL HAVE A MINIMUM SHORT-CIRCUIT RATING OF 200,000 RMS AMPS. FUSES SHALL BE BUSSMAN "LOW PEAK".

IN ADDITION OF FUSES BLOWN DURING CONSTRUCTION AND TESTING, A COMPLETE SET OF SPARE FUSES SHALL BE PROVIDED FOR EACH DIFFERENT AMP SIZE OF FUSES ON PROJECT.

**PANELBOARDS**  
PANELBOARDS SHALL CONFORM TO THE LATEST NEMA, UL, AND NEC STANDARDS AND THE FLOWING RATINGS AND DATA

SHALL BE DEAD FRONT TYPE WITH FLUSH OR SURFACE MOUNTED GALVANIZED STEEL CABINET PRIME COATED WITH AN INTERNAL ASSEMBLY OF CIRCUIT BREAKERS, TRIM SHALL HAVE HINGED AND LOCKED DOOR WITH HEAVY PLASTIC COVERED CIRCUIT DIRECTORIES, TO ALSO INDICATE VOLTAGE, PHASE, AND CAPACITY AS INDICATED ON DRAWINGS. ALL LOCKS SHALL BE KEYPED ALIKE. FRONT ASSEMBLIES SHALL BE PAINTED WITH A PRIME AND FINISH COAT OF MANUFACTURES STANDARD FINISH. PANELS SHALL HAVE MAIN LUGS OR MAIN CIRCUIT BREAKER AS INDICATED ON DRAWINGS

CIRCUIT BREAKERS SHALL BE MOLDED PLASTIC CASE TYPE, AC RATED, BOLT ON, QUICK-MAKE, QUICK-BREAK, WITH TRIP FREE HANOM OPERATING HANDLE, POSITION INDICATION, AND COMMON TRIP FOR 2 AND 3 POLE CIRCUIT BREAKERS FROM THERMAL-MAGNETIC TRIP DEVICE. TRIP RATINGS AND NUMBER OF POLES SHALL BE AS INDICATED ON THE DRAWINGS AND MINIMUM INTERRUPTING CAPACITY SHALL BE 10,000 SYMMETRICAL AMPERES AT 120/240 VOLTS, AND 18,000 SYMMETRICAL AMPERES AT 277/480 VOLTS.

PANELBOARD DIRECTORIES SHALL DESIGNATE THE LIGHTING FIXTURES, ETC. CONTROLLED BY EACH BRANCH CIRCUIT IN THE PANEL. THE REQUIRED INFORMATION SHALL BE NEATLY TYPEWRITTEN ON DIRECTORIES IN EACH PANEL CIRCUIT.

PANELBOARDS SHALL BE UL LISTED. MAIN BUS BAR SHALL EXTEND THE FULL HEIGHT OF THE ENCLOSURE BEING PROVIDED REGARDLESS OF THE BRANCH CIRCUITS POSITIONS BEING CALLED FOR ON THE SCHEDULES

ACCEPTABLE MANUFACTURES OF PANELBOARDS INCLUDE SQUARE D, SIEMENS - I.T.E., EATON CULTER HAMMER, AND GENERAL ELECTRIC.

**TEST AND ADJUSTMENTS**  
ALL ELECTRICAL CIRCUITS SHALL BE TESTED AS SOON AS CONDUCTORS ARE INSTALLED, AND FINAL TESTS SHALL BE MADE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE WHEN ALL WORK IS COMPLETE, IF REQUIRED. IF CIRCUITS ARE NOT PROPERLY CONTROLLED AND INSULATED, MAKE NECESSARY CHANGES AND REPAIRS.

**LIGHTING**  
LIGHTING FIXTURES ARE TO BE PROVIDED AS SPECIFIED IN THE LIGHTING FIXTURE SCHEDULE ON THESE DOCUMENTS. FIXTURES SUBMITTALS ARE TO BE APPROVED BY THE ENGINEER PRIOR TO THE PURCHASE OF SAID DEVICES. ANY COSTS INCURRED IN THE ORDERING OF FIXTURES PRIOR TO ENGINEER'S AUTHORIZATION ARE THE RESPONSIBILITY OF THE CONTRACTOR.

FIXTURES ARE TO BE SUPPORTED INDEPENDENT OF THE CEILING SYSTEM.

OCCUPANCY SENSORS ARE TO BE OF THE TECHNOLOGY NOTED ON THE PLANS, WITH MOUNTING LOCATIONS SPECIFIC TO PRODUCT CAPABILITIES FOR FULL COVERAGE OF THE SPACE. SENSORS TO BE PROVIDED WITH TECHNOLOGY TO RESPOND ONLY TO MOVING BODIES (AND NOT NOISE OR AIR MOVEMENT) TO AVOID IMPROPER OPERATION. DEVICES ARE TO BE EQUIPPED FOR AUTOMATIC TIME DELAY AND SENSITIVITY SETTINGS. APPROVED MANUFACTURERS INCLUDE WATTSSTOPPER, LC&D, LEVITON, SENSOR SWITCH.

TIME SWITCHES ARE TO BE ELECTRONIC, WITH INTERNAL RELAY CAPABLE OF SWITCHING CIRCUIT LOADS. TIMING ELEMENT TO BE SELECTABLE FROM 5 MINUTES TO 1 HOUR, IN NO MORE THAN 20 MINUTE INTERVALS.

ALL PARTS AND DEVICES NECESSARY FOR THE INSTALLATION AND OPERATION OF THE SPECIFIED LIGHTING FIXTURES AND CONTROL SYSTEMS ARE TO BE PROVIDED BY THE CONTRACTOR AS A COMPLETE SYSTEM, IN FULL WORKING ORDER. ANY LAMPS NOT OPERATIONAL MUST BE REPLACED PRIOR TO FINAL BUY-OFF.

TELECOMMUNICATIONS CABLING:

- BELDEN CABLE IDBN SYSTEM 3600 CATEGORY 6 OR APPROVED EQUAL
- CABLING SHALL BE UL LISTED FOR THE APPLICATION AND SHALL COMPLY WITH TIA568-C.1 AND NFPA 70. PROVIDE A LABELING SYSTEM FOR CABLING AS REQUIRED BY TIA/EIA-606-A AND UL 969
- PROVIDE HORIZONTAL COPPER CABLE IN ACCORDANCE WITH TIA/EIA-568-B.2 UL 444, ICEA S-90-661 UTP (UNSHIELDED TWISTED PAIR), 100 OHM. PROVIDE FOUR EACH INDIVIDUALLY TWISTED PAIR, 22 AWG CONDUCTORS, CATEGORY 6, WITH A BLUE THERMOPLASTIC JACKET. CABLE SHALL BE IMPRINTED WITH MANUFACTURERS NAME OR IDENTIFIER, FLAMMABILITY RATING, GAUGE OF CONDUCTOR, TRANSMISSION PERFORMANCE RATING (CATEGORY DESIGNATION) AT REGULAR INTERVALS NOT TO EXCEED 2 FEET.
- OUTLET/CONNECTOR COPPER: BELDEN CABLE GIGAFLEX P56+ MODULE OR APPROVED EQUAL
- OUTLET/CONNECTORS SHALL COMPLY WITH FCC PART 68TIA-568-C.1, AND TIA/EIA-568-B.2, UTP OUTLET/CONNECTORS SHALL BE UL 1863 LISTED, NON-KEYED, 8-PIN MODULAR, CONSTRUCTED OF HIGH IMPACT RATED THERMOPLASTIC HOUSING AND SHALL COMPLY WITH TIA/EIA-568-B.2 CATEGORY 6 REQUIREMENTS. OUTLET/CONNECTORS SHALL BE TERMINATED USING A TYPE 110 IDC PG BOARD CONNECTOR, COLOR-CODED FOR BOTH T568A AND T568B WIRING. EACH OUTLET/CONNECTOR SHALL BE WIRED T568A OR T568B. UTP OUTLET/CONNECTORS SHALL COMPLY WITH TIA/EIA-568-B.2 FOR 200 MATING CYCLES.
- TELECOMMUNICATIONS COVER PLATES SHALL COMPLY WITH UL 514C, AND TIA-568-C.1, FLUSH DESIGN CONSTRUCTED OF HIGH IMPACT THERMOPLASTIC MATERIAL IN IVORY COLOR TO MATCH COLOR OF RECEPTACLE/SWITCH COVER PLATES.
- INSTALL TELECOMMUNICATIONS CABLING AND PATHWAY SYSTEMS, INCLUDING THE TELECOMMUNICATIONS OUTLET/CONNECTOR ASSEMBLIES, AND ASSOCIATED HARDWARE IN ACCORDANCE WITH TIA-568-C.1, TIA/EIA-568-B.2, TIA/EIA-569-A, NFPA 70, AND UL STANDARDS AS APPLICABLE. PROVIDE CABLING IN A STAR TOPOLOGY NETWORK.
- INSTALL CATEGORY 6 UTP, TELECOMMUNICATIONS CABLING SYSTEM AS DETAILED IN TIA-568-C.1. PROVIDE SERVICE LOOP AN EACH END OF THE CABLE, 10FT. IN THE TELECOMMUNICATIONS ROOM, AND 12 INCHES IN THE WORK AREA OUTLET.
- CABLES SHALL BE LABELED USING COLOR LABELS ON BOTH ENDS WITH IDENTIFIERS IN ACCORDANCE WITH TIA/EIA-606-A.
- PERFORM TELECOMMUNICATIONS CABLING INSPECTION, VERIFICATION, AND PERFORMANCE TESTS IN ACCORDANCE WITH TIA-568-C.1. REMOVE FAILED CABLE REELS FROM PROJECT SITE UPON ATTENUATION TEST FAILURE.
- PERFORMANCE VERIFICATION TESTS FOR UTP SYSTEMS AFTER THE COMPLETE TELECOMMUNICATIONS CABLING AND WORKSTATION OUTLET/CONNECTORS ARE INSTALLED.
- DATA TESTS. THESE TESTS ASSUME THE INFORMATION TECHNOLOGY STAFF HAS A NETWORK INSTALLED AND ARE AVAILABLE TO ASSIST WITH TESTING. CONNECT TO THE NETWORK INTERFACE DEVICE AT THE DEMARCATION POINT. LOG ONTO THE NETWORK TO ENSURE PROPER CONNECTION TO THE NETWORK.

**TELEPHONE / DATA SERVICE**  
PROVIDE CONDUIT, JUNCTION BOXES, PLYWOOD BACKBOARD, PULL BOXES, AND OUTLET BOXES, FOR TELEPHONE/DATA COMPANY INSTALLATION AS SHOWN ON DRAWINGS AND DESCRIBED HEREIN. COORDINATE WITH ARCHITECTURAL DOCUMENTS.

NO OTHER WIRES SHALL BE INSTALLED IN TELEPHONE/DATA CONDUITS, EXCEPT TELEPHONE/DATA WIRING. TELEPHONE COMPANY WILL PROVIDE TELEPHONES AND WIRING.

WALL OUTLETS SHALL HAVE SUITABLE 4-11/16" x 4-11/16" BOXES EQUIPPED WITH STANDARD TWO GANG SPLIT STAINLESS STEEL TELEPHONE/DATA PLATES WITH 1/2" BUSHED HOLE IN CENTER.

PROVIDE 3/4" PLYWOOD BACKBOARDS w/CLASS A FIRE RATING. PLYWOOD AND AREA OF WALL USED FOR MOUNTING SHALL BE PAINTED WITH BLACK WATERPROOF PAINT.

A #6 GROUND WIRE WILL BE REQUIRED FROM EACH BACKBOARD PREFERABLY TO A GROUND BUSS OR TO THE POWER SERVICE GROUND ROD. IF IT IS NOT POSSIBLE, A 3/4" THINWALL CONDUIT MUST BE PROVIDED ALONG WITH THE #6 GROUND WIRE TO THE GROUND SOURCE.

INSTALL GROUND TERMINAL AT SERVICE LOCATION AND CONNECT TO BUILDING GROUNDING ELECTRODE SYSTEM.

PROVIDE 3/4" CONDUIT FROM EACH TELEPHONE/DATA OUTLET, STUBBED OFF ABOVE NEAREST ACCESSIBLE CEILING SPACE.

SEAL OF ARCHITECT

ARCHITECT



Project

Addition to GHS FQHC  
2298 S. Center Rd  
Burton, MI 48519

Drawing

Specifications

DRAWN BY: SJS  
CHECKED BY: JSF

PROJECT NUMBER 22-016  
DATE 02/21/2023  
SCALE 1 1/2" = 1'-0"  
SHEET NUMBER

E3.0