



Addendum No. 1

To: **All General Contractors**

Date: January 26, 2023

Re: **Barrett Station Veterinarian Clinic**
13840-13844 Manchester Road
Ballwin, Missouri 63011

The following Drawing clarifications, additions or alterations modify and supersede previously issued documents in reference to the above project. Acknowledge receipt of this Addendum on your Bid Form.

IMPORTANT: This addendum and all bidding construction documents represent a comprehensive scope of work. It is each contractor's responsibility to reference all drawings, specifications and addendums to verify their respective scope of work.

CLARIFICATIONS & SPECIFICATIONS:

1. The Bid due date remains as **Monday February 6, 2023 no later than 2:00pm.**
2. The Owner will pay for all building and fire permits and tap fees required.
3. Contractor to provide a one-year warranty for all workmanship on the project and provide warranties per manufacturer products.
4. Attached is a Top Notch Axe Throwing Floor Plan for reference with responsibility for the demolition scope of work.
5. Contractor to extend the 1¼" water service line from the building to the green space between the parking lot and Manchester Road. Repair and/or replacement of concrete sidewalk and parking lot shall be included in this bid package. Water meter, vault and tap to public water supply is not to be included in the bid.

Architectural Drawings:

1. Sheet A1, Floor Plan, Notes & Details.
 - a. Added Keyed Note 38 to paint existing exposed walls at the Southwest side and rear wall.
 - b. Added Keyed Note 39 to describe the existing partition wall is a 1-hr CMU block wall.
 - c. Added Demolition General Notes.
 - d. Deleted the Cat Ward 118 and added a second Surgery Room 118.
 - e. Adjusted the Surgery Room 119 and the Restroom sizes accommodate the new Surgery Room 118.
 - f. Flipped the wet table in the Procedure Room 120 to the opposite (left) side of the tower.
2. Sheet A2, Reflected Ceiling Plan
 - a. Deleted the Cat Ward 118 and added a second Surgery Room 118.
 - b. Adjusted the Surgery Room 119 and the Restroom ceilings to accommodate the new Surgery Room 118.
 - c. Added "Paint Existing Structure" to the existing covered patio.

3. Sheet A3, Enlarged Floor Plans & Interior Elevations
 - a. #2 Enlarged Floor Plan, adjusted the Restroom sizes.
4. Sheet A4, Roof Plan & Notes – No revisions.
5. Sheet A5, Exterior Elevations and New Ramp
 - a. #2 Partial East Elevation, added “Prefinished” for the Hardie Siding.
 - b. #3 West Elevation, added “Prefinished” for the Hardie siding.
 - c. #4 Partial South Elevation, added “Prefinished” for the Hardie siding
 - d. #4 Partial South Elevation, added “Paint” for metal railing.
 - e. #5 Ramp Section, added “Paint” for the metal guard rail and handrail.
6. Sheet A6, Wall Sections
 - a. #1 Wall Section, added “Prefinished” for the Hardie siding.
 - b. #1 Wall Section and #2 Wall Section, added 16ga for all the metal studs and track.
7. Sheet A7, Doors, Borrow Lite Types and Room Finish and Door Schedule
 - a. Room Finish Schedule, Revised the Flooring material to Epoxy with an integral base for Work Room 108, Lab 116, Surgery 118, Dental 121, Imaging 122, Pac-Prep 125 and Hall 126.
 - b. Room Finish Schedule, Revised the Flooring to be sealed concrete in the Laundry/Storage/Utility Room 129.
 - c. Room Finish Schedule, Omitted Imaging Room 132.
 - d. Added Epoxy Flooring and Base Specification.

Mechanical, Electrical and Plumbing Drawings:

8. Sheets M-1, M-2 and M-3, Mechanical General Notes, Mechanical Plan and Schedules
 - a. Revised Mechanical Plan for the new Surgery Room.
9. Sheets E-1, E-2 and E-3, Electrical Specifications, Power Plan and Lighting Plan
 - a. Revised Power Plan for the new Surgery Room.
 - b. Added Panelboard Schedules.
 - c. Revised the Lighting Plan for the new Surgery Room.
10. Sheets P-1, P-2 and P-3, Plumbing General Notes, Sanitary Plumbing Plan and Piping Plan
 - a. Revised the Sanitary Plumbing Plan for the Restroom shift.
 - b. Revised the Plumbing Piping Plan for the Restroom shift.
 - c. Note the wet table on the left side of the Procedure Room should be “flipped” to the left side of the tower. Refer to the Architectural Floor Plan sheet A1 for the correct location.

NOTES:

1. Included with this Addendum #1 are updated dental equipment drawings by “Midmark”.
2. A Lighting Fixture Schedule and a Plumbing Fixture Schedule will be provided in a future addendum.

End of Addendum No. 1

CODE DATA SUMMARY	
PROJECT DESCRIPTION	5,325 S.F. NEW VETERINARIAN CLINIC IN EXISTING 13,500 S.F. STRIP CENTER IN BALLWIN (UNINCORPORATED ST. LOUIS COUNTY), MISSOURI
JURISDICTION	ST. LOUIS COUNTY FOR BUILDING PERMITS WEST COUNTY EMS AND FIRE PROTECTION DISTRICT
BUILDING CODES	CONSTRUCTION SHALL CONFORM TO THE FOLLOWING CODES AS ADOPTED BY ST. LOUIS COUNTY: 2015 INTERNATIONAL BUILDING CODE, I.B.C. 2014 NATIONAL ELECTRICAL CODE, N.E.C. 2015 INTERNATIONAL MECHANICAL CODE, I.M.C. 2015 INTERNATIONAL PLUMBING CODE, I.P.C. 2009 ICC/ANSI A117.1 – ACCESSIBILITY CODE, I.A.C. CONSTRUCTION SHALL CONFORM TO THE FOLLOWING CODES AS ADOPTED BY WEST COUNTY EMS AND FIRE PROTECTION DISTRICT: 2021 INTERNATIONAL FIRE CODE, I.F.C.
CHAPTER 3 USE GROUP	EXISTING USE GROUP: B-BUSINESS PROPOSED USE: ANIMAL CLINIC
CHAPTER 6 TYPE OF CONSTRUCTION	CONSTRUCTION TYPE IS 3B
CHAPTER 5 HEIGHT AND AREA	EXISTING HEIGHT: ONE-STORY – 13,500 S.F. HEIGHT: 40' – STORIES: 1 AREA: BASE ALLOWABLE 9,000 S.F. OPEN AREA: 470'/560' = .84-.25 = .59 .59 x 9,000 S.F. = 5,310 S.F. +9,000 S.F. 14,310 S.F. ALLOWABLE 13,500 S.F. ACTUAL
CHAPTER 6 FIRE RESISTANCE RATING CHART	FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS: NONE
CHAPTER 7 FLAME SPREAD	PER SECTIONS 803 AND 805 – ALL ITEMS 25 OR LESS TESTED BY ASTM.E84
CHAPTER 7 SMOKE DEVELOPED	PER SECTIONS 803 AND 805 – ALL ITEMS 450 OR LESS, TESTED BY ASTM.E84
CHAPTER 8 INTERIOR FINISHES	SHALL COMPLY WITH THE 2015 IBC CHAPTER 8
CHAPTER 9 FIRE PROTECTION SYSTEMS	NO AUTOMATIC FIRE SPRINKLER SYSTEM
CHAPTER 9 FIRE EXTINGUISHERS	PORTABLE FIRE EXTINGUISHERS SHALL BE PROVIDED IN ACCORDANCE WITH THE 2015 IBC, 2018 IFC AND PER DIRECTION OF THE FIRE MARSHAL.
CHAPTER 10 OCCUPANCY LOADS & MEANS OF EGRESS	5,325 S.F. / 100 = 53 OCCUPANTS EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. TRAVEL DISTANCE IS LESS THAN 200 FT. THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF A DOOR. SUCH FLOOR OR LANDING SHALL BE AT THE SAME ELEVATION ON EACH SIDE OF THE DOOR IN ACCORDANCE WITH THE 2015 IBC. UNOBSTRUCTED ACCESS SHALL BE PROVIDED TO REQUIRED EXITS IN ACCORDANCE WITH THE IBC.
DOORS	ALL DOORS SHALL NOT REQUIRE MORE THAN 5lbs OF FORCE TO OPEN
SIGNS	ALL SIGNS TO COMPLY WITH THE SIGNAGE SECTION OF THE IBC

GENERAL NOTES
1. BAALMAN ARCHITECTS IS ISSUING THIS SET OF CONSTRUCTION DOCUMENTS TO FACILITATE CONSTRUCTION BY EXPRESSING THE DESIGN CONCEPT OF THIS PROJECT. ADDITIONAL DETAILED SHOP DRAWINGS AND SUBMITTALS WILL BE REQUIRED FOR PROCURING, PLACING AND CONSTRUCTING THE FINISHED WORK.
2. BAALMAN ARCHITECTS ASSUMES THE GENERAL CONTRACTOR HAS INCLUDED IN HIS BID THE HIGHEST QUALITY AND GREATEST QUANTITY FOR THE PURPOSE OF RESOLVING ANY CONFLICTS IN THE CONSTRUCTION DOCUMENTS WHICH ARE IMPLIED OR UNDEFINED.
3. ALL WORK SHALL COMPLY WITH THE CURRENT FEDERAL, STATE AND AND ALL LOCAL CODES AND ORDINANCES. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS AND SHALL REPORT ANY INCONSISTENCIES TO THE ARCHITECT.
4. DRAWINGS ARE NOT TO BE SCALED. DIMENSIONAL DISCREPANCIES SHALL BE CLARIFIED WITH THE ARCHITECT.
5. ALL DIMENSIONS ARE TO FACE OF GYP. BOARD, CONCRETE, MASONRY OR BRICK UNLESS OTHERWISE NOTED.
6. THE ARCHITECT SHALL REVIEW FOR APPROVAL ALL COLOR SAMPLES. MANUFACTURERS SHALL VERIFY CONFORMANCE WITH THE DESIGN INTENT AND SCOPE OF THE CONTRACT DOCUMENTS.
7. CONTRACTOR SHALL VERIFY LOCATION AND SHALL PROVIDE PROTECTION FOR UTILITIES WITHIN THE WORK AREA, WHETHER OR NOT INDICATED IN THE DRAWINGS.
8. CONTRACTOR SHALL NOTIFY UTILITY COMPANY AND OWNER IMMEDIATELY SHOULD SERVICE BE INTERRUPTED.
9. CONTRACTOR SHALL TAKE STEPS NECESSARY TO PREVENT EROSION DAMAGE ON OR OFF THE SITE AND REPAIR ANY DAMAGE RESULTING FROM THIS WORK AT NO COST TO THE OWNER.
10. WHERE POSSIBLE THE CONTRACTOR SHALL AVOID DAMAGING EXISTING TREES AND LANDSCAPING. CONTRACTOR SHALL COORDINATE THE DESTRUCTION OF ANY LANDSCAPE WITH THE ARCHITECT.
11. CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIALS, FALSE WORK, TEMPORARY STRUCTURES, INCLUDING : FOUNDATIONS AND DEBRIS OF ANY NATURE RESULTING FROM THEIR OPERATIONS, AND PUT THE SITE IN A NEAT AND ORDERLY CONDITION.
12. CONTRACTORS SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT SITE PRIOR TO SUBMITTING PROPOSAL ON THE PROJECT AND NOTIFY THE ARCHITECT AS TO ANY DISCREPANCIES OR CHANGES DISCOVERED.
13. SUBCONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH ALL PORTIONS OF THE DRAWINGS, SPECIFICATIONS, ADVICE AND CHANGE ORDERS THAT PERTAIN TO THEIR WORK. THEY SHALL BE HELD RESPONSIBLE FOR ADHERING TO THOSE REQUIREMENTS AND SHALL NOT PREPARE ANY BID.
14. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE, LOCATE AND CONFIRM ALL FLOOR SINK, UNDERGROUND / OVERHEAD PLUMBING AND ELECTRICAL STUB-UPS.
15. ALL INTERIOR PARTITION DIMENSIONS ARE TO FACE OF GYP. BD. WALL UNLESS NOTED OTHERWISE.
16. ALL EXPOSED UNFINISHED METAL AND WOOD SHALL BE PAINTED AS PER SPECIFICATION, PAINT TO MATCH ADJACENT COLOR.
17. ALL FINISHES AND FINISH MATERIALS, COLORS AND TEXTURES SHALL BE VERIFIED WITH ARCHITECT PRIOR TO INSTALLATION, FABRICATION OR ORDERING.

CONTRACTOR'S NOTES
1. THE CONSTRUCTION DOCUMENTS HAVE BEEN CAREFULLY PREPARED BUT MAY NOT DEPICT EVERY CONDITION TO BE ENCOUNTERED. IT IS THEREFORE THE GENERAL CONTRACTORS & SUBCONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS OF AFFECTED WORK PRIOR TO SUBMITTING A BID OR STARTING ANY WORK. IF CONDITIONS DIFFER, OR ADDITIONAL WORK IS REQUIRED BEYOND THAT STATED IN THE CONSTRUCTION DOCUMENTS IT IS THE CONTRACTORS RESPONSIBILITY TO BRING SUCH MATTERS TO THE ATTENTION OF THE ARCHITECT IN A REASONABLE TIME PERIOD.
PRIOR TO THE BID SUBMISSION, CONTRACTOR SHALL INCLUDE SUCH INSTANCES IN THEIR BID SUM OR QUALIFY IN THE BID SUBMITTAL.
2. ALL CONSTRUCTION DOCUMENTS REPRESENT A COMPREHENSIVE SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REFERENCE ALL DRAWINGS, SPECIFICATIONS, ADDENDUM AND CHANGE ORDERS (IF APPLICABLE) TO VERIFY THEIR RESPECTIVE SCOPE OF WORK.
3. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING MATERIAL, EQUIPMENT, MILLWORK, ETC.

ACCESSIBILITY
1. H.C. ACCESS TO THESE FACILITIES SHALL BE PROVIDED AT PRIMARY ENTRANCE.
2. THE SLOPE OF WALKS SHALL NOT EXCEED MAX. CROSS SLOPE 2% WALKING SURFACE SLOPING GREATER THAN 2% SHALL BE SLIP RESISTANT.
3. EVERY REQUIRED EXIT DOORWAY SHALL BE SIZED FOR A DOOR NOT LESS THAN 3 FT. WIDE BY NOT LESS THAN 6'-8" HIGH CAPABLE OF OPENING 90 DEGREES AND MOUNTED SO THAT THE CLEAR WIDTH OF THE EXIT WAY IS 32" MIN.
4. THRESHOLD TO BE A MAX. 1/4" ABOVE ADJACENT FINISH FLOOR.
5. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LB..
6. THE BOTTOM 10" OF ALL DOORS, EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE.
7. PROVIDE LEVER TYPE HARDWARE, PANIC BARS, PUSH – PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. (30" TO 44" A.F.F.)
8. ALL DOORWAYS LEADING TO SANITARY FACILITIES SHALL HAVE 32" CLEAR UNOBSTRUCTED OPENINGS.
9. INSULATE HOT WATER AND DRAIN PIPES AT HAND SINKS.
10. FAUCET CONTROLS SHALL BE OPERABLE WITH ONE HAND AND NOT REQUIRE GRASPING, PINCHING, OR TWISTING. FAUCET TO HAVE MAX. 5 LB.. OPERATING FORCE.

Architectural Drawings

- A0 Cover Sheet, Code Data Summary and Notes
- A1 Floor Plan, Partition Types and Notes
- A2 Reflected Ceiling Plan & Details
- A3 Interior Elevations, Sections & Details
- A4 Roof Plan & Notes
- A5 Exterior Elevations & Ramp Section
- A6 Wall Sections
- A7 Door & Room Schedules, Door & Window Types and Details

Mechanical, Plumbing and Electrical Drawings

- M-1 Mechanical General Notes
- M-2 Mechanical Plan
- M-3 Mechanical Schedules and Details
- E-1 Electrical Notes, Legend & Specifications
- E-2 Electrical Power Plans
- E-3 Electrical Lighting Plan
- P-1 Plumbing General Notes
- P-2 Plumbing Sanitary Plan
- P-3 Plumbing Piping Plan

Equipment Drawings

Provided by Midmark under separate cover

Building Tenant Renovation for:

Barrett Station Veterinary Clinic

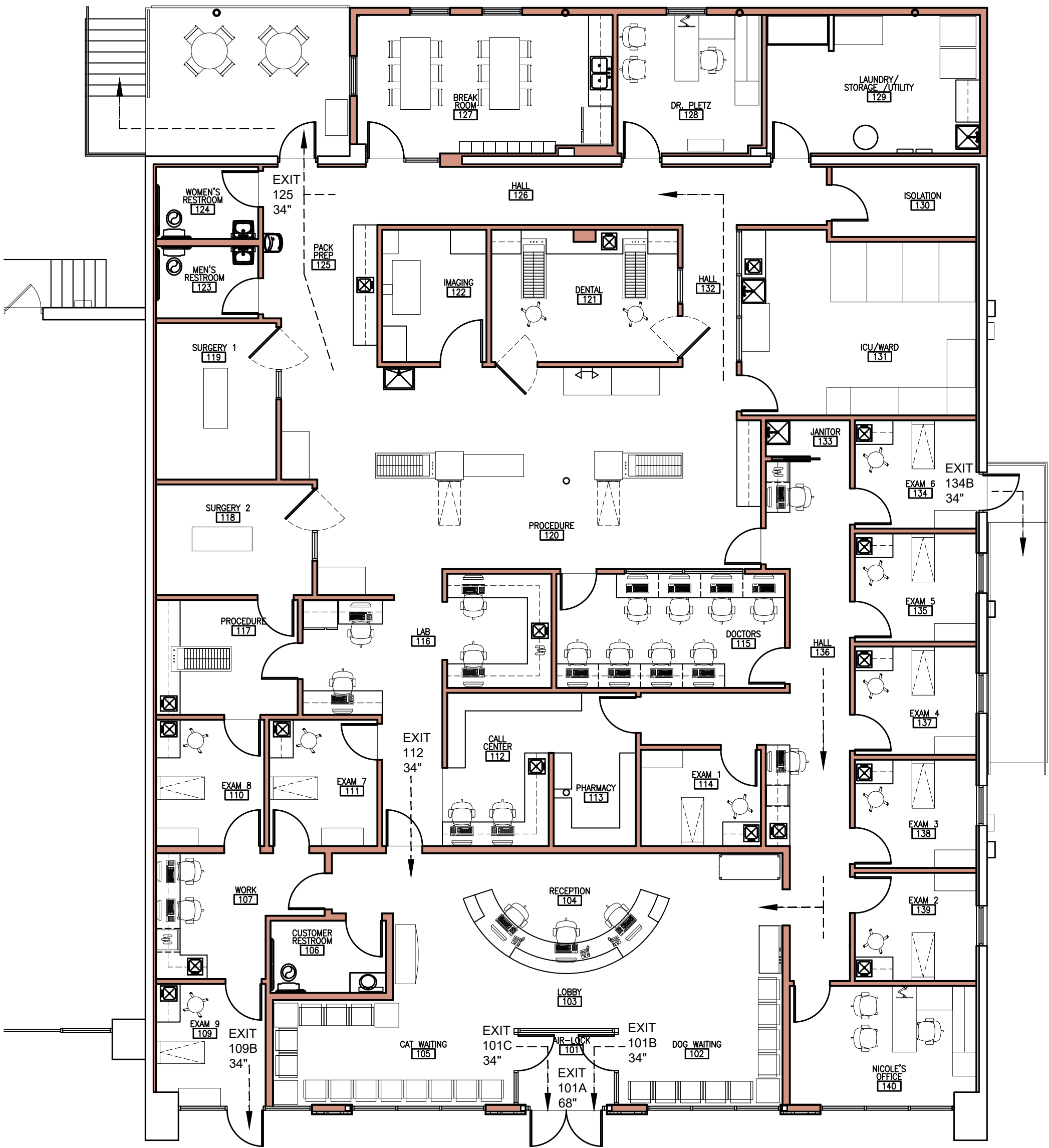
Chester Plaza Retail Center

13840-13844 Manchester Road

Ballwin, Missouri 63011

Drawing Issue: Bid & Permit Set Addendum #1

Date: January 16, 2023 January 26, 2023



2 LIFE SAFETY EGRESS PLAN

4 REMOTELY LOCATED EXIT DOORS
101A - MAIN FRONT DOORS
109B - FROM EXAM ROOM 109
125 - REAR DOOR
134 - RIGHT SIDE DOOR

Design Team:

Architect

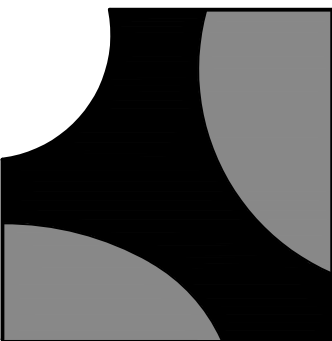
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Building Tenant Renovation for:

Barrett Station
Veterinary Clinic
13840-13844 Manchester Road
Ballwin, Missouri 63011

R#	ISSUE	DATE
1	BID & PERMIT SET	1-16-2023
2	ADDENDUM #1	1-26-2023
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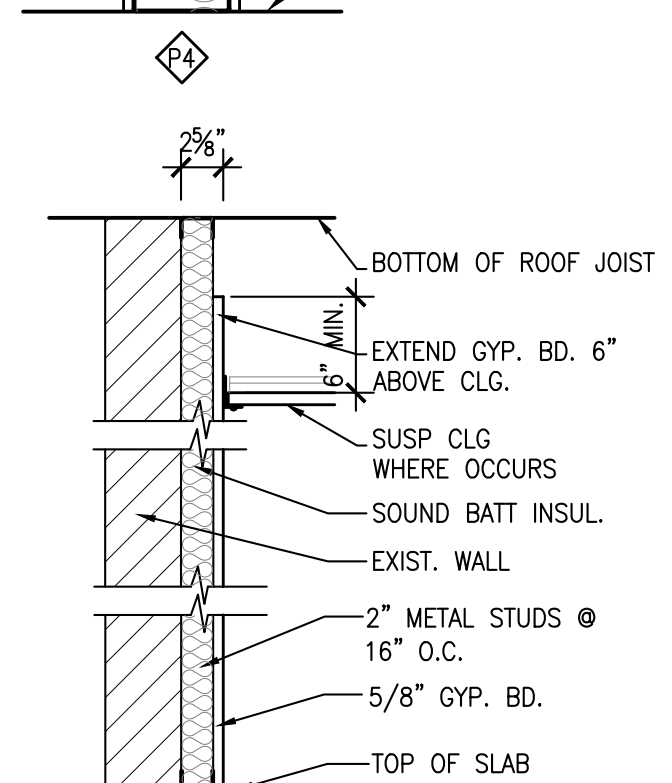
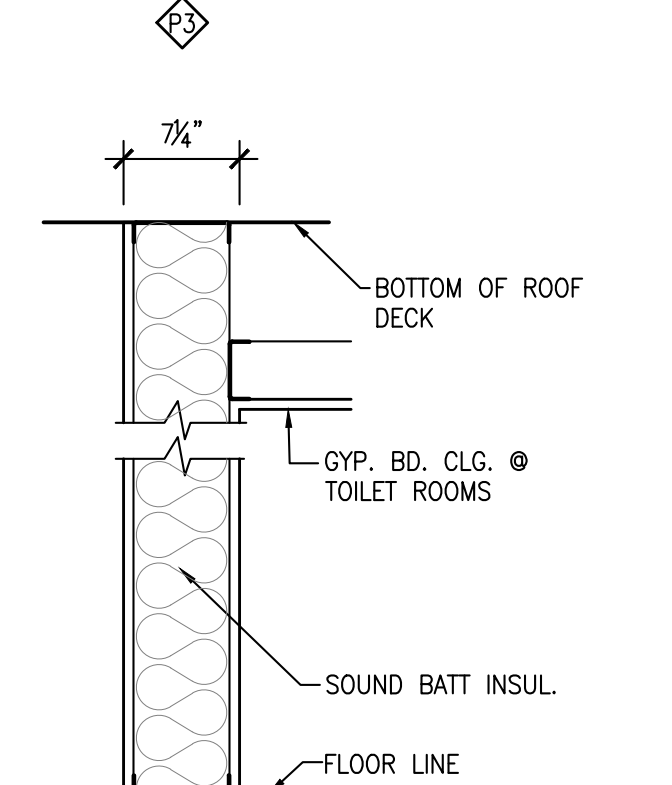
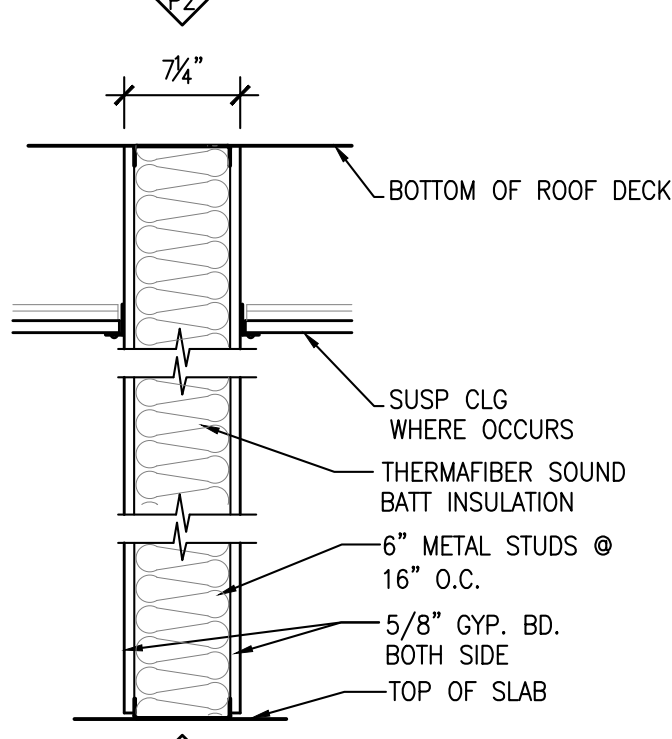
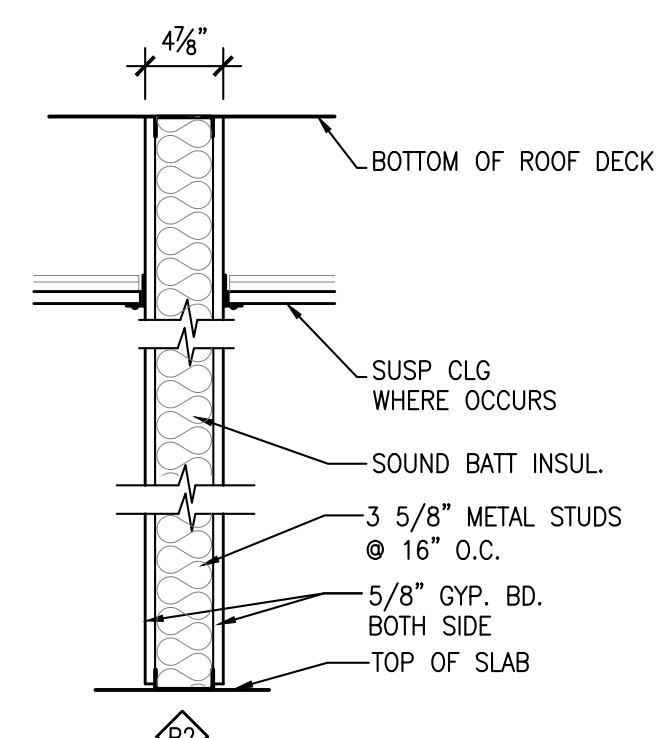
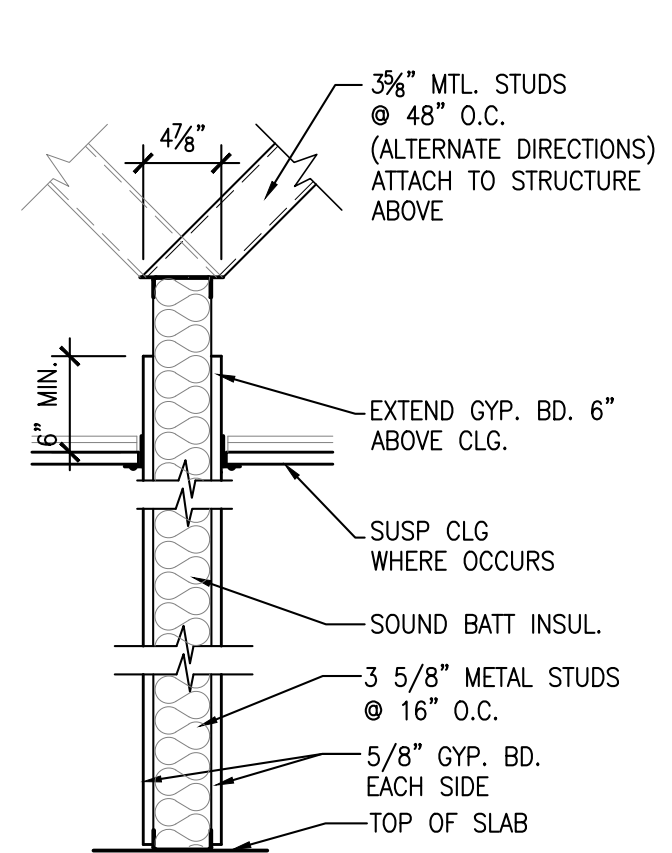


Michael J. Baalman
ARCHITECT

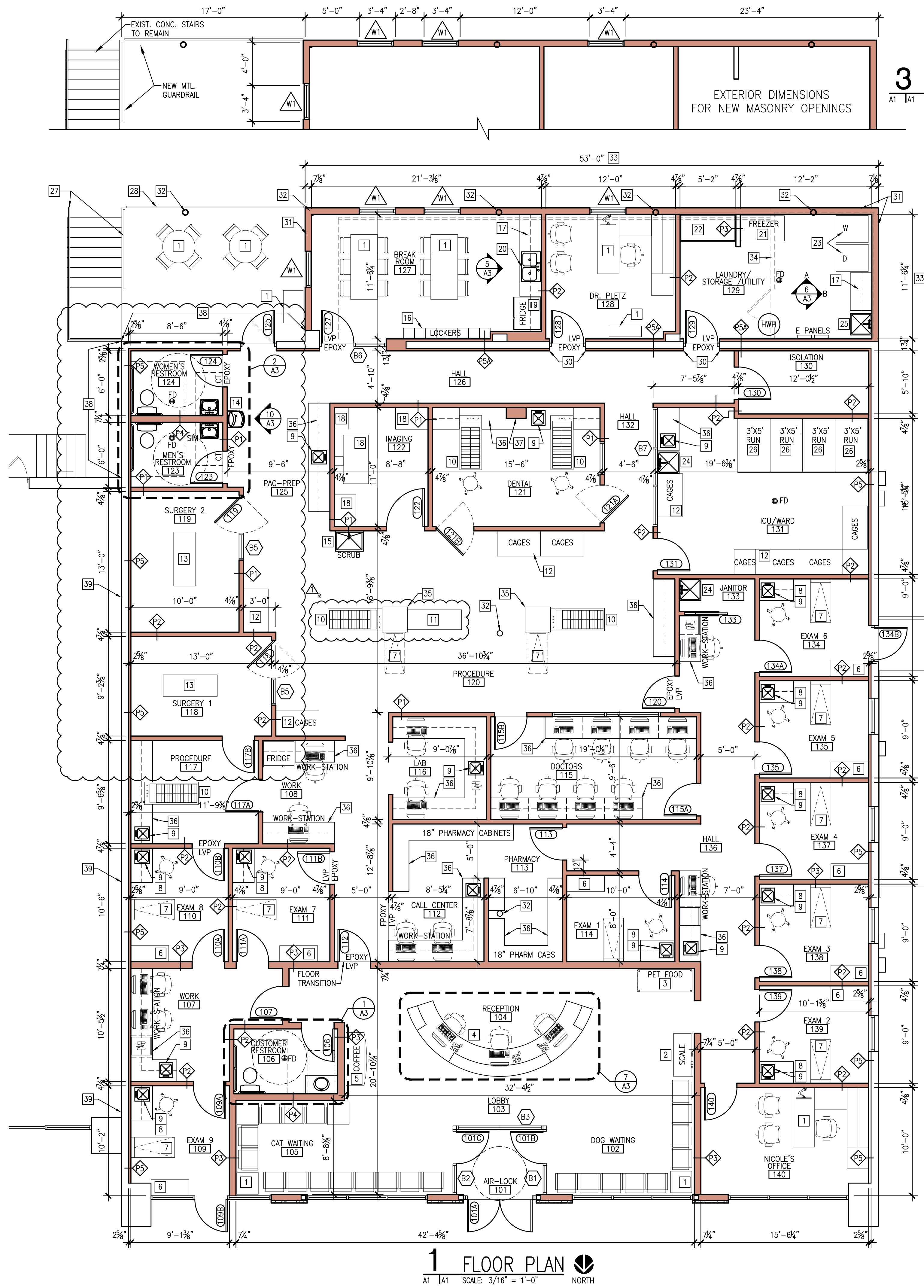
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DRAWN BY: MJB

PROJECT NUMBER
20-097
DATE
January 16, 2023

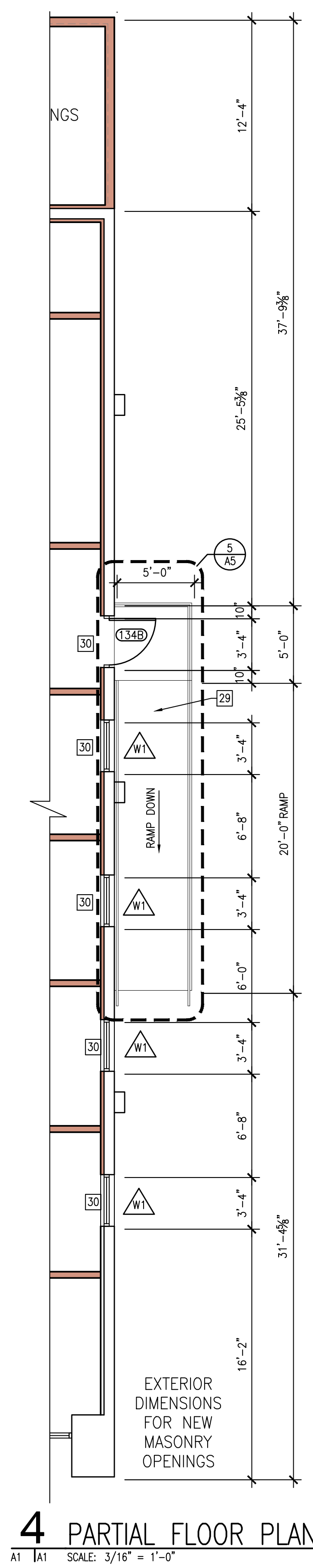
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2 PARTITION TYPES
A1 | A1 SCALE: 1" = 1'-0"



1 FLOOR PLAN
A1 | A1 SCALE: 3/16" = 1'-0" NORTH



4 PARTIAL FLOOR PLAN
A1 | A1 SCALE: 3/16" = 1'-0" NORTH

GENERAL NOTES:

- ALL WORK TO BE PROVIDED BY THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTORS UNLESS OTHERWISE NOTED.
- CONTRACTOR TO INSTALL ALL OWNER PROVIDED ITEMS UNLESS OTHERWISE NOTED, INCLUDING REQUIRED ELECTRICAL, MECHANICAL & PLUMBING UTILITIES AND CONNECTIONS.
- REFER TO MANUFACTURER'S REQUIREMENTS FOR ALL OWNER PROVIDED EQUIPMENT ITEMS. COORDINATE WITH OWNER.
- REFER TO VETERINARY EQUIPMENT SUPPLIER (MIDMARK) FOR EQUIPMENT AND FIXTURES IN THE FOLLOWING ROOMS:
ALL EXAM ROOMS, EXCEPT BENCHES ARE BY OWNER
107 WORK ROOM
108 WORK ROOM
112 CALL CENTER (WITH PHARMACY CABINETS)
116 LAB
117 PROCEDURE
120 ISLANDS 1 & 2
121 DENTAL
125 PACK PREP
131 ICU/WARD
136 HALL 1 & 2
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT ASAP.

FLOOR PLAN KEYED NOTES:

- FURNITURE - BY OWNER.
- SCALE - BY OWNER, CONTRACTOR TO PROVIDE POWER.
- PET FOOD DISPLAY - BY OWNER.
- RECEPTION DESK AND BACK-COUNTER - SEE ENLARGED PLAN 7/A3.
- COFFEE BAR/FURNITURE - BY OWNER, PROVIDE ELECTRIC.
- EXAM ROOM CUSTOMER BENCH - BY OWNER.
- EXAM ROOM FOLD-UP EXAM TABLE - BY OWNER (SHOR-LINE).
- EXAM ROOM CASEWORK - SEE MIDMARK DRAWINGS.
- 15" STAINLESS STEEL EXAM SINK - SEE PLUMBING DRAWINGS.
- STAINLESS STEEL WET TABLE - BY OWNER.
- STAINLESS STEEL LIFT TABLE - BY OWNER.
- PET CAGES, TYP. - BY OWNER.
- STAINLESS STEEL SURGERY TABLE - BY OWNER.
- ADA DRINKING FOUNTAIN WITH BOTTLE FILLER. SEE DETAIL 10/A3.
- SCRUB-SINK WITH FOOT PEDALS.
- PRE-FABRICATED METAL LOCKERS - BY OWNER.
- CASEWORK - SEE SHEET A3 FOR ENLARGED PLANS AND DETAILS.
- X-RAY EQUIPMENT BY OWNER. CONTRACTOR TO COORDINATE ELECTRICAL AND BLOCKING REQUIREMENTS.
- REFRIGERATOR WITH ICE-MAKER - BY OWNER. CONTRACTOR TO PROVIDE WATER AND POWER.
- DOUBLE BOWL STAINLESS STEEL SINK WITH DISPOSAL - SEE MEP DRAWINGS.
- HORIZONTAL FREEZER - BY OWNER.
- STAINLESS STEEL PET BATH - BY OWNER (VEVOR 62") CONTRACTOR TO PROVIDE H&C WATER AND DRAIN.
- HEAVY DUTY WASHER AND DRYER - BY OWNER. CONTRACTOR TO PROVIDE ALL UTILITY HOOK-UPS - COORDINATE WITH OWNER.
- FLOOR MOUNTED MOP SINK - SEE PLUMBING DRAWINGS.
- UTILITY /LAUNDRY SINK - SEE PLUMBING DRAWINGS.
- PRE-FABRICATED DOG RUNS BY OWNER.
- EXISTING STEEL GUARDRAIL/HANDRAILS TO REMAIN - PAINT.
- NEW STEEL GUARDRAIL - SEE DETAIL 5/A5.
- NEW CONCRETE RAMP WITH STEEL GUARDRAIL AND HANDRAIL - SEE 5/A5.
- NEW OPENING IN EXISTING CMU WALL - SEE WALL DETAIL 4/A7.
- NEW EXTERIOR WALL AT PERIMETER OF EXISTING DOCK AREA-SEE SECTION 1/A6.
- EXISTING STEEL SUPPORT COLUMNS TO REMAIN.
- EXISTING FLOOR SLAB AT EXISTING TRUCK DOCK TO BE REMOVED AND REPLACED WITH NEW 4" CONCRETE SLAB REINFORCED WITH 1.2X1.2 6X6 W.W.F. FILL SUB-BASE WITH CLEAN 1" LIMESTONE.
- EXISTING WOOD FRAMED WALLS AT REAR DOCK DOCK AREA TO BE REMOVED AND DISPOSED OF.
- ISLAND TOWER ELEMENT BY VETERINARY EQUIPMENT SUPPLIER. SEE MIDMARK DRAWINGS. CONTRACTOR TO VERIFY POWER REQUIREMENTS WITH OWNER.
- CASEWORK BY VETERINARY EQUIPMENT SUPPLIER. SEE MIDMARK DRAWINGS.
- METAL STUD AND GYPSUM BOARD COLUMN BUMP-OUT FOR X-RAY MACHINE SUPPORT. COORDINATE EXACT SIZE AND REQUIRED BLOCKING WITH VETERINARY EQUIPMENT SUPPLIER AND X-RAY EQUIPMENT. SEE MIDMARK DRAWINGS.
- PAINT EXISTING EXPOSED WALL.
- EXISTING 1-HR CMU BLOCK WALL.

DEMOLITION GENERAL NOTES:

- THE TENANT WILL REMOVE ALL BOLT-DOWN AND FURNITURE RELATED ITEMS WITHIN THE SPACE, INCLUDING BUT NOT LIMITED TO: CHAINLINK FENCING AND SUPPORTS, FURNITURE, TARGETS AND OTHER ITEMS SPECIFICALLY RELATED TO THE AXE THROWING BUSINESS. REFER TO THE SAMPLE TOP NOTCH AXE THROWING DRAWING PROVIDED FOR REFERENCE.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ITEMS TO FACILITATE THE CONSTRUCTION OF THE NEW VETERINARY CLINIC, INCLUDING BUT NOT LIMITED TO: INTERIOR PARTITIONS, FLOORING, WALL TREATMENTS, LIGHTING, ELECTRICAL, PLUMBING, HVAC, RESTROOMS, MECHANICAL ROOMS, ETC.
- UNUSED AND/OR ABANDONED SYSTEMS, HANGERS, ACCESSORIES, ETC. SHALL BE REMOVED IN THEIR ENTIRETY.

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Building Tenant Renovation for:
Barrett Station Veterinary Clinic
13840-13844 Manchester Road
Ballwin, Missouri 63011

DATE	ISSUE
1-16-2023	BID & PERMIT SET
1-26-2023	ADDENDUM #1

Michael J. Baalman
ARCHITECT

PROJECT MANAGER: MJB
DRAWN BY: MJB

PROJECT NUMBER
20-097
DATE
January 16, 2023

SHEET
A1
FLOOR PLAN
NOTES & DETAILS

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1 REFLECTED CEILING PLAN
A1 A1 SCALE: 3/16" = 1'-0" NORTH

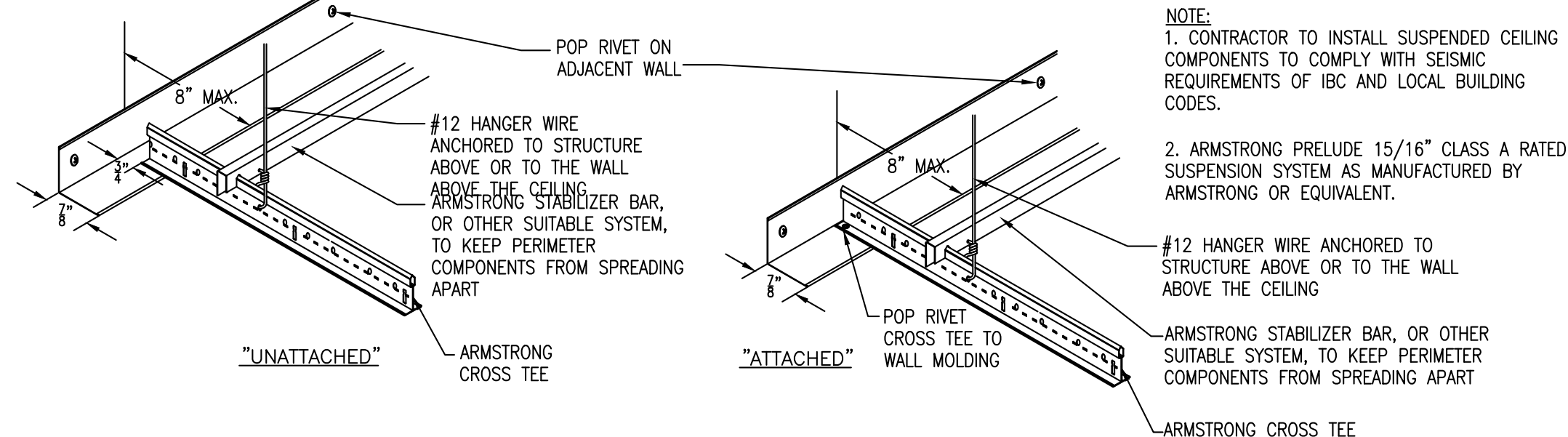
FIXTURE SYMBOLS LEGEND:

- 2'x4' SUSPENDED ACOUSTICAL TILE (SECOND-LOOK) CEILING AND GRID (PROVIDE SURGICAL GRADE VINYL COATED GYP. BD. CEILING TILE AND GRID IN SURGERY ROOM) SEISMIC CATEGORY "D".
- GYP. BOARD CEILING
- 2 x 4 LED LAY-IN LIGHT FIXTURE
- RECESSED LED CAN LIGHT FIXTURE
- PENDANT LIGHT FIXTURE. VERIFY HANGING METHOD AND LENGTH
- LARGE PENDANT LIGHT FIXTURE. VERIFY HANGING METHOD AND LENGTH.
- WALL MOUNTED LED LIGHT FIXTURE
- CEILING MOUNTED SURGERY LIGHT FIXTURE (1 REQ. - PROVIDED BY OWNER AND INSTALLED BY EC)
- EMERGENCY EXIT LIGHT & HEADS (90 MIN. BATTERY BACK-UP)
- EMERGENCY BATTERY BACKUP LIGHT (90 MIN)
- EMERGENCY EXIT SIGN (90 MIN. BATTERY BACK-UP)
- LED WALL-PAC WITH LIGHT-SHIELD
- RESTROOM EXHAUST FAN

- NOTES:
- PROVIDE EMERGENCY ILLUMINATION MIN. AVE 1 FOOT CANDLE AND MIN. FOOT CANDLE AT PATH OF EGRESS PER IBC CODE.
 - INSTALL SUSPENDED CEILING GRID SYSTEM PER MANUFACTURER RECOMMENDATIONS FOR THE SEISMIC CATEGORY SITE CLASS "D".

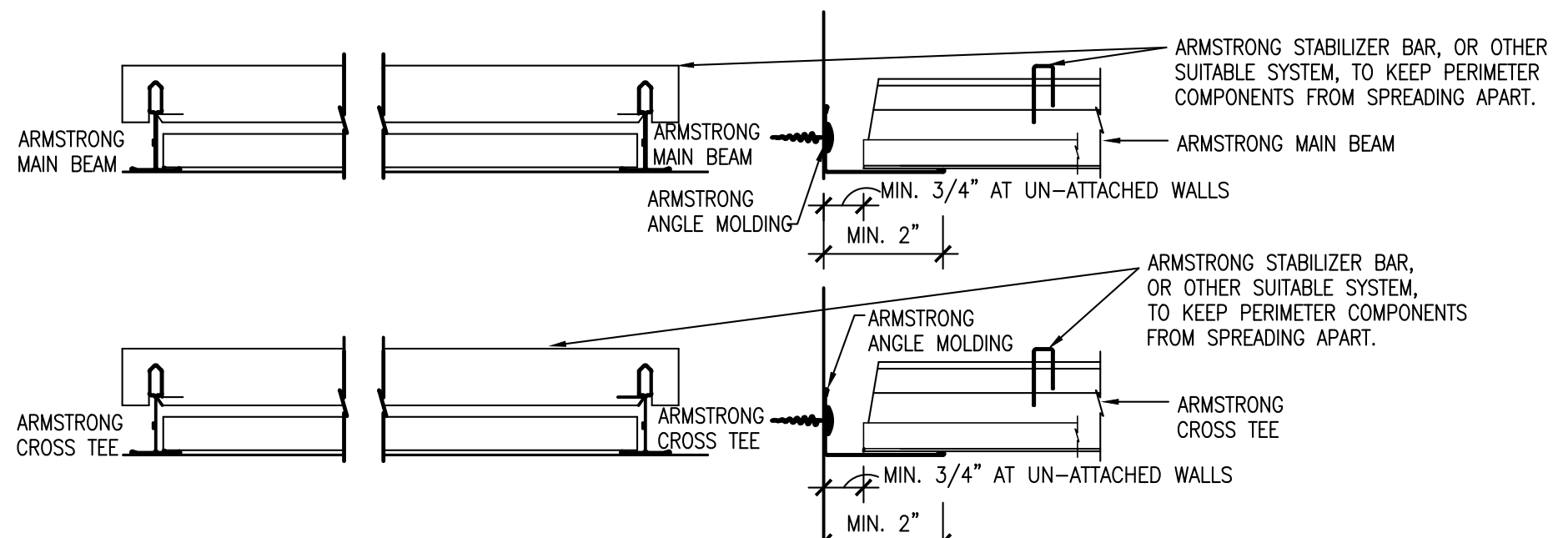
GENERAL NOTES:

- ALL LIGHTING IS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS FOR ACTUAL FIXTURE SPECIFICATIONS AND LOCATIONS.
- CONTRACTOR TO COORDINATE ALL FIXTURE LOCATIONS WITH ALL OTHER CEILING MOUNTED ITEMS, ETC.
- PROVIDE EMERGENCY LIGHTING AS REQUIRED TO MEET ALL IBC, NEC AND LOCAL CODES. REFER TO ELECTRICAL DRAWINGS.
- REFER TO ROOM FINISH SCHEDULE FOR CEILING HEIGHTS.
- PAINT EXPOSED CEILING STRUCTURE IN ROOMS WITH AN EXPOSED CEILING.
- PAINT ALL EXPOSED CEILING COMPONENTS IN EXPOSED CEILING AREAS (IE, ELECTRICAL CONDUITS, ETC.)



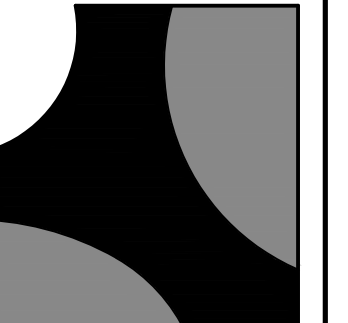
2 TYP. SUSP. CLG. INSTALLATION DETAIL

A2 A2 SCALE: N.T.S. CATEGORY D



3 TYP. SUSP. CLG. INSTALLATION DETAIL

A2 A2 SCALE: N.T.S. CATEGORY D



BAALMAN ARCHITECTS

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License#: A-2012004035
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Suite 200
St. Louis, Missouri 63021
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Direct: 314-965-8032
Email: designstl@outlook.com

Building Tenant Renovation for:
Barrett Station Veterinary Clinic
13840-13844 Manchester Road
Ballwin, Missouri 63011

R#	ISSUE	DATE
1	BID & PERMIT SET	1-16-2023
2	ADDENDUM #1	1-26-2023

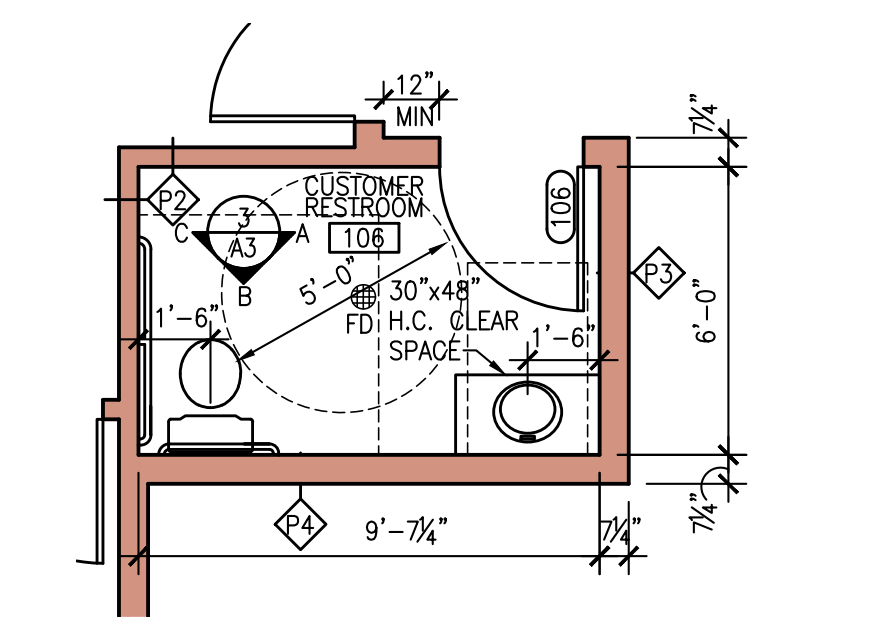


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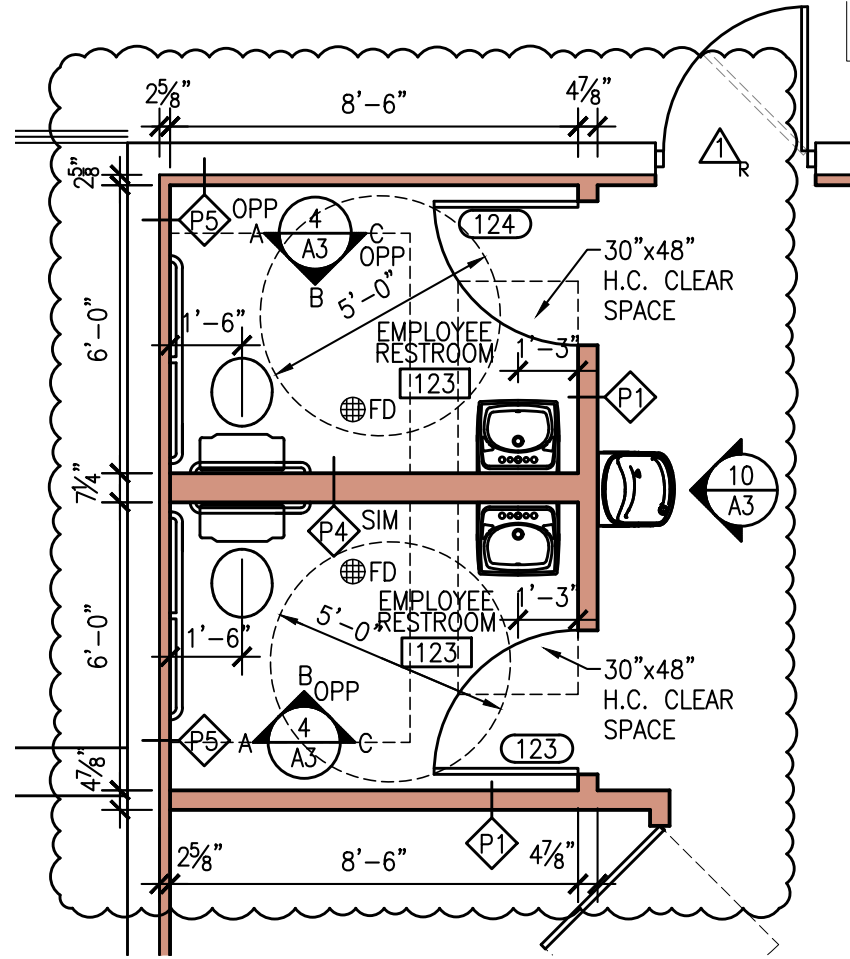
PROJECT MANAGER: MJB
DRAWN BY: MJB

PROJECT NUMBER
20-097
DATE
January 16, 2023

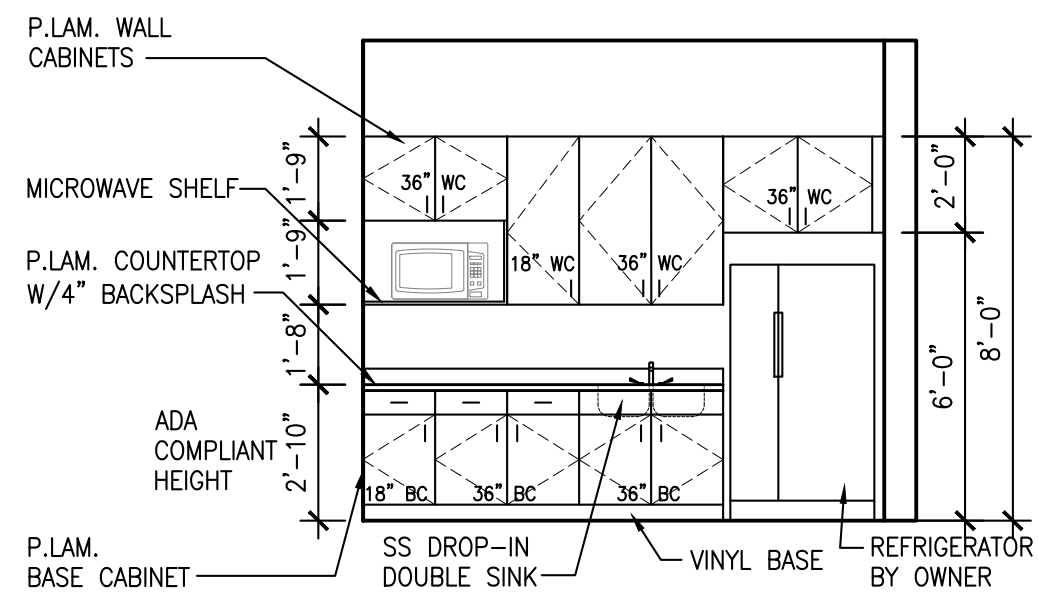
SHEET
A2
REFLECTED
CEILING PLAN
& DETAILS



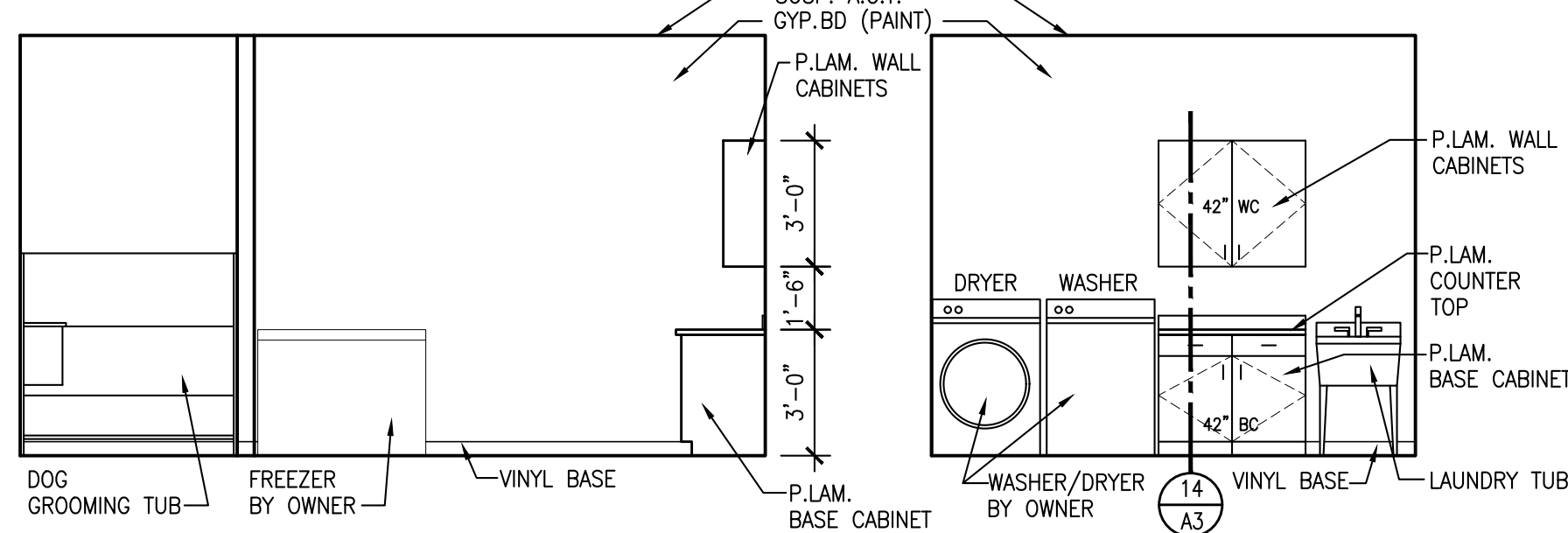
1 ENLARGED FLOOR PLAN
A3 | A1 SCALE: 1/4"=1'-0"



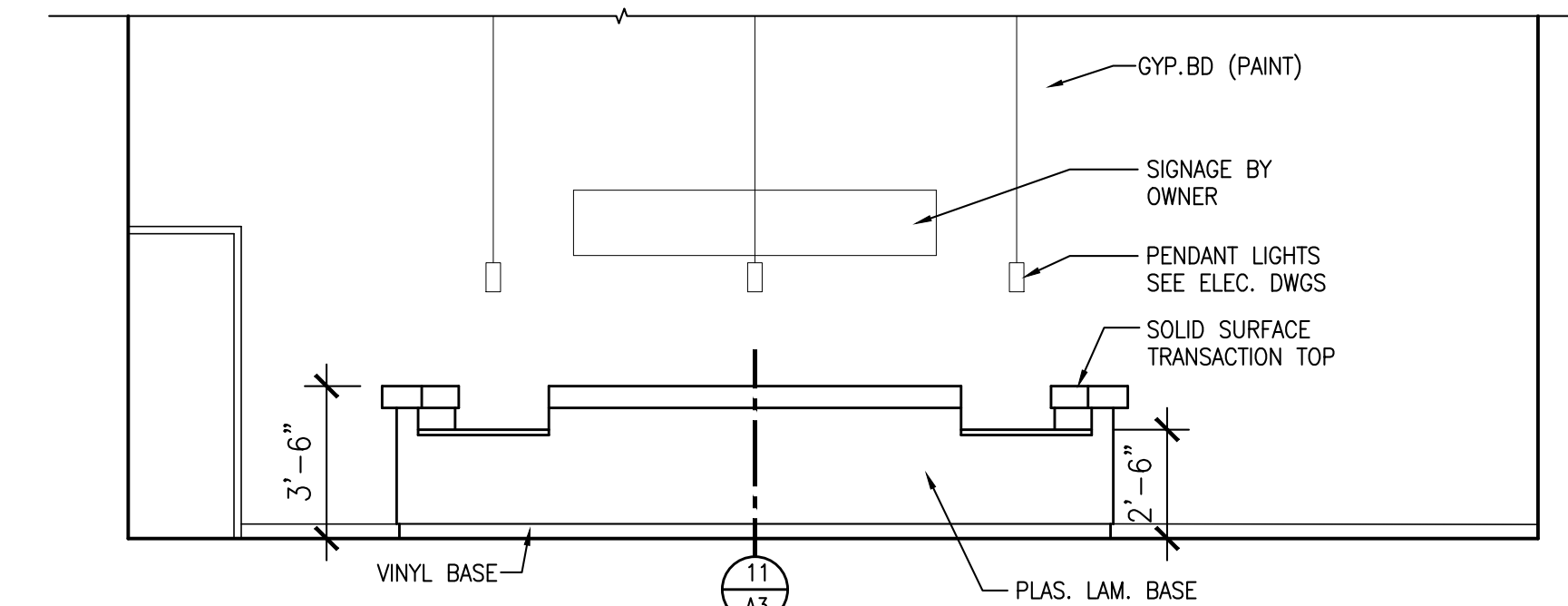
2 ENLARGED FLOOR PLAN
A3 | A1 SCALE: 1/4"=1'-0"



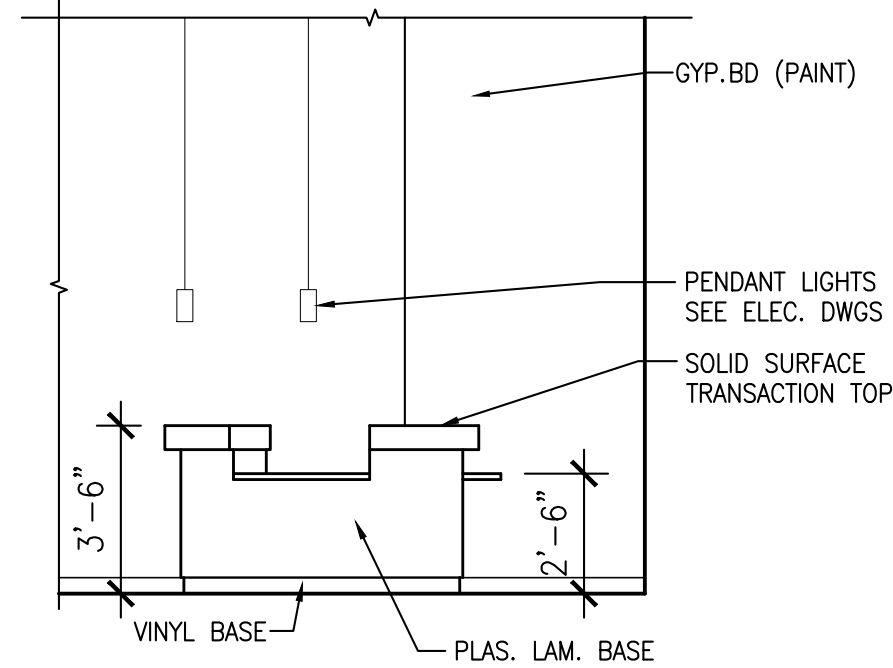
5 INTERIOR ELEVATION
A3 | A2 SCALE: 1/4"=1'-0"



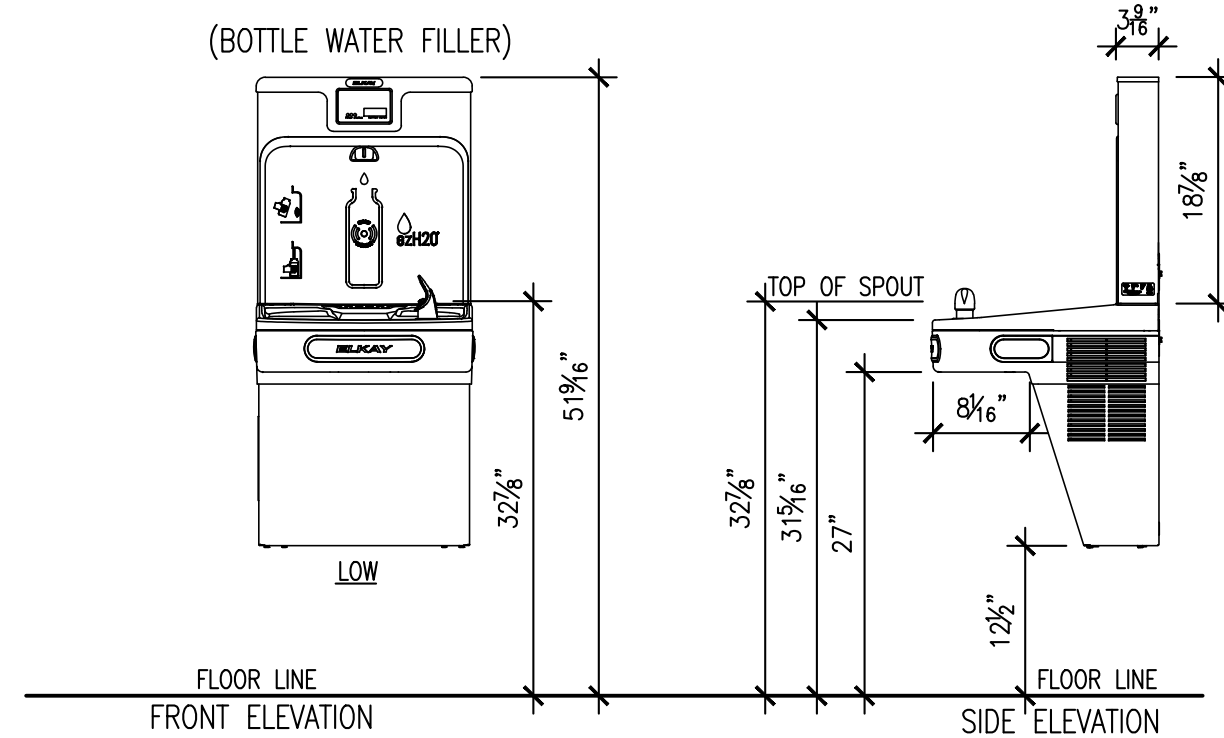
6 INTERIOR ELEVATION
A3 | A1 SCALE: 1/4"=1'-0"



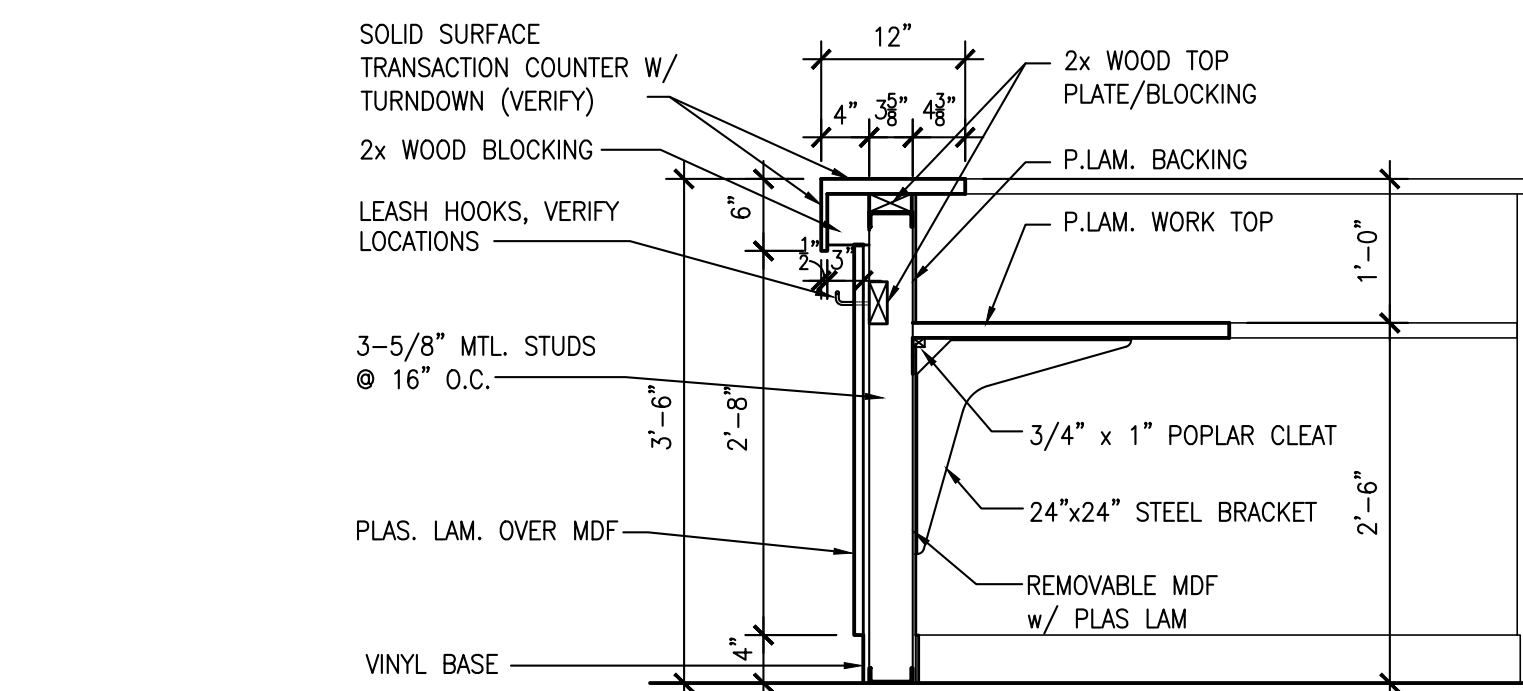
8 INTERIOR ELEVATION
A3 | A3 SCALE: 1/4"=1'-0"



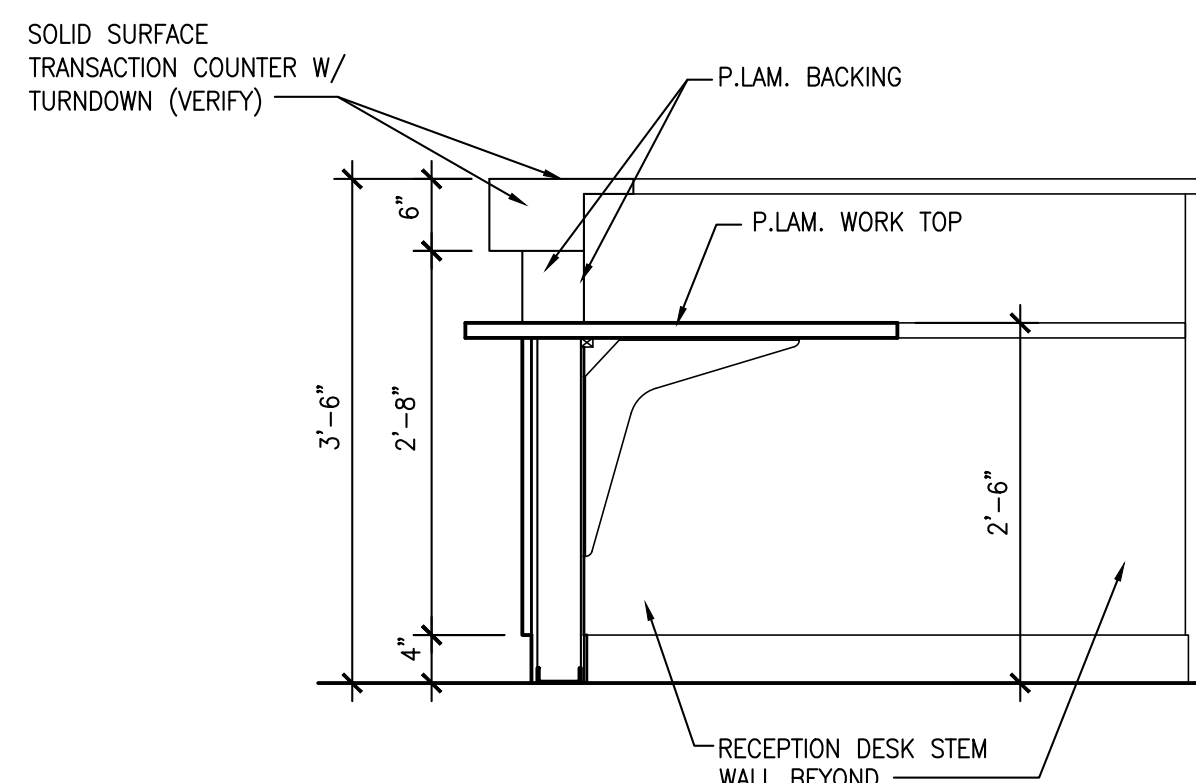
9 INTERIOR ELEVATION
A3 | A3 SCALE: 1/4"=1'-0"



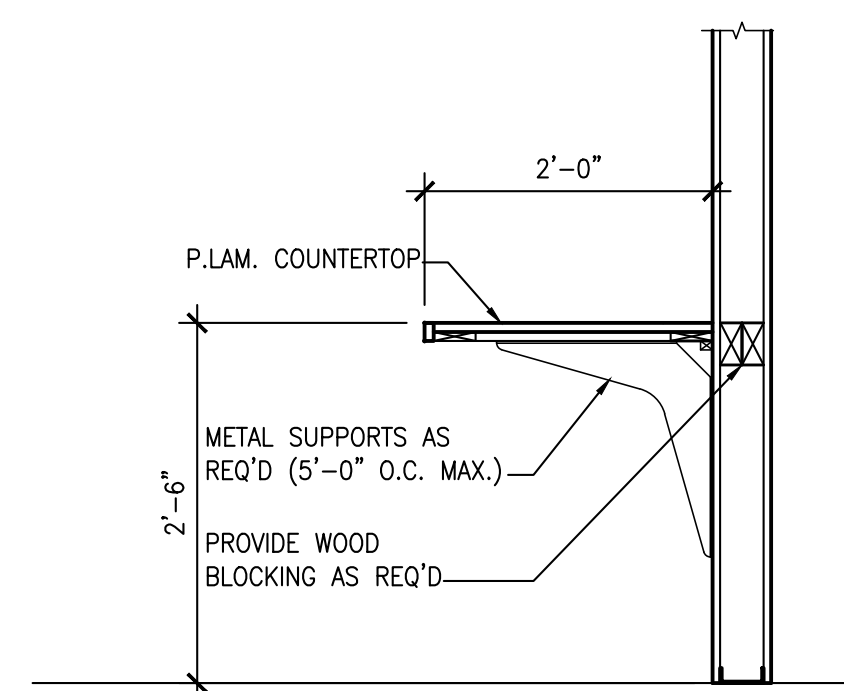
10 ADA ELECTRIC WATER COOLER/BOTTLE FILLER
A1 | A3 SCALE: 3/4"=1'-0"



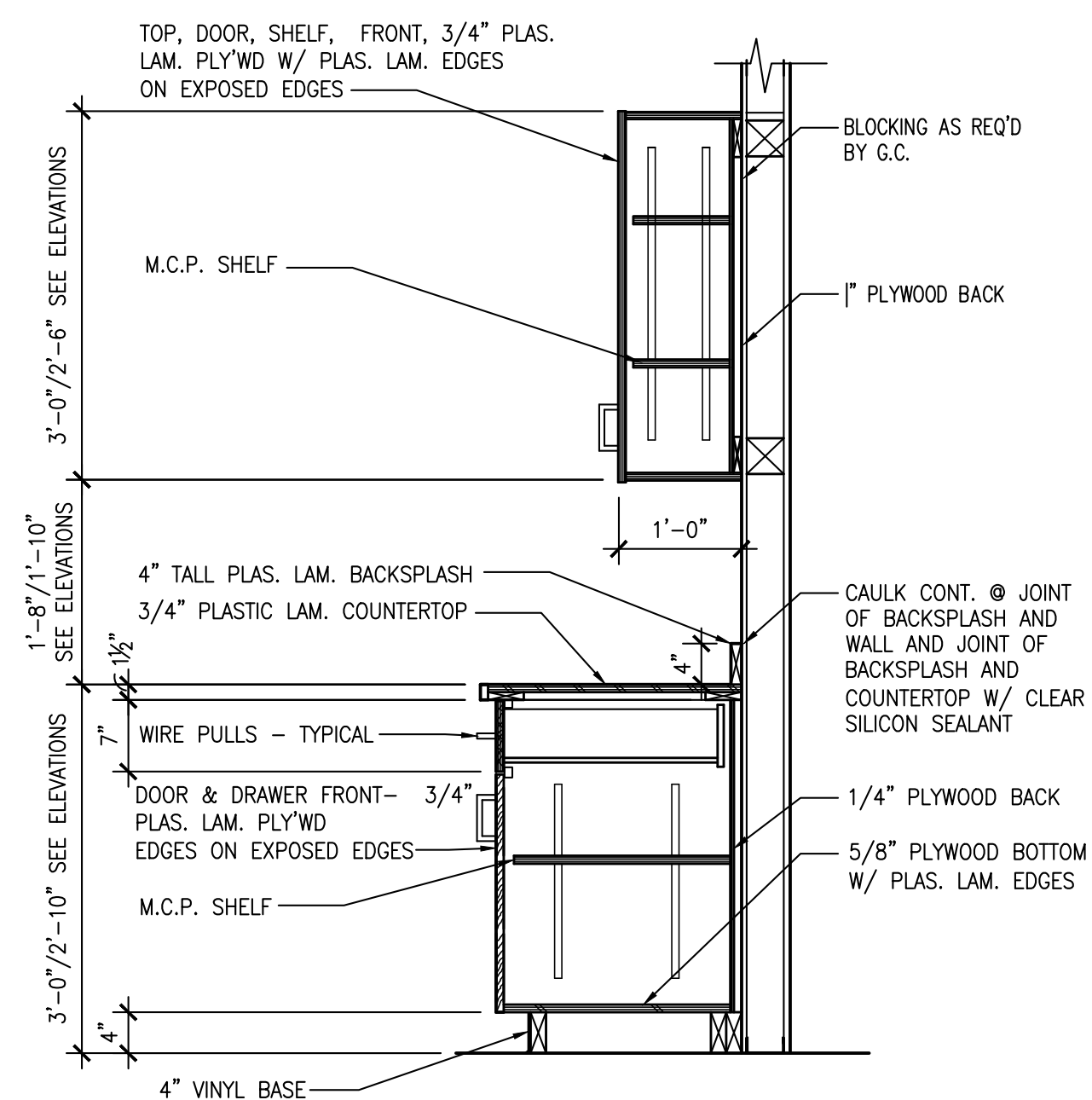
11 SECTION THRU RECEPTION DESK
A3 | A3 SCALE: 3/4"=1'-0"



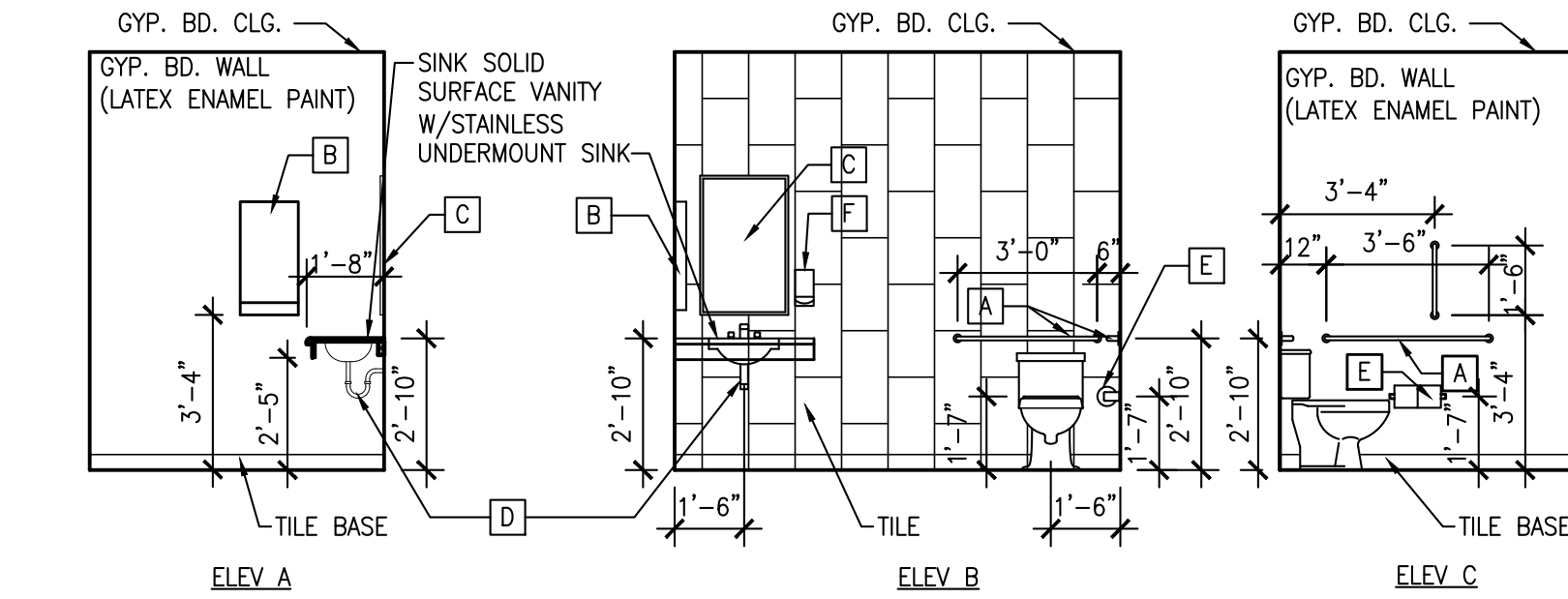
12 SECTION THRU RECEPTION DESK
A3 | A3 SCALE: 3/4"=1'-0"



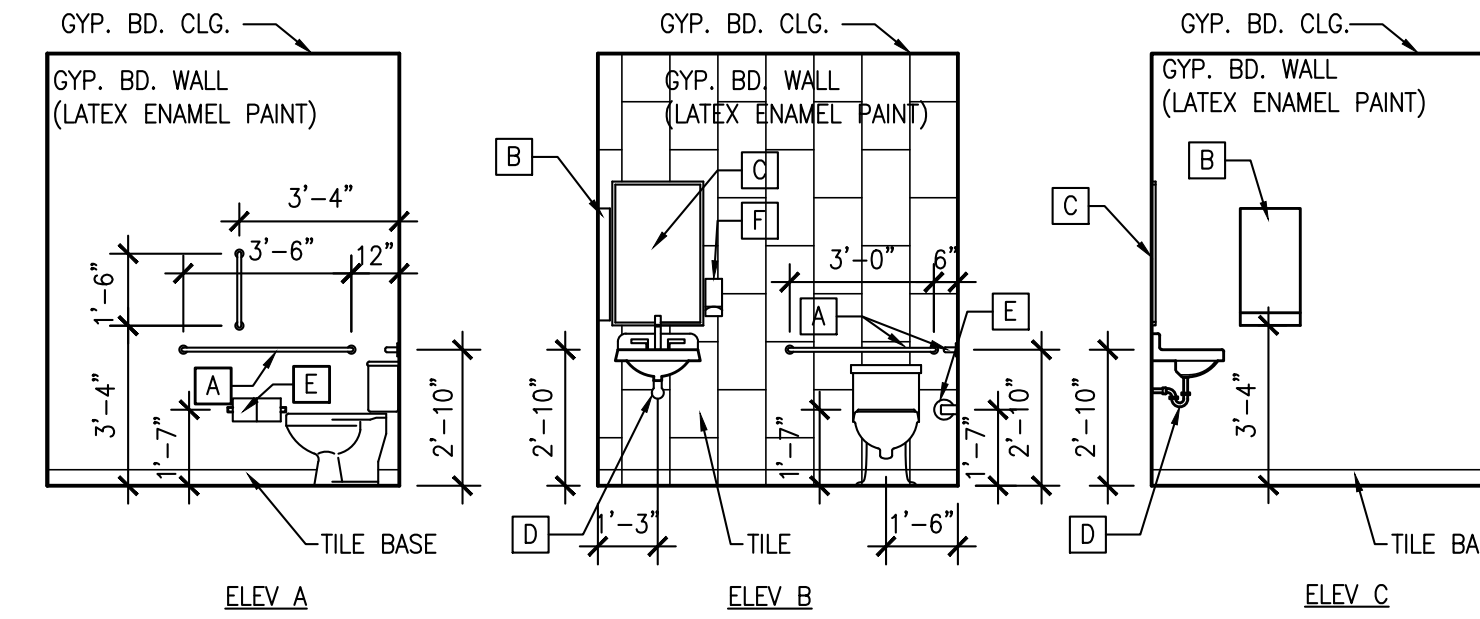
13 SECTION @ WORK SURFACE
A3 | A3 SCALE: 3/4"=1'-0"



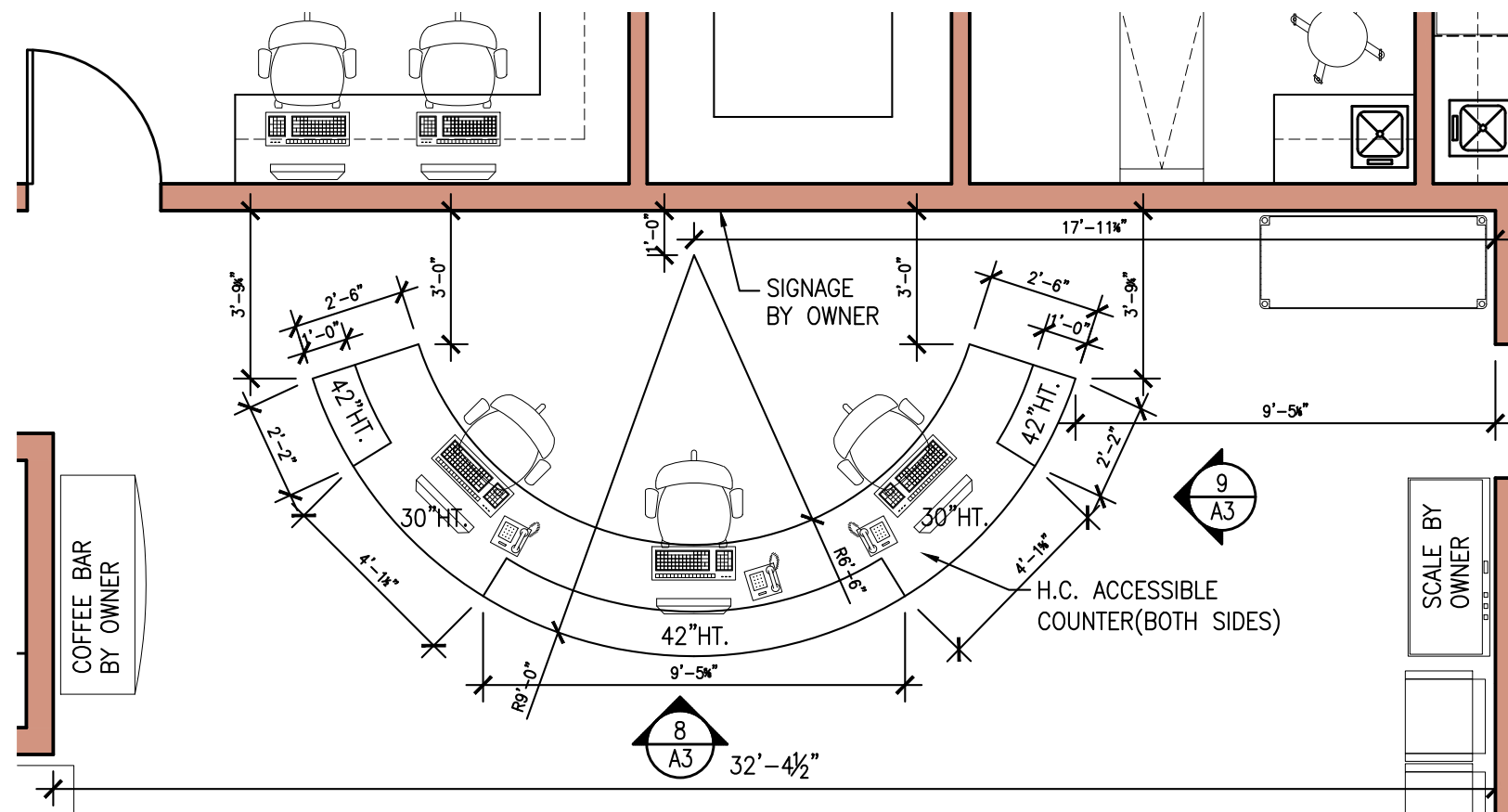
14 SECTION @ TYP. CASEWORK
A3 | A3 SCALE: 3/4"=1'-0"



3 TOILET ROOM ELEVATION
A3 | A1 SCALE: 1/4"=1'-0"



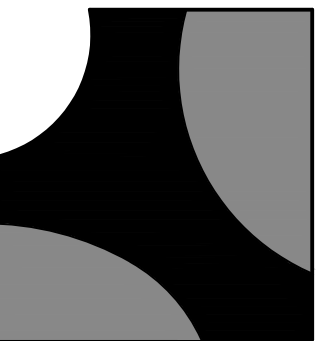
4 TOILET ROOM ELEVATION
A3 | A1 SCALE: 1/4"=1'-0"



7 RECEPTION DESK PLAN
A3 | A1 SCALE: 1/4"=1'-0"

- NOTES:
1. ALL TOILET ACCESSORIES TO BE PROVIDED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED.
 2. CONTRACTOR SHALL COORDINATE WITH OWNER ON OWNER PROVIDED AND CONTRACTOR INSTALLED ITEMS IN ORDER TO LOCATE REQUIRED BLOCKING.
 3. PROVIDE WOOD BLOCKING FOR ATTACHMENT OF ALL MISC. RESTROOM ACCESSORIES INCLUDING MIRRORS, PAPER HANGER, PAPER TOWEL DISPENSER, SOAP DISPENSER, ETC.
 4. PROVIDE THE REQUIRED TRAP SEAL PRIMER OR ICC APPROVED EQUAL FOR ALL NEW FLOOR DRAINS SUBJECT TO TRAP SEAL LOSS BY EVAPORATION.

TOILET ACCESSORIES	
NO.	ITEM
A	H.C. GRAB BARS (FLR MOUNT WHERE SHOWN)
B	PAPER TOWEL/TRASH DISPENSER
C	20"x32" H.C. MIRROR
D	INSULATE PER ADA
E	TOILET PAPER DISPENSING
F	SOAP DISPENSER



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R#	DATE	ISSUE
1	1-16-2023	BID & PERMIT SET
2	1-26-2023	ADDENDUM #1
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

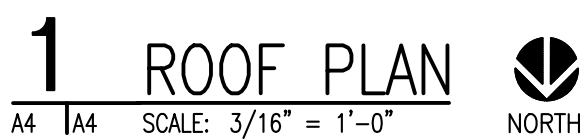


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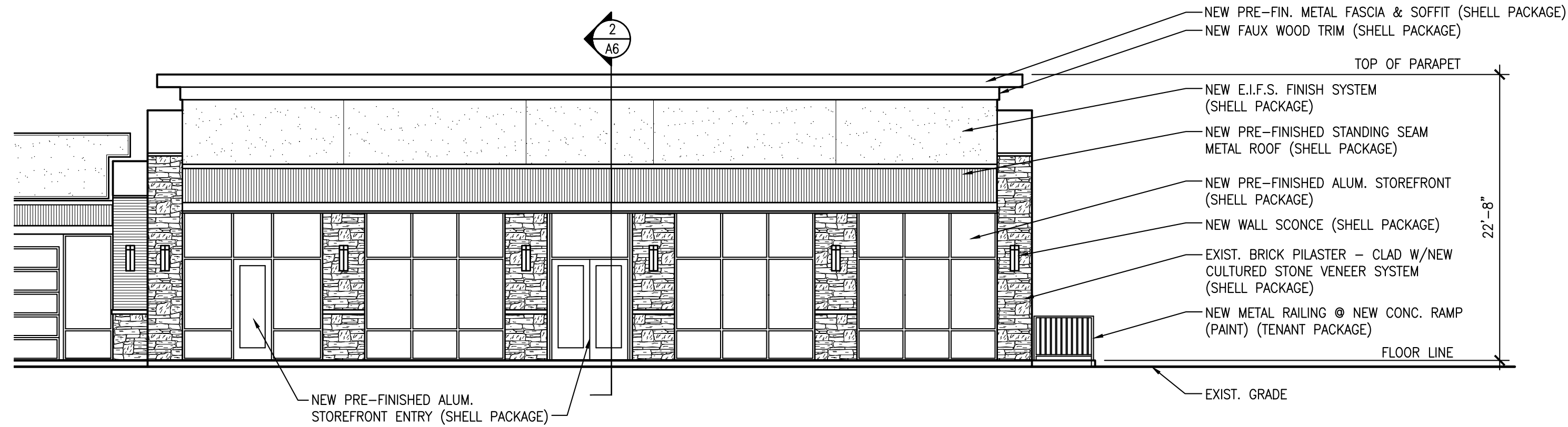
PROJECT MANAGER: MJB
DRAWN BY: MJB

PROJECT NUMBER
20-097
DATE
January 16, 2023

SHEET
A3
ENLARGED FLOOR
PLANS AND INTERIOR
ELEVATIONS

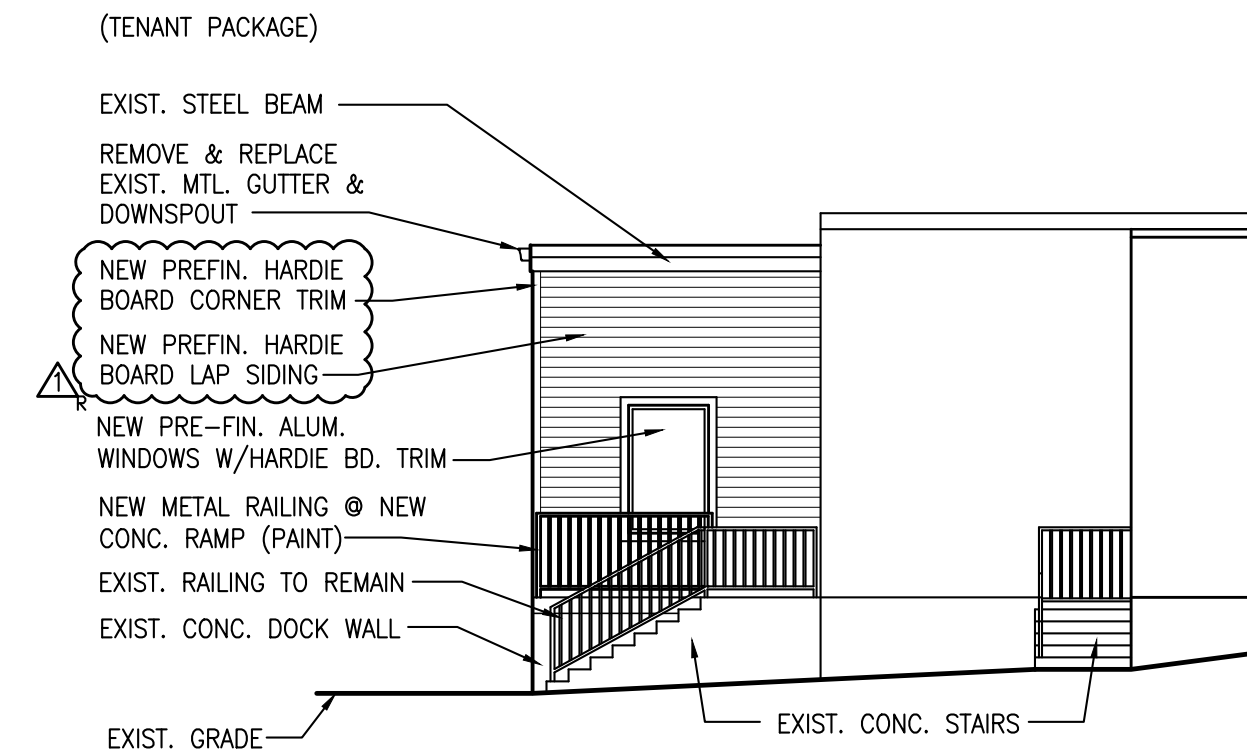


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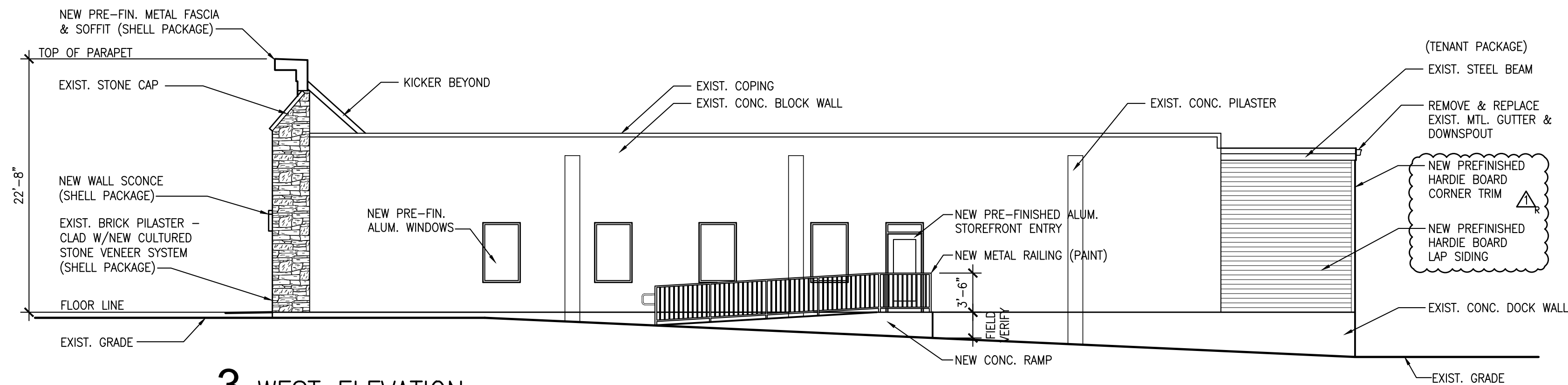
1 PARTIAL NORTH ELEVATION

A5 | A5 SCALE: 1/8" = 1'-0"



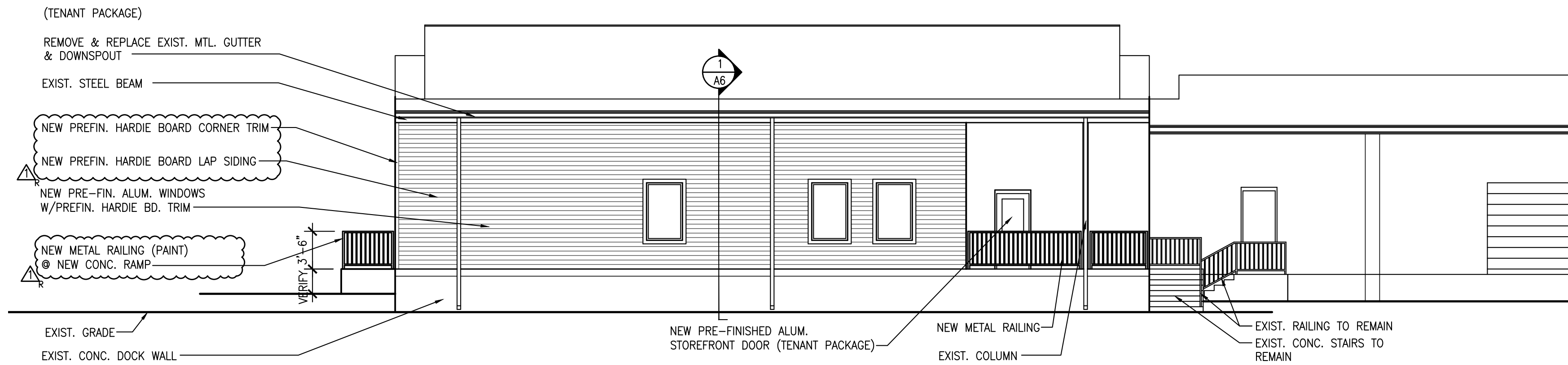
2 PARTIAL EAST ELEVATION

A5 | A5 SCALE: 1/8" = 1'-0"



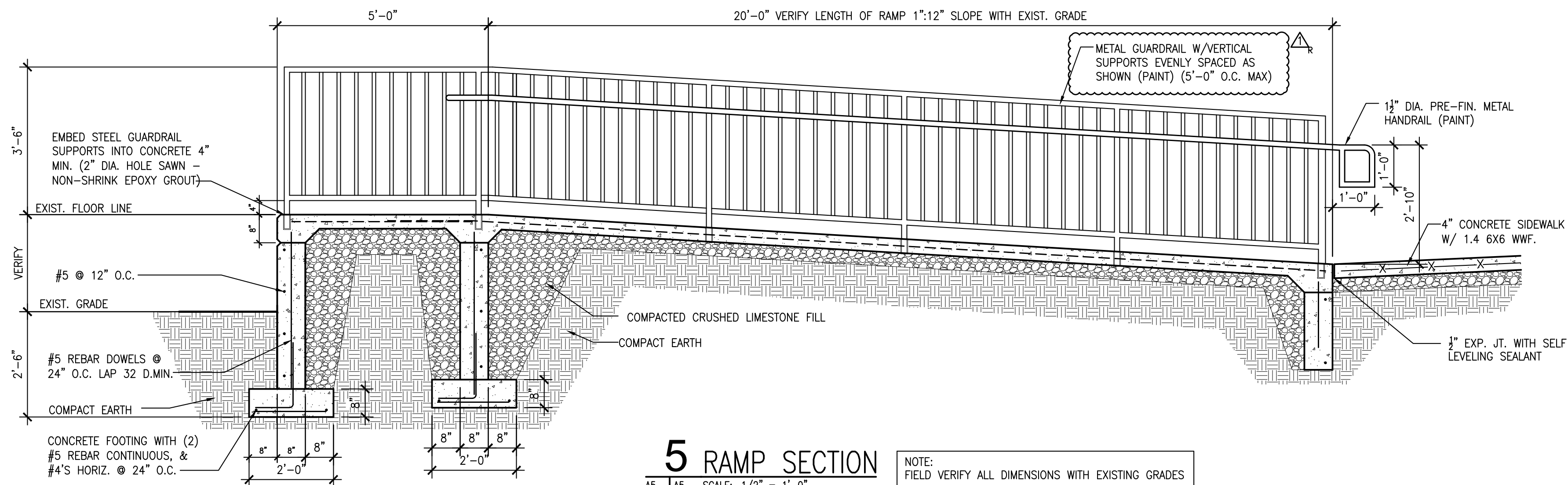
3 WEST ELEVATION

A5 | A5 SCALE: 1/8" = 1'-0"



4 PARTIAL SOUTH ELEVATION

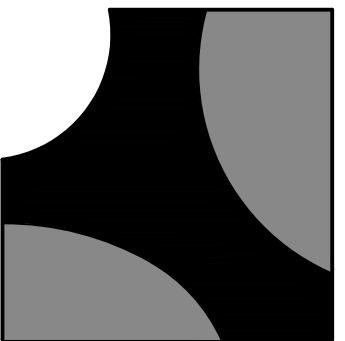
A5 | A5 SCALE: 1/8" = 1'-0"



5 RAMP SECTION

A5 | A5 SCALE: 1/2" = 1'-0"

NOTE:
FIELD VERIFY ALL DIMENSIONS WITH EXISTING GRADES



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DATE	ISSUE	R#
1-16-2023	BID & PERMIT SET	1
1-26-2023	ADDENDUM #1	2



Michael J. Baalman
ARCHITECT

PROJECT MANAGER: MJB
DRAWN BY: MJB

PROJECT NUMBER
20-097
DATE
January 16, 2023

SHEET
A5
EXTERIOR
ELEVATIONS
AND NEW RAMP

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ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS				CEILING		DECORATING		NOTES:
				NORTH	EAST	SOUTH	WEST	MAT'L	HEIGHT	WALLS	CLG	
101	AIR-LOCK	LVP		GLAZING	GLAZING	GLAZING	GLAZING	GB	9'-0"	P	P	
102	DOG WAITING	LVP	VINYL	GLAZING	GB	GB	GB	EXPOSED	VARIES	P	P	
103	LOBBY	LVP	VINYL		GB	GB	GB	EXPOSED	VARIES	P	P	
104	RECEPTION	LVP	VINYL	GLAZING	GB	GB	GB	EXPOSED	VARIES	P	P	
105	CAT WAITING	LVP	VINYL	GLAZING	GB	GB	GB	EXPOSED	VARIES	P	P	
106	CUSTOMER RESTROOM	PT	PT	GB	GB	GB	GB	GB	9'-0"	P	P	
107	WORK	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
108	WORK	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
109	EXAM ROOM #9	LVP	VINYL	GLAZING	GB	GB	GB	ACT	12'-0"	P		
110	EXAM ROOM #8	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
111	EXAM ROOM #7	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
112	CALL CENTER	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
113	PHARMACY	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
114	EXAM ROOM #1	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
115	DOCTORS	LVP	VINYL	GB	GB	GLAZING/GB	GB	ACT	10'-0"	P		
116	LAB	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
117	PROCEDURE	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
118	SURGERY 1	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
119	SURGERY 2	EP	INTEGRAL	GB	GB	GB	GLAZING/GB	ACT	10'-0"	P		
120	PROCEDURE	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
121	DENTAL	EP	INTEGRAL	GLAZING/GB	GB	GB	GB	ACT	10'-0"	P		
122	IMAGING	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
123	EMPLOYEE RESTROOM	PT	PT	GB	GB	GB	GB	GB	9'-0"	P	P	
124	EMPLOYEE RESTROOM	PT	PT	GB	GB	GB	GB	GB	9'-0"	P	P	
125	PAC-PREP	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
126	HALL	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
127	BREAK ROOM	LVP	VINYL	GLAZING/GB	GB	GB	GB	ACT	10'-0"	P		
128	DR. PLETZ	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
129	LAUNDRY/STORAGE/UTILITY	SC	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
130	ISOLATION	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
131	ICU / WARD	EP	INTEGRAL	GB	GLAZING/GB	GB	GB	ACT	10'-0"	P		
132	OMITTED - NOT USED	---	---	---	---	---	---	---	---	---	---	
133	JANITOR	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
134	EXAM ROOM #6	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
135	EXAM ROOM #5	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
136	HALL	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
137	EXAM ROOM #4	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
138	EXAM ROOM #3	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
139	EXAM ROOM #2	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
140	NICOLE'S OFFICE	LVP	VINYL	GB	GB	GB	GB	ACT	12'-0"	P		

ACT - ACOUSTICAL TILE CEILING
GB - GYPSUM BOARD

PT - PORCELAIN TILE
EP - EPOXY

LVP - LUXURY VINYL PLANK

P - PAINT
SF - ALUMINUM STOREFRONT

FINISH SCHEDULE

LVP - LUXURY VINYL PLANK
\$6.00 PER SQ. FT. MATERIAL ONLY

PT 1 - PORCELAIN TILE
\$8.00 PER SQ. FT. MATERIAL ONLY

VB - VINYL BASE
JOHNSONITE/TARKETT 4" VINYL BASE
COLOR: TBD

SS - SOLID SURFACE
PRODUCT/MANUFACTURER: BASIS OF DESIGN: CORIAN
EQUAL SUBSTITUTIONS ARE ALLOWED.
COLOR/PATTERN: TO BE SELECTED

PL - PLASTIC LAMINATES
CONTRACTOR SHALL INCLUDE FOR TWO PLASTIC LAMINATE COLORS FOR ALL CASEWORK.

COLOR No.1 FOR ALL COUNTER TOPS AND WORK SURFACES

COLOR No.2 FOR ALL CABINET FRONTS, DOORS, DRAWERS ETC. U.O.N.

EPOXY FLOOR AND BASE:

- PREP EXISTING CONCRETE FLOORS AS REQUIRED INCLUDING SHOT BLASTING AND/OR DIAMOND GRINDING.
- 100% SOLIDS EPOXY PRIMER.
- ½" HEAVY DUTY INDUSTRIAL EPOXY OVERLAY.
- 100% EPOXY SOLIDS GROUT COAT (10-12 MILS).
- 100% EPOXY SOLIDS INTERMEDIATE COAT (14-16 MILS).
- FINAL TOP COAT WITH HIGH SOLIDS, UV STABLE URETHANE.
- TEXTURE TBD.
- 4" HIGH X ½" THICK INTEGRAL COVE BASE WITH COVE STRIP.

PAINT:

GYP. BD.:

1 COAT SHERWIN WILLIAMS PROMAR 200 WATER BASED PRIMER.

2 COATS SHERWIN WILLIAMS PROMAR 200 INTERIOR LATEX EG-SHELL.
FINAL COAT TO BE SPRAYED AND BACKROLLED.

PROJECT TO CONSIST OF 3 COLORS TO BE SELECTED BY THE OWNER.
(1 BASE (FIELD) COLOR AND 2 ACCENT COLORS)

HW. DOOR FRAMES:

TWO COATS SHERWIN WILLIAMS PRO CLASSIC INTERIOR WATER BASED ACRYLIC-ALKYD ENAMEL IN SEMI-GLOSS - PRIME AS REQUIRED

SOLID CORE WOOD DOORS:
PRE-FINISHED PLAIN SELECT WHITE BIRCH
STAIN COLOR TO BE SELECTED.

EQUAL SUBSTITUTIONS ARE ALLOWED.

DOOR SCHEDULE

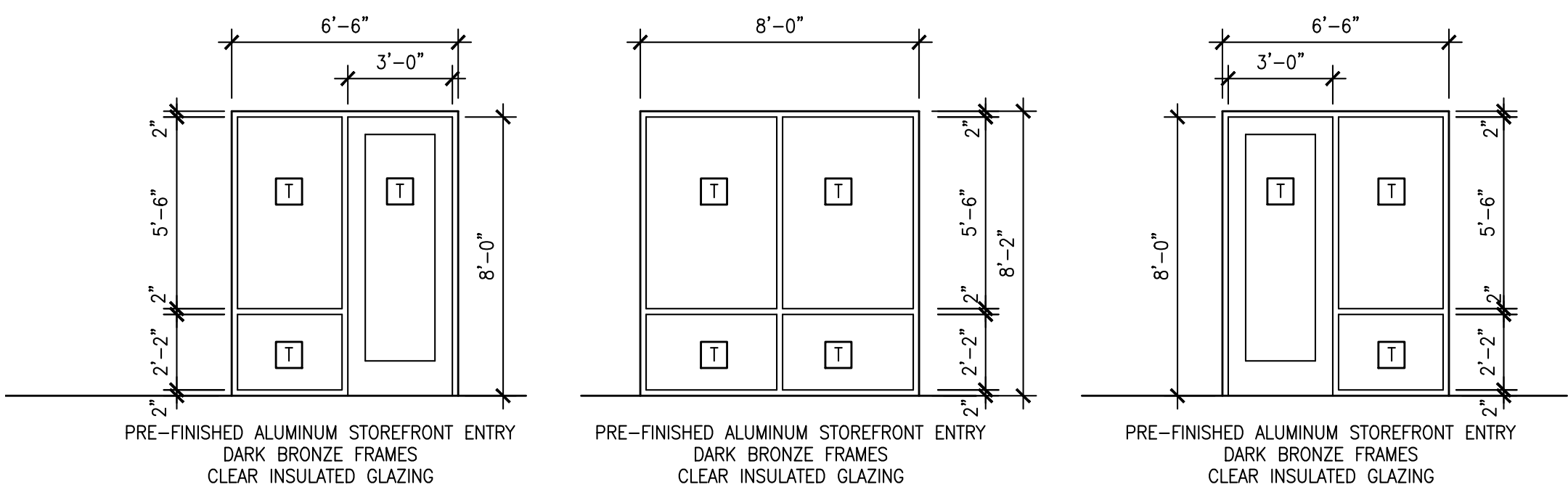
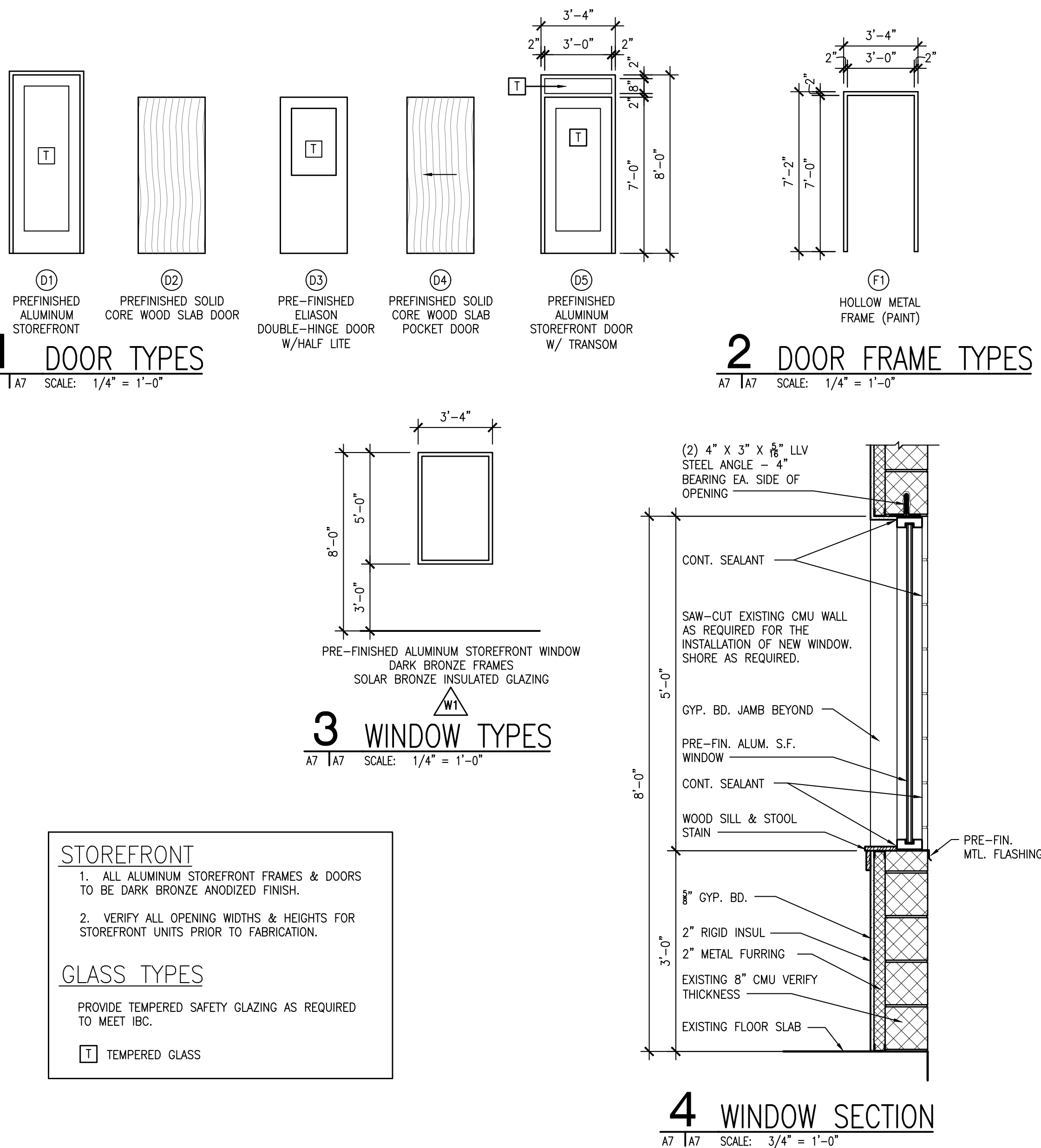
DOOR NO.	DOOR SIZE	DOOR TYPE	DOOR MAT.	FRAME MAT.	FRAME TYPE	HARDWARE	REMARKS
101A	EXISTING	EXIST	ALUM SF	ALUM SF	EXIST	1	ALUMINUM STOREFRONT DOOR
101B	3'-0" x 8'-0" x 1 3/4"	D1	ALUM SF	ALUM SF		1	ALUMINUM STOREFRONT DOOR
101C	3'-0" x 8'-0" x 1 3/4"	D1	ALUM SF	ALUM SF		1	ALUMINUM STOREFRONT DOOR
106	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	5	
107	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
109A	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
109B	EXISTING	EXIST	ALUM SF	ALUM SF	EXIST	1	ALUMINUM STOREFRONT DOOR
110A	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
110B	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
111A	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
111B	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
112	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
113	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	3	
114	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
115A	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
115B	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
117	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
118	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
119	3'-6" x 7'-0" x 1 3/4"	D3	F.G.	SEE MFR			DUAL ACTION DOOR
120	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
121A	3'-6" x 7'-0" x 1 3/4"	D3	F.G.	SEE MFR			DUAL ACTION DOOR
121B	3'-6" x 7'-0" x 1 3/4"	D3	F.G.	SEE MFR			DUAL ACTION DOOR
122	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
123	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	5	
124	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	5	
125	3'-0" x 7'-0" x 1 3/4"	D1	ALUM SF	ALUM SF		1	ALUMINUM STOREFRONT DOOR
127	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
128	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
129	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
130	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
131	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
133	3'-0" x 7'-0" x 1 3/4"	D4	WOOD	H.M.	F1		POCKET DOOR
134A	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
134B	3'-0" x 7'-0" x 1 3/4"	D5	ALUM SF	ALUM SF		1	ALUMINUM STOREFRONT DOOR & TRANSOM
135	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
137	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
138	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
139	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	2	
140	3'-0" x 7'-0" x 1 3/4"	D2	WOOD	H.M.	F1	4	

HARDWARE SCHEDULE

1	EXTERIOR HARDWARE: ALL HARDWARE BY STOREFRONT MANUFACTURER
2	INTERIOR PASSAGE SET: 1 1/2 PR. H.D. HINGES, PASSAGE SET - LATCHING, DOOR CLOSER
3	INTERIOR STOREROOM SET: 1 1/2 PR. H.D. HINGES, LOCK SET
4	INTERIOR OFFICE SET: 1 1/2 PR. H.D. HINGES, LOCK SET
5	RESTROOM SET: 1 1/2 PR. H.D. HINGES, LOCKSET, KICKPLATE

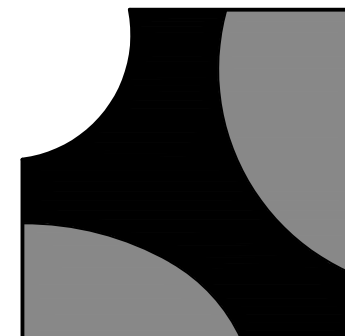
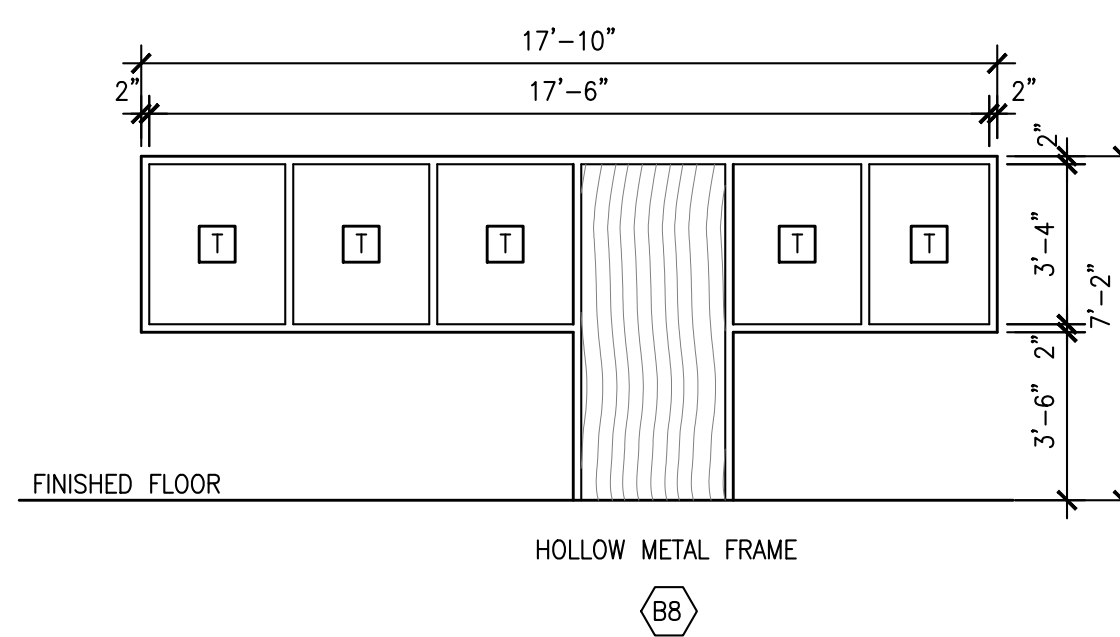
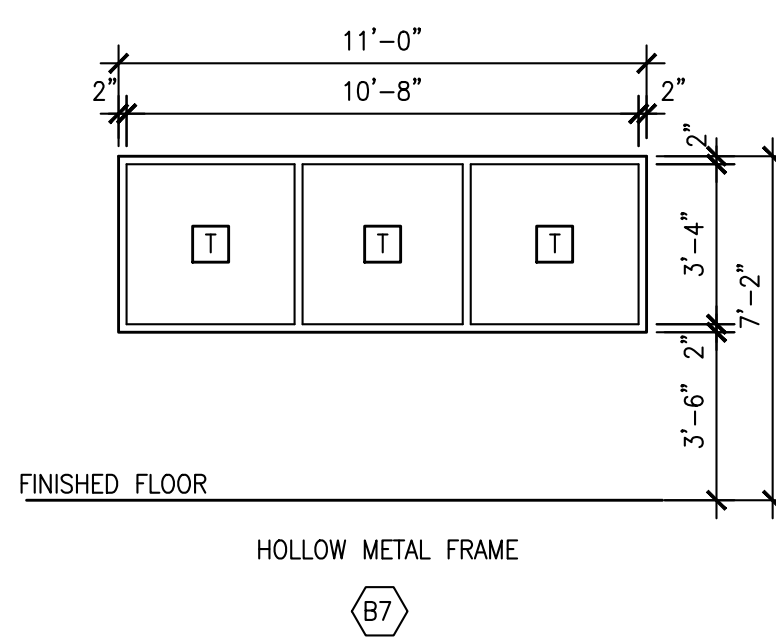
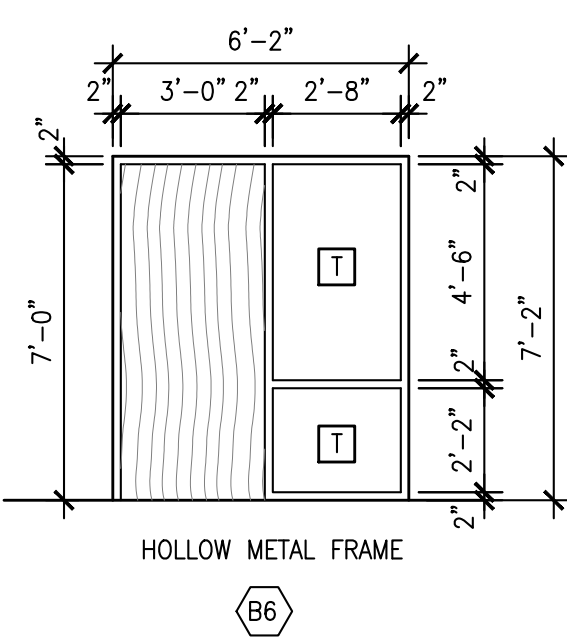
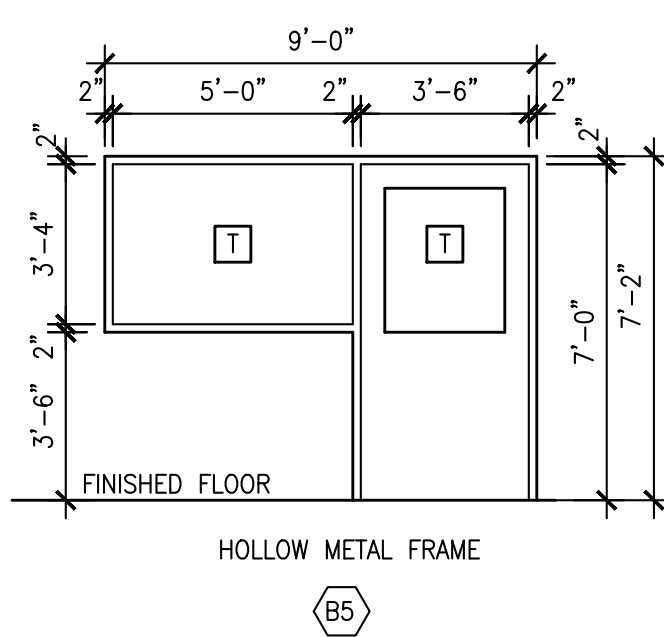
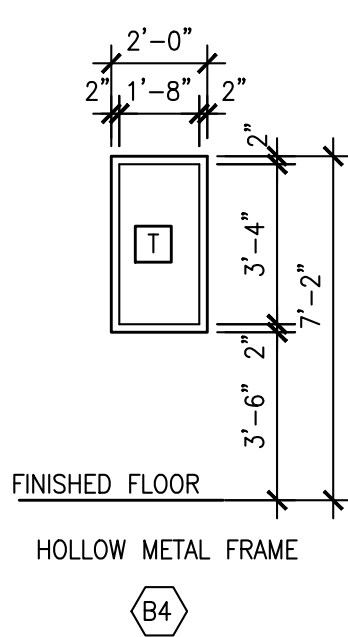
NOTES:

1. ALL LATCHING INTERIOR DOORS TO HAVE LEVER TYPE ADA APPROVED ACCEPTABLE HARDWARE UNLESS OTHERWISE NOTED
2. ALL HANDICAPPED ACCESSIBLE ROOM DOORS ARE REQUIRED TO HAVE A MINIMUM OF 12" CLEARANCE ON PUSH SIDE AND 18" CLEARANCE ON PULL SIDE.
3. VERIFY ALL HARDWARE WITH OWNER AND HARDWARE SUPPLIER PRIOR TO INSTALLATION.
ALL HARDWARE IS TO BE IN CONFORMANCE WITH IBC AND LOCAL FIRE DEPARTMENT
4. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT PER THE IBC.
5. CONTRACTOR TO INSPECT EXISTING DOORS THAT ARE TO REMAIN TO ASSURE THEY ARE IN GOOD CONDITION AND PROPER WORKING ORDER. EXISTING DOORS ARE TO BE REPAIRED OR RESTORED TO LIKE NEW CONDITION OR REPLACED AS NECESSARY.



5 BORROW LITE TYPES

A7 | A7 SCALE: 1/4" = 1'-0"



BAALMAN
ARCHITECTS

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Suite 200
St. Louis, Missouri 63021
Contact: David Pollmann, P.E., C.B.O.
Direct: 314-965-8032
Email: designstl@outlook.com

Building Tenant Renovation for:
**Barrett Station
Veterinary Clinic**
13840-13844 Manchester Road
Ballwin, Missouri 63011

R#	ISSUE	BID & PERMIT SET	ADDENDUM #1
1-16-2023			
1-26-2023			



Michael J. Baalman
ARCHITECT

PROJECT MANAGER: MJB
DRAWN BY: MJB

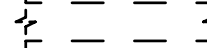
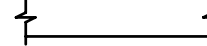


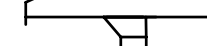
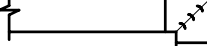
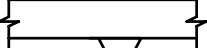
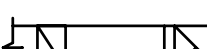
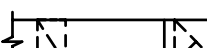
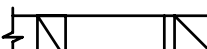
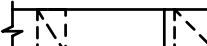















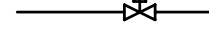

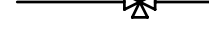



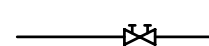

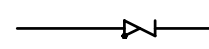

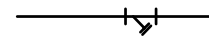

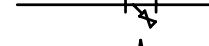


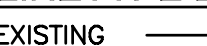

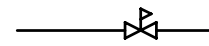
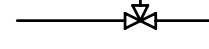
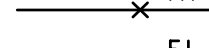



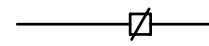
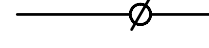
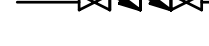

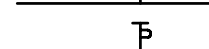
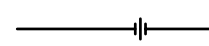
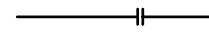


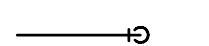
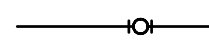
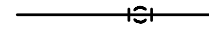
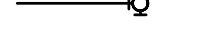

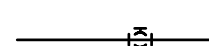
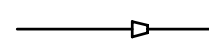
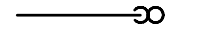
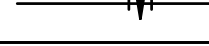


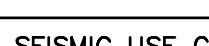



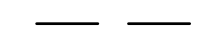
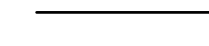
PROJECT NUMBER
20-097
DATE
January 16, 2023

SHEET
A7
DOORS,
BORROWLITE TYPES
& SCHEDULES

GENERAL NOTES:


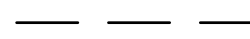


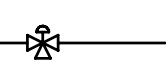
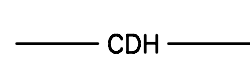
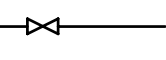
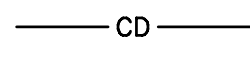
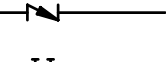


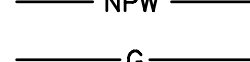
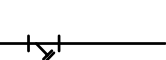
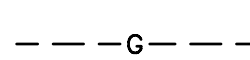
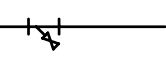

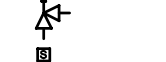
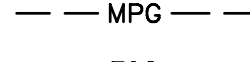

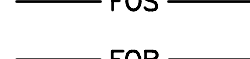
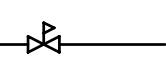

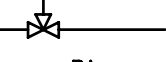
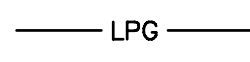
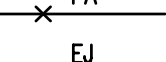


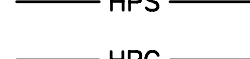
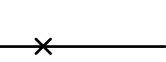

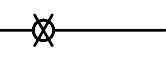
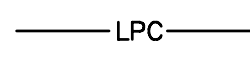

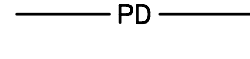

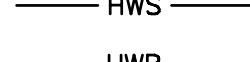

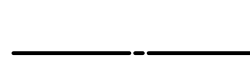

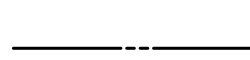
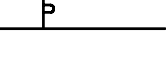
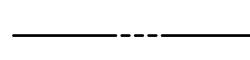
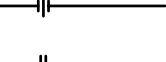

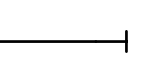

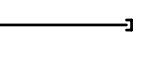


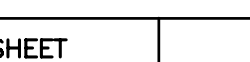
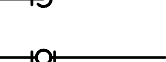
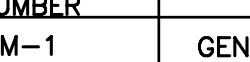
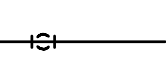


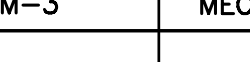


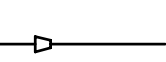




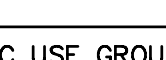




- A. MATERIALS, EQUIPMENT, AND SYSTEMS SHALL MEET ALL PERTINENT REQUIREMENTS OF THE UNDERWRITERS LABORATORY (UL), THE LOCAL MECHANICAL CODE, AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS (ASHRAE), SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA), AMERICAN GAS ASSOCIATION (AGA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND OTHER NATIONALLY RECOGNIZED AGENCIES AS WELL AS THE 2018 IMC OR LATEST ADOPTED CODE
- B. BIDDERS SHALL BE LICENSED CONTRACTORS IN ACCORDANCE WITH LOCAL AND STATE LAWS.
- C. BIDDERS SHALL THOROUGHLY ACQUAINT THEMSELVES WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THEY SHALL EXAMINE ALL SERVICES, EQUIPMENT, SURFACES, ETC., WHICH THIS WORK IS IN ANY WAY DEPENDENT UPON, AND BRING ANY DISCREPANCIES DETERMINED OR OMISSIONS FOUND IN THE DRAWINGS TO THE OWNER'S ATTENTION BEFORE SUBMITTING BID. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
- D. THE SYSTEMS SHOWN ON THE DRAWINGS SHALL BE PROVIDED TO SERVE ALL FIXTURES, EQUIPMENT, AND AREAS WITHIN THE CONTRACT LIMIT LINES AS SET FORTH BY THE ARCHITECTURAL SOLUTION FOR THE PROJECT. THE BIDDING AND CONTRACT REQUIREMENTS, ALL REQUIREMENTS, AND GENERAL PROVISIONS SHALL APPLY TO THIS SECTION. SYSTEMS SHALL INCLUDE ALL EQUIPMENT, APPURTENANCES, SAFETY DEVICES, AND CONTROLS NECESSARY FOR THE INTENDED SERVICE.
- E. ALL PERMITS AND FEES REQUIRED FOR THIS WORK SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR AND INCLUDED IN BID PRICE.
- F. ANYTHING DRAWN OR SPECIFIED ON THESE PLANS SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY LOCAL, MUNICIPAL OR STATE LAW, REGULATION OR ORDINANCE WHICH COVERS THE INSTALLATION OF ANY MECHANICAL OR RELATED WORK. WHERE ANY PORTION OF THE SYSTEMS IS NOT INSTALLED AS IN ACCORDANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS AND CODES, THIS CONTRACTOR SHALL MAKE ALL CHANGES REQUIRED BY THE ENFORCING AUTHORITIES IN A MANNER APPROVED BY THE OWNER AND WITHOUT ADDITIONAL COST TO THE OWNER.
- G. WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN PERMISSION OF THE OWNER.
- H. ALL EQUIPMENT SHALL BE NEW AND UNUSED, UNLESS NOTED OTHERWISE, ON. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS, EXCEPT WHERE THESE SPECIFICATIONS REQUIRE A HIGHER QUALITY INSTALLATION THAN RECOMMENDED BY MANUFACTURER.
- I. ALL INSTALLED SYSTEMS, DEVICES AND RELATED ITEMS SHALL BE TESTED IN PLACE ON SITE. REPLACE ANY AND ALL DEFECTIVE DEVICES, ITEMS OR SYSTEMS AT CONTRACTOR'S OWN EXPENSE BEFORE COMPLETION OF THE PROJECT.
- J. CONTRACTOR SHALL GUARANTEE ALL WORK FOR WHICH MATERIALS ARE FURNISHED, FABRICATED OR FIELD ERECTED, ALL FACTORY ASSEMBLED EQUIPMENT FOR WHICH NO SPECIFIC MANUFACTURER'S GUARANTEE IS FURNISHED, AND ALL WORK IN CONNECTION WITH INSTALLING MANUFACTURER'S GUARANTEED EQUIPMENT. THIS CONTRACTOR'S GUARANTEE SHALL EXIST FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL OWNER ACCEPTANCE OF THE WORK AND SHALL APPLY TO DEFECTS IN MATERIAL AND TO DEFECTIVE WORKMANSHIP OF ANY KIND. THIS INCLUDES ALL OWNER FURNISHED EQUIPMENT.
- K. CONTRACTOR SHALL REPLACE AT CONTRACTOR'S OWN EXPENSE ANY CONTRACTOR SUPPLIED MATERIALS, EQUIPMENT, AND RELATED ITEMS THAT FAIL OR ARE FOUND TO BE DEFECTIVE WITHIN THE GUARANTEE PERIOD.
- L. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS TO ALLOW FOR MECHANICAL INSTALLATIONS. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED IN PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED. COORDINATE THE CUTTING AND PATCHING OF BUILDING COMPONENTS TO ACCOMMODATE INSTALLATION OF MECHANICAL EQUIPMENT AND MATERIALS.
- M. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF MECHANICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING-IN THE BUILDING.
- N. COORDINATE MECHANICAL EQUIPMENT AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS. COORDINATE THE INSTALLATION OF MECHANICAL MATERIALS AND EQUIPMENT ABOVE CEILINGS WITH SUSPENSION SYSTEM, LIGHT FIXTURES, AND OTHER INSTALLATIONS.
- O. EQUIPMENT LOCATIONS, ROOF AND WALL OPENINGS ARE APPROXIMATE. VERIFY SIZE AND COORDINATE WITH G.C., EQUIPMENT SUPPLIER, AND OWNER. PROVIDE STEEL FRAMING AROUND ROOF OPENING(S) WHERE REQUIRED AND AROUND WALL OPENING(S) WHERE REQUIRED.
- P. DO NOT ENDANGER OR DAMAGE INSTALLED WORK THROUGH THE PROCESSES OF CUTTING AND PATCHING. ARRANGE FOR REPAIRS REQUIRED TO RESTORE OTHER WORK, BECAUSE OF DAMAGE CAUSED AS A RESULT OF MECHANICAL INSTALLATIONS.
- Q. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL MECHANICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
- R. INSTALL MECHANICAL EQUIPMENT TO FACILITATE MAINTENANCE AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
- S. FOR ALL AIR SYSTEMS ADJUST FANS, SUPPLY REGISTER DAMPERS, AND DUCT VOLUME DAMPERS AS NEEEDED TO BALANCE ALL DUCTWORK TO MATCH CFM LISTED.
- T. THE ENTIRE INSTALLATION, INCLUDING THE GAUGES OF DUCTWORK, SHALL BE IN STRICT COMPLIANCE WITH SMACNA STANDARDS, EXCEPT WHERE THESE SPECIFICATIONS REQUIRE A STRICTER INSTALLATION STANDARD. SYSTEM IS 1" PRESSURE CLASS. ALL DUCTS SHALL BE SEALED TO MEET SMACNA CLASS C REQUIREMENTS MINIMUM. SEALANT SHALL COMPLY WITH U.L. STANDARD 181.
- U. ALL SQUARE THROAT, 90 DEGREE MITERED DUCT ELBOWS SHALL HAVE DOUBLE WALLED TURNING VANES AT 2" SPACING THAT ARE EXTENDED IN THE DIRECTION OF AIRFLOW PER SMACNA. ALL DUCT TRANSITIONS SHALL BE SMOOTH (30 DEGREE TAPER MAXIMUM), NOT ABRUPT.
- V. ALL INTERIOR SUPPLY AND RETURN DUCTS SHALL BE INSULATED WITH AT LEAST 1" FIBERGLASS DUCT INSULATION R-6 MIN (EXCEPT WHERE LOCATED IN CONDITIONED SPACE). ALL DUCT COVERINGS, LININGS, TAPE, MASTICS AND VIBRATION ISOLATION CONNECTORS SHALL HAVE FIRE / SMOKE RATINGS LESS THAN 25/50. ALL SHALL CONFORM TO IMC, EXCEPT WHERE IN CONDITIONED SPACE.
- W. ALL DIFFUSERS AND GRILLES SHALL BE FACTORY FINISHED WHITE. ALL DIFFUSERS TO BE FIELD INSULATED.
- X. ALL MECHANICAL EQUIPMENT SHALL HAVE VIBRATION ISOLATORS, AS WELL AS FLEXIBLE DUCT CONNECTORS.
- Y. ALL DUCT DIMENSIONS LISTED ON PLANS ARE INSIDE CLEAR DIMENSIONS.
- Z. FLEXIBLE DUCTS SHALL NOT EXCEED 14' IN LENGTH, NOR SHALL THEY BE INSTALLED WHERE THEY MUST BE FLATTENED. FLEXIBLE DUCTS MUST BE FASTENED PER SMACNA STANDARDS. IF JOB CONDITIONS DO NOT PERMIT PROPER INSTALLATION OF FLEXIBLE DUCT, RIGID GALVANIZED STEEL DUCT WITH EQUAL FREE AREA SHALL BE USED INSTEAD. WRAP WITH 1" FIBERGLASS INSULATION R-6 MIN. FLEXIBLE DUCTS AND CONNECTORS SHALL BE TESTED IN ACCORDANCE WITH UL 181.
- AA. PROVIDE VOLUME DAMPERS AT EACH BRANCH OFF FROM A TRUNK DUCT TO A SUPPLY DIFFUSER.
- BB. ALL AIR HANDLERS, CONDENSERS, CONTROL DEVICES AND OTHER MECHANICAL APPARATUS SHALL BE CLEARLY MARKED FOR EASY IDENTIFICATION AND SAFETY. USE BLACK PLASTIC KELTIE NAME PLATE ENGRAVED WITH WHITE LETTERS 1/4" HIGH. PUNCHED TAPE IS MARKED IN RED INK.
- CC. MECHANICAL CONTRACTOR SHALL FURNISH RECORD SET OF DRAWINGS WITH ANY DEVIATIONS TO ARCHITECT.
- DD. CONTRACTOR TO MAINTAIN SERVICE CLEARANCE AROUND ALL HVAC EQUIPMENT PER MANUFACTURERS INSTALLATION GUIDELINES.
- EE. MECHANICAL CONTRACTOR TO SEAL ALL MECHANICALS PENETRATING THRU DRAFT STOPPING ABOVE CEILING, WHERE APPLICABLE.
- FF. SELF CONTAINED, FACTOR BUILT REFRIGERATION EQUIPMENT AND APPLIANCES SHALL BE LISTED AND LABELED, IN ACCORDANCE WITH UL 207,412,471 OR 1995, AND INSTALLED IN ACCORDANCE WITH THEIR LISTING AND THE MANUF. INSTRUCTIONS

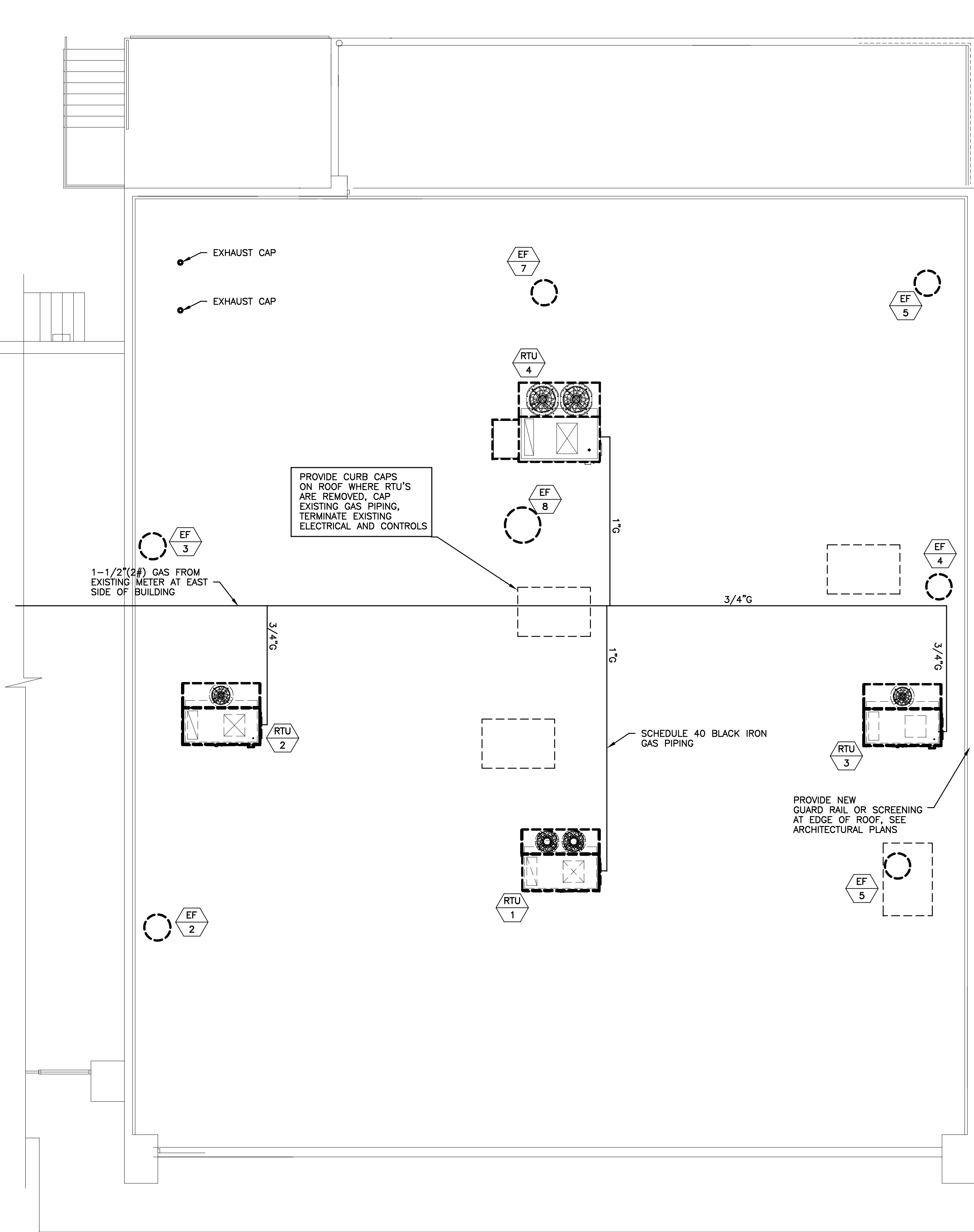
MECHANICAL AND PIPING SYMBOLS LEGEND

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.			
STANDARD MOUNTING HEIGHTS		HVAC DUCTWORK AND ACCESSORIES	
TERMOSTATS (USER ADJUSTABLE) (TOP OF DEVICE) CONTROLS (TOP OF DEVICE)	48" 48"	 DUCTWORK/EQUIPMENT TO BE REMOVED OR RELOCATED	
INSTALL DEVICES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS ARE AFF OR AFG TO BOTTOM OF DEVICE UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.		 EXISTING DUCTWORK/EQUIPMENT TO REMAIN	
		 LINEAR SLOT DIFFUSER	
		 INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG)	
		 BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER	
		 ELBOW WITH TURNING VANES	
		 BRANCH DUCT WITH BELL-MOUTH FITTING & MANUAL VOLUME CONTROL DAMPER	
		 EXHAUST, GREASE EXHAUST, OR SPECIAL EXHAUST AIR DUCT UP	
		 EXHAUST, GREASE EXHAUST, OR SPECIAL EXHAUST AIR DUCT DOWN	
		 RETURN AIR DUCT UP	
		 RETURN AIR DUCT DOWN	
		 SUPPLY AIR OR OUTSIDE AIR DUCT UP	
		 SUPPLY AIR OR OUTSIDE AIR DUCT DOWN	
		 EQUIPMENT WITH FLEXIBLE DUCT CONNECTION	
		 DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)	
		 RISER DESIGNATION	 VOLUME DAMPER
		 FIRE DAMPER	 MOTORIZED DAMPER
		 FIRE SMOKE DAMPER	 BACKDRAFT DAMPER
		 SMOKE DAMPER	 BYPASS DAMPER
ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. REFER TO DUCTWORK SPECIFICATIONS FOR DUCTWORK INSULATION AND LINER INFORMATION.			
HVAC CONTROL DEVICES		PIPING SYMBOLS	
 HUMIDISTAT		 DIRECTION OF FLOW	
 THERMOSTAT		 CONTROL VALVE	
 CARBON MONOXIDE SENSOR		 THREE-WAY CONTROL VALVE	
 CARBON DIOXIDE SENSOR		 SHUTOFF VALVE	
 DIFFERENTIAL PRESSURE SENSOR		 CHECK VALVE	
 FLOW SWITCH		 BALANCING VALVE WITH PRESSURE PORTS	
 HUMIDITY SENSOR		 TRIPLE DUTY VALVE WITH PRESSURE PORTS	
 PULL STATION		 STRAINER	
 STATIC PRESSURE		 STRAINER WITH BLOWOFF	
 TEMPERATURE SENSOR		 RELIEF/SAFETY VALVE	
		 SOLENOID VALVE	
		 PRESSURE REDUCING VALVE	
		 GAS PRESSURE REGULATOR	
		 THERMOSTATIC MIXING VALVE	
		 PIPE ANCHOR	
		 EXPANSION JOINT	
		 PIPE GUIDE	
		 PIPING SUPPORT	
		 F & T TRAP	
		 BUCKET TRAP	
		 THERMOSTATIC TRAP	
		 BACKFLOW PREVENTER	
		 PRESSURE GAUGE	
		 THERMOMETER	
		 PRESSURE AND TEMPERATURE TEST PLUG	
		 UNION	
		 FLANGE CONNECTION	
		 CLEANOUT	
		 CAP	
		 ELBOW UP	
		 ELBOW DOWN	
		 TEE UP	
		 TEE DOWN	
		 ELBOW UP WITH SHUT-OFF VALVE (SOV)	
		 ELBOW DOWN WITH SHUT-OFF VALVE (SOV)	
		 TEE UP WITH SHUT-OFF VALVE (SOV)	
		 TEE DOWN WITH SHUT-OFF VALVE (SOV)	
		 REDUCER	
		 P-TRAP	
		 GAS COCK	
LINETYPE LEGEND		PIPING LINETYPES	
EXISTING	NEW	 EXISTING PIPING TO BE REMOVED OR RELOCATED	
DEMOLISH	FUTURE	 EXISTING PIPING TO REMAIN	

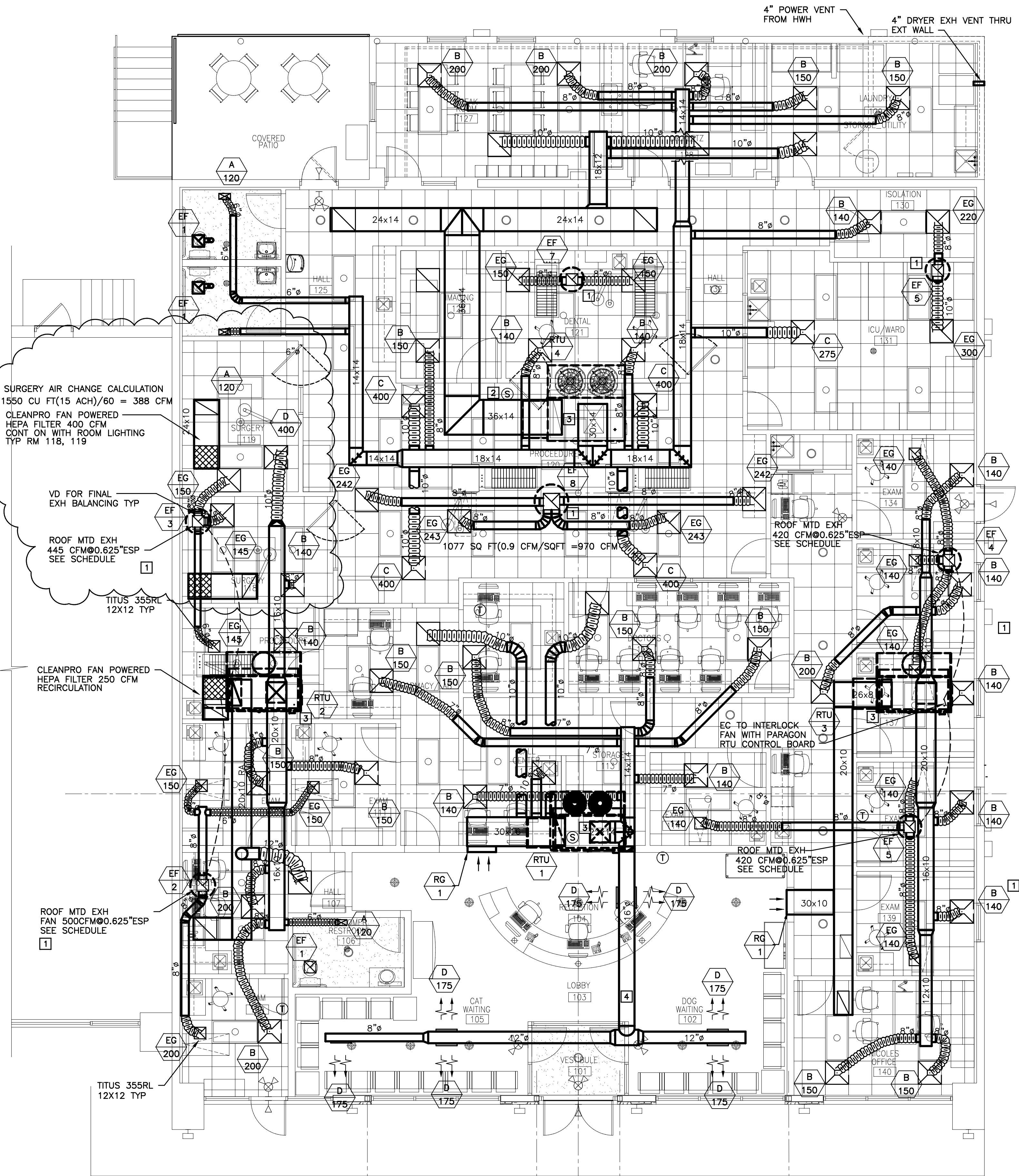
ENGINEERING NOTES:

1. UPON COMPLETION OF THE VENTILATION SYSTEM, CONDUCT A TEST UNDER THE PRESENCE AND DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT QUALIFIED TO OBSERVE SUCH A TEST. THE TEST SHALL SHOW COMPLIANCE WITH CODE REQUIREMENTS FOR VENTILATION AND PROPER FUNCTION OF ALL OPERATING DEVICES BEFORE THE SYSTEM IS APPROVE, AT A COST ESTABLISHED BY THE ENGINEER, AND ONLY WHEN REQUIRED BY THE ENGINEER OF RECORD.
2. THE LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT WHO OBSERVES THE TESTS SHALL FILE THE CERTIFICATE TO DEMONSTRATE THAT THE SYSTEM COMPLIES WITH APPLICABLE LAWS. THE TEST AND REPORT SHALL BE MADE IN A MANNER SATISFACTORY TO THE ENGINEER OF RECORD WHEN REQUIRED AS NOTED ABOVE.
3. A STATEMENT SHALL BE FILED BY THE OWNER THAT THE SYSTEM OF VENTILATION WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THIS BUILDING AS ORDERED IN THE APPLICABLE SECTION OF THE CODE, WHEN REQUIRED BY THE ENGINEER.
4. 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 4 SECTION 401 SHALL GOVERN THE VENTILATION OF SPACES WITHIN A BUILDING INTENDED TO BE OCCUPIED.
5. MECHANICAL VENTILATION BY A METHOD OF SUPPLY AIR AND RETURN OR EXHAUST AIR SHALL BE PROVIDED AS PER 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 4, SECTION 403. THE AMOUNT OF SUPPLY AIR SHALL BE APPROXIMATELY EQUAL TO THE AMOUNT OF RETURN AND EXHAUST AIR. THE SYSTEM SHALL NOT BE PROHIBITED FROM PRODUCING NEGATIVE OR POSITIVE PRESSURE. THE SYSTEM FOR CONVEY VENTILATION AIR SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 6.
6. MECHANICAL VENTILATION SYSTEMS SHALL BE PROVIDED WITH MANUAL OR AUTOMATIC CONTROLS AS PER 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 4 SECTION 405.
7. THE DESIGN, CONSTRUCTION, AND INSTALLATION OF MECHANICAL EXHAUST SYSTEMS, INCLUDING DUST, STOCK, AND REFUSE CONVEYOR SYSTEMS, EXHAUST SYSTEMS SERVING COMMERCIAL COOKING APPLIANCES, AND ENERGY RECOVERY VENTILATION SYSTEMS, SHALL BE AS PER 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 5 SECTION 501.
8. MECHANICAL AND PASSIVE SMOKE CONTROL SYSTEMS THAT ARE REQUIRED BY THE 2015 INTERNATIONAL MECHANICAL CODE SHALL BE INSTALLED IN ACCORDANCE WITH 2015 INTERNATIONAL MECHANICAL CODE SECTION 513.2. SPECIAL INSPECTION AND TEST REQUIREMENTS SHALL BE IN ACCORDANCE WITH 2015 INTERNATIONAL MECHANICAL CODE SECTION 513.3.
9. DUCT SYSTEMS USED FOR THE MOVEMENT OF AIR IN AIR-CONDITIONING, HEATING, VENTILATING AND EXHAUST SYSTEMS SHALL CONFORM TO THE PROVISIONS OF 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 6, SECTION 601.
10. DUCT AND AIR TRANSFER OPENINGS THAT PENETRATE FIRE RATED PARTITIONS SHALL COMPLY WITH ALL REQUIREMENTS LISTED UNDER THE 2015 INT BUILDING CODE SECTION IBC 716 AS APPLICABLE TO SYSTEM DESIGN.
11. ALL FIRE DAMPERS ARE TO BE OF TYPE APPROVED BY THE AHJ UL LISTINGS WHERE ENTERING OR LEAVING SHAFTS, FIRE DAMPERS SHALL BE EQUIVALENT TO 1-1/2 FIRE WALL RATING.
12. COMPLY WITH THE VENTILATION RULES OF THE DEPARTMENT OF PUBLIC WORKS AS ADOPTED

PIPING SYMBOLS		PIPING LINETYPES	
	DIRECTION OF FLOW		EXISTING PIPING TO BE REMOVED OR RELOCATED
	CONTROL VALVE		EXISTING PIPING TO REMAIN
	THREE-WAY CONTROL VALVE		CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH)
	SHUTOFF VALVE		CONDENSATE DRAIN (CD)
	CHECK VALVE		AUXILIARY CONDENSATE DRAIN (ACD)
	BALANCING VALVE WITH PRESSURE PORTS		NON POTABLE WATER (NPW)
	TRIPLE DUTY VALVE WITH PRESSURE PORTS		NATURAL GAS (G)
	STRAINER		NATURAL GAS ON ROOF (G)
	STRAINER WITH BLOWOFF		MEDIUM PRESSURE NATURAL GAS (MPG)
	RELIEF/SAFETY VALVE		MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
	SOLENOID VALVE		FUEL OIL SUPPLY (FOS)
	PRESSURE REDUCING VALVE		FUEL OIL RETURN (FOR)
	GAS PRESSURE REGULATOR		FUEL OIL VENT (FOV)
	THERMOSTATIC MIXING VALVE		LIQUIFIED PETROLEUM GAS (LPG)
	PIPE ANCHOR		BOILER FEED WATER (BFW)
	EXPANSION JOINT		HIGH PRESSURE STEAM SUPPLY (HPS)
	PIPE GUIDE		HIGH PRESSURE STEAM CONDENSATE (HPC)
	PIPING SUPPORT		LOW PRESSURE STEAM CONDENSATE (LPC)
	F & T TRAP		LOW PRESSURE STEAM SUPPLY (LPS)
	BUCKET TRAP		LOW PRESSURE STEAM CONDENSATE (LPC)
	THERMOSTATIC TRAP		CONDENSATE PUMP DISCHARGE (PD)
	BACKFLOW PREVENTER		HEATING HOT WATER SUPPLY (HWS)
	PRESSURE GAUGE		COLD WATER PIPING (CW)
	THERMOMETER		HOT WATER PIPING (HW)
	PRESSURE AND TEMPERATURE TEST PLUG		HOT WATER RETURN PIPING (HWR)
	UNION		SANITARY WASTE (SAN)
	FLANGE CONNECTION		SANITARY GREASE WASTE (GW)
	CLEANOUT		SANITARY VENT PIPING
	CAP		
	ELBOW UP		
	ELBOW DOWN		
	TEE UP		
	TEE DOWN		
	ELBOW UP WITH SHUT-OFF VALVE (SOV)		
	ELBOW DOWN WITH SHUT-OFF VALVE (SOV)		
	TEE UP WITH SHUT-OFF VALVE (SOV)		
	TEE DOWN WITH SHUT-OFF VALVE (SOV)		
	REDUCER		
	P-TRAP		
	GAS COCK		



1 MECHANICAL ROOF PLAN
SCALE: 3/16"=1'-0"



2 MECHANICAL PLAN
SCALE: 3/16"=1'-0"

KEYED NOTES:

- EXAM ROOM EXHAUST FAN, SPEED CONTROLLED, SEE EXHAUST FAN SCHEDULE SHEET M-3 FOR MINIMUM BALANCE POINT
- MC TO PROVIDE DUCT DETECTOR, EC TO PROVIDE FINAL INTERLOCK WIRING
- SEE CAPTIVE-AIRE SHEET 7&8, FOR WIRING SCHEMATICS FOR DOAS UNITS
- LINE SPIRAL DUCT WITH JOHNS MANVILLE SPIRACOUSTIC PLUS DUCT LINER, DUCT SIZE IS CLEAR INSIDE DIMENSION. INCREASE FOR LINER.

VENTILATION CALCULATIONS:

OFFICE AREA/LOBBY: 1225 SQ FT (0.06 CFM/SQ FT) + 15(5) = 148.5 CFM
PET AREAS 3322 SQ FT (0.18 CFM/SQ FT) + 25(7.5) = 785 CFM
2322 SQ FT (0.9 CFM/SQ FT) EXHAUST PER 403.3.1.1 = 2090.7
OFFICE AREA/BREAK 389 SQ FT (0.06 CFM/SQ FT) + 8(5) = 64 CFM

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New Veterinary Clinic for
Barrett Station Veterinary Clinic
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#	Date	Description
1	1-10-23	PERMIT
2	1-19-23	REVISED AND CLOUDED REVISION

Sheet Number	M-2
Project No.	11764
Drawn By	D POLLMANN
Checked By	D POLLMANN

RTU SCHEDULE																																				
FAN INFORMATION										ELECTRICAL INFORMATION						COOLING INFORMATION								REHEAT INFORMATION						GAS HEAT INFORMATION				NOTES		
FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLT	MCA	MOCP	OUTSIDE AIR		MIXED AIR		LEAVING AIR			CAPACITY		IEER	ISMRE	DISCHARGE		CAPACITY		MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTUs		OUTPUT BTUs	TEMP RISE
																DB	WB	DB	WB	DB	WB	DP	TOTAL	SENS.			DB	WB	DESIRED	MAX						
1	ZONE 1	1	CASRTU1-1.200-15-6T	CAPTIVEAIRE	15P-1	1491	609	2100	1404	0.625	2.00	3	208	35A	40A	86.2°F	79.2°F	78.2°F	67.7°F	54.3°F	54.3°F	54.4°F	84.0 MBH	53.0 MBH	19.5	9.2	70.0°F	60.4°F	36.3 MBH	56 MBH	29.0 LBS/HR	NATURAL	179759	145605	64°F	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
2	ZONE 2	1	CASRTU1-1.150-13-5T	CAPTIVEAIRE	13P-1	945	555	1500	1271	0.500	1.50	3	208	35.5A	40A	86.2°F	79.2°F	79.1°F	69.2°F	55.1°F	54.9°F	54.8°F	66.0 MBH	38.0 MBH	17.9	6.1	70.0°F	60.5°F	24.6 MBH	53 MBH	25.5 LBS/HR	NATURAL	129681	105042	64°F	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
3	ZONE 3	1	CASRTU1-1.150-13-5T	CAPTIVEAIRE	13P-1	645	555	1200	1260	0.500	1.00	3	208	33.9A	35A	86.2°F	79.2°F	80.2°F	70.7°F	53.1°F	52.9°F	52.8°F	66.0 MBH	34.2 MBH	17.9	6.1	70.0°F	60.5°F	22.4 MBH	53 MBH	28.9 LBS/HR	NATURAL	103744	84033	64°F	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
4	ZONE 4	1	CASRTU2-1.300-18-10T	CAPTIVEAIRE	18P-2	2448	952	3400	2127	0.750	5.00	3	208	76.4A	90A	86.2°F	79.2°F	78.1°F	67.5°F	54.2°F	54.2°F	54.3°F	135.5 MBH	85.8 MBH	18.6	4.3	70.0°F	60.4°F	59.1 MBH	96 MBH	45.8 LBS/HR	NATURAL	292854	237212	64°F	1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17
NOTES: 1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL 2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE 3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER 4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE 5. EC MOTOR CONDENSING FANS 6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE 7. SUCTION LINE ACCUMULATOR 8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER 9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT) 10. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP 11. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE 12. FULLY MODULATING HOT GAS REHEAT 13. 15 DEGREE LOW AMBIENT OPERATION 14. HAIL GUARD FOR CONDENSING COIL 15. 1" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-4.3 INSULATION MINIMUM 24GA EXTERIOR W/ 18GA BASE 16. DOWN DISCHARGE/DOWN RETURN 17. 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 20GA EXTERIOR W/ 14GA BASE																																				

AIR DEVICE SCHEDULE									
PLAN MARK	NECK	CFM	MODULE	CONSTRUCTION	FINISH	FRAME	NOTES:	MANUF/ MODEL	THROW
A	8"	100	24X24	STEEL	#26 WHITE	ACT	1,2	TITUS OMNI	4 WAY.
B	8"	200-250	24X24	STEEL			1,2	TITUS OMNI	4 WAY
C	10"	300-350	24X24	STEEL			1,2	TITUS OMNI	4 WAY
D	12"	400	24X24	STEEL			1,2	TITUS OMNI	4 WAY
NOTES: 1. PROVIDE ADJUSTIBLE LOCKING VOLUME DAMPER AT DUCT TAKEOFF 2. SUPPORT ALL GRILLES , SEE DETAILS ON ARCHITECTURAL AND MECHANICAL PLANS									

EXHAUST FAN SCHEDULE									
PLAN MARK	OUTLET	CFM	MODULE	CONSTRUCTION	FINISH	ELECT	NOTES:	MANUF/ MODEL	WEIGHT
EF-1	10"X4"	150	12X12	STEEL	WHITE	120/1/60	1,2	COOK GEMINI GN-164	11 LB
EF-2	N/A	500		ALUM	ALUM	120/1/60	1,2	COOK 101C15D	30 LB
EF-3	N/A	445		ALUM	ALUM	120/1/60	1,3	COOK 101C15D	30 LB
EF-4	N/A	420		ALUM	ALUM	120/1/60	1,3	COOK 101C15D	30 LB
EF-5	N/A	420		ALUM	ALUM	120/1/60	1,3	COOK 101C15D	30 LB
EF-6	N/A	520		ALUM	ALUM	120/1/60	1,3	COOK 101C15D	30 LB
EF-7	N/A	300		ALUM	ALUM	120/1/60	1,3	COOK 90C15DH	30 LB
EF-8	N/A	970		ALUM	ALUM	120/1/60	1,3	COOK 120C15DH	67 LB
NOTES: 1. PROVIDE BACKDRAFT DAMPER 2. SUPPORT ALL GRILLES , SEE DETAILS ON ARCHITECTURAL AND MECHANICAL PLANS 3. PROVIDE COOK RCG FAN CURB, FSC FAN SPEED CONTROLLER FOR EF-2 THRU EF-8 THE MC SHALL BALANCE EXH FANS ON SITE, AND ENSURE THE ROOM IS AT A NEUTRAL OR NEGATIVE PRESSURE AS NOTED, SET AND MARK ALL FAN CONTROLLERS AT BALANCE POINT.									

SHEETMETAL NOTES AND REQUIREMENTS:

ALL SHEETMETAL, DUCTWORK, AND ASSOCIATED LINER AND INSULATION SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED AND REFERENCED EDITIONS OF IMC, ASHRAE, AND SMACNA

DUCT STATIC PRESSURE CLASSIFICATIONS SHALL BE PER SMACNA STANDARDS, AND UNLESS OTHERWISE INDICATED THE DUCT SHALL BE CONSTRUCTED TO MAINTAIN THE FOLLOWING PRESSURE

TABLE 1 - DUCT STATIC PRESSURE CLASS				
SYSTEM TYPE	SA DUCT DOWNSTREAM OF UNIT	SA DUCT DOWNSTREAM EQUIPMENT	RA DUCT	EA DUCT
ROOFTOP UNITS	2"WC	1"WC	2"WC	
KITCHEN EXH DUCTS				2"WC
RESTROOM EXHAUST				1"WC
MAKEUP AIR UNITS	2"WC			

TABLE 2 - SMACNA METAL STANDARDS						
DUCT GAUGE AND ENFORCING FOR 1"WG (+/-) TDF						
NOMINAL DUCT DIMENSION	GAUGE OF METAL				JOINT CONSTRUCTION	REINFORCING
	60" JOINT (GAUGE)	48" JOINT (GAUGE)	30" JOINT (GAUGE)	24" JOINT (GAUGE)		
0"-12"	26	26	26	26	HEMMED "S" & DRIVE	NONE
13"-30"	26	26	26	26	TDF	NONE
31"-48"	24	24	24	26	TDF	NONE
49"-60"	22	22	24	24	TDF	NONE
61"-72"	22	22	22	22	TDF CNT-JNT	NONE
73"-96"	22	22	22	22	TDF CNT-JNT	NONE

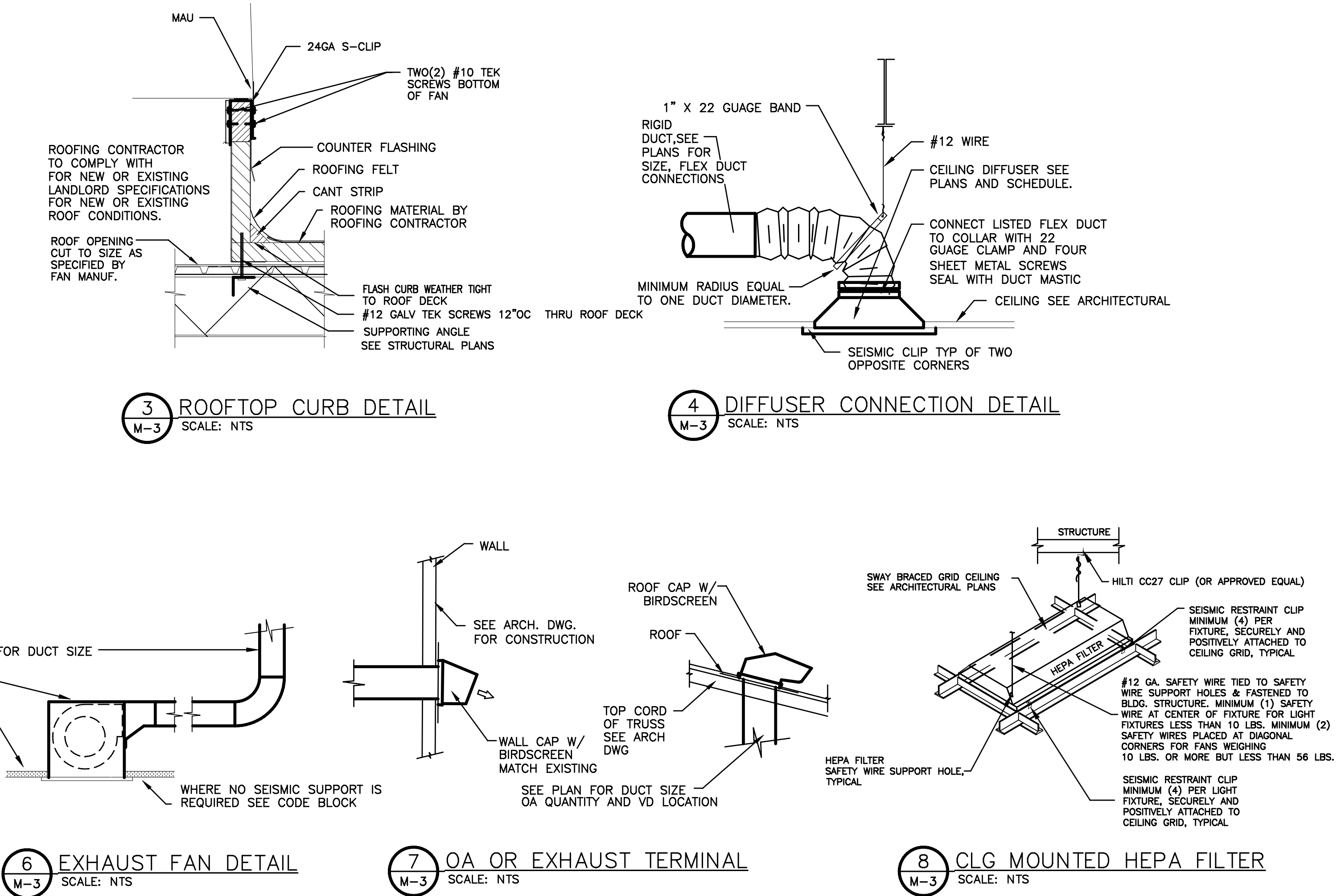
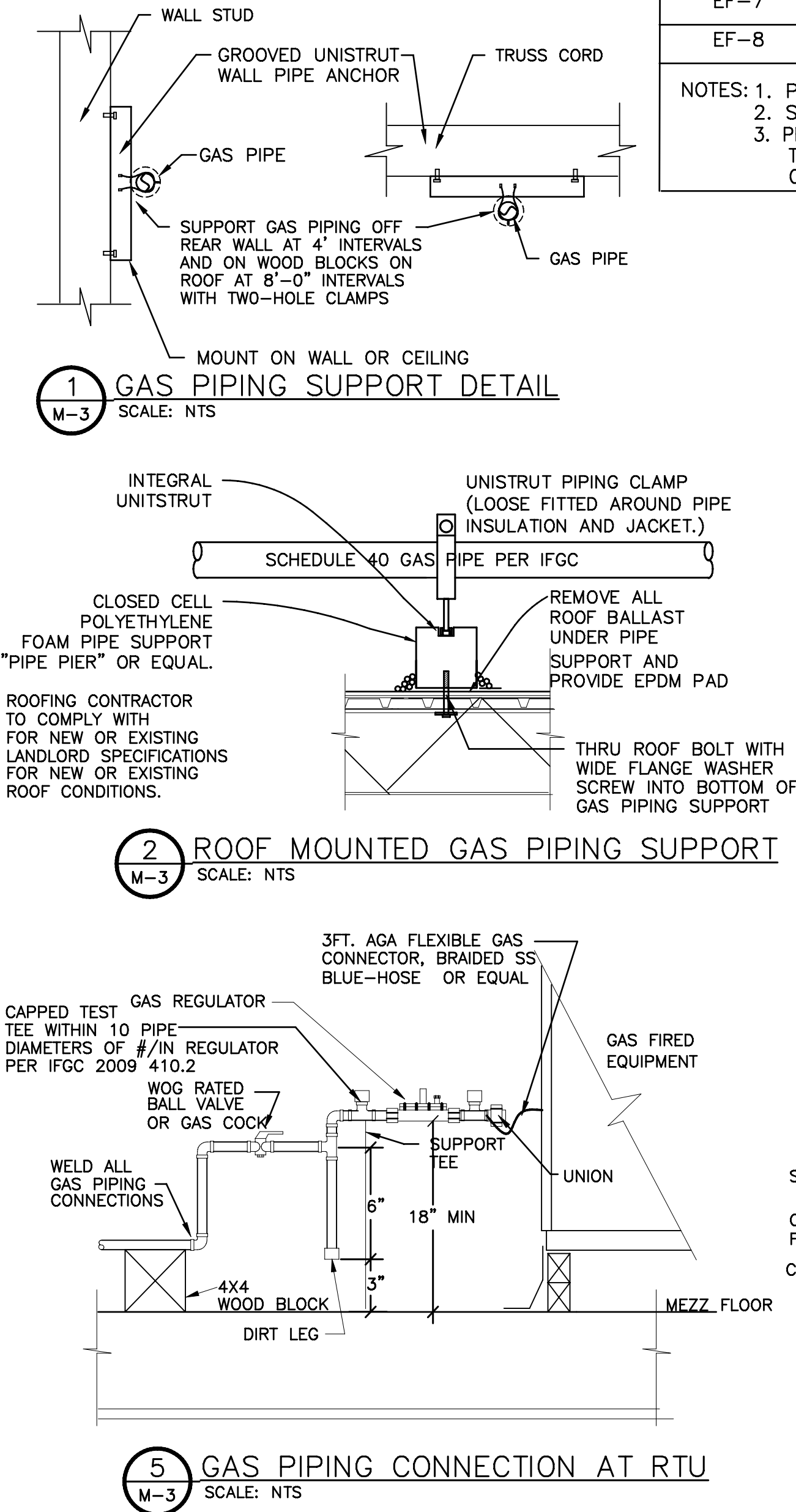
NOTES:

1. TDC DUCT CONSTRUCTION PER SMACNA STANDARDS - LATEST ADOPTED EDITION
2. DUCT FABRICATION USING PITTSBURG SEAMS
3. ALL DUCT STIFFENED BY MACHINE FORMED BEADS SPACED AT 12"OC MIN.
4. DUCTWORK TO BE SEALED PER SMACNA HVAC TABLE 1-2
5. TDC CNT-JNT CONDU-LOC@TDC CONNECTOR CENTER OF DUCT AND AT TDC CONNECTOR
6. HEAVY GAUGE METAL DUCT GAUGE IS HEAVIER AND SHALL BE ADJUSTED PER SMACNA STANDARDS

TABLE 3 - SMACNA METAL STANDARDS						
DUCT GAUGE AND ENFORCING FOR 2"WG (+/-) TDF						
NOMINAL DUCT DIMENSION	GAUGE OF METAL				JOINT CONSTRUCTION	REINFORCING
	60" JOINT (GAUGE)	48" JOINT (GAUGE)	30" JOINT (GAUGE)	24" JOINT (GAUGE)		
0"-12"	26	26	26	26	HEMMED "S" & DRIVE	NONE
13"-24"	26	26	26	26	TDF	NONE
25"-30"	24	24	26	26	TDF	NONE
31"-36"	22	24	24	24	TDF	NONE
37"-42"	20	24	24	24	TDF	NONE
43"-48"	20	22	22	22	TDF	NONE

NOTES:

1. TDC DUCT CONSTRUCTION PER SMACNA STANDARDS - LATEST ADOPTED EDITION
2. DUCT FABRICATION USING PITTSBURG SEAMS
3. ALL DUCT STIFFENED BY MACHINE FORMED BEADS SPACED AT 12"OC MIN.
4. DUCTWORK TO BE SEALED PER SMACNA HVAC TABLE 1-2
5. TDC CNT-JNT CONDU-LOC@TDC CONNECTOR CENTER OF DUCT AND AT TDC CONNECTOR
6. HEAVY GAUGE METAL DUCT GAUGE IS HEAVIER AND SHALL BE ADJUSTED PER SMACNA STANDARDS



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New Veterinary Clinic for

Barrett Station Veterinary Clinic

13840-13844 Manchester Road
Ballwin, Missouri 63011

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DAVID H. POLLMANN
NUMBER PE-026777
1-15-23

#	Date	Description
1	1-11-23	PERMIT

Sheet Number

M-3

Project No.	11634
Drawn By	D POLLMANN
Checked By	D POLLMANN

ELECTRICAL SYMBOLS LEGEND

WIRING DEVICE	DESCRIPTION	MOUNTING	COMMUNICATIONS	DESCRIPTION	MOUNTING
	RECEPTACLE OPTIONS DENOTED BY "X", WHERE "X" CAN BE ONE OF THE FOLLOWING: DG = DEDICATED GROUND GFI = GROUND FAULT INTERRUPTER TR = TAMPER RESISTANT SS = SURGE SUPPRESSOR WP = WEATHERPROOF (blank) = STANDARD RECEPTACLE		Ⓢ	DATA	18"
⊖x	SIMPLE RECEPTACLE, NORMAL POWER	18"	◀	TELEPHONE	18"
⊖x	DUPLEX RECEPTACLE, NORMAL POWER	18"	◀	VOICE/DATA OUTLET	18"
⊕x	FOURPLEX RECEPTACLE	18"	⏏	BUZZER	80"
⊙	FLOOR OUTLET BOX, POWER, VOICE AND/OR DATA		Ⓢ	CEILING MOUNTED SPEAKER WITH TYPE AND ZONE NUMBER INDICATED	
Ⓢ10-30R	SPECIAL PURPOSE RECEPTACLE, WITH NEMA CONFIGURATION NOTED	18"	Ⓢ	WALL MOUNTED SPEAKER WITH TYPE AND ZONE NUMBER INDICATED	
□	DISCONNECT SWITCH, NON-FUSED				
◻	DISCONNECT SWITCH, FUSED				
ⓈMS	MOTOR STARTER SWITCH WITHOUT OVERLOAD PROTECTION	54"			
ⓈMS	MOTOR STARTER SWITCH WITH OVERLOAD PROTECTION	54"			
EF-1	MAGNETIC MOTOR STARTER WITH EQUIPMENT NUMBER INDICATED				
EF-1	COMBINATION MOTOR STARTER AND FUSED DISCONNECT WITH EQUIPMENT NUMBER INDICATED				
■	208/120 VOLT PANELBOARD				
▨	480/277 VOLT PANELBOARD				
■	TERMINAL CABINET				
■	ANNUNCIATOR PANEL				
⊖	JUNCTION BOX, RECESSED WALL				
⊙	JUNCTION BOX, RECESSED CEILING				
⊖	LINE VOLTAGE THERMOSTAT	58"			
⏏	PUSHBUTTON	48"			
⏏	TIME CLOCK				
⏏	CONTACTOR				
ⓈDC	SECURITY DOOR CONTACTOR				
ⓈKP	SECURITY KEY PAD				
ⓈMD	SECURITY MOTION DETECTOR				
ⓈS	SECURITY SIREN				
Ⓢ	HOLDUP BUTTON				
Ⓢ	FAN MOTOR				

GENERAL ELECTRICAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE 2017 EDITION OF THE NATIONAL CODES, INCLUDING ORDINANCES TO SAID CODES.
ALL ITEMS SHALL BE UL LISTED
2. THE EC SHALL CAREFULLY EXAMINE ELECTRICAL PLANS, ARCHITECTURAL PLANS AND ALL DETAILS PERTAINING TO THE PROJECT AND HIS WORK, AND SHALL IDENTIFY THE SCOPE OF HIS WORK PRIOR TO BIDDING WORK SHOWN ON THESE OR ANY PROJECT PLANS. THE EC SHALL PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM WHICH HAS BEEN INSPECTED AND WHICH COMPLIES WITH ALL LOCAL CODES. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY TO VERIFY AVAILABILITY OF SERVICE REQUIRED FOR THE BUILDING, AND SHALL NOTIFY THE OWNER OF ANY SURCHARGES REQUIRED FOR SUCH SERVICE PRIOR TO BID DATE. OMISSIONS OR ERRORS SHALL BE CORRECTED BY THE EC AT HIS EXPENSE.
3. ALL GROUNDING SHALL BE IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE(LATEST EDITION). RECEPTACLES SHALL NOT BE MOUNTED BACK TO BACK. SEPARATION OF RECEPTACLES SHALL BE PER THE NEC. INSTALLATION OF RECEPTACLES IN WALLS WITH SHARED DEMISING PARTITIONS SHALL BE PROVIDED WITH FIRESTOPPING, AND SHALL MAINTAIN THE WALL RATINGS AS OUTLINED ON THE ARCHITECTURAL PLANS.
4. ALL PANELBOARDS SHALL BE FURNISHED AND INSTALLED WITH A CURRENT AND ACCURATELY TYPED SCHEDULE CARD LOCATED ON THE INSIDE FRONT COVER OF THE PANEL. EC IS RESPONSIBLE FOR FINAL BALANCING OF ALL ELECTRICAL LOADS.
5. REFERENCE MECHANICAL, PLUMBING, AND ARCHITECTURAL PLANS OR EQUIPMENT PLANS FOR EXACT LOCATION OF ALL EQUIPMENT AND FIXTURES WHICH REQUIRE POWER. THIS INCLUDES POWER CONTROL POWER FOR DAMPERS, SMOKE OR HEAT DETECTORS, PUMPS AND OTHER EQUIPMENT.
6. RECEPTACLES SHALL BE MOUNTED AS REQUIRED BY CODE. SWITCHES SHALL BE MOUNTED AT HEIGHTS REQUIRED BY CODE. THE CONTRACTOR SHALL MOUNT RECEPTACLES AND SWITCHES AS REQUIRED BY ADA. SWITCH, RECEPTACLE, DATA OR TELEPHONE BOXES SHALL NOT BE MOUNTED BACK-TO-BACK.
7. OVERCURRENT PROTECTION DEVICE SIZES AND TYPES FOR HVAC EQUIPMENT SHALL BE VERIFIED WITH THE MECHANICAL ENGINEER AND CONTRACTOR PRIOR TO PROVIDING SUCH. PROVIDE OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. PROVIDE DISCONNECTS, WP GFI CONVENIENCE RECEPTACLES, AND SMOKE DETECTION DEVICES FOR ALL EQUIPMENT AS REQUIRED BY CODE. SHUNT TRIP BREAKERS SHALL BE PROVIDED FOR ELECTRIC KITCHEN EQUIPMENT UNDER HOOD AND THE ELEVATOR.
8. ALL WIRING SHALL BE # 12 THHN/THWN COPPER ONLY. RUNS IN EXCESS OF 75 FEET SHALL BE # 10
9. THE EC SHALL INSTALL NEW RECEPTACLES WHERE SUCH RECEPTACLES ARE REQUIRED TO MEET CURRENT CODE REQUIREMENTS. THE EC SHALL VERIFY ALL LOCATIONS WITH THE
- TENANT PRIOR TO INSTALL.
10. THE EC SHALL LOCATE LIGHT SWITCHES PER THE ARCHITECTURAL PLANS, AND WHERE REQUIRED BY THE TENANT/OWNER.
11. THE EC IS RESPONSIBLE FOR INSTALLATION OF EMERGENCY LIGHTS AND EXIT SIGNS IN ACCORDANCE WITH THE ELECTRICAL AND ARCHITECTURAL PLANS. THE FINAL QUANTITY OF EMERGENCY LIGHTS/EXIT SIGNS IS THE RESPONSIBILITY OF THE EC, AND WILL DEPEND ON THE LIGHT FIXTURE(S) SELECTED. EXIT AND EGRESS PATHWAYS SHALL MAINTAIN A MINIMUM OF 1 FOOT-CANDLE AT THE FLOOR.
12. ALL DIMMING SWITCHES, OR DIMMING LIGHTS SHALL BE RATED FOR THE POWER CONNECTED TO THE CIRCUIT, BY SHALL NOT BE LESS THAN 2000 WATTS. SUFFICIENT CLEARANCE SHALL BE PROVIDED IN BOXES OR PANELS TO ALLOW DISSIPATION OF HEAT BUILD-UP.
13. THE EC SHALL REVIEW ARCHITECTURAL PLANS AND NOTE LOCATIONS OF ALL OFFICE EQUIPMENT, AND EQUIPMENT AS REQUESTED OR REQUIRED BY THE TENANT/OWNER AND SHALL PROVIDE POWER TO SAID EQUIPMENT. NEMA CONFIGURATIONS SHALL BE VERIFIED PRIOR TO BID.
14. ALL LIGHTING FIXTURES AND LAMPS SHALL STORED BY THE EC. THE EC SHALL BE RESPONSIBLE FOR SAFE STORAGE FOR THE DURATION OF THE PROJECT.
15. THE EC SHALL NOT INSTALL ELECTRICAL DISCONNECTS, JUNCTION BOXES OR ELECTRICAL ROUGH-INS FOR EQUIPMENT, OR LIGHTING PRIOR TO HIS FULL COORDINATION AND DISCUSSION WITH OTHER TRADES. INSTALLATION OF THESE ITEMS WHICH CONFLICTS WITH OTHER TRADES WILL SHALL BE CORRECTED BY THE EC AT HIS EXPENSE.
16. THE EC SHALL FURNISH AND INSTALL 120V SMOKE DETECTORS WITH BATTERY BACKUP, ON SAME CCT WITH LOCKING TYPE BREAKER.
17. USE OF MC AND HOSP GRADE MC IS ALLOWED. ALL CONDUIT SHALL BE INSTALLED PLUMB AND LEVEL, PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS, CEILINGS AND OTHER STRUCTURE. EMT CONDUIT MAY BE USED FOR PANEL FEEDERS. EMT MUST BE USED FOR ALL HOMERUNS TO PANELS. HWC SHALL BE USED FOR ALL APPLICATIONS WHERE EXPOSED TO WEATHER. SCHEDULE 40 PVC CONDUIT MAY BE USED UNDER SLABS OR BELOW GRADE, PROVIDE LONG SWEEP ELBOWS.

ELECTRICAL SPECIFICATIONS

GENERAL

REQUIREMENTS FOR THE CONDITIONS OF THE CONTRACT AND WORK INCLUDED HEREIN SHALL COMPLY WITH THE LATEST ADOPTED NEC. THE WORD "PROVIDE" SHALL HEREIN MEAN, THAT THE EC SHALL PROVIDE/FURNISH AND INSTALL COMPLETE.

FIELD CONDITIONS AND MEASUREMENTS

THE EC SHALL VISIT THE SITE PRIOR TO BID. THE EC SHALL FAMILIARIZE HIMSELF WITH ALL THE AVAILABLE INFORMATION CONCERNING THE NATURE OF THE PROJECT, EXCAVATIONS REQUIRED, AND FOR TRANSPORTATION, HANDLING AND STORAGE OF THE MATERIALS REQUIRED FOR THE PROJECT.

THE EC SHALL MAKE HIS OWN ESTIMATES OF THE FACILITIES NEEDED, AND ANY DIFFICULTIES IF ANY THAT AFFECT EXECUTION OF THE CONTRACT FOR ELECTRICAL WORK UNDER THIS PERMIT. IN NO EVENT WILL THE ENGINEER ASSUME LIABILITY FOR ANY INTERPRETATIONS, DEDUCTIONS, OR CONCLUSIONS DRAWN FROM HIS EXAMINATION AND SITE REVIEW. FAILURE OF THE CONTRACTOR TO AQUAINT HIMSELF WITH THE CONDITIONS FOR CONSTRUCTION AND/OR EXISTING CONDITIONS WILL NOT RELIEVE HIM OF THE RESPONSIBILITY FOR INCURSION OF THE COSTS RELATED TO COMPLETION OF THE WORK DETAILED IN THE PLAN AND SPECIFICATIONS.

THE ELECTRICAL CONTRACTOR SHALL VERIFY FIELD MEASUREMENTS, FIELD CONDITIONS FOR HIS WORK OR WORK OF HIS SUBCONTRACTOR(S) INCLUDING ANY LOW VOLTAGE WORK TO BE PERFORMED, OR COORDINATION WITH OTHER SUBCONTRACTOR PROVIDING EQUIPMENT THAT NEEDS CONNECTION, INTERLOCKING OR CONTROL WIRING

CLEANUP

THE ELECTRICAL CONTRACTOR SHALL HAVE ANY ELECTRICAL DEBRIS REMOVED AND CLEANED DAILY FROM THE PREMISES. ON COMPLETION OF THE ELECTRICAL WORK ALL ASSOCIATED DEBRIS AND LEFT OVER MATERIALS SHALL BE REMOVED FROM THE PREMISES

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN A CLEAN AND SAFE WORK ENVIRONMENT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED BY THE CONTRACTOR SHALL BE CLEANED AND READY FOR USE UPON COMPLETION OF THE WORK. ALL PANELS AND CIRCUIT BREAKERS CLEANED AND LABELED

GUARANTEE

THE ELECTRICAL CONTRACTOR SHALL GUARANTEE BY HIS ACCEPTANCE OF THE CONTRACT, THAT ALL WORK WILL BE FREE FROM ALL DEFECTS IN WORKMANSHIP AND/OR MATERIALS THAT ARE PROVIDED. FURTHER THAT FOR A PERIOD OF ONE YEAR, OR OTHERWISE SPECIFIED, FROM THE DATE OF APPROVAL BY THE AHJ. HE WILL, AT NO COST TO THE OWNER, REMEDY ANY DEFECTS WITHIN A REASONABLE AMOUNT OF TIME, TO BE ESTABLISHED BY THE OWNER. IN DEFAULT THEREOF, THE OWNER MAY ELECT TO HAVE WORK COMPLETED BY A THIRD PARTY ELECTRICAL CONTRACTOR AND ANY CHARGES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR ORIGINALLY PERFORMING THE WORK.

CODES:

ALL ELECTRICAL WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, AND ANY CODE REQUIREMENTS ESTABLISHED UNDER ADOPTING ORDINANCES.

A CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE FINAL REQUEST FOR PAYMENT, NO FINAL PAYMENTS WILL BE APPROVED WITHOUT RESULTS AND PROOF OF FINAL INSPECTION.

PAYMENT FOR ALL ELECTRICAL PERMITS, INSPECTION FEES OR OTHER REQUIRED FEES FOR PLAN REVISIONS, AS-BUILT DRAWINGS OR OTHER SUCH REQUIREMENTS SHALL BE PAID BY THE ELECTRICAL CONTRACTOR.

SHOP DRAWINGS:

IN GENERAL, SHOP DRAWINGS WILL BE APPROVED FOR TYPE AND MANUFACTURER, AND IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO FURNISH CORRECT QUANTITIES, TYPE, SIZE AND CAPACITY AS REQUIRED OR LISTED ON THE DRAWINGS, ON THE ARCHITECTURAL DRAWINGS OR IN ANY SPECIFICATIONS. THE APPROVAL OF SHOP DWGS BY THE ELECTRICAL ENGINEER OR ARCHITECT DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROVIDE APPROVED MATERIALS AS SPECIFIED, OR AS REQUIRED

SHOP DRAWINGS, GIVING ALL DETAILS, DIMENSIONS, CONSTRUCTION INFORMATION, PERFORMANCE CHARACTERISTICS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION IN CAD FORMAT, WITH PDF COPY.

WORK INCLUDED

THE WORK COVERED BY THIS SECTION SHALL CONSIST OF PROVIDING ALL MATERIALS, LABOR, EQUIPMENT, FIXTURES, AND SERVICES AS REQUIRED AND NECESSARY TO COMPLETE THE ELECTRICAL WORK IMPLIED OR NOTED ON THE ELECTRICAL DRAWINGS. WORK INCLUDED IN THIS SECTION INCLUDES ANY NEW ELECTRIC SERVICE, SECONDARY POWER, TRANSFORMERS, PANELS, BRANCH CIRCUITS, GROUNDING, LIGHTING FIXTURES, CONDUITS, EXCAVATION, BOXES, RACEWAYS, TELEPHONE WHERE REQUIRED, DATA WHERE REQUIRED, PULLING, PATCHING, PERMITS, FEES AND INSPECTIONS.

MISCELLANEOUS

THE OWNER, ENGINEER, OR KITCHEN EQUIPMENT CONTRACTOR SHALL HAVE THE RIGHT TO RELOCATE ANY ELECTRICAL CONNECTION WITHIN 10FT OF THE LOCATION AS SPECIFIED OR SHOWN ON THE DRAWINGS, WITHOUT ANY ADDITIONAL COST TO THE OWNER. ALL LOCATIONS SHALL BE COORDINATED AND VERIFIED BETWEEN THE CONTRACTOR AND GENERAL CONTRACTOR/OWNER BEFORE SETTING BOXES OR PULLING WIRE.

CONDUIT

IN GENERAL, UNLESS OTHERWISE NOTED, CONDUIT 2"DIA AND SMALLER SHALL BE THINWALL ELECTRIC METALLIC TUBING, TUBING SHALL BE COLD ROLLED STEEL, GALVANIZED WITH COATED INTERIOR.

PVC CONDUITS ARE TO BE USED UNDERGROUND. HEAVY WALL "RIGID" CONDUIT SHALL BE USED WHERE CONDUITS LEAVE THE SLAB OR EARTH.

INSTALL GROUND WIRE AND PULL TAPES IN CONDUITS

WIRE AND CABLE

BUILDING WIRE AND CABLE WITH 600V THWN INSULATION SHALL BE 98% CONDUCTIVITY COPPER, UNLESS OTHERWISE NOTED. THE MINIMUM CONDUCTOR SIZING FOR POWER AND LIGHTING SHALL BE PER THE FEEDER SCHEDULES SHOWN AND, WHERE NOT NOTED, SHALL BE SIZED IN ACCORDANCE WITH THE NEC. AND MOST STRINGENT REQUIREMENTS

OUTLET BOXES

OUTLET BOXES FOR WORK EXPOSED TO WEATHER, IN FLOORS OR OTHERWISE EXPOSED, SHALL BE THE CAST TYPE. OUTLET BOXES CONCEALED IN THE EARTH OR IN CONTACT WITH WATER SHALL BE PLASTIC AND WATERTIGHT. BOXES SHALL BE DESIGNED FOR THE TYPE OF CONDUIT THAT IS INSTALLED INTO THE BOX. CONDUIT FILL SHALL BE PER THE NEC. CONDUITS SHALL BE PROTECTED FROM PHYSICAL DAMAGE. EMPTY(SPARE) CONDUITS SHALL BE PROVIDED WITH PULL TAPE, AND SHALL BE SEALED WATER TIGHT. LABELING OF CONDUITS IS REQUIRED WITH CIRCUIT INFORMATION

ELECTRICAL SERVICE

THE ELECTRICAL SERVICE SHALL BE NEW WHERE NOTED, AND FULLY COORDINATED WITH THE CONTRACTOR AND UTILITY.

ELECTRICAL SERVICES, WHERE EXISTING, SHALL BE UPGRADED WHERE REQUIRED, CLEANED AND FULLY RELIABLE. THE CONTRACTOR SHALL COORDINATE ALL TRANSFORMER AND METER LOCATIONS WITH THE OWNER AND UTILITY COMPANY REPRESENTATIVES ON SITE PRIOR TO COMMENCEMENT OF WORK.

THIS CONTRACTOR SHALL OBTAIN APPROVAL FROM UTILITY COMPANY AND PAY ALL FEES ASSOCIATED WITH SERVICE ESTABLISHMENT. MOUNTING ALL SWITCHGEAR IN ACCORDANCE WITH UTILITY REQUIREMENTS.

GROUNDING SYSTEM

FURNISH AND INSTALL A GROUNDING SYSTEM INCLUDING ALL FITTINGS, CLAMPS, CONDUIT, AND WIRE OF THE PROPER SIZE TO MAKE GROUND CONNECTIONS BETWEEN ALL APPARATUS, NEUTRAL BUS, CONDUITS, ETC. ALL GROUNDING AND BONDING SHALL BE REQUIRED TO BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

PANELBOARDS

PANELBOARDS SHALL BE DEAD FRONT AND CONSIST OF CABINETS, INTERIORS, BUS, MAIN AND BRANCH CIRCUIT PROTECTIVE DEVICES, MAIN LUGS, AND ALL NECESSARY EQUIPMENT FOR A COMPLETE PANELBOARD. DETAILED CHARACTERISTICS SUCH AS NUMBER OF BRANCHES, FRAME AND AMP RATING, TRIP, BUS SIZE, MOUNTING TYPE OR VOLTAGE RATINGS, SHALL BE AS SHOWN ON THE DETAILS.

LOAD CENTER TYPE PANELBOARDS ARE NOT ACCEPTABLE

FUNISH AND INSTALL A TYPED INDEX IDENTIFYING THE PANELBOARD AND INDICATING THE CIRCUIT NUMBER WITH THE DESCRIPTION OR FUNCTION OF THE ASSOCIATED BRANCH CIRCUIT. INDEX SHALL BE MOUNTED OVER CLEAR PLASTIC PROTECTIVE COATING, AND SHALL BE CURRENT AND UPDATED PRIOR TO FINAL INSPECTION.

ALL PANELBOARDS SHALL BE NEMA 3R RATED WITH LOCABLE COVERS, WHERE REQUIRED. PROVIDE PANELBOARD KEYS TO THE OWNER. KEY ALL PANELS ALIKE.

ALL LUGS SHALL BE SOLDERLESS TYPE AND RATED AT A MINIMUM OF 75 DEGREES.

ALL PANELBOARDS SHALL INCLUDE AN EQUIPMENT GROUND BUS.

ALL PANELBOARDS SHALL HAVE ENGRAVED NAMEPLATES IDENTIFYING PANELBOARDS AS INDICATED BY OWNER. ALL PANELBOARD SWITCHES AND CIRCUIT BREAKERS SHALL BE LABELED.

ALL SPARE CIRCUITS SHALL BE LEFT IN THE OFF POSITION AND SO LABELED

THE FOLLOWING PANEL MANUFACTURERS ARE APPROVED FOR USE: SQUARE D, SIEMENS GE, EATON

TRANSFORMERS

ANY TRANSFORMERS, MOUNTING, PRIMARY AND SECONDARY CONDUITS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

SAFETY SWITCHES

SAFETY AND DISCONNECT SWITCHES SHALL BE PROVIDED, FUSED AND NON-FUSED, AS CALLED FOR ON THE DRAWING AND AS REQUIRED BY CODE. SWITCHES SHALL BE HEAVY DUTY, LOAD AND HORSEPOWER RATED. SWITCH ENCLOSURE(S) SHALL BE SUITABLE FOR THE APPLICATION.

FUSES

CARTRIDGE FUSES SHALL BE ONE TIME BUSSMANN FUSETRON, LOW PEAK, OR HI CAP FUSES SIZED ACCORDING TO THE LOAD OR AS INDICATED ON THE DRAWINGS

FURNISH AND INSTALL FUSES IN ALL SWITCHES REQUIRING SUCH, IN ADDITION FURNISH TO THE OWNER ONE SET OF EACH SIZE AND TYPE ON THE JOB, AS SPARES.

TELEPHONE/POS SYSTEMS

FURNISH AND INSTALL ALL WIRING FOR TELEPHONE AND POS SYSTEMS, PROVIDE SHIELDED CABLE FOR POS SYSTEMS AS REQUIRED. COORDINATE DEMARK LOCATIONS WITH VENDOR AND UTILITY AS REQUIRED. PULL SPARE POS COMMUNICATIONS WIRING WHERE REQUIRED BY THE VENDOR(S)

LIGHTING SYSTEMS, FIXTURES AND CONTROLS

THE CONTRACTOR SHALL PROVIDE FIXTURES, WHERE NOT OTHERWISE SPECIFIED AS BY THE OWNER. PROVIDE SWITCHES AND OR CONTROLS AS SHOWN ON THE DRAWINGS, AND WHERE NO CONTROL TYPE IS SPECIFIED, PROVIDE OWNER WITH A SUGGESTION AND RECOMMENDATION FOR CONTROL OF FIXTURES PROVIDED OR FURNISHED.

CLEAN ALL FIXTURES ONCE INSTALLED. RELAMP FIXTURES AS REQUIRED.

EXCAVATION AND BACKFILL

THIS CONTRACTOR SHALL DO ALL EXCAVATION REQUIRED TO INSTALL ELECTRICAL CONDUITS, POLE BASES, ETC. AS SHOWN ON THE PLANS OR WHERE REQUIRED TO ROUTE TO FIXTURES OR JUNCTION BOXES

ALL CONDUITS SHALL BE INSPECTED PRIOR TO COVER. ALL CONDUITS SHALL BE LABELED. AND PROVIDED WITH PULL TAPE.

THE BOTTOM OF ANY TRENCH OR EXCAVATION SHALL BE TAMPED HARD AND GRADED TO SECURE THE REQUIRED DEPTH. ROCK, WHERE ENCOUNTERED, SHALL BE REMOVED. TRENCHES SHALL BE BACKFILLED AND COMPACTED PRIOR TO FINAL COVER.

INCIDENTAL OVERTIME OR NIGHT WORK

THE COST FOR INCIDENTAL OVERTIME, NIGHT SHIFT WORK OR OTHER OVERTIME WORK FOR CHANGE-OVER OF SERVICES, SHALL BE ANTICIPATED AND INCLUDED BY THE CONTRACTOR. ANY WORK AS REQUIRED ON WEEKENDS OR AFTER NORMAL OPERATING HOURS SHALL BE INCLUDED BY THE CONTRACTOR ANY WORK EXCLUDED IN THE CONTRACTOR SHALL BE NOTED DIRECTLY IN THE CONTRACTOR FOR WORK AND RECOGNIZED BY THE GENERAL CONTRACTOR.

COORDINATION OF WORK

THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE UTILITY. SHALL PROVIDE UTILITY WITH APPLICATIONS, LOAD SHEETS, ESTIMATED DEMAND LOADS, TEMPORARY SERVICES REQUIRED WITH THE UTILITY. THE OWNER SHALL BE INFORMED OF ANY DELAYS, SERVICE CHANGE REQUIREMENTS. COORDINATE WITH UTILITY AND TELEPHONE COMPANY AS REQUIRED TO PROVIDE SERVICE TO THE BUILDING WITHOUT DELAY.

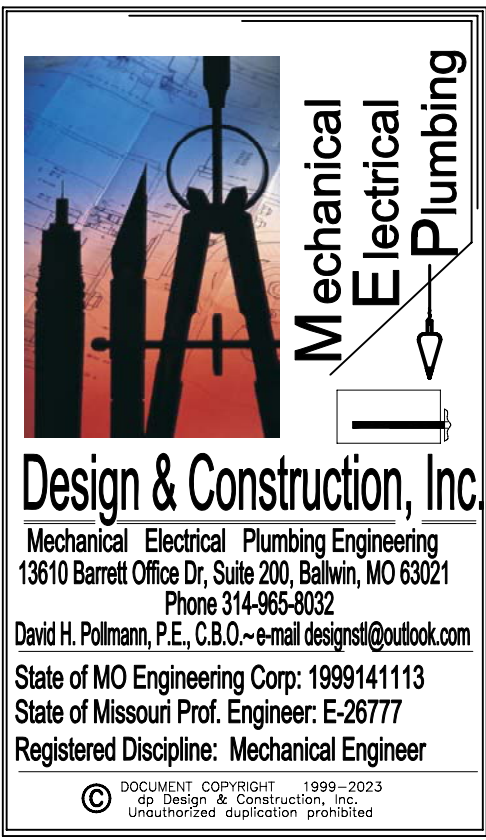
SEISMIC RESTRAINTS FOR EQUIPMENT AND FIXTURES

THE CONTRACTOR SHALL COMPLY WITH SEISMIC CODE REQUIREMENTS AS IMPOSED BY THE AUTHORITY HAVING JURISDICTION. PROVIDE ALL BRACING, ATTACHMENTS, FOR EQUIPMENT AND FIXTURES, HOLDDOWNS

INSTALLATION OF SWITCHGEAR IN FLOOD PLAINS

ANY SWITCHGEAR INSTALLED IN OR ON BUILDINGS, WITHIN A REGISTERED FLOOD PLAIN SHALL BE INSTALLED ABOVE THE FLOOD LINE AS ESTABLISHED BY THE CIVIL ENGINEER. THE BOTTOM OF ALL SWITCHGEAR SHALL BE INSTALLED A MINIMUM OF 12 INCHES ABOVE THE 100 YEAR FLOOD PLAIN, OR WHERE REQUIRED HIGHER AS SPECIFIED BY THE CIVIL ENGINEER OR UTILITY. ALL ELECTRICAL WORK SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION OF SWITCH GEAR IN A FLOOD PLAIN.

SHEET NUMBER		DRAWING INDEX					
E-1		ELECTRICAL NOTES, SYMBOL LEGEND AND GENERAL SPECIFICATIONS					
E-2		ELECTRICAL POWER PLANS					
E-3		ELECTRICAL LIGHTING PLANS					
<div>ANCHORAGE & SWAY BRACING FOR ELECTRICAL SYSTEM COMPONENTS</div> <div>THIS DOCUMENT IS BASED ON 3/14/11 ATTACHMENT "C" OF ST. LOUIS COUNTY SEISMIC RULES AND REGULATIONS</div> <div>ANCHORAGE-SWAY BRACING MEP SYSTEM COMPONENTS</div>							
SEISMIC USE GROUP (I)						SEISMIC DESIGN CATEGORY (D)	
EQUIPMENT AND SYSTEM COMPONENTS		TO ANCHORAGE FLOORS, ROOF WALLS, ETC		SWAY BRACING		LOCATION OF PROFESSIONALLY PREPARED ANCHORAGE & SWAY BRACING DETAILS	
						ON CONSTRUCTION DOCUMENTS	
						SUBSEQUENT SUBMITTALS	
						SEPERATE PERMIT & DRAWINGS	
BRANCH CIRCUIT PANELS		X		X		N/A WALL MOUNTED	
CONDUIT LARGER THAN 1"		X		X		11.	
LIGHT FIXTURES		X		X		SEE ARCHITECTURAL PLAN	
SINGLE HANGER CONDUIT SUPPORT		X		X		8.	
ELECTRICAL PANELBOARDS		X		X		POSITIVELY ATTACHED TO WALL	
NOTES: *1 OR WHOSE FAILURE COULD IMPAIR THEIR CONTINUED USE							
NOTES: 1. Table 500, exception 4. a. 2. Table 500, exception 4. b. 3. Table 500, exception 4. c. 4. Table 500, exception 4. d. 5. Table 500, exception 5. c. 6. Table 500, exception 5. b. 7. Table 500, piping and tubing systems exception 1. 8. Table 600, piping and tubing systems exception 2. 9. Table 600, piping and tubing systems exception 3a. 10. Table 600, piping and tubing systems exception 3b. 11. Table 600, piping and tubing systems exception 3c. 12. Table 600, piping and tubing systems exception 3d. 13. Table 600, HVAC ductwork exception a. 14. Table 600, HVAC ductwork exception b.							



Mechanical Electrical Plumbing

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Registered Discipline: Mechanical Engineering

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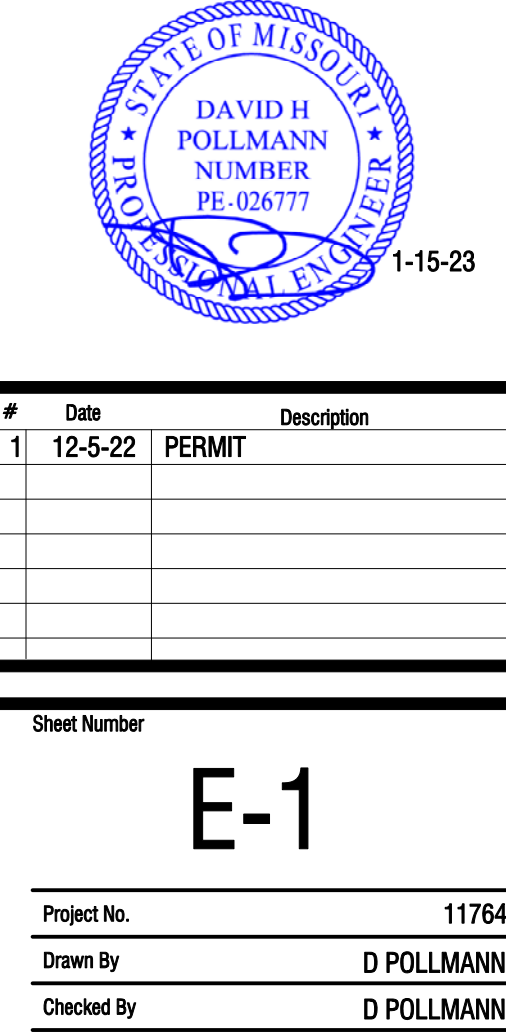
Barrett Station Veterinary Clinic

13840-13844 Manchester Road

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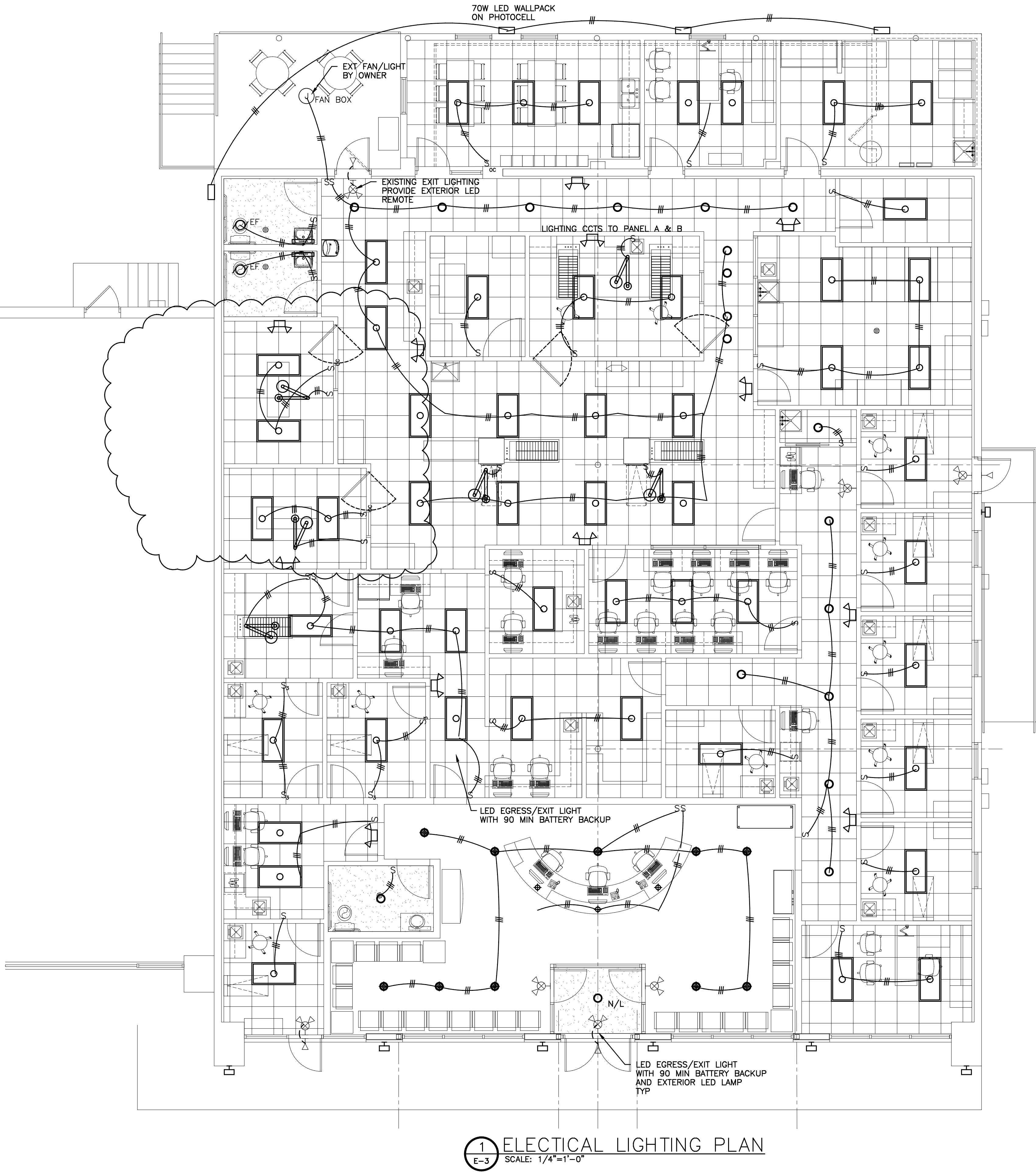
Sheet Number

E-1

Project No. 11764

Drawn By D POLLMANN

Checked By D POLLMANN



1
E-3
ELECTICAL LIGHTING PLAN
SCALE: 1/4"=1'-0"



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2	1-19-23	REVISED PLAN

Sheet Number

E-3

Project No.	11764
Drawn By	D POLLMANN
Checked By	D POLLMANN

GENERAL NOTES-PLUMBING

1. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS.
3. ALL PLUMBING SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING.
4. ALL WORK SHALL CONFORM TO THE 2015 UPC, IN CASE OF CONFLICTS WITH CODES, DRAWINGS, OR SPECIFICATIONS, THE MOST STRINGENT SHALL PREVAIL.
5. VENTS THRU ROOF SHALL BE INSTALLED 12'-0" FROM OR TERMINATED 3'-0" ABOVE ANY FRESH AIR INTAKES.
6. ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS OF EQUIPMENT, CABINETS, ETC., WITH THE ARCHITECT PRIOR TO ANY INSTALLATION.
7. THESE DRAWINGS ARE FOR BIDDING PURPOSES ONLY. THEY ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BONDS, UNIONS, SPECIFIC FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED.
8. DO NOT LOCATE ANY PIPING OVER ELECTRICAL PANELS
9. COORDINATE WITH SITE CIVIL DRAWINGS FOR THE EXACT LOCATION OF SEWER & WATER SERVICES TO THE BUILDING.
10. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN WITHIN 5 FEET OF THE FACE BUILDING EXCEPT WHERE NOTED.
11. A MINIMUM OF 50 PSI WATER PRESSURE IS REQUIRED IN THE BUILDING, DOWNSTREAM OF THE WATER METER AND RP BACKFLOW PREVENTOR. ALL BACKFLOW DEVICES SHALL BE TESTED AND APPROVED BY CCCDI
12. ALL SANITARY PIPING TO BE SCHEDULE 40 PVC, SEE ALSO NOTE 21
ALL INSULATION SHALL MEET 25/50 FLAME SPREAD SMOKE DEVELOPMENT
13. PLUMBING CONTRACTOR TO STOP WORK @ 5'-0" OUTSIDE OF BUILDING PERIMETER. SITE CIVIL DRAWINGS FOR FINAL CONNECTION.
14. PLUMBING CONTRACTOR TO VERIFY PIPE MATERIALS FOR PLUMBING SYSTEM PRIOR TO BIDDING & INSTALLATION. PVC SHALL NOT BE UTILIZED IN PLENUM AREAS. ALL PIPING, HANGERS, SUPPORTS AND FITTINGS LOCATED WITHIN THE PLENUM SHALL COMPLY WITH IMC602.2.1 2015 COORDINATE WITH KES AND ADJUST ROUTING OF PIPING IF NECESSARY.
15. PLUMBING CONTRACTOR SHALL COORDINATE SITE UTILITIES W/ ARCHITECT & CIVIL. PLUMBING CONTRACTOR SHALL COORDINATE EXACT LOCATION OF PLUMBING ROUGH-
16. PLUMBING CONTRACTOR SHALL INSTALL WATER PIPING ONLY IN AREAS WHICH ARE PROVIDED WITH SUFFICIENT HEAT TO PREVENT FREEZING.
17. ALL ABOVE GRADE WATER PIPING SHALL BE TYPE K COPPER. ALL PIPING SHALL BE PRESSURE TESTED
18. A RPZ SHALL BE INSTALLED ON ANY WATER LINES WITH CROSS CONNECTIONS AT ANY LOCATION WHERE CHEMICALS OR NONPOTABLE LIQUIDS ARE UTILIZED
19. ALL WORK SHALL BE IN COMPLIANCE WITH THE 2015 UPC(ST. LOUIS COUNTY) OR LATEST ADOPTED VERSION AS ADOPTED BY THE MUNICIPALICTY HAVING JURISDICTION
20. ALL DWV PIPING SHALL BE SCHEDULE 40 PVC UNLESS PROHIBITED
21. ALL DWV & WATER PIPING BEHIND OR WITHIN 18" OF KITCHEN HOODS OR EQUIPMENT SHALL BE NON-COMBUSTIBLE, I.E CAST IRON OR COPPER
22. WHERE THE PLUMBING PLAN DOES NOT INDICATE SPECIFIC ROUTING OR SPECIFIC MATERIALS TO BE UTILIZED, CODE STANDARDS SHALL BE USED
23. PLUMBING FIXTURES SHALL BE PROVIDED PER THE ATTACHED SCHEDULE AND WHEN OR IF A SPECIFIC FIXTURE IS NOT SCHEDULED, CONFIRM WITH THE OWNER/ARCHITECT PRIOR TO BID
24. PLUMBING CONTRACTOR SHALL VERIFY THROUGH EITHER SCOPING OR TRANSMITTER TRACE/LOCATE WHERE EXISTING PIPING IS BEING CONNECTED TO WHERE EXISTING PIPING EXISTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EITHER RETAINING A LOCATE CONTRACTOR OR SECURING THIS SERVICE WITH THE OWNER PRIOR TO BID

COUNTY SIESMIC CODE BLOCK									
ANCHORAGE & SWAY BRACING FOR PLUMBING SYSTEM COMPONENTS									
THIS DOCUMENT IS BASED ON 6-30-20 ATTACHMENT "A" OF ST. LOUIS COUNTY SEISMIC RULES AND REGULATIONS ANCHORAGE-SWAY BRACING MEP SYSTEM COMPONENTS									
SEISMIC USE GROUP (II)								SEISMIC DESIGN CATEGORY (D)	
EQUIPMENT AND SYSTEM COMPONENTS	TO ANCHORAGE FLOORS, ROOF WALLS, ETC		SWAY BRACING		LOCATION OF PROFESSIONALLY PREPARED ANCHORAGE & SWAY BRACING DETAILS				NOTES (N/A) - NOT APPLICABLE (E) - EXISTING NOT APPLICABLE (USC) - UNDER SEPERATE CONTRACT
					ON CONSTRUCTION DOCUMENTS		SUBSEQUENT SUBMITTALS		
	NOT PROVIDED	PROVIDED	NOT PROVIDED	PROVIDED	DETAIL NO.	SPEC.	SHOP	SEPERATE PERMIT &	
WASTE PIPING < OR = 3" DIA	X		X						2A
DOM WATER PIPING < OR = 2-1/2" DIA	X		X						2C
STORM WATER PIPING < OR = 3" DIA	X		X						2B
GAS PIPING	X		X						
HOT WATER HEATER		X	X						PROVIDE 2 - 1" BANDS TO FOUND WALL
NOTES: *1 OR WHOSE FAILURE COULD IMPAIR THEIR CONTINUED USE									
NOTES: 1. TABLE 4.4, ITEM 1, A, Lp=1.0, COMPONENT DOES NOT WEIGH MORE THAN 400LB AND FLEXIBLE CONNECTIONS ARE PROVIDED.									
2. TABLE 4.4, NOTE 2									
A. THE FOLLOWING SANITARY DRAIN, WASTE AND VENT PIPING:									
SCH 40 PVC, 6" OR LESS IN DIAMETER, SCH 80 PVC, 4" OR LESS IN DIAMETER, SERVICE WEIGHT OR NO-HUB CI 2" OR LESS IN DIA									
B. THE FOLLOWING STORM DRAIN PIPING:									
SCH 40 PVC & SCH 80 PVC, 3" OR LESS IN DIAMETER, SERVICE WEIGHT OR NO-HUB CI NOT APPLICABLE									
C. THE FOLLOWING DOMESTIC WATER PIPING:									
TYPE L & M COPPER 2-1/2" OR LESS IN DIAMETER, SCH 40 & 80 CPVC 3" OR LESS IN DIAMETER									
D. FLEXIBLE CONNECTIONS ARE NOT REQ'D FOR CONNECTIONS TO APPLIANCES OR PLUMBING FIXTURES PRIOR TO SUBMITTAL									
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO SUBMITTAL									
4. SEISMIC DETAILS ARE ATTACHED TO THE SET OF DRAWINGS									
5. TYPICAL SEISMIC ANCHORAGE OR SWAY BRACING IS PROVIDED ON THE DRAWINGS FOR REFERENCE ONLY. SHOP DRAWINGS ARE REQUIRED.									
PLUMBING FIXTURE SCHEDULE									
	PLUMBING FIXTURE DATA								
WC	WATER CLOSET "AMERICAN STANDARD" MODEL NO. CADET RIGHT HEIGHT TOILET WITH ELONGATED BOWL 5055A65C.020 PLASTIC SEAT WITH COVER								
LAV	LAVATORY AMERICAN STANDARD WALL MOUNTED ADA LAVATORY LUCERNE OR EQUAL MOEN CHATEAU 64922, WATTS LFUSG-B-M2 OATEY 760-1, 707-1 OVERFLOW AND P-TRAP, WATTS B1F12S BRAIDED SUPPLY KIT TRUBRO 102W, 102EZ TRAP COVER WITH ANGLE STOP COVERS WATTS TCA-411 CONCEALED ARM CARRIER								
FD	FLOOR DRAIN ZURN ZN415B BODY ASSEMBLY WITH TYPE B STRAINER AND TRAP PRIMER (NPT) CONNECTION.								
HWH	GAS HOT WATER HEATER STATE OR EQUAL GS6-75 PROLINE XE POWER VENT SERIES GAS HOT WATER HEATER WITH THERMAL EXPANSION TANK PROVIDE TACO 0012 HOT WATER RETURN PUMP, 1/8 HP WITH AQUASTAT								
PLUMBING NOTES: ALL TOILETS TO HAVE QUICK RELEASE HINGES, BATH FIXTURE FINISHES TO BE BRUSHED NICKEL, OR SATIN CHROME. WHEN SETTING TOILETS, CAULKING AT BASE IS NOT PERMITTED. PROVIDE FOLD-DOWN SEATS IN ADA RESTROOMS ONLY. CONTRACTOR TO PROVIDE FULL PLUMBING SUBMITTAL TO OWNER AND ARCHITECT FOR APPROVAL THESE FIXTURES SHALL SUPERCEDE FIXTURES NOTED IN OTHER SPECIFICATIONS									

PIPING INSULATION MATRIX		TYPE OF SERVICE											
TYPE OF MATERIAL	NOTES	HORIZONTAL STORM DRAINS											
		ROOF DRAIN BODY AND VERT. DROP TO HORIZ	PIPING IN UNHEATED BUILDING AREAS	DOMESTIC WATER PIPING-2-1/2" & LARGER	HW & HWV PIPING IN UNHEATED HOT WATER SYSTEM	DRAIN LINE FROM ENCL TO STACK							
1 INCH FIBERGLASS WITH ALL-SERVICE JACKET	PRE-FORMED FITTING COVERS	●			●								
1 INCH FIBERGLASS WITH ALL-SERVICE JACKET		●											
1-1/2" FIBERGLASS WITH A.S.J. (PIPE ELECTRICALLY TRACED PRIOR TO INSULATING)	PRE-FORMED FITTING COVERS		●										
1-1/2" FIBERGLASS WITH A.S.J. & 0.016 ALUMINUM JACKET, WEATHERPROOF (PIPE ELECTRICALLY TRACED PRIOR TO INSULATING)				●									
1/2 INCH THICK ELASTOMERIC CLOSED CELL INSULATION - ASTM E-84					●	●	●						

GENERAL CONDITIONS:
THE CONTRACTOR SHALL VERIFY THE EXISTING OR NEW CONDITIONS OF THE JOBSITE. BEFORE SUBMITTAL OF ANY PROPOSALS FOR WORK THE CONTRACTOR SHALL EXAMINE PLANS AND DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE ARCHITECTURAL PLANS, CIVIL PLANS, PLUMBING PLANS AND ALL AS-BUILT DRAWINGS AS NECESSARY. IT IS TO BE UNDERSTOOD THAT THE CONTRACTORS PROPOSAL IS BASED ON REVIEW OF ALL THE ABOVE DOCUMENTS AND THAT HIS WORK COVER ALL NECESSARY LABOR AND MATERIAL TO COMPLETE THE PROJECT.

NO DEVIATION FROM THE PLANS AND SPECIFICATIONS SHALL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD OR THE ARCHITECT (IF REQUIRED). THE CONTRACTOR SHALL INSURE THAT ALL WORK CONFORMS WITH THE LATEST ADOPTED PLUMBING CODE, AND STATE OR FEDERAL CODES OR STANDARDS. THE CONTRACTOR SHALL LEAVE ALL WORK OPEN FOR INSPECTION BY THE AUTHORITY HAVING JURISDICTION AND SHALL FITTING HIS WORK IN PLACE WITHOUT CONFLICT FROM OTHER TRADES, WHERE THE WORK ALLOWS FOR INSTALLATION OF OTHER TRADE WORK IN THE SAME SPACE IF REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PLANNING AND PROJECT MANAGEMENT. THE DRAWINGS ARE DIAGRAMMATIC AND WILL REQUIRE FIELD CONDITIONS TO BE INCORPORATED INTO ALL FINAL ROUTING.

NOTHING IN THESE DRAWINGS OR SPECIFICATIONS SHALL CONFLICT WITH ANY CODE, ORDINANCE, UNDERWRITERS REQUIREMENTS, OR OTHER STANDARDS WHICH GOVERN INSTALLATION OF PLUMBING DRAIN WASTE, VENT, OR OTHER PIPING. SHOULD ANY CONFLICT ARISE, THE WORK SHALL BE INSTALLED IN STRICT COMPLIANCE WITH LAWS, CODES, OR ORDINANCES AS REQUIRED. THIS CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS PRIOR TO INSTALLING ANY PLUMBING PIPING, AND SHALL MAINTAIN THE REQUIRED APPROVED ENGINEERING PLANS ON SITE. THE CONTRACTOR SHALL NOT PROCEED UNTIL ALL INSPECTIONS HAVE BEEN MADE AND DULY NOTED.

THE INFORMATION GIVEN WITHIN THE ATTACHED DRAWINGS IS EXACT AND DETAILED AS POSSIBLE, ITS COMPLETE ACCURACY IS NOT GUARANTEED, AND THIS CONTRACTOR SHALL FIELD VERIFY BY SIGHT, TRANSMITTER TRACE, OR EMPLOY OTHER TRACING/INSPECTION MEANS AS IS REQUIRED TO DETERMINE ACCURACY. THEREFORE, THE CONTRACTOR SHALL PROVIDE ADDITIONAL FITTINGS, OFFSETS, RISES, DROPS, AND OTHER FITTINGS AS REQUIRED TO PERFORM HIS WORK WITHOUT ADDITIONAL COST TO THE PROJECT OR PROJECT TEAM.

THE DRAWINGS SHALL NOT BE SCALED. THE EXACT BUILDING DIMENSIONS AND SCALED DRAWINGS WILL BE ISSUED BY THE ARCHITECT, AND FIELD VERIFIED.

SHOP DRAWINGS:
SHOP AND INSTALLATION DRAWINGS, EQUIPMENT SPECIFICATIONS, EQUIPMENT DRAWINGS AND OTHER DETAILS SHALL BE PROVIDED WHERE REQUESTED OR REQUIRED BY THE ARCHITECT OR ENGINEER. THESE DRAWING SHALL BE CLEARLY MARKED INDICATING WHICH ITEMS ARE TO BE SUPPLIED, AND SHALL STATE CAPACITIES, SIZES, COLOR, GENERAL DESCRIPTION AND SHALL NOTE IF ANY CHANGES HAVE BEEN MADE TO WHAT HAS BEEN SPECIFIED, AND WHY SUCH SUBSTITUTION HAS BEEN MADE.

ALL SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE CONTRACTOR OR THE CONTRACTORS VENDOR IN A TIMELY MANNER, AND SHALL BE PROVIDED IN DIGITAL FORMAT, AND PRINTED FORMAT WHERE REQUIRED.

PROCESSING OF THE SHOP SUBMITTALS BY THE ARCHITECT DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND/OR OMISSIONS.

PIPING SYMBOLS LEGEND

PIPING SYMBOLS		PIPING LINETYPES	
	DIRECTION OF FLOW	— — —	EXISTING PIPING TO BE REMOVED OR RELOCATED
	CONTROL VALVE	— — — — —	EXISTING PIPING TO REMAIN
	THREE-WAY CONTROL VALVE	— — — CDH — — —	CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH)
	SHUTOFF VALVE	— — — CD — — —	CONDENSATE DRAIN (CD)
	CHECK VALVE	— — — ACD — — —	AUXILIARY CONDENSATE DRAIN (ACD)
	BALANCING VALVE WITH PRESSURE PORTS	— — — NPW — — —	NON POTABLE WATER (NPW)
	TRIPLE DUTY VALVE WITH PRESSURE PORTS	— — — G — — —	NATURAL GAS (G)
	STRAINER	- - - G - - -	NATURAL GAS ON ROOF (G)
	STRAINER WITH BLOWOFF	— — — MPG — — —	MEDIUM PRESSURE NATURAL GAS (MPG)
	RELIEF/SAFETY VALVE	— — — MPG — — —	MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
	SOLENOID VALVE	— — — FOS — — —	FUEL OIL SUPPLY (FOS)
	PRESSURE REDUCING VALVE	— — — FOR — — —	FUEL OIL RETURN (FOR)
	GAS PRESSURE REGULATOR	— — — FOV — — —	FUEL OIL VENT (FOV)
	THERMOSTATIC MIXING VALVE	— — — LPG — — —	LIQUIFIED PETROLEUM GAS (LPG)
	PIPE ANCHOR	— — — BFW — — —	BOILER FEED WATER (BFW)
	EXPANSION JOINT	— — — HPS — — —	HIGH PRESSURE STEAM SUPPLY (HPS)
	PIPE GUIDE	— — — HPC — — —	HIGH PRESSURE STEAM CONDENSATE (HPC)
	PIPING SUPPORT	— — — LPS — — —	LOW PRESSURE STEAM SUPPLY (LPS)
	F & T TRAP	— — — LPC — — —	LOW PRESSURE STEAM CONDENSATE (LPC)
	BUCKET TRAP	— — — PD — — —	LOW PRESSURE STEAM CONDENSATE (LPC)
	THERMOSTATIC TRAP	— — — HWS — — —	CONDENSATE PUMP DISCHARGE (PD)
	BACKFLOW PREVENTER	— — — HWR — — —	HEATING HOT WATER SUPPLY (HWS)
	PRESSURE GAUGE	— — — — —	COLD WATER PIPING (CW)
	THERMOMETER	— — — — —	HOT WATER PIPING (HW)
	PRESSURE AND TEMPERATURE TEST PLUG	— — — — —	HOT WATER RETURN PIPING (HWR)
	UNION	— — — SAN — — —	SANITARY WASTE (SAN)
	FLANGE CONNECTION	— — — GW — — —	SANITARY GREASE WASTE (GW)
	CLEANOUT	— — — — —	SANITARY VENT PIPING
	CAP		
	ELBOW UP		
	ELBOW DOWN		
	TEE UP		
	TEE DOWN		
	ELBOW UP WITH SHUT-OFF VALVE (SOV)		
	ELBOW DOWN WITH SHUT-OFF VALVE (SOV)		
	TEE UP WITH SHUT-OFF VALVE (SOV)		
	TEE DOWN WITH SHUT-OFF VALVE (SOV)		
	REDUCER		
	P-TRAP		
	GAS COCK		

PIPING MATERIALS MATRIX		TYPE OF SERVICE											
TYPE OF MATERIAL	NOTES	BURIED BUILDINGS SANITARY & VENT											
		ABOVE GRADE SANITARY & VENT	DOMESTIC WATER > 2" (Schedule 80)	SAN. VENT & STORM IN BLDG.	DOMESTIC WATER LESS THAN 2"								
COPPER PIPE - HARD DRAWN TYPE "M" ASTM B88			●	●									
COPPER PIPE - SOFT DRAWN TYPE "K" ASTM B88 OR UPONOR F1960 PEX				●									
SCHEDULE 40 SOLID WALL PVC with SOLVENT CEMENTED DRAINAGE PATTERN FITTINGS ASTM D-2665		●	●										
STANDARD WEIGHT NO-HUB CAST IRON ASTM-B88 with Std Duty TYPE 304 STAINLESS STEEL COUPLINGS				●									
UPONOR PEX-a DISTRIBUTION SYSTEM: ASTM F 876, TUBING WITH ASTM F 1960 EP FITTINGS				●	●								
CPVC TUBING SYSTEM: ASTM D 2846/D 2846M, SDR 11			●										

GENERAL PIPING SIZING SCHEDULE

FIXTURE	WASTE	VENT	COLD WATER	HOT WATER	NOTES
WATER CLOSETS (FLUSH VALVE)	4"	2"	1"		PROVIDE FLUSH VALVE
WATER CLOSETS (TANK TYPE)	4"	2"	1 1/2"		PROVIDE 1/4 TURN STOP
URINALS	2"	2"	3/4"		PROVIDE FLUSH VALVE
SINKS(HAND, KITCHEN, BREAKROOM)	2"	2"	1/2"	1/2"	PROVIDE 1/4 TURN STOP
MOP BASINS	3"	2"	1/2"	1/2"	PROVIDE MOP FAUCET
LAVATORIES	1 1/2"	1 1/2"	1/2"	1/2"	PROVIDE 1/4 TURN STOP
WASHING MACHINE BOXES	2"	2"	1/2"		PROVIDE AIR ARRESTOR STOP VALVES

NOTES: PROVIDE FIXTURE SUBMITTALS TO OWNER AND ARCHITECT FOR APPROVAL
PIPE HANGER SPACING SHALL BE PER IPC 2015 308.5

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Registered Discipline: Mechanical Engineer

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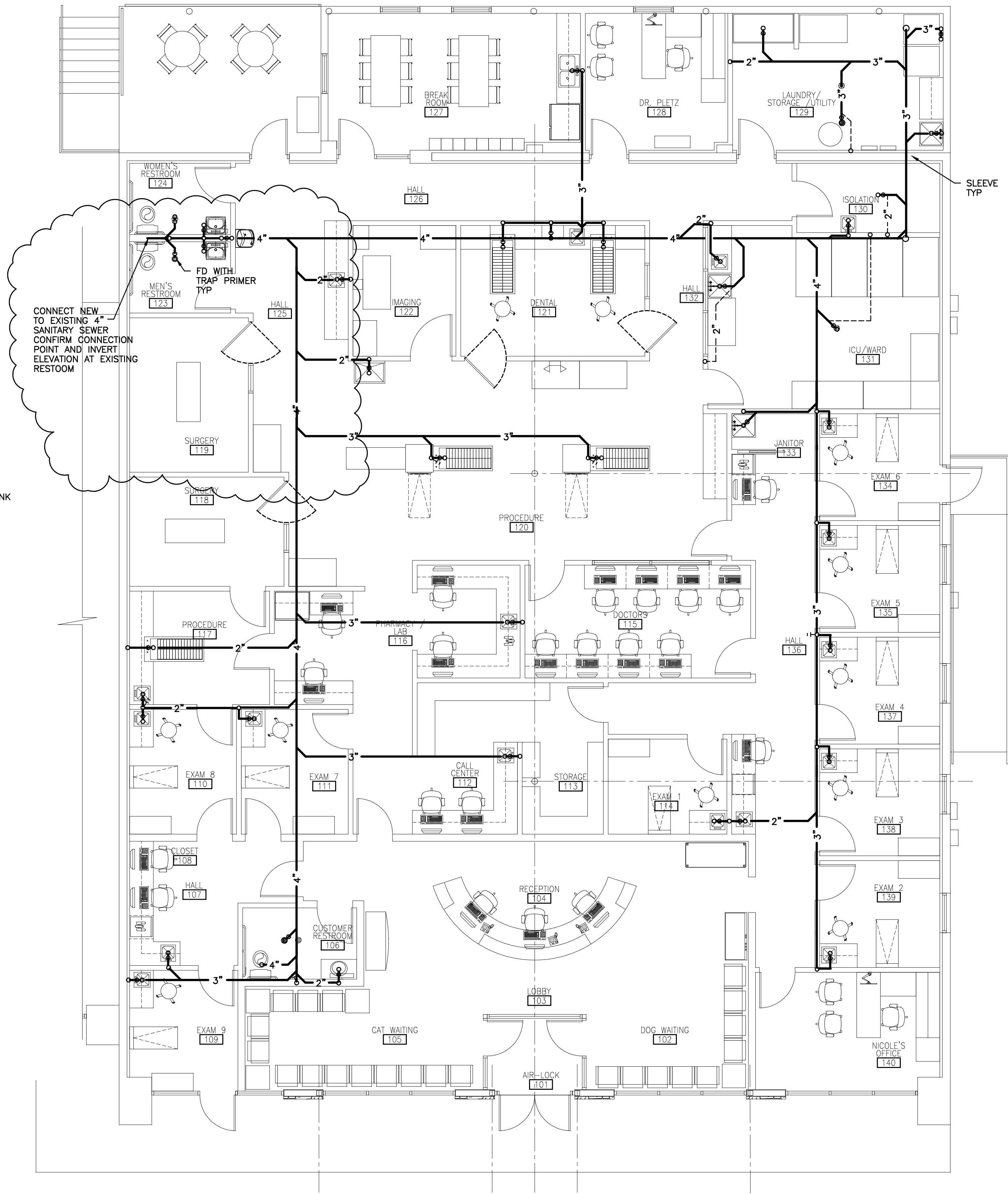
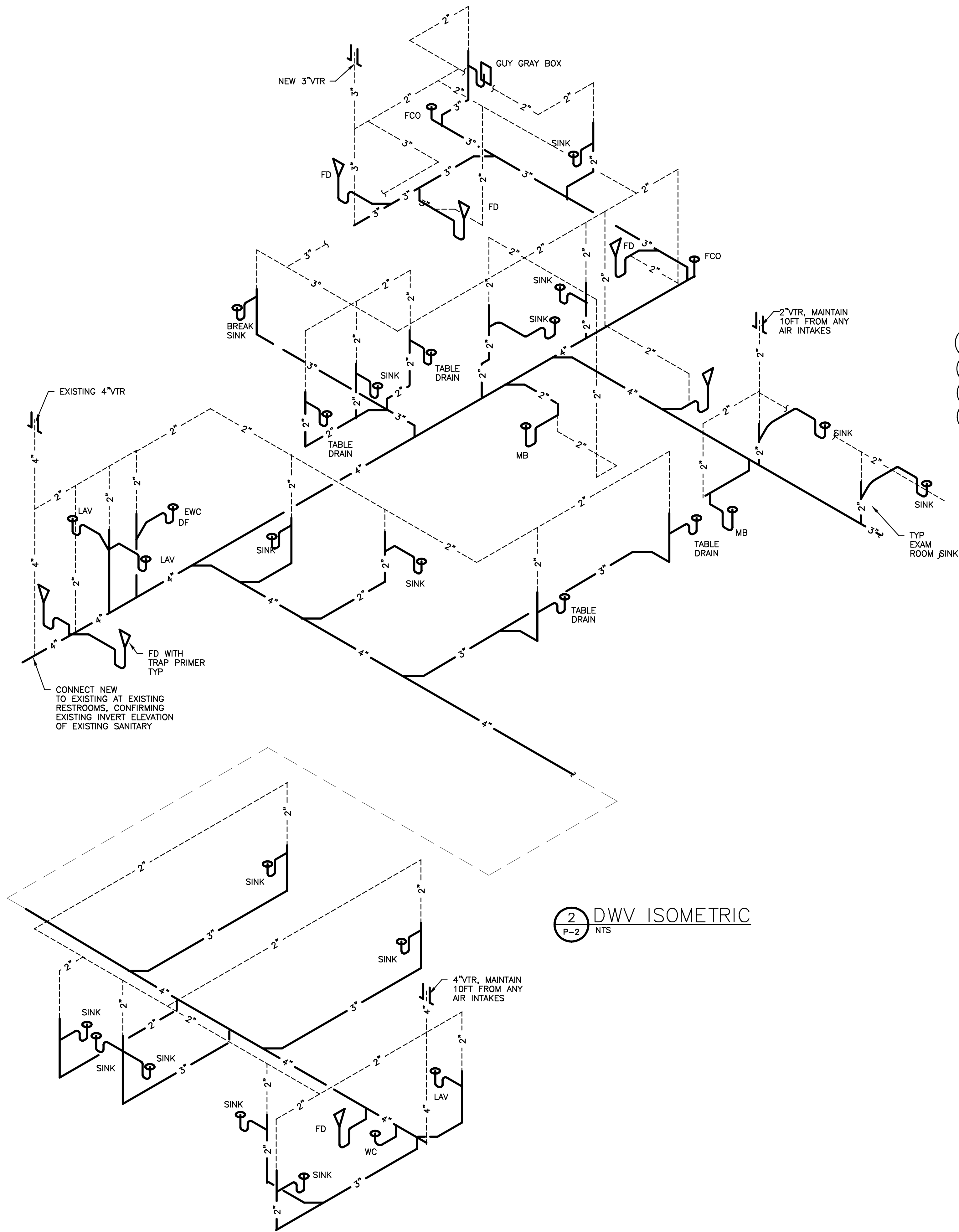


#	Date	Description
1	12-5-22	PERMIT

Sheet Number

P-1

Project No. 11764
Drawn By D POLLMANN
Checked By D POLLMANN



1 SANITARY PLUMBING PLAN
SCALE: 3/16"=1'-0"

2 DWV ISOMETRIC
P-2 NTS

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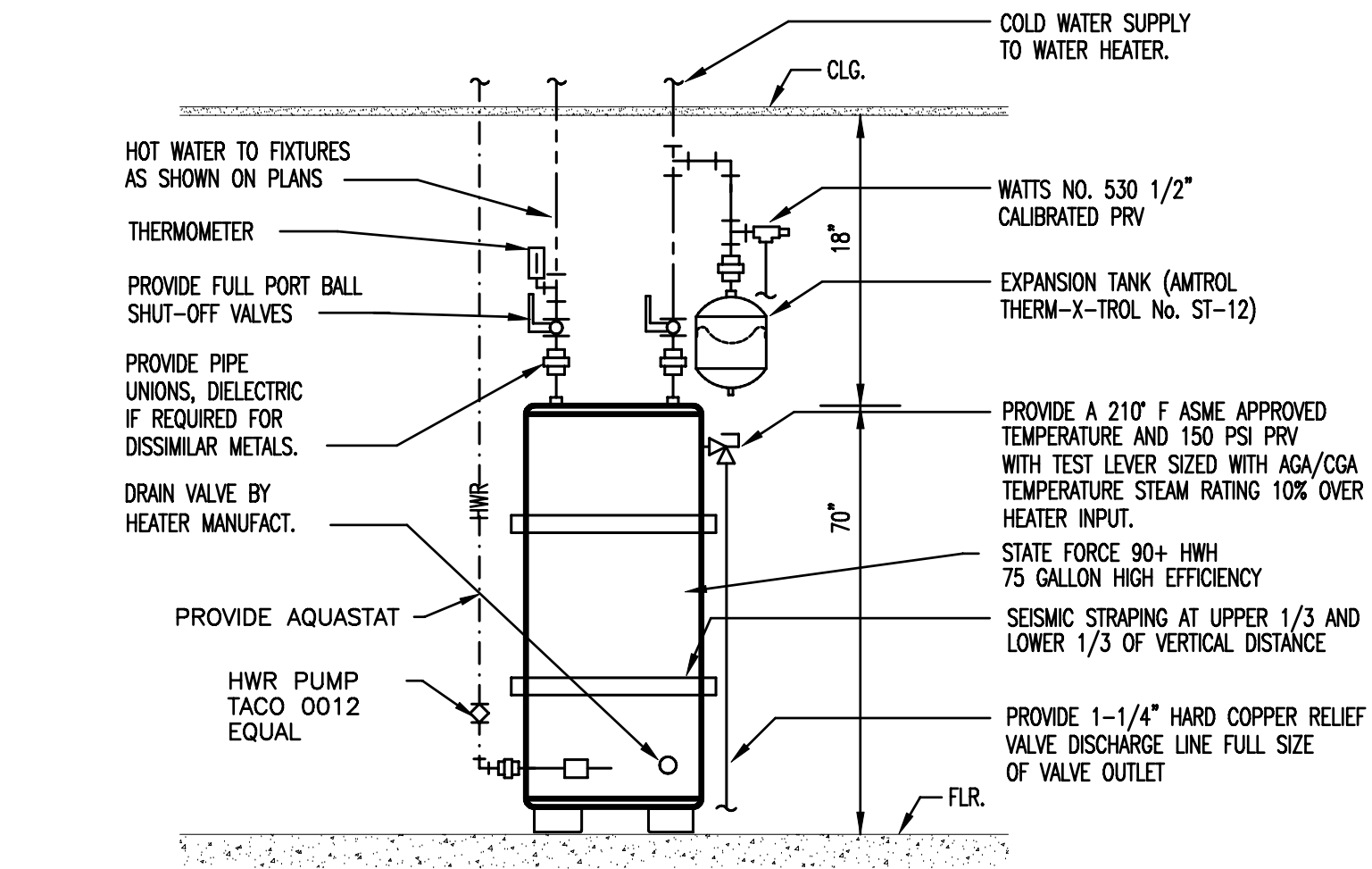


#	Date	Description
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2	1-19-23	REVISED PLAN CLOUDED REVISION

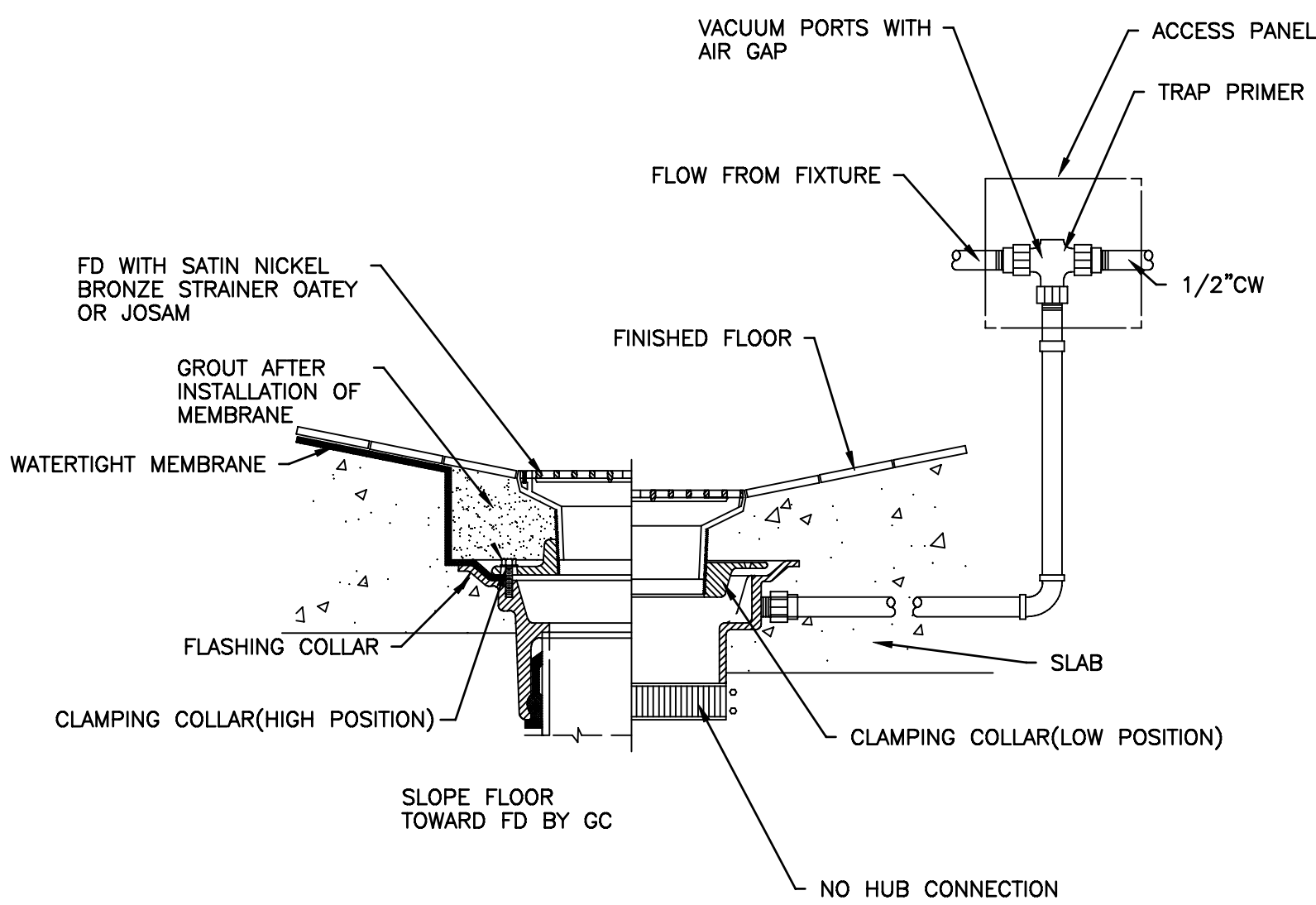
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P-2

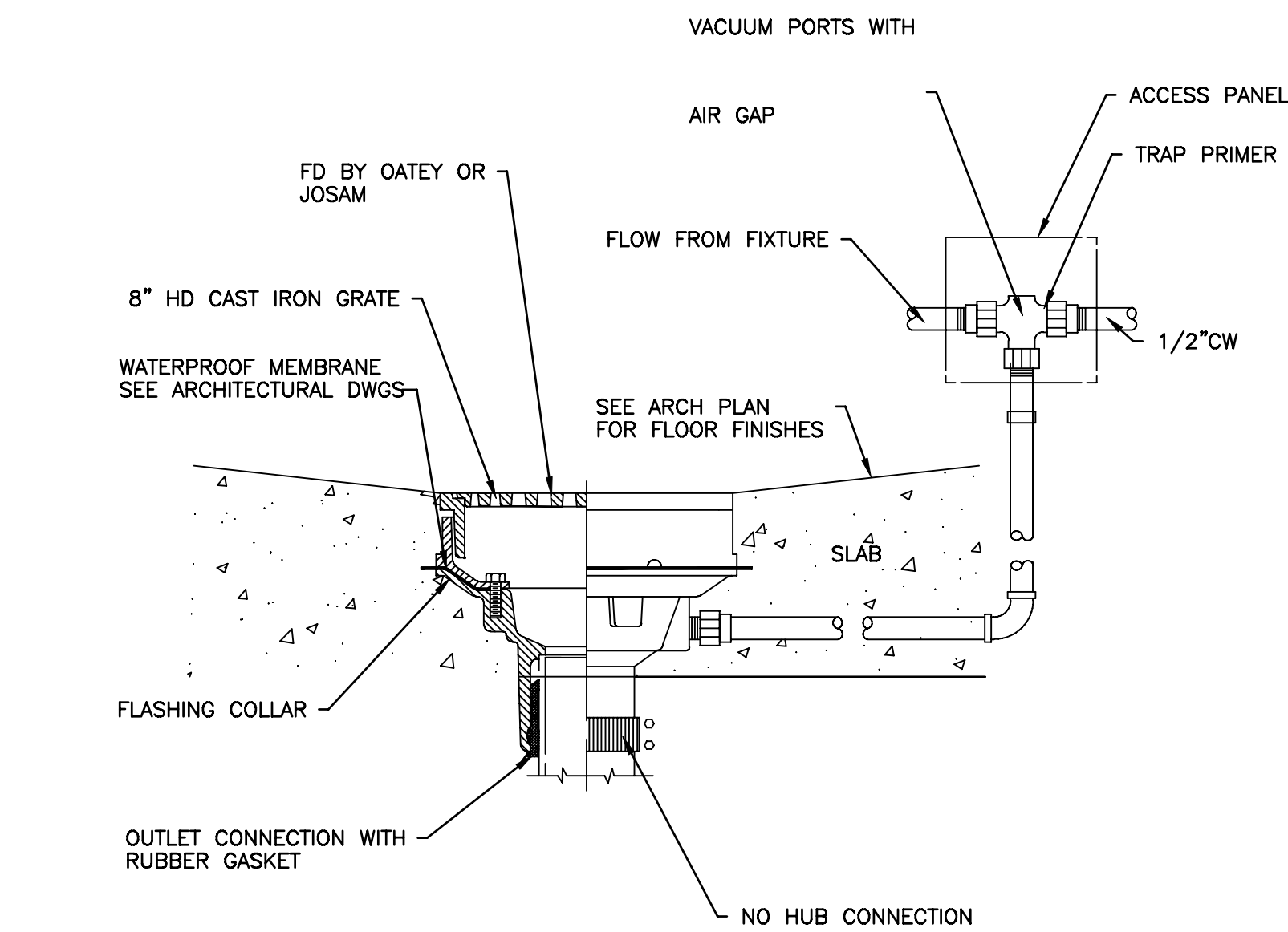
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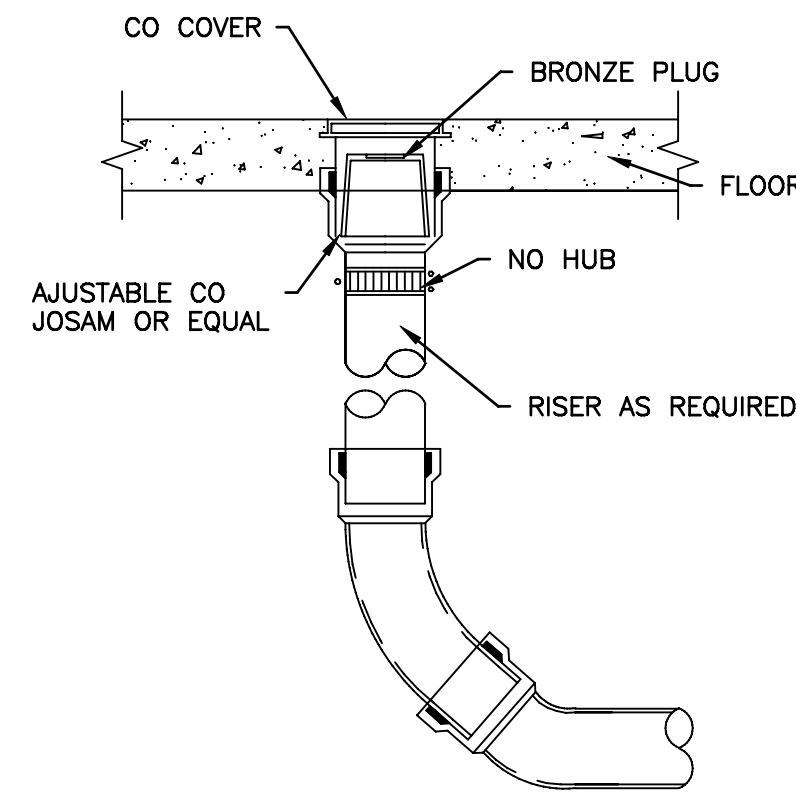
2 HOT WATER HEATER PIPING
P-3 NTS



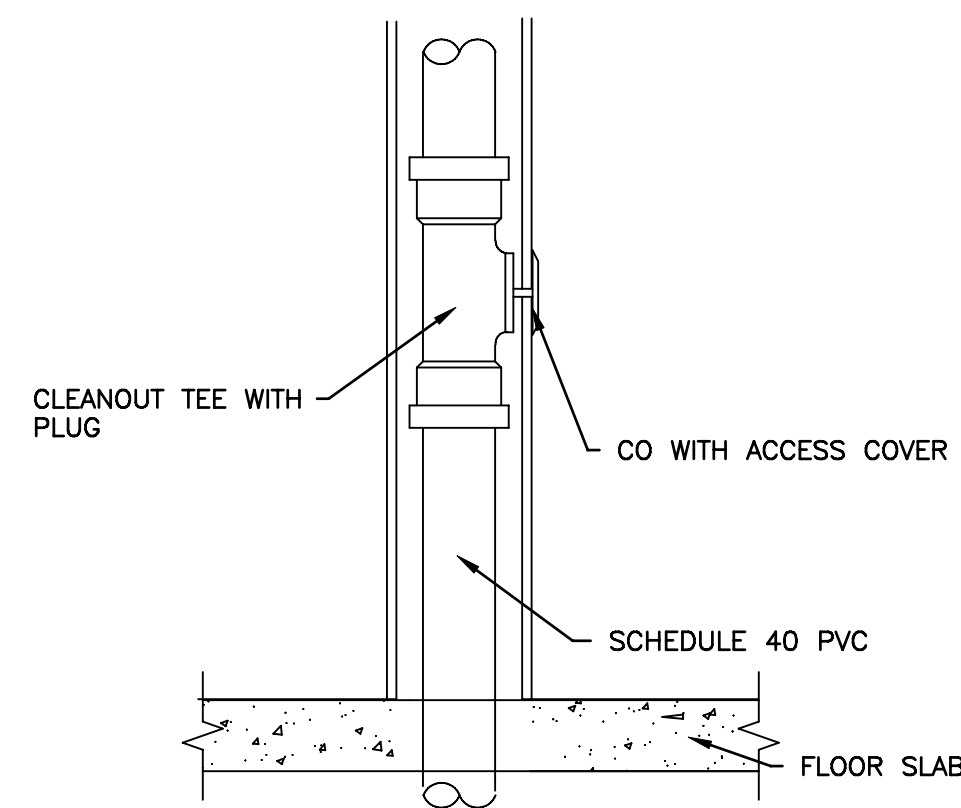
4 FD IN FINISHED AREAS
P-3 NTS



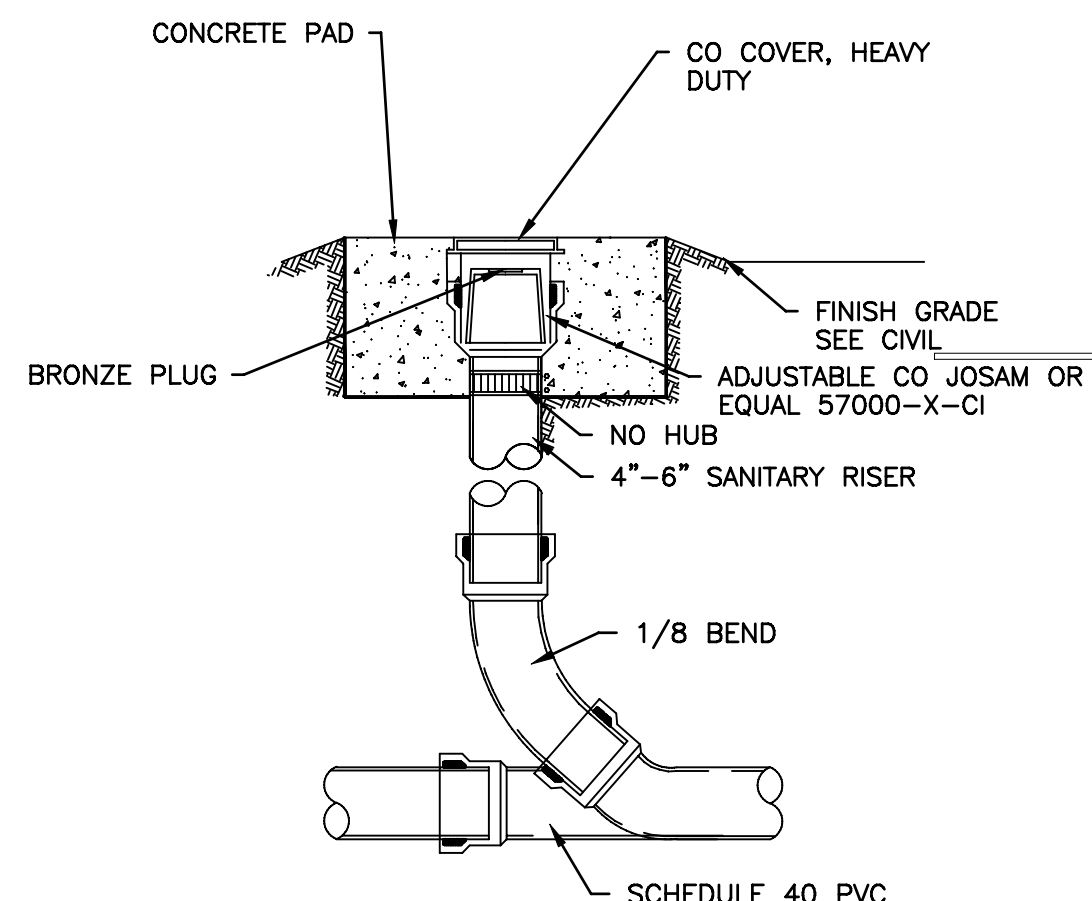
6 FD IN UNFINISHED AREAS
P-3 NTS



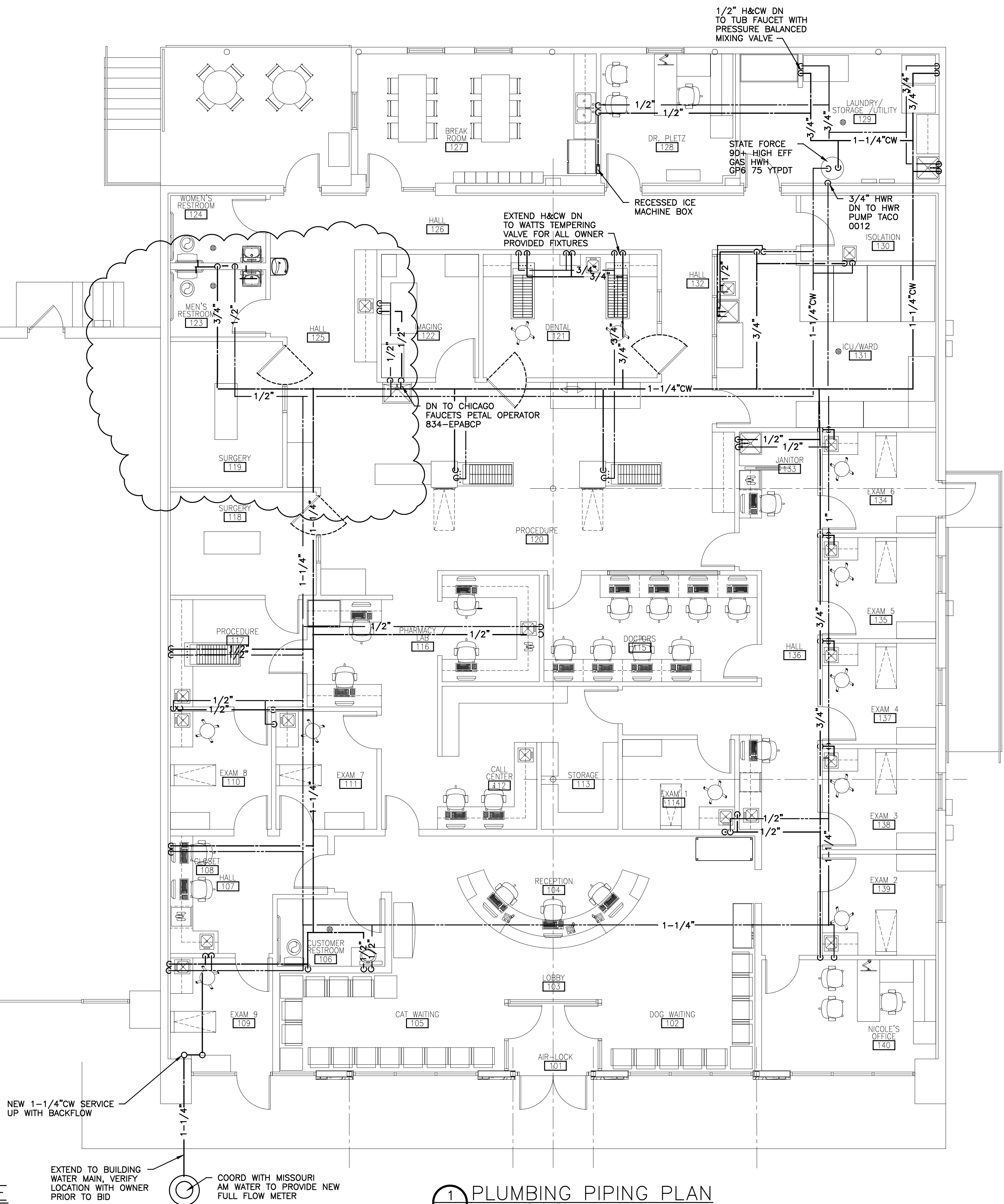
3 FLOOR CLEANOUT
P-3 NTS



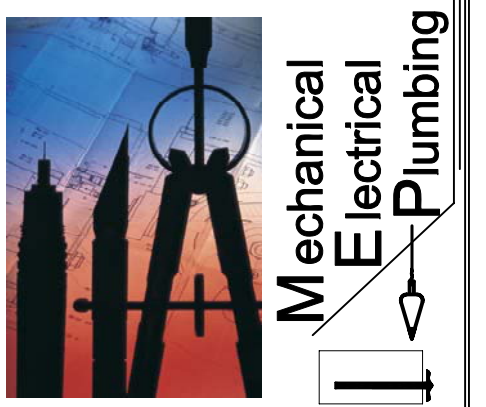
5 WALL CLEANOUT
P-3 NTS



7 EXTERIOR CLEANOUT TO GRADE
P-3 NTS



1 PLUMBING PIPING PLAN
P-3 SCALE: 3/16"=1'-0"



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#	Date	Description
1	1-10-23	PERMIT
2	1-19-23	REVISED PLAN CLOUDED REVISION

Sheet Number
P-3
Project No. 11764
Drawn By D POLLMANN
Checked By D POLLMANN

