



PROPOSAL REQUEST

JLG 18126 Eastgate Apartments

RE: Proposal Request

Issued: December 22, 2020

PROPOSAL REQUEST #: 03

NOTICE TO CONTRACTORS

This Proposal Request is prepared to supplement information presented in the Drawings and Project Manual dated February 4, 2020 for the above referenced project. All additions, changes, omissions and conditions listed herein shall become an integral part of the Contract Documents once pricing is reviewed and approved by Owner.

PROCUREMENT AND CONTRACTING REQUIREMENTS

1. Replace Drawings with any sheets included in this Proposal Request.

DRAWINGS

1. A200 - GROUND FLOOR PLAN
 - o Added notes to Keynotes and located on Floor Plan
 - o Added General Notes
2. A204 - ROOF PLAN
 - o Added Roof Plan Keynote and located on Roof Plan
3. A421 - VERTICAL CIRCULATION
 - o Modified wall location in Sump Pump #012 on 2A/A421.

OTHER AMENDMENTS

1. Refer to enclosed Proposal Request No.3 narrative document provided by Design Tree Engineering.
 - o Mechanical Changes to Drawings
 - o Electrical Changes to Drawings

END OF PROPOSAL REQUEST 03

SHEET MATERIAL ID LIST

MATERIAL ID	SPEC SECTION & DESCRIPTION
MET FAB-1	05 5000 - STEEL BOLLARD, WITH CONCRETE FILL
TRAFFIC-1	07 1800 - COLD FLUID APPLIED POLYURETHANE PEDESTRIAN TRAFFIC COATING



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REVISION SCHEDULE

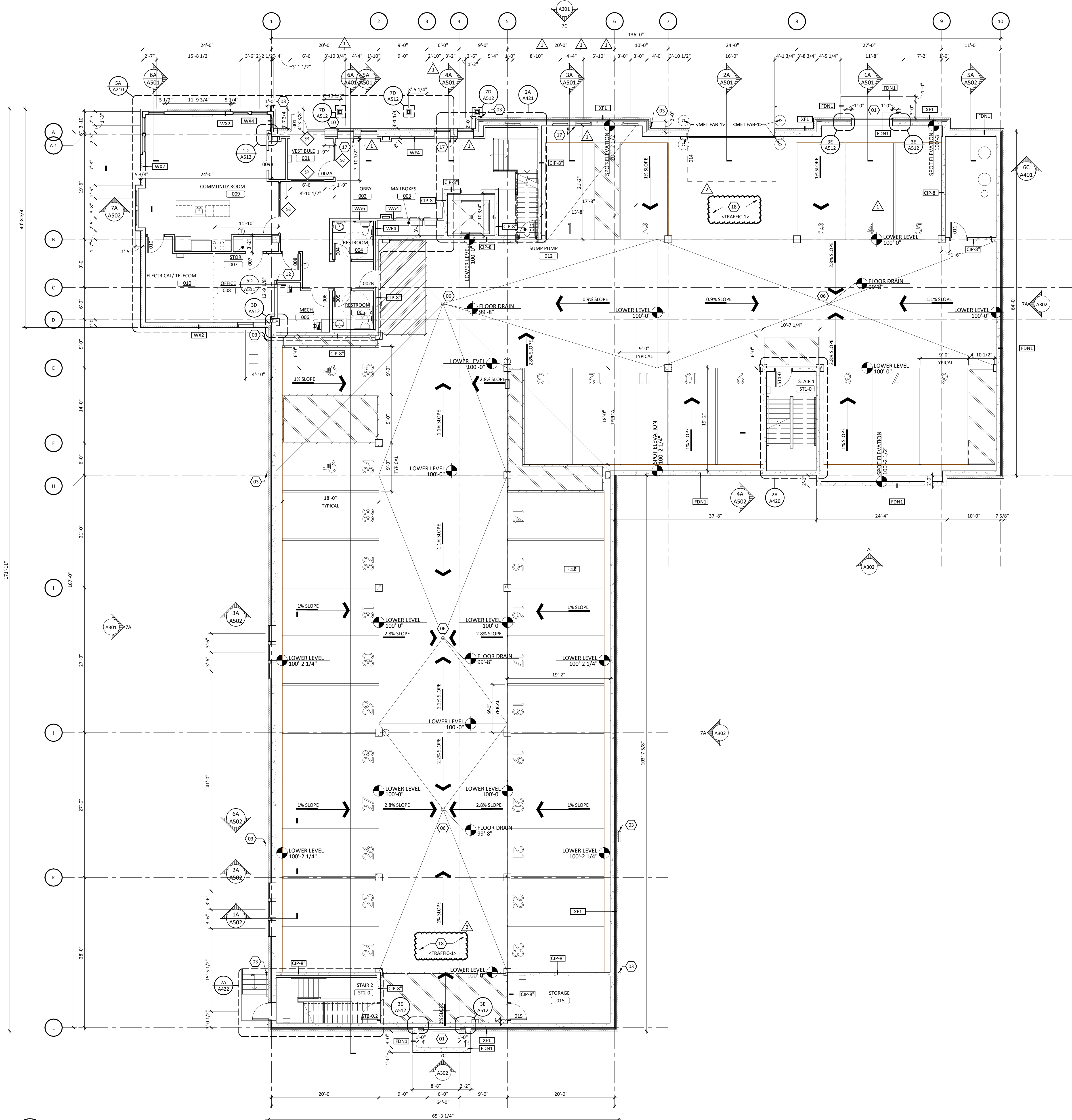
NO.	DESCRIPTION	DATE
1	AS1 01	11/09/20
2	PR 01	12/22/20

FLOOR PLAN KEYNOTES

KEYNOTE	DESCRIPTION
01	LOUVER, VERIFY WIDTH WITH MECHANICAL.
02	WASHER TO BE INSTALLED TO THE LEFT OF THE DRYER.
03	DOWNSPOUT WITH PRECAST CONCRETE SPLASHBLOCK.
04	SCUPPER AND DOWNSPOUT.
05	UNIT 2E TO USE <WASH DRY-1>, RUN <WIRE STOR-1> ADJACENT TO MACHINE ON PLUMBING WALL.
06	FLOOR DRAIN, SLOPE FLOORS TO DRAINS.
07	MOP BASIN AND <FRP-1> PANELS SURROUNDING BASIN FOR 48" UP TO 48" AFF.
08	PROVIDE LEVEL OF DISCHARGE STOP GATE.
09	REFER TO 4E/A620 FOR TYPICAL SHELVING ELEVATIONS.
10	KNOX BOX, MOUNT 6'-0" ABOVE FINISH FLOOR AT EXTERIOR.
11	ADA DOOR OPERATOR PUSH PAD TO BE MOUNTED 30" FROM FINISH FLOOR MEASURED TO THE BOTTOM OF THE PLATE AND NO MORE THAN 36" ABOVE FINISH FLOOR MEASURED TO THE TOP OF THE PLATE. LOCATE CENTERLINE OF PUSH PAD 24" BEYOND THE DOOR MINIMUM.
12	RACON VENT PIPE, SEE MECHANICAL.
13	SCUPPER AND OVERFLOW SCUPPER.
14	PROVIDE OPENING IN MASONRY FOR OPEN DRAINAGE, ONE COURSING IN HEIGHT, 1'-0" MINIMUM IN WIDTH.
15	PROVIDE FIRE TREATED FRAMING AT PARAPET WALL.
16	TRASH AND RECYCLING CHUTES TO HAVE 90 MINUTE RATED ACCESS DOORS.
17	MAINTAIN 12" BETWEEN WINDOW JAMBS (10" MINIMUM PER STRUCTURAL). PROVIDE TRAFFIC COATING <TRAFFIC-1> AT ENTIRE FLOOR SLAB IN PARKING GARAGE FOR VAPOR MITIGATION CONSIDERATIONS.

FLOOR PLAN GENERAL NOTES

- A. FOR TYPICAL BARRIER FREE TOILET ROOM TYPES AND ACCESSORIES REQUIREMENTS AND LOCATIONS SEE DWG G120.
- B. FOR TYPICAL HOUSEKEEPING CLOSETS ACCESSORIES REQUIREMENTS AND MOUNTING LOCATIONS SEE SHEET G120.
- C. ALL PARTITION TYPES ARE "WALL" TYPICALLY UNLESS OTHERWISE NOTED.
- D. COORDINATE PARTITION FIRE RATED REQUIREMENTS AS INDICATED ON REFLECTED CEILING PLANS - DRAWING SERIES A700.
- E. TYPICALLY INSTALL SOAP DISPENSERS AND PAPER TOWEL DISPENSER AT ALL SINKS UNLESS NOTED OTHERWISE.
- F. PROVIDE WALL REINFORCEMENT PER SHEET G120 AT WALL-MOUNTED SHELVES AND STORAGE UNITS, MARKER BOARDS, BULLETIN BOARDS, TACK BOARDS, TELEVISIONS AND OTHER CONTRACTOR OR OWNER FURNISHED WALL-MOUNTED ITEMS (REFER TO ACCESSORIES AND EQUIPMENT SCHEDULE) SEE SHEET G120.
- G. FOR ALL CARPET TYPE CHANGES BETWEEN ROOMS, TRANSITION SHALL OCCUR AT CENTERLINE OF DOOR PANEL TYPICALLY - U.A.O. SEE SHEET A601.
- H. COORDINATE DIMENSIONS W/ ASTERISK (IE. *X'-X") W/ EQUIPMENT VENDOR.
- I. ALL DIMENSIONS ARE TO FACE OF GYPSUM BOARD OR MASONRY UNLESS OTHERWISE NOTED.
- J. COORDINATE ALL FLOOR OPENING DIMENSIONS AND CLEARANCES FOR DUCTWORK W/ MECHANICAL CONTRACTOR - TYPICAL.
- K. AT VANITY SINK BASE, EXTEND FINISH FLOOR, FINISH WALL & PROVIDE FINISHED INTERIOR CABINETS' SIDES.
- L. AT SINK BASE CABINET, EXTEND FINISH FLOOR, FINISH WALL, PROVIDE FINISHED INTERIOR CABINET SIDES & INSTALL END PANEL AT DISHWASHER.
- M. CONCEALED SPACES ARE TO HAVE GYP BD INSTALLED ON BOTH SIDES OF PARTITION OR FULLY FILLED WITH BLOWN-IN INSULATION.
- N. ALL MASONRY JOINTS ARE REQUIRED TO BE 3/4" IN WIDTH MINIMUM.
- O. SEAL ALL PENETRATIONS SUCH AS PIPES, CONDUITS, ETC. FROM THE PARKING GARAGE INTO OCCUPIED BUILDING SPACE FOR VAPOR INTRUSION PER THE MINNESOTA POLLUTION CONTROL AGENCY'S VAPOR MITIGATION BEST MANAGEMENT PRACTICES.



1A
A200 GROUND FLOOR PLAN
 SCALE: 1/8" = 1'-0"

LWO DEVELOPMENT, LLC
EASTGATE APARTMENTS
 OWATONNA, MN

DATE: 06/19/2020
 PHASE: CONSTRUCTION DOCUMENTS
 PROJECT: 181226
 SHEET: **A200**
 GROUND FLOOR PLAN

12/22/2020 2:38:35 PM

SHEET MATERIAL ID LIST	
MATERIAL ID	SPEC SECTION & DESCRIPTION
PAVER-1	07 5300 - CONCRETE ROOF PAVER
RF VENT-1	07 3113 - SHINGLE-OVER RIDGE VENT
SHINGLE-1	07 3113 - LAMINATED FIBERGLASS SHINGLES



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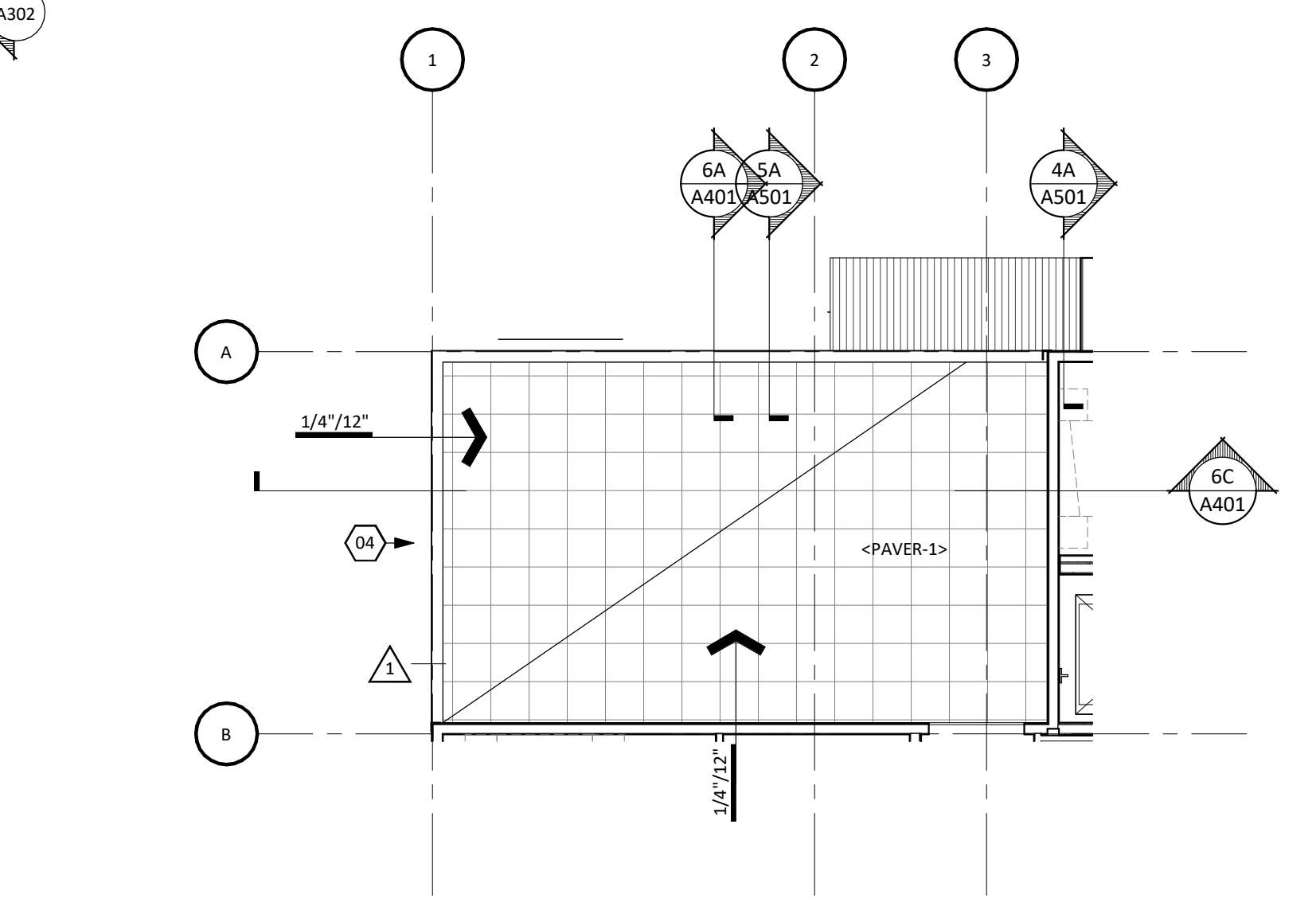
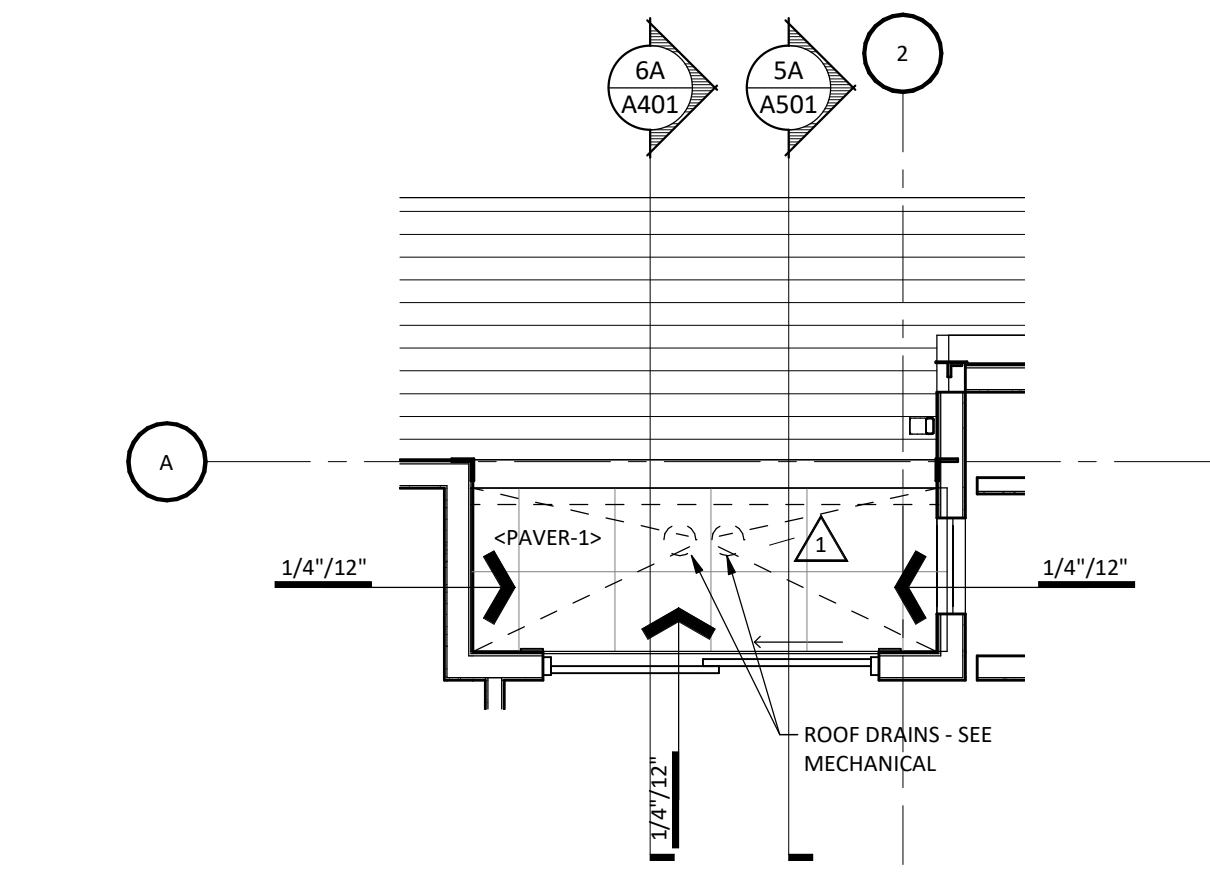
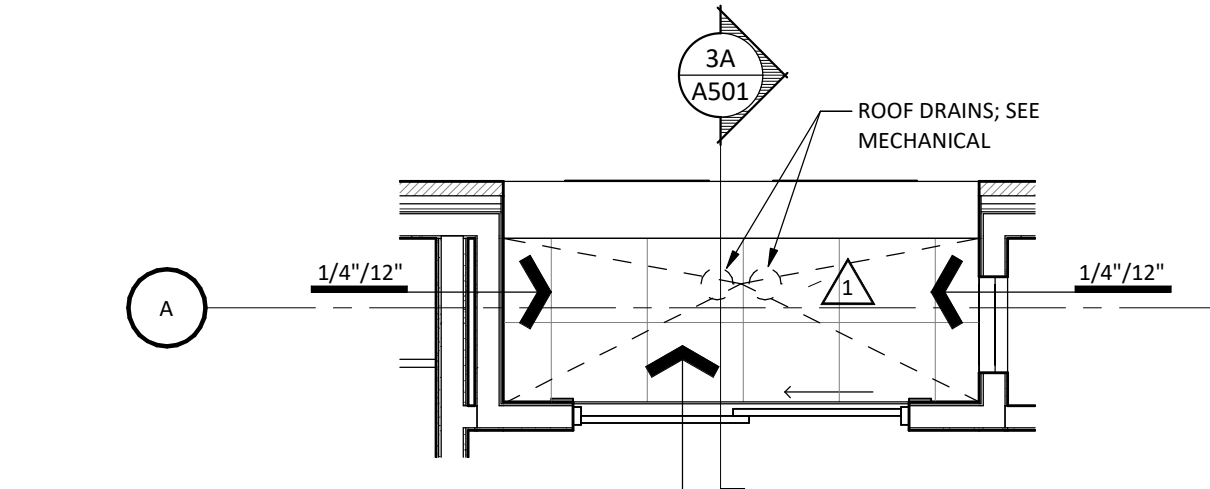
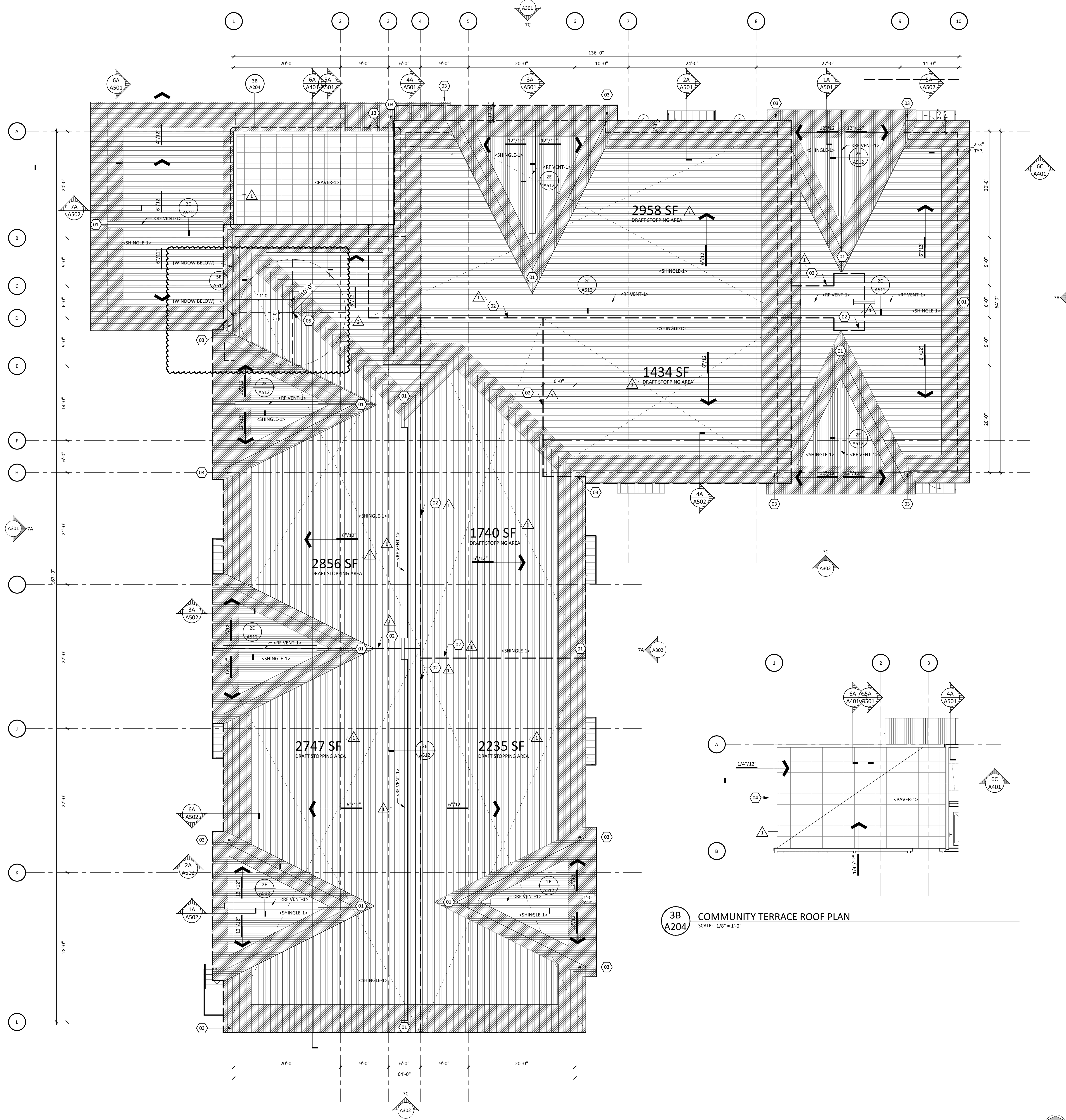
PRELIMINARY
 NOT FOR CONSTRUCTION

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	PR. 02	9/21/20
2	PR. 03	12/22/20

ROOF PLAN KEYNOTES	
KEYNOTE	DESCRIPTION
01	<RF UNLMT-1> EAVE PROTECTION MEMBRANE, EXTEND BEYOND EXTERIOR WALL PER MFR RECOMMENDATIONS.
02	PROVIDE DRAFT STOPPING AT DEMISING OR CORRIDOR WALLS. DRAFT STOPPING TO EXTEND TO HIGHEST ROOF DECK. DRAFT STOPPING AREA NOT TO EXCEED 3,000 SQUARE FEET OR TWO UNITS.
03	CONTINUOUS GUTTER
04	VAPOR MITIGATION PIPE LOCATE 12" FROM ANY DRAINAGE PIPE TO EXTEND 2'-0" ABOVE ROOF MINIMUM. DO NOT LOCATE PIPE IN ROOF UNDERLAYMENT (KEYNOTE 1).

FLOOR PLAN KEYNOTES	
KEYNOTE	DESCRIPTION
01	LOUISER, VERIFY WIDTH WITH MECHANICAL.
02	WASHER TO BE INSTALLED TO THE LEFT OF THE DRYER.
03	DOWNSPOUT WITH PRECAST CONCRETE SPLASHBLOCK.
04	SCUPPER AND DOWNSPOUT
05	UNIT 2E TO USE <WASH DRY-1>, RUN <WIRE STOR-1> ADJACENT TO MACHINE ON PLUMBING WALL.
06	FLOOR DRAIN, SLOPE FLOORS TO DRAINS.
07	MDP BASIN AND <FRP-1> PANELS SURROUNDING BASIN FOR 48" UP TO 48" AFS.
08	PROVIDE LEVEL OF DISCHARGE STOP GATE
09	REFER TO 4E/A620 FOR TYPICAL SHELVING ELEVATIONS
10	KNIX BOX, MOUNT 6'-0" ABOVE FINISH FLOOR AT EXTERIOR.
11	ADA DOOR OPERATOR PUSH PAD TO BE MOUNTED 30" FROM FINISH FLOOR MEASURED TO THE BOTTOM OF THE PLATE AND NO MORE THAN 36" ABOVE FINISH FLOOR MEASURED TO THE TOP OF THE PLATE. LOCATE CENTERLINE OF PUSH PAD 2' BEYOND THE DOOR MINIMUM.
12	RADON VENT PIPE, SEE MECHANICAL.
13	SCUPPER AND OVERFLOW SCUPPER
14	PROVIDE OPENING IN MASGURY FOR OPEN DRAINAGE, ONE COURSE IN HEIGHT, 1'-0" MINIMUM IN WIDTH.
15	PROVIDE FIRE TREATED FRAMING AT PARAPET WALL.
16	TRASH AND RECYCLING CHUTES TO HAVE 90 MINUTE RATED ACCESS DOORS.
17	MAINTAIN 12" BETWEEN WINDOW JAMBS (10" MINIMUM PER STRUCTURAL).
18	PROVIDE TRAFFIC COATING <TRAFFIC-1> AT ENTIRE FLOOR SLAB IN PARKING GARAGE FOR VAPOR MITIGATION CONSIDERATIONS.

- ROOF PLAN GENERAL NOTES**
- COORDINATE FINAL SIZE AND FINAL LOCATION OF ALL EQUIPMENT SUPPORT WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
 - PROVIDE POSITIVE SLOPE TO ALL ROOF DRAINS. ROOF SLOPE TO BE 1/4" PER FOOT MINIMUM.
 - SEE DRAWING AS10 SERIES FOR ROOF DETAILS. ROOFING CONTRACTOR TO VERIFY ALL ROOF DETAILS COMPLY WITH APPROVED ROOFING SYSTEM. IT IS THE RESPONSIBILITY OF THE ROOFING CONTRACTOR TO SUPPLY ANY ADDITIONAL DETAILS AND/OR MATERIALS TO ENSURE COMPLIANCE WITH WARRANTY.
 - REFER TO MECHANICAL AND ELECTRICAL DOCUMENTS FOR ALL PIPES, CURBS, VENTS, DUCTS, CONDUITS, AND OTHER FEATURES EXTENDING THROUGH ROOF SURFACES WHICH REQUIRE FLASHING AND COORDINATE SIZE AND LOCATION OF SAME.
 - FOR ROOF ASSEMBLY TYPES SEE SHEET R6102.
 - INLET OF OVERFLOW ROOF SUMPS SHALL BE LOCATED 2" ABOVE ROOF SUMP INLET (TYP) U.N.D.
 - SEE MECHANICAL DRAWINGS FOR FINAL QUANTITIES & FINAL LOCATIONS OF VENTS THRU ROOF.
 - PROVIDE SPLASH BLOCK AT ALL PRIMARY AND SECONDARY RAIN CONDUCTOR TERMINATIONS ONTO SINGLE-PLY MEMBRANE ROOFING.
 - INSTALL ROOF FRAMES PRIOR TO CUTTING & REMOVING OF ANY METAL DECK.
- R.S. - ROOF SUMP
 H.P. - HIGH POINT
 O.S. - OVERFLOW ROOF SUMP
 S.C. - SCUPPER
 V.T.R. - VENT THRU ROOF



1 ROOF PLAN
 A204 SCALE: 1/8" = 1'-0"

LWO DEVELOPMENT, LLC
EASTGATE APARTMENTS
 OWATONNA, MN

DATE: 06/19/2020
 PHASE: CONSTRUCTION DOCUMENTS
 PROJECT: 18126
 SHEET: **A204**
 ROOF PLAN

12/22/2020 2:59:03 PM

SHEET MATERIAL ID LIST	
MATERIAL ID	SPEC SECTION & DESCRIPTION
DRAIN BRD-1	07 1300 - DRAINAGE BOARD
WTR PRF-2	07 1300 - SELF-ADHERING RUBBERIZED ASPHALT SHEETS
WTR PRF-7	07 1300 - PRE-APPLIED SHEET WATERPROOFING



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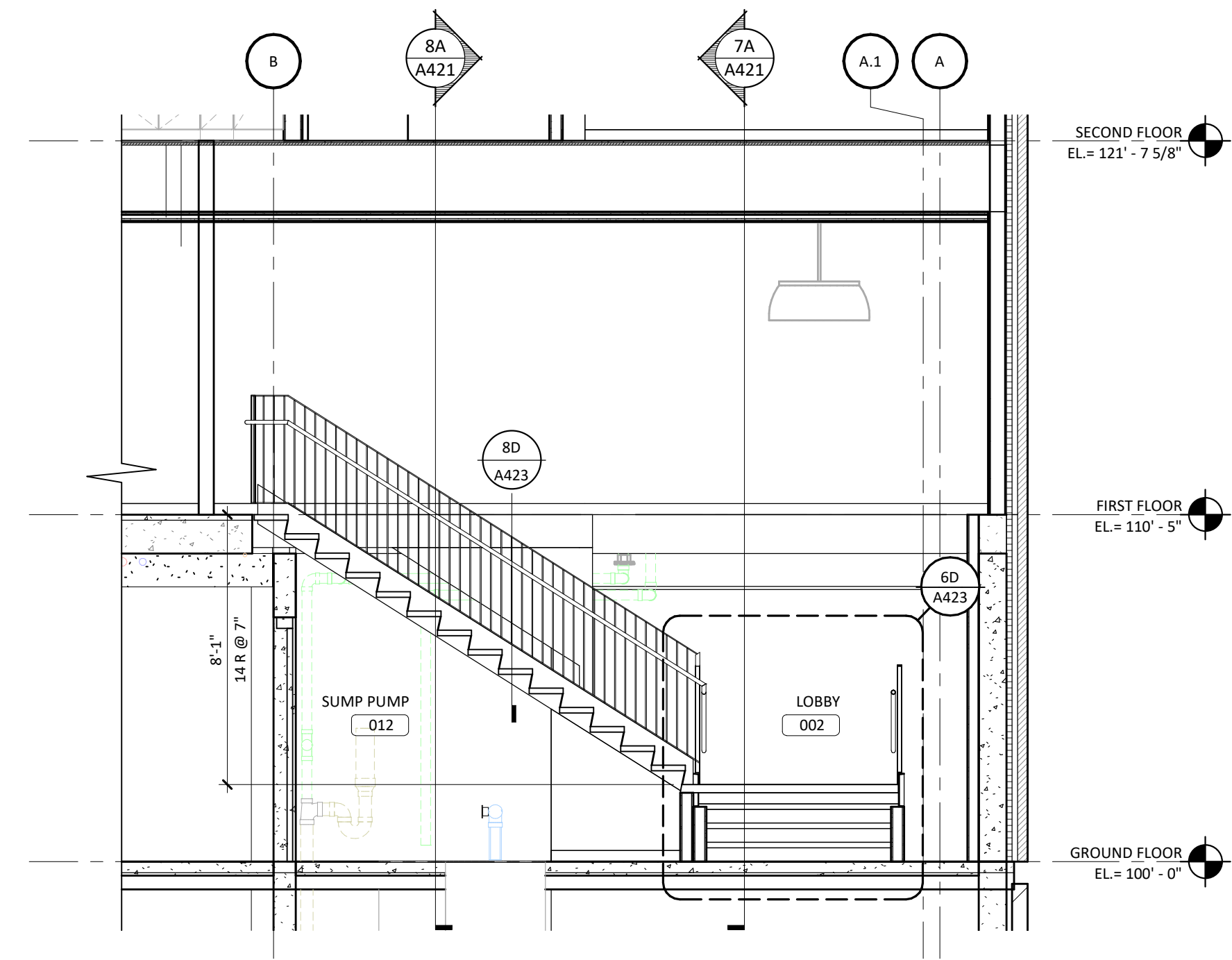
VERTICAL CIRCULATION

ID **DESCRIPTION**

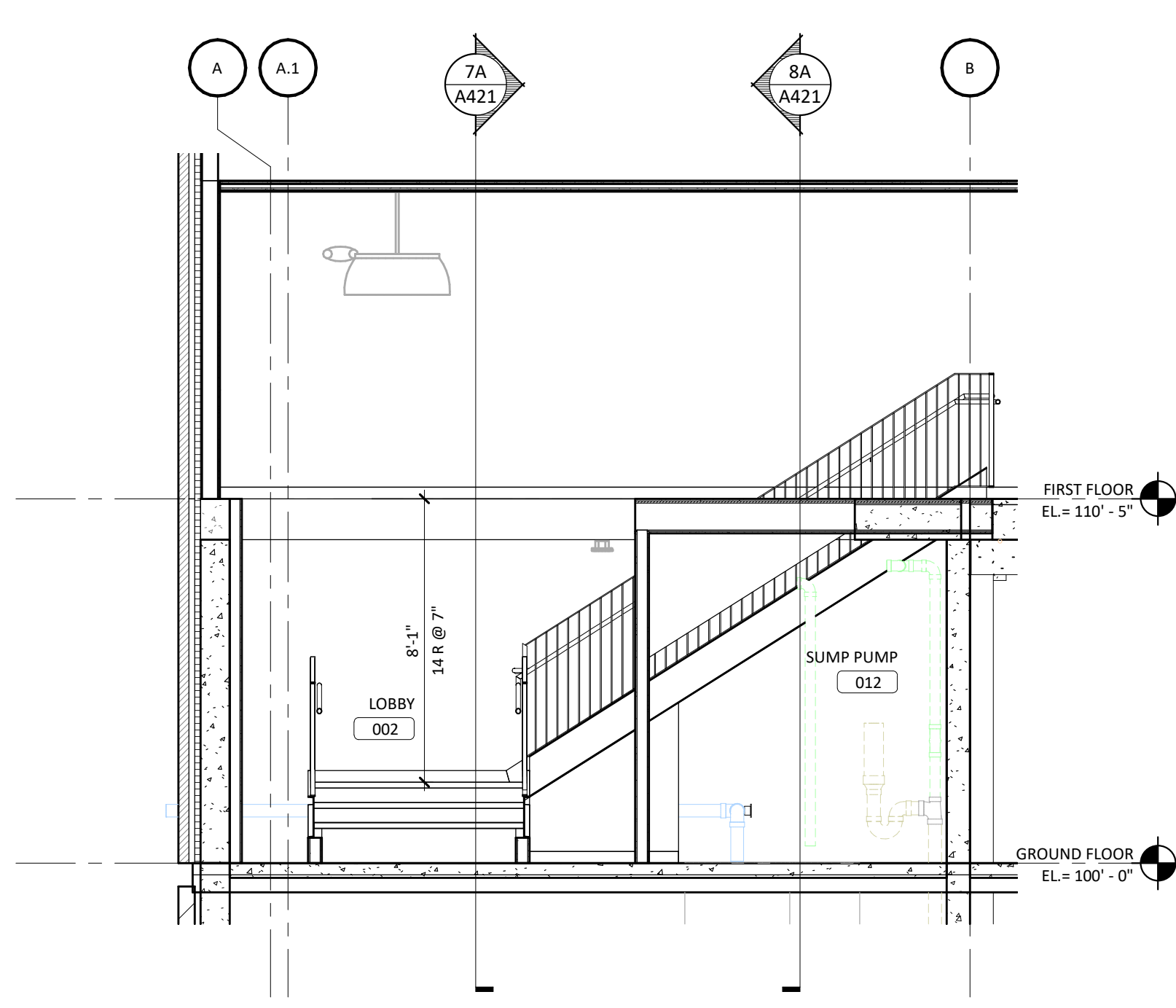
1 WE ARE PROPOSING TWO LAYERS OF 5/8" TYPE X GYPSUM BOARD, CONSISTENT THICKNESS WITH ADJACENT 1 HOUR RATED "WA4.1" WALL ASSEMBLY. GA FILE NO. WP 4230 IS USED AS THE BASIS FOR FASTENING THE TWO LAYERS OF GYPSUM BOARD. THE BASE LAYER OF GYPSUM BOARD WILL BE ATTACHED AT RIGHT ANGLES AT EACH SIDE WITH 2 1/4" TYPE S OR IW DRYWALL SCREWS 24" O.C. THE FACE LAYER OF GYPSUM BOARD WILL BE APPLIED AT RIGHT ANGLES AT EACH SIDE WITH 2 1/4" TYPE S DRYWALL SCREWS 8" O.C. JOINTS WILL BE STAGGERED 24" BETWEEN LAYERS OF GYPSUM BOARD.

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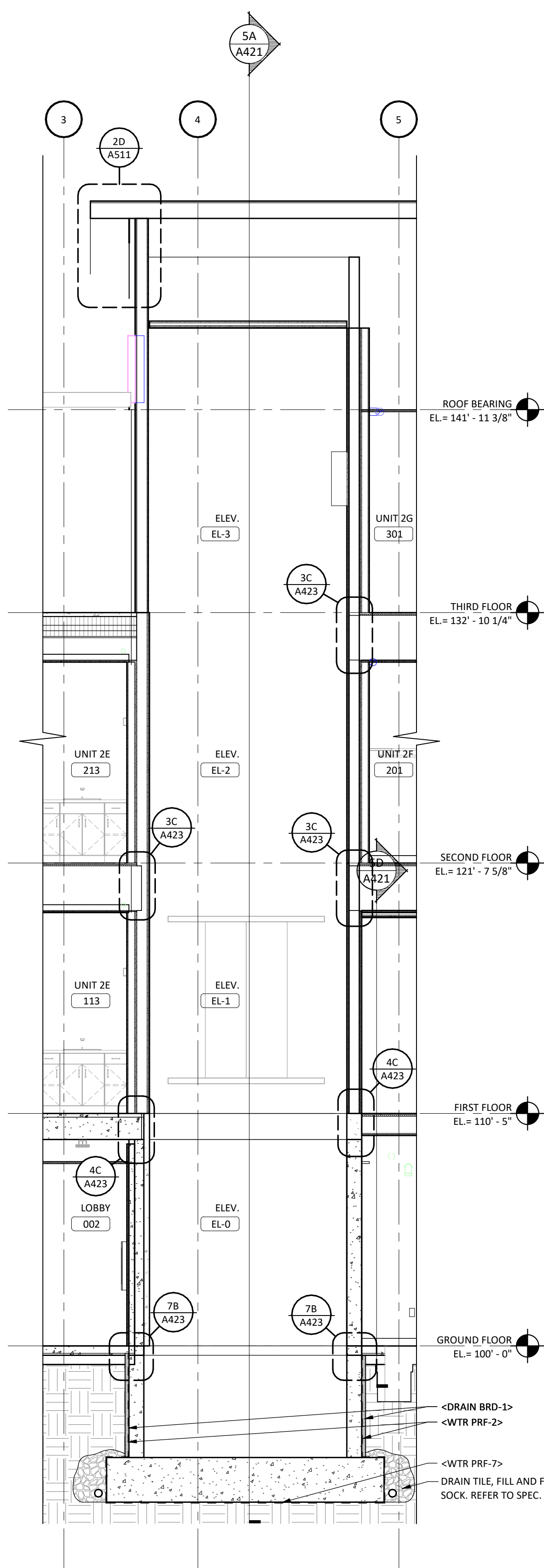
REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	PR 02	9/21/20
2	PR 03	12/22/20



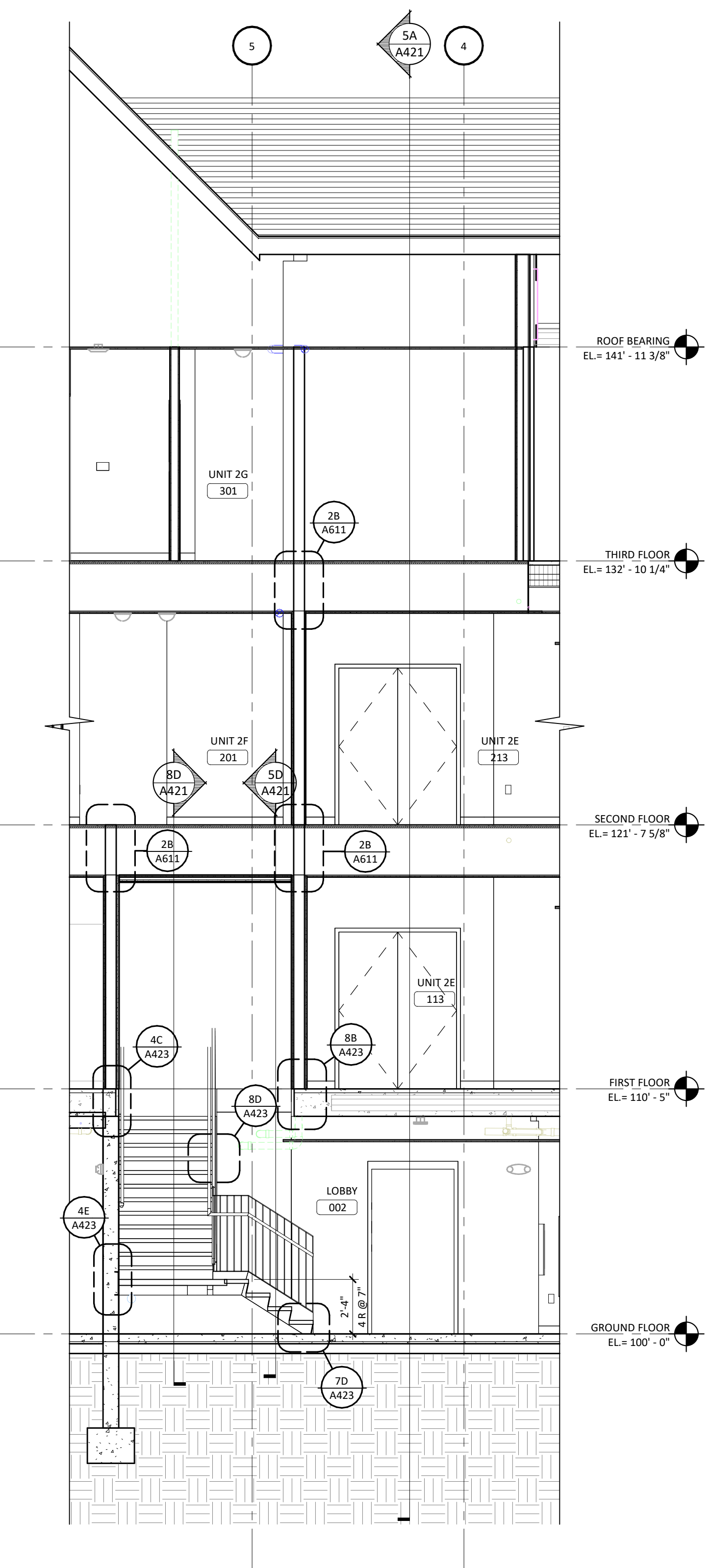
8D
A421
 LOBBY STAIR - LONGITUDINAL SECTION 1
 SCALE: 1/4" = 1'-0"



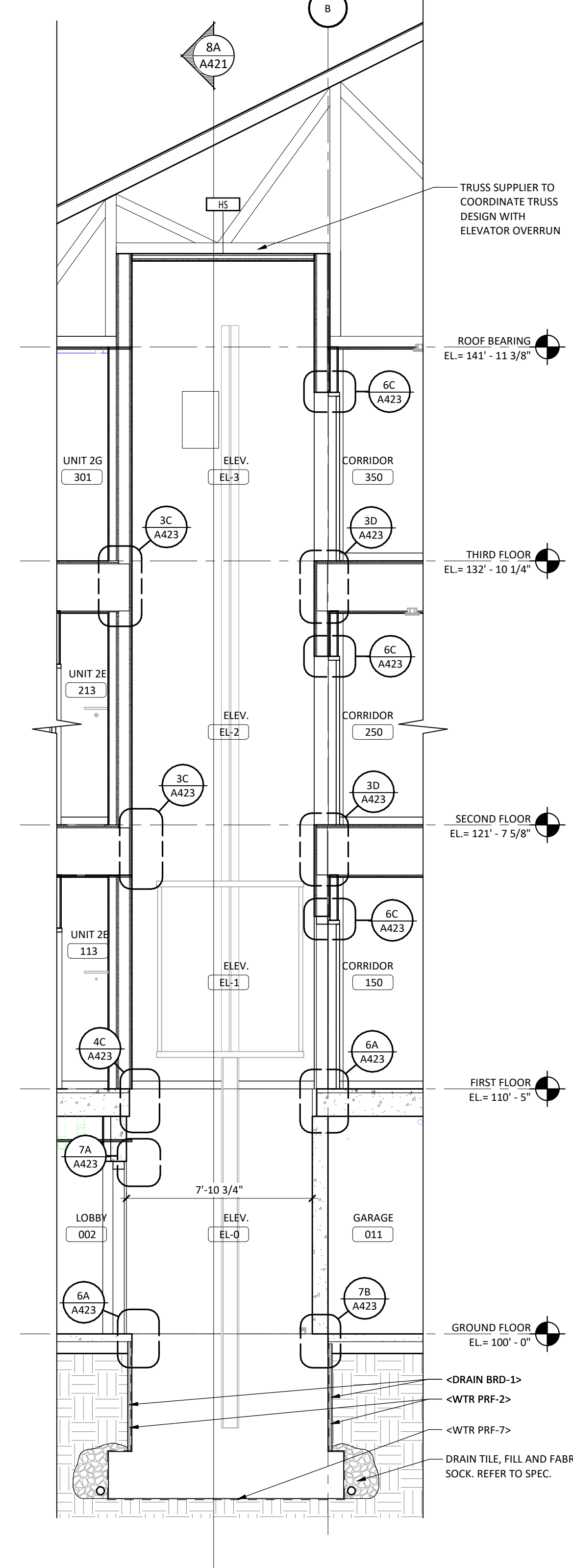
5D
A421
 SECTION 4
 SCALE: 1/4" = 1'-0"



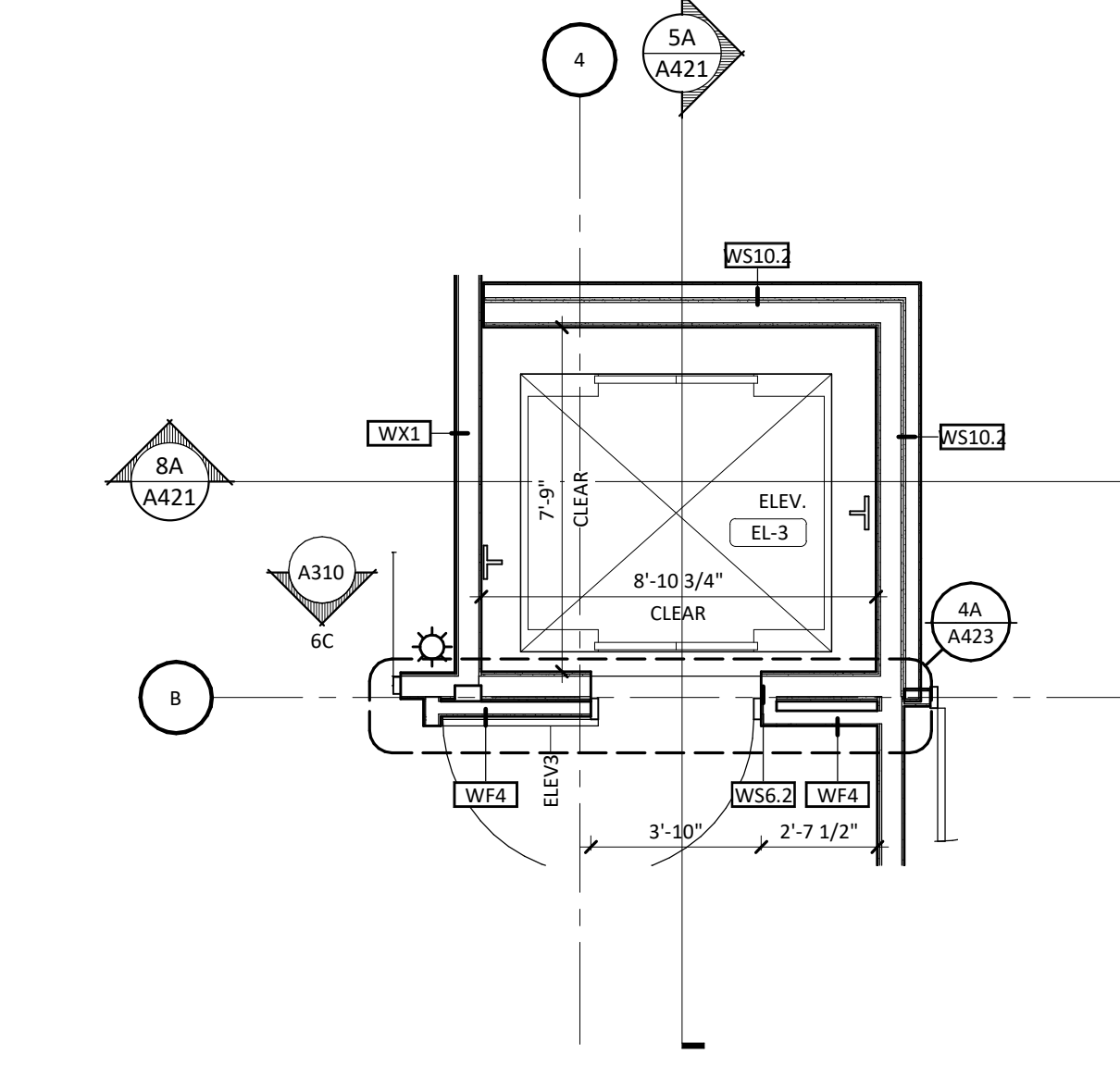
8A
A421
 SECTION 1
 SCALE: 1/4" = 1'-0"



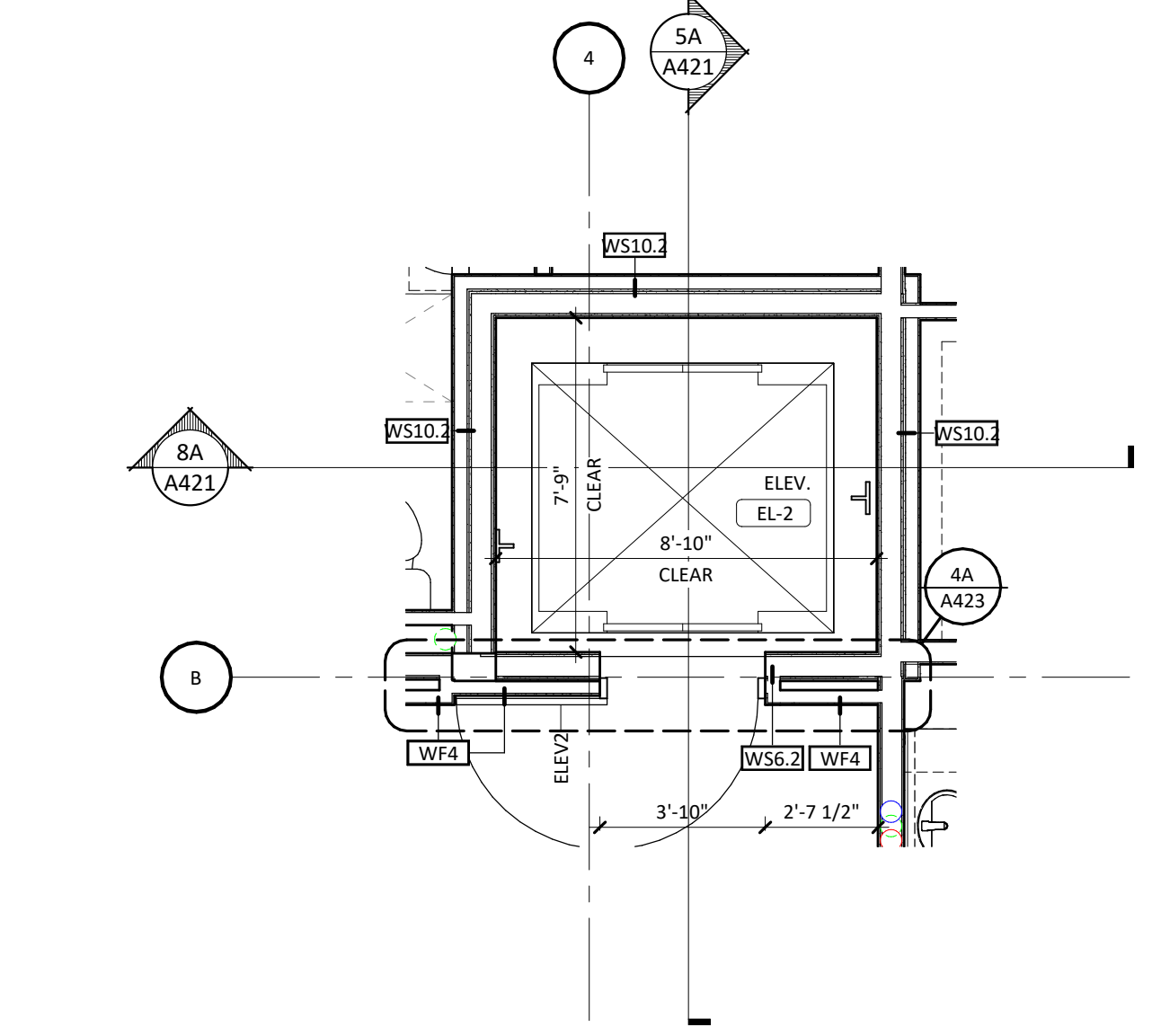
7A
A421
 LOBBY STAIR - LATITUDINAL SECTION
 SCALE: 1/4" = 1'-0"



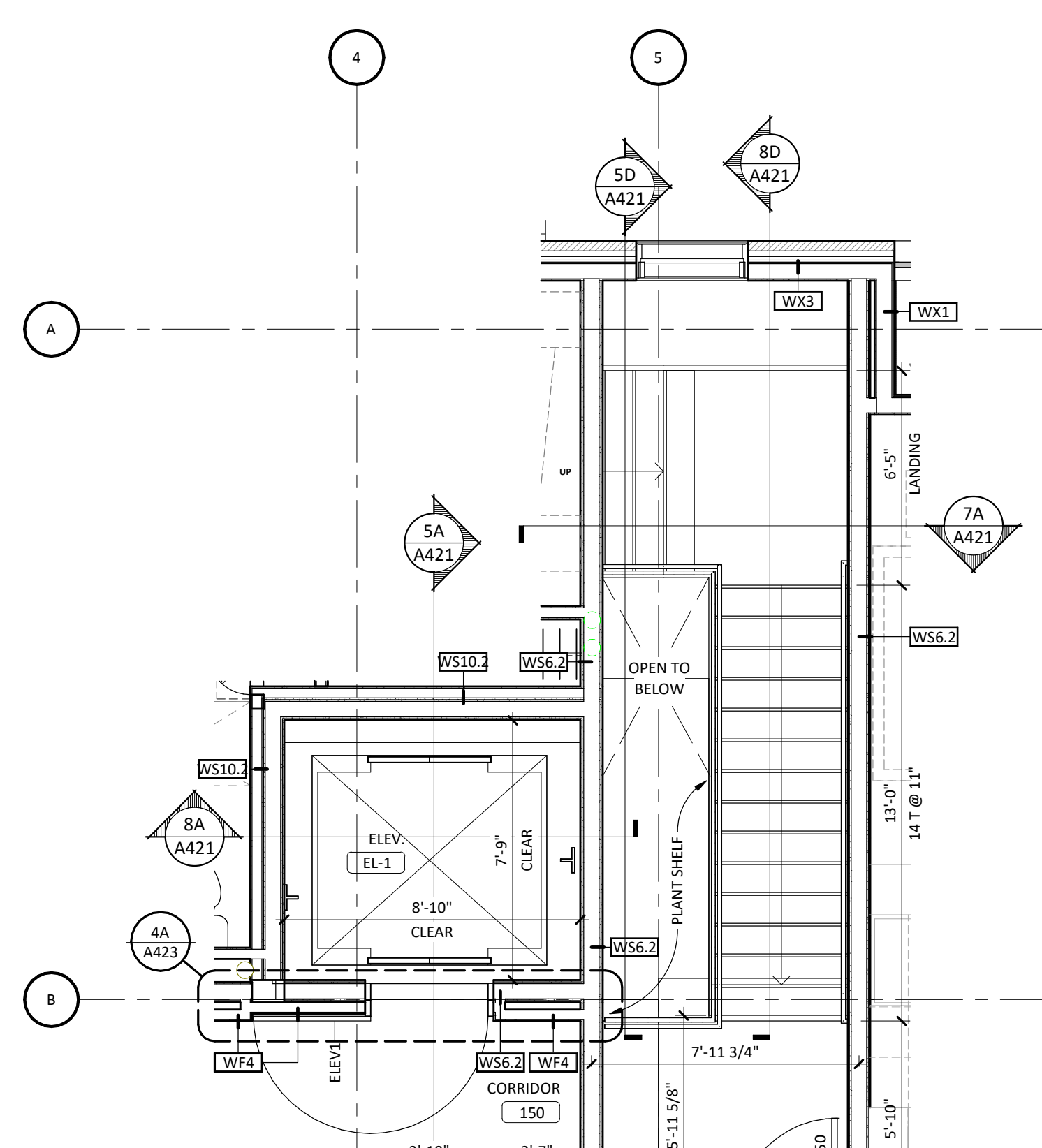
5A
A421
 ELEV-1 SECTION 1
 SCALE: 1/4" = 1'-0"



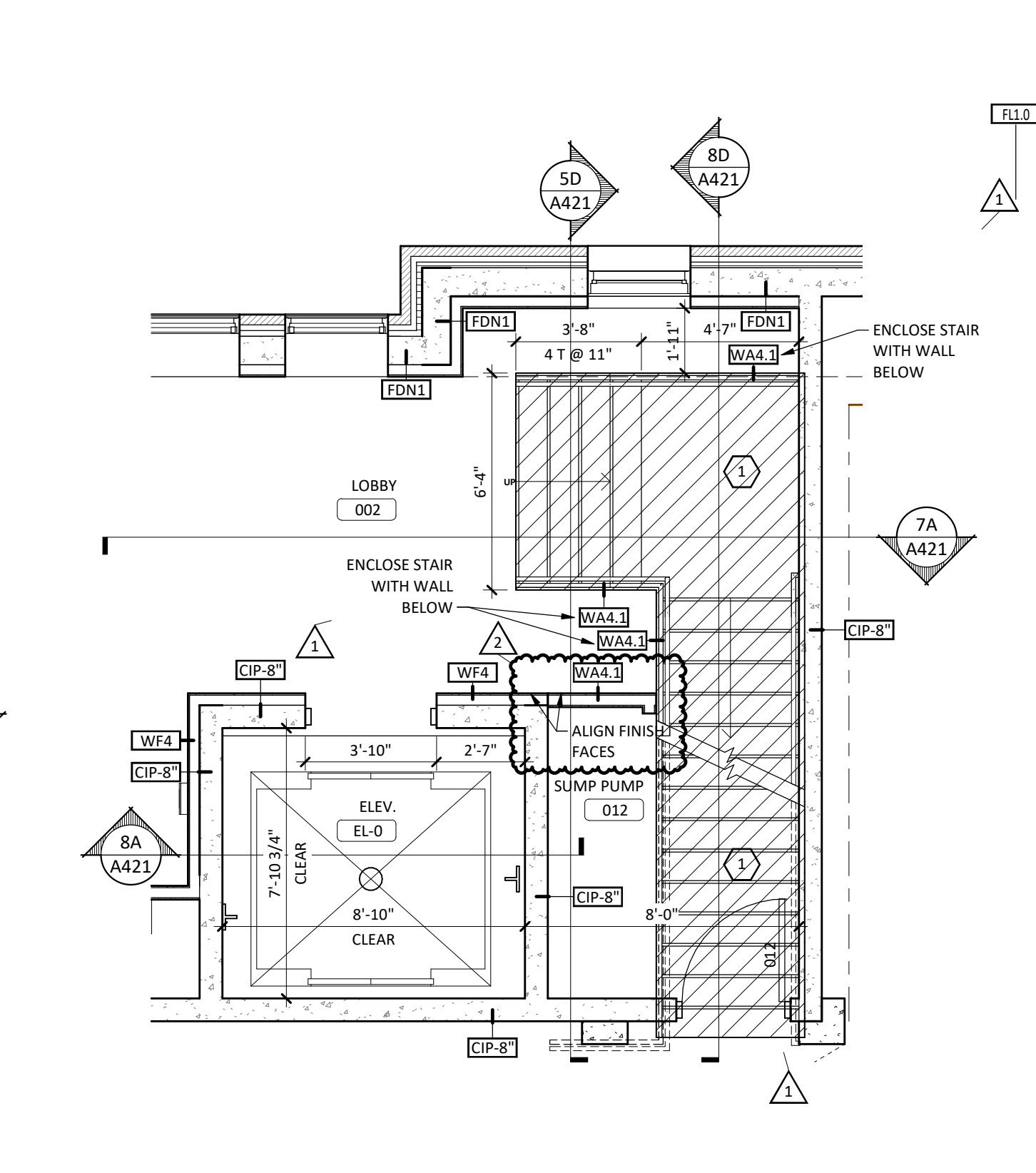
4C
A421
 ELEVATOR - THIRD FLOOR
 SCALE: 1/4" = 1'-0"



2C
A421
 ELEVATOR - SECOND FLOOR
 SCALE: 1/4" = 1'-0"



4A
A421
 ELEVATOR & NORTH STAIR - FIRST FLOOR
 SCALE: 1/4" = 1'-0"



2A
A421
 ELEVATOR & NORTH STAIR - GROUND FLOOR
 SCALE: 1/4" = 1'-0"

LWO DEVELOPMENT, LLC
EASTGATE APARTMENTS
 OWATONNA, MN

DATE: 06/19/2020
 PHASE: CONSTRUCTION DOCUMENTS
 PROJECT: 18126
 SHEET: **A421**
 VERTICAL CIRCULATION

12/22/2020 2:59:04 PM

WORK CHANGE PROPOSAL REQUEST

Proposal Request No. 3
Project: Eastgate Apartments
Project Location: Owatonna, MN
Date: 12/22/2020
To: JLG Architects

This is a notice of contemplated change for which a quotation is requested. Please attach an itemized quotation for the changes to the Contract Sum as described below. The price submitted for the contemplated change shall show breakdown of equipment, material and labor and shall include mark-up and tax where applicable. The price submitted is to be full and final and shall include original subtrade and supplier quotations and supporting calculations and include all direct, indirect and related impact costs. The submission shall include any adjustments in Contract Time.

THIS IS NOT A CHANGE ORDER, A CONSTRUCTION CHANGE DIRECTIVE OR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED IN THE PROPOSED MODIFICATIONS.

DESCRIPTION OF PROPOSED WORK CHANGES:

- Item No 01: Drawing M001 – Mechanical Symbols and Legend
 - a) Added general note FF.
- Item No 02: Drawing M300 – Ground Floor HVAC Plan
 - a) Added EF-9 and associated ductwork.
 - b) Revised L-1.
 - c) Added keynotes 22, 23, 24, and 25.
- Item No 03: Drawing M301 – First Floor HVAC Plan
 - a) Added supply air to stairwells.
 - b) Revised F-3 air distribution.
 - c) Added keynote 10.
- Item No 04: Drawing M303 – Third Floor HVAC Plan
 - a) Added supply air to elevator hoistway.
 - b) Revised F-4 air distribution.
 - c) Added keynote 9, 10, and 11.
- Item No 05: Drawing M801 – Mechanical Schedules
 - a) Revised exhaust fan schedule.
- Item No 06: Drawing E3.01- Ground Floor Electrical Plan:
 - a) Added Exhaust Fan EF-9.
- Item No 07: Drawing E3.04 – Third Floor Electrical Plan:
 - a) Added Exhaust Fan EF-10.
 - b) Revised Keyed Note 3.
- Item No 08: Drawing E9.01 – Electrical Schedules:

St. Cloud Office

3339 W. St. Germain St. #250
St. Cloud, MN 56301
320.217.5557

Alexandria Office

120 17th Ave. West
Alexandria, MN 56308
320.762.1290

Twin Cities Office

21308 John Milless Dr., Suite 104
Rogers, MN 55374
763.270.6300

PROPOSAL REQUEST NO. 3

Eastgate Apartments

- a) Motor and Equipment Schedule: Added Exhaust Fans EF-9 and EF-10.
- Item No 09: Drawing E9.02 – Electrical Schedules:
- a) Panel HP-0-1: Added Exhaust Fan EF-9.
 - b) Panel HP-2-1: Added Radon Exhaust Fan EF-10.
- Item No 10: Drawing P001 – Plumbing Symbols and Legend
- a) Added general note OO.
- Item No 11: Drawing P203 – Third Floor Plumbing Plan:
- a) Revised 4" PVC radon vent to include offset in attic so that roof vent termination is at least 10 FT from window openings below.
 - b) Added verbiage to Keynote #7 as shown on drawing.

ATTACHMENTS:

- Item No 01: Drawing M001 – Mechanical Symbols and Legend
- Item No 02: Drawing M300 – Ground Floor HVAC Plan
- Item No 03: Drawing M301 – First Floor HVAC Plan
- Item No 04: Drawing M303 – Third Floor HVAC Plan
- Item No 05: Drawing M801 – Mechanical Schedules
- Item No 06: Drawing E3.01 – Ground Floor Electrical Plan
- Item No 07: Drawing E3.04 – Third Floor Electrical Plan
- Item No 08: Drawing E9.01 – Electrical Schedules
- Item No 09: Drawing E9.02 – Electrical Schedules
- Item No 10: Drawing P001 – Plumbing Symbols and Legend
- Item No 11: Drawing P203 – Third Floor Plumbing Plan

END OF PR



HVAC SYMBOLS					
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ACCESS DOORS, VERTICAL/HORIZONTAL		FREEZE STAT		RECTANGULAR DUCT W/ACOUSTICAL LINING
	BULLHEAD TEE WITH TURNING VANES		GAS METER		GAS PRESSURE REGULATOR
	CARBON DIOXIDE SENSOR		GRAVITY BACKDRAFT DAMPER IN DUCT		REFRIGERANT LIQUID LINE
	CONCENTRIC TRANSITION, 15° MAXIMUM ANGLE		HVAC OCCUPANCY SENSOR		RELIEF/EXHAUST AIR (UP) [POSITIVE PRESSURE]
	EXHAUST AIR OR OUTSIDE AIR INTAKE (UP) [NEGATIVE PRESSURE]		LIQUID PROPANE GAS		RELIEF/EXHAUST AIR (DOWN) [POSITIVE PRESSURE]
	EXHAUST AIR OR OUTSIDE AIR INTAKE (DOWN) [NEGATIVE PRESSURE]		MANUAL VOLUME DAMPER IN DUCT		RETURN DUCT/TRANSFER AIR (UP)
	FIRE DAMPER IN DUCT		MOTORIZED OPERATED DAMPER IN DUCT		RETURN DUCT/TRANSFER AIR (DOWN)
	FIRE/SMOKE DAMPER IN DUCT		NATURAL GAS		ROUND DUCT WITH SIZE INDICATED
	FLEXIBLE DUCT		RADIUS ROUND ELBOW (RADIUS OF CENTERLINE OF DUCT EQUAL TO 1.5 X DUCT WIDTH OR DIAMETER)		SUPPLY DUCT (UP)
	FLEXIBLE CONNECTION IN DUCT		RECTANGULAR DUCT W/SIZE INDICATED		SUPPLY DUCT (DOWN)
			CO/NO2 GAS DETECTOR		THERMOSTAT TO CONTROL EQUIPMENT X
			SWITCH		SMOKE DAMPER IN DUCT

HVAC ABBREVIATIONS					
NOTE: NOT ALL ABBREVIATIONS MAY BE USED ON THIS PROJECT					
ABBR.	DESCRIPTION	ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
AD	ACCESS DOORS, VERTICAL/HORIZONTAL	ERV	ENERGY RECOVERY VENTILATION	LPS	LOW PRESSURE STEAM SUPPLY
AFF	ABOVE FINISHED FLOOR	ESP	EXTERNAL STATIC PRESSURE	LWT	LEAVING WATER TEMPERATURE
AFG	ABOVE FINISHED GRADE	EWV	ENTERING WATER TEMPERATURE	MH	MOUNTING HEIGHT
BB	BASEBOARD RADIATION	FFE	FINISHED FLOOR ELEVATION	MOD	MOTORIZED OPERATED DAMPER IN DUCT
CD	CONDENSATE DRAIN	FOR	FUEL OIL RETURN	MPC	MEDIUM PRESSURE CONDENSATE
CFH	CUBIC FEET PER HOUR	FOS	FUEL OIL SUPPLY	MPS	MEDIUM PRESSURE STEAM SUPPLY
CFM	CUBIC FEET PER MINUTE	FOV	FUEL OIL VENT	NG	NATURAL GAS
CO	CARBON MONOXIDE	FP	FILLER PANEL	NO2	NITROGEN DIOXIDE
CO2	CARBON DIOXIDE	FTR	FINNED TUBE RADIATION	OA	OUTSIDE AIR
CR	CONDENSER WATER RETURN	G	GAS PIPING	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
CS	CONDENSER WATER SUPPLY	HPC	HIGH PRESSURE CONDENSATE	PD	PRESSURE DROP
CHWR	CHILLED WATER RETURN	HPS	HIGH PRESSURE STEAM SUPPLY	RL	REFRIGERANT LIQUID LINE
CHWS	CHILLED WATER SUPPLY	HWS	HOT WATER HEATING SUPPLY	RS	REFRIGERANT SUCTION LINE
HCHWR	CHILLED WATER RETURN HIGH TEMPERATURE	HWR	HOT WATER HEATING RETURN	RA	RETURN AIR
HCHWS	CHILLED WATER SUPPLY HIGH TEMPERATURE	IG	INTERRUPTIBLE GAS PIPING	SA	SUPPLY AIR
DB/WB	DRY BULB/WET BULB	IE	INVERT ELEVATION	SF	SQUARE FEET
E	EXISTING (SA, RA, EA, ETC.)	LAT	LEAVING AIR TEMPERATURE	TA	TRANSFER AIR
EA	EXHAUST AIR	LPG	LIQUID PROPANE GAS	TYP.	TYPICAL
EAT	ENTERING AIR TEMPERATURE	LPC	LOW PRESSURE CONDENSATE	UNO	UNLESS NOTED OTHERWISE
				ZD	PRESSURE INDEPENDENT ZONE DAMPER

MECHANICAL DRAWING LIST	
SHEET NUMBER	SHEET NAME
M001	MECHANICAL SYMBOLS AND LEGEND
M300	GROUND FLOOR HVAC PLAN
M301	FIRST FLOOR HVAC PLAN
M302	SECOND FLOOR HVAC PLAN
M303	THIRD FLOOR HVAC PLAN
M401	ENLARGED HVAC UNIT PLANS
M402	ENLARGED HVAC UNIT PLANS
M701	MECHANICAL DETAILS
M702	MECHANICAL DETAILS
M801	MECHANICAL SCHEDULES

GENERAL HVAC NOTES

- THESE GENERAL NOTES SHALL APPLY TO ALL HVAC DRAWINGS.
- MECHANICAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE 'AS-BUILT' CONDITIONS AND THESE DRAWINGS.
- EXHAUST AIR DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FEET HORIZONTALLY FROM OUTSIDE AIR INTAKES AND 3 FEET FROM OPERABLE WINDOWS/DOORS.
- ALL REQUIRED CONTROL WIRING NOT SHOWN ON ELECTRICAL DRAWINGS SHALL BE INCLUDED AS PART OF THE MECHANICAL WORK. WIRING IN HVAC PLENUM SPACES SHALL BE INSTALLED ACCORDING TO CODE REQUIREMENTS.
- INSTALL FIRE DAMPERS IN ALL RATED WALL, FLOOR, AND CEILING DUCT PENETRATIONS AS APPLICABLE. INSTALL SMOKE DAMPERS IN ALL DUCT PENETRATIONS THROUGH SMOKE RATED WALLS AS APPLICABLE. WHERE DUCTS PENETRATE WALLS THAT CARRY BOTH SMOKE AND FIRE RATINGS, THE DAMPERS INSTALLED SHALL BE COMBINATION SMOKE AND FIRE DAMPERS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED ASSEMBLIES. PROVIDE ACCESS DOORS IN DUCT AT EACH DAMPER LOCATION. ALL DAMPERS SHALL BE UL 555 LABELED.
- ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- ALL BRANCH DUCT SIZES ARE EQUAL TO THE NECK SIZE OF DIFFUSER UNLESS NOTED OTHERWISE.
- ELBOWS SHALL BE CONSTRUCTED WITH CENTERLINE RADIUS OF NOT LESS THAN 1-1/2 TIMES THE WIDTH OF THE DUCT. WHERE SPACE CONDITIONS DO NOT PERMIT THIS RADIUS OR WHERE INDICATED ON DRAWINGS, SQUARE ELBOWS WITH TURNING VANES SHALL BE USED.
- MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE FIVE FEET.
- ALL DUCT DIMENSIONS ARE NET CLEAR, INTERIOR DIMENSIONS.
- ALL DUCT AND PIPE PENETRATIONS OF FIRE AND/OR SMOKE RATED ASSEMBLIES SHALL BE FIRE STOPPED AS REQUIRED PER CODE TO MAINTAIN THE INTEGRITY OF RATED ASSEMBLIES.
- ANY WALL, FLOOR, OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THIS WORK SHALL BE REPAIRED TO EXISTING OR LIKE-NEW CONDITION.
- MECHANICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL EQUIPMENT, DUCTWORK, AND PIPING TO FIT WITHIN THE SPACE ALLOWED BY ARCHITECTURAL AND STRUCTURAL CONDITIONS. PROVIDE PIPE AND DUCT OFFSETS AND TRANSITIONS AS REQUIRED TO ACCOMMODATE STRUCTURE AND ARCHITECTURE. CUTTING OR OTHERWISE ALTERING STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.
- PROVIDE BALANCING DAMPERS AS REQUIRED TO MEET FLOW REQUIREMENTS.
- PROVIDE SHUTOFF VALVES AT ALL BRANCH PIPING RUNOUTS AND AT INLET AND OUTLET OF EACH PIECE OF MECHANICAL EQUIPMENT.
- BALANCE SYSTEMS TO MEET DESIGN FLOW REQUIREMENTS.
- SEAL AND INSULATE DUCTWORK PER ENERGY CODE REQUIREMENTS. INSULATE PIPING PER ENERGY CODE REQUIREMENTS.
- LOCATE VALVES, DAMPERS, AND CONTROLS FOR EASE OF ACCESS.
- LOCATE GAUGES AND THERMOMETERS FOR EASE OF OBSERVATION.
- PROVIDE ACCESS PANELS IN NON-ACCESSIBLE CEILINGS AND IN WALL STRUCTURES TO ALLOW ADEQUATE ROOM FOR MAINTENANCE OF EQUIPMENT AND BALANCING OF SYSTEMS. COORDINATE EXACT SIZES AND LOCATIONS OF ACCESS PANELS WITH ARCHITECT DURING THE SHOP DRAWING PROCESS.
- COORDINATE FINAL DUCT AND PIPE ROUTING WITH PLUMBING, FIRE SUPPRESSION, AND ELECTRICAL. COORDINATE FINAL GRILLE, REGISTER, AND DIFFUSER LOCATIONS WITH REFLECTED CEILING PLANS, LIGHTING, SPRINKLER HEADS, COMMUNICATION DEVICES, AND FIRE ALARM DEVICES.
- VERIFY THERMOSTAT LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN AND INSTALLATION.
- HVAC WORK SHALL NOT BE LOCATED OVER ELECTRICAL EQUIPMENT OR PANELS. COORDINATE WITH ELECTRICAL CONTRACTOR TO MAINTAIN ALL CODE REQUIRED ELECTRICAL CLEARANCES.
- ROUTE CONDENSATE PIPING FROM EACH PIECE OF APPLICABLE MECHANICAL EQUIPMENT TO NEAREST FLOOR DRAIN, STANDPIPE, MOP SINK, WALL BOX, OR OTHER CODE-APPROVED PLUMBING RECEPTOR.
- ALL MATERIALS, FITTINGS, AND EQUIPMENT INSTALLED IN RETURN AIR PLENUMS SHALL BE NON-COMBUSTIBLE AND RATED FOR USE IN RETURN AIR PLENUMS.
- ROUTE REFRIGERANT LINE SETS FROM EACH EVAPORATOR COIL TO ASSOCIATED CONDENSING UNIT/HEAT PUMP PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ROUTE COMBUSTION AIR AND FLUE PIPING FROM EACH FURNACE TO EXTERIOR OF BUILDING PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ANY HVAC EQUIPMENT THAT IS CAPABLE OF PRODUCING CONDENSATE AND IS LOCATED ABOVE A HARD CEILING SHALL BE PROVIDED WITH A SECONDARY OVERFLOW CONDENSATE SWITCH.
- ALL MECHANICAL SYSTEMS SHALL COMPLY WITH THE CURRENT MINNESOTA COMMERCIAL ENERGY CODE. COMPLIANCE PATH SHALL BE VIA ASHRAE 90.1-2016 UNLESS NOTED OTHERWISE.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALTERNATES.
- HVAC LOAD CALCULATIONS HAVE BEEN COMPLETED USING TRANE TRACE 700 SOFTWARE IN COMPLIANCE WITH ASHRAE STANDARDS.
- ALL PENETRATIONS (DUCTS, PIPES, CONDUITS, ETC.) FROM THE PARKING GARAGE INTO OCCUPIED BUILDING SPACES SHALL BE SEALED AGAINST VAPOR INTRUSION PER THE MPCA BEST MANAGEMENT PRACTICES. COORDINATE WITH GC AND REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

HVAC UNIT PLAN KEYNOTES

- PROVIDE OUTSIDE AIR WALL CAP AND 4 INCH ROUND DUCT WITH MANUAL BALANCING DAMPER AND MOTORIZED DAMPER. ROUTE DUCT FROM WALL CAP THROUGH JOISTS TO HVAC UNIT RETURN AIR DUCT. INSTALL DAMPERS IN ACCESSIBLE LOCATION. BALANCE TO CFM INDICATED ON PLANS. FIRESTOP DUCT PENETRATIONS AT RATED WALLS AND FLOOR/CEILING ASSEMBLIES PER CODE.
- PROVIDE EXHAUST AIR WALL CAP AND 4 INCH ROUND DUCT FROM BATHROOM EXHAUST FAN. ROUTE DUCT THROUGH JOISTS TO SIDEWALL (TYPICAL). EXHAUST DUCTS AT TOP FLOOR UNITS SHALL BE ROUTED UP THROUGH ROOF TO ROOF CAP. FIRESTOP DUCT PENETRATIONS AT RATED WALLS AND FLOOR/CEILING ASSEMBLIES PER CODE.
- PROVIDE EXHAUST AIR WALL CAP AND 4 INCH ROUND DUCT FROM CLOTHES DRYER. ROUTE DUCT THROUGH JOISTS TO SIDEWALL (TYPICAL). EXHAUST DUCTS AT TOP FLOOR UNITS SHALL BE ROUTED UP THROUGH ROOF TO ROOF CAP. FIRESTOP DUCT PENETRATIONS AT RATED WALLS AND FLOOR/CEILING ASSEMBLIES PER CODE.
- PROVIDE EXHAUST AIR WALL CAP, CEILING RADIATION DAMPER AND 7 INCH ROUND DUCT FROM KITCHEN RANGE HOOD. ROUTE DUCT THROUGH JOISTS TO SIDEWALL (TYPICAL). EXHAUST DUCTS AT TOP FLOOR UNITS SHALL BE ROUTED UP THROUGH ROOF TO ROOF CAP. FIRESTOP DUCT PENETRATIONS AT RATED WALLS AND FLOOR/CEILING ASSEMBLIES PER CODE.
- PROVIDE HIGH TRANSFER GRILLES AT BEDROOM WALL TO ALLOW RETURN AIR BACK TO MAGIC PAK. SIZE SHALL BE AS INDICATED ON PLANS.
- PROVIDE LOW RETURN GRILLE AT MAGIC PAK CLOSET WALL. BOTTOM OF GRILLE SHALL BE 6 INCHES AFF.

GENERAL HVAC UNIT PLAN NOTES

- COORDINATE SOFFIT LOCATIONS AND HEIGHTS WITH ARCHITECT AND GENERAL CONTRACTOR. SOFFITS SHALL BE CONSTRUCTED TO PROVIDE SUFFICIENT SPACE FOR DUCTWORK.
- PROVIDE DRYER BOOSTER FAN FOR ANY CLOTHES DRYER VENT THAT EXCEEDS CODE MAXIMUM LENGTH OR MANUFACTURER'S RECOMMENDED LENGTH, WHICHEVER IS GREATER.
- PROVIDE WALL-MOUNTED STANDALONE THERMOSTAT FOR CONTROL OF MAGIC PAK. COORDINATE LOCATION AND MOUNTING HEIGHT WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.
- UNDERCUT DOORS AS REQUIRED TO ALLOW RETURN AIR BACK TO MECHANICAL CLOSET.
- SUPPLY AIR REGISTER SCHEDULE (SHOEMAKER 850 OR EQUAL):

0 - 140 CFM	10 X 6
141 - 170 CFM	12 X 6
171 - 200 CFM	14 X 6
201 - 250 CFM	14 X 8
251 - 300 CFM	16 X 8
- RETURN/TRANSFER GRILLE SCHEDULE (SHOEMAKER 1050 OR EQUAL) (LOCATED IN WALL, CEILING, OR SOFFIT):

0 - 250 CFM	14 X 6
251 - 335 CFM	14 X 8
336 - 420 CFM	14 X 10
421 - 525 CFM	30 X 6
526 - 700 CFM	30 X 8
701 - 875 CFM	30 X 10
876 - 1000 CFM	30 X 12
- RETURN GRILLE SCHEDULE (LOCATED 12 INCHES AFF AT MECHANICAL CLOSET):

0 - 1000 CFM	20 X 20
--------------	---------
- NATURAL GAS SUB-METER AT EACH MAGIC PAK SHALL BE FURNISHED BY OWNER AND INSTALLED BY MECHANICAL CONTRACTOR.
- PROVIDE PANASONIC SELECT CYCLER, MODEL SACG2K-04, FOR EACH DWELLING UNIT. BALANCED WHOLE HOUSE VENTILATION SYSTEM SHALL COMPLY WITH ASHRAE STANDARD 62.2-2016 AND ENTERPRISE GREEN COMMUNITIES CRITERIA. WALL-MOUNTED CONTROLLER SHALL BE INTERLOCKED WITH MOTORIZED OUTSIDE AIR DAMPER, BATHROOM EXHAUST FAN EF-A, AND MAGIC PAK SUPPLY FAN. COORDINATE EXACT LOCATION OF CONTROLLER WITH ARCHITECT AND GC. EF-A LIGHT/FAN SWITCH INCLUDED WITH SELECT CYCLER SHALL BE INSTALLED BY DIVISION 26.
- FURNISH PANASONIC SMART EXHAUST SWITCH, MODEL EV-WFPT1-W, FOR CONTROL OF EF-B IN DWELLING UNITS WITH MORE THAN ONE BATHROOM. SMART EXHAUST SWITCH SHALL CONTROL BATHROOM LIGHT AND EF-B WITH DELAY TIMER TO RUN THE FAN FOR MINIMUM 10 MINUTES AFTER THE LIGHT/FAN ARE TURNED OFF. IN COMPLIANCE WITH ASHRAE 62.2-2016 AND ENTERPRISE GREEN COMMUNITIES CRITERIA, EF-B SWITCH SHALL BE INSTALLED BY DIVISION 26.



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REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	PR. #3	12-22-20

DATE: 12/22/20
 SHEET: M001

PROJECT: EASTGATE APARTMENTS
 OWA TONNA, MN

PHASE: CONSTRUCTION DOCUMENTS

PROJECT: 02220002

SHEET: M001

MECHANICAL SYMBOLS AND LEGEND

DATE: 06/19/2020

PHASE: CONSTRUCTION DOCUMENTS

PROJECT: 02220002

SHEET: M001

MECHANICAL SYMBOLS AND LEGEND

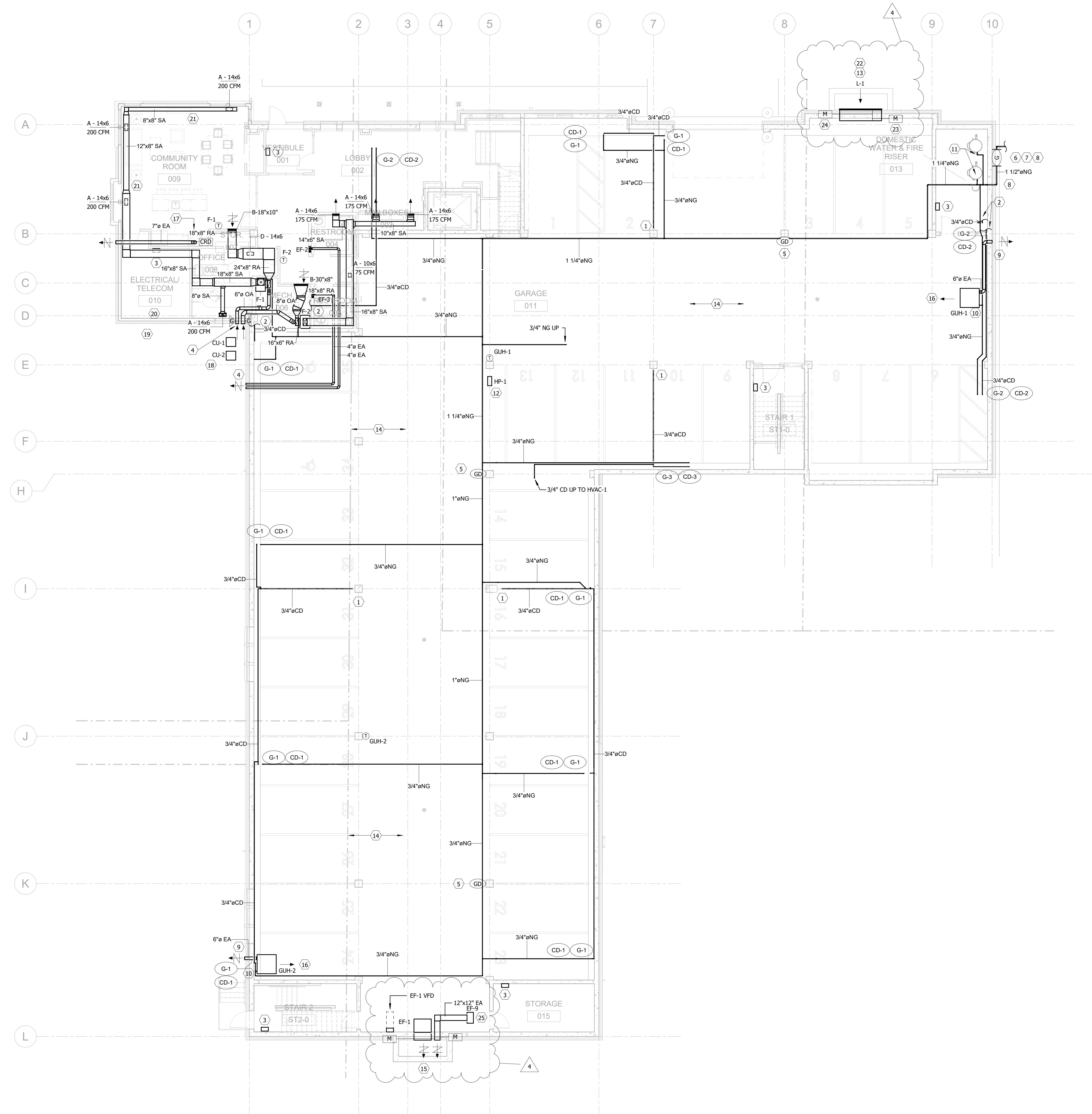
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EASTGATE APARTMENTS
 OWA TONNA, MN

12/22/2020 2:13:08 PM

KEYNOTES

- ROUTE 3/4" CD TO STANDPIPE BEHIND COLUMN. REFER TO PLUMBING PLANS FOR MORE INFORMATION.
- ROUTE CD TO FLOOR DRAIN. REFER TO PLUMBING PLANS FOR MORE INFORMATION.
- ELECTRIC HEAT BY DIVISION 26. SEE ELECTRICAL PLANS FOR MORE INFORMATION.
- PROVIDE WALL CAP.
- GAS DETECTORS SHALL BE INTERLOCKED WITH INTAKE DAMPER AND EF-1.
- NATURAL GAS SERVICE, METER, VALVES, PRESSURE REGULATOR, AND RELIEF VENT BY LOCAL UTILITY COMPANY. PRESSURE REGULATOR RELIEF VALVE SHALL DISCHARGE PER CODE. METER OUTLET PRESSURE SHALL BE 2 PSI. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPING DOWNSTREAM OF THE METER.
- HOUSE GAS METER. PIPE SIZING IS BASED ON TOTAL DEVELOPED LENGTH OF 300 FT AND 2020 MIN FUEL GAS CODE, TABLE 402.4(5) FOR SCHEDULE 40 METALLIC PIPE. SEE NATURAL GAS LOAD SCHEDULE FOR ADDITIONAL INFORMATION.
- PROVIDE MAIN NG SHUTOFF VALVE IN ACCESSIBLE LOCATION. VERIFY WITH LOCAL AID.
- TERMINATE UNIT HEATER FLUE PER CODE AND PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 3/4" NG TO GAS UNIT HEATER.
- 3/4" NG TO WATER HEATER. SEE PLUMBING DRAWINGS FOR MORE INFORMATION.
- PROVIDE SUPPORT STAND TO ELEVATE EQUIPMENT 18" A.F.F. PER CODE.
- LOUVER SHALL TERMINATE IN AREA WELL BY OTHERS. COORDINATE WALL OPENING WITH STRUCTURAL AND GC.
- ROUTE PIPING AS HIGH AS POSSIBLE. COORDINATE EXACT ROUTING WITH STRUCTURAL, PRECAST BEAMS AND WITH OTHER TRADES - TYPICAL.
- EXHAUST FAN SHALL TERMINATE INTO AREA WELL BY OTHERS. PROVIDE LOW-LEAK MOTORIZED DAMPER AT FAN DISCHARGE. COORDINATE WALL OPENING WITH STRUCTURAL AND GC.
- MOUNT HEATER TIGHT TO UNDERSIDE OF STRUCTURE.
- CONNECT EXHAUST DUCT TO RANGE HOOD BY OTHERS AND ROUTE DUCT THROUGH TRUSSES TO WALL CAP AS INDICATED.
- CONDENSING UNITS SHALL BE INSTALLED ON FIBERGLASS PAD WITH MANUFACTURER'S REQUIRED CLEARANCES. COORDINATE WITH LANDSCAPING IN THIS AREA.
- MAINTAIN ALL REQUIRED CLEARANCES FROM ELECTRICAL UTILITY TRANSFORMER IN THIS LOCATION. COORDINATE WITH DIVISION 26.
- SPACE RESERVED FOR ELECTRICAL EQUIPMENT. MAINTAIN ALL REQUIRED CLEARANCES PER NEC. COORDINATE WITH DIVISION 26.
- COORDINATE DUCT ROUTING WITH ARCHITECTURAL SOFFIT.
- SPLIT LOUVER INTO 2 SECTIONS, ONE 20" W X 50" H AND ONE 72" W X 50" H, EACH WITH INDEPENDENT MOTORIZED DAMPERS.
- INTERLOCK DAMPER WITH VAPOR MITIGATION FAN (CONTINUOUS OPERATION).
- INTERLOCK DAMPER WITH EF-1.
- EF-9 SHALL RUN CONTINUOUSLY TO PROVIDE MINIMUM 0.05 CFM PER SF VENTILATION PER MPCA VAPOR MITIGATION BEST PRACTICES.

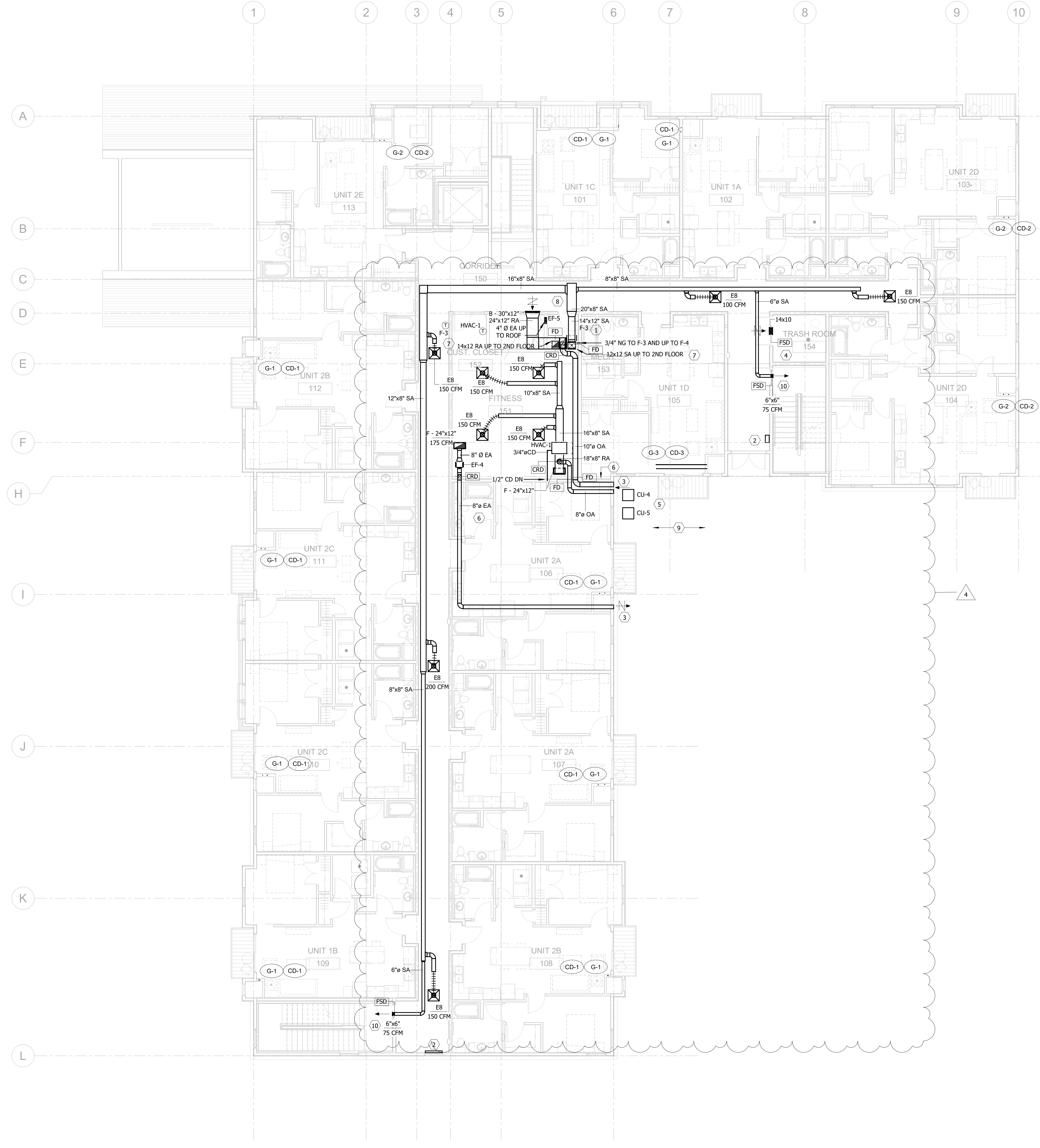


1 GROUND FLOOR - HVAC PLAN
0 4' 8' 16'

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	PR #3	12-22-20

KEYNOTES

- ROUTE CD TO FLOOR DRAIN. REFER TO PLUMBING PLANS FOR MORE INFORMATION.
- ELECTRIC HEAT BY DIVISION 26. SEE ELECTRICAL PLANS FOR MORE INFORMATION.
- PROVIDE WALL CAP.
- EXHAUST ROOM VIA INLINE FANS AT TOP OF TRASH AND RECYCLE CHUTES. SEE TRASH EXHAUST DETAIL.
- CONDENSING UNITS SHALL BE INSTALLED ON FIBERGLASS PAD WITH MANUFACTURER'S REQUIRED CLEARANCES. COORDINATE WITH LANDSCAPING IN THIS AREA.
- ROUTE DUCT THROUGH TRUSSES AS INDICATED WITH CEILING RADIATION DAMPER AT FLOOR/CEILING MEMBRANE PENETRATIONS.
- PROVIDE FIRE DAMPER AT FLOOR LINE TO PROTECT SA AND RA DUCTS FROM F-3 UP TO 2ND FLOOR CEILING.
- CLOSELY COORDINATE DUCT PENETRATIONS AT CORRIDOR WALL WITH STRUCTURAL FRAMING.
- ALTERNATE #5: PROVIDE SEPARATE PRICE FOR 3/4" NG LINE, SHUTOFF VALVE, SOLENOID VALVE WITH TIMER, AND EMERGENCY STOP BUTTON FOR GAS GRILL AT PATIO. ROUTE GAS LINE UNDERGROUND FROM GARAGE CEILING. SEE ARCHITECTURAL AND LANDSCAPE PLANS FOR MORE INFORMATION.
- SUPPLY AIR TO STAIRWELL SHALL PROVIDE POSITIVE PRESSURIZATION PER MPCA VAPOR MITIGATION BEST PRACTICES.

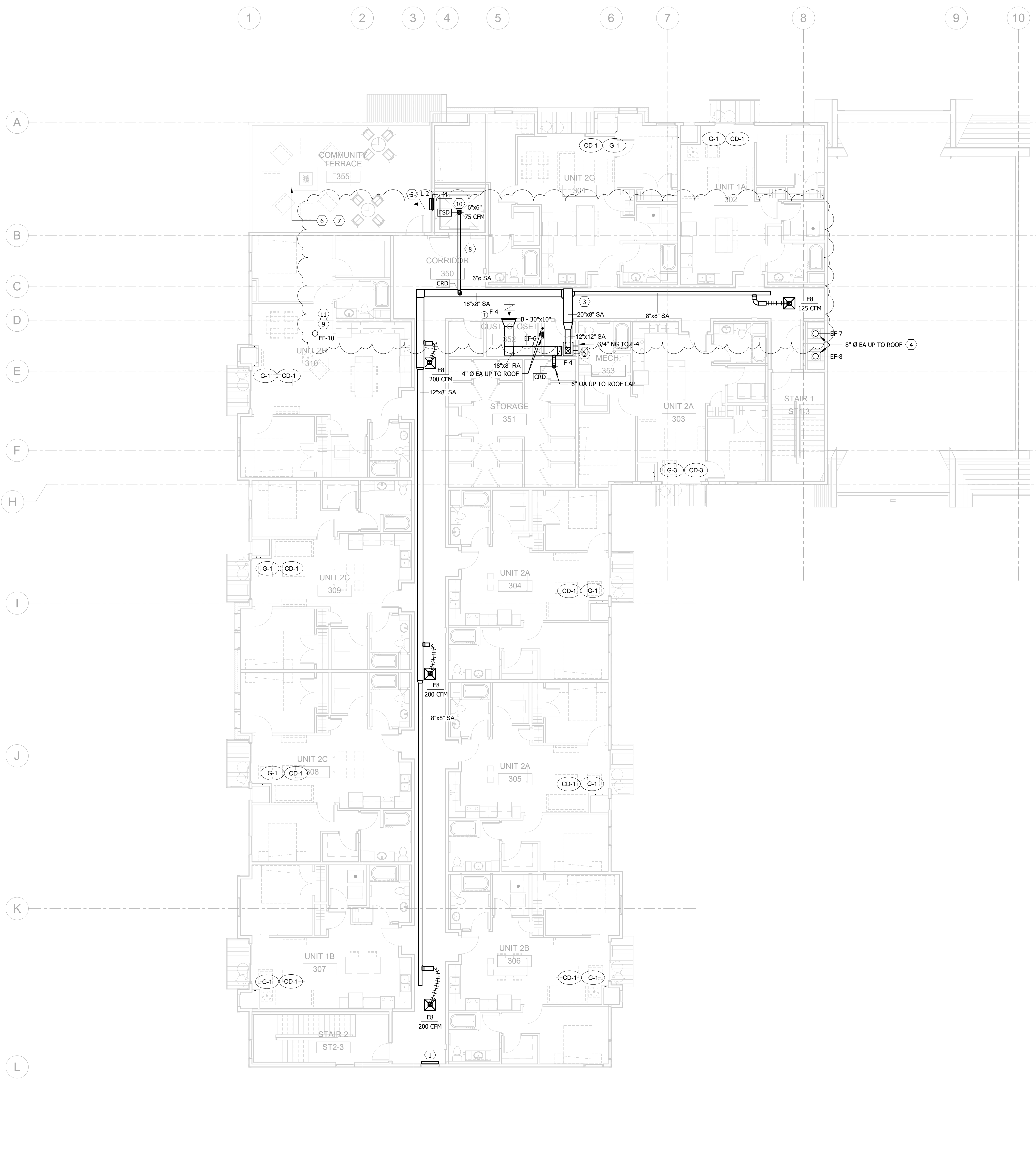


1 FIRST FLOOR - HVAC PLAN
0 4' 8' 16'

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	ADDITIONUM 1	06-30-20
4	PK #3	12-22-20

KEYNOTES

- ELECTRIC HEAT BY DIVISION 26. SEE ELECTRICAL PLANS FOR MORE INFORMATION.
- ROUTE 1/2" CD TO FLOOR DRAIN.
- CLOSELY COORDINATE DUCT PENETRATIONS AT CORRIDOR WALL WITH STRUCTURAL FRAMING.
- SEE TRASH CHUTE EXHAUST DETAIL.
- ELEVATOR HOISTWAY RELIEF LOUVER WITH MOTORIZED DAMPER AND END SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECTURAL AND STRUCTURAL. COORDINATE CONTROL WITH FIRE ALARM CONTROL PANEL AND LOCAL AHJ REQUIREMENTS.
- ALTERNATE #17: PROVIDE SEPARATE PRICE FOR 3/4" NG LINE, SHUTOFF VALVE, SOLENOID VALVE WITH TIMER, AND EMERGENCY STOP BUTTON FOR FIRE PIT AT ROOF TERRACE. SEE ARCHITECTURAL PLANS FOR MORE INFORMATION.
- ALTERNATE #18: PROVIDE SEPARATE PRICE FOR 3/4" NG LINE, SHUTOFF VALVE, SOLENOID VALVE WITH TIMER, AND EMERGENCY STOP BUTTON FOR GAS GRILL AT ROOF TERRACE. SEE ARCHITECTURAL PLANS FOR MORE INFORMATION.
- ROUTE SUPPLY AIR DUCT THROUGH ATTIC TO 6"x6" SUPPLY DIFFUSER INSTALLED AT TOP OF ELEVATOR HOISTWAY. PROVIDE CEILING RADIATION DAMPER AT DUCT PENETRATION INTO ATTIC AND INSULATE DUCT IN ATTIC PER CODE.
- CONNECT EF-10 TO 4" PVC RADON VENT PIPE IN ATTIC. SEE PLUMBING PLANS FOR EXACT LOCATION AND ADDITIONAL INFORMATION. COORDINATE WITH DIVISION 22.
- SUPPLY AIR TO ELEVATOR HOISTWAY SHALL PROVIDE POSITIVE PRESSURIZATION PER MPCA VAPOR MITIGATION BEST PRACTICES.
- FAN SPEED AND AIRFLOW SETPOINT SHALL BE MANUALLY ADJUSTED AS REQUIRED TO MEET ACTIVE RADON MITIGATION SYSTEM REQUIREMENTS.



1 THIRD FLOOR - HVAC PLAN
0 4' 8' 16'

DIFFUSER & GRILLE LEGEND

DIFFUSER/GRILLE			
TYPE (SEE SCHEDULE) -----	A	8	-- THROAT DIAMETER OR SIZE
CUBIC FEET PER MINUTE --	180	SA	-- TYPE OF AIR FLOW (CFM)

DIFFUSER, REGISTER, AND GRILLE SCHEDULE

UNIT TAG	TYPE	MFGR.	MODEL	DESCRIPTION	MATERIAL	FINISH	ACCESSORIES	NOTES
A	SUPPLY GRILLE	TITUS	300RL	DOUBLE DEFLECTION LOUVERED FACE	STEEL	WHITE	-	-
B	RETURN/EXHAUST GRILLE	TITUS	350RL	LOUVERED FACE	STEEL	WHITE	-	-
C	SUPPLY GRILLE	SHOEMAKER	850	DOUBLE DEFLECTION LOUVERED FACE	STEEL	WHITE	-	-
D	RETURN GRILLE	SHOEMAKER	1050	LOUVERED FACE	STEEL	WHITE	-	-
E	CEILING DIFFUSER	TITUS	TMS	LAY-IN STEEL SQUARE CONE	STEEL	WHITE	SHEET ROCK FRAME AS REQUIRED	-
F	RETURN GRILLE	TITUS	50F	LAY-IN EGG CRATE FACE	ALUMINUM	WHITE	-	-

NOTES:
 1. VERIFY LOUVER FINISH WITH ARCHITECT.

NATURAL GAS SCHEDULE

EQUIPMENT	MBH
GUH-1	300
GUH-2	300
WH-1	200
WH-2	200
F-1	40
F-2	30
F-3	80
F-4	40
MP-A (QTY 22)	484
MP-B (QTY 14)	462
FUTURE	500
BUILDING TOTAL	2,636

LOUVER SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	CFM	FRAME SIZE (WxH)	FREE AREA (SQ.FT.)	VELOCITY (FPM)	BPWP (FPM)	PRESSURE (IN WG)	NOTES
L-1	GARAGE	GARAGE OA	GREENHECK	ESD-435	10,000	92X50	18.22	549	989	0.05	1
L-2	ROOF	HOISTWAY RELIEF	GREENHECK	ESD-435	-	24X36	3.04	-	989	-	1

1. VERIFY LOUVER FINISH WITH ARCHITECT.

UNIT HEATER SCHEDULE (GAS)

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	HEATING INPUT CAPACITY (BTU/HR)	HEATING OUTPUT CAPACITY (BTU/HR)	THERMAL EFFICIENCY (%)	GAS CONNECTION DIAMETER (INCHES)	VENT CONNECTION DIAMETER (INCHES)	ELECTRICAL DATA								WEIGHT (LBS)	NOTES
										EAT (°F)	LAT (°F)	V	PH	HZ	MHP	FLA			
GUH-1	GARAGE	GARAGE	REZNR	UDAP-300	300,000	249,000	83	3/4	6	65	125	115	1	60	1/2	11.0	269	1	
GUH-2	GARAGE	GARAGE	REZNR	UDAP-300	300,000	249,000	83	3/4	6	65	125	115	1	60	1/2	11.0	269	1	

NOTES:
 1. DISCONNECT BY DIVISION 26.

EXHAUST FAN SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	FAN TYPE	PERFORMANCE DATA				MOTOR DATA				SOUND DATA (SONES)	CONTROL	WEIGHT (LBS)	NOTES	
						FLOW (CFM)	ESP (IN WG)	RPM	BHP	DRIVE TYPE	MHP	ELECTRICAL DATA						
												V	PH					HZ
EF-1	GARAGE	GARAGE	GREENHECK	SBE-3L30-20	SIDEWALL PROPELLER	10,000	0.35	824	1.77	BELT	2	208	3	60	23	VFD	105	1,3,7
EF-2	RESTROOM 004	RESTROOM 004	PANASONIC	FV-0510V51	WALL	80	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,4
EF-3	RESTROOM 005	RESTROOM 005	PANASONIC	FV-0510V51	WALL	80	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,4
EF-4	FITNESS 151	FITNESS 151	GREENHECK	CSP-A200	INLINE	175	0.35	1,327	-	ECM	FRAC.	115	1	60	5.6	LIGHT SWITCH	57	1,2,4
EF-5	JANITOR CLOSET 152	JANITOR CLOSET 152	PANASONIC	FV-0510V51	WALL	50	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,4
EF-6	JANITOR CLOSET 352	JANITOR CLOSET 352	PANASONIC	FV-0510V51	WALL	50	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,4
EF-7	TRASH CHUTE	TRASH CHUTE	FANTECH	FG-8-EC	INLINE	200	0.35	2,491	69 W	ECM	FRAC.	120	1	60	7.1	CONTINUOUS	11	1
EF-8	RECYCLING CHUTE	RECYCLING CHUTE	FANTECH	FG-8-BC	INLINE	200	0.35	2,491	69 W	ECM	FRAC.	120	1	60	7.1	CONTINUOUS	11	1
EF-9	GARAGE	VAPOR MITIGATION	GREENHECK	CSP-A1050-VG	CEILING MOUNTED	700	0.35	1,018	0.15	ECM	FRAC.	120	1	60	1.1	CONTINUOUS	49	1
EF-10	ATTIC	RADON MITIGATION	FANTECH	RN-4EC-4	INLINE	100	2.5	4,084	169 W	ECM	FRAC.	120	1	60	-	CONTINUOUS	7.3	1
EF-A	APARTMENT BATHROOMS	MASTER BATHROOMS	PANASONIC	FV-0510V51	WALL	80	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,5,6
EF-B	APARTMENT BATHROOMS	OTHER BATHROOMS	PANASONIC	FV-0510V51	WALL	80	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,5,6

NOTES:
 1. DISCONNECT BY DIVISION 23.
 2. FAN SHALL BE ENERGY STAR RATED.
 3. VFD FOR 2-SPEED OPERATION BY DIVISION 23.
 4. FAN/LIGHT SWITCH PROVIDED BY DIVISION 26.
 5. FAN/LIGHT SWITCH FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
 6. FAN SHALL BE INTERLOCKED WITH SELECT CYCLER WHOLE HOUSE VENTILATION CONTROLLER BY DIVISION 26.
 7. PROVIDE WALL HOUSING AND OSHA GUARD.

FURNACE SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	SUPPLY AIR	ESP	SUPPLY FAN HP	MINIMUM OUTDOOR AIR (CFM)	COOLING CAPACITY (MBH)	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	AFUE	QUANTITY	FUEL TYPE	VOLTAGE/PHASE	MCA	MOP	NOTES
F-1	MECH 006	COMMUNITY ROOM, OFFICE 008	DAIKIN	DM96VE0402ANA	800	0.5	1/2	90	24	40	38.4	96	1	NG	120/1	8.6	15	1,2,3
F-2	MECH 006	LOBBY	DAIKIN	DM96VE0303ANA	600	0.5	1/2	120	18	30	28.8	96	1	NG	120/1	8.6	15	1,2,3
F-3	MECH 153	1ST/2ND FL CORRIDOR	DAIKIN	DM96VE0804CNA	1600	0.7	3/4	245	48	80	76.8	96	1	NG	120/1	11.6	15	1,2,3
F-4	MECH 353	3RD FL CORRIDOR	DAIKIN	DM96VE0402ANA	800	0.6	1/2	90	24	40	38.4	96	1	NG	120/1	8.6	15	1,2,3

NOTES:
 1. FURNACE SHALL BE ENERGY STAR RATED.
 2. PROVIDE EC MOTOR AND 2-STAGE HEAT WITH 95% AFUE MINIMUM.
 3. DISCONNECT BY DIVISION 26.

SPLIT SYSTEM UNIT SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	STYLE	FAN DATA			ELECTRICAL DATA				DIMENSIONS			QUANTITY	OPERATING WEIGHT (LBS)	NOTES
						SUPPLY AIR FLOW	ESP (IN H2O)	MIN. OUTSIDE AIR (CFM)	V	PH	HZ	MCA	H (IN)	W (IN)	D (IN)			
HVAC-1	FITNESS	FITNESS	CARRIER	40MBDQ18-3	DUCTED	600	0.4	150	208	1	60	1.2	9	35	27	1	54	1,2

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	COOLING DATA (MBH)		HEATING DATA (MBH)					EFFICIENCIES				ELECTRICAL DATA					QUANTITY	OPERATING WEIGHT (LBS)	NOTES
					NOM. CAP. @ 95°F	NOM. CAP. @ 47°F	@ 20°F	@ 5°F	@ -4°F	ENERGY STAR	SEER	EER	HSPF	COP	V	PH	HZ	MCA	MOP				
					HP-1	GARAGE	HVAC-1	CARRIER	38MAQB18-3	16.0	18.0	14.0	9.0	7.6	YES	18.5	12.5	9.6	3.4	208			

NOTES:
 1. PROVIDE MINIMUM 14.5 SEER, 9.5 HSPF, 12.0 EER.
 2. DISCONNECT BY DIVISION 26.

MAGIC-PAK SCHEDULE (DX/GAS)

UNIT TAG	LOCATION/SERVES	MFGR.	MODEL	SUPPLY AIR VOLUME (CFM)	MIN. OUTDOOR AIR (CFM)	COOLING		HEATING			ELECTRICAL DATA				DIMENSIONS			UNIT WEIGHT (LBS)	QUANTITY	NOTES
						CAPACITY (MBH)	EER	INPUT (MBH)	OUTPUT (MBH)	THERMAL EFFICIENCY	V/PH/HZ	HP	MCA	MOP	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)			
MP-A	APARTMENT UNITS	MAGIC-PAK	HWC9N2412P12A	400	-	12.0	12.0	22.0	20.5	95%	208/1/60	1/2	9.5	15	29	27	43	293	22	1, 2
MP-B	APARTMENT UNITS	MAGIC-PAK	HWC9N3612P18A	600	-	17.0	12.0	33.0	31.0	95%	208/1/60	1/2	12.6	15	29	27	43	313	14	1, 2

NOTES:
 1. PROVIDE 30 CFM OA FOR 1 BEDROOM UNITS AND 45 CFM OA FOR 2 BEDROOM UNITS PER ASHRAE 62.2-2016
 2. DISCONNECT BY DIVISION 26.

AIR-COOLED CONDENSING UNIT SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	COOLING DATA			REFRIGERANT	COMPRESSOR DATA		ELECTRICAL DATA					OPERATING WEIGHT	NOTES
					COOLING CAPACITY (MBH)	AMBIENT TEMP. (°F)	SEER		QTY.	TYPE	V	PH	HZ	MCA	MOP		
CU-1	GRADE	F-1	DAIKIN	DX14SA0241	24	95	14.5	R-410A	1	SCROLL	208	1	60	17.6	30	136	1,2
CU-2	GRADE	F-2	DAIKIN	DX14SA0181	18	95	15.5	R-410A	1	SCROLL	208	1	60	12	20	131	1,2
CU-3	GRADE	F-3	DAIKIN	DX14SA0481	48	95	14.5	R-410A	1	SCROLL	208	1	60	26.2	45	220	1,2
CU-4	GRADE	F-4	DAIKIN	DX14SA0241	24	95	14.5	R-410A	1	SCROLL	208	1	60	17.6	30	136	1,2

NOTES:
 1. PROVIDE MINIMUM 14.5 SEER.
 2. DISCONNECT BY DIVISION 26.

E
D
C
B
A

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	ISS. No. 1 - Rev.	06-30-20
2	PR03	12-22-20

- GENERAL NOTES:**
1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL OTHER DISCIPLINES DOCUMENTS TO VERIFY ANY ADDITIONAL EQUIPMENT NEEDING ELECTRICAL CONNECTIONS TO BE INCLUDED IN THE BID.
 2. REFER TO ARCHITECTURAL DOCUMENTS FOR LOCATIONS AND REQUIREMENTS OF OWNERS EQUIPMENT OR OTHERWISE NEEDING ELECTRICAL CONNECTIONS AND PROVIDE AS NOTED.
 3. REFER TO ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DEVICES AND LUMINAIRES.
 4. REFER TO THE MECHANICAL DOCUMENTS FOR LOCATIONS AND REQUIREMENTS OF 'CO' DETECTORS AND PROVIDE CONNECTIONS AS NOTED.
 5. REFER TO THE MECHANICAL DOCUMENTS FOR LOCATIONS AND REQUIREMENTS OF COMBINATION FIRE/SMOKE DAMPERS AND PROVIDE CONNECTIONS AS NOTED.
 6. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A COMPLETE FIRE ALARM SYSTEM WHICH IS ACCEPTABLE TO THE CITY OF OWATONNA IN EVERY WAY WHETHER SHOWN OR NOT SHOWN ON THE CONTRACT DOCUMENTS.
 7. SECURITY SYSTEM / CAMERAS / DOOR HARDWARE IS PROVIDED BY THE OWNERS SECURITY CONTRACTOR AND IS SHOWN FOR COORDINATION. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL 120V POWER, CONDUIT, AND BOXES AS NEEDED FOR A COMPLETE SYSTEM AS DIRECTED BY THE SECURITY SYSTEM INSTALLER. REFER TO SPECIFICATIONS FOR ALTERNATES.
 8. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LOW VOLTAGE VOICE/DATA CABLING, BOXES, DEVICES AND CONDUIT AS NEEDED FOR A COMPLETE AND OPERATING SYSTEM AS SPECIFIED. THE LOW VOLTAGE HEAD END RACK AND SERVICES ARE TO BE BY THE OWNER.
 9. ALL PENETRATIONS (DUCTS, PIPES, CONDUITS, ETC.) FROM THE PARKING GARAGE INTO OCCUPIED BUILDING SPACES SHALL BE SEALED AGAINST VAPOR INTRUSION PER THE MPCA BEST MANAGEMENT PRACTICES. COORDINATE WITH GC AND REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

- KEYED NOTES:**
1. TYPE 'X1' EXTERIOR WALL LIGHTS TO BE CONTROLLED BY PHOTOCELL TYPICAL AS NOTED. PROVIDE ALL REQUIRED CONNECTIONS VIA PHOTOCELL INDICATED ON SHEET E3.02. REFER TO SPECIFICATIONS.
 2. TYPE 'W1' EXTERIOR MOUNTED SECURITY LIGHTS TO BE CONTROLLED BY AN INTEGRAL MOTION/LIGHT SENSOR TO ACTIVATE AND DIM FIXTURES. SEE SPECIFICATIONS.



1 GROUND FLOOR ELECTRICAL PLAN




LUMINAIRE SCHEDULE									
ID TAG	TYPE	MOUNTING	LIGHT SOURCE	VOLTAGE/BALLAST	INPUT WATTS	DESCRIPTION	COLOR	APPROVED MANUFACTURER	
B2	LED RECESSED 1X4	RECESSED VOLUMETRIC	LED, 3573 LUMEN MIN, 3500K	ELECTRONIC	35 VA	CODE GAUGE ROLLED STEEL, TOOLLESS DRIVER ACCESS, FROSTED ACRYLIC RECTANGULAR LENS, SEALED TO PREVENT LIGHT LEAKAGE	WHITE	METALUX 14ALN	
B2E	LED RECESSED 1X4	RECESSED VOLUMETRIC	LED, 3573 LUMENS MIN., 3500K, WITH EMERGENCY BATTERY PACK.	120V, ELECTRONIC, 0-10V DIMMING	35 VA	CODE GAUGE ROLLED STEEL, TOOLLESS DRIVER ACCESS, FROSTED ACRYLIC RECTANGULAR LENS, SEALED TO PREVENT LIGHT LEAKAGE, EMERGENCY BATTERY PACK.	WHITE	METALUX 14ALN	
C1	DECORATIVE SHADED PENDANT	PENDANT/STEM	A19 W/ LED LAMP BY ELECTRICAL CONTRACTOR	120V/ E26 MEDIUM BASE SOCKET	60 VA	13.75" ROUNDED SHADED PENDANT FIXTURE WITH OPAL GLASS SHADE.	VERIFY WITH ARCHITECT	MITZI - JANE H288701L-AGB	
E	EXIT SIGN	UNIVERSAL	LED	120V	5 VA	TERMOPLASTIC IMPACT RESISTANT, SCRATCH RESISTANT, CORROSION RESISTANT HOUSING	WHITE HOUSING, RED LETTERING	LITHONIA LQM SERIES, OR EQUAL	
EM	EMERGENCY	UNIVERSAL	LED	120V	26 VA	WHITE THERMOPLASTIC HOUSING, SEALED, MAINTENANCE-FREE NICKEL-CADMIUM BATTERIES, SELF DIAGNOSTICS.	WHITE	LITHONIA ELM2 SERIES OR EQUAL	
EX	EXIT SIGN	UNIVERSAL	LED	120V	5 VA	TERMOPLASTIC IMPACT RESISTANT, SCRATCH RESISTANT, CORROSION RESISTANT HOUSING	WHITE HOUSING, RED LETTERING	LITHONIA LQM SERIES, OR EQUAL	
F4	4' LENSED LED STRIP LIGHT	SURFACE/CHAIN	LED, 5000 LUMENS, 4000K	120V/ELECTRONIC DIMMING DRIVER	40 VA	4' LENSED LED STRIP LIGHT. ENERGY STAR LISTED, FIXTURE DIMS TO 50% OUTPUT WITH NO MOTION/OCCUPANCY.	WHITE POLYESTER POWDER COAT	METALUX SLSTP SERIES	
H1	SLIM LED	FLUSH/CEILING	LED, 1300 LUMENS, 3000K	ELECTRONIC	16 VA	6 OR 7" ROUND, POLYCARBONATE FRAME, HIGH IMPACT DIFFUSED LENS, MOUNTS IN STANDARD 4" CEILING BOX, ENERGY STAR RATED, LESS THAN 0.75" HOUSING DEPTH	WHITE	HALO SMD6, OR EQUAL	
H2	4" LED DISK LIGHT	CEILING	LED, 500-800 LUMENS, 3000K	120V/ELECTRONIC DRIVER	13 VA	4" LED DISK LIGHT, ENERGY STAR	WHITE	NUVO, OR HALO	
H3	DECORATIVE UNIT ENTRY WALL SCONCE	SURFACE/WALL	2- 75W T10 MAX. - LED EQUAL LAMPS BY ELECTRICAL CONTRACTOR	120V - E26 MEDIUM BASE	150 VA	23.25" H ADA COMPLIANT WALL SCONCE	VERIFY W/ ARCHITECT	MITZI - BRITT H151102-08	
K1	37.75" CIRCULAR LED PENDANT	CENTRAL/CEILING ADJUSTABLE STEM	G9 SOCKET WITH LED LAMP BY ELECTRICAL CONTRACTOR	120V/ELECTRONIC DRIVER	320 VA	CIRCULAR PENDANT WITH (8) 6" CIRCULAR GLOBE FIXTURES - CARBIDE BLK WITH POLISHED NICKEL ACCENTS	VERIFY W/ ARCHITECT	TROY LIGHTING - ACE P7164	
S1	4' LED STAIR LIGHT	SURFACE	LED, 4,000 - 6,000 DELIVERED LUMENS, 3000K	120V/ELECTRONIC	40 VA	INTEGRAL OCCUPANCY SENSOR TO DIM 50% WHEN NO OCCUPANCY IS DETECTED, ENERGY STAR LISTED	WHITE	COOPER, LITHONIA, PHILIPS, OR EQUAL	
S1E	SURFACE LED STAIR LIGHT	SURFACE/WALL OR CEILING	LED, 4000 LUMENS MIN., 4000K, WITH EMERGENCY BATTERY PACK.	120V, ELECTRONIC, DIMMING	35 VA	CODE GAUGE ROLLED STEEL, FROSTED ACRYLIC LENS, INTEGRAL OCCUPANCY SENSOR DIMS TO 50% OUTPUT WHEN UNOCCUPIED, EMERGENCY BATTERY PACK.	WHITE	LITHONIA WL4 SERIES	
SL	COMMERCIAL GRADE LED STRING LIGHT	SURFACE TO STRUCTURE	E26 SOCKETS WITH LED LAMPS BY EC.	120V	500 VA	EXTERIOR HEAVY DUTY LIGHT STRING	BY ARCH.	AMERICAN LIGHTING LS-MS-24-100-BK	
UA	14" LED SURFACE LIGHT	SURFACE	LED, 1200-1500 DELIVERED LUMENS, 3000K	ELECTRONIC	20 VA	14" DIAMETER, ACRYLIC LENS, ENERGY STAR	WHITE	NUVO 62-746, OR EQUAL	
UB	LED DISK LIGHT	CEILING	LED, 800-1000 LUMEN, 3000K	ELECTRONIC	13 VA	6" OR 7", LED DISK LIGHT, INTEGRAL OCCUPANCY SENSOR TO CONTROL FUNCTION OF LIGHT, ENERGY STAR	WHITE	NUVO, HALO, OR EQUAL	
UC	LED DISK LIGHT W/OCC SENSOR	CEILING	LED, 800-1200 LUMEN, 3000K	ELECTRONIC	17 VA	6" OR 7", LED DISK LIGHT, INTEGRAL OCCUPANCY SENSOR TO CONTROL FUNCTION OF LIGHT, ENERGY STAR	WHITE	NUVO 62-1310, OR EQUAL	
UD	10" LED DISK LIGHT	CEILING	LED, 1100-1400 LUMEN, 3000K	ELECTRONIC	22 VA	10" LED DISK LIGHT, DAMP LOCATION LISTED, ENERGY STAR	WHITE	NUVO 62-1265, OR EQUAL	
UF	52" CEILING FAN	FLUSH	CEILING FAN ONLY, NO LIGHTS	120V		52" 3-BLADE CEILING FAN WITH LIGHT	WHITE BODY WITH WHITE BLADES	FANIMATION HUGH CEILING FAN, OR EQUAL	
UP	LED EXTERIOR WALL	EXTERIOR WALL RECESSED	LED, 1,000-2,000 LUMENS OUTPUT, 3500K	120V/ELECTRONIC	14 VA	CAST ALUMINUM HOUSING,	DARK BRONZE	RAB SLIM12, OR EQUAL	
UT	3 HEAD PENDANT LIGHT	PENDANT							
UV	2-LIGHT BATHROOM VANITY SCONCE	SURFACE	LED ENERGY STAR RATED LAMPS BY ELECTRICAL CONTRACTOR	120V/ A19 MEDIUM BASE SOCKET	120 VA	2 - LIGHT SHADED FIXTURE, HORIZONTAL MOUNTING ARM, CANOPY MOUNT.	BY ARCH.	KIRCHLER - CLYDE 459440Z	
W1	LED WALL PACK	SURFACE/WALL	2 LIGHT ENGINES, LED, 7593 LUMENS, 4000K	120V/ELECTRONIC DRIVER, EMERGENCY BATTERY BACK-UP	47 VA	TWO-PIECE DIE CAST ALUMINUM HOUSING WITH INTEGRAL HEAT SINK FINS, COMPLETELY SEALED HOUSING, FORWARD THROW TYPE IV DISTRIBUTION, INTEGRAL EMERGENCY BATTERY BACKUP, INTEGRAL MOTION/LIGHT SENSOR TO ACTIVATE & DIM FIXTURE 50%	BY ARCH.	LITHONIA DSKW1 LED SERIES OR APPROVED EQUAL	
X1	LED EXTERIOR WALL CYLINDER	EXTERIOR WALL RECESSED	LED, 270 LUMENS OUTPUT, 4000K	120V/ELECTRONIC	14 VA	CAST ALUMINUM HOUSING, CORROSION-RESISTANT PAINT, POLYCARBONATE LENS, CYLINDER SHAPE, FLAT ON-WALL SIDE, 8" TALL, 4-5/16" WIDE, 3-1/16" DEEP	DARK BRONZE	LITHONIA OLLWD, OR EQUAL	
Y1	SIGN LED FLOOD	12" X 48" CONCRETE PAD WITH STANTION MOUNT TEMON BOLTED TO PAD, KNUCKLE SLIP FITTER MOUNT.	LED, 2,219 LUMENS OUTPUT, 4000K	120V/ELECTRONIC DRIVER	24 VA	CAST ALUMINUM HOUSING & DOOR, FLAT GLASS LENS, SILICONE GASKET, INTEGRAL PHOTOCELL CONTROL.	DARK BRONZE	COOPER INVUE VFS-K-WST SERIES	
Z1	LED POLE MOUNT AREA LIGHT	20" SQUARE TAPERED POLE	LED, 4000K, TYPE IV, 8675 LUMEN, .8 CRI	208V, ELECTRONIC	102 VA	POLE MOUNTED LED, DARK BRONZE FINISH, INTEGRAL MOTION SENSOR	DARK BRONZE	LITHONIA LIGHTING /DSX-1, OR EQUAL	
Z2	LED POLE MOUNT AREA LIGHT	12" SQUARE TAPERED POLE	LED, 4000K, TYPE IV, 6816 LUMEN, .8 CRI	208V, ELECTRONIC	54 VA	POLE MOUNTED LED, DARK BRONZE FINISH, INTEGRAL MOTION SENSOR	DARK BRONZE	LITHONIA LIGHTING /DSX, OR EQUAL	
Z3	LED POLE MOUNT AREA LIGHT	20" SQUARE TAPERED POLE	LED, 4000K, TYPE II, 8675 LUMEN, .8 CRI	208V, ELECTRONIC	102 VA	POLE MOUNTED LED, DARK BRONZE FINISH, INTEGRAL MOTION SENSOR, HOUSE SIDE SHIELD	DARK BRONZE	LITHONIA LIGHTING /DSX-1, OR EQUAL	

NOTES:
1. ALL LUMINAIRES SHALL BE ENERGY STAR LISTED AND/OR LABELED OR PROVIDED WITH LED ENERGY STAR LISTED LAMPS AS NEADED.
2. PROVIDE TYPE 'H3' IN LIEU OF TYPE 'H2' AT ALL APARTMENT UNIT ENTRIES PER ALTERNATE BID. SEE SPECIFICATIONS.
3. ALL UNIT ENTRY LIGHTS TYPE H2, (OR H3 PER ALTERNATE) ARE TO BE WIRED 'HOT', ENERGIZED 24/7.


MOTOR & EQUIPMENT SCHEDULE															
EQUIPMENT ID	LOCATION	ELECTRICAL DATA					DISCONNECT INFORMATION				STARTER INFORMATION			FEEDER SIZE	NOTES
		HP	FLA	KW	MOP	VOLTS PHASE	PROVIDED BY	AMPS/POLES	FUSES	LOCATION	PROVIDED BY	TYPE/SIZE	LOCATION		
CU-1	EXTERIOR	17.6A	30A	208V	1	DIV. 26	30A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#10 GND	1	
CU-2	EXTERIOR	12A	20A	208V	1	DIV. 26	30A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	1	
CU-3	EXTERIOR	26.2A	45A	208V	1	DIV. 26	60A		NEAR UNIT	DIV. 23		AT UNIT	0.75"2#8, 1#10 GND	1	
CU-4	EXTERIOR	17.6A	30A	208V	1	DIV. 26	30A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#10 GND	1	
EBB-1	1ST FL. SW CORR. 150	1.0	20A	120V	1	MFGR			AT UNIT	NA		NA	0.5"2#12, 1#12 GND	5	
EBB-2	2ND FL. SW CORR. 250	1.0	20A	120V	1	MFGR			AT UNIT	NA		NA	0.5"2#12, 1#12 GND	5	
EBB-3	3RD FL. SW CORR. 350	1.0	20A	120V	1	MFGR			AT UNIT	NA		NA	0.5"2#12, 1#12 GND	5	
EF-1	LEVEL 0	2.0HP	15A	208V	3	DIV. 26	30A		NEAR UNIT	DIV. 23	VFD	NEAR UNIT	0.5"2#12, 1#12 GND		
EF-2	RESTROOM 004	FRAC	15A	120V	1	DIV. 23			AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	4	
EF-3	RESTROOM 005	FRAC	15A	120V	1	DIV. 23			AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	4	
EF-4	FITNESS 151	FRAC	15A	120V	1	DIV. 23			AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	4	
EF-5	CUSTODIAL 152	FRAC	15A	120V	1	DIV. 23			AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	4	
EF-6	CUSTODIAL 354	FRAC	15A	120V	1	DIV. 23			AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	4	
EF-7	TRASH CHUTE 353	FRAC	15A	120V	1	DIV. 23			AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	8	
EF-8	RECYCLING CHUTE 354	FRAC	15A	120V	1	DIV. 23			AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	8	
EF-9	GARAGE 011		4.75A	20A	120V	1	DIV. 23		AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	8	
EF-10	ATTIC		2.1A	15A	120V	1	DIV. 23		AT UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND		
ELEVATOR	ROOF	30	200A	208V	3	DIV. 26	200A		NEAR UNIT	MFGR		AT UNIT	2"2#30, 1#6 GND	6	
F-1	MECH. 006	8.6A	15A	120V	1	DIV. 26	15A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	1	
F-2	MECH. 006	8.6A	15A	120V	1	DIV. 26	15A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	1	
F-3	MECH. 153	11.6A	15A	120V	1	DIV. 26	20A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	1	
F-4	MECH. 352	8.6A	15A	120V	1	DIV. 26	15A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	1	
FFWH-1	VESTIBULE 001	4.8KW	30A	208V	1	MFGR			AT UNIT	MFGR		AT UNIT	0.75"2#10, 1#10 GND	3	
FFWH-2	RISER ROOM 013	3.0KW	20A	208V	1	MFGR			AT UNIT	MFGR		AT UNIT	0.5"2#12, 1#12 GND	3	
FFWH-3	STAIR ST1-0	3.0KW	20A	208V	1	MFGR			AT UNIT	MFGR		AT UNIT	0.5"2#12, 1#12 GND	3	
FFWH-4	STORAGE 015	3.0KW	20A	208V	1	MFGR			AT UNIT	MFGR		AT UNIT	0.5"2#12, 1#12 GND		
FFWH-5	STAIR ST2-0	3.0KW	20A	208V	1	MFGR			AT UNIT	MFGR		AT UNIT	0.5"2#12, 1#12 GND	3	
FFWH-6	1ST FL. SW CORR. 150	3.0KW	20A	208V	1	MFGR			AT UNIT	MFGR		AT UNIT	0.5"2#12, 1#12 GND	3	
FFWH-7	ELEC 010	3.0KW	20A	208V	1	MFGR			AT UNIT	MFGR		AT UNIT	0.5"2#12, 1#12 GND	3	
GUH-1	LEVEL 0	0.5	20A	120V	1	DIV. 26	20A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND		
GUH-2	LEVEL 0	0.5	20A	120V	1	DIV. 26	20A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND		
HP-1	LEVEL 0	14.2A	20A	208V	1	DIV. 26	30A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	2	
HVAC-1	MECH. 152	1.2A	15A	208V	1	DIV. 26	15A		NEAR UNIT	DIV. 23		AT UNIT	CABLE CONN. BY DIV. 23	2	
HWCP-1	RISER ROOM 013	FRAC	15A	120V	1	DIV. 26	20A		NEAR UNIT	DIV. 26	MS	AT UNIT	0.5"2#12, 1#12 GND		
MP-A	VARIOUS UNITS	9.5A	15A	208V	1	DIV. 26	20A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND		
MP-B	VARIOUS UNITS	12.6A	15A	208V	1	DIV. 26	20A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND		
QHD	GROUND FLOOR	0.5	20A	120V	1	DIV. 26	20A		AT UNIT	MFGR		AT UNIT	0.5"2#12, 1#12 GND		
SP-1	LOWER LEVEL	0.5	20A	120V	1	DIV. 26	20A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	7	
SP-2	GARAGE 011	1.0	15A	208V	1	DIV. 26	20A		NEAR UNIT	DIV. 23		AT UNIT	0.5"2#12, 1#12 GND	7	
WH-1	RISER ROOM 013	5A	15A	120V	1	DIV. 26	20A		NEAR UNIT	NA		AT UNIT	0.5"2#12, 1#12 GND		
WH-2	RISER ROOM 013	5A	15A	120V	1	DIV. 26	20A		NEAR UNIT	NA		AT UNIT	0.5"2#12, 1#12 GND		

NOTES:
1. PROVIDE AN EMPTY 1" CONDUIT BETWEEN CONDENSING UNIT AND ASSOCIATED PURNACE FOR CONTROL CABLE BY DIV. 23. FIELD COORDINATE W/ DIV. 23
2. PROVIDE AN EMPTY 1" CONDUIT BETWEEN HEAT PUMP AND ASSOCIATED HVAC UNIT IN FITNESS ROOM. FIELD COORDINATE W/ DIV. 23
3. ARCHITECTURAL COMMERCIAL GRADE FAN FORCED WALL HEATER PROVIDED BY DIVISION 26. SEE SPECIFICATIONS.
4. FAN TO BE CONTROLLED BY ROOM LIGHT SWITCH/CIRCUIT. POWER FROM LUMINAIRE POWER CIRCUIT.
5. ARCHITECTURAL COMMERCIAL GRADE ELECTRIC BASE BOARD HEATER PROVIDED BY DIVISION 26. SEE SPECIFICATIONS.
6. COORDINATE ALL ELEVATOR REQUIREMENTS WITH THE ELEVATOR SUPPLIER/INSTALLER AND PROVIDE ALL REQUIREMENTS ACCORDINGLY.
7. PROVIDE MATCHING RECEPTACLE WITH CORD & PLUG CONNECTION/DISCONNECT.
8. CONNECT FAN TO LIGHTING CIRCUIT 'HOT'. FAN WILL RUN CONTINUOUS.

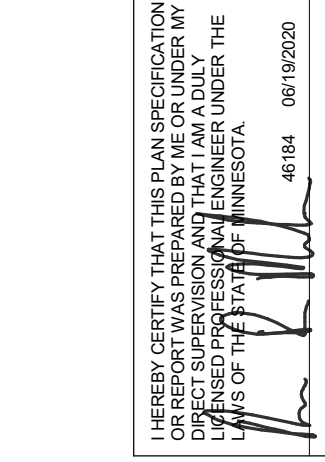
LEGEND:
FRAC = FRACTIONAL HORSEPOWER
MS = MANUAL MOTOR STARTER
VFD = VARIABLE FREQUENCY DRIVE
SSRV = SOLID STATE REDUCED VOLTAGE STARTER
FVNR = FULL VOLTAGE NON-REVERSING STARTER
M = MOTOR RATED SWITCH
MANUF = PROVIDE PER MANUFACTURER RECOMMENDATIONS
DIV23 = PROVIDED BY EQUIPMENT SUPPLIER OR WITH EQUIPMENT
DIV26 = PROVIDED UNDER DIVISION 26



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STATE OF MINNESOTA
PROFESSIONAL ENGINEER
JAMES B. REIBER
REG. NO. 49184
EXP. DATE 09/30/2021

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	ADD NO. 1 - REV.	06-30-20
2	PR003	12-22-20

LWO DEVELOPMENT, LLC
EASTGATE APARTMENTS
OWATONNA, MN

DATE
06/19/2020

PROJECT
02220002

SHEET
E9.01
ELECTRICAL SCHEDULES

PANELBOARD SCHEDULE											
NAME: UNIT PANEL		MAIN CIRCUIT BREAKER:				KAIC RATING: 10					
LOCATION: RECESSED		MAIN LUGS ONLY: 100A				VOLTAGE: 120/208					
MOUNTING: RECESSED		WIRES: 3				PHASE: 1					
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A	B	POLES	TRIP	CIRCUIT DESCRIPTION	CKT		
1	RANGE	40 A	2	0	0	2	30 A	DRYER	2		
3				0	0				4		
5	MP-A - OR - MP-B	15 A	2	0	0	1	15 A	LIGHTS/REC	6		
7				0	0	1	20 A	KITCHEN REC	8		
9	LIGHTS/REC	15 A	1	0	0	1	20 A	KITCHEN REC	10		
11	BATH REC	20 A	1	0	0	1	20 A	WASHING MACHINE	12		
13	MICROWAVE	20 A	1	0	0	1	15 A	DISPOSAL	14		
15	DISHWASHER	20 A	1	0	0	1	20 A	BATH REC. (WHERE TWO BATHS)	16		
17	SPACE	--	--	0	0	--	--	SPACE	18		
19	SPACE	--	--	0	0	--	--	SPACE	20		
21	SPACE	--	--	0	0	--	--	SPACE	22		
23	SPACE	--	--	0	0	--	--	SPACE	24		
TOTAL CONNECTED LOAD		0 VA		TOTAL CALCULATED DEMAND				XXXXX			
TOTAL CALCULATED AMPS		XXXXX		TOTAL CALCULATED AMPS				XXXXX			

GENERAL NOTES:

- 1.
- 2.
- 3.
- 4.

KEY NOTES:

- *
- **
- ***
- L =
- R =

PANELBOARD SCHEDULE												
NAME: HP-0-1		MAIN CIRCUIT BREAKER:				KAIC RATING: 65K						
LOCATION: ELECT. ROOM		MAIN LUGS ONLY: 400A				VOLTAGE: 208Y/120						
MOUNTING: SURFACE		WIRES: 4				PHASE: 3						
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT DESCRIPTION	CKT		
1	L - GROUND FLOOR NORTH	20 A	1	1008	1391		1	20 A	L - GROUND FLOOR SOUTH - EF-9	2		
3	R - GROUND FLOOR NORTH	20 A	1		1080	1080		20 A	R - GROUND FLOOR NORTH	4		
5	R - GROUND FLOOR SOUTH	20 A	1			1620	720	1	20 A	R - GROUND FLOOR SOUTH	6	
7	SP-2 GROUND FLOOR	20 A	2	250	900			1	20 A	OHD GROUND FLOOR	8	
9					250	1500					10	
11	WH-1 GROUND FLOOR	20 A	1			600	1500	2	20 A	FFWH-2 GROUND FLOOR	12	
13	HWCP-1 GROUND FLOOR	20 A	1	600	300			1	20 A	WH-2 GROUND FLOOR	14	
15	GUH-1 GROUND FLOOR	15 A	1		1176	1500		2	20 A	FFWH-3	16	
17	HP-1 GROUND FLOOR	20 A	2	1477	1831			2	30 A	CU-1 EXTERIOR WEST	18	
19					1248	1831					20	
21	CU-2 EXTERIOR WEST	20 A	2					2	20 A	FFWH-4 GROUND FLOOR	22	
23											24	
25				938	1500			1	15 A	GUH-2 GROUND FLOOR	26	
27	EF-1	15 A	3		938	1176		2	30 A	FFWH-5 GROUND FLOOR	28	
29						938	2400	2	30 A	FFWH-6 GROUND FLOOR	30	
31	FFWH-1	30 A	2	2400	2400			1	20 A	SP-1	32	
33					2400	900		1	20 A	SECURITY/DOOR CIRCUIT (1)	34	
35	FFWH-7	20 A	2	1500	797			1	20 A	L - LOBBY, COMMUNITY ROOM	36	
37						514	1032	1	15 A	FURNACE F-1 - 006	38	
39	L - ELEC., OFFICE, MECH.	20 A	1				1032	200	1	20 A	FACP - (1)	40
41	FURNACE F-2 - 006	15 A	1						2	20 A	R - DATA UPS	42
43	R - DATA RACK	20 A	1	360	1250						44	
45					4000	1250					46	
47	R. RANGE COMMUNITY ROOM	40 A	2				4000	180	1	20 A	R - REFRIGERATOR COMMUNITY ROOM	48
49	R - COMMUNITY ROOM	20 A	1	180	360				1	20 A	R - COMMUNITY ROOM	50
51	R - COMMUNITY ROOM	20 A	1		1440	900			1	20 A	R - LOBBY, VEST, EXT.	52
53	R - LOBBY, MECH.	20 A	1			900	220	1	20 A	L/R - ELEVATOR PIT	54	
55	R - BATHROOM	20 A	1	180	180				1	20 A	R - BATHROOM	56
57	L - FIRST FLOOR CORR. 150, STAIRS	20 A	1		1038	325			1	20 A	L - FITNESS 151, MECH. 152 - EF-4, EF-5	58
59	R - FIRST FLOOR CORR. WEST	20 A	1			1080	1260	1	20 A	R - FIRST FLOOR CORR. NORTH	60	
61	R - FITNESS 151	20 A	1	540	180				1	20 A	R - FITNESS 151	62
63	R - FITNESS 151	20 A	1		360	360			1	20 A	R - FITNESS 151	64
65	R - FITNESS 151	20 A	1			360	1000	1	20 A	ELEC. BASEBOARD EBB-1 - FIRST FLOOR SOUTH	66	
67	R - OFFICE 008	20 A	1	720	0				1	20 A	SPARE	68
69	R - OFFICE 008	20 A	1		540	0			1	20 A	SPARE	70
71						1500	141	1	20 A	L - SECURITY LIGHTS	72	
73	FFWH - 6 - FIRST FLOOR	20 A	2	1500	105			2	20 A	L - SITE	74	
75					204	105					76	
77	L - SITE	20 A	2			204	0	1	20 A	L - MONUMENT SIGN	78	
79	SPACE	--	--	0	0			--	--	SPACE	80	
81	SPACE	--	--	0	0			--	--	SPACE	82	
83	SPACE	--	--			0	0	--	--	SPACE	84	
TOTAL CONNECTED LOAD		77073 VA		TOTAL CALCULATED DEMAND				209A				
TOTAL CALCULATED AMPS		XXXXX		TOTAL CALCULATED AMPS				209A				

GENERAL NOTES:

1. PROVIDE CIRCUIT BREAKER LOCK ON.
- 2.
- 3.
- 4.

KEY NOTES:

- * GFCI RATED BREAKER
- ** HACR RATED BREAKER
- *** ISOLATED GROUND CIRCUIT
- L = LIGHTING
- R = RECEPTACLE

PANELBOARD SCHEDULE												
NAME: HP-2-1		MAIN CIRCUIT BREAKER:				KAIC RATING: 22K						
LOCATION: 2ND FLOOR ELECTRICAL ROOM		MAIN LUGS ONLY: 225A				VOLTAGE: 208Y/120						
MOUNTING: SURFACE		WIRES: 4				PHASE: 3						
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT DESCRIPTION	CKT		
1	L - 3RD FLOOR CORR. 350, STAIRS 2 & 3, EF-7, EF-8	20 A	1	880	1080			1	20 A	R - 3RD FLOOR CORR. WEST	2	
3	R - 3RD FLOOR CORR. EAST	20 A	1		1080	413		1	20 A	L - 3RD FLOOR STORAGE 351, MECH. 352, EF-6	4	
5	L - 2ND FLOOR CORR. 250, STAIRS 1 & 2	20 A	1			919	426	1	20 A	L - 2ND FLOOR STORAGE 251, 252, 253, ELEC. RM.	6	
7	R - 2ND FLOOR CORR. EAST	20 A	1	1260	1440			1	20 A	R - 2ND FLOOR CORR. WEST	8	
9	R - DATA 252	20 A	1		180	1032		1	15 A	FURNACE - F-4 3RD FLOOR 353	10	
11	ELEC. BASEBOARD EBB-3 - 3RD FLOOR	20 A	1			1000	1392	1	15 A	FURNACE - F-3, 1ST FLOOR 153	12	
13	ELEC. BASEBOARD EBB-2 - 2ND FLOOR	20 A	1	1000	200			1	15 A	RADON EXHAUST FAN, EF-10	14	
15	L - COMMUNITY TERRACE 355	20 A	1		526	1392		1	15 A	F-3 - MECH: 153	16	
17						2725	1831	2	30 A	CU-4 - EXTERIOR	18	
19	CU-3 EXTERIOR	45 A	2	2725	1831						20	
21	R - COMMUNITY 355	20 A	1		540	0			1	20 A	SPARE	22
23	SPARE	20 A	1			0	0	1	20 A	SPARE	24	
25	SPARE	20 A	1	0	0			1	20 A	SPARE	26	
27	SPARE	20 A	1		0	0		1	20 A	SPARE	28	
29	SPACE	--	--			0	0	--	--	SPACE	30	
31	SPACE	--	--	0	0			--	--	SPACE	32	
33	SPACE	--	--		0	0		--	--	SPACE	34	
35	SPACE	--	--			0	0	--	--	SPACE	36	
37	SPACE	--	--	0	0			--	--	SPACE	38	
39	SPACE	--	--		0	0		--	--	SPACE	40	
41	SPACE	--	--			0	0	--	--	SPACE	42	
TOTAL CONNECTED LOAD		23870 VA		TOTAL CALCULATED DEMAND				65A				
TOTAL CALCULATED AMPS		XXXXX		TOTAL CALCULATED AMPS				65A				

GENERAL NOTES:

- 1.
- 2.
- 3.
- 4.

KEY NOTES:

- * GFCI RATED BREAKER
- ** HACR RATED BREAKER
- *** ISOLATED GROUND CIRCUIT
- L = LIGHTING
- R = RECEPTACLE

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REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	ISS. No. 1 - Rev.	06-30-20
2	PH03	12-22-20

LWO DEVELOPMENT, LLC
EASTGATE APARTMENTS
 OWATONNA, MN

DATE: 06/19/2020

PROJECT: CONSTRUCTION DOCUMENTS

PROJECT: 02220002

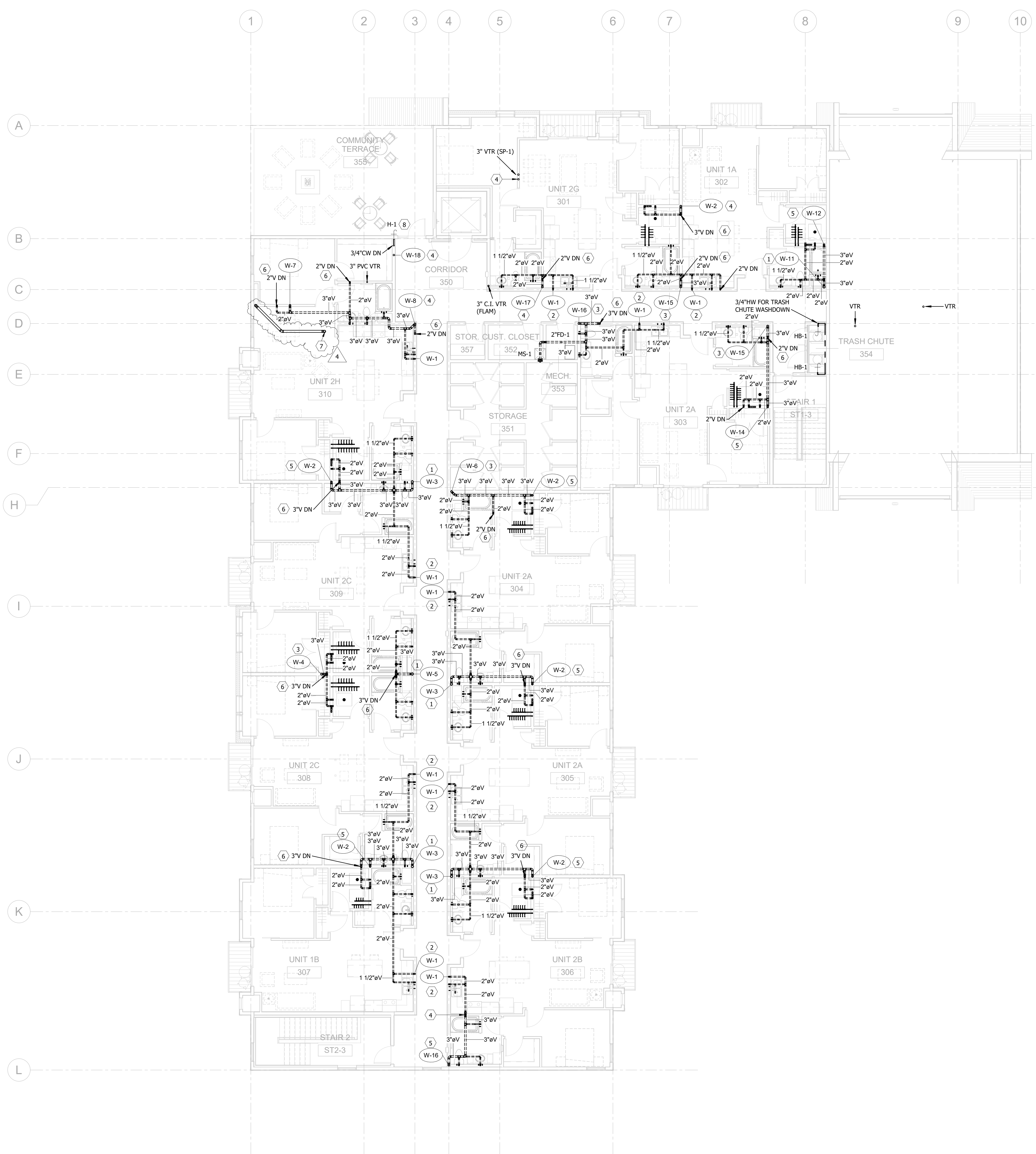
SHEET: **E9.02**
 ELECTRICAL SCHEDULES

12/22/2020 12:48:15 PM

NO.	DESCRIPTION	DATE
1	ADDITIONUM 1	06-30-20
2	DDI Pkg Submittal	07-29-20
3	DDI Pkg Responses	08-28-20
4	PR.#3	12-22-20

KEYNOTES

- 4" SAN DN AND 4" V UP TO 4" VTR.
- 2" V UP AND 2" SAN DN.
- 3" SAN DN AND 3" V UP TO 4" VTR.
- 3" V UP TO 4" VTR.
- 3" V UP AND 3" SAN DN.
- 2" VENT SHALL BE INCREASED TO AT LEAST 3-INCHES IN SIZE AFTER A DEVELOPED LENGTH OF 40 FEET.
- 4" PVC RADON VENT UP THRU ROOF. REFER TO HVAC PLANS FOR RADON EXHAUST FAN (EF-10) REQUIREMENTS AND ADDITIONAL INFORMATION. COORDINATE INSTALLATION OF ACTIVE RADON MITIGATION SYSTEM WITH GC AND OTHER TRADES.
- INSTALL 18" ABOVE FINISHED FLOOR.



1 THIRD FLOOR - PLUMBING PLAN
0 4' 8' 16'