PLUMBING SYMBOLS LEGEND

LINETYPE LEGEND

- EXISTING
- NEW WORK DARK/HEAVY

PIPING SYSTEM LABELS

- CW — COLD WATER
- HW — HOT WATER
- (140) — HOT WATER (TEMPERATURE)
- HWC — HOT WATER CIRCULATING
- SD — STORM DRAIN
- PW — PUMPED WASTE
- WASTE (BURIED)
- W — WASTE (ABOVE GRADE)
- GW — GREASE WASTE
- V — VENT
- RL — RAINLEADER
- OD — OVERFLOW DRAIN
- NPW — NON-POTABLE COLD WATER
- G OR P — NATURAL GAS OR PROPANE
- F — FIRE SERVICE
- DIRECTION OF FLOW
- CA — COMPRESSED AIR
- DI — DIONIZED WATER
- V — VACUUM
- C — CONDENSATE
- PC — PUMPED CONDENSATE
- X" — SLOPE SYMBOL (X' PER FOOT)

PIPE FITTINGS

- PIPE DOWN
- PIPE UP
- TEE UP
- TEE DOWN
- UNION
- PIPE ANCHOR POINT
- PIPE GUIDE
- FLANGE
- CAP

DRAINS AND CLEANOUTS

- FLOOR SINK
- FLOOR DRAIN
- HIDDEN FLOOR DRAIN
- ROOF DRAIN
- OVERFLOW DRAIN
- FLOOR CLEANOUT
- GRADE CLEANOUT
- TRENCH DRAIN
- WALL CLEANOUT
- UP TO CLEANOUT
- FUNNEL DRAIN
- STANDPIPE FUNNEL DRAIN

PIPE VALVES AND SPECIALTIES

- P-1 — PLUMBING EQUIPMENT
- X — MEDICAL TAG
- M-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- 1 / P-1 — PLUMBING RISER NO. / SHEET
- 1 — SECTION NUMBER / SHEET NUMBER

PIPE VALVES AND SPECIALTIES

- GATE VALVE
- GLOBE VALVE
- NON RISING STEM VALVE
- RISING STEM GATE VALVE
- BALANCING VALVE (CIRCUIT SETTER)
- AUTOFLOW VALVE
- CHECK VALVE
- BALL VALVE
- PRESSURE REDUCING VALVE
- SOLENOID VALVE
- PRESSURE GAUGE
- THERMOMETER
- STRAINER
- SAFETY VALVE
- PIPING FLEXIBLE CONNECTIONS
- BUTTERFLY VALVE
- OR — CAP
- HOSE BIBB
- DOUBLE CHECK VALVE
- RPBA
- TRIPLE DUTY VALVE
- BALL VALVE MANUAL LEVER
- GLOBE VALVE MANUAL LEVER
- BALANCE VALVE (PRESSURE INDEPENDENT)
- PUMP
- M — METER
- M — METER

PLUMBING NOTES

1. PLUMBING FIXTURES SHALL BE DESIGNED OR EQUIPPED TO MEET FOLLOWING MAXIMUM WATER USE EFFICIENCY STANDARDS:
   - A. WATER CLOSETS (TANK STYLE OR FLUSH VALVE). 1.28 GPF
   - B. SHOWER HEADS 1.5 GPM
   - C. RESIDENTIAL LAVATORY FAUCETS. 1.5 GPM
   - D. PUBLIC LAVATORY FAUCETS. 0.5 GPM
   - E. KITCHEN SINK FAUCETS 1.5 GPM

   SINK AND LAVATORY DRAINS SHALL BE CHROME PLATED 17 GA. BRASS TUBING BY ENGINEERED BRASS, DEARBORN BRASS OR BRASSCRAFT. PROVIDE INSULATED P-TRAP AND SUPPLY COVERS (TRUEBRO OR EQUAL) AT ALL EXPOSED P-TRAPS AND SUPPLIES PER A.D.A. STANDARDS.
2. PLUMBING FIXTURE MOUNTING SHALL COMPLY WITH CONTRACT DOCUMENTS, ADA, AND WASHINGTON STATE ACCESSIBILITY CODE.
3. INSTALL WATER HAMMER ARRESTORS ON HOT & COLD WATER PIPING OF EACH FIXTURE GROUP AND AT ALL FIXTURES W/QUICK ACTING VALVES. UNITS SHALL BE ZURN "SHOKTROLL" OR EQUAL. SELECT UNIT SIZE AND LOCATION PER MANUFACTURERS RECOMMENDATIONS AND IN ACCORD WITH PDI STANDARD WH-201. PROVIDE ACCESS PANELS AT ARRESTORS ABOVE GWB CEILINGS. ALL ACCESS PANELS AND DOORS SHALL BE ELMDOR FAB. STEEL SLK SERIES OR EQUAL WITH 14 GAUGE DOOR AND FRAME. PROVIDE WITH CYLINDER LOCK, CONTINUOUS PIANO HINGE AND PRIME COATED READY FOR PAINTING.
4. COLD WATER AND HOT WATER PIPING SHALL BE INSULATED AND ROUTED FULL SIZE WITH APPROPRIATE SIZE REDUCTION AT POINT OF CONNECTION TO FIXTURE. 1/2" WATER LINE LIMITED TO 10'-0" DISTANCE FROM FIXTURE. "DEAD-LEGS" OR "FUTURE" STUBS ON ACTIVE POTABLE WATER LINES SHALL BE LIMITED TO 4" TO PREVENT STAGNANT WATER CONDITIONS.
5. INSTALL WATER PIPING ON WARM SIDE OF BUILDING INSULATION. SEE SPEC. FOR INSULATION SYSTEMS. SEE DWGS. FOR ELEC. HEAT TRACE REQUIREMENTS. SEE PLUMBING DETAILS FOR PIPE HANGER STYLE. SEE SPEC. FOR HANGER SPACING.
6. WHEN CONNECTING TO EXISTING BURIED WASTE PIPING VERIFY PROPER FLOW CONDITIONS BEFORE COVERING. BURIED WASTE & VENT PIPING SHALL BE MIN. 2" DIA. & SLOPED 1/4"/FT., UNLESS OTHERWISE NOTED. PVC OR ABS PIPING SHALL BE USED ONLY IF APPROVED BY ADMINISTRATIVE AUTHORITY, SEE SPECIFICATIONS FOR FURTHER INFO.
7. PROVIDE TRAP PRIMERS ON ALL FLOOR DRAINS EXCEPT IN SHOWER STALLS OR OTHERWISE NOTED ON DWGS. CONTRACTOR SHALL INSTALL ACCESS PANELS WHERE PRIMERS ARE CONCEALED IN WALLS.
8. COORDINATE VENT THROUGH ROOF (VTR) LOCATIONS WITH HVAC UNITS. MAINTAIN MIN. 10'-0" CLEARANCE. OFFSET VTR AS NECESSARY. COORDINATE PIPE ROUTING WITH HVAC AND SPRINKLER CONTRACTORS.
9. SITE WATER PRESSURE IS APPROXIMATELY 70 PSI.
10. RISER DIAGRAMS & PLANS DO NOT SHOW SOME PIPING OFFSETS REQUIRED FOR STRUCTURAL CLEARANCES. EXACT ROUTING MAY VARY FROM THAT INDICATED. ALL WASTE PIPING INCLUDING RISERS ON RESIDENTIAL LEVELS TO BE CAST IRON.
11. PROVIDE ELECTRIC HEAT TRACE UNDER PIPING INSULATION FOR ALL WATER PIPING INSTALLED IN UNHEATED GARAGE SPACES.
12. CONFIGURE PIPING FOR SUDS RELIEF AS REQUIRED BY THE UPC.
13. ALL LEVER CONTROLLED WATER CLOSETS TO BE INSTALLED WITH THE LEVER ON THE OPEN SIDE OF THE BATHROOM.
14. PROPANE TANK LOCATIONS SHALL BE VERIFIED BY CONTRACTOR WITH LOCAL GAS SUPPLIER PRIOR TO INSTALLATION OF TANK PAD OR PROPANE PIPING TO/FROM BUILDING. GAS SUPPLIER REQUIRMENTS MAY BE MORE STRICT THAN NFPA 58.

RESIDENTIAL ENERGY CODE NOTES

1. INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION. PROVIDE JACKET AND ALUMINUM COVERS. ADHESIVE TAPE IS NOT PERMITTED. (R403.4.1)
2. ALL PIPE AND WRAP INSULATION SHALL BE LABELED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).
3. ENERGY CONSERVATION MEASURES FOR SERVICE HOT WATER SYSTEMS SHALL BE IN ACCORDANCE WITH SECTIONS R403.5.1 THROUGH R403.5.5. SERVICE WATER HEATING EQUIPMENT SHALL MEET THE REQUIREMENT OF DOE 10 CFR PART 430 UNIFORM ENERGY FACTOR OR THE EQUIPMENT SHALL MEET THE REQUIREMENTS OF SECTION C404.2. (R403.5)
4. HEATED WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. GRAVITY AND THERMO-SYPHON CIRCULATION SYSTEMS SHALL BE PROHIBITED. CONTROLS FOR CIRCULATING THE HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE WHEN THERE IS NO DEMAND FOR HOT WATER. (R403.5.1.1)
5. DEMAND RECIRCULATION WATER SYSTEMS SHALL HAVE CONTROLS THAT START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENSE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE. THE CONTROLS SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD WATER PIPING TO NOT GREATER THAN 104°F. (R403.5.2)
6. INSULATION FOR HOT WATER PIPE, BOTH WITHIN AND OUTSIDE THE CONDITIONED SPACE, SHALL HAVE A MINIMUM THERMAL RESISTANCE OF R-3. IT IS PERMITTED TO BE DISCONTINUOUS WHERE IT PASSES THROUGH STUDS, JOISTS, OR OTHER STRUCURAL MEMBERS AND WHERE THE INSULATED PIPES PASS OTHER PIPING, CONDUIT, OR VENTS, PROVIDED THE INSULATION IS INSTALLED TIGHT TO EACH OBSTRUCTION. (R403.5.3)
7. DRAIN WATER HEAT RECOVERY UNITS SHALL COMPLY WITH CSA 55.2 OR IAPMO PS 92. DRAIN WATER HEAT RECOVERY UNITS SHALL BE IN ACCORDANCE WITH CSA 55.1 OR IAPMO IGC 346-2017. (R403.5.4)
8. ALL ELECTRIC WATER HEATERS IN UNCONDITIONED SPACES, OR ON CONCRETE FLOORS IN CONDITIONED SPACES, SHALL BE PLACED ON AN INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10, AND A MINIMUM COMPRESSIVE STRENGHT OF 40 PSI OR ENGINEERED TO SUPPORT THE APPLIANCE. (R403.5.5)

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	MBH	1000 BRITISH THERMAL UNITS PER HOUR
ADA	AMERICANS WITH DISABILITIES ACT	MED	MEDIUM
ADJ	ADJUSTABLE	MEP	MECHANICAL, ELECTRICAL, PLUMBING
AFF	ABOVE FINISHED FLOOR	MEZZ	MEZZANINE
AFG	ABOVE FINISHED GRADE	MIN	MINIMUM
ALT	ALTERNATE	MISC	MISCELLANEOUS
AP	ACCESS PANEL		
APPROX	APPROXIMATE	N/A	NOT APPLICABLE
ARCH	ARCHITECTURAL/ARCHITECT	NC	NORMALLY CLOSED
AS	AIR SEPARATOR	NEG	NEGATIVE
AUX	AUXILIARY	NIC	NOT IN CONTRACT
		NOM	NOMINAL
BFF	BELOW FINISHED FLOOR	NPC	NON-POTABLE COLD WATER
BFG	BELOW FINISHED GRADE	NPCW	NON POTABLE COLD WATER
BHP	BRAKE HORSE POWER	NPH	NON-POTABLE HOT WATER
BLDG	BUILDING	NPHR	NON-POTABLE HOT WATER RETURN
BOP	BOTTOM OF PIPE	NPT	NATIONAL PIPE THREAD
BTU	BRITISH THERMAL UNIT	NTS	NOT TO SCALE
BTUH	BRITISH THERMAL UNIT PER HOUR		
		OD	OUTSIDE DIAMTER/OVERLOW DRAIN
CA	COMBUSTION AIR	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CLG	CEILING	OFOI	OWNER FURNISHED OWNER INSTALLED
CMU	CONCRETE MASONRY UNIT	ORD	OVERFLOW ROOF DRAIN
CO	CLEANOUT	ORL	OVERFLOW RAINWATER LEADER
COND	CONDENSATE		
CW	COLD WATER	ΔP	PRESSURE DIFFERENTIAL
CX	CONNECT TO EXISTING		
		PD	PLANTER DRAIN; PRESSURE DROP
dB	DECIBEL	PERF	PERFORATED
DCVA	DOUBLE CHECK VALVE ASSEMBLY	PH	PHASE
DDCV	DOUBLE DETECTOR CHECK VALVE	PIV	POST INDICATOR VALVE
DDCVA	DOUBLE DETECTOR CHECK VAVLE ASSEMBLY	PLBG	PLUMBING
DF	DRINKING FOUNTAIN	PRESS	PRESSURE
DFU	DRAINAGE FIXTURE UNIT	PRV	PRESSURE REDUCING VALVE
DHW	DOMESTIC HOT WATER	PSF	POUNDS PER SQUARE FOOT
DHWC	DOMESTIC HOT WATER RECIRCULATION	PSI	POUNDS PER SQUARE INCH
Ø OR DIA	DIAMETER	PSIG	POUNDS PER INCH GAUGE
DN	DOWN		
DWG(S)	DRAWING(S)	QTY	QUANTITY
DWV	DRAIN, WASTE, VENT		
		RD	ROOF DRAIN
EA	EACH	REQD	REQUIRED
EEW	EMERGENCY EYEWASH	RL	RAIN WATER LEADER
EFF	EFFICIENCY	RM	ROOM
ELEV	ELEVATION	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
EQUIP	EQUIPMENT	RPM	REVOLUTIONS PER MINUTE
ES	EMERGENCY SHOWER	RLX	RELOCATE EXISTING
ET	EXPANSION TANK	RV	RELIEF VALVE
EX	EXISTING/EXISTING TO REMAIN	RX	REMOVE EXISTING
EXP	EXPANSION		
		S	SINK
FC	FAIL CLOSED	S	STORM
FCO	FLOOR CLEANOUT	SCFM	STANDARD CUBIC FEET PER MINUT
FD	FLOOR DRAIN	SD	STORM DRAIN
FDC	FIRE DEPARTMENT CONNECTION	SF	SQUARE FOOT
FF	FINISHED FLOOR	SFU	SUPPLY FIXTURE UNIT
FLA	FULL LOAD AMPS	SH	SHOWER
FM	FORCE MAIN	S.O.V.	SHUTOFF VALVE
FO	FAIL OPEN	SPEC	SPECIFICATION
FP	FIRE PROTECTION	S/S, OR SS	STAINLESS STEEL
FPM	FEET PER MINUTE	STD	STANDARD
FPS	FEET PER SECOND	SYM	SYMBOL
FS	FLOOR SINK		
FSZV	FIRE SPRINKLER ZONE VALVE ASSEMBLY	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FT	FEET/FOOT	TBD	TO BE DETERMINED
FTG	FOOTING	TD	TRENCH DRAIN
FV	FLUSH VALVE	TEMP	TEMPERATURE
		TOB	TOP OF BEAM
G	NATURAL GAS	TOC	TOP OF CONCRETE
GA	GAUGE	TOD	TOP OF DECK
GAL	GALLON	TOJ	TOP OF JOIST
G.C.	GENERAL CONTRACTOR	TOS	TOP OF SLAB/TOP OF STEEL
GCO	GRADE CLEANOUT	TP	TRAP PRIMER
GD	GARAGE DRAIN	T&P	TEMPERATURE & PRESSURE
GPF	GALLONS PER FLUSH	TYP	TYPICAL
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE	UL	UNDERWRITERS LABORATORY
GW	GREASE WASTE	UNO	UNLESS NOTED OTHERWISE
		UR	URINAL
H	HEIGHT		
HB	HOSE BIBB	V	VENT(S)
HBVB	HOSE BIBB VACUUM BREAKER	V	VOLT
HD	HEAD	VERT	VERTICAL
HP	HORSEPOWER	VFD	VARIABLE FREQUENCY DRIVE
HS	HAND SINK	VIB	VALVE-IN-BOX
HW	HOT WATER	VTR	VENT THROUGH ROOF
HX	HEAT EXCHANGER		
		W	WASTE/WATER
IE	INVERT ELEVATION	W/	WITH
IN	INCH/INCHES	W/IN	WITHIN
		W/O	WITHOUT
KW	KILOWATT/KILOWATTS	WC	WATER CLOSET
		WCO	WALL CLEANOUT
LAV	LAVATORY	WH	WATER HEATER
LBS	POUNDS	WPD	WATER PRESSURE DROP
LF	LINEAL FOOT	WT	WEIGHT
LTG	LIGHTING		
LWT	LEAVING WATER TEMPERATURE	YCO	YARD CLEANOUT

PLUMBING SHEET LIST

P-001	COVER SHEET
P-002	SCHEDULES
P-011	PLUMBING SITE PLAN
P-100	FOUNDATION PLAN
P-101	LEVEL 1 FLOOR PLAN
P-102	LEVEL 2 FLOOR PLAN
P-103	ROOF PLAN
P-201	ENLARGED PLANS
P-202	ENLARGED PLANS
P-301	DETAILS
P-302	DETAILS

REFERENCE DESIGN CODES

2018 INTERNATIONAL BUILDING CODE (IBC)
2018 WASHINGTON STATE ENERGY CODE (WSEC-R)
2018 INTERNATIONAL FIRE CODE (IFC)
2018 INTERNATIONAL MECHANICAL CODE (IMC)
2018 INTERNATIONAL FUEL GAS CODE (IFGC)
2020 NATIONAL ELECTRICAL CODE (NEC)
2018 UNIFORM PLUMBING CODE (UPC)

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

DANA LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

COVER SHEET

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P1-001

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN Z415BZ DISCONTINUED	ZURN: Z415BZ1	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	8	4	32	3	24	2	16
Kitchen Sink	8	1.5	12	1.125	9.00	2	16
Clothes Washer	8	4	32	3	24	3	24
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**44**		**107.5**		**63.00**		**92**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 44 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2"
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 92. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

DANA LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P1-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

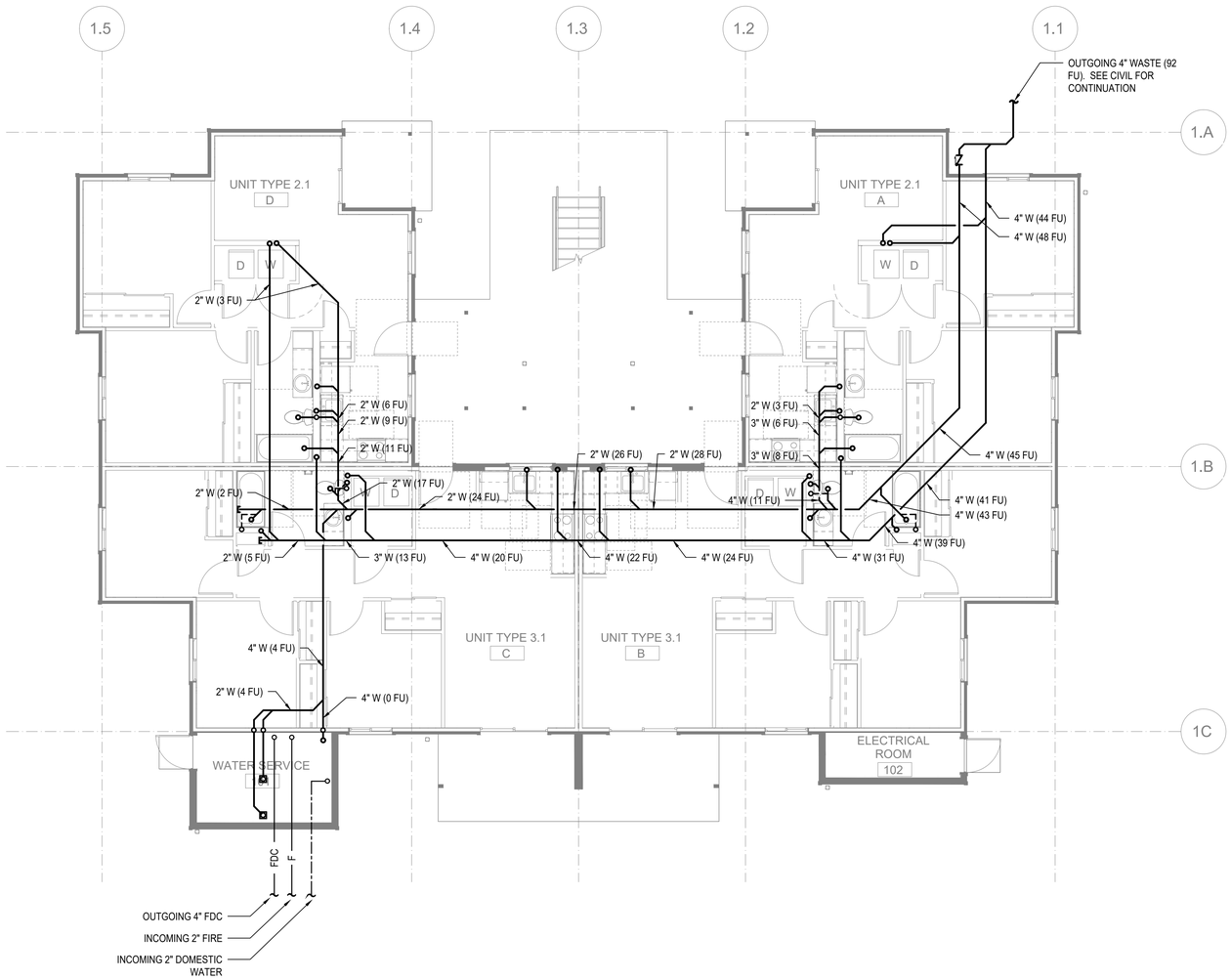
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P1-011



FLOOR PLAN - BUILDING 1 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. ALL FIRST FLOOR FIXTURES SHALL BE ROUTED THROUGH BACKWATER VALVE BEFORE CONNECTING TO OUTGOING WASTE.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

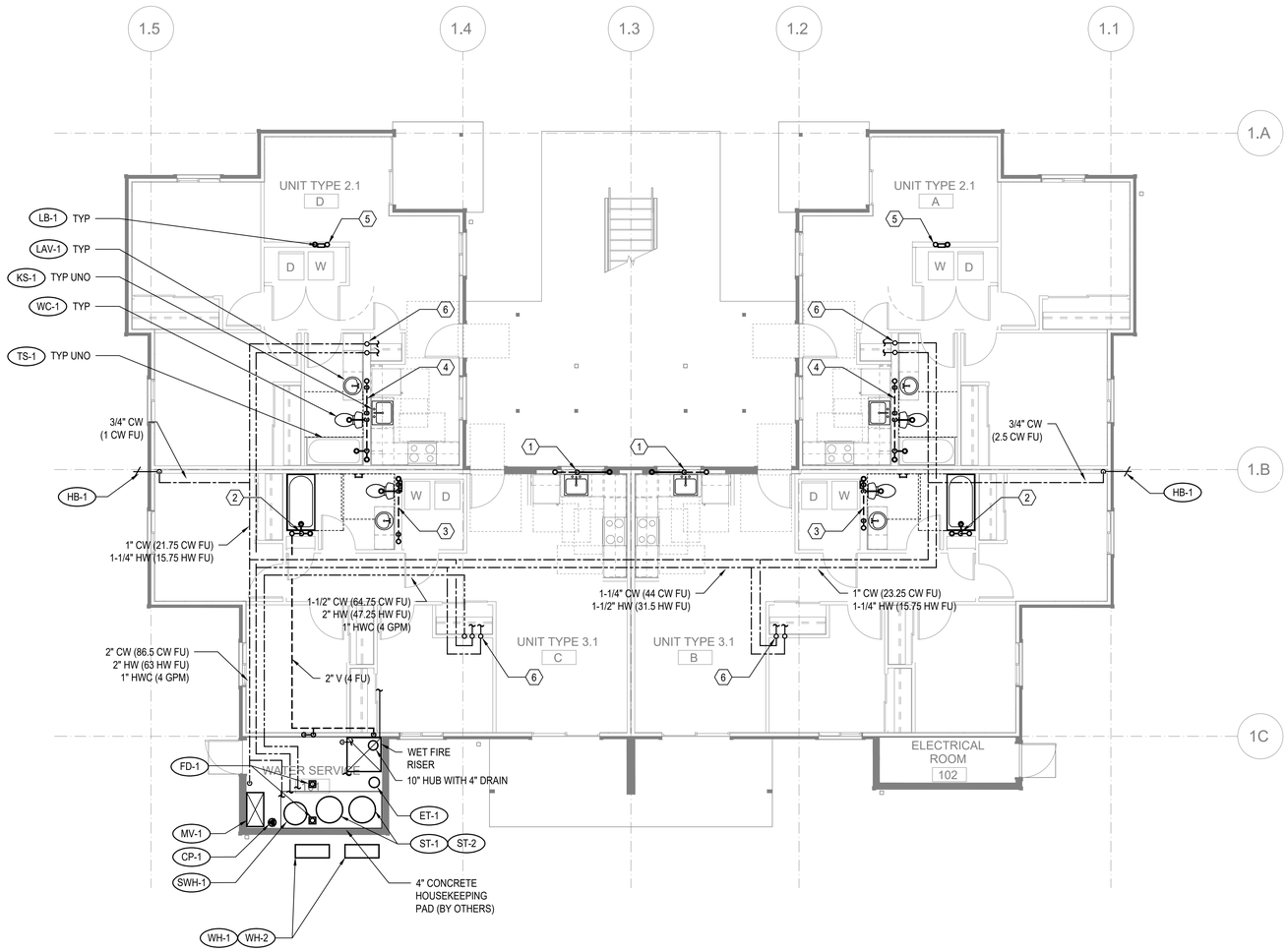
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P1-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 1 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

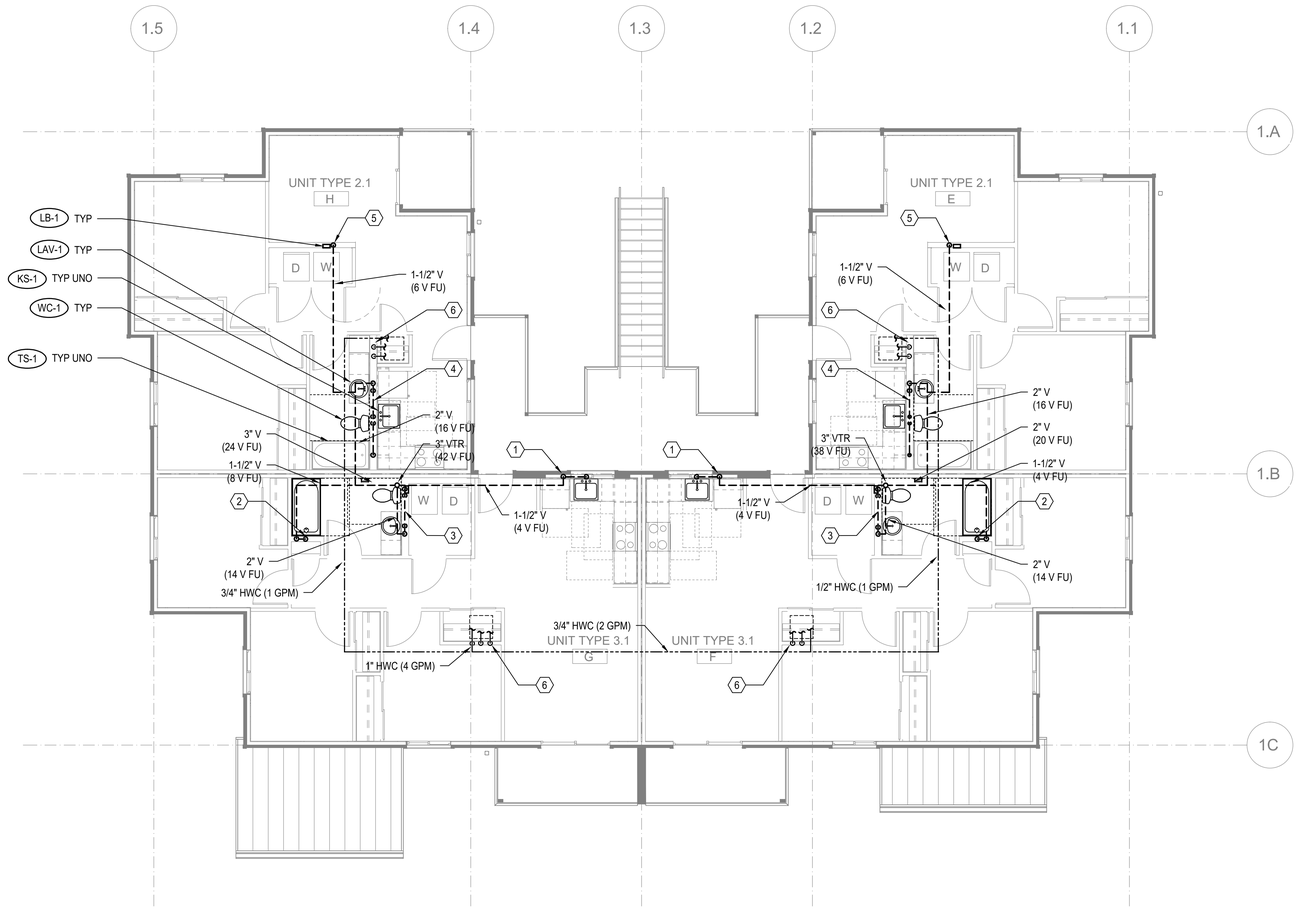
DPD STAMP

TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P1-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 1 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

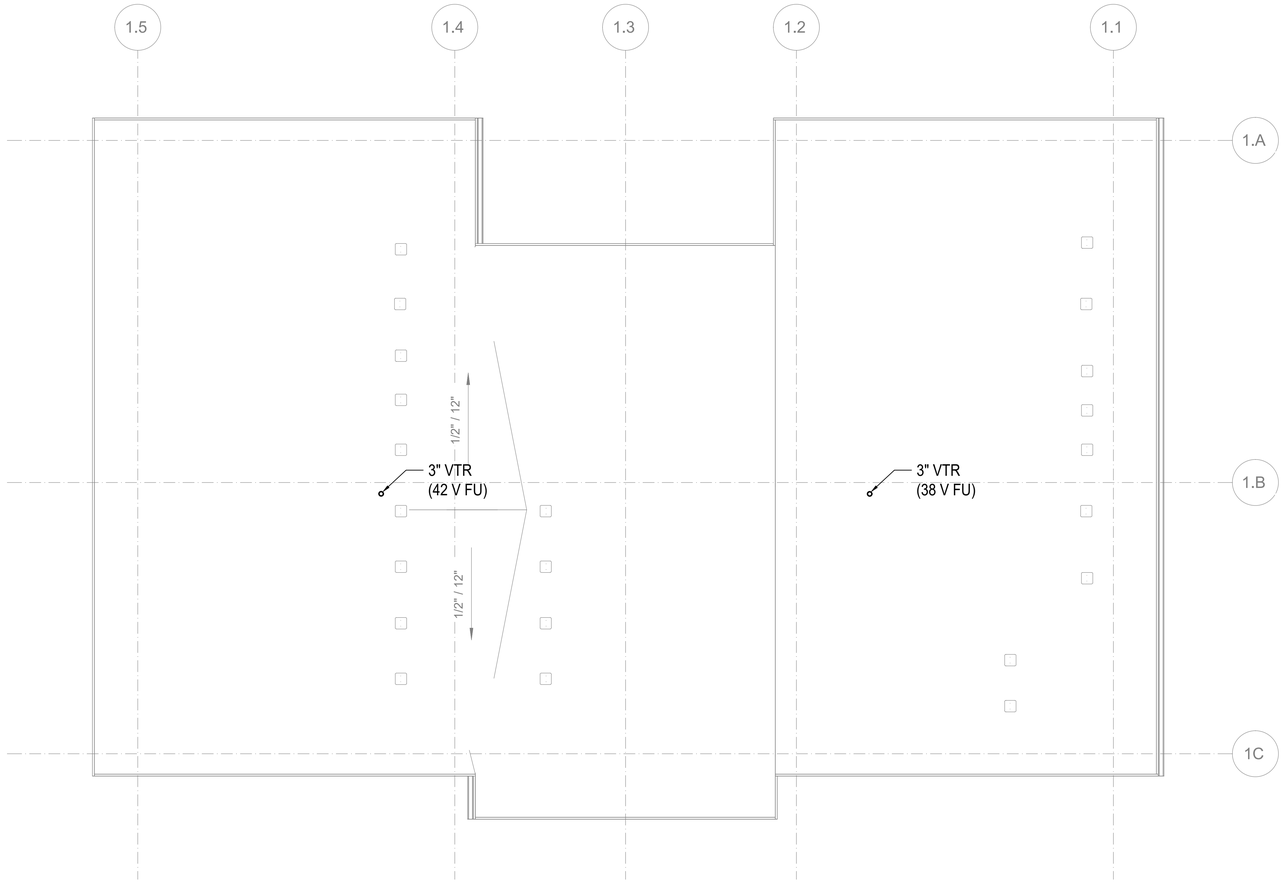
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P1-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 1 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P1-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN Z415BZ DISCONTINUED	ZURN: Z415BZ1	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	8	4	32	3	24	2	16
Kitchen Sink	8	1.5	12	1.125	9.00	2	16
Clothes Washer	8	4	32	3	24	3	24
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**44**		**107.5**		**63.00**		**92**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 44 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2"
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 92. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

DANA LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P2-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

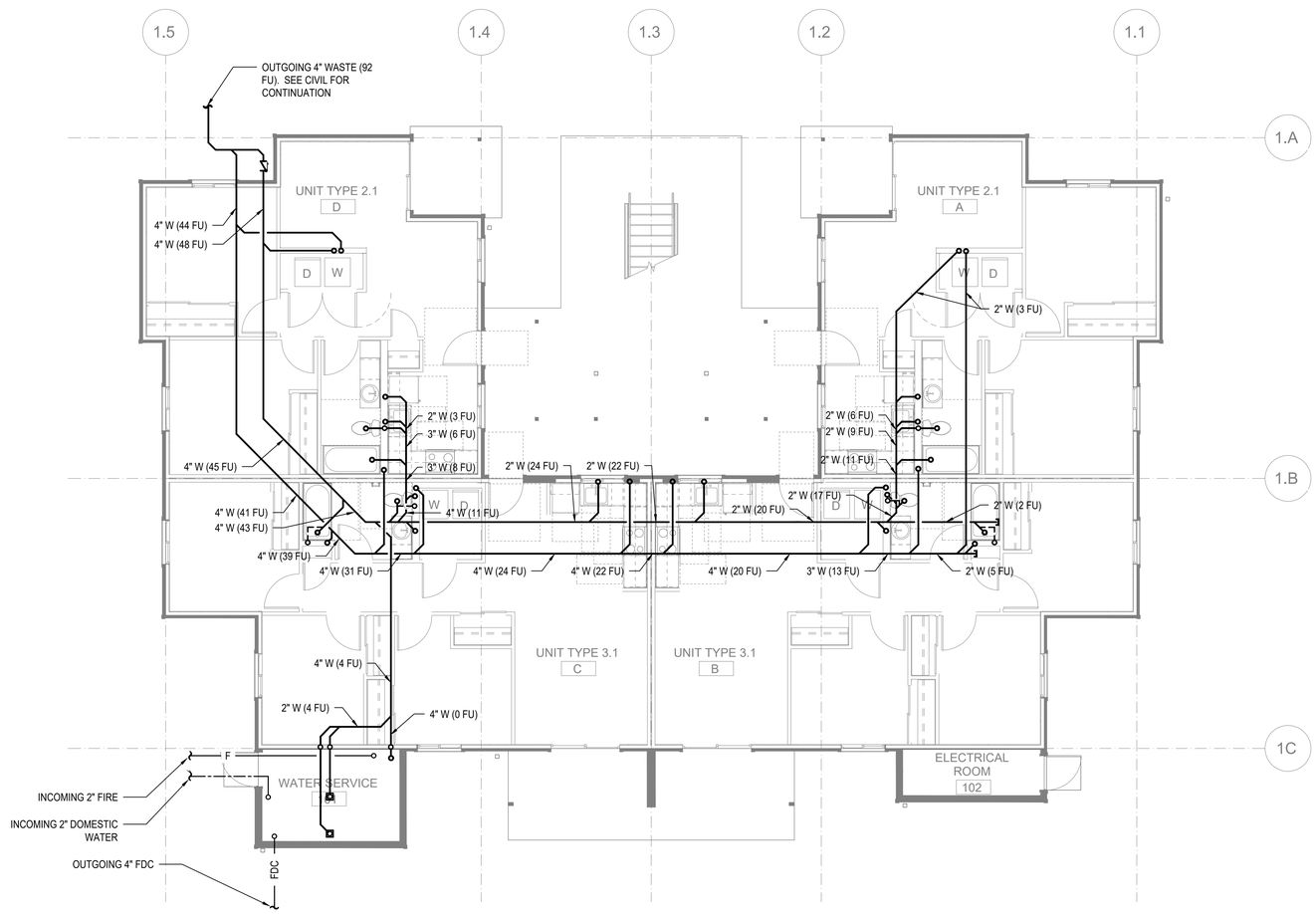
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P2-011



FLOOR PLAN - BUILDING 2 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

DAN LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

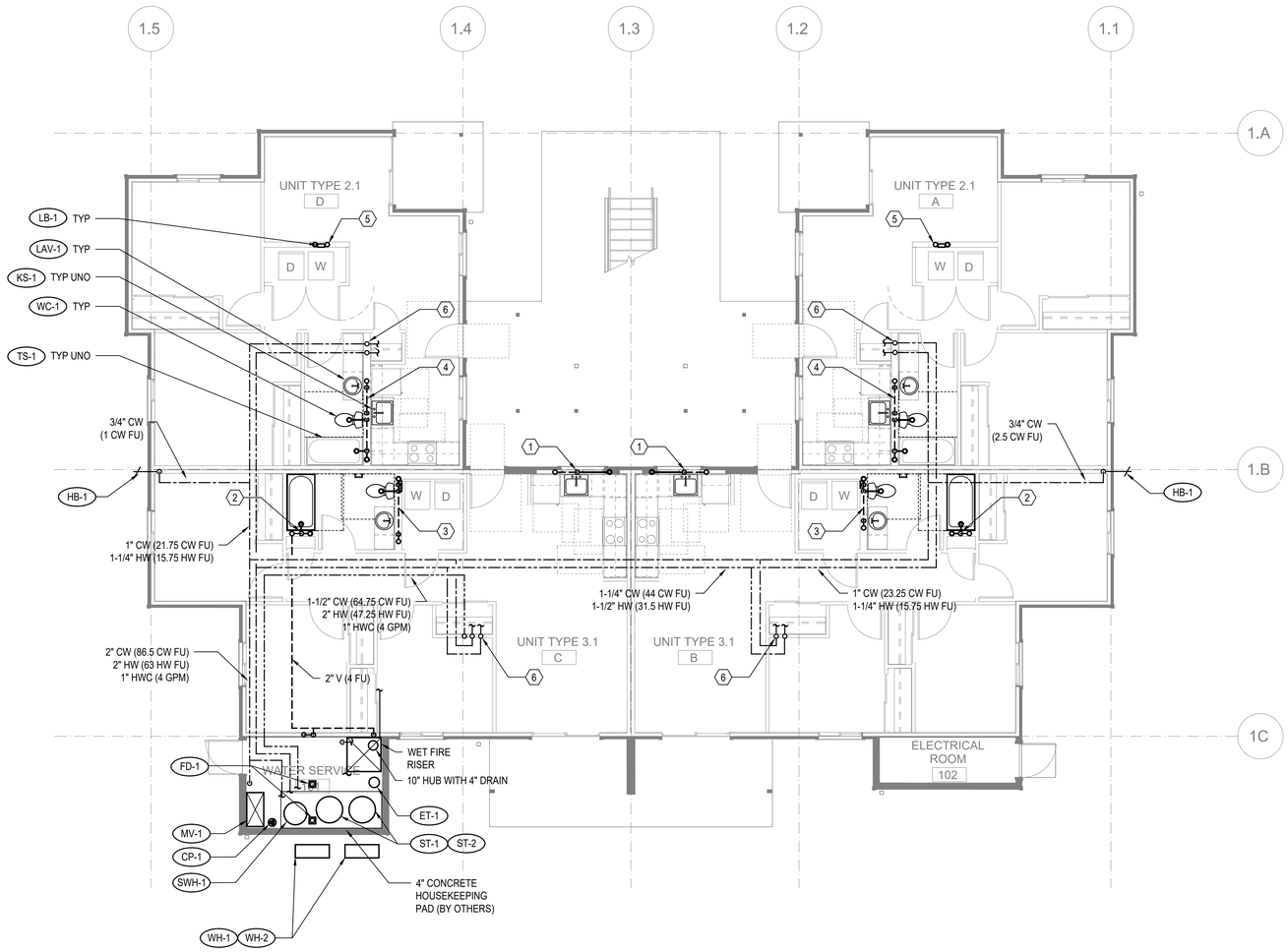
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P2-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 2 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

DANA LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

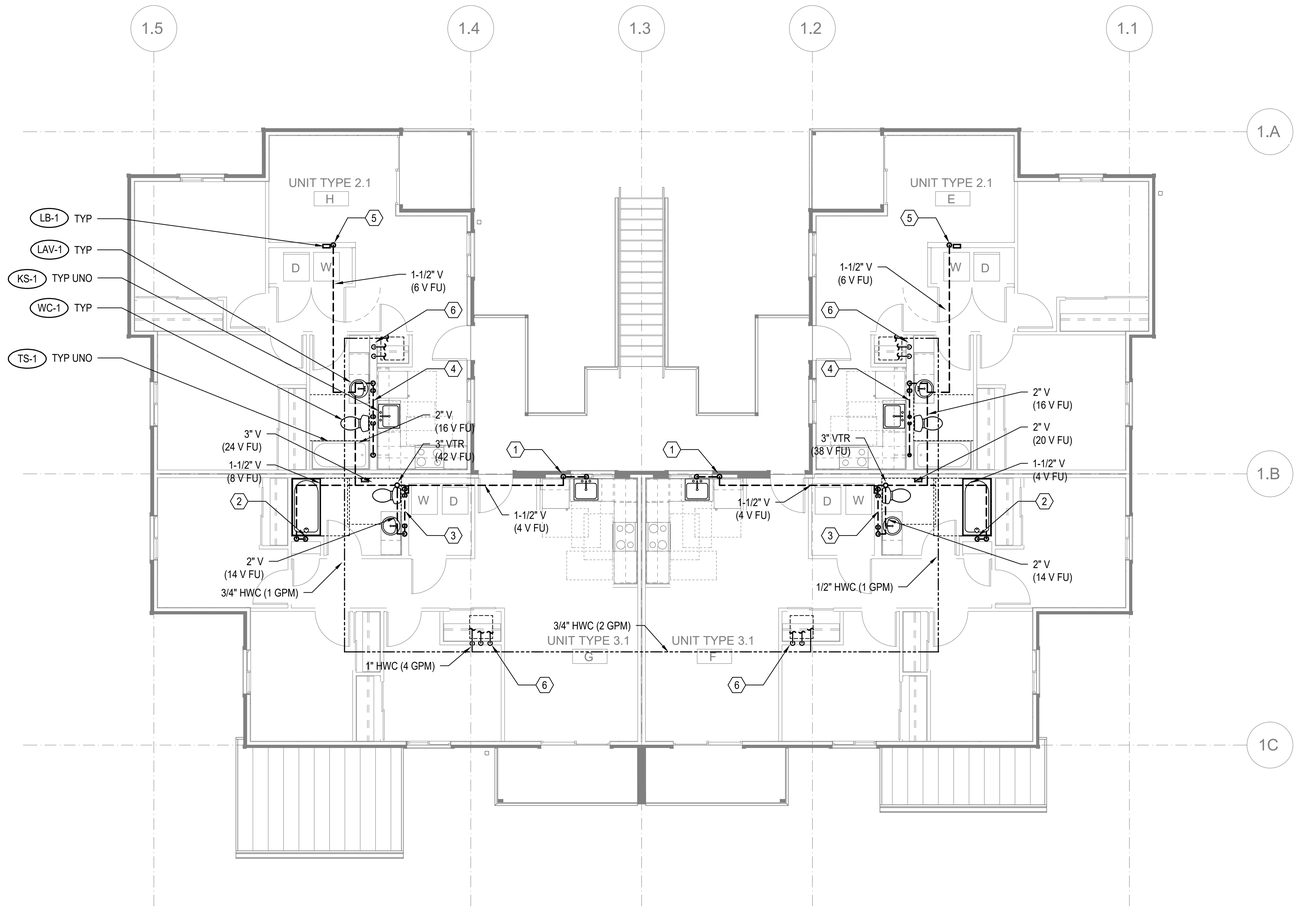
DPD STAMP

TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P2-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 2 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

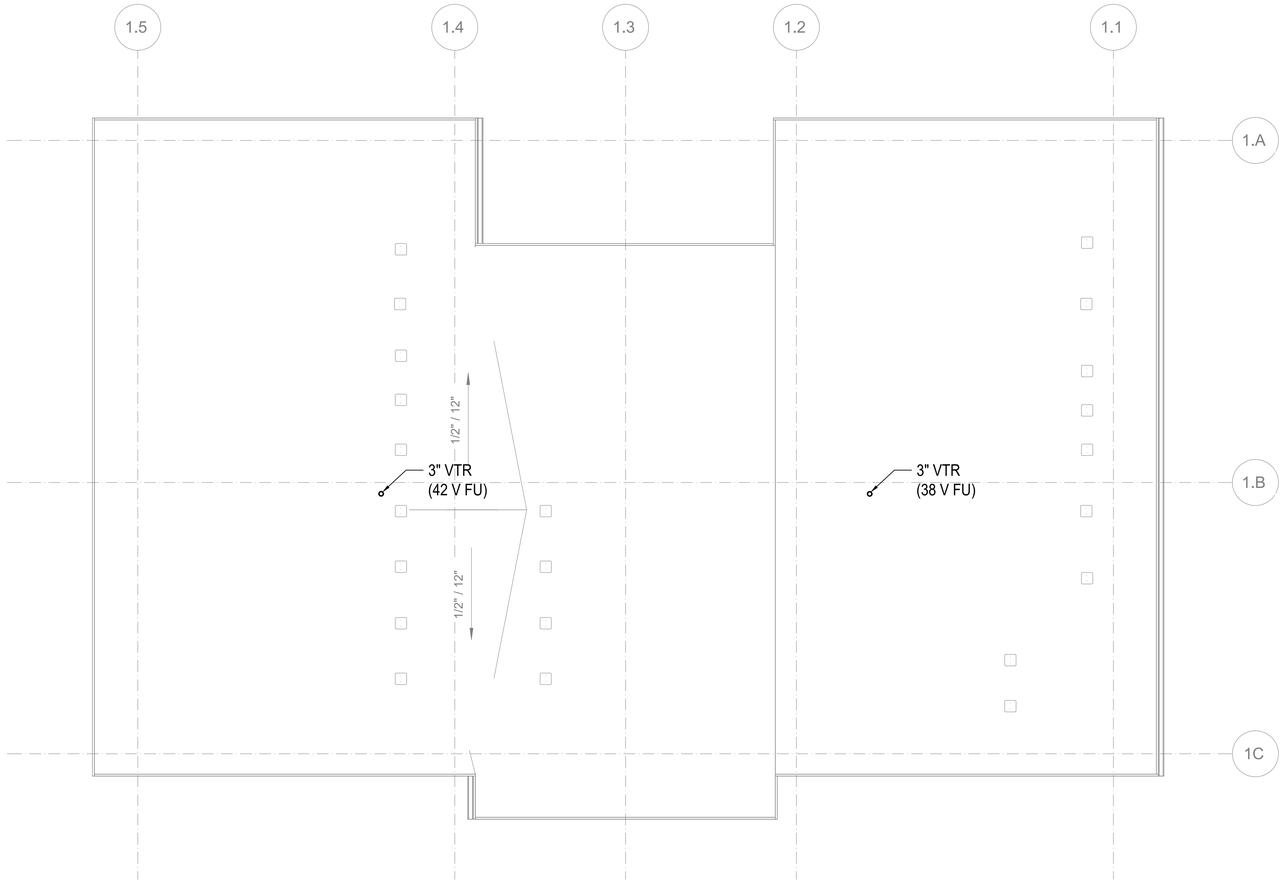
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P2-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 2 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P2-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN Z415BZ DISCONTINUED	ZURN: Z415BZ1	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	8	4	32	3	24	2	16
Kitchen Sink	8	1.5	12	1.125	9.00	2	16
Clothes Washer	8	4	32	3	24	3	24
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**44**		**107.5**		**63.00**		**92**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 44 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2"
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 92. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

DANA LAMBER BERGSTROM
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P3-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN

SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

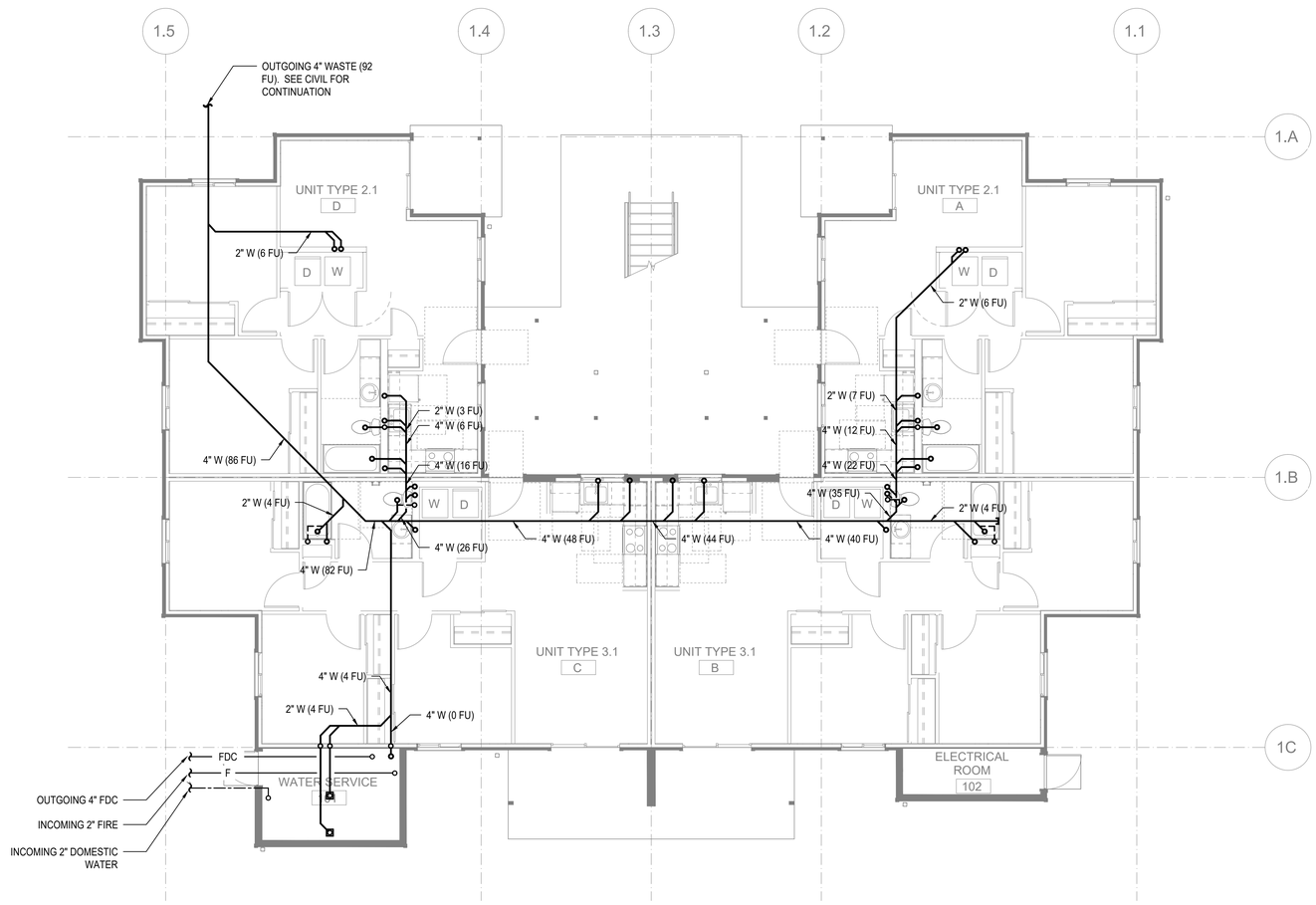
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P3-011



FLOOR PLAN - BUILDING 3 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

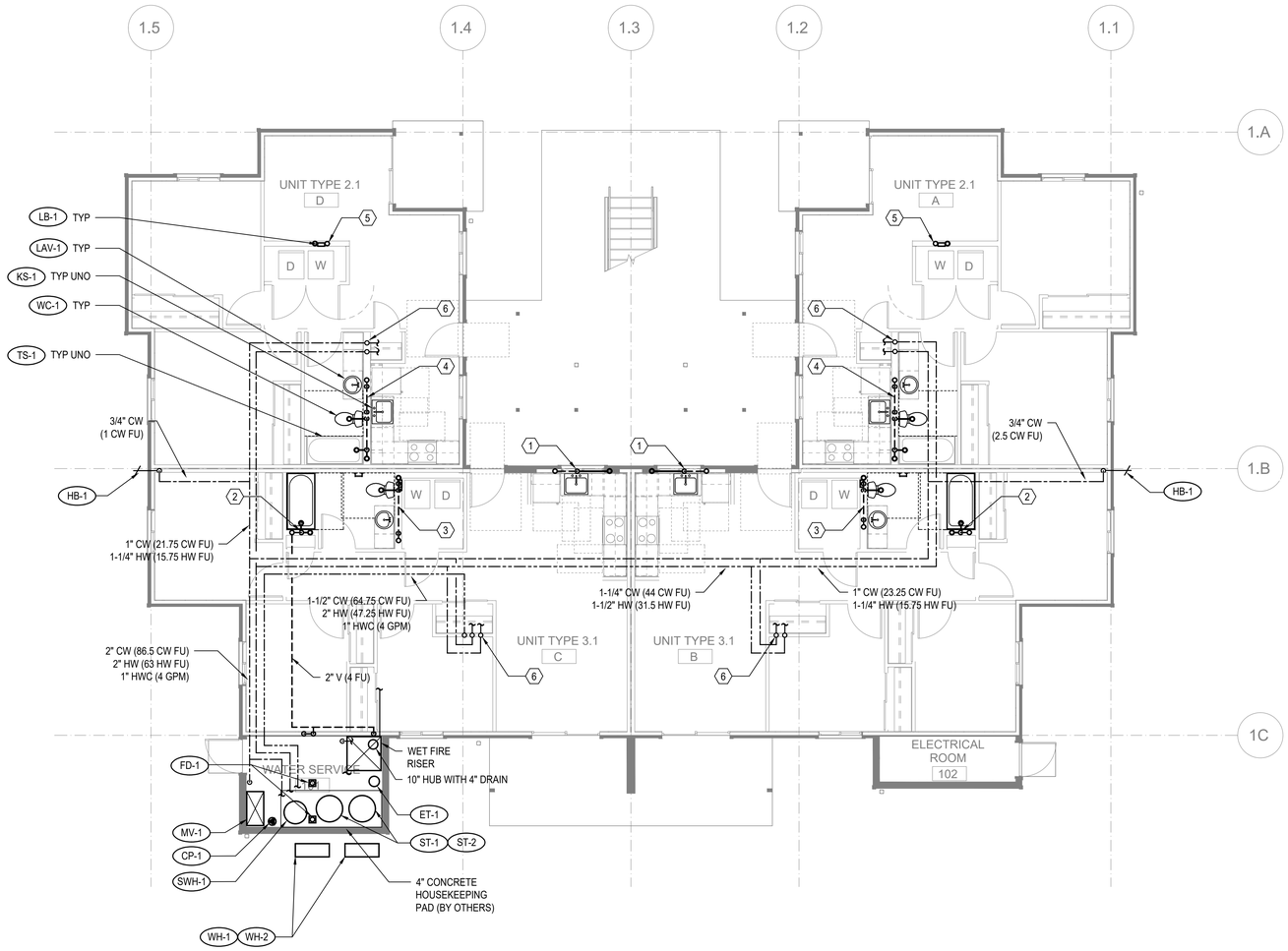
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P3-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 3 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

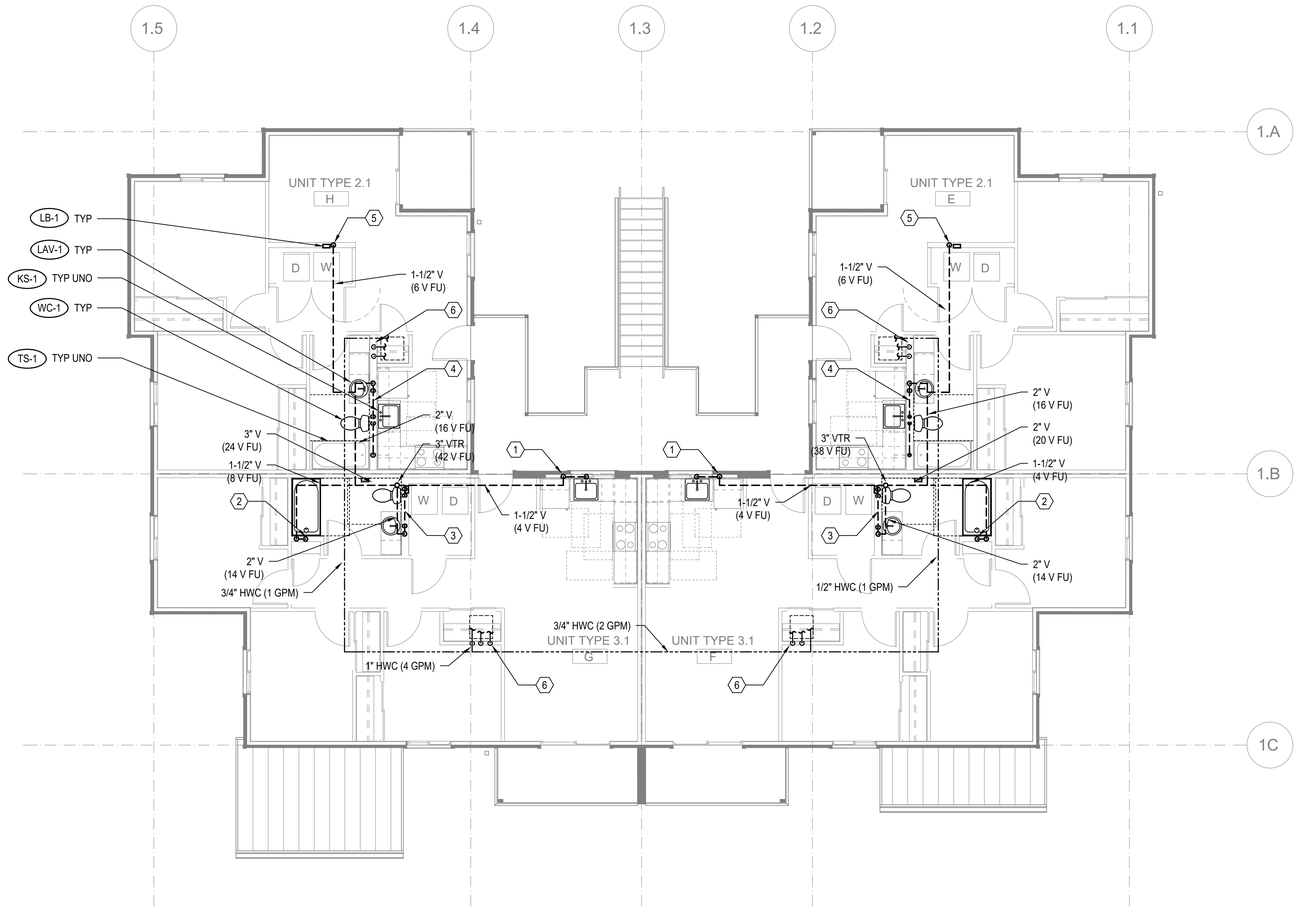
DPD STAMP

TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P3-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 1 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

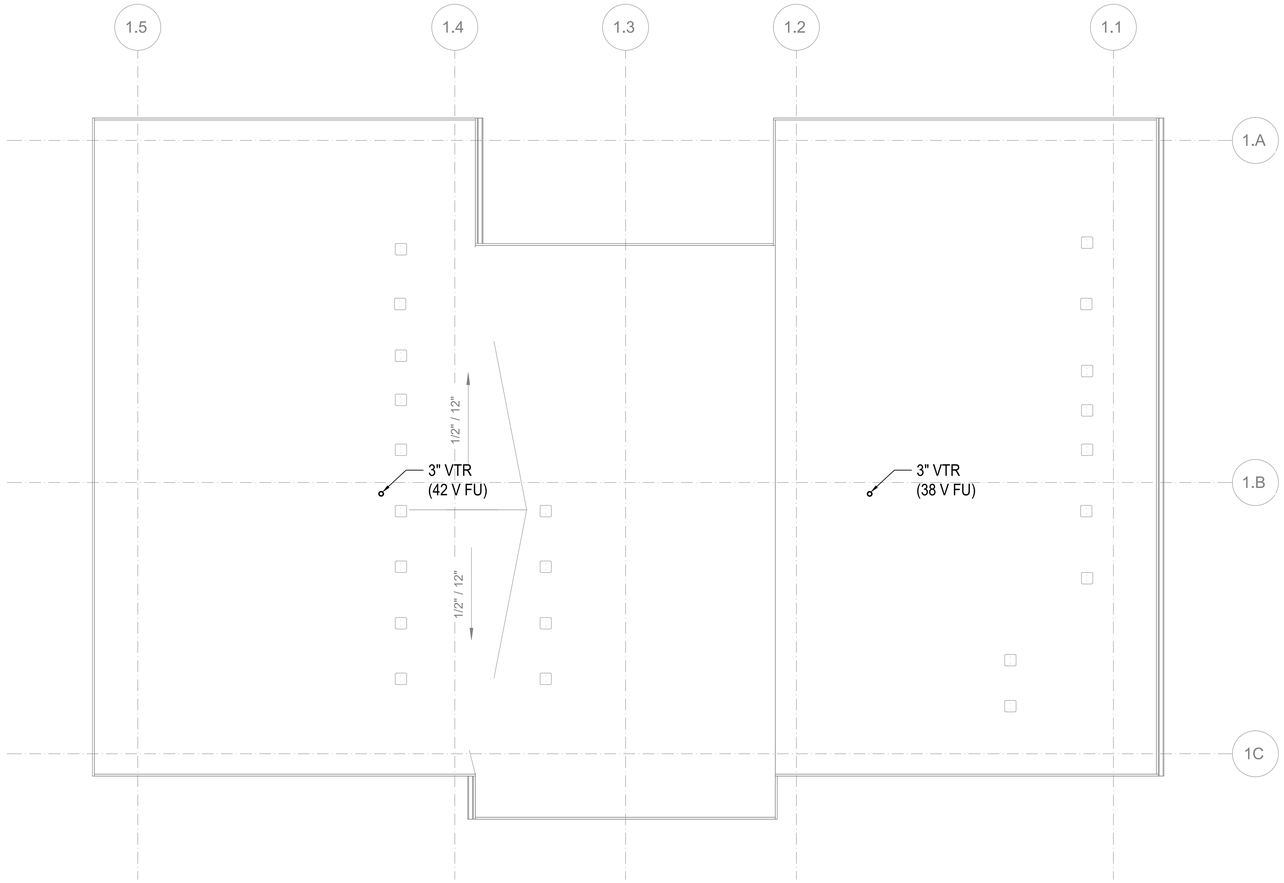
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P3-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 3 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P3-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN Z415BZ DISCONTINUED	ZURN: Z415BZ1	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	8	4	32	3	24	2	16
Kitchen Sink	8	1.5	12	1.125	9.00	2	16
Clothes Washer	8	4	32	3	24	3	24
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**44**		**107.5**		**63.00**		**92**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 44 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2"
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 92. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

DANA LAMBER BERGER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P4-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

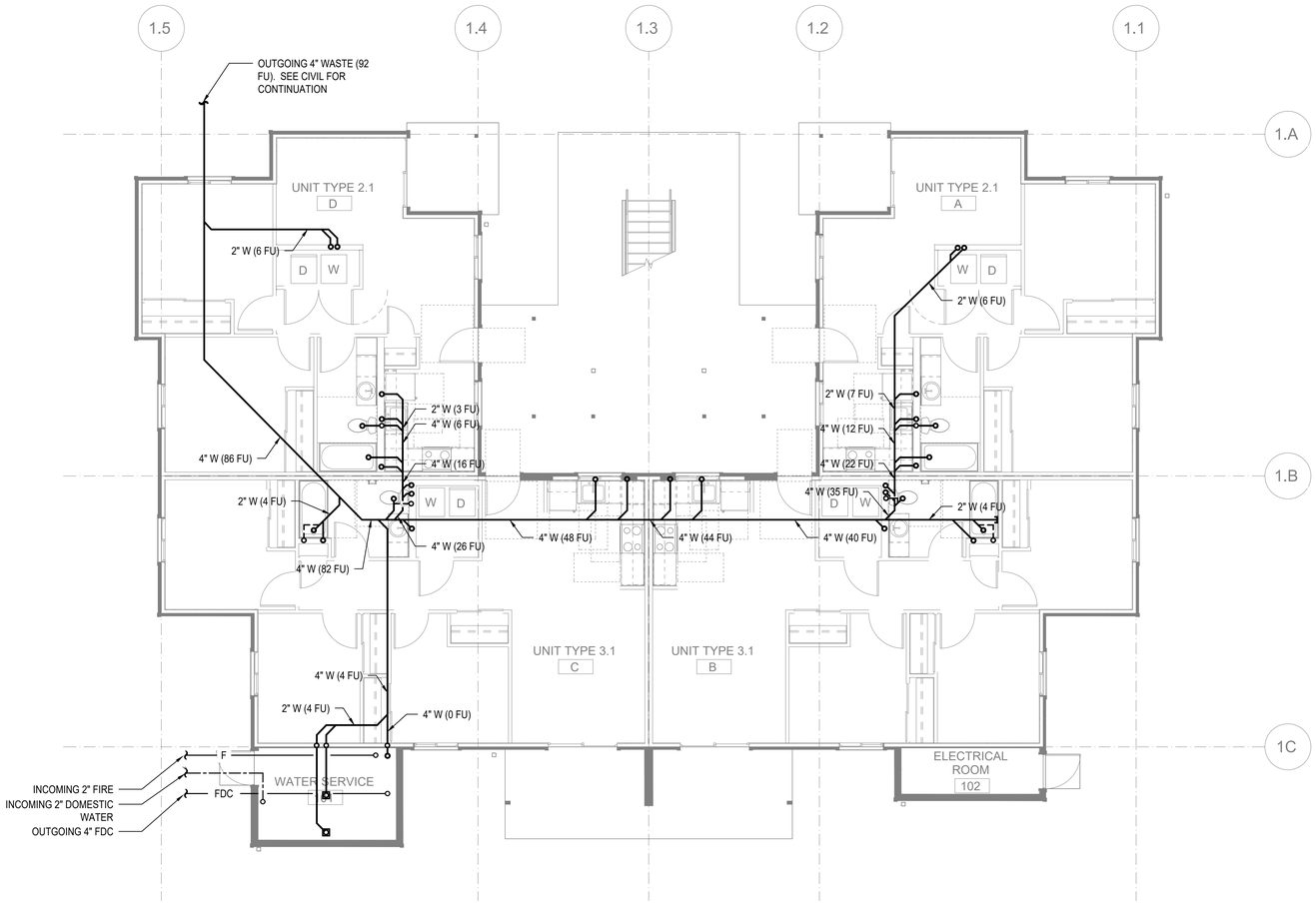
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P4-011



FLOOR PLAN - BUILDING 4 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

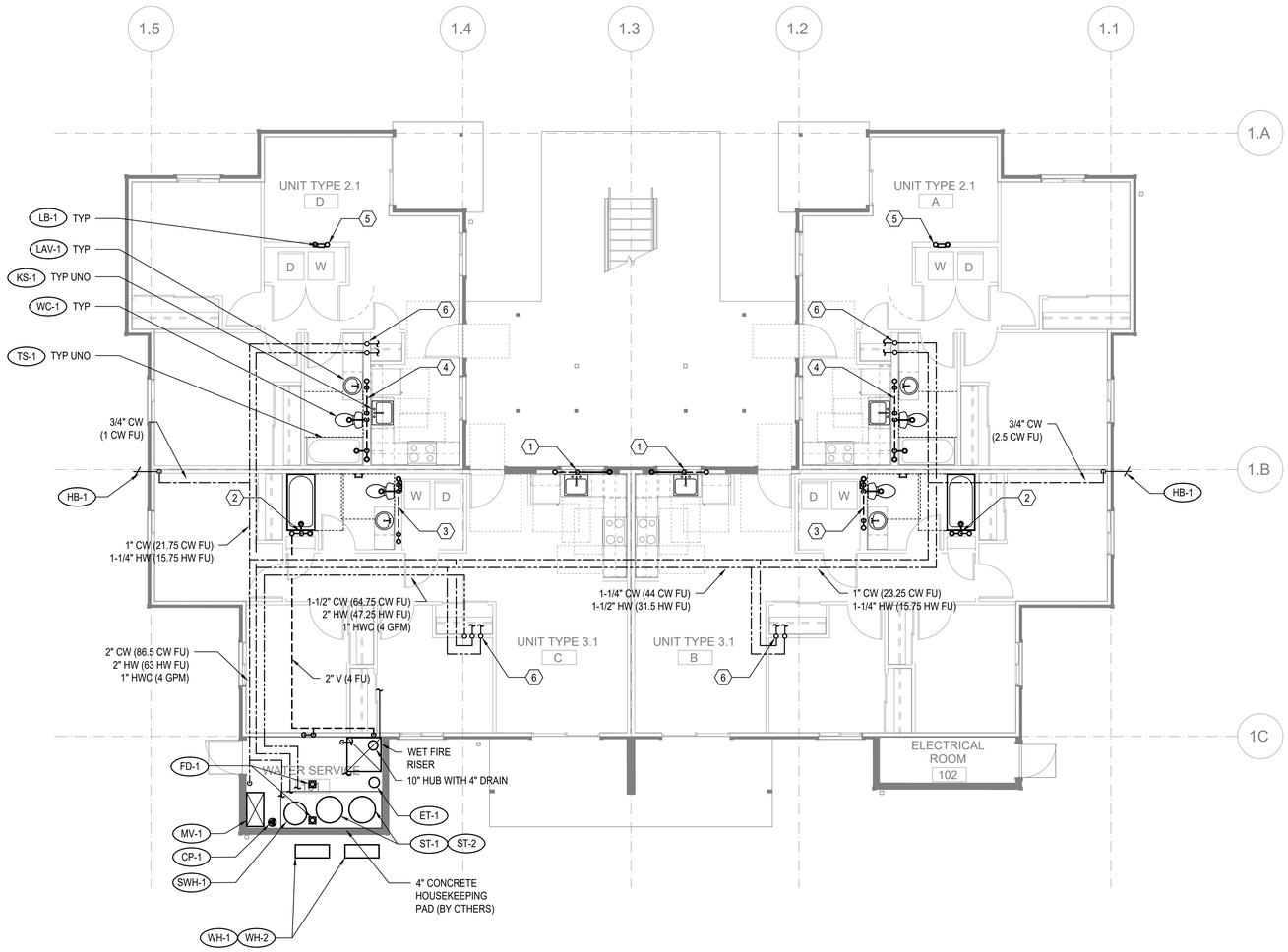
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P4-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 4 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

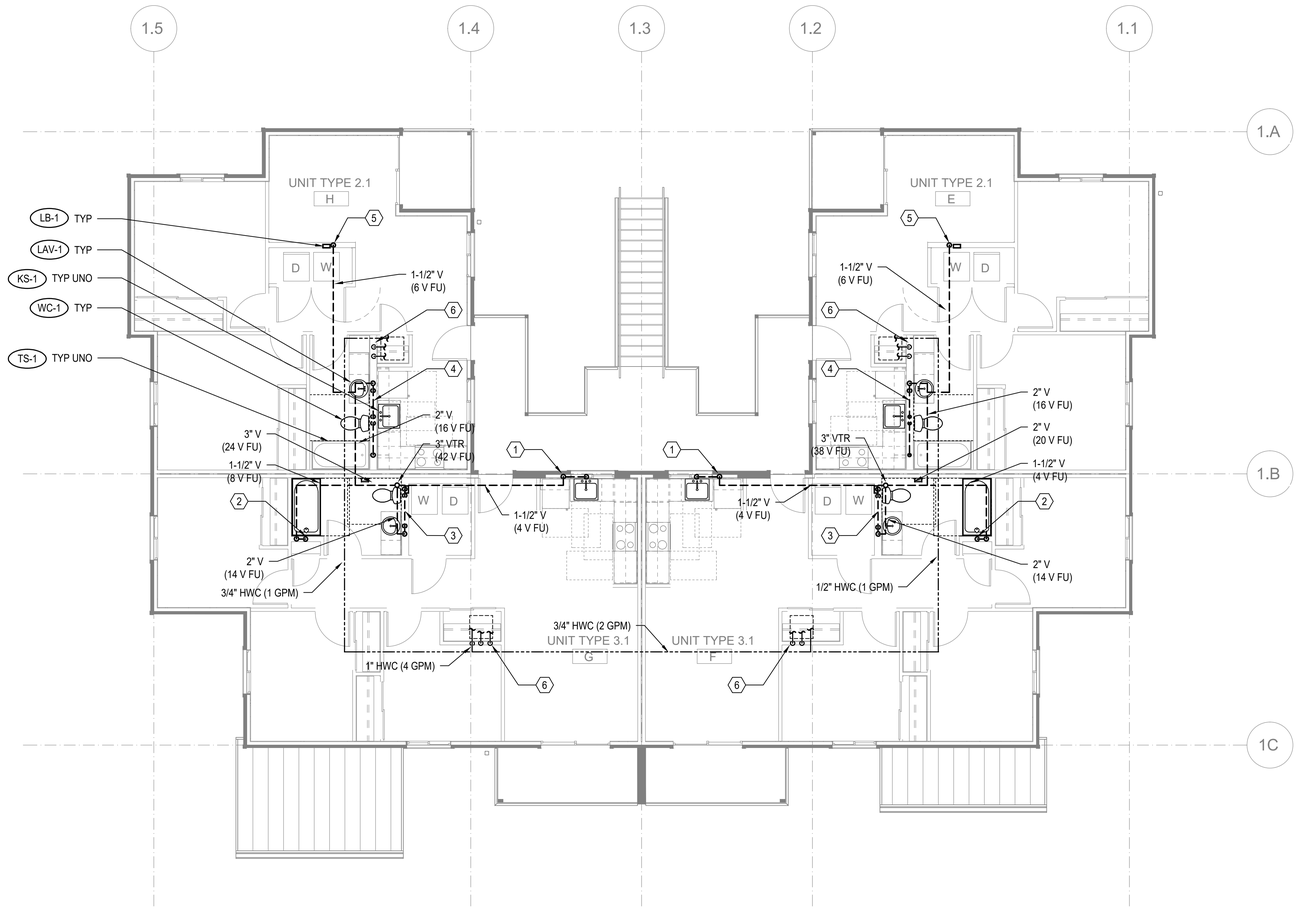
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P4-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 4 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

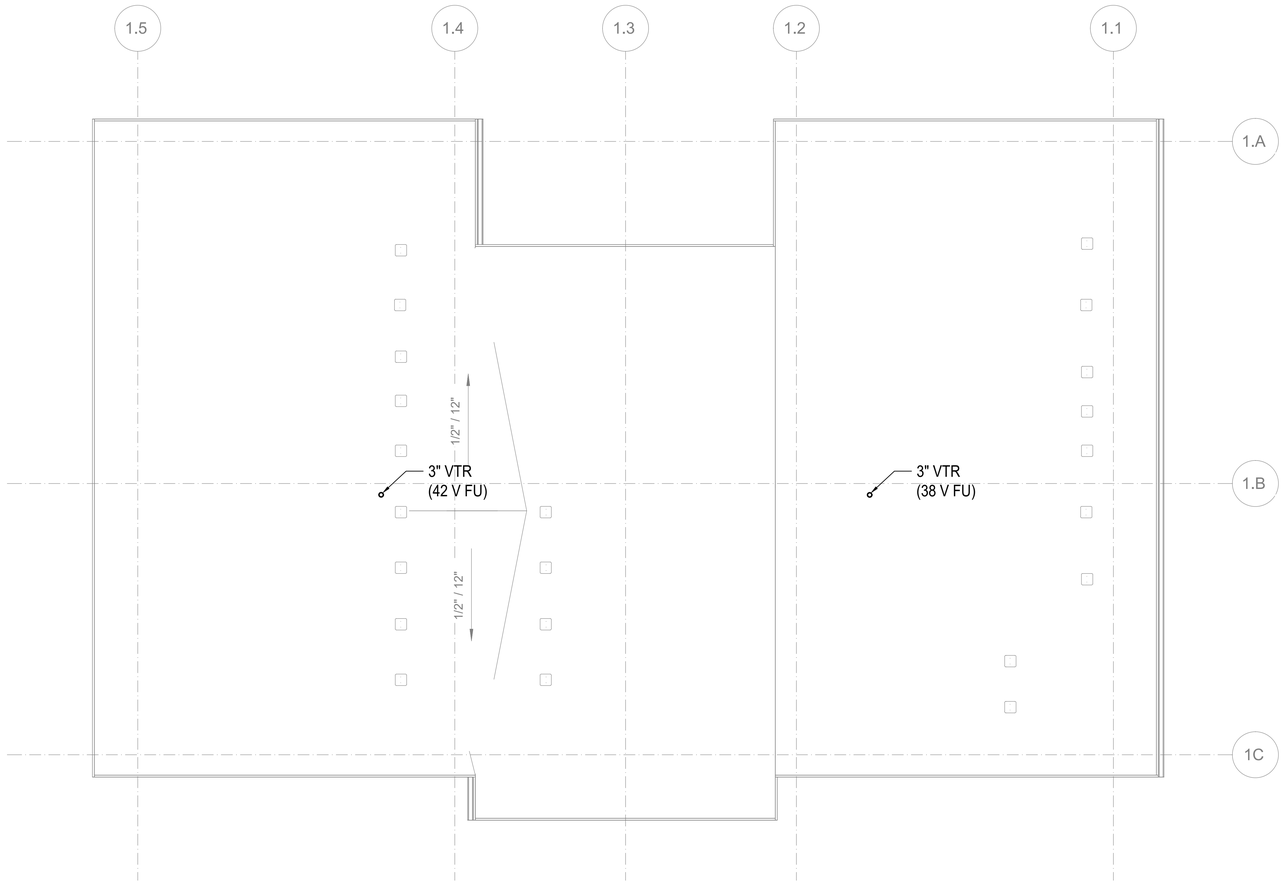
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P4-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 4 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P4-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P5-002

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

DANA AMBER FOREES
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

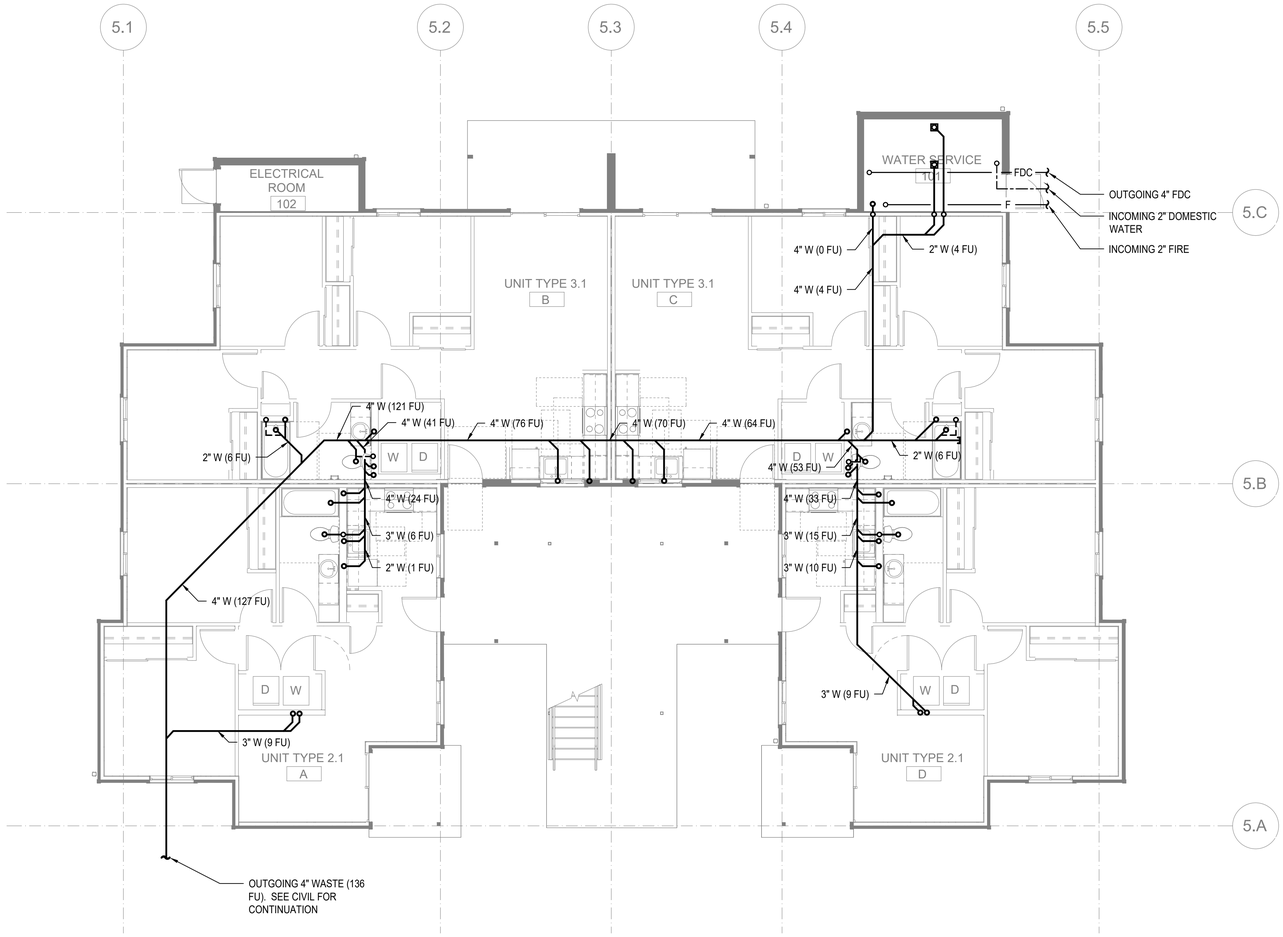
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P5-011



FLOOR PLAN - BUILDING 5 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

DANA LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

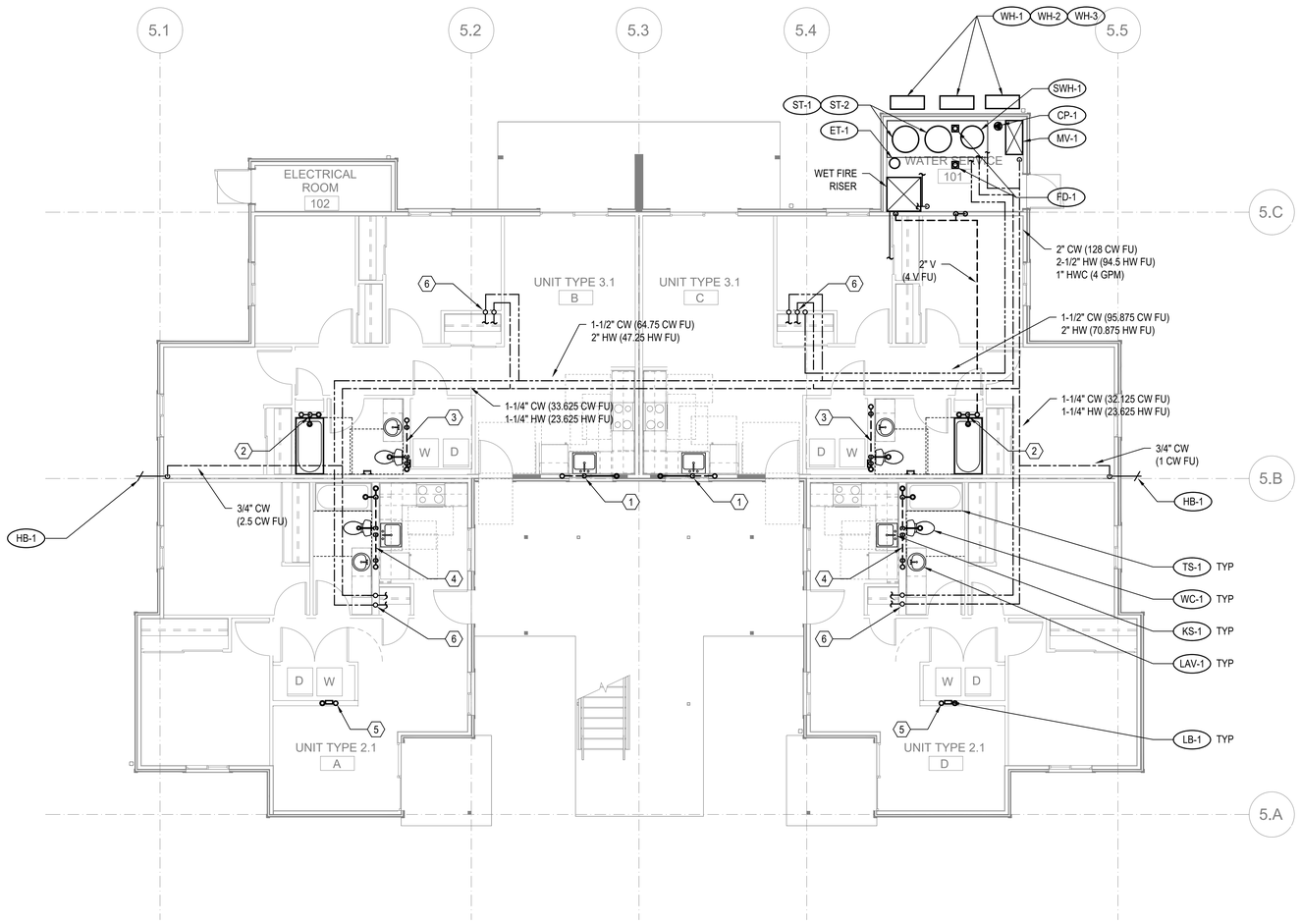
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P5-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 5 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

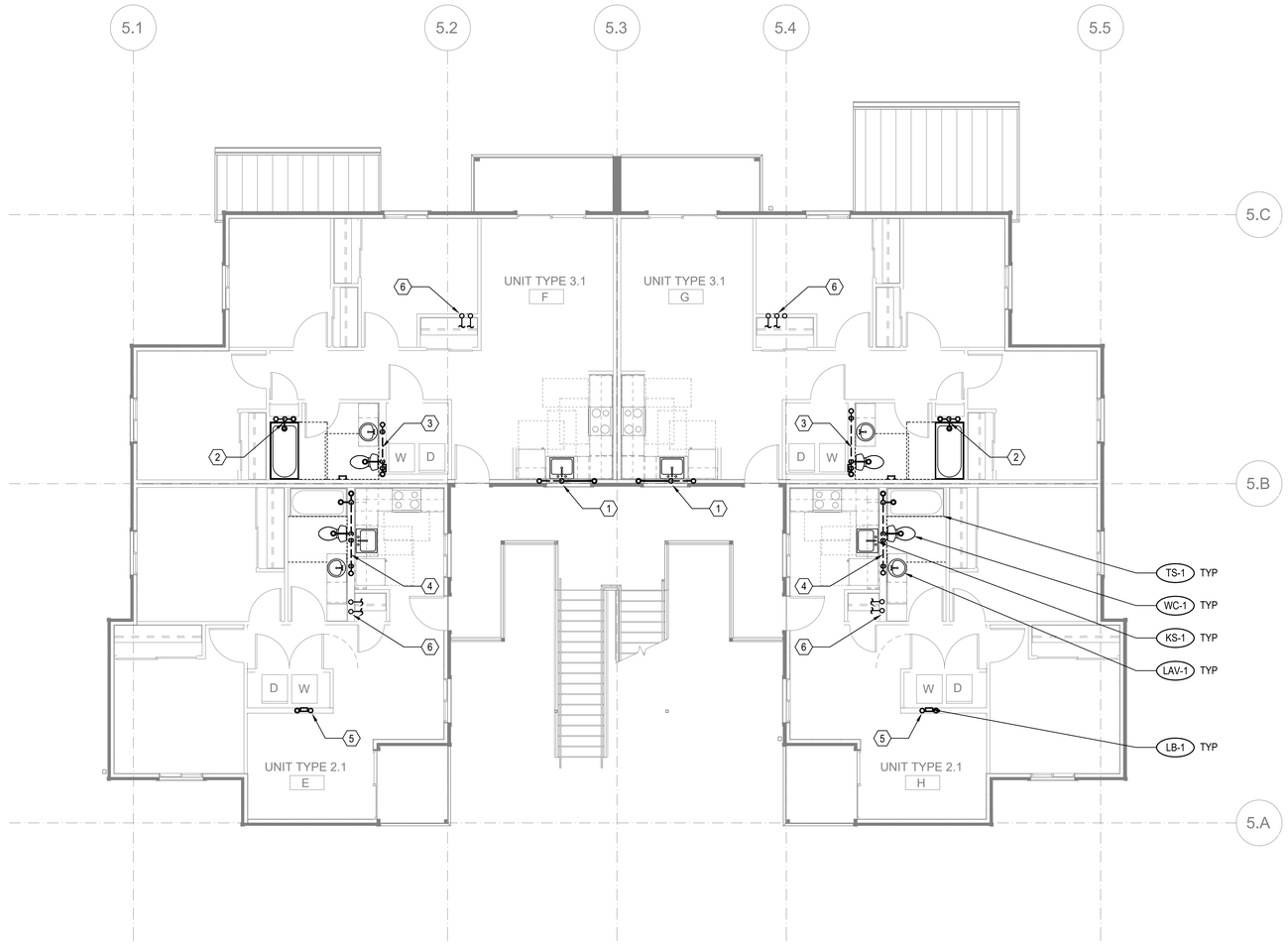
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P5-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 5 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

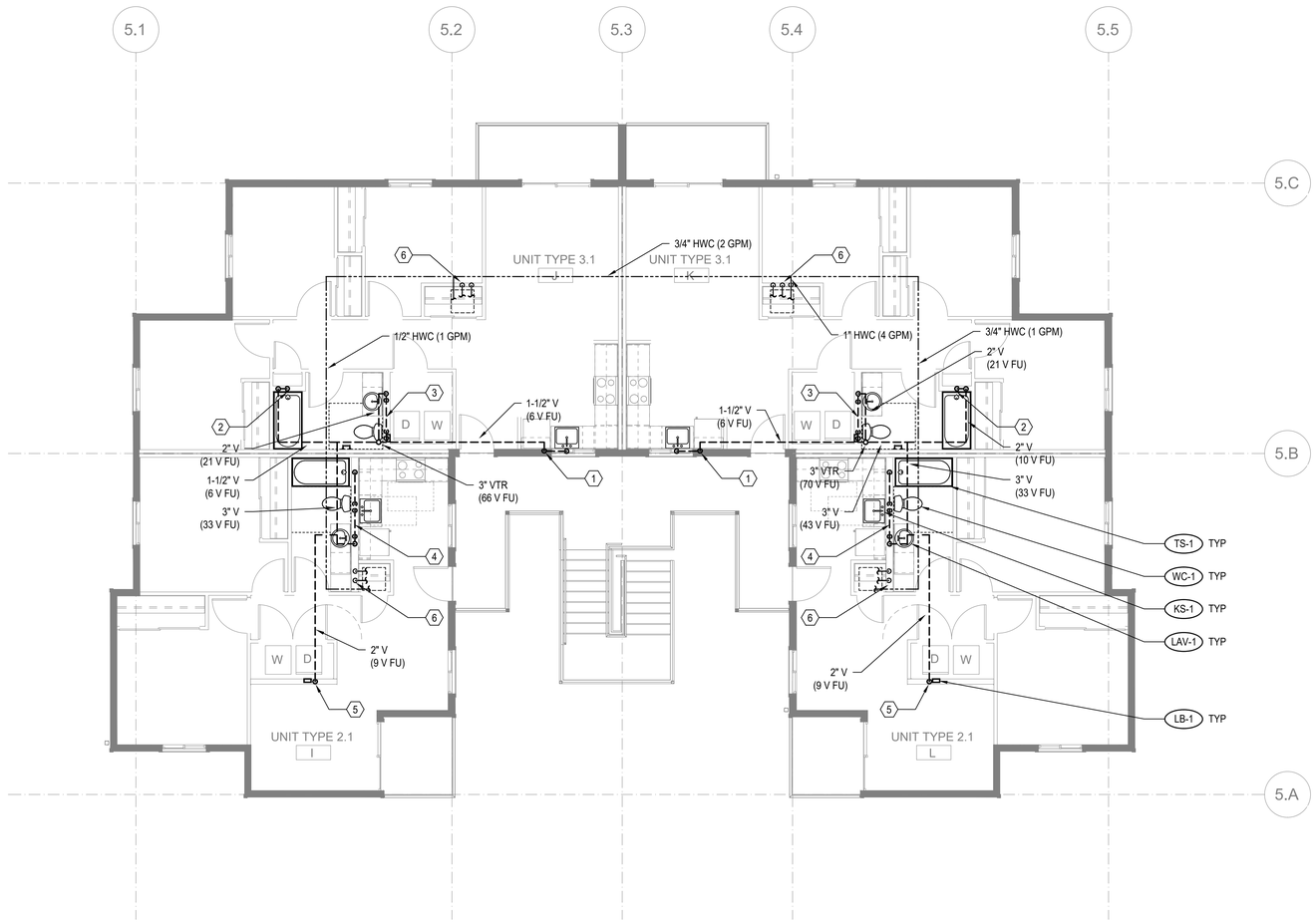
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P5-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 5 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

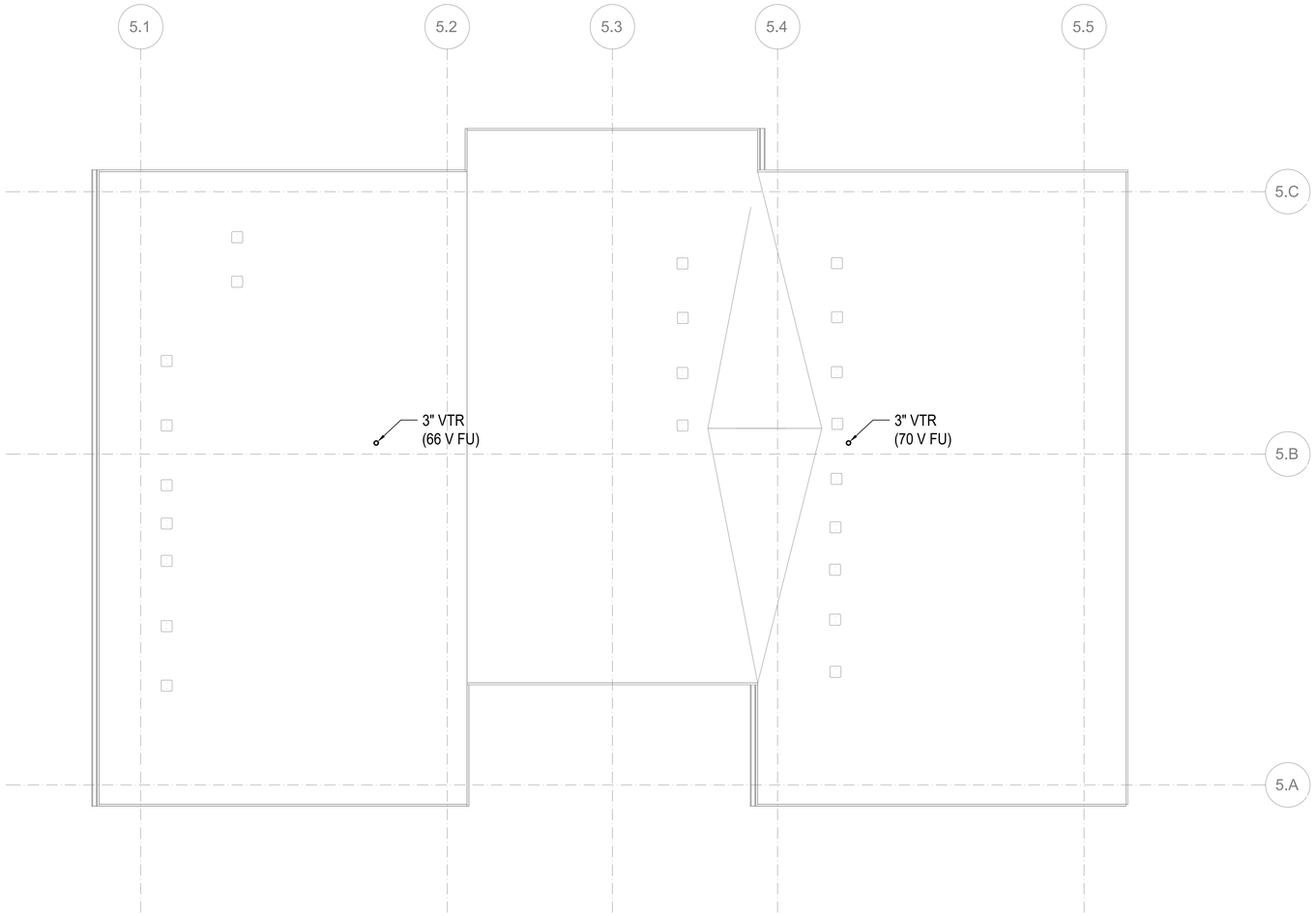
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P5-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 5 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P5-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN Z415BZ DISCONTINUED	ZURN: Z415BZ1	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE					FIXTURE UNITS PER APPENDIX A		
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	8	4	32	3	24	2	16
Kitchen Sink	8	1.5	12	1.125	9.00	2	16
Clothes Washer	8	4	32	3	24	3	24
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**44**		**107.5**		**63.00**		**92**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 44 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2"
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 92. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

DANA LAMBER BERGSTROM, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P6-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

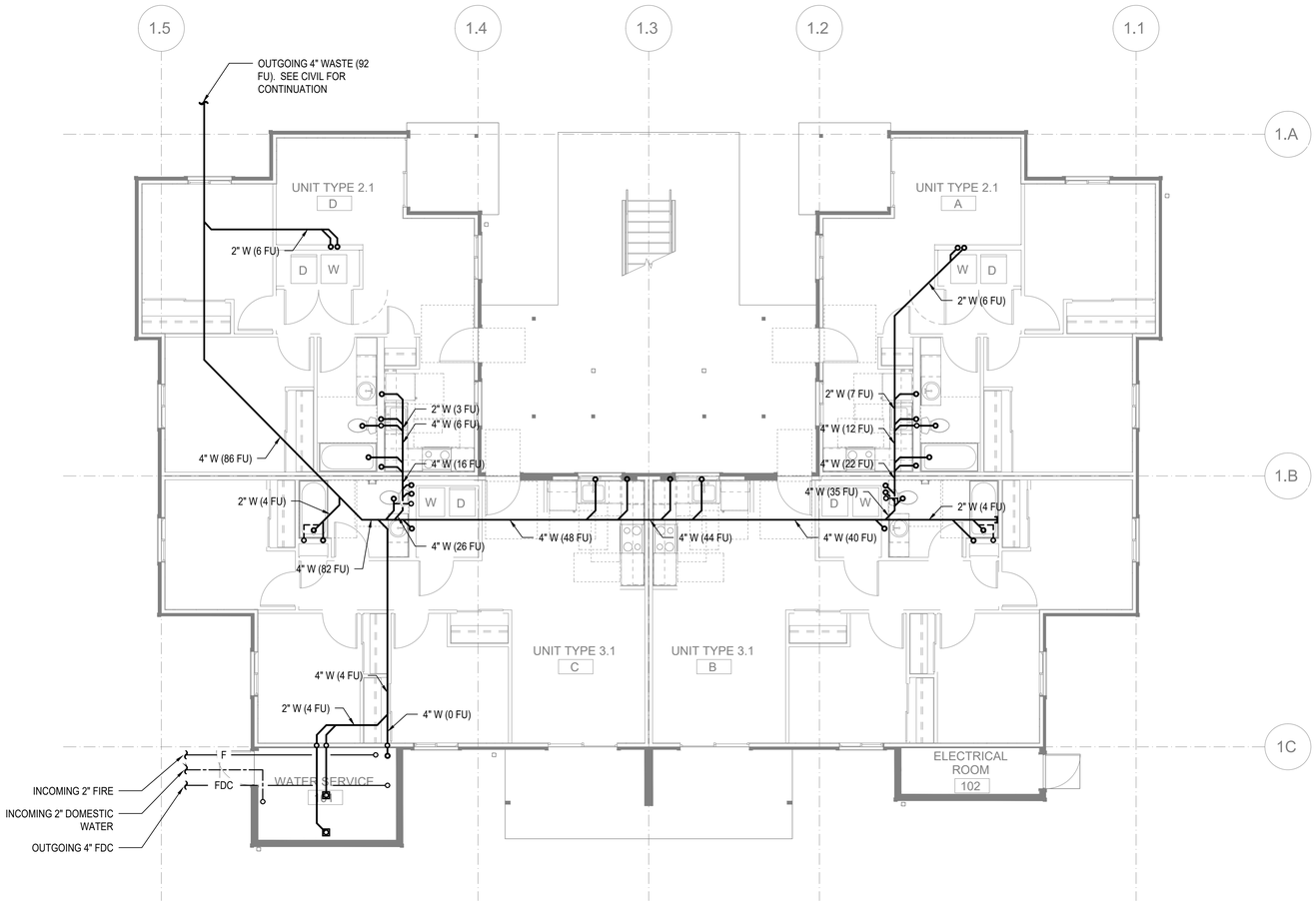
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P6-011



FLOOR PLAN - BUILDING 6 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

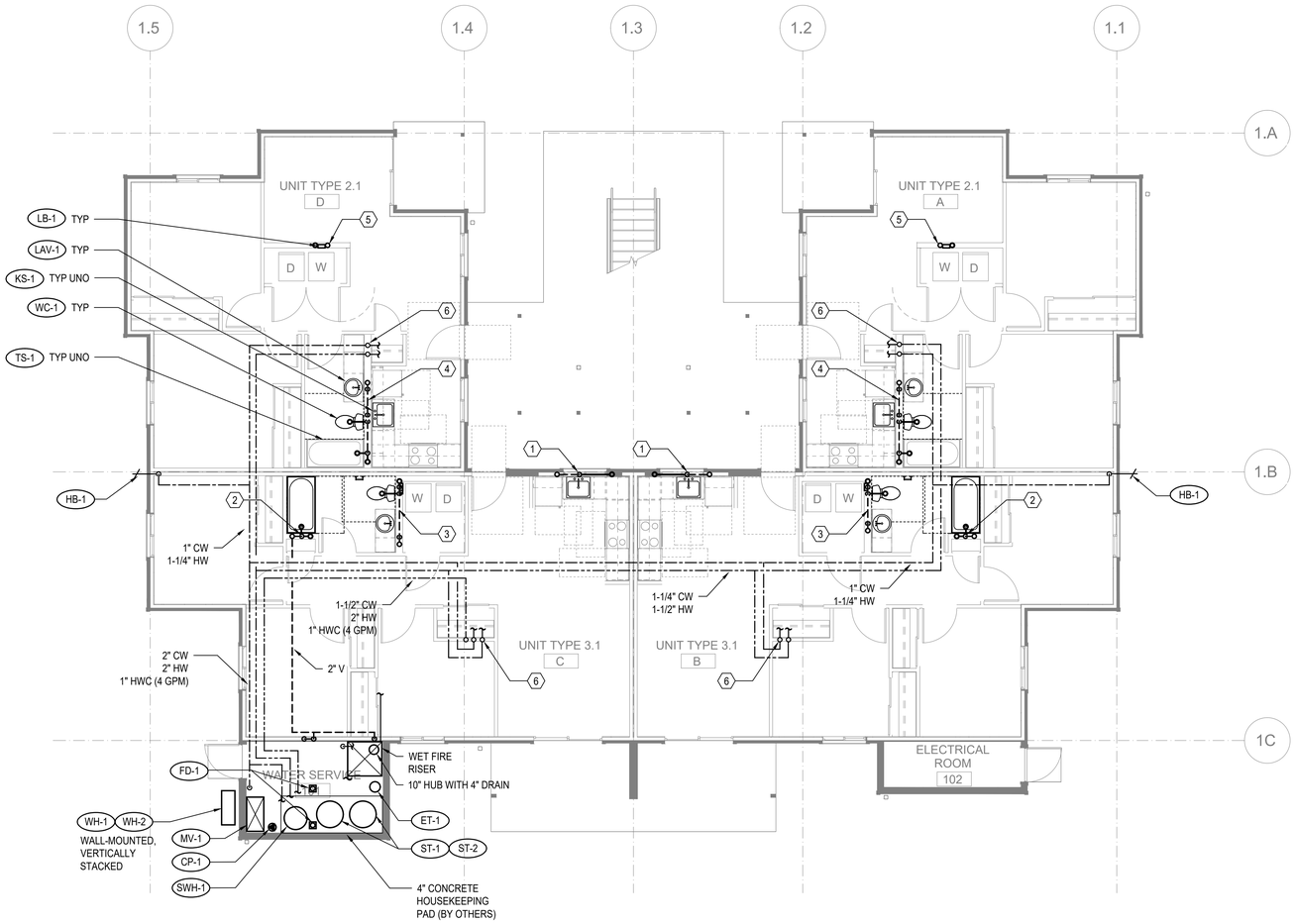
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P6-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 6 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

DANA LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

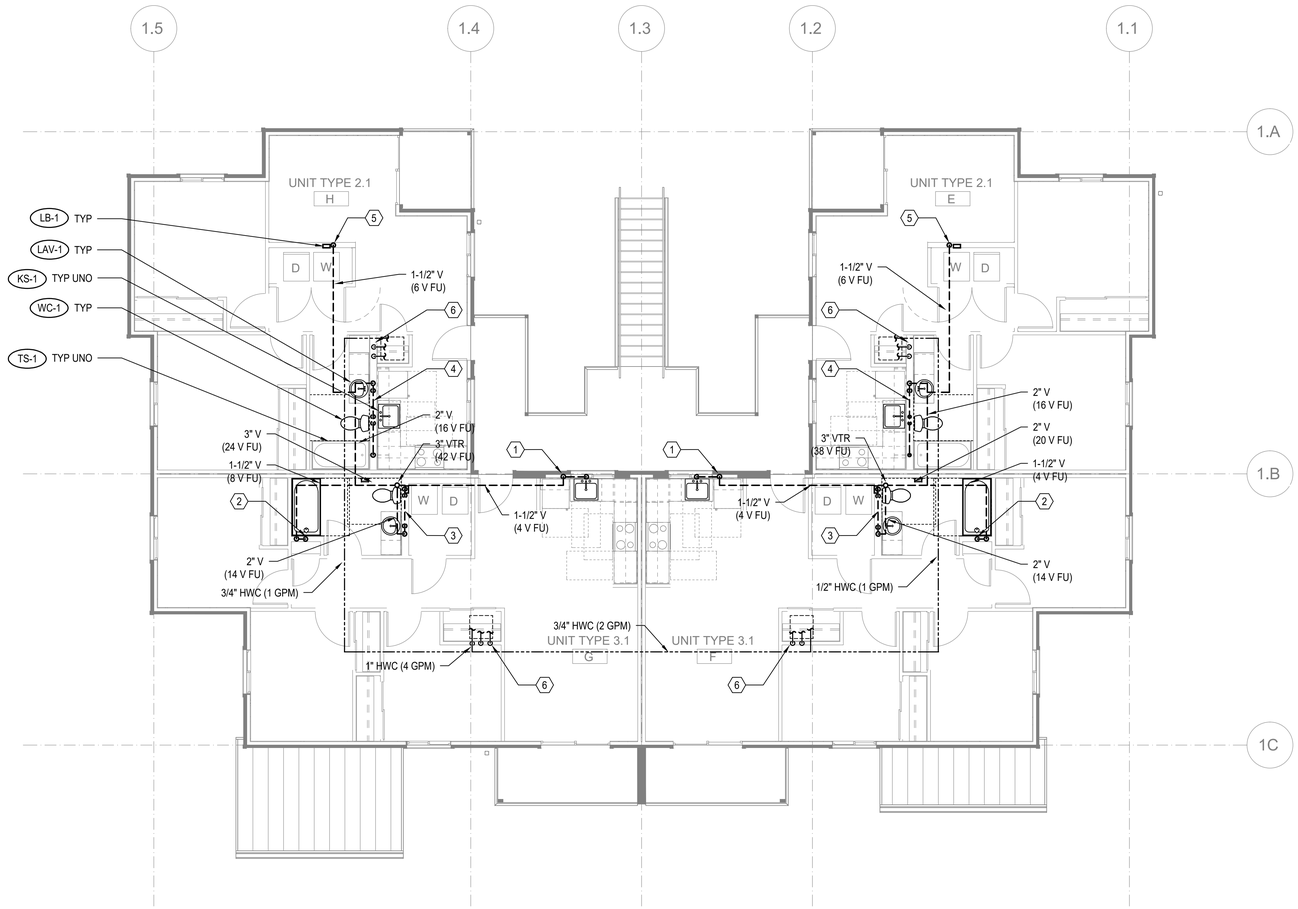
DPD STAMP

TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P6-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 6 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

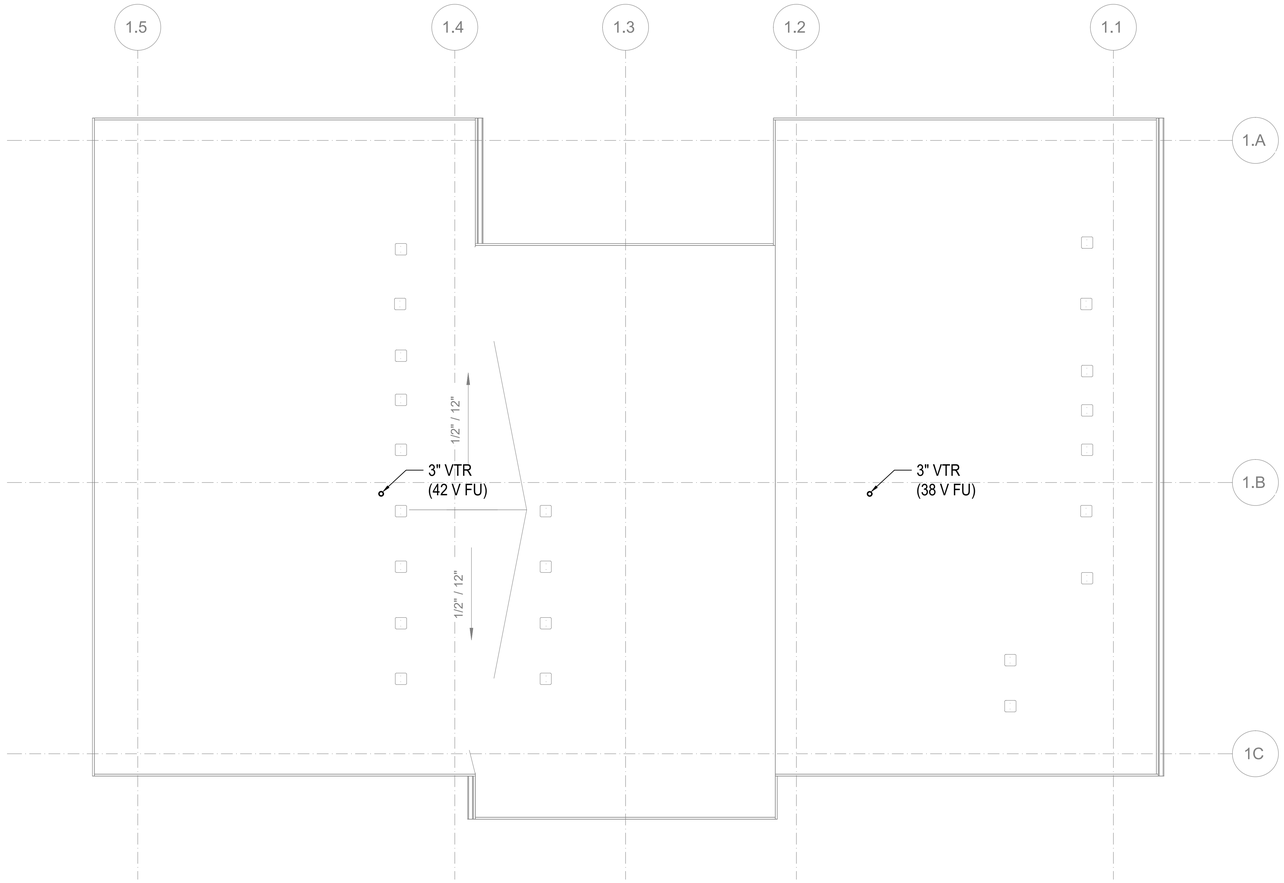
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P6-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 6 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P6-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN Z415BZ DISCONTINUED	ZURN: Z415BZ1	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	8	4	32	3	24	2	16
Kitchen Sink	8	1.5	12	1.125	9.00	2	16
Clothes Washer	8	4	32	3	24	3	24
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**44**		**107.5**		**63.00**		**92**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 44 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2"
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 92. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

DANA LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P7-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

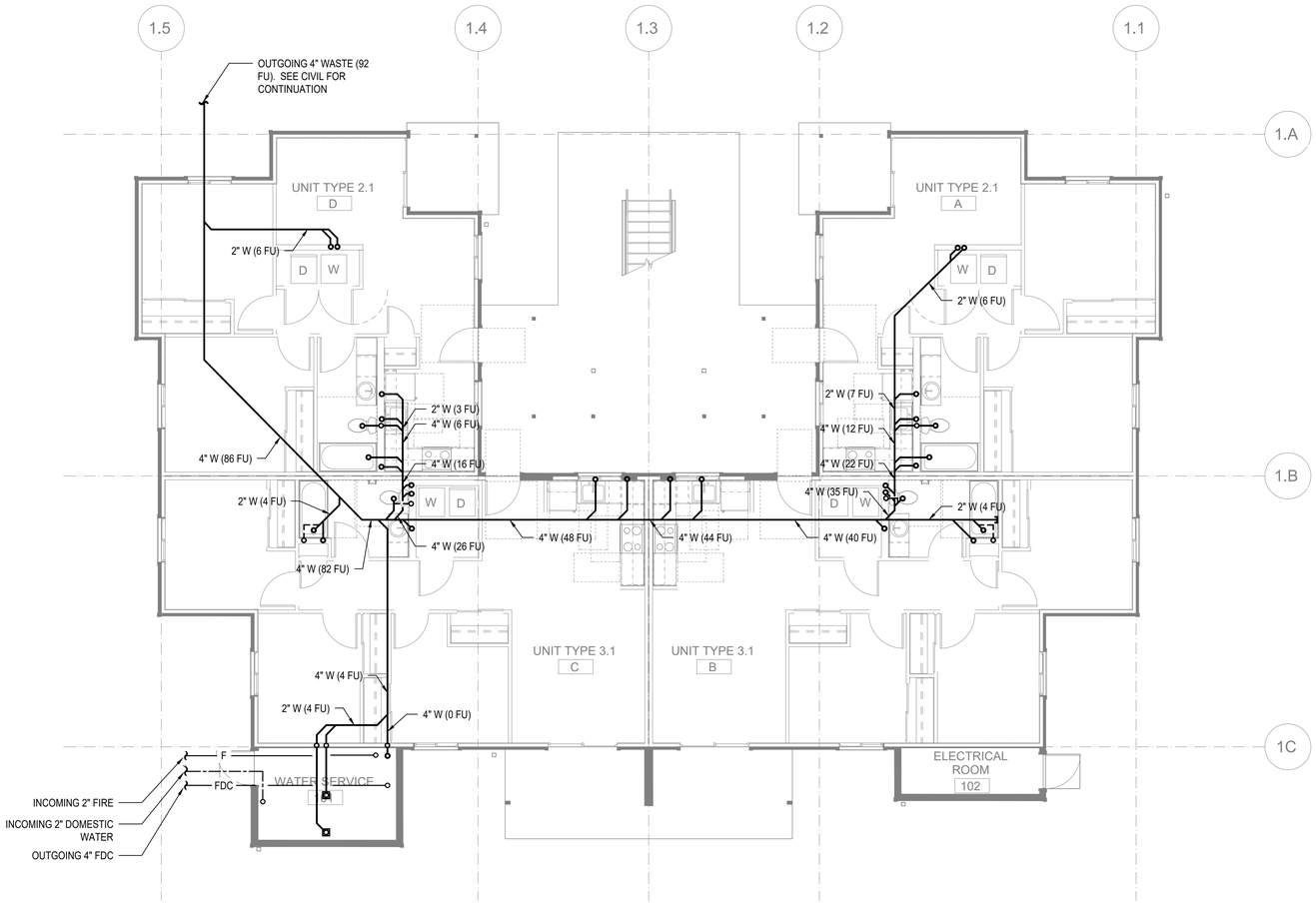
DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE
SITE PLAN

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:
P7-011



FLOOR PLAN - BUILDING 7 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

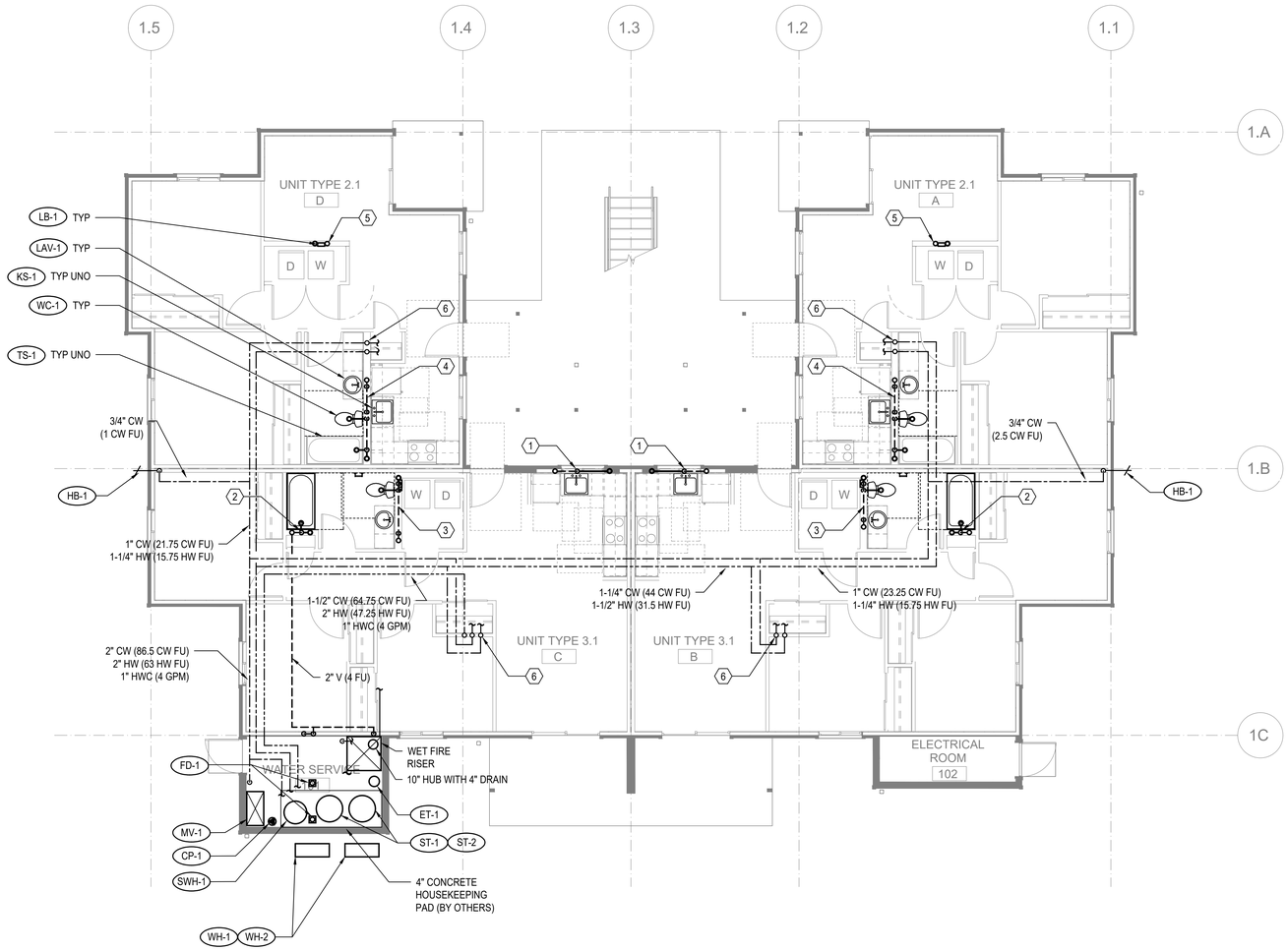
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P7-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 7 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

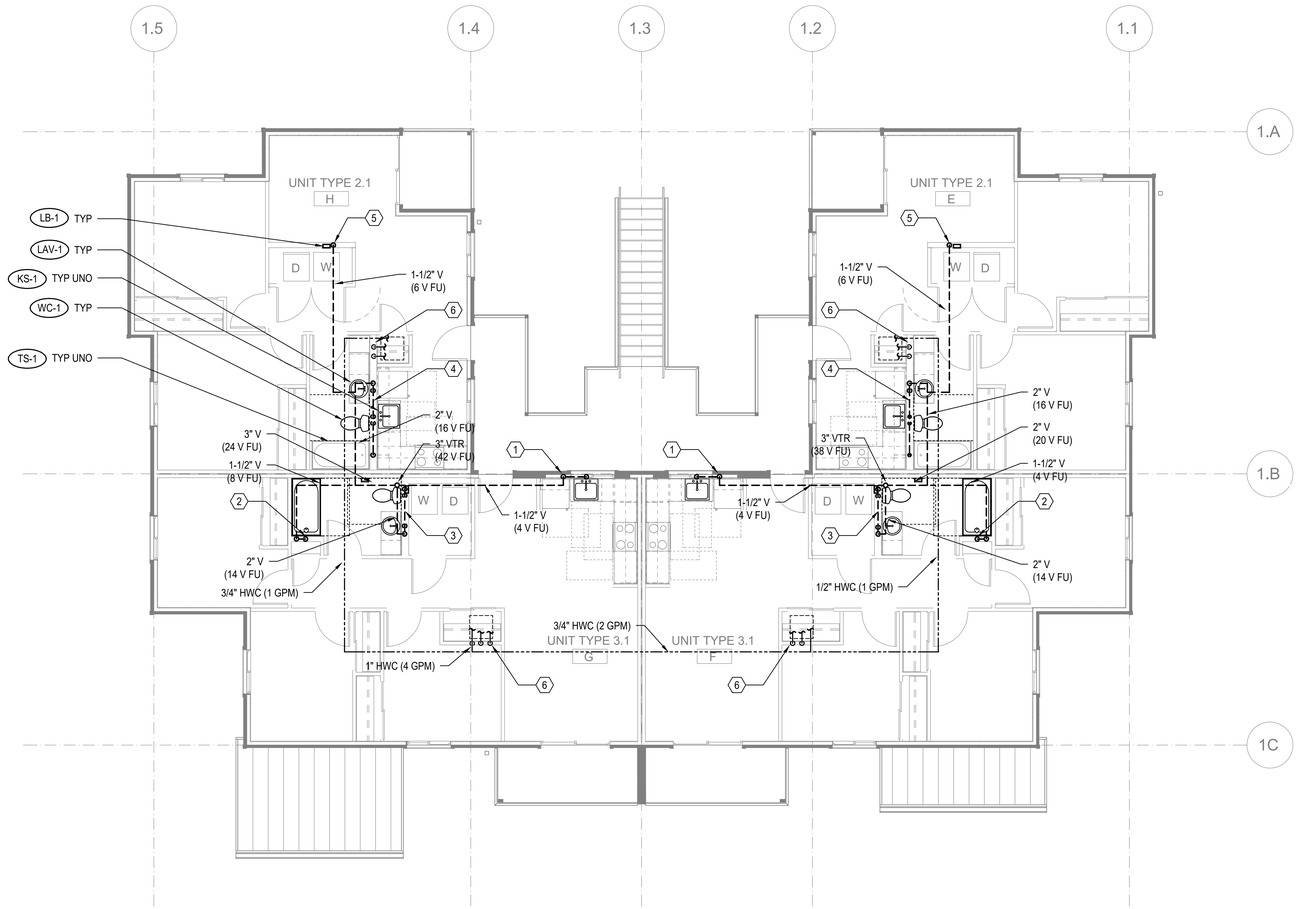
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P7-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 7 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

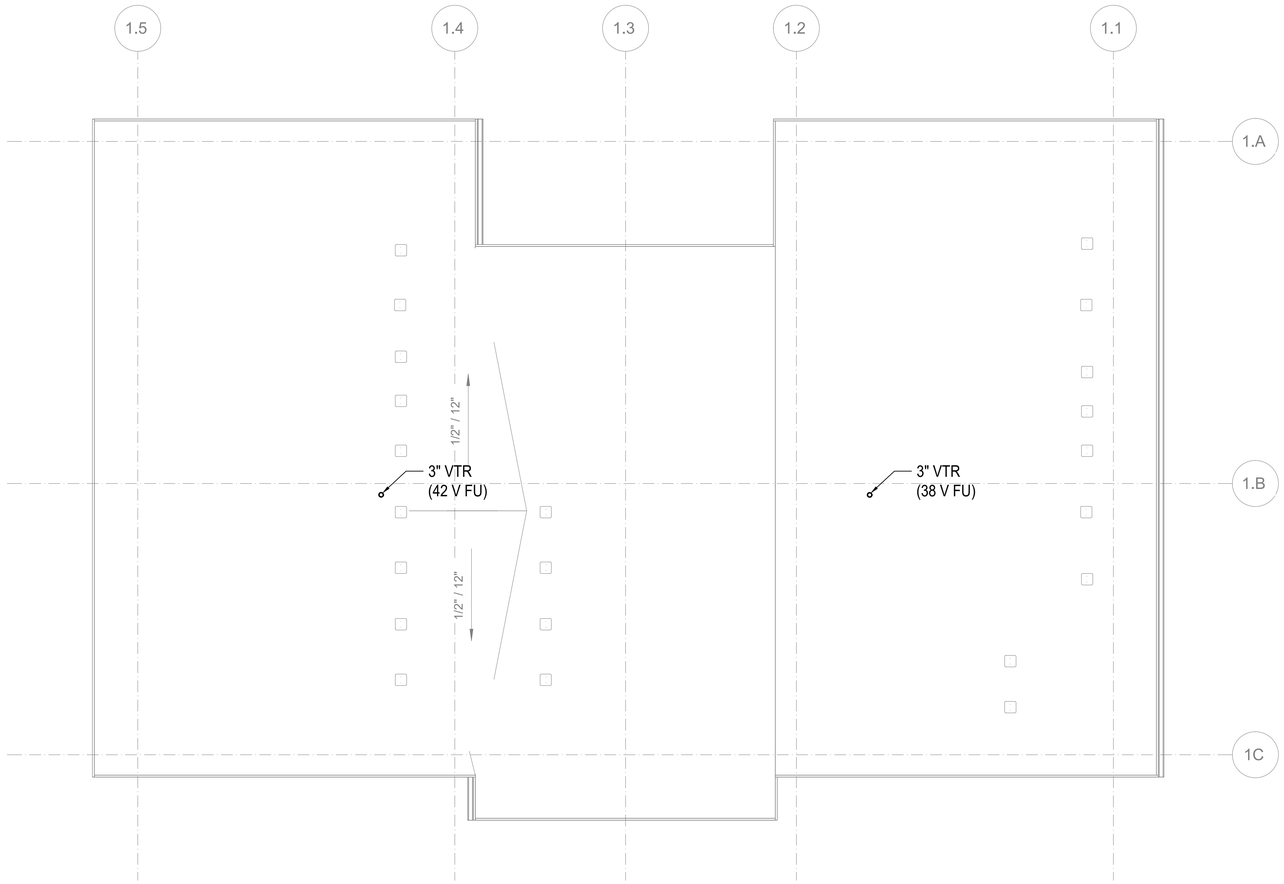
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P7-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 7 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P7-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: LE280T3-3	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"		3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	4	4	16	3	12	2	8
Kitchen Sink	4	1.5	6	1.125	4.50	2	8
Clothes Washer	4	4	16	3	12	3	12
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**32**		**69.5**		**34.50**		**64**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 33 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 1.5".
BUILDING WATER METER SIZE = 1".
TOTAL BUILDING WASTE FIXTURE UNITS IS 64. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St., Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P9-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

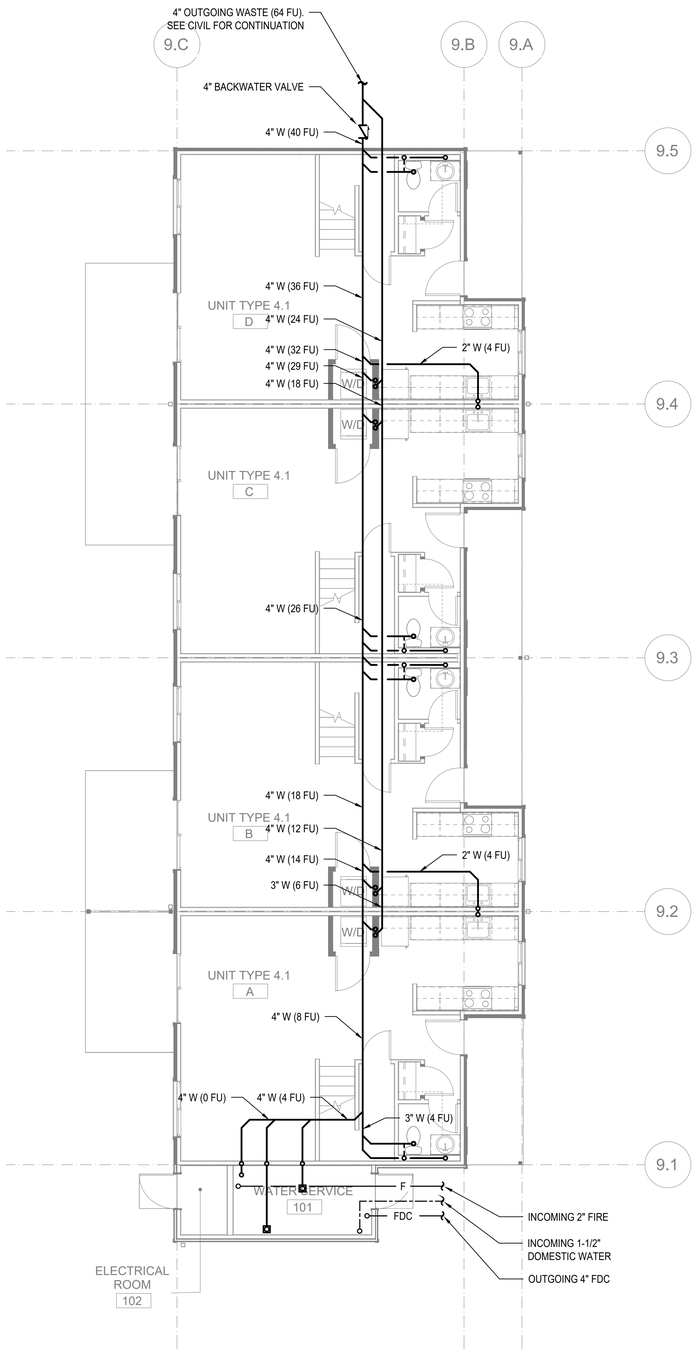
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P9-011



FLOOR PLAN - BUILDING 9 - FOUNDATION

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

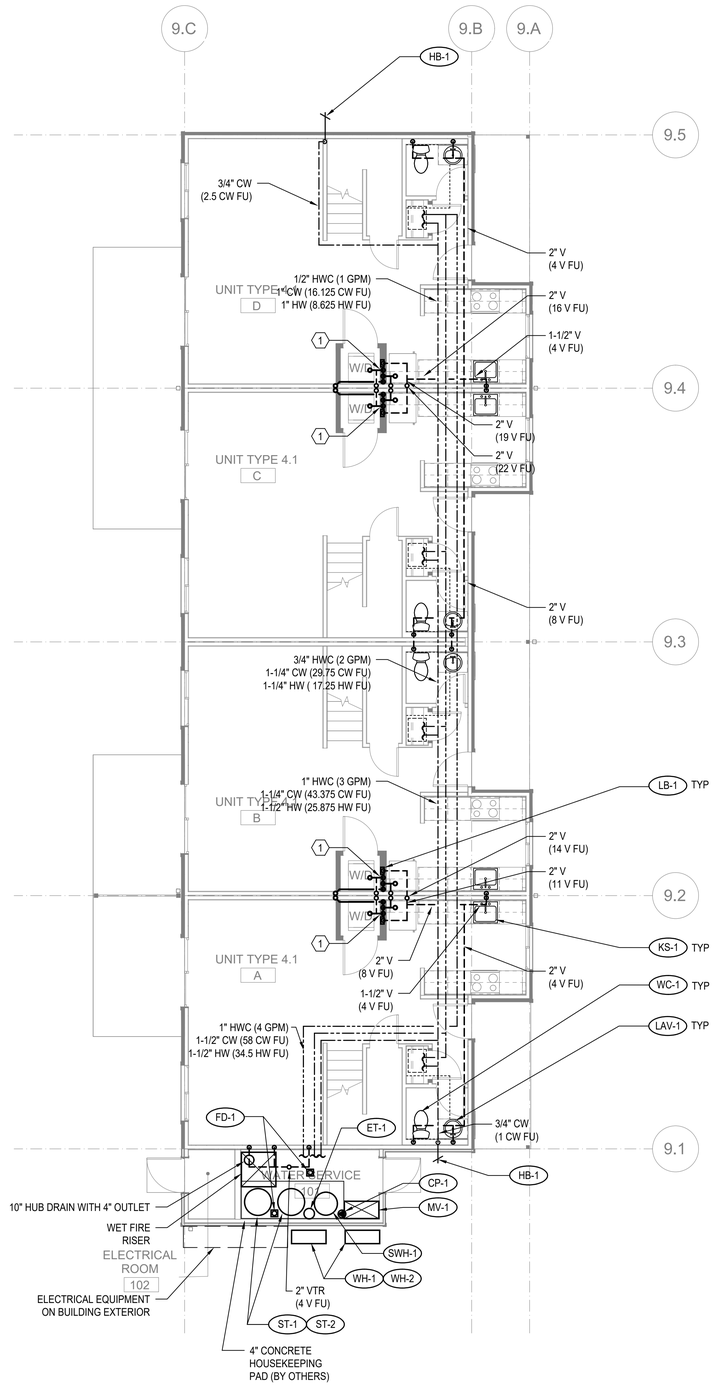
DPD STAMP

TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P9-100



FLOOR PLAN - BUILDING 9 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

(1) SEE WASTE RISER 1 ON SHEET P-202 FOR WASTE AND VENT PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

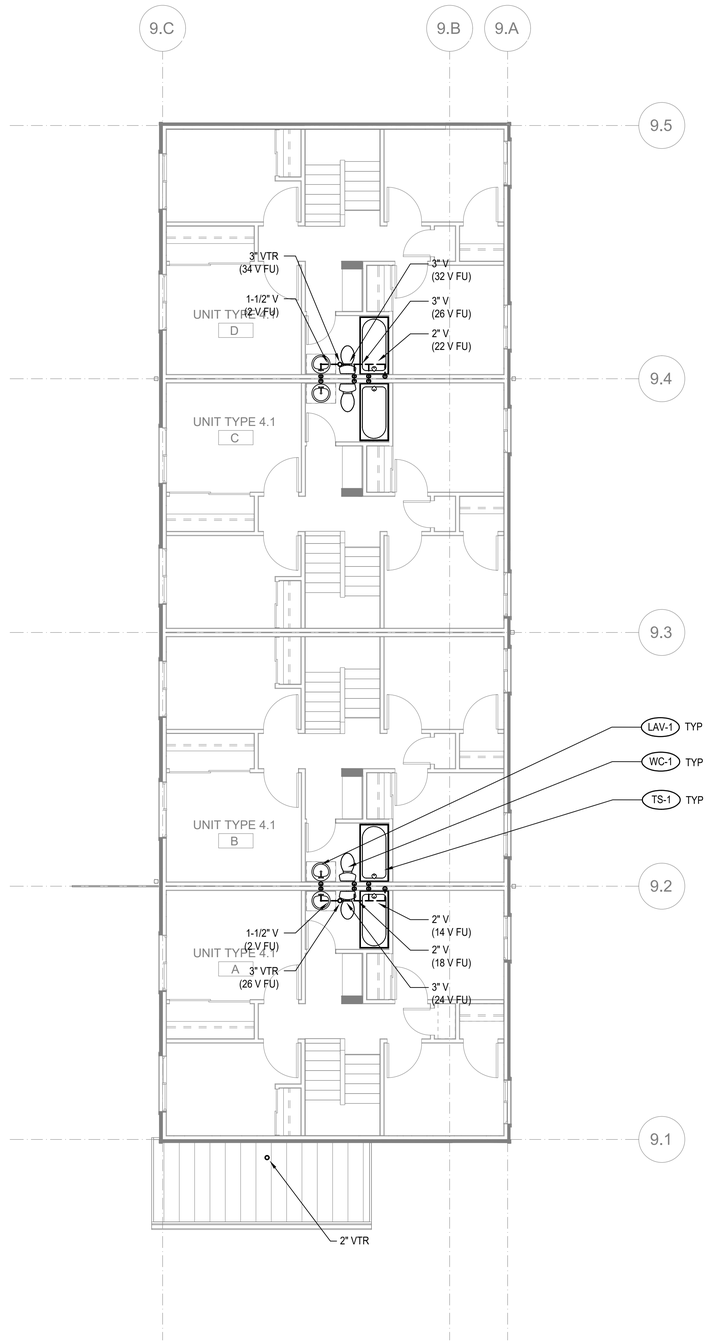
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P9-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 9 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

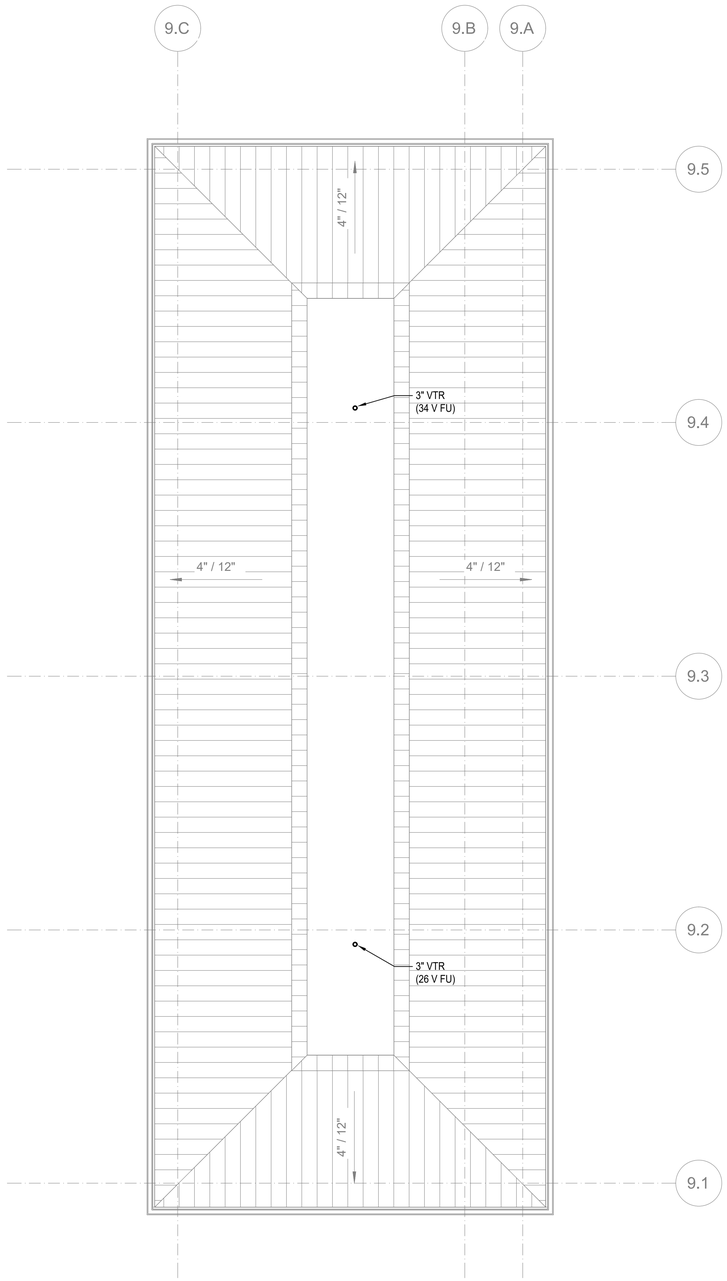
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P9-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 9 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P9-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE					FIXTURE UNITS PER APPENDIX A		
		DOMESTIC WATER WSFU			SEWER DFU		
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

DAN LAMBERT, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P10-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

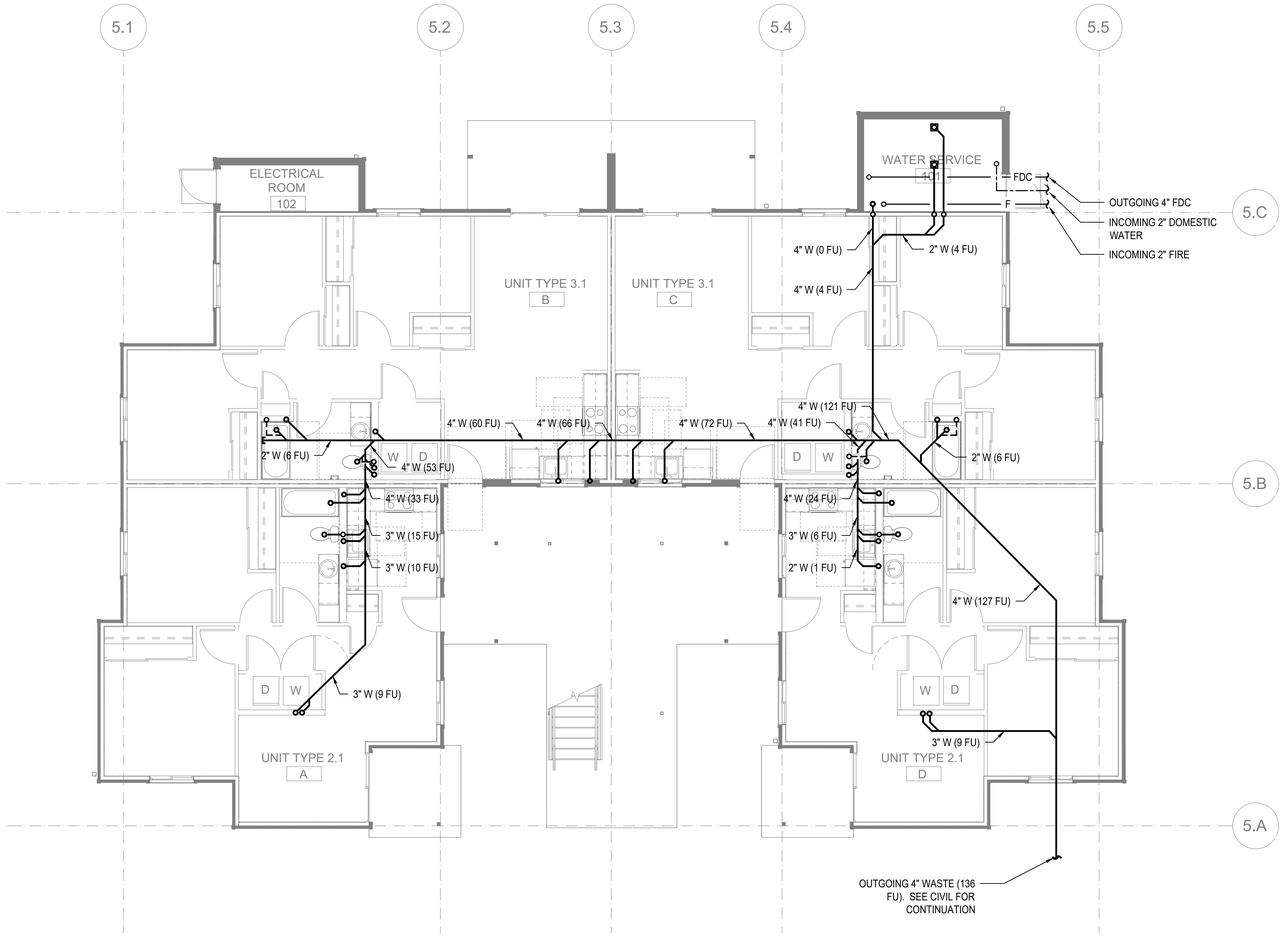
DPD STAMP

TITLE

SITE PLAN

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P10-011



FLOOR PLAN - BUILDING 10 FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

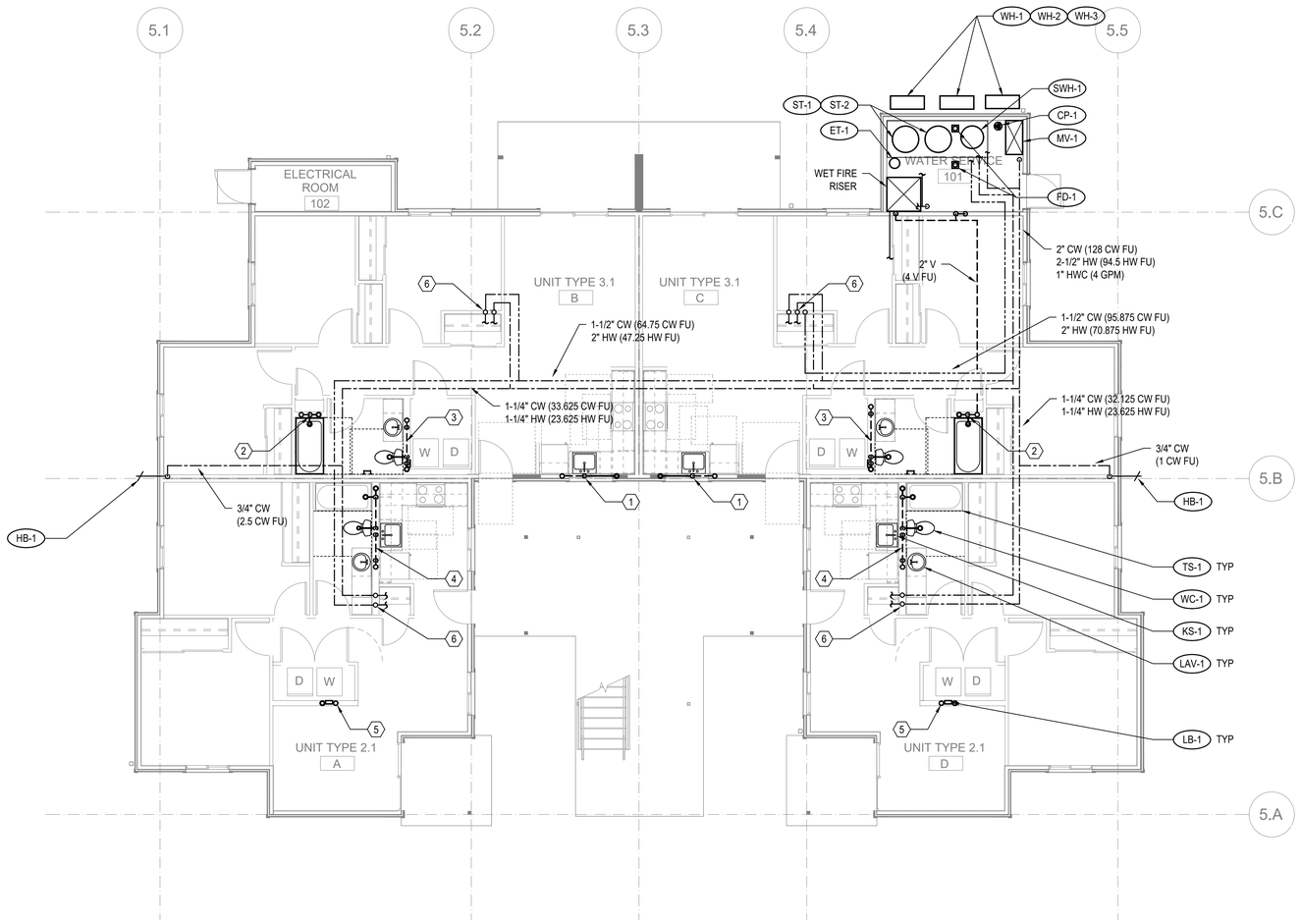
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P10-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 10 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

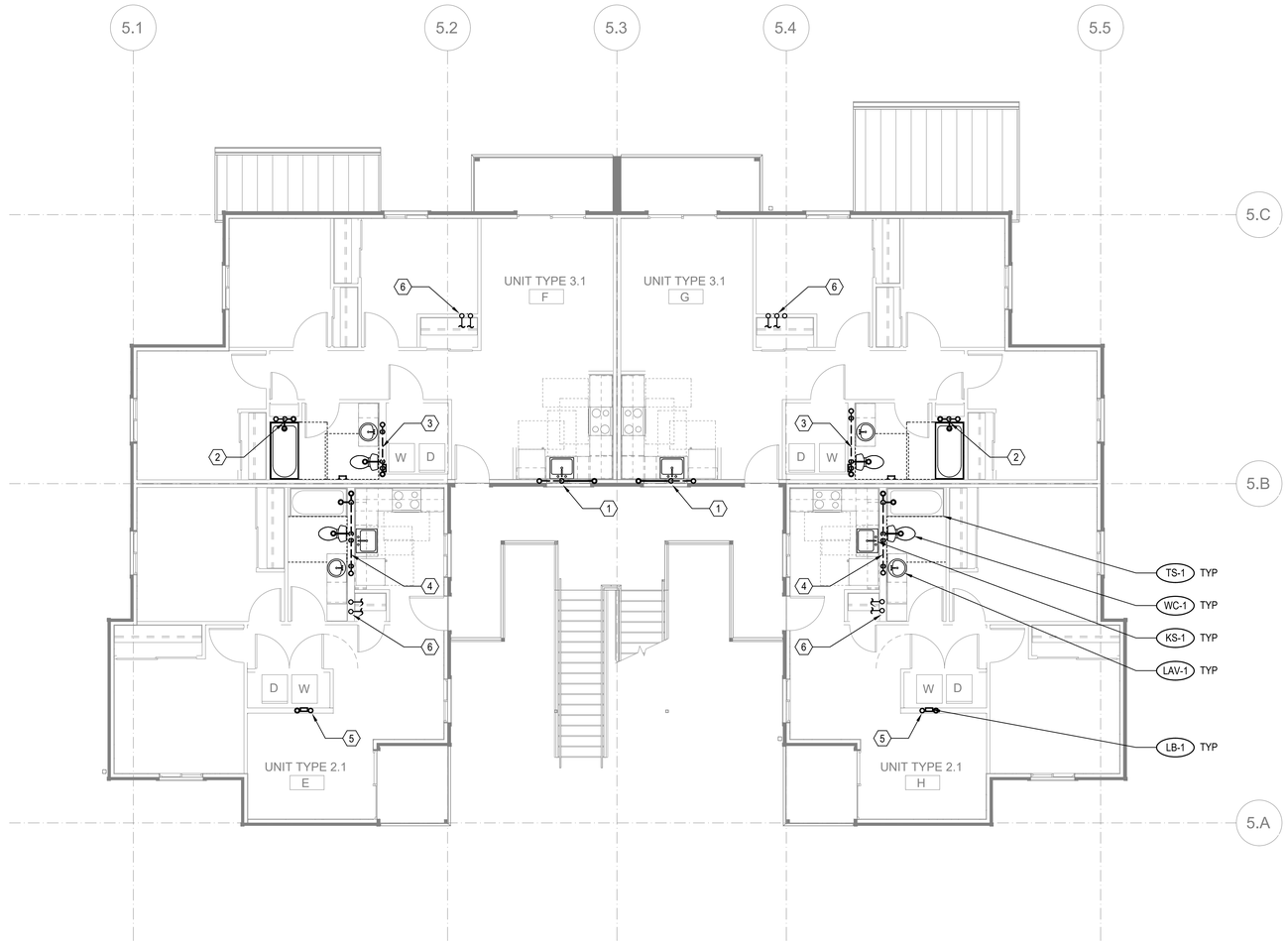
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P10-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 10 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

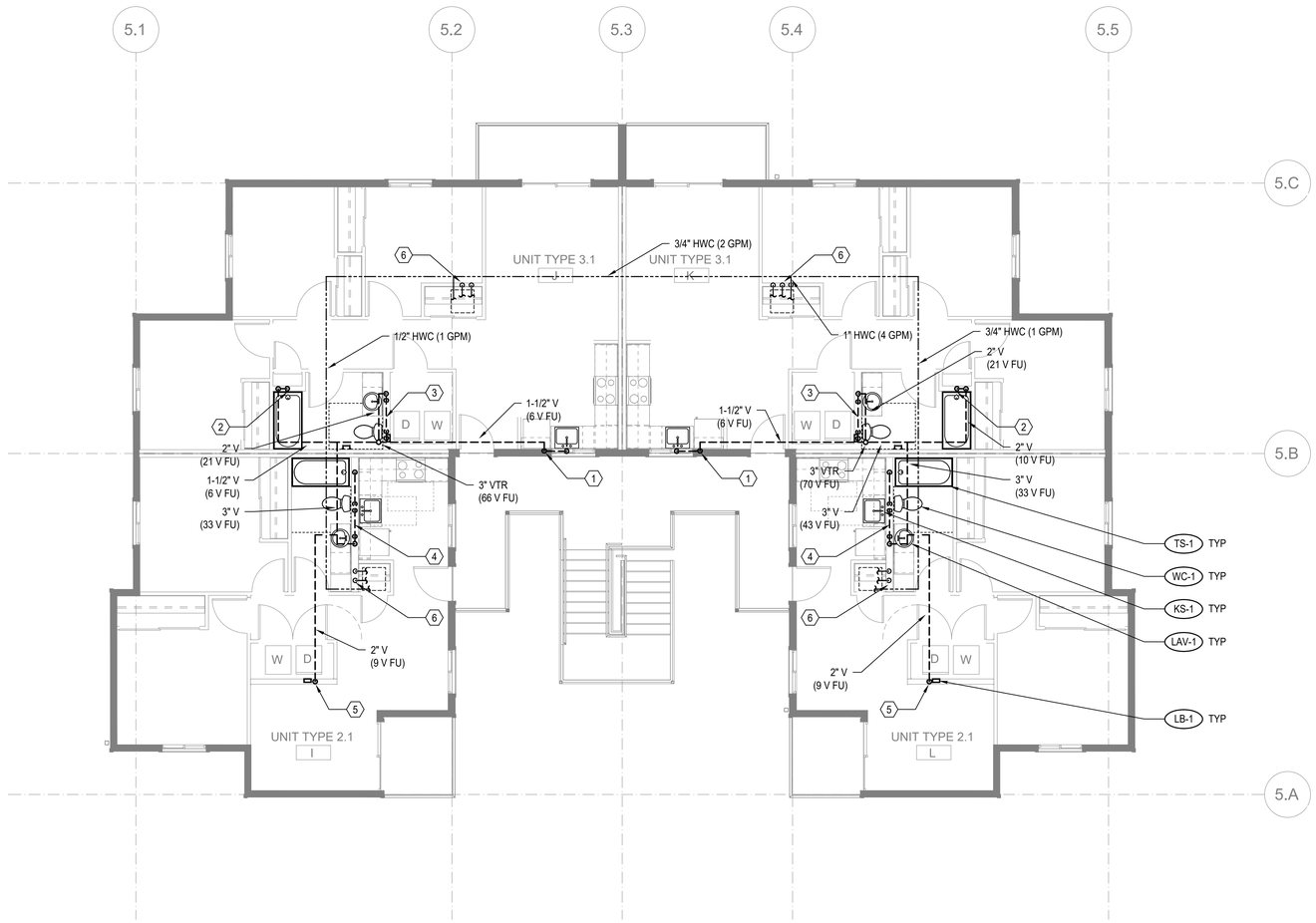
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P10-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 10 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

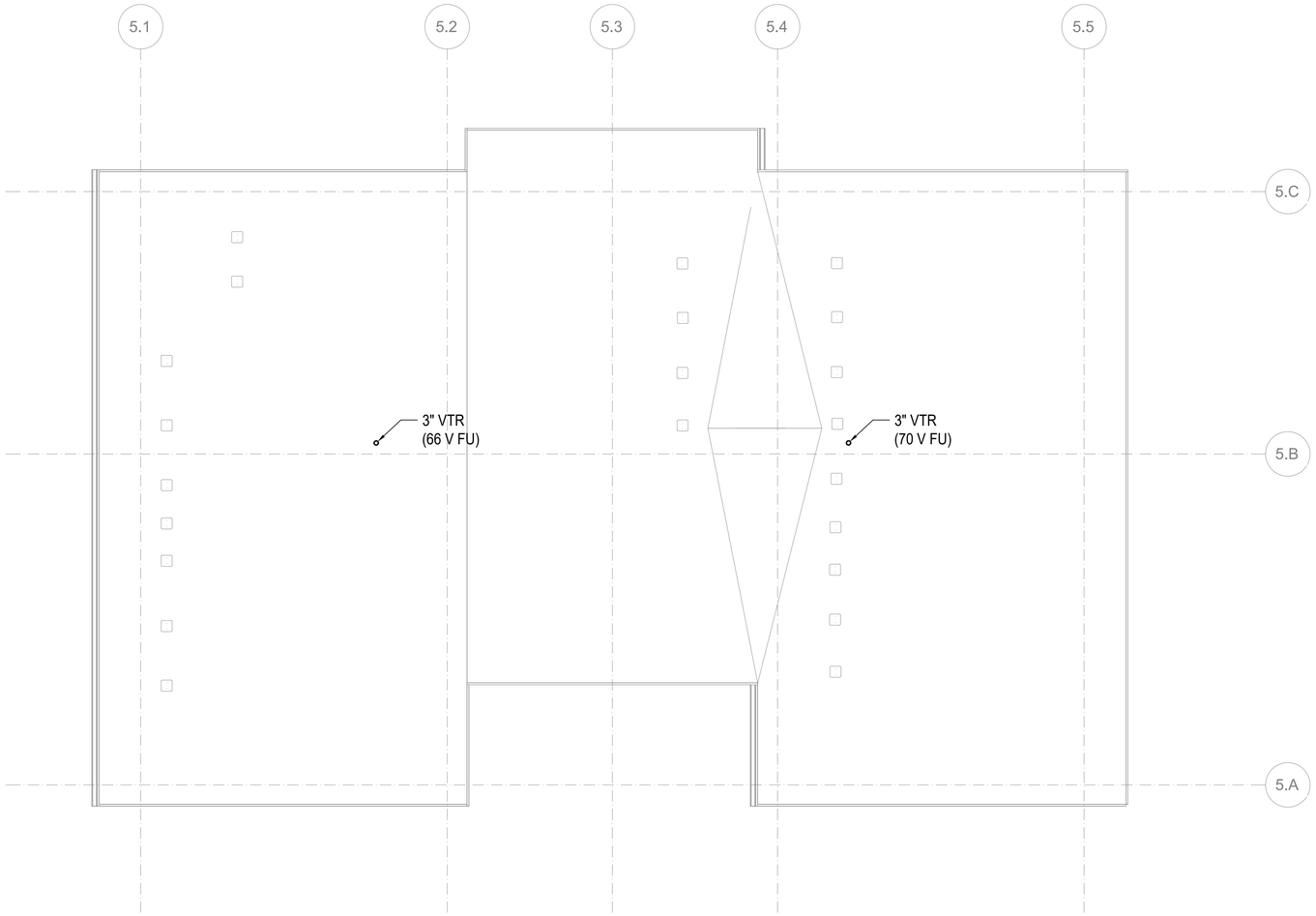
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P10-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 10 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P10-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FI$HER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE					FIXTURE UNITS PER APPENDIX A		
		DOMESTIC WATER WSFU			SEWER DFU		
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P11-002

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

DANA AMBER FOREES
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

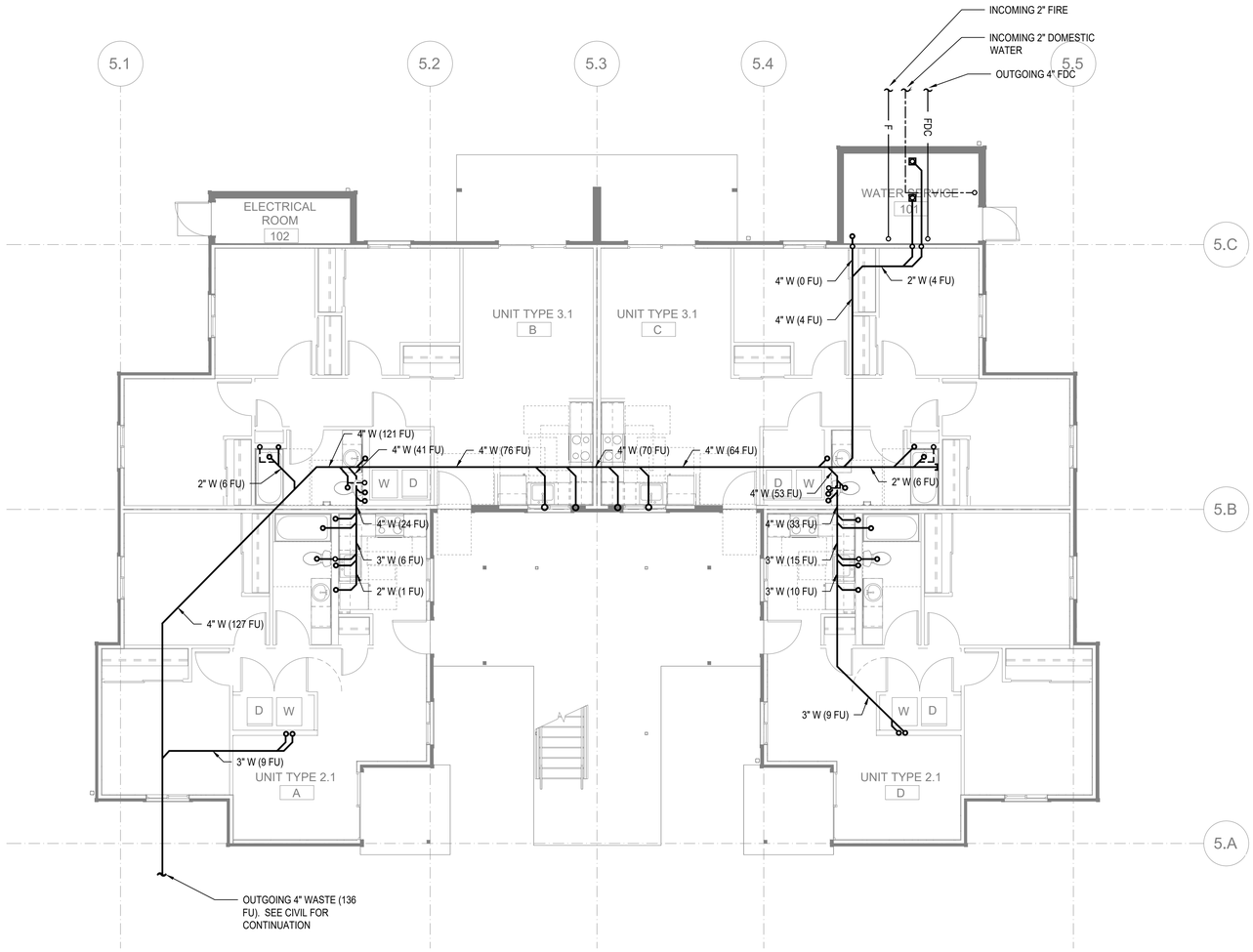
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P11-011



FLOOR PLAN - BUILDING 11 FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

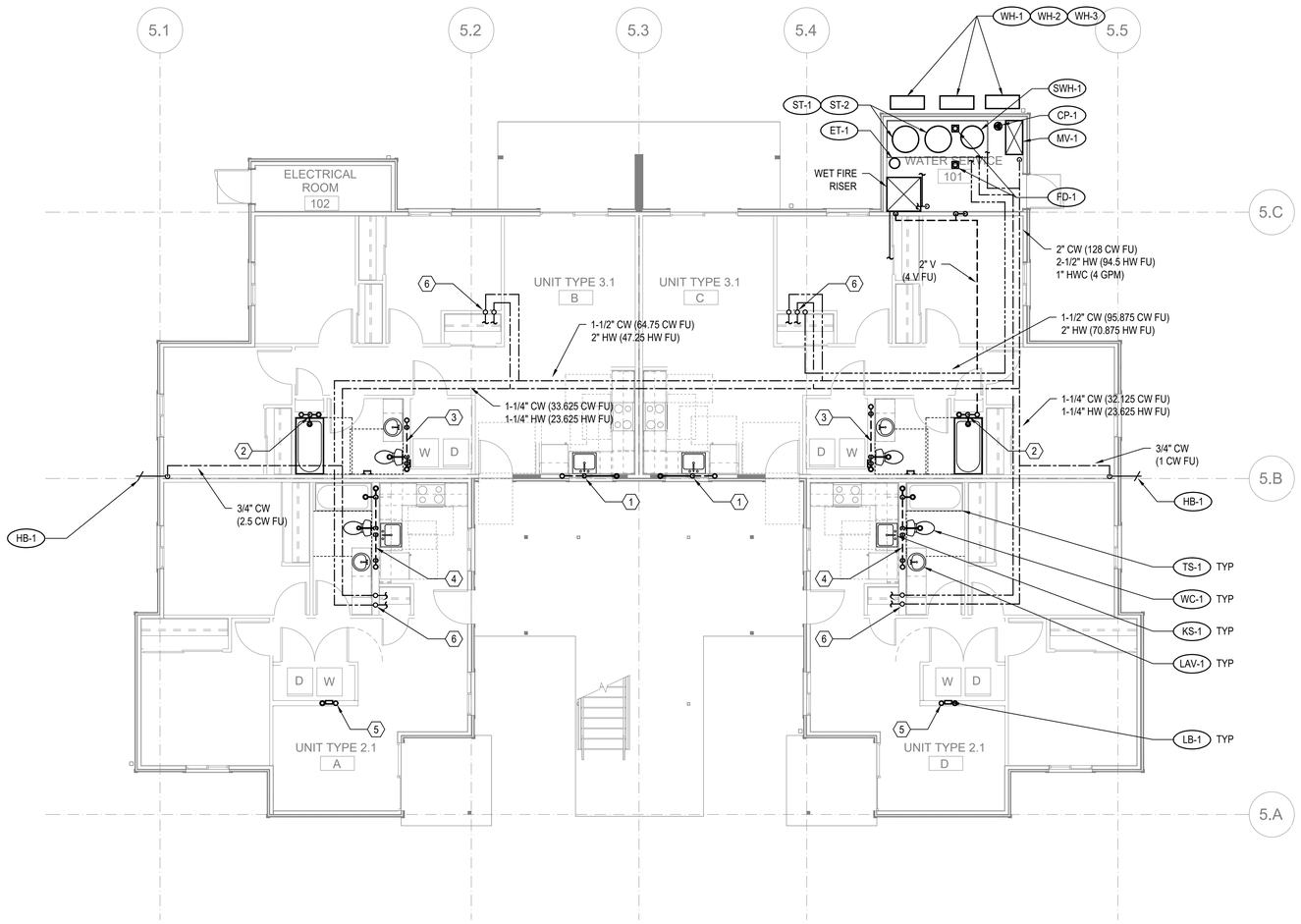
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P11-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 11 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

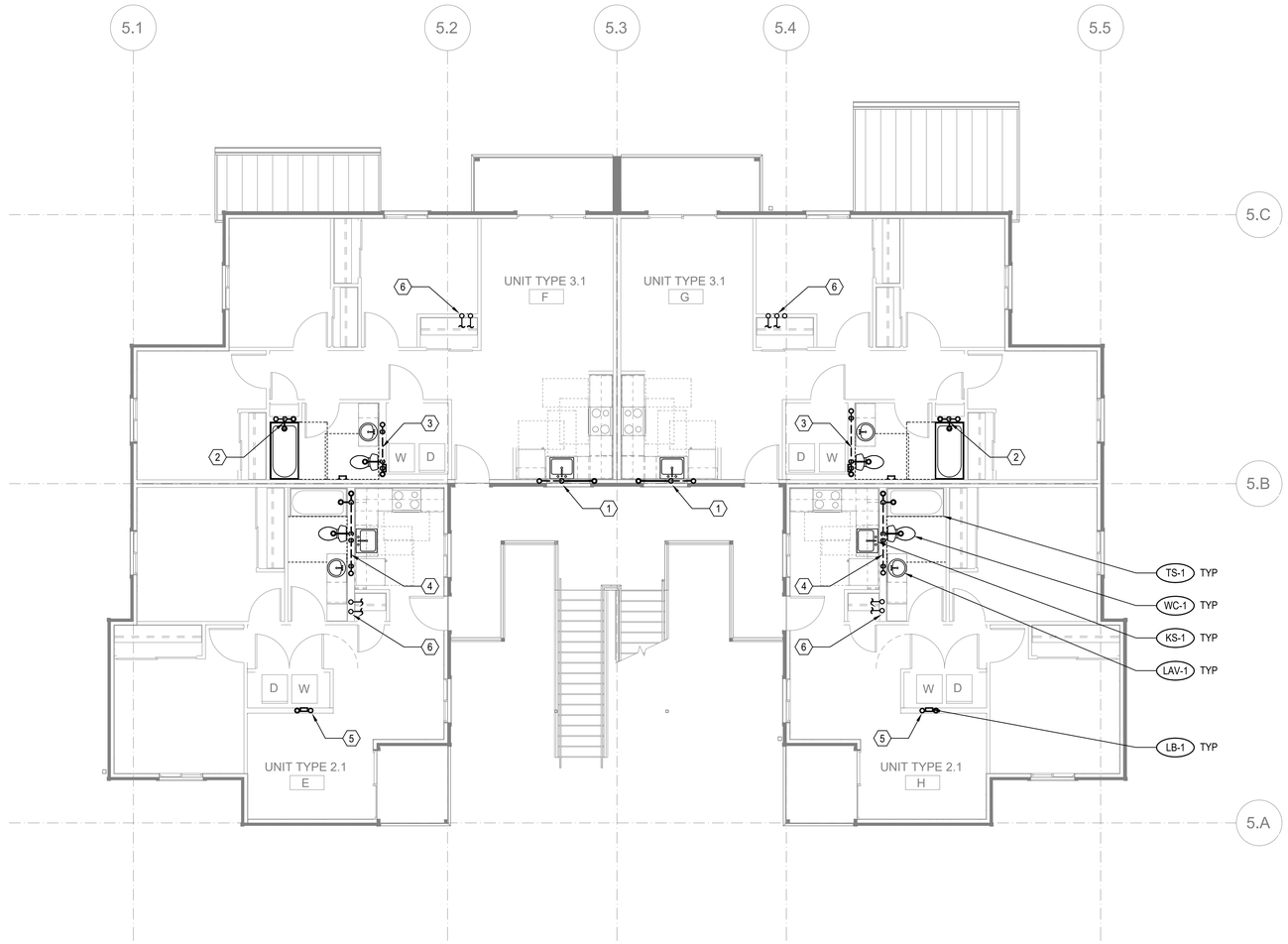
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P11-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 11 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

DANA AMBER BYERS
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

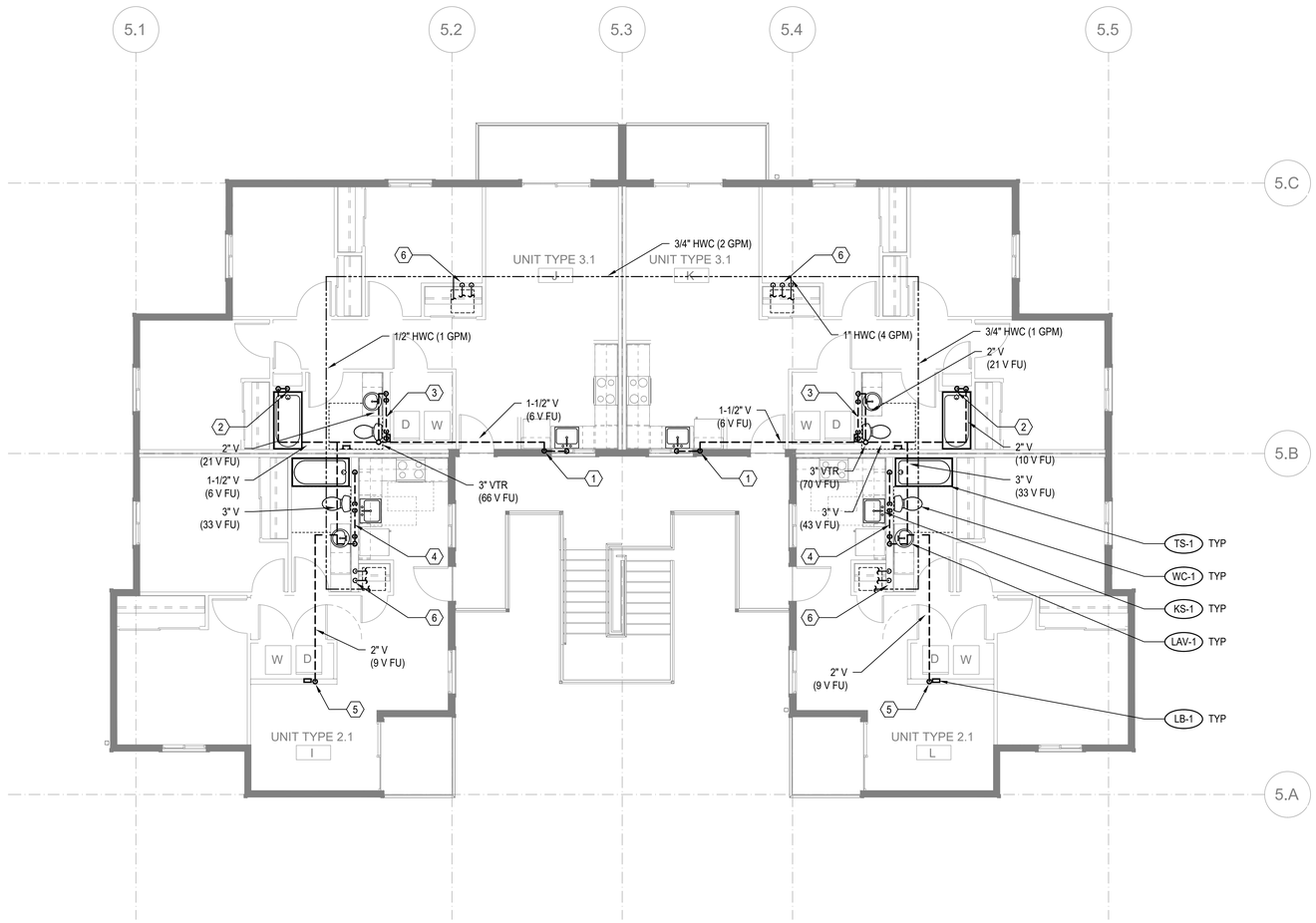
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P11-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 11 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

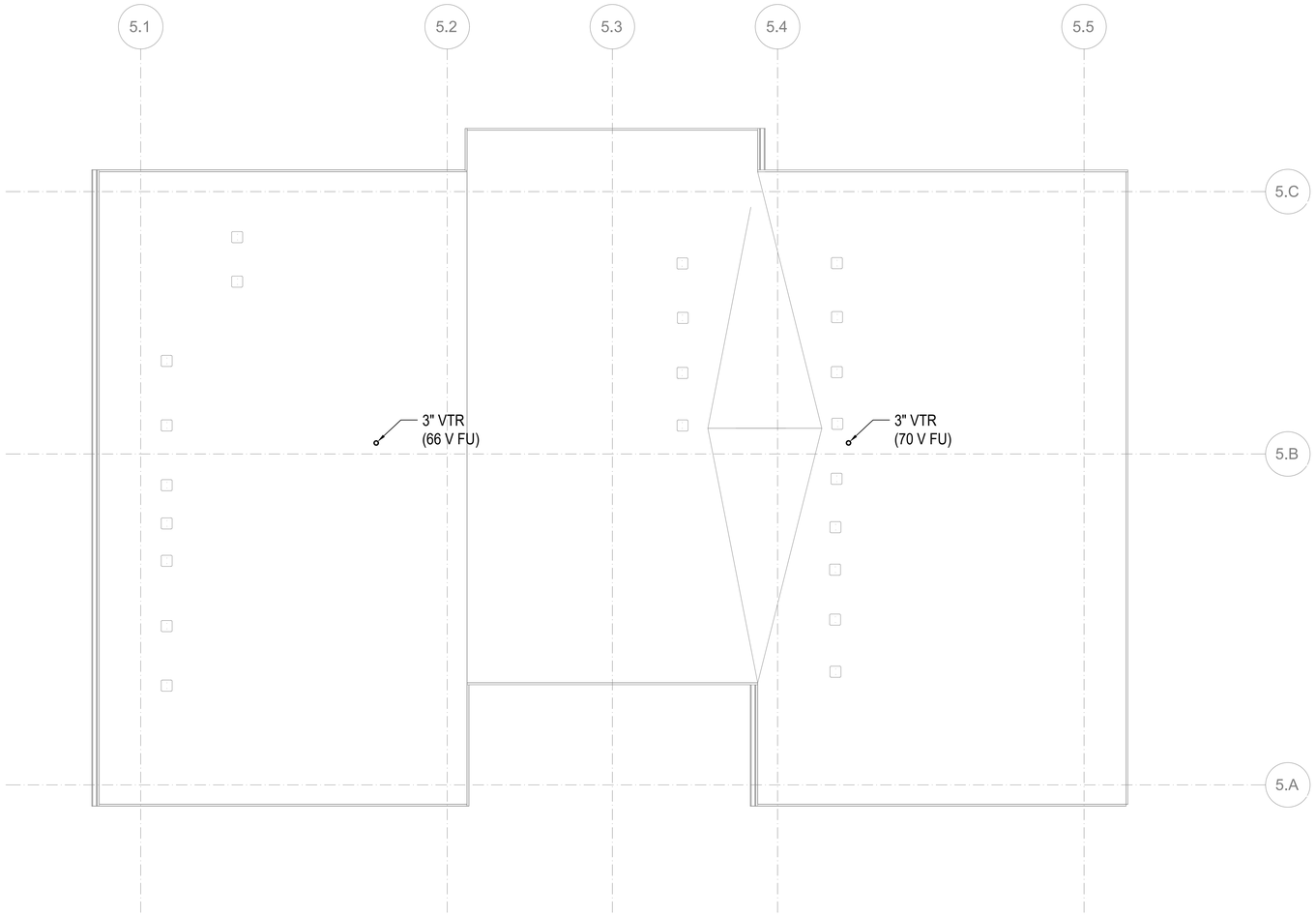
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P11-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 11 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P11-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

DANA LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P12-002

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

DANA AMBER FOREES
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

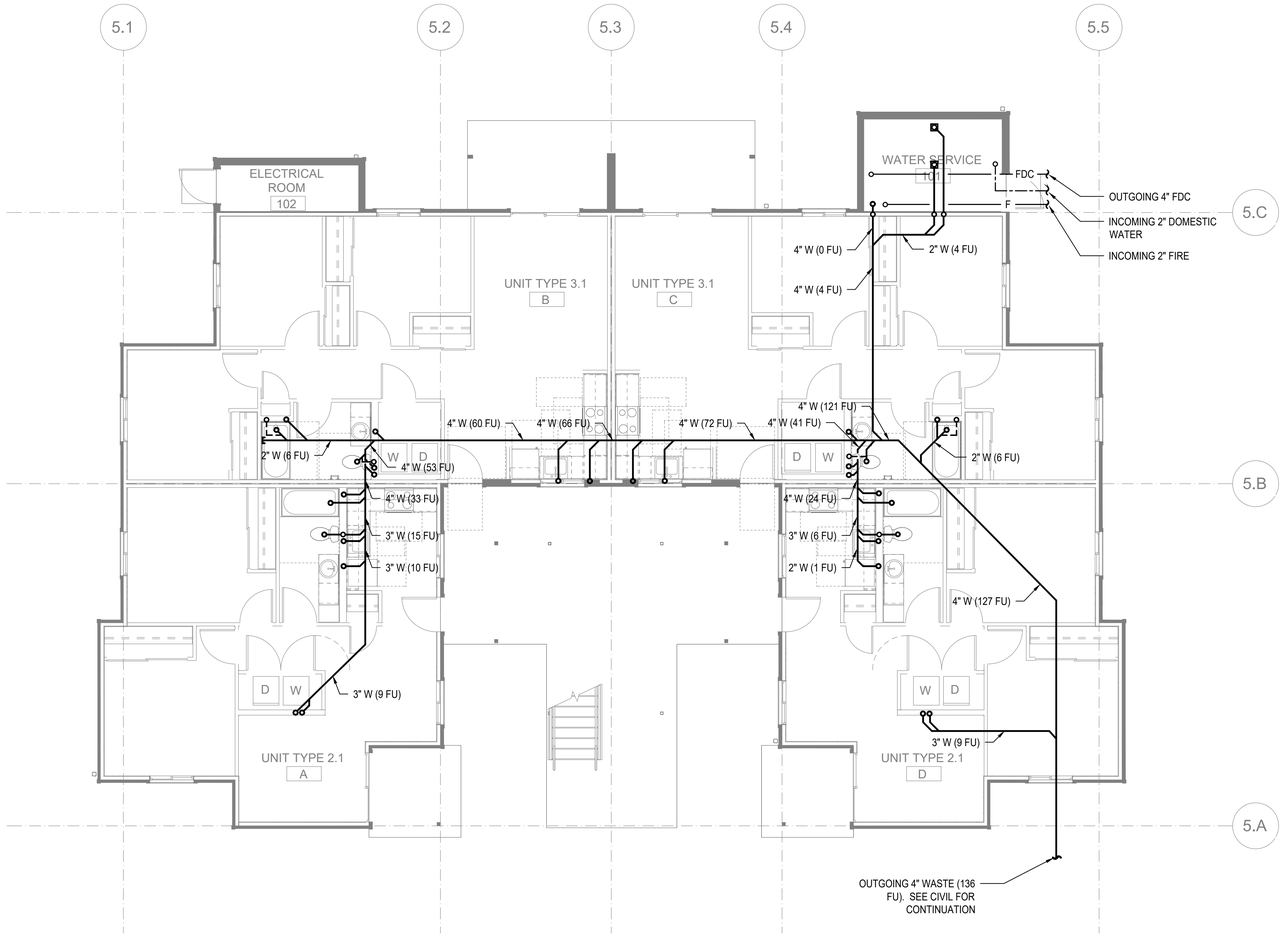
DPD STAMP

TITLE

SITE PLAN

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P12-011



FLOOR PLAN - BUILDING 12 FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

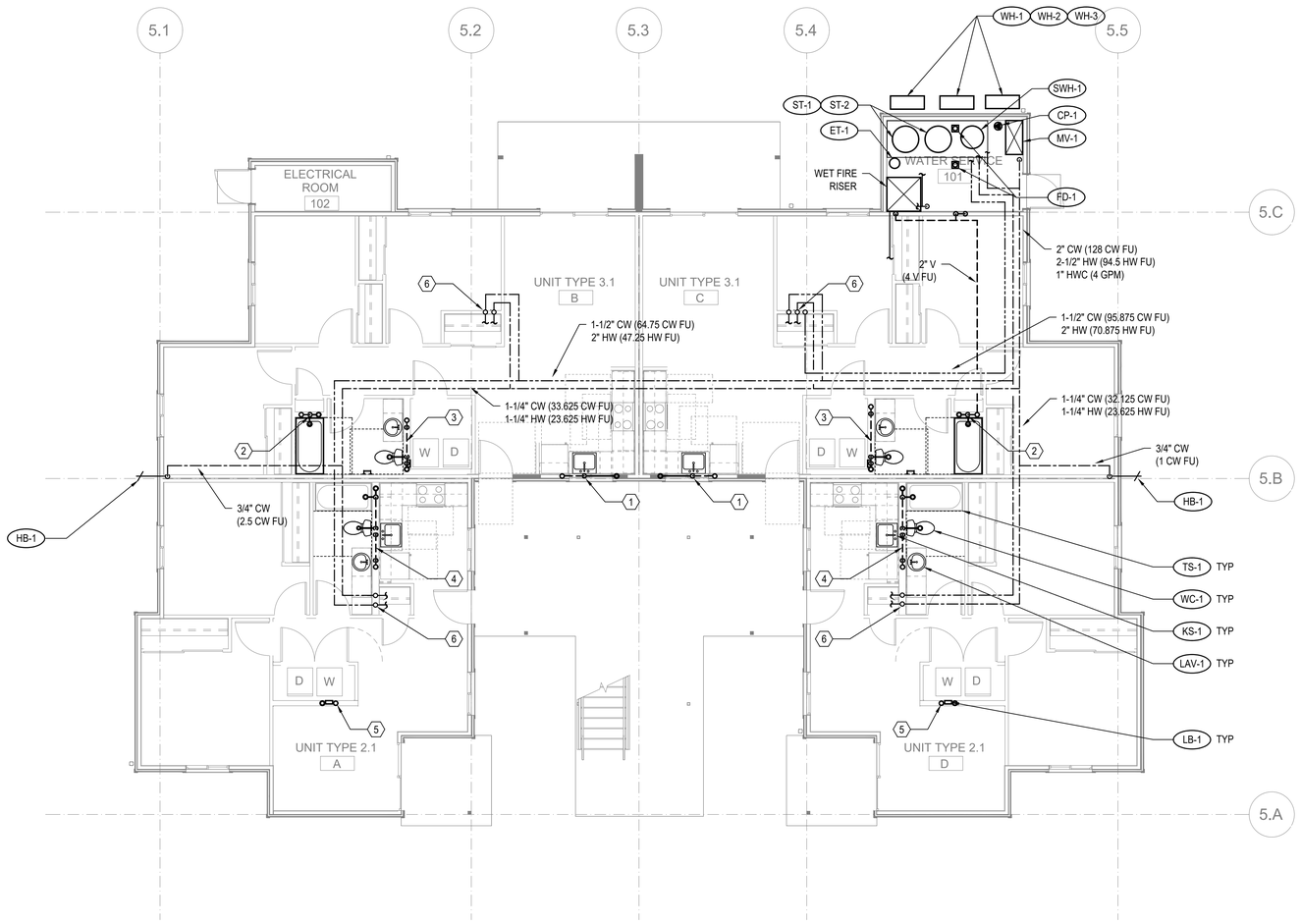
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P12-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 12 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

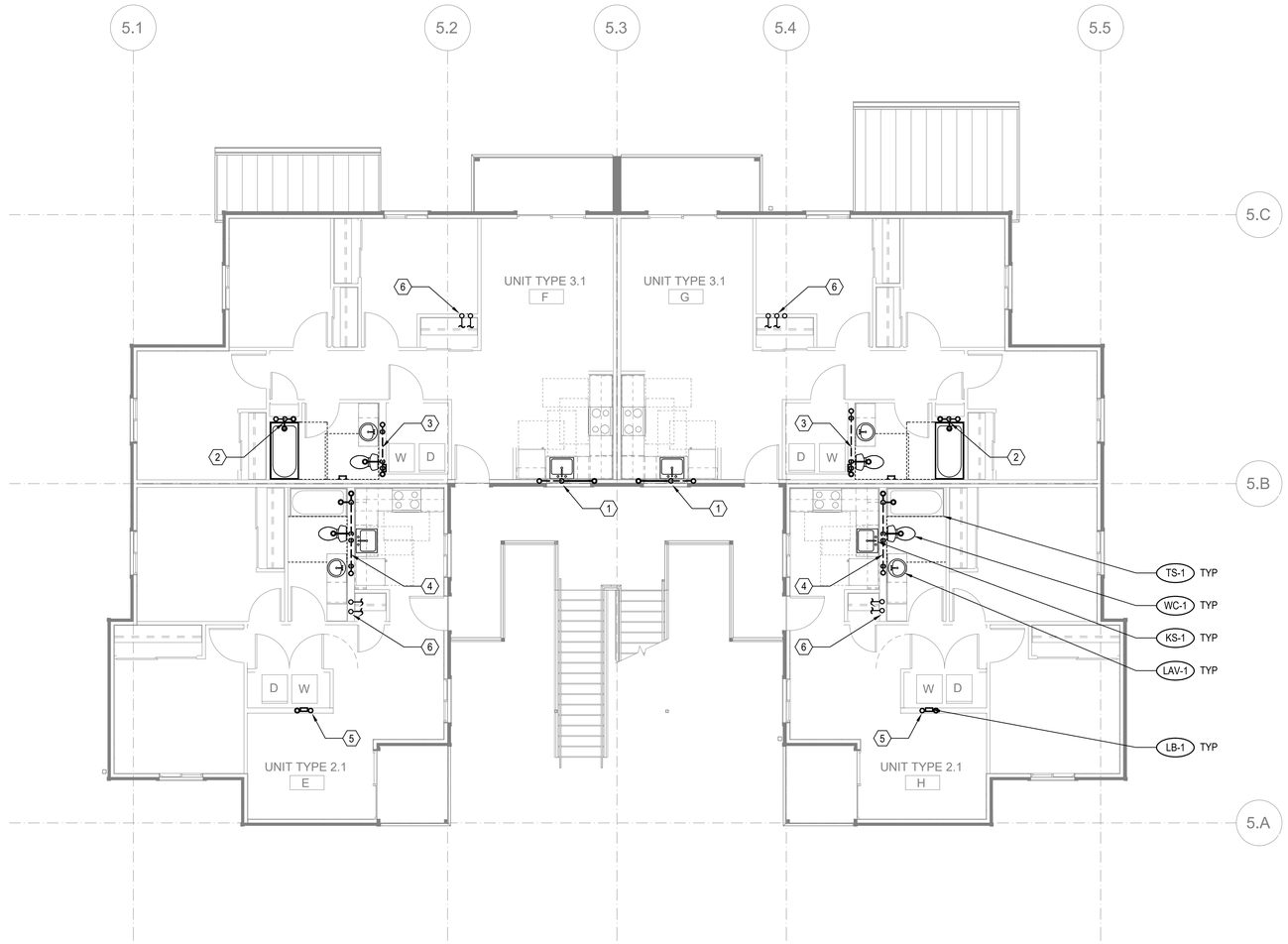
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P12-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 12 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

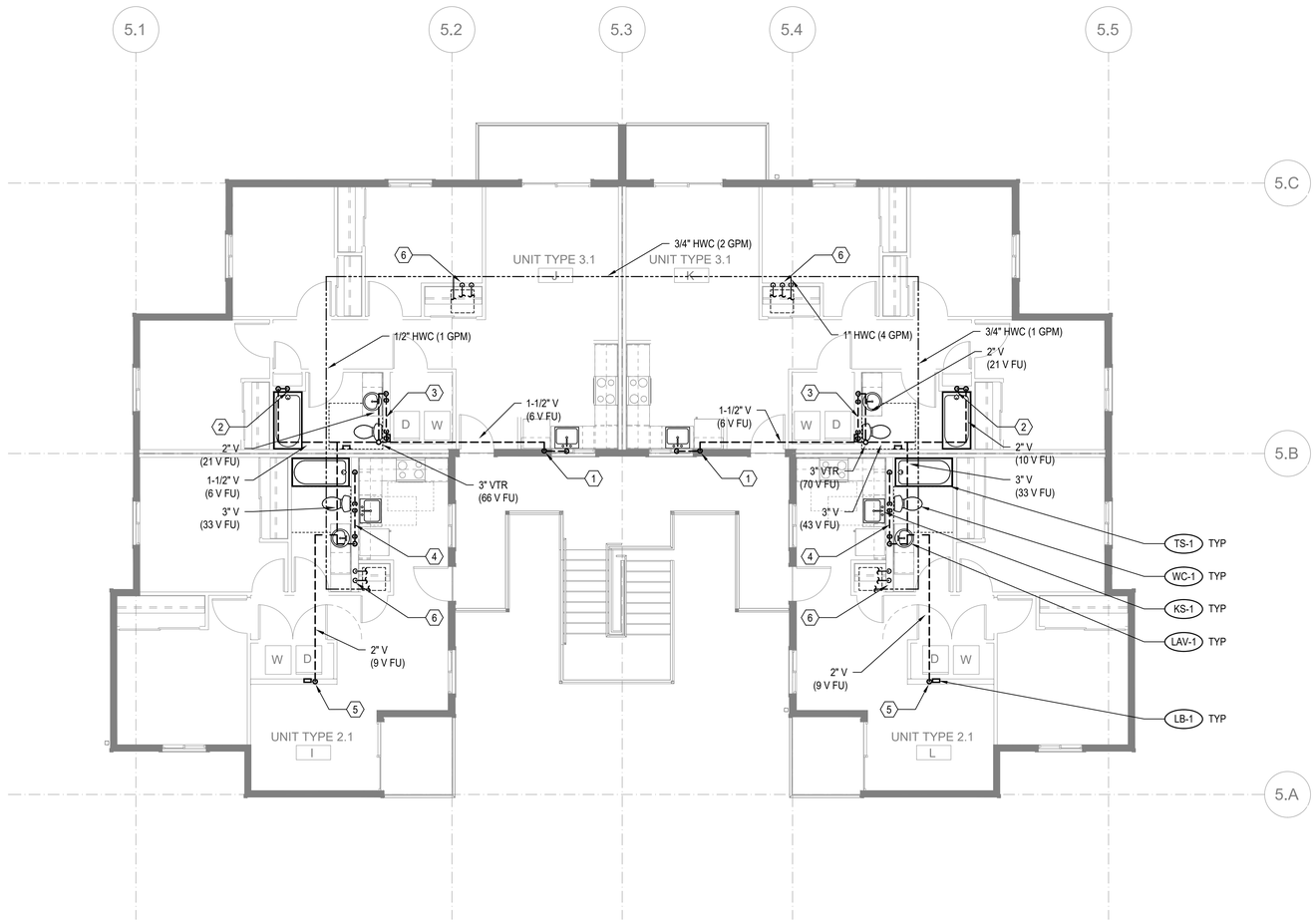
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P12-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 12 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

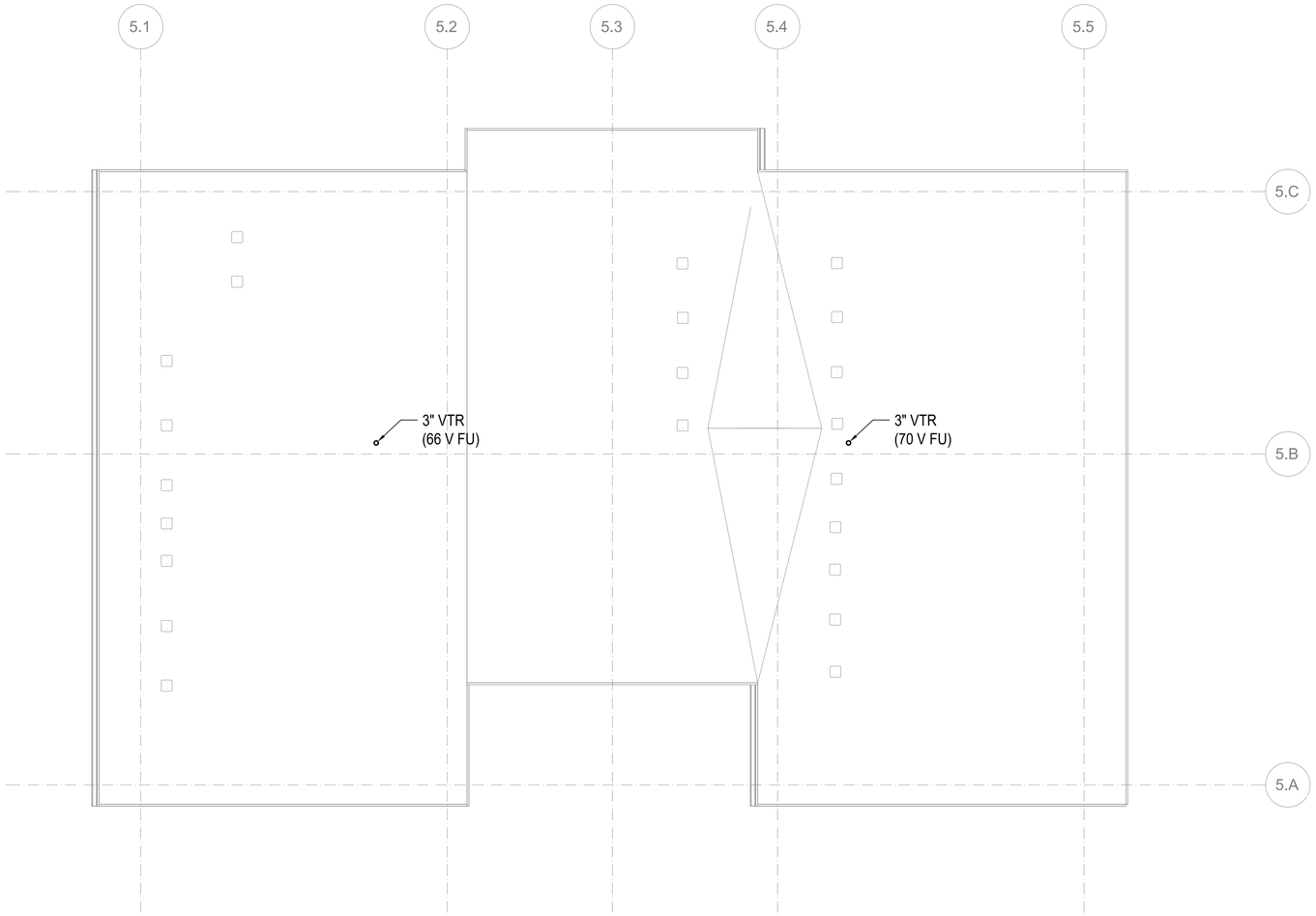
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P12-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 12 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P12-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FI$HER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE					FIXTURE UNITS PER APPENDIX A		
		DOMESTIC WATER WSFU			SEWER DFU		
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

DAN LAMBERT STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P13-002

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

DANA AMBER FOREES
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

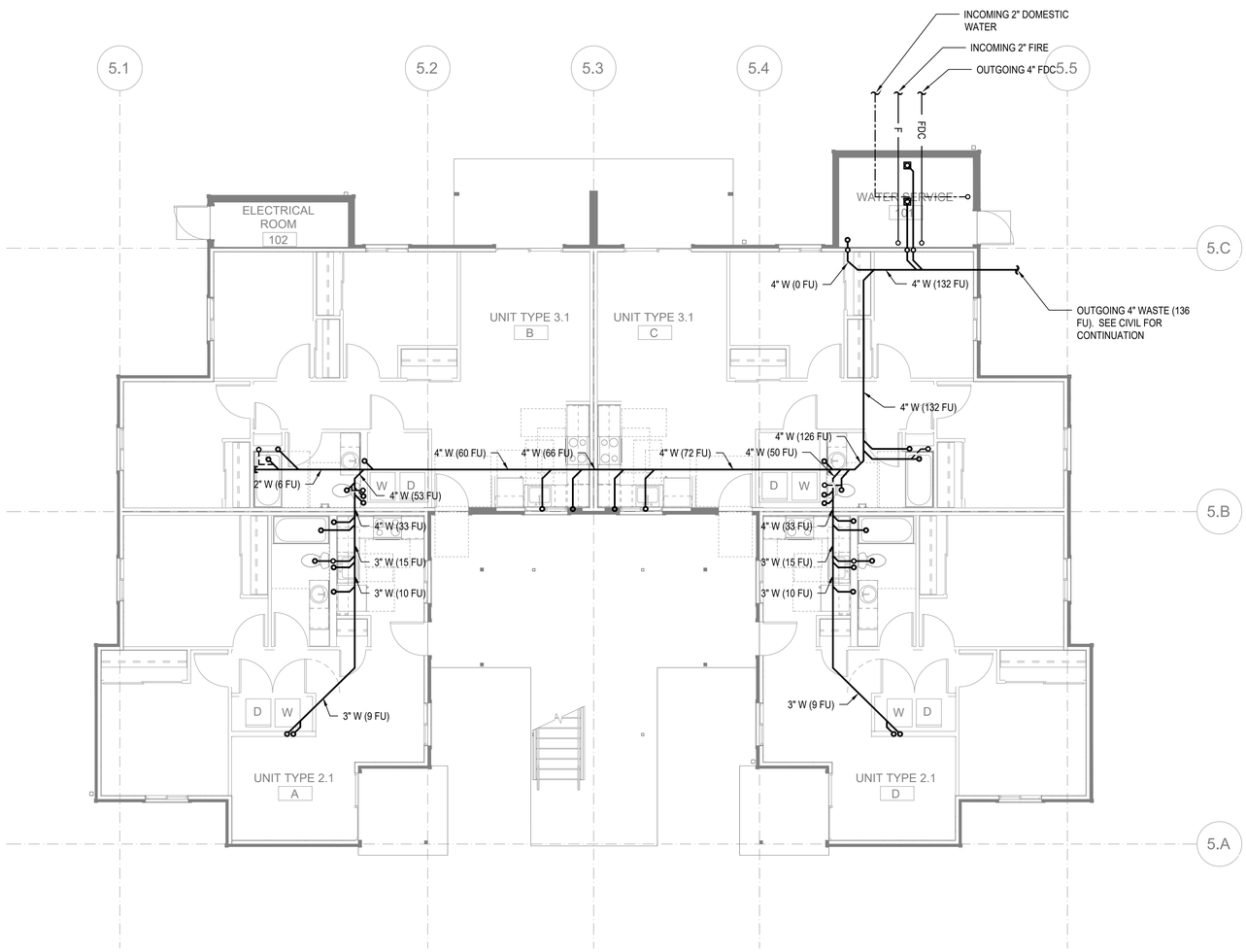
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P13-011



FLOOR PLAN - BUILDING 13 FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

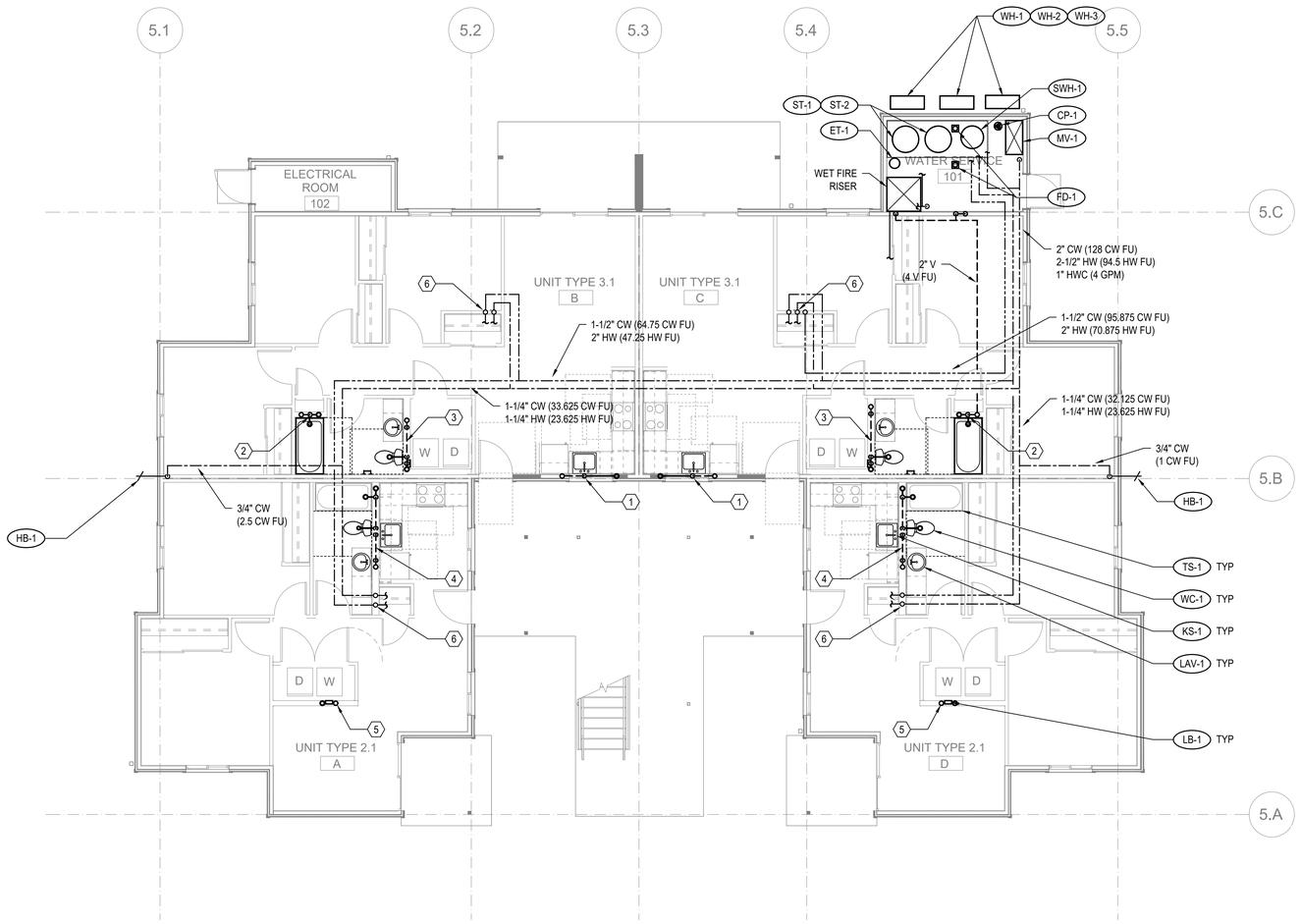
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P13-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 13 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

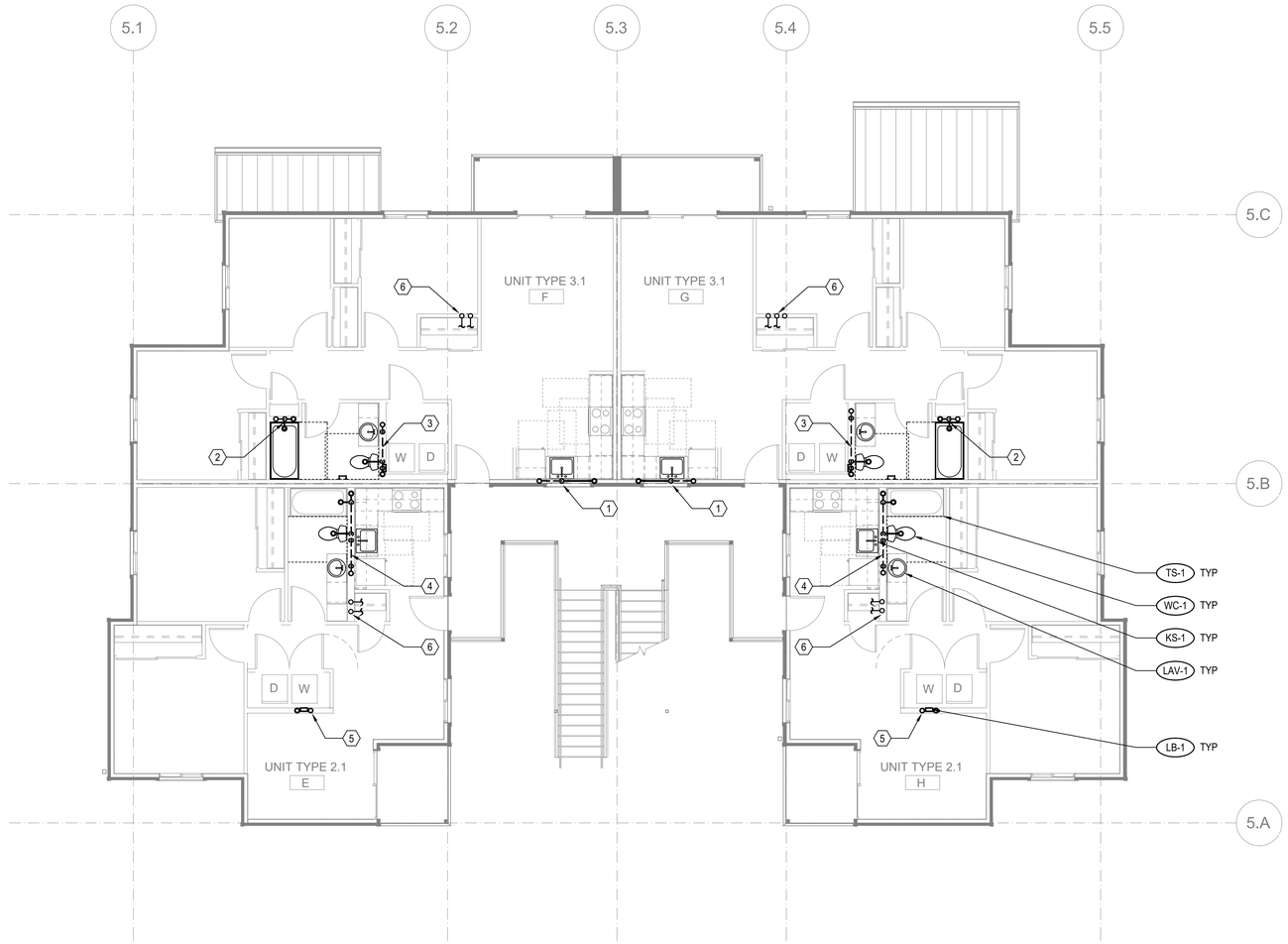
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P13-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 13 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

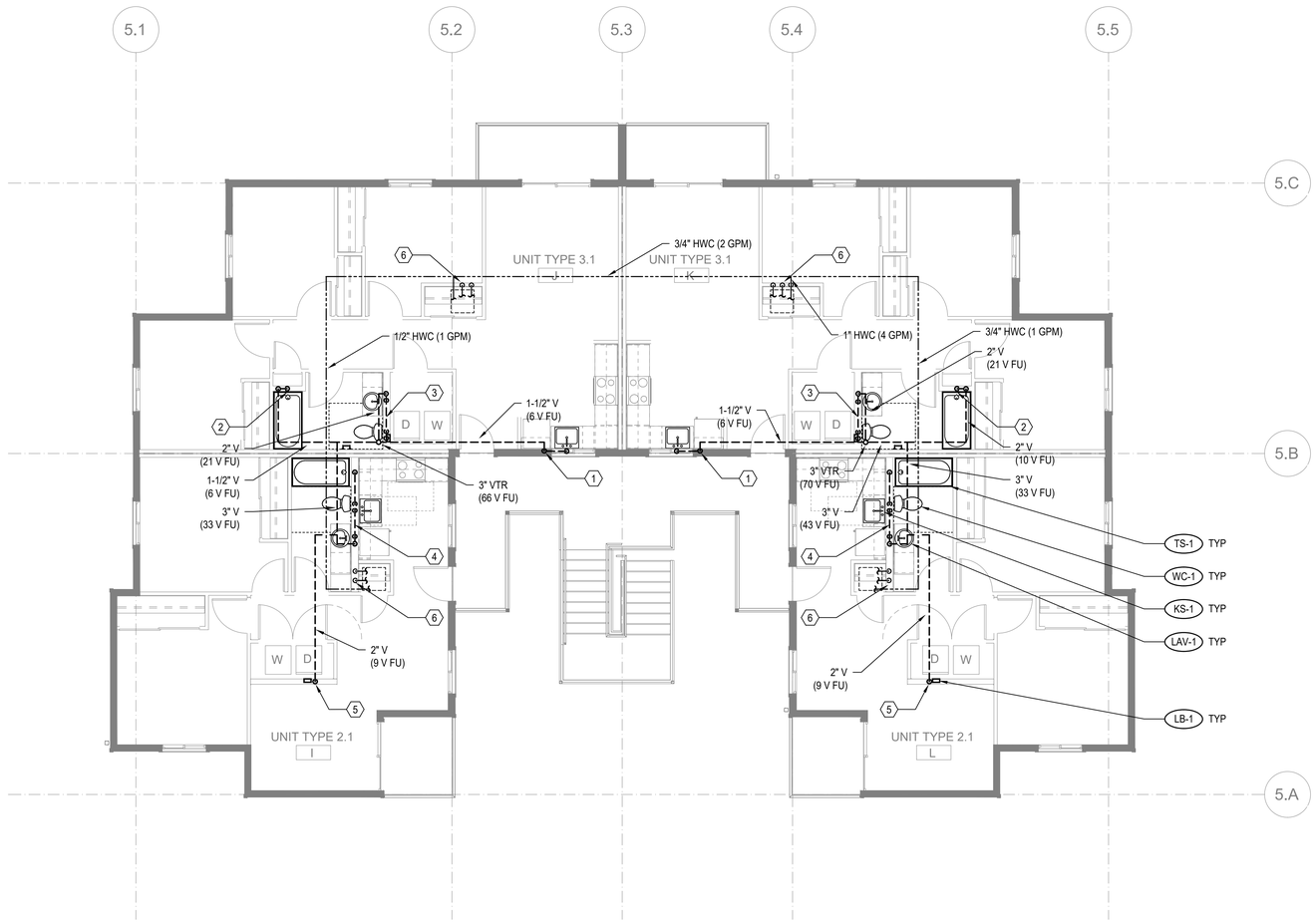
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P13-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 13 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

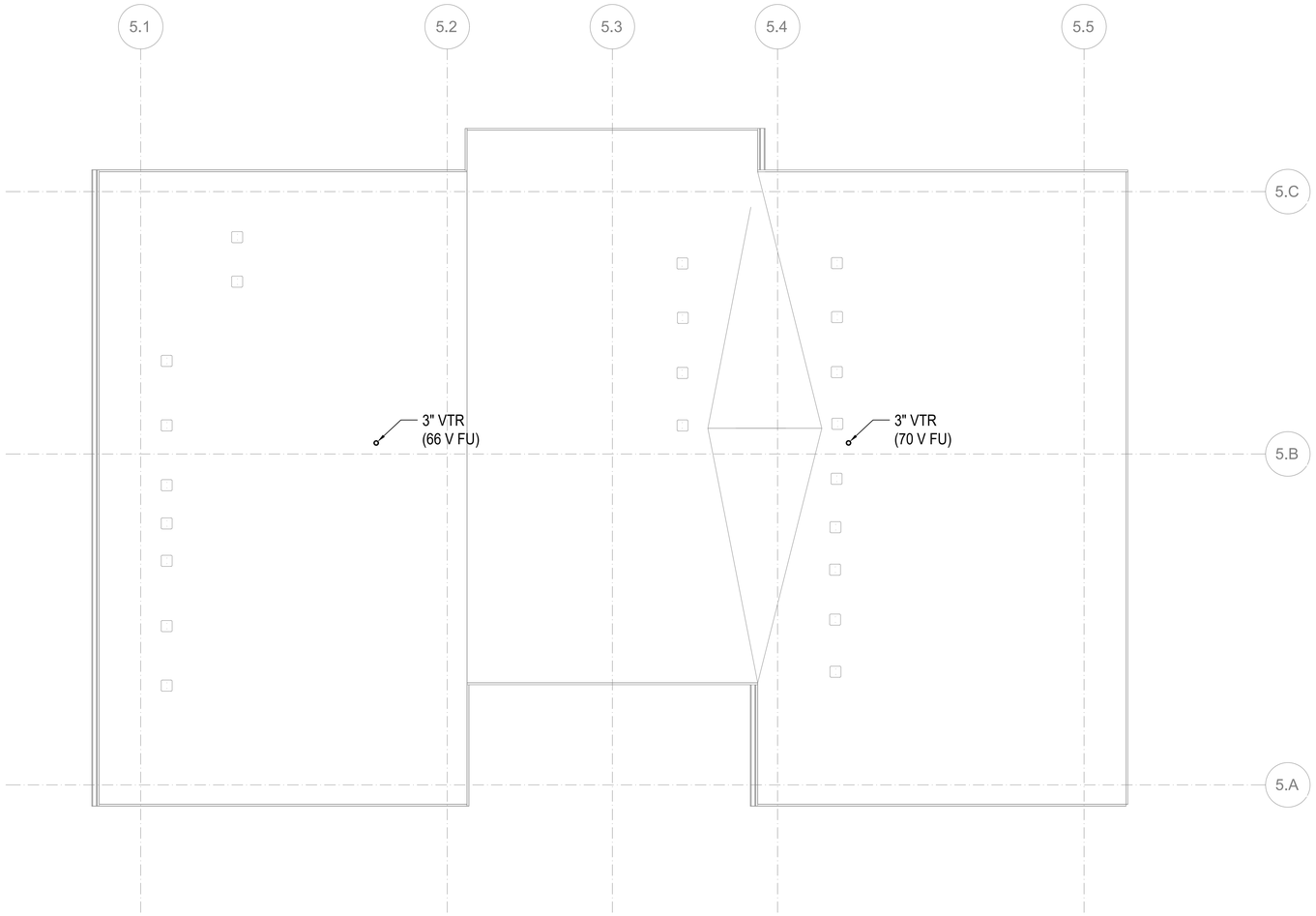
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P13-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 13 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P13-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FI$HER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE — FIXTURE UNITS PER APPENDIX A

FIXTURE	QTY	DOMESTIC WATER WSFU: PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	SEWER DFU: PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU

TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".

BUILDING WATER METER SIZE = 1-1/2".

TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

DAN LAMBER — STATE OF WASHINGTON — 0041009 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P14-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

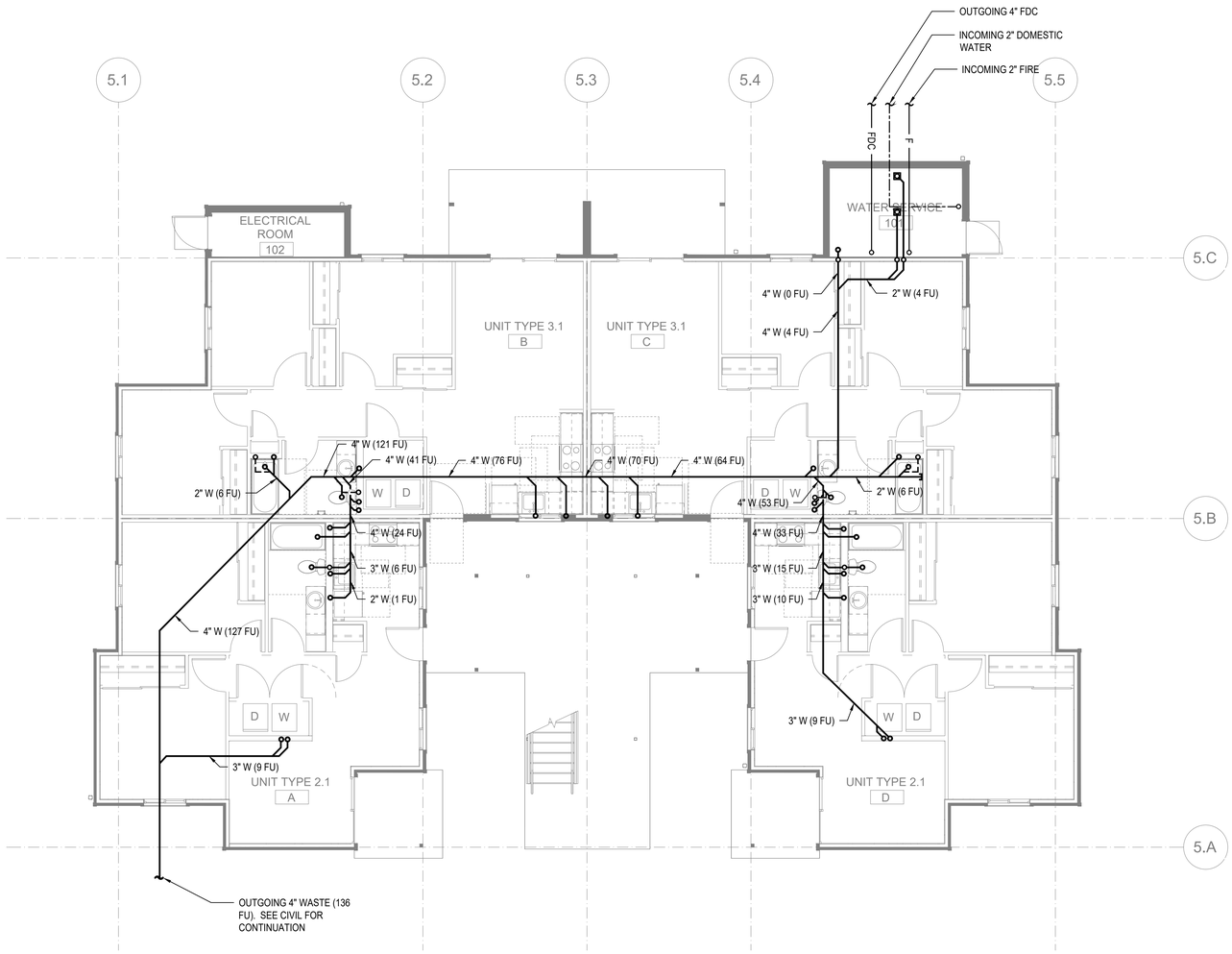
DPD STAMP

TITLE

SITE PLAN

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P14-011



FLOOR PLAN - BUILDING 14 FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

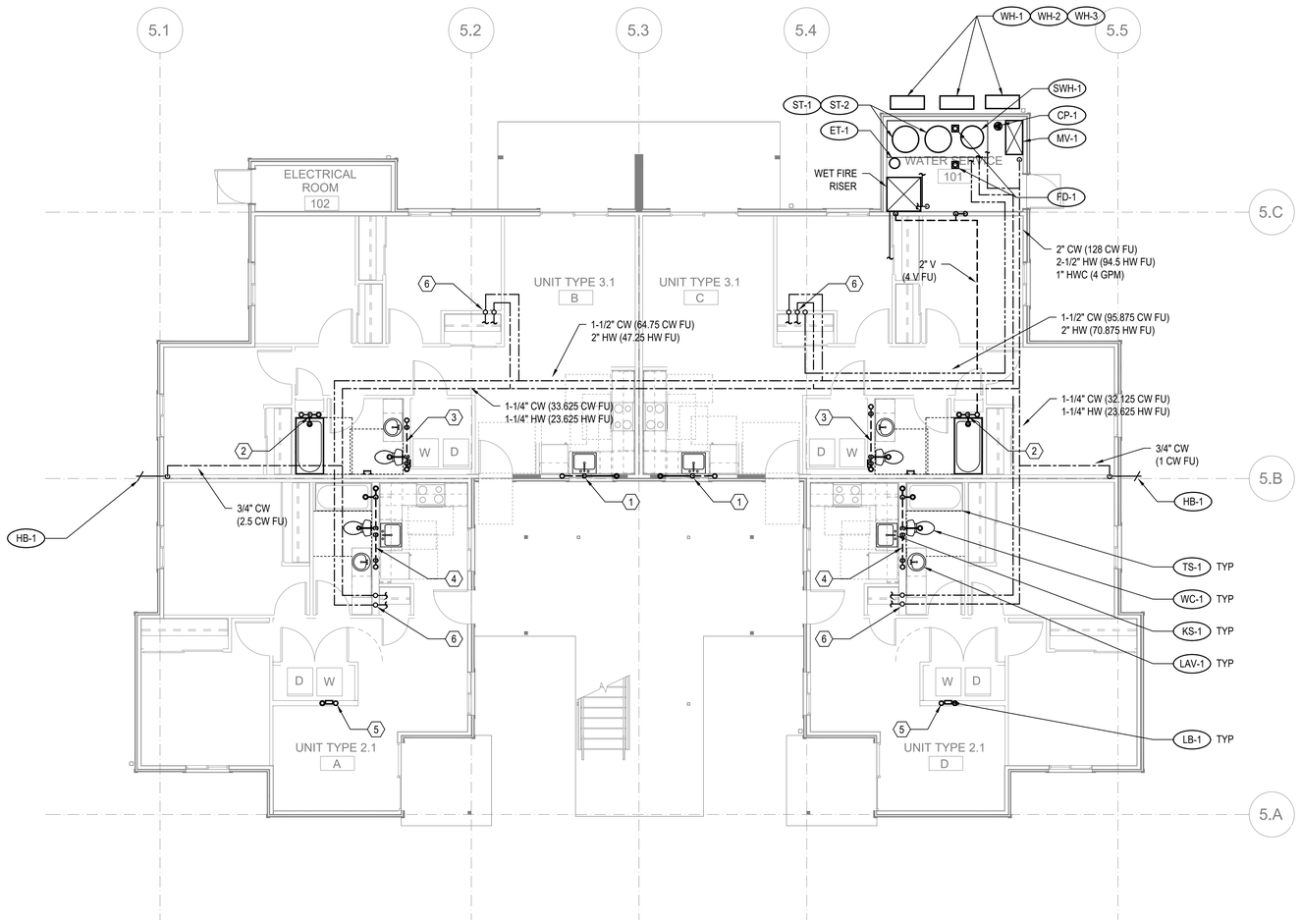
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P14-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 14 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

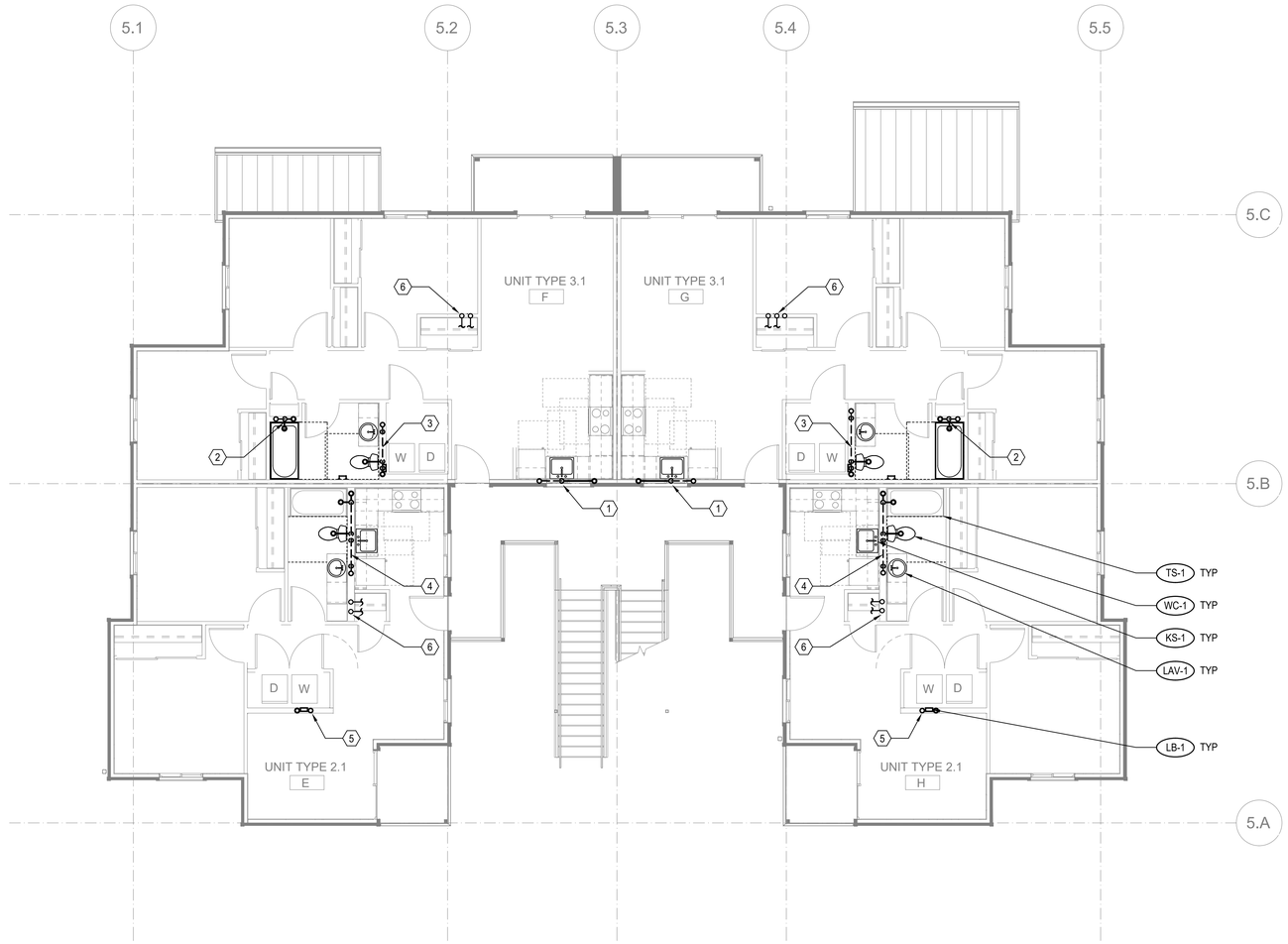
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P14-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 14 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

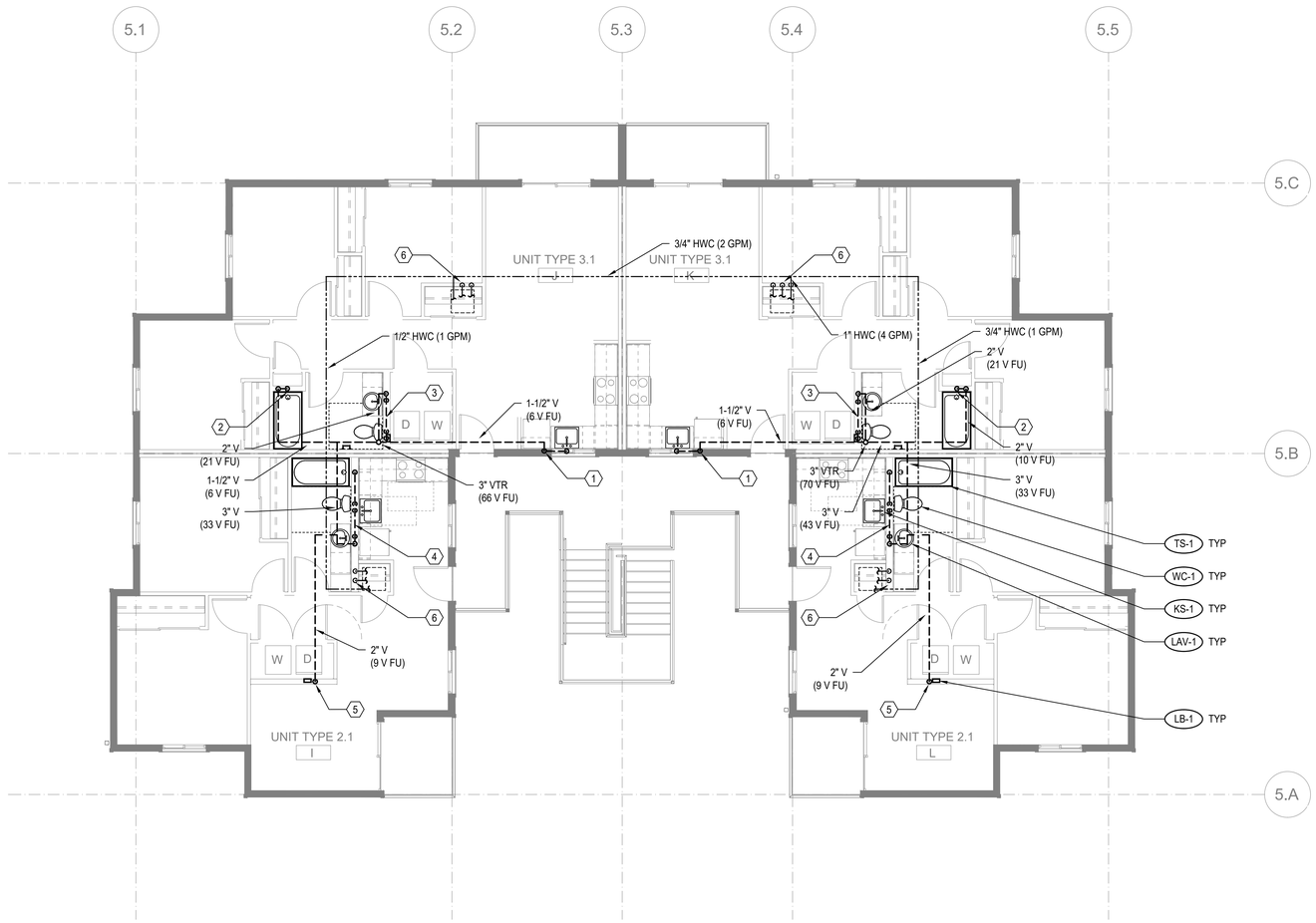
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P14-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 14 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

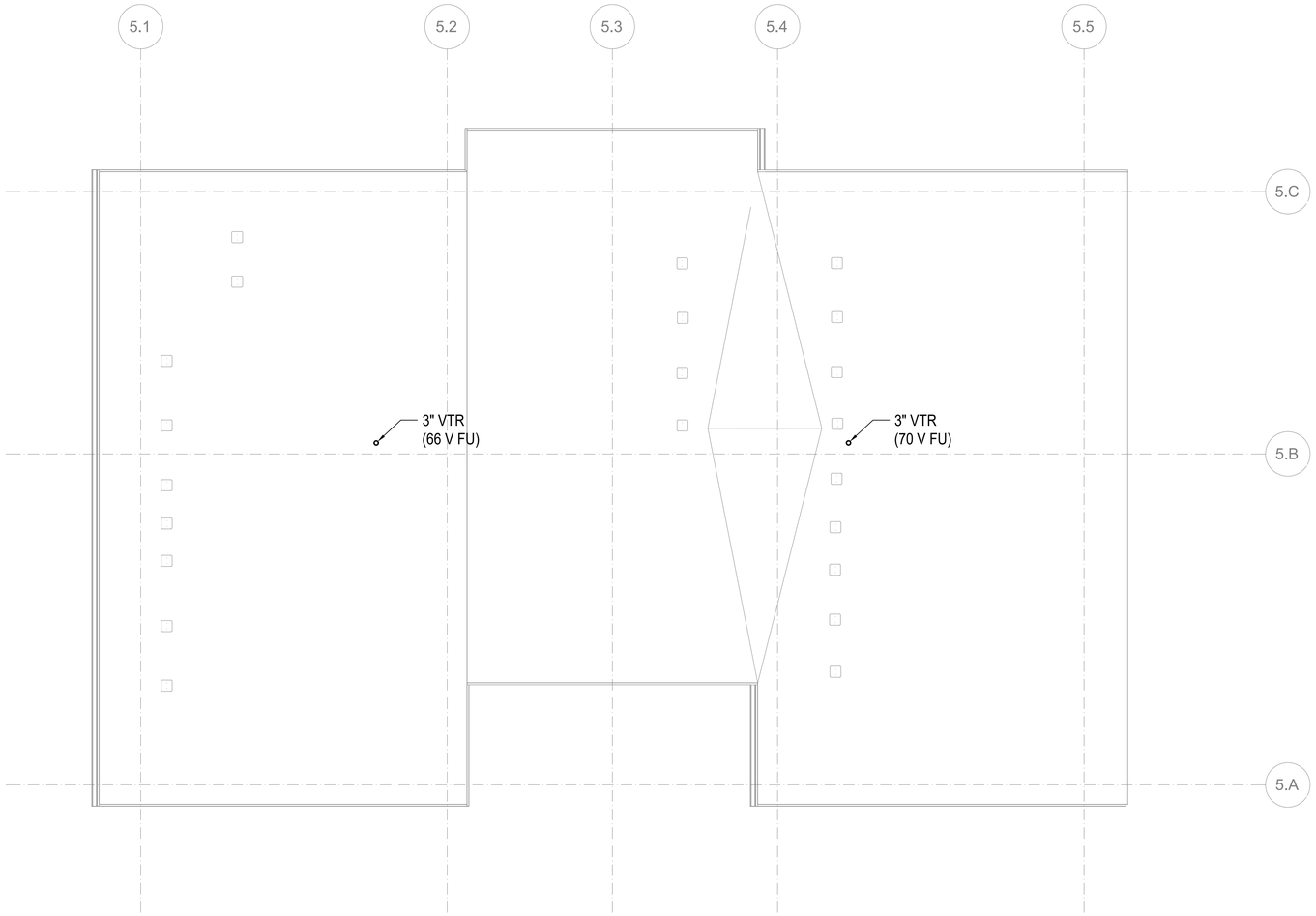
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P14-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 14 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P14-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: LE280T3-3	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

***Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements**

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"		3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE					FIXTURE UNITS PER APPENDIX A		
		DOMESTIC WATER WSFU			SEWER DFU		
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	4	4	16	3	12	2	8
Kitchen Sink	4	1.5	6	1.125	4.50	2	8
Clothes Washer	4	4	16	3	12	3	12
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**32**		**69.5**		**34.50**		**64**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 33 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 1.5".
BUILDING WATER METER SIZE = 1".
TOTAL BUILDING WASTE FIXTURE UNITS IS 64. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

DAN LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P15-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

DAN AMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

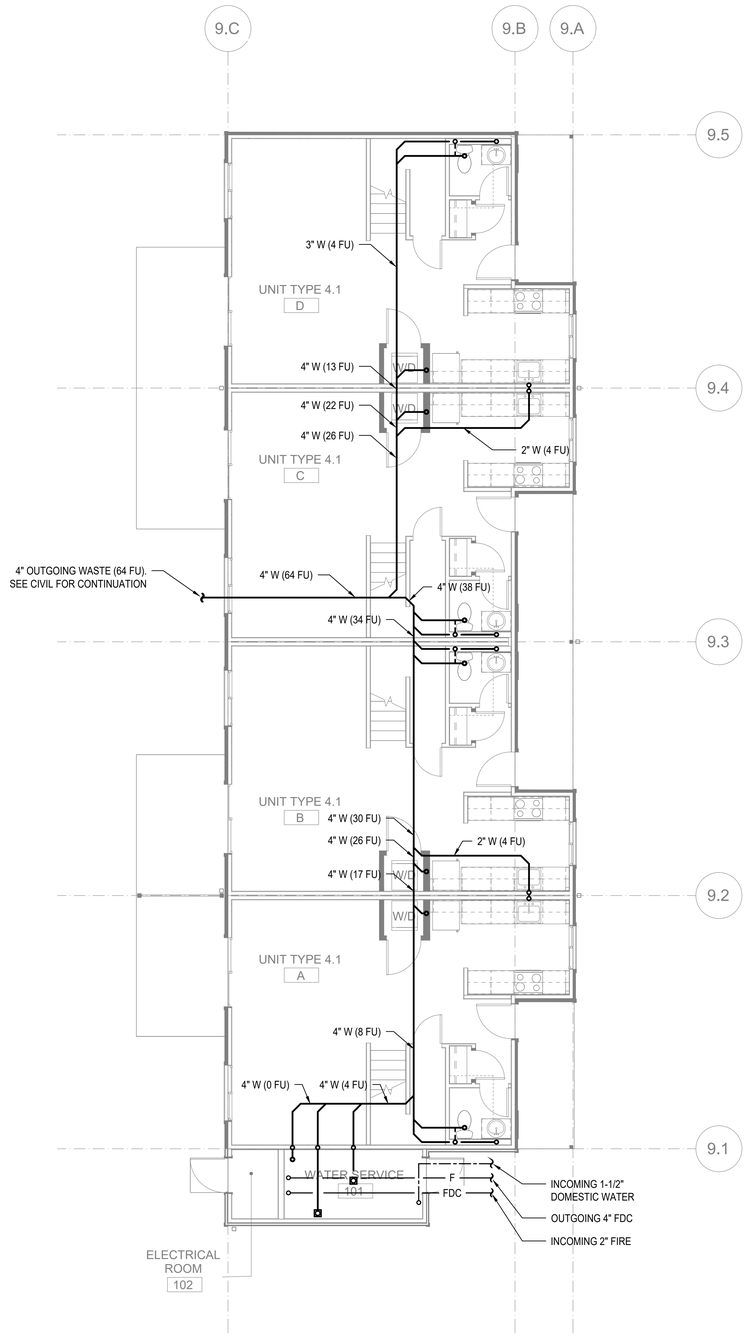
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P15-011



FLOOR PLAN - BUILDING 15 - FOUNDATION

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

DAVID AMBER KIMBERLY
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

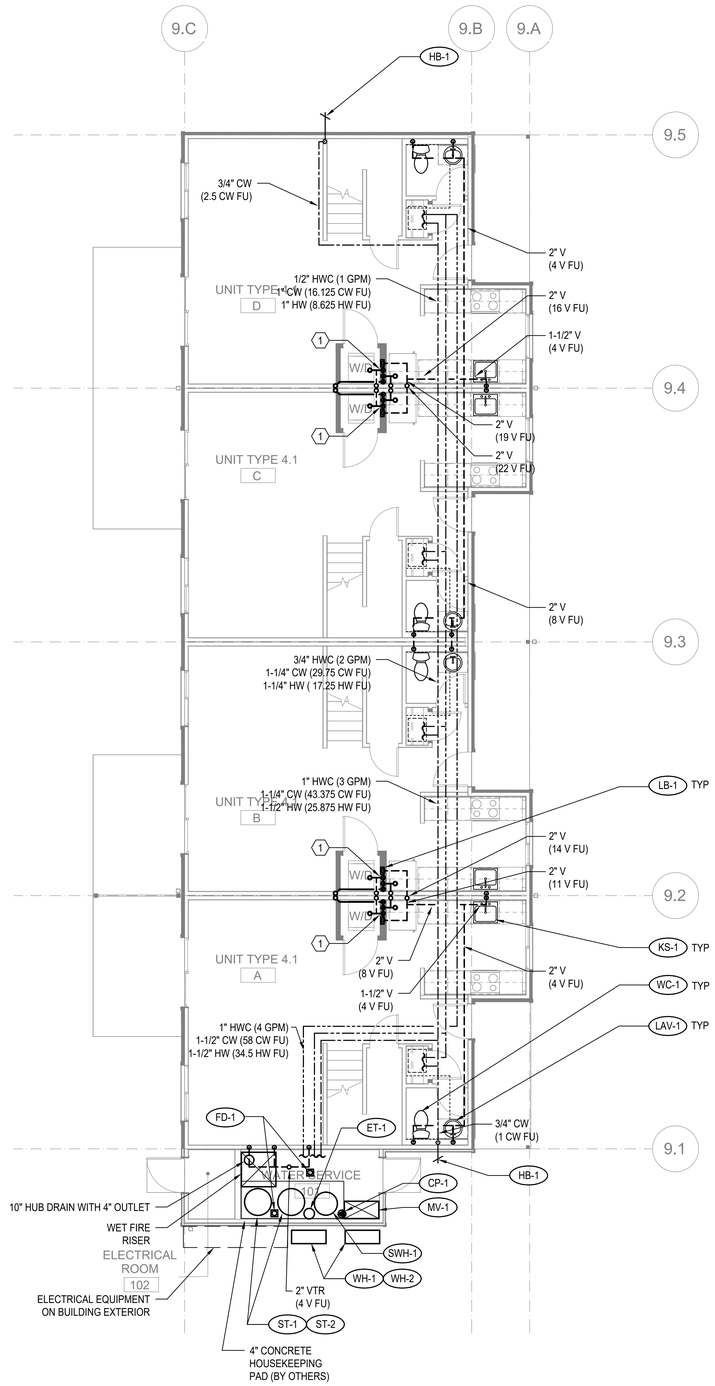
DPD STAMP

TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P15-100



FLOOR PLAN - BUILDING 15 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

(1) SEE WASTE RISER 1 ON SHEET P-202 FOR WASTE AND VENT PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

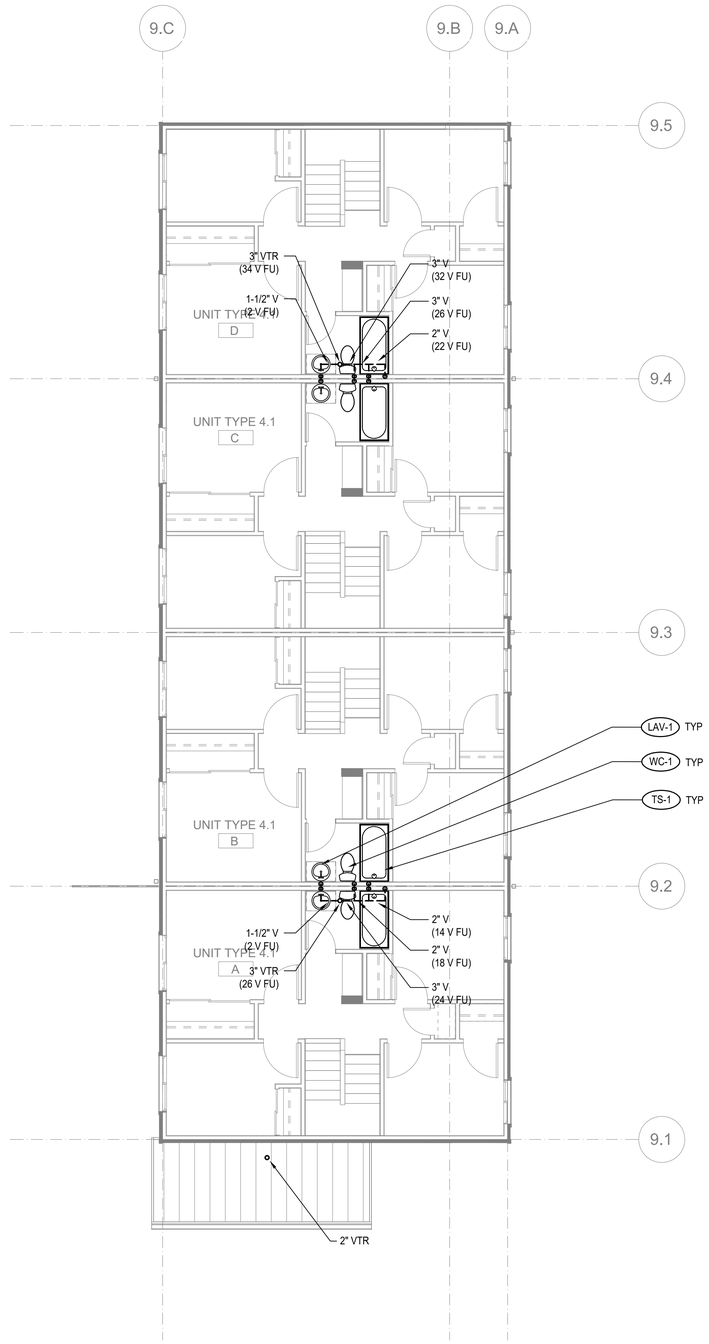
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P15-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 15 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

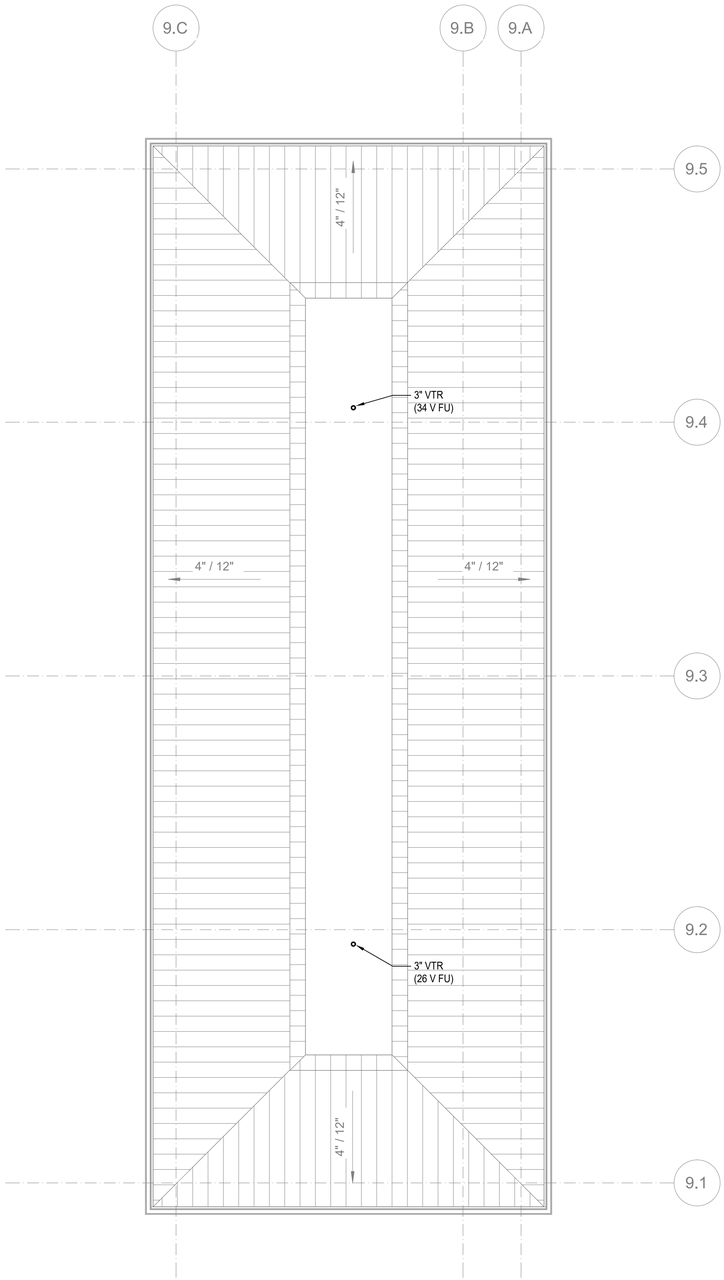
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P15-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 15 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P15-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE — FIXTURE UNITS PER APPENDIX A

FIXTURE	QTY	DOMESTIC WATER WSFU: PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	SEWER DFU: PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

DAN LAMBERT, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P16-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

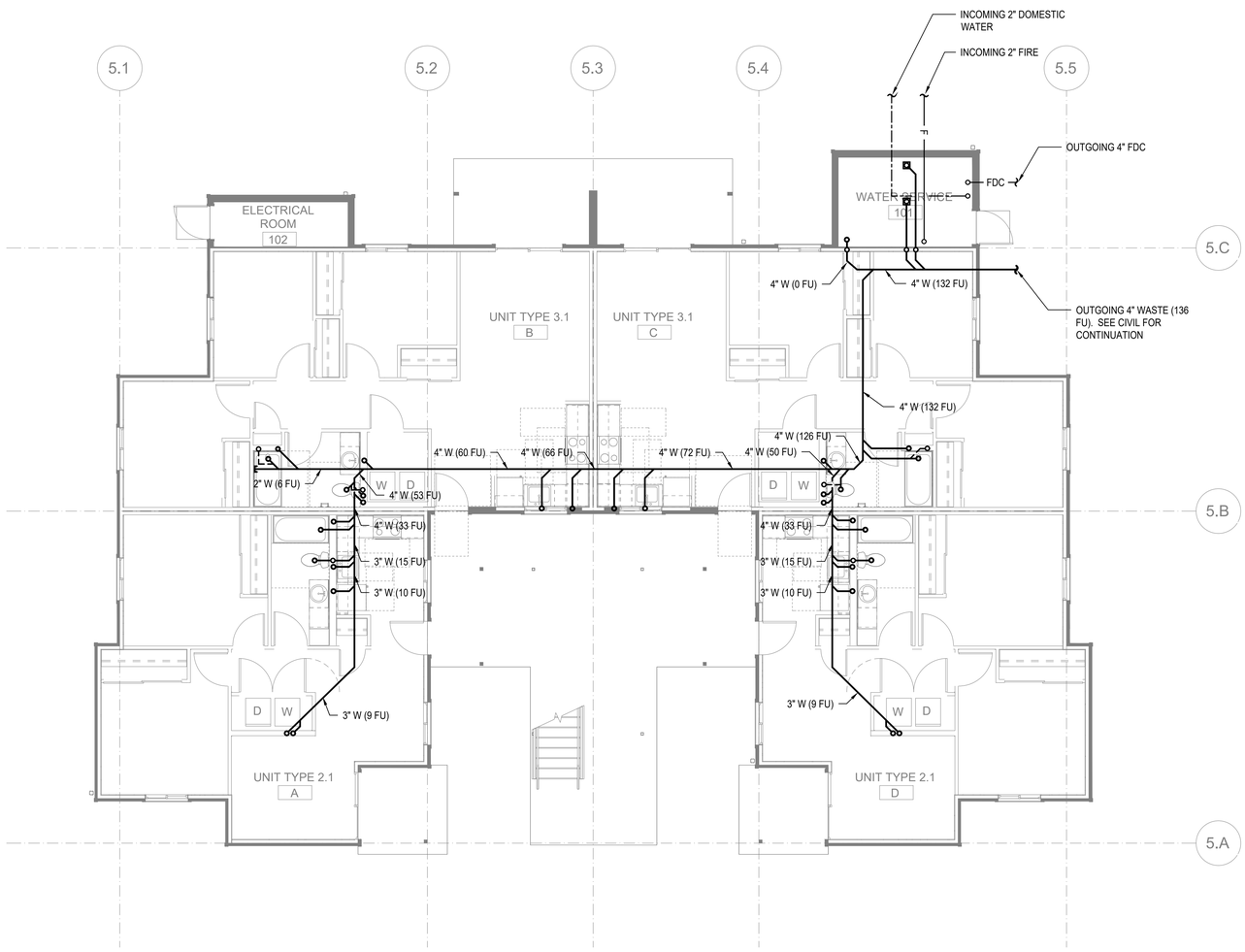
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P16-011



FLOOR PLAN - BUILDING 16 FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

DAVID AMBER KNOX
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

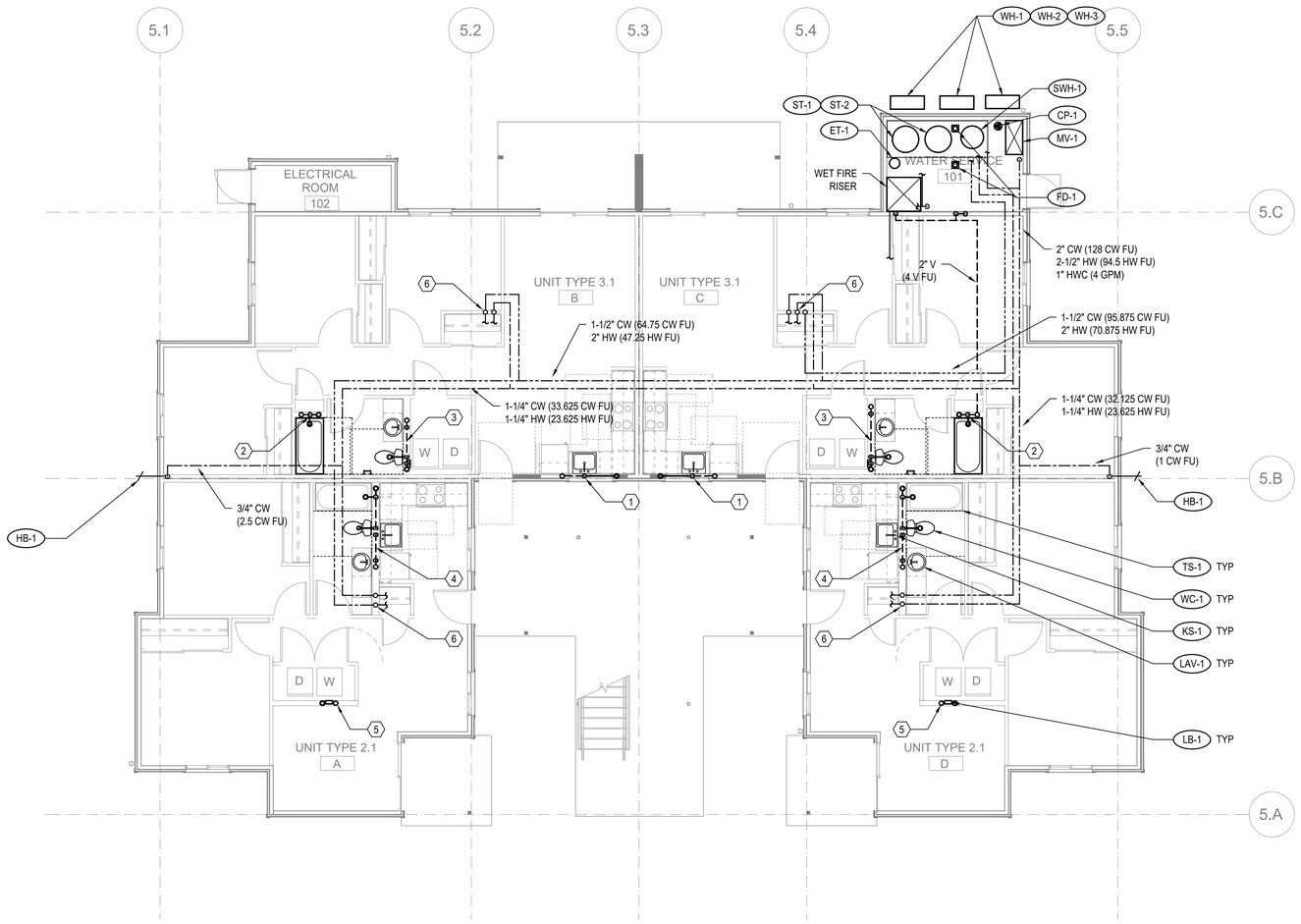
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P16-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 16 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

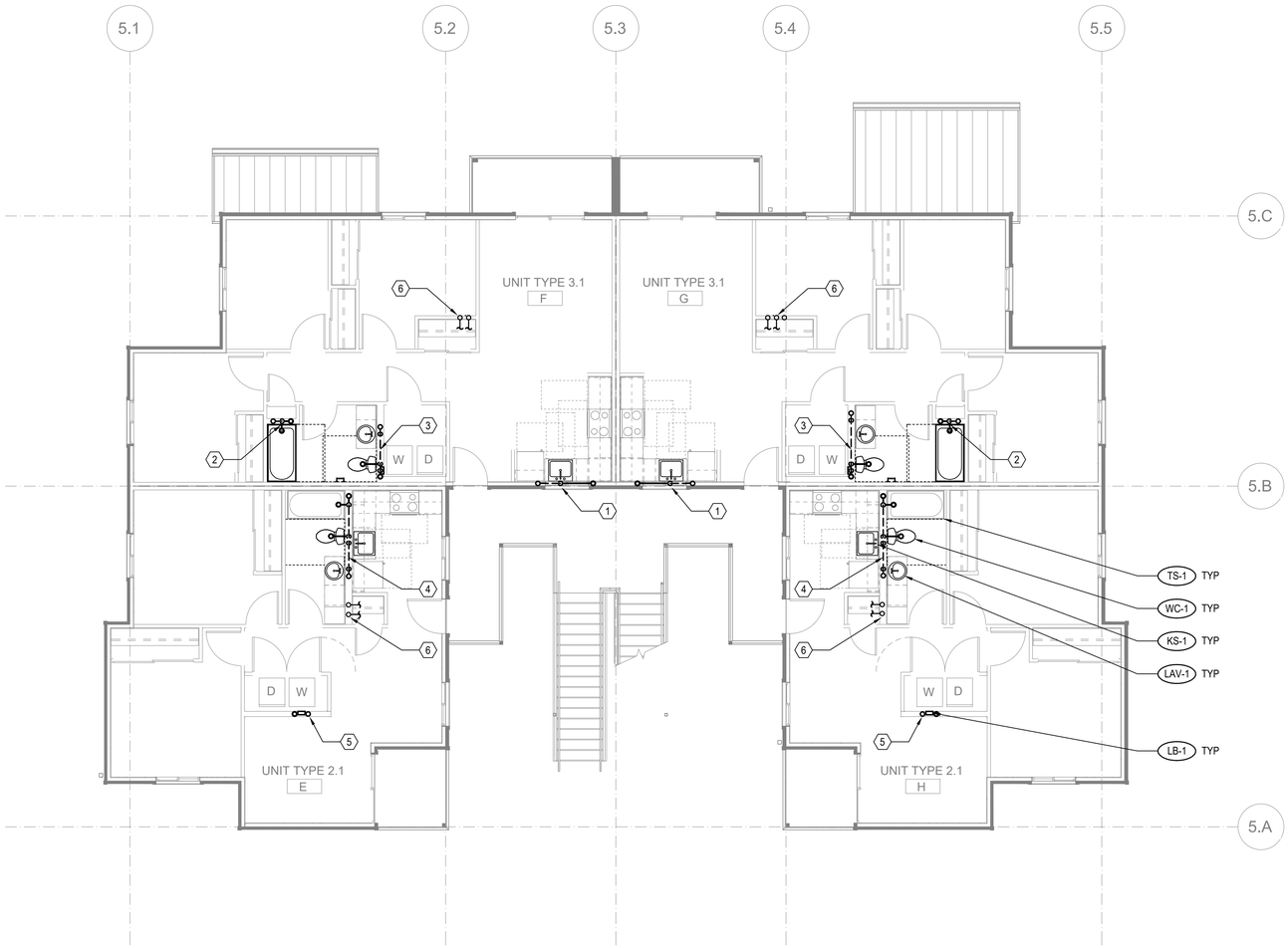
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P16-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 16 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

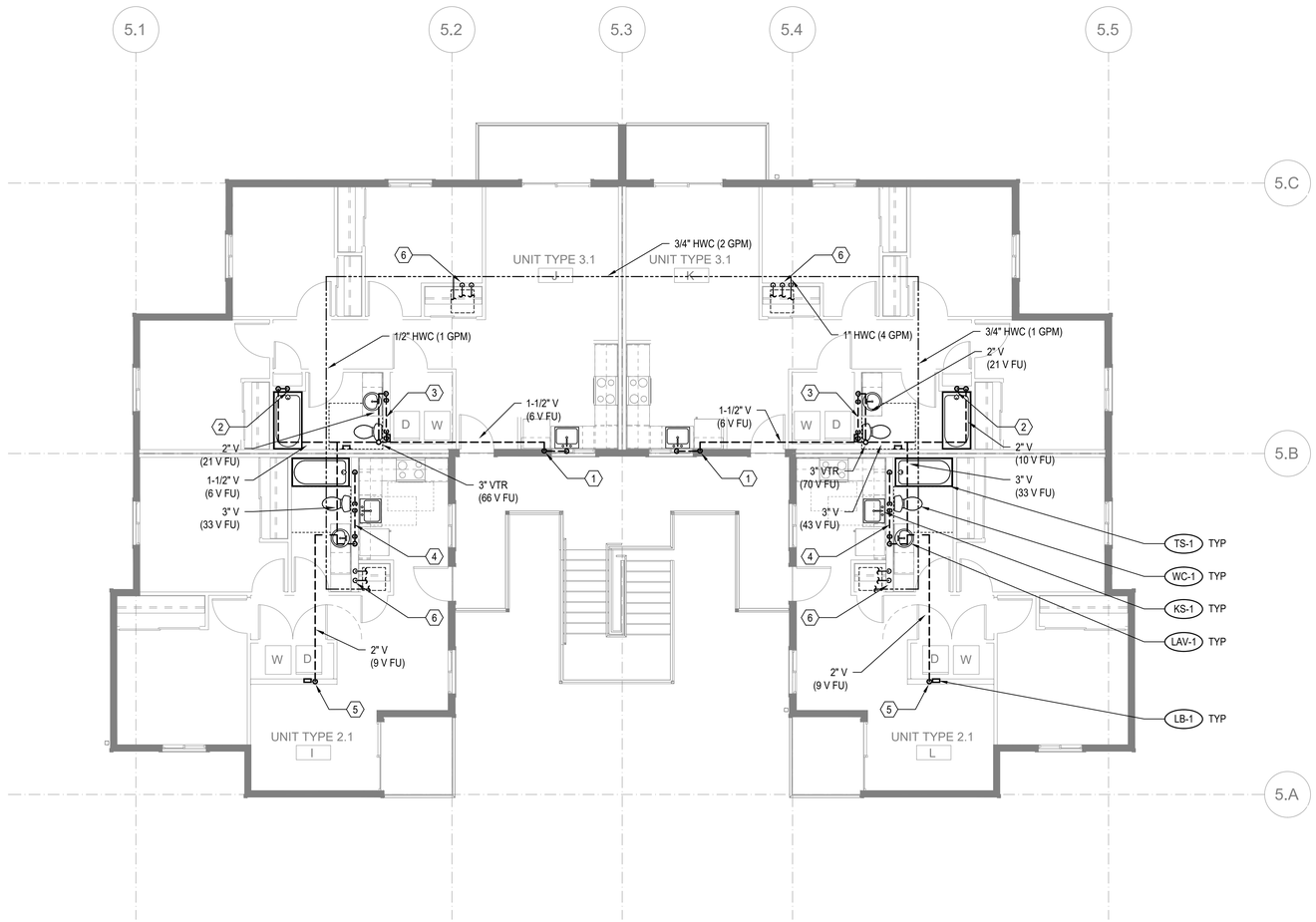
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P16-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 16 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

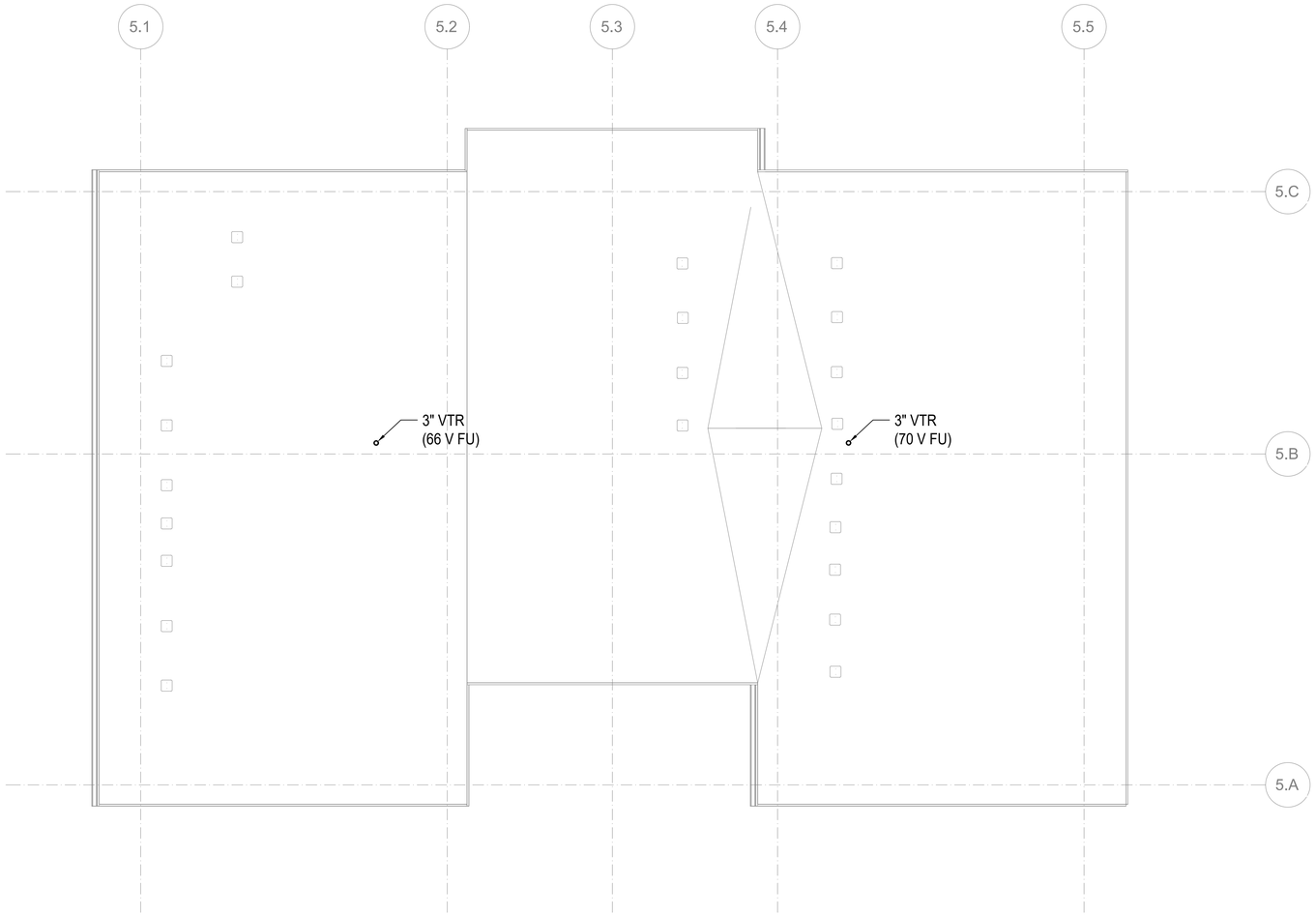
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P16-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 16 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P16-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: LE280T3-3	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"		3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	4	4	16	3	12	2	8
Kitchen Sink	4	1.5	6	1.125	4.50	2	8
Clothes Washer	4	4	16	3	12	3	12
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**32**		**69.5**		**34.50**		**64**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 33 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 1.5".
BUILDING WATER METER SIZE = 1".
TOTAL BUILDING WASTE FIXTURE UNITS IS 64. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P17-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

DAN AMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

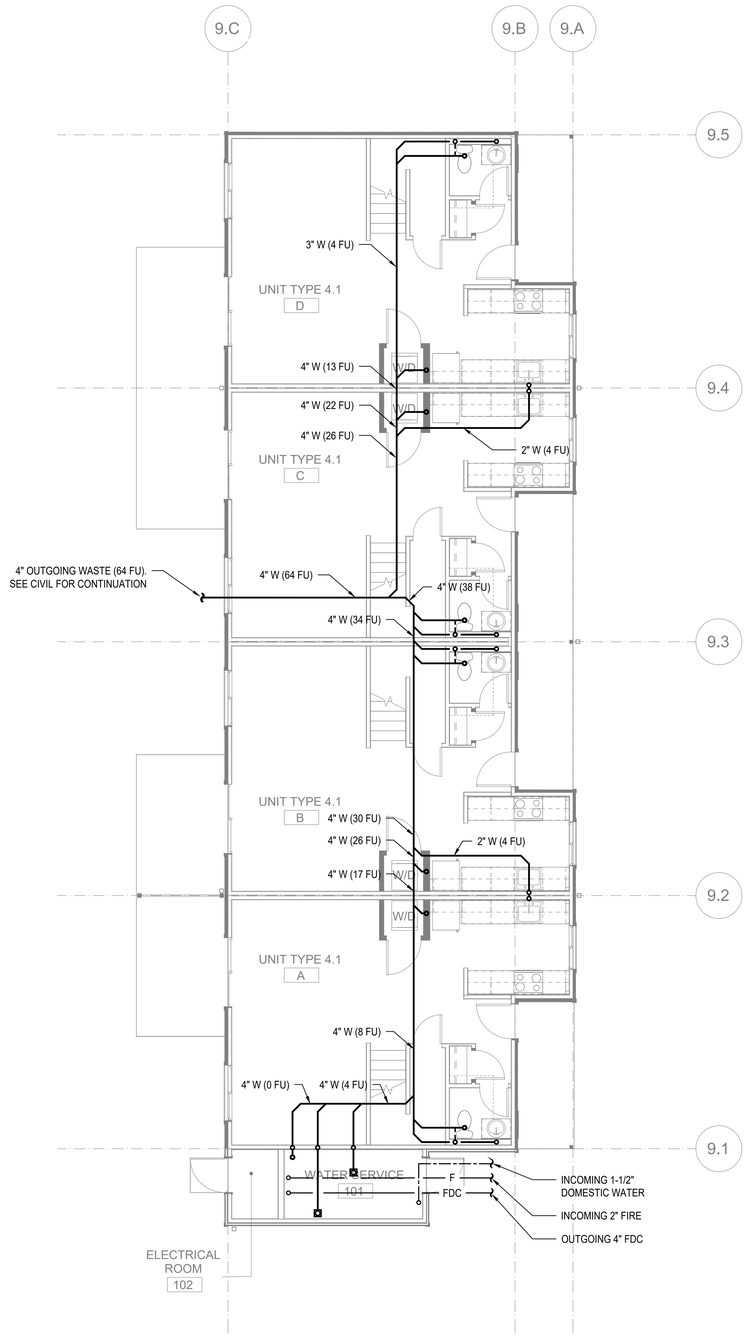
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P17-011



FLOOR PLAN - BUILDING 17 - FOUNDATION

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

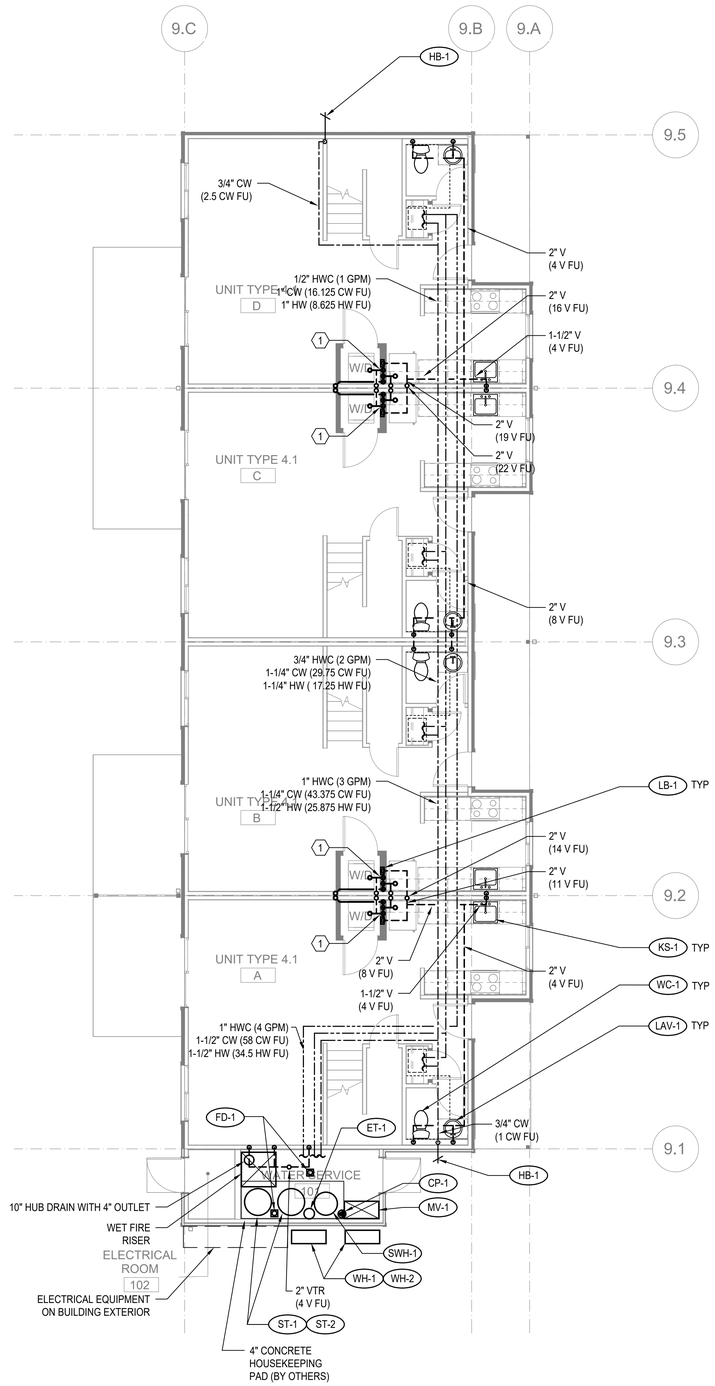
DPD STAMP

TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P17-100



FLOOR PLAN - BUILDING 17 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

(1) SEE WASTE RISER 1 ON SHEET P-202 FOR WASTE AND VENT PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

DANA LAMBER CORPORON
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

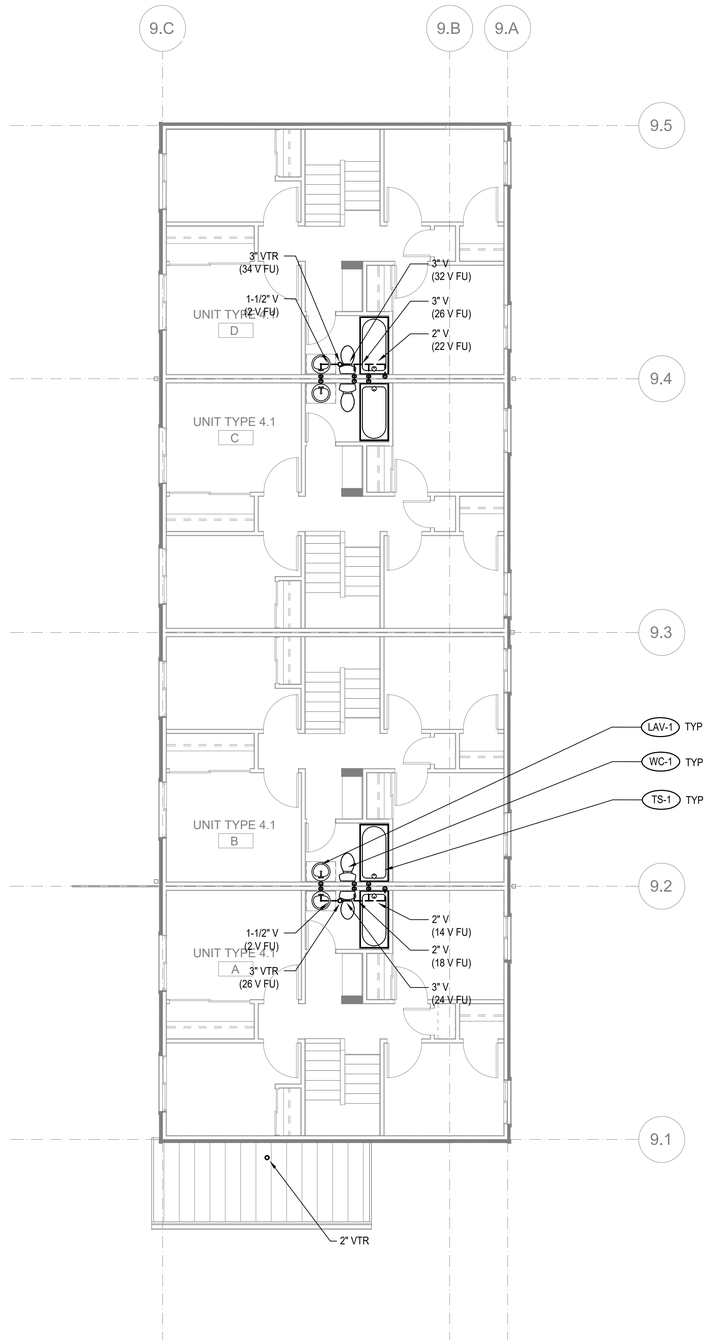
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P17-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 17 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

DANA AMBER JOHNSON
STATE OF WASHINGTON
20041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

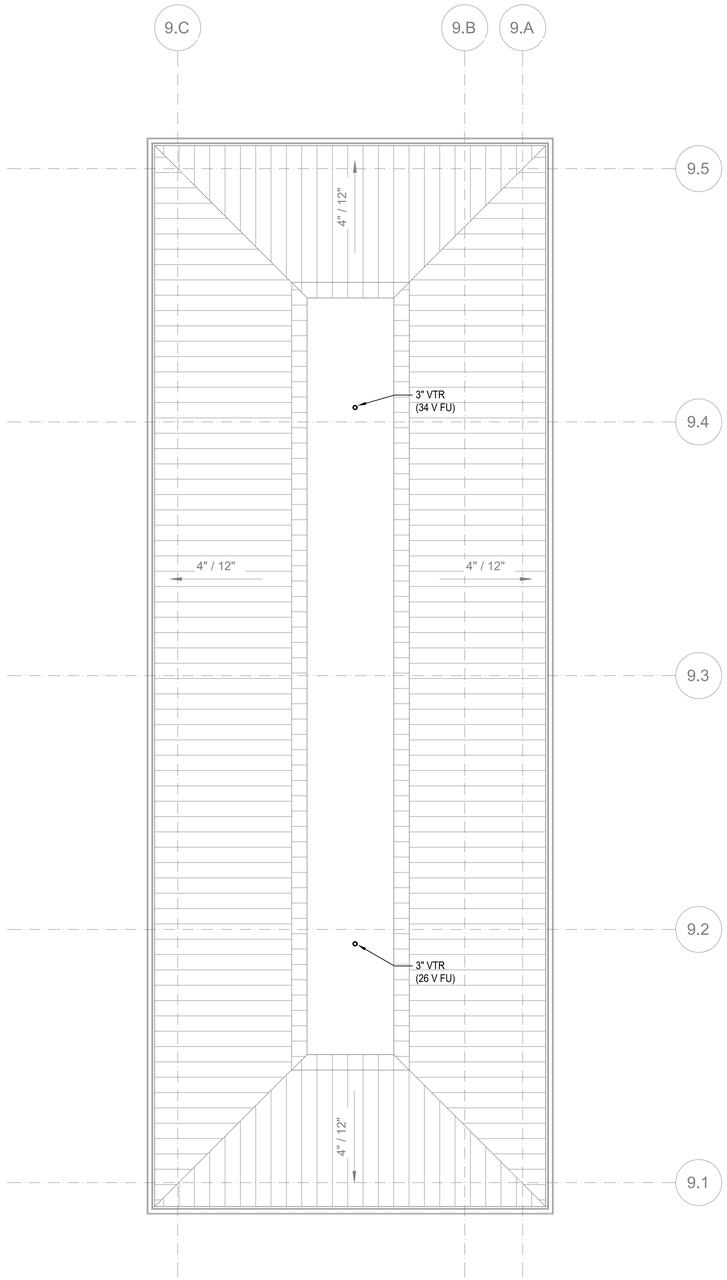
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P17-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 17 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P17-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FI$HER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE — FIXTURE UNITS PER APPENDIX A

FIXTURE	QTY	DOMESTIC WATER WSFU: PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	SEWER DFU: PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

DAN LAMBER — STATE OF WASHINGTON — 0041009 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P18-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

DANA AMBER FOREES
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

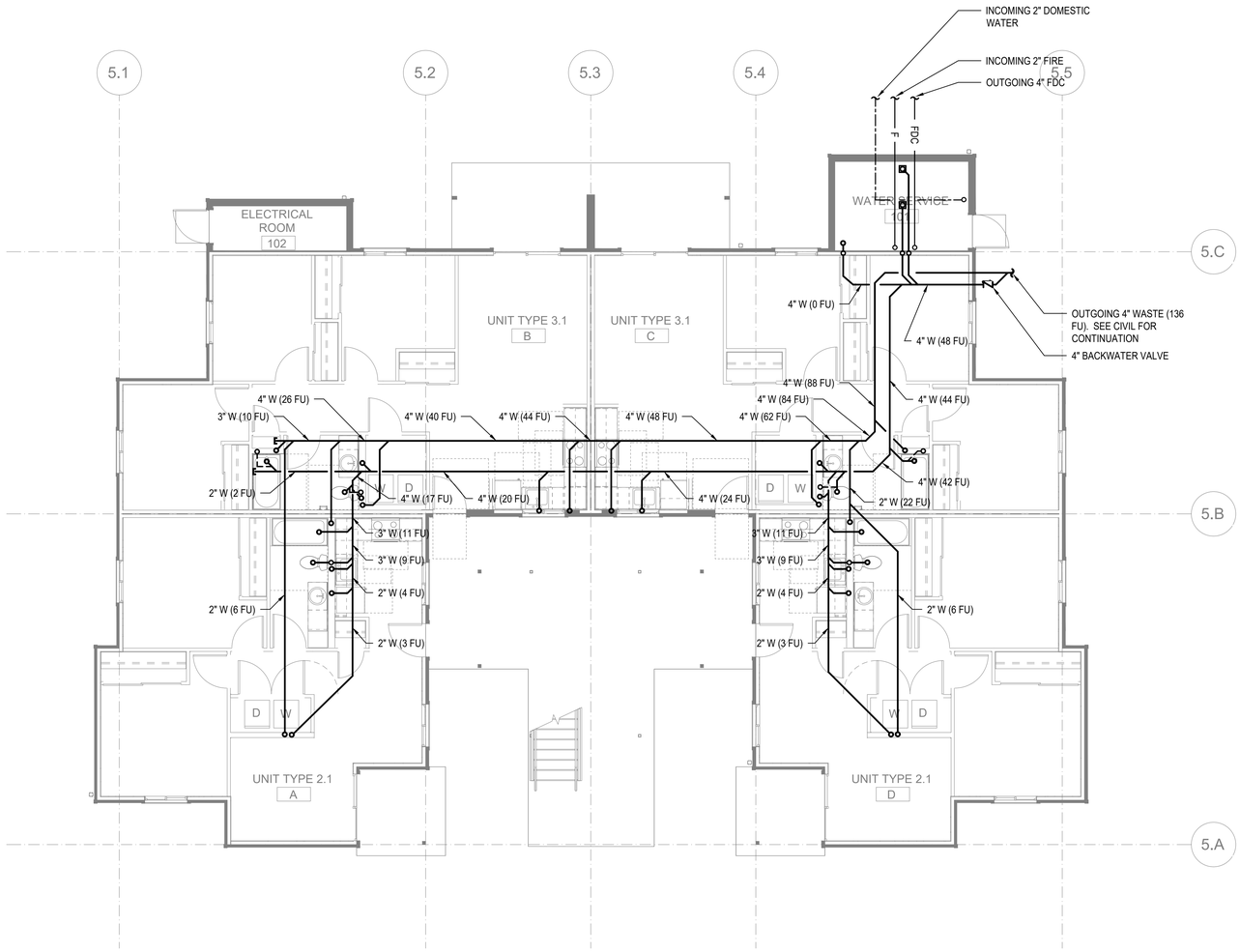
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P18-011



FLOOR PLAN - BUILDING 18 FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

DANA LAMBER KOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

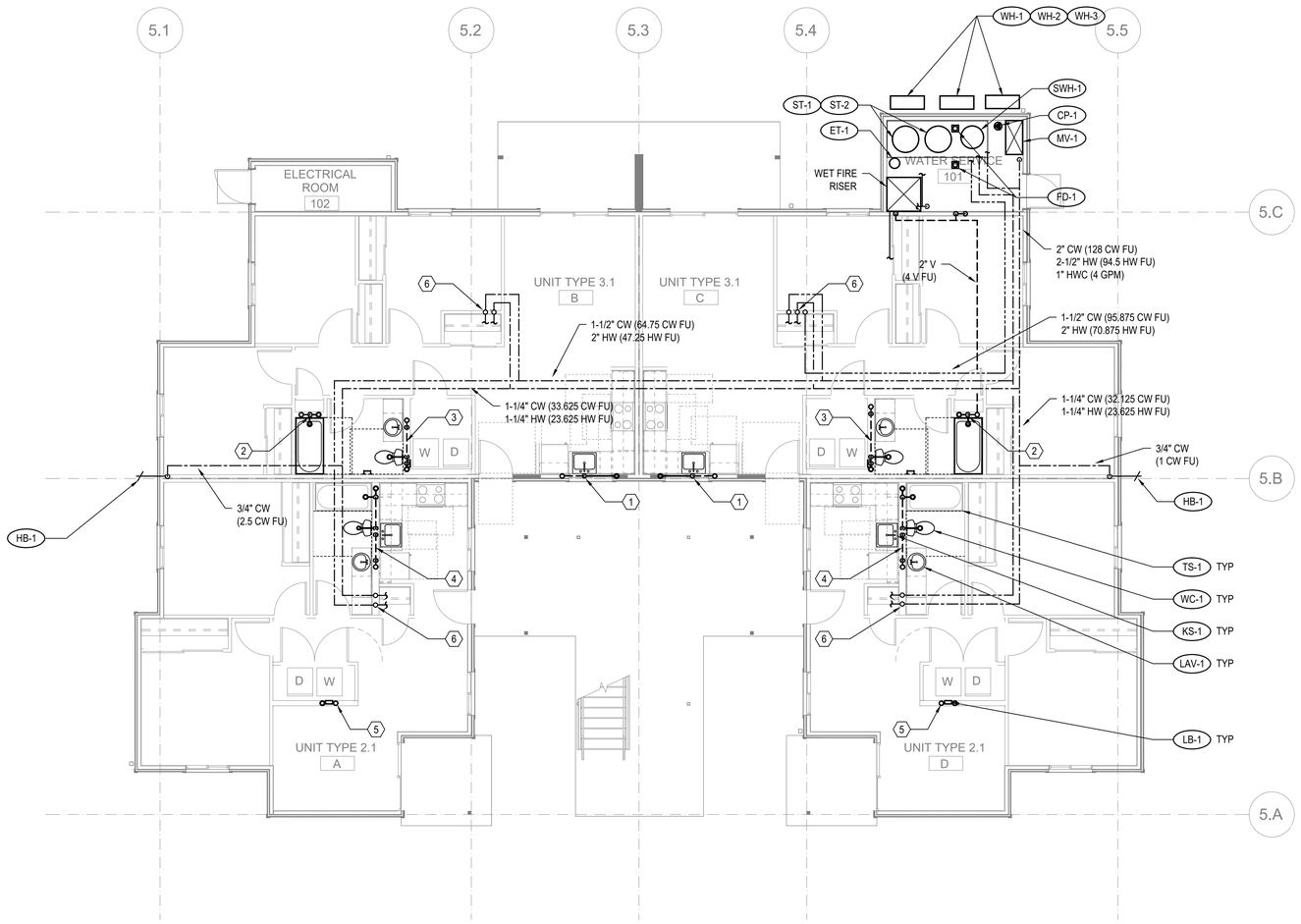
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P18-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 18 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

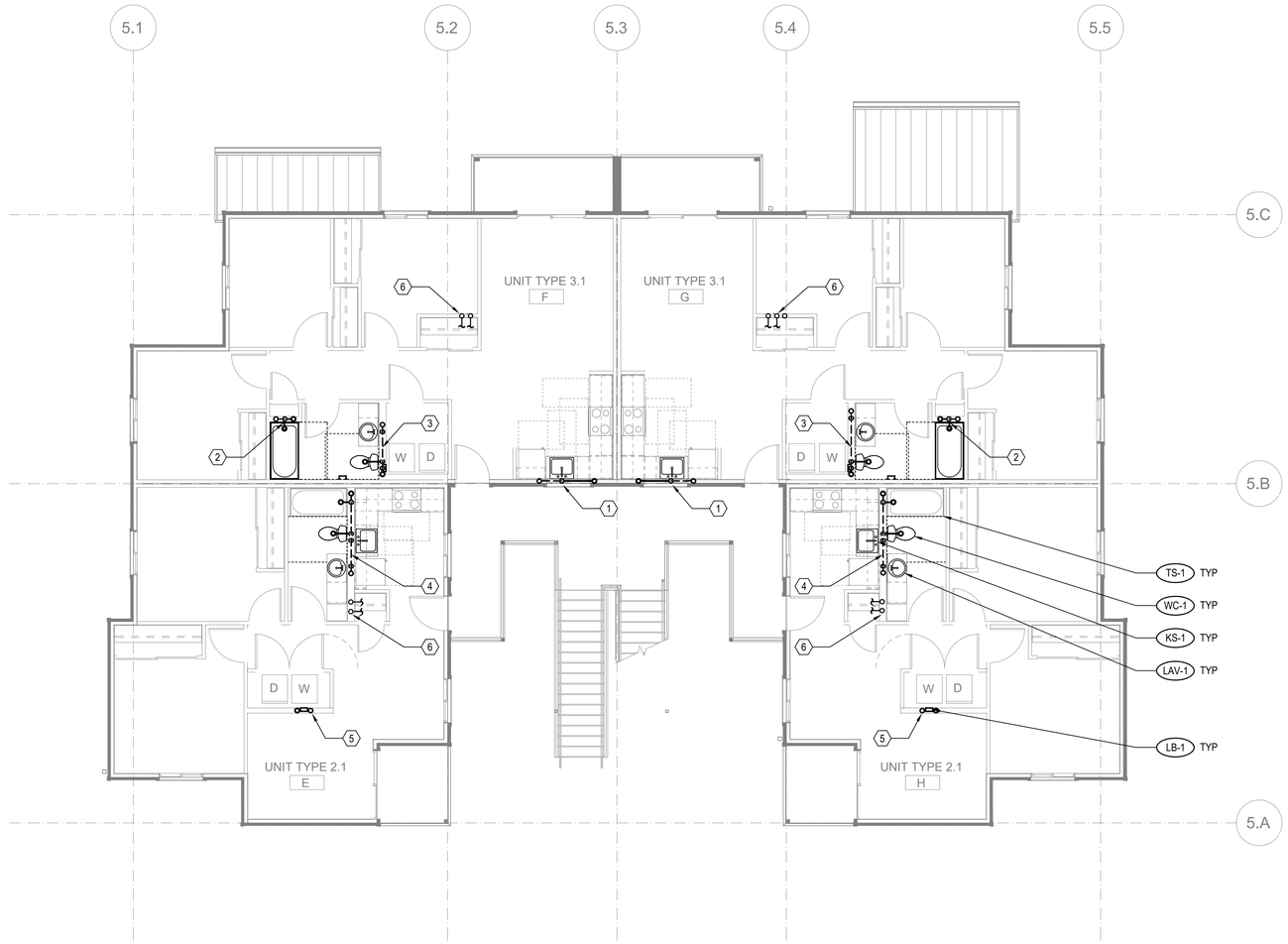
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P18-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 18 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

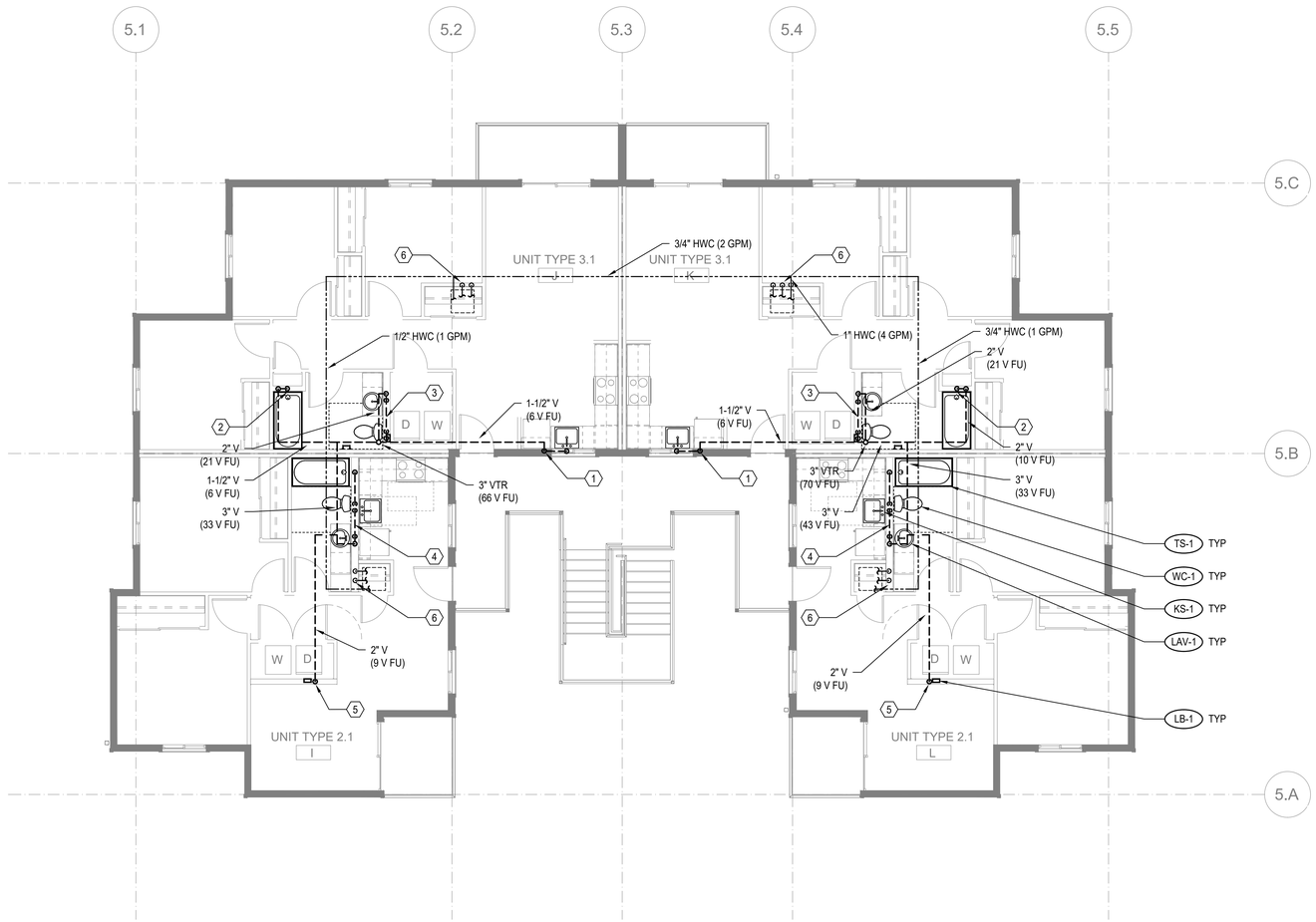
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P18-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 18 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

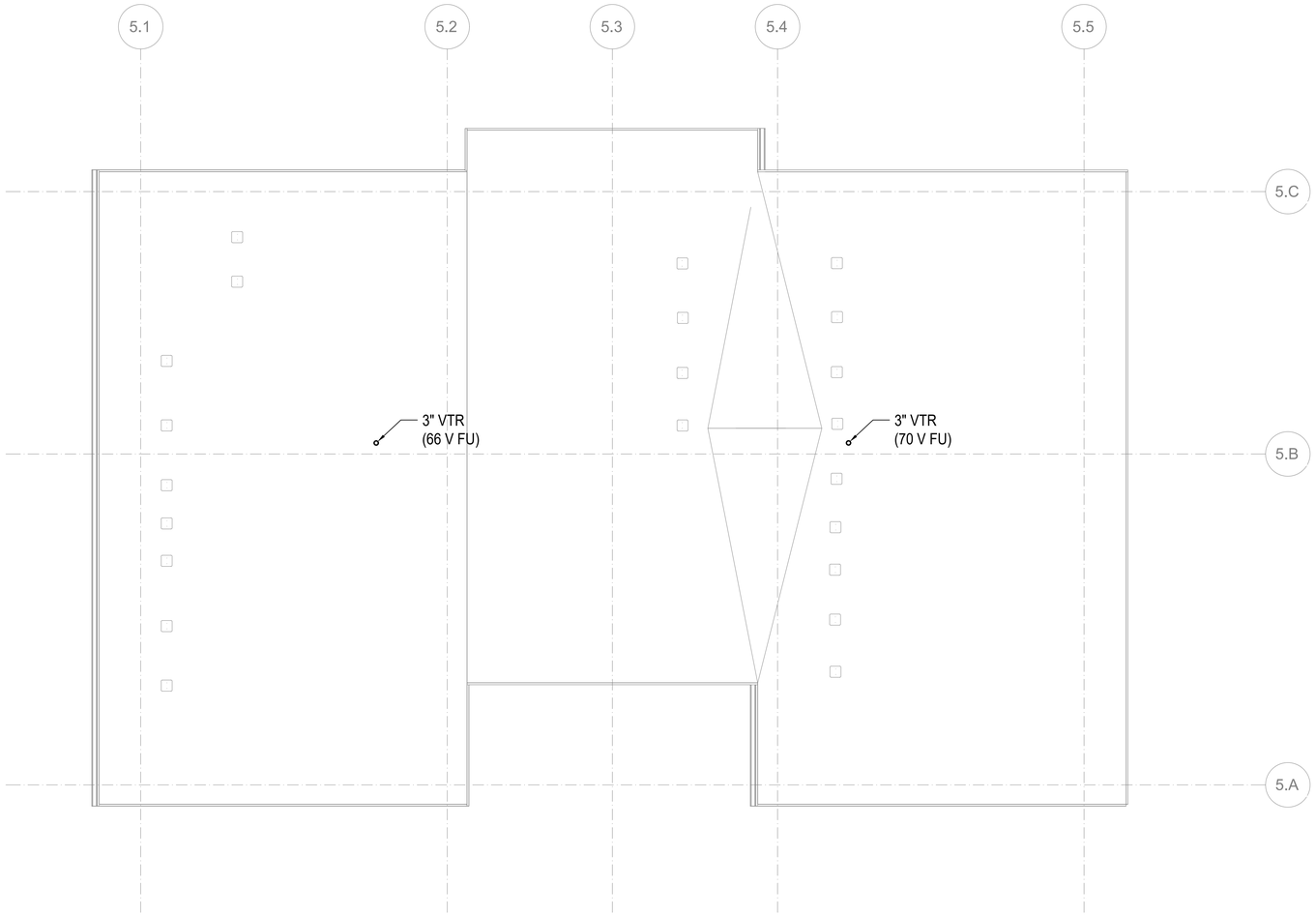
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P18-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 18 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P18-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: LE280T3-3	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"		3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE — FIXTURE UNITS PER APPENDIX A

FIXTURE	QTY	DOMESTIC WATER WSFU: PER FIXTURE	DOMESTIC WATER WSFU: TOTAL	HW PER FIXTURE	TOTAL	SEWER DFU: PER FIXTURE	SEWER DFU: TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	4	4	16	3	12	2	8
Kitchen Sink	4	1.5	6	1.125	4.50	2	8
Clothes Washer	4	4	16	3	12	3	12
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**32**		**69.5**		**34.50**		**64**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 33 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 1.5".
BUILDING WATER METER SIZE = 1".
TOTAL BUILDING WASTE FIXTURE UNITS IS 64. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

DAN LAMBER — STATE OF WASHINGTON — 0041009 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P19-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN

SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

DAN AMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

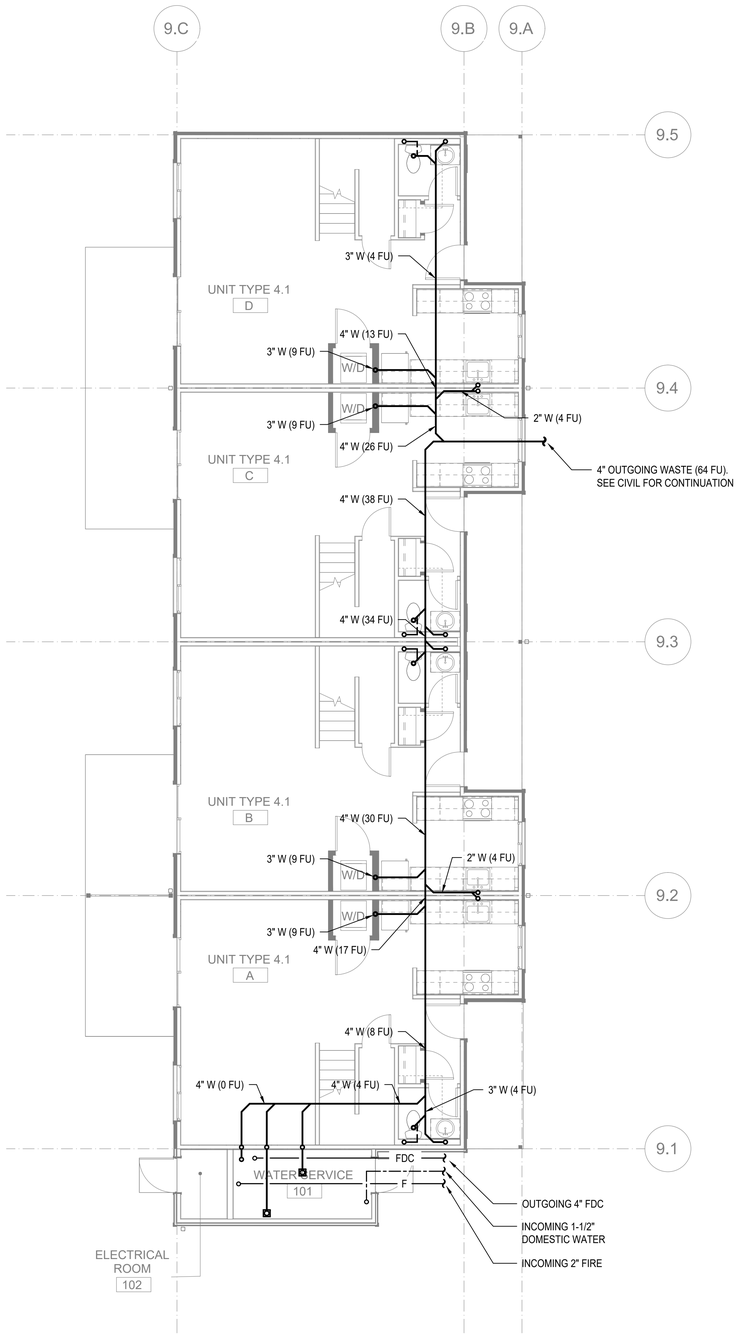
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P19-011



FLOOR PLAN - BUILDING 19 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

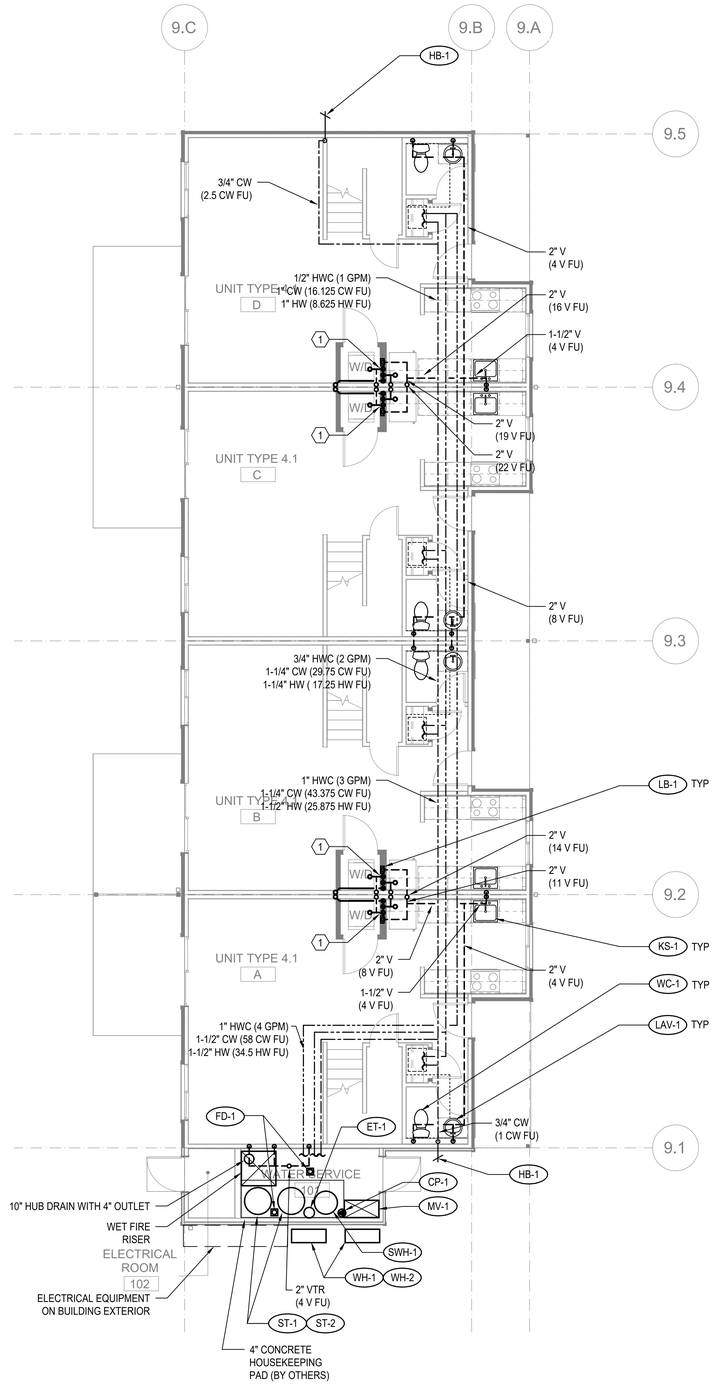
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P19-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 19 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

(1) SEE WASTE RISER 1 ON SHEET P-202 FOR WASTE AND VENT PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

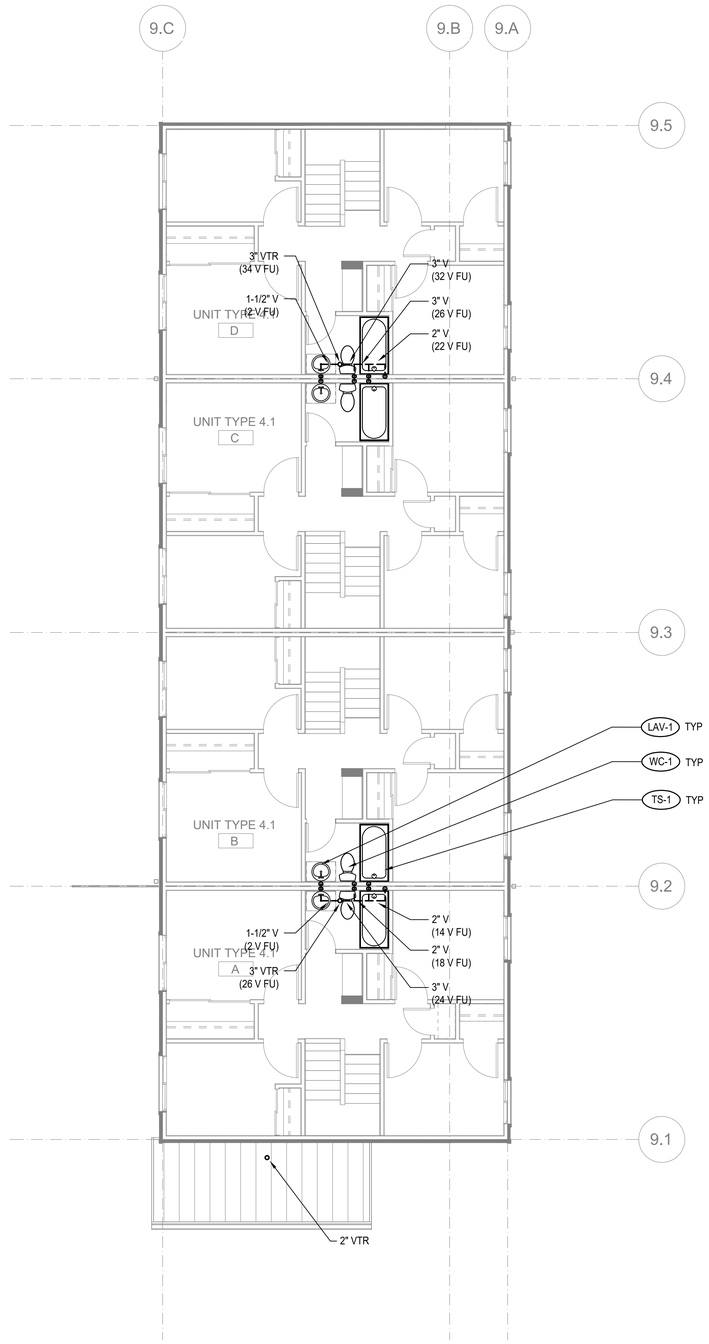
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P19-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 19 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

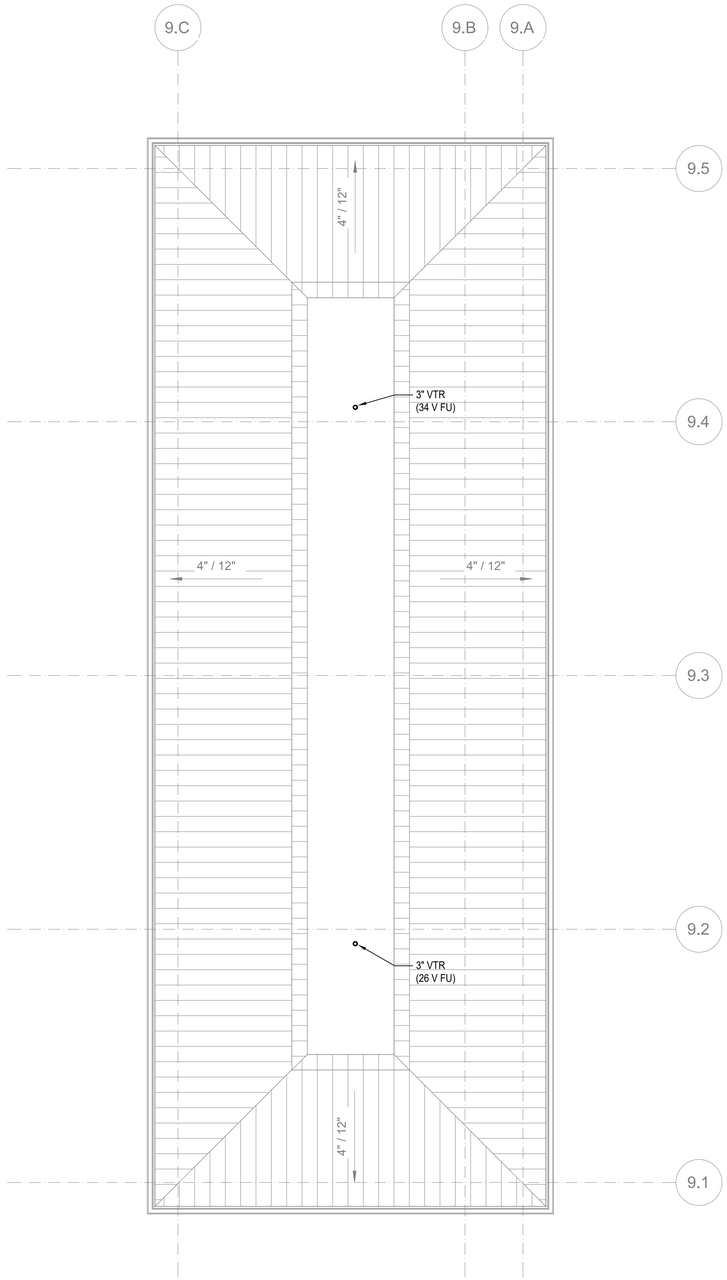
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P19-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 19 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P19-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE					FIXTURE UNITS PER APPENDIX A		
		DOMESTIC WATER WSFU			SEWER DFU		
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P20-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

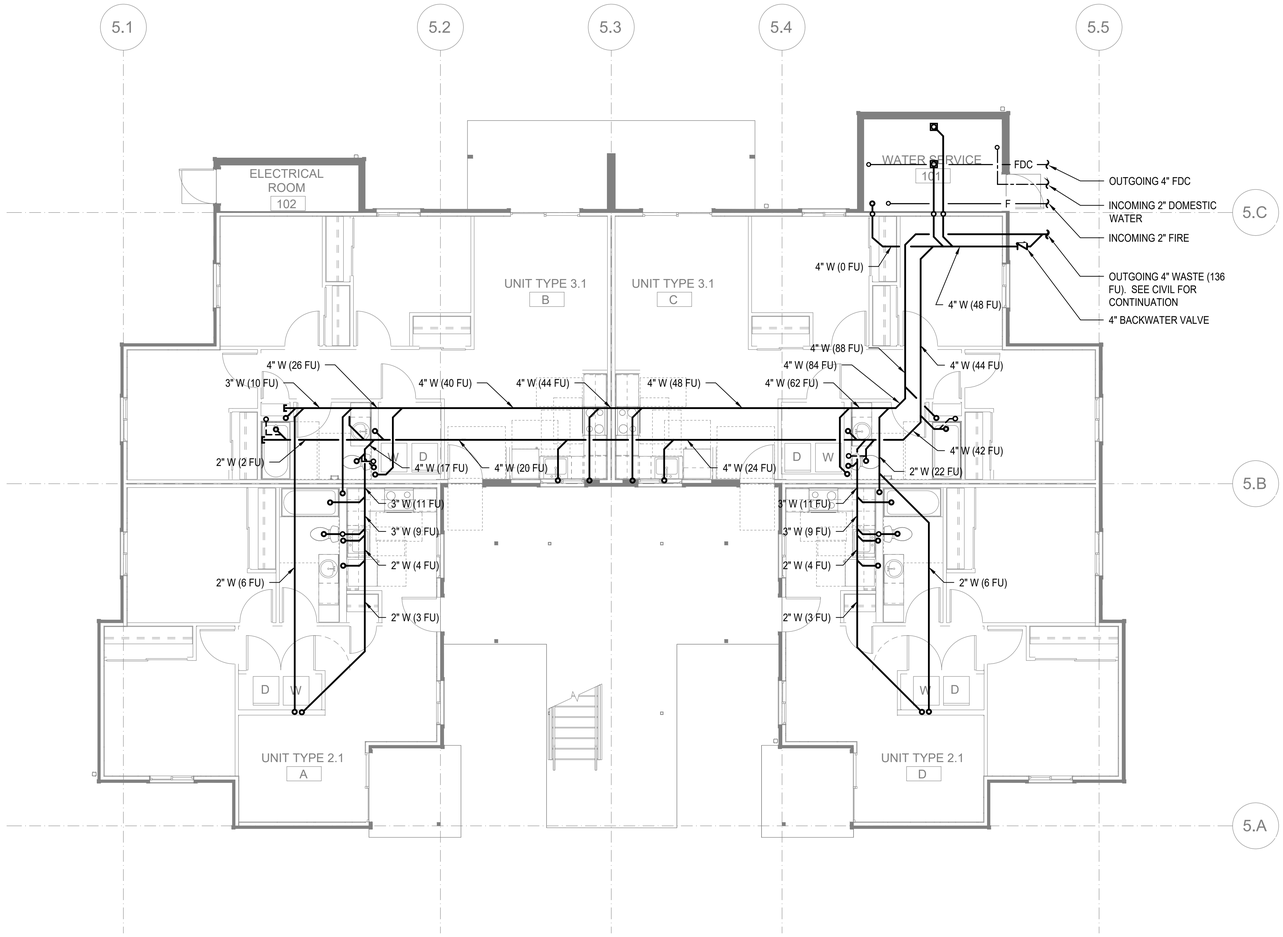
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P20-011



FLOOR PLAN - BUILDING 20 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

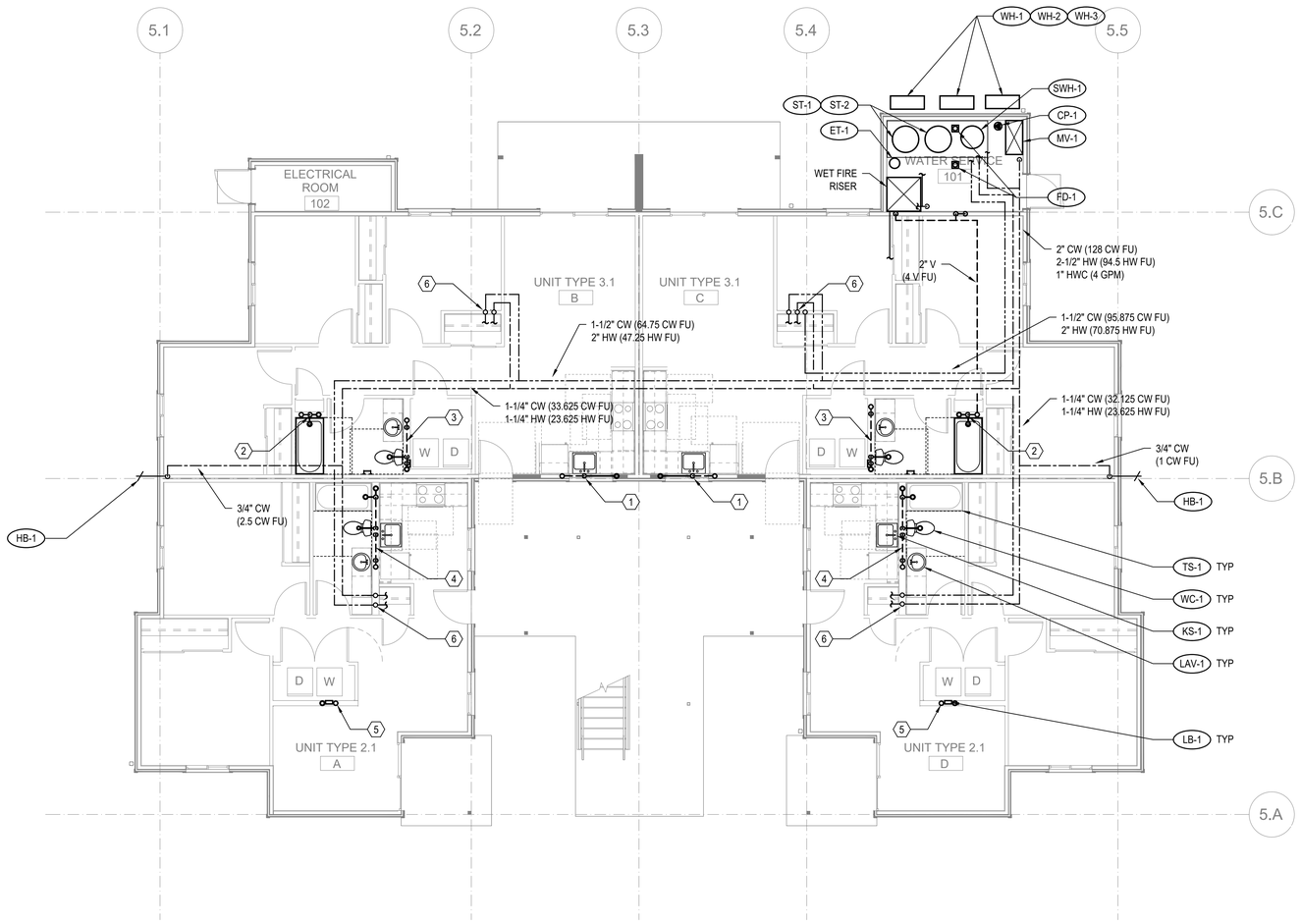
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P20-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 20 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

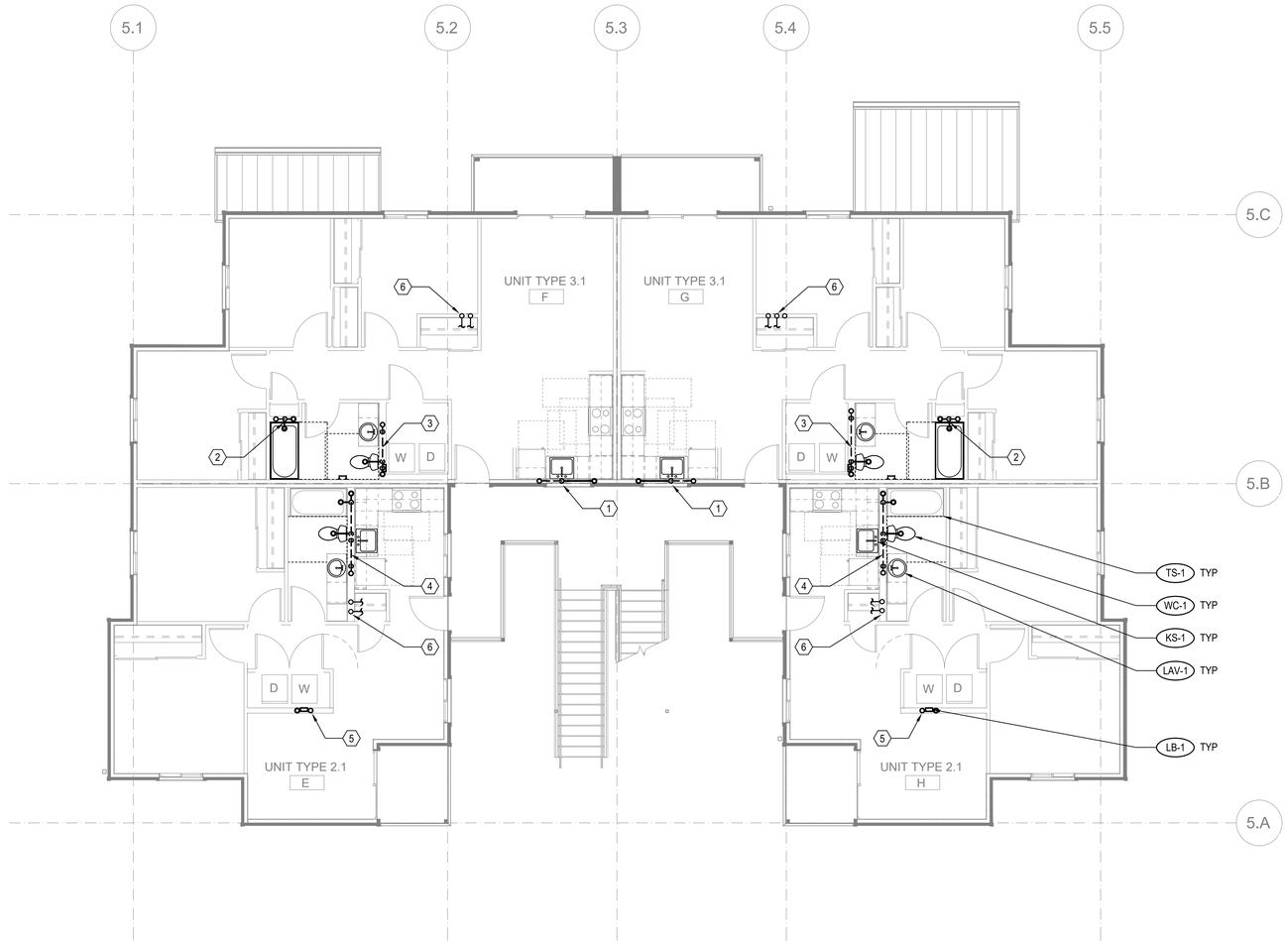
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P20-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 20 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

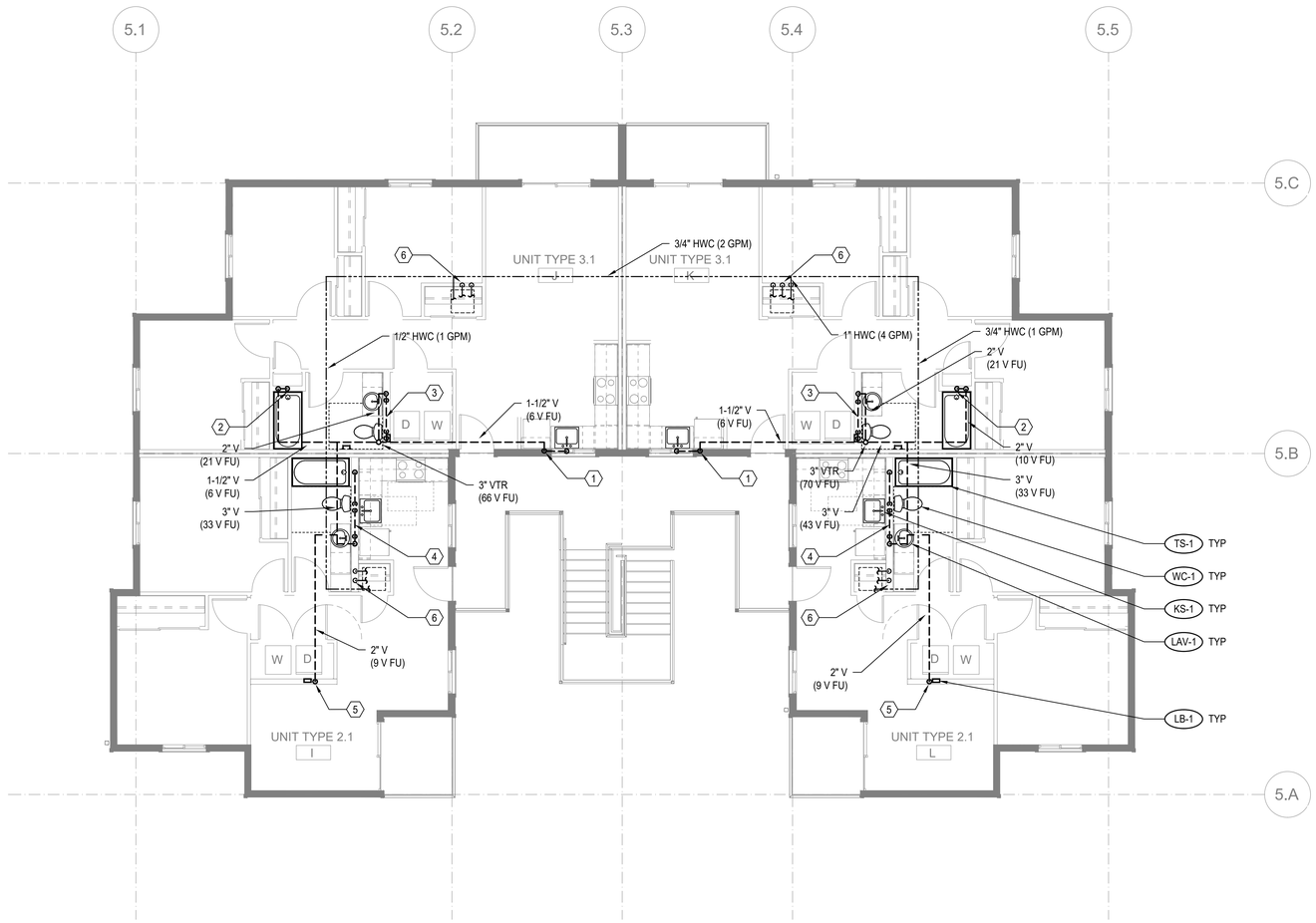
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P20-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 20 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

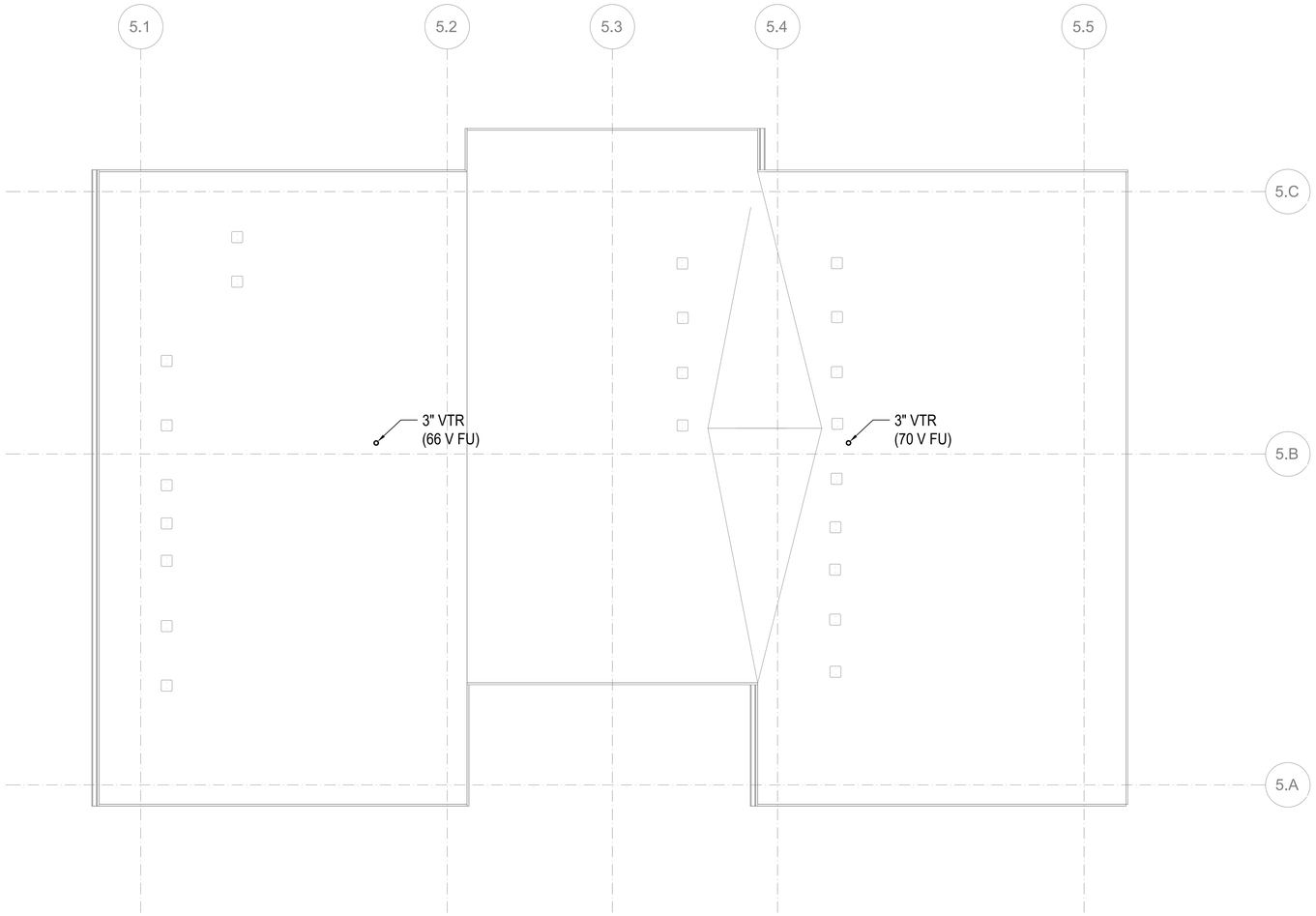
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P20-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 20 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P20-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE					FIXTURE UNITS PER APPENDIX A		
		DOMESTIC WATER WSFU			SEWER DFU		
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P21-002

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

SITE PLAN

PERMIT #

DRAWN AJ, JL, PH, BF, KS

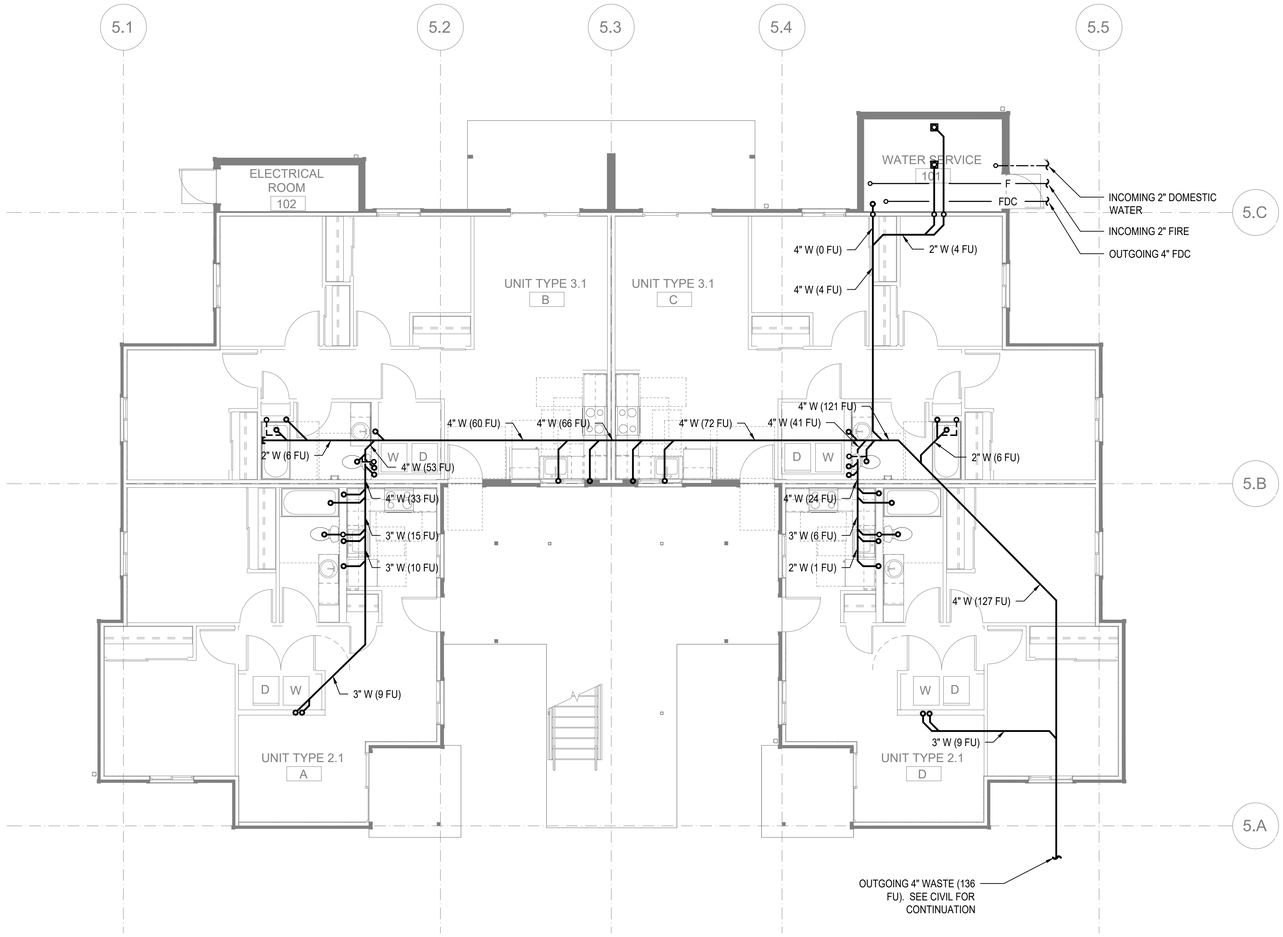
CHECKED DF

ISSUE DATE 4/14/2023

JOB NO. 22016

SHEET NO.:

P21-011



FLOOR PLAN - BUILDING 21 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

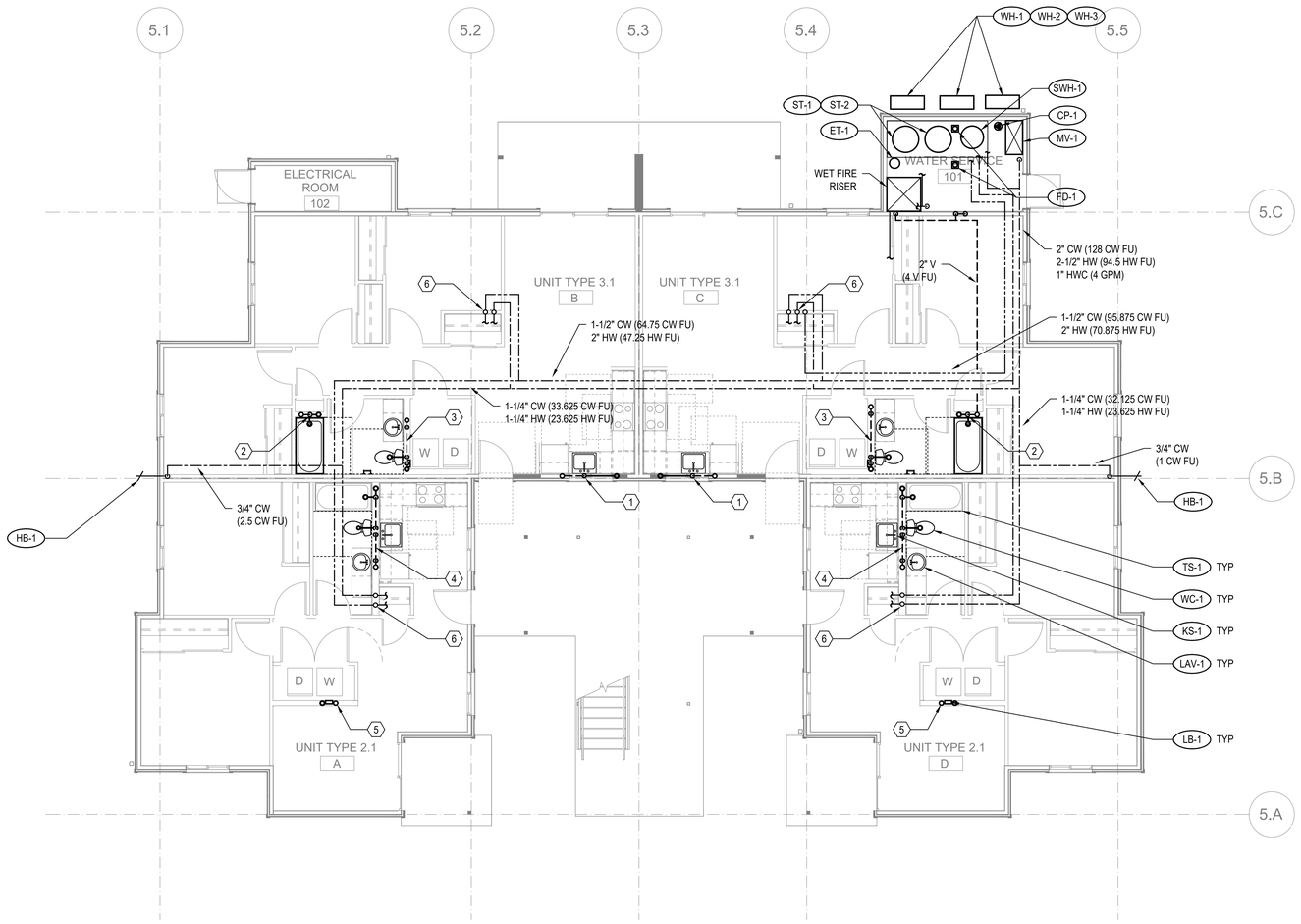
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P21-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 21 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

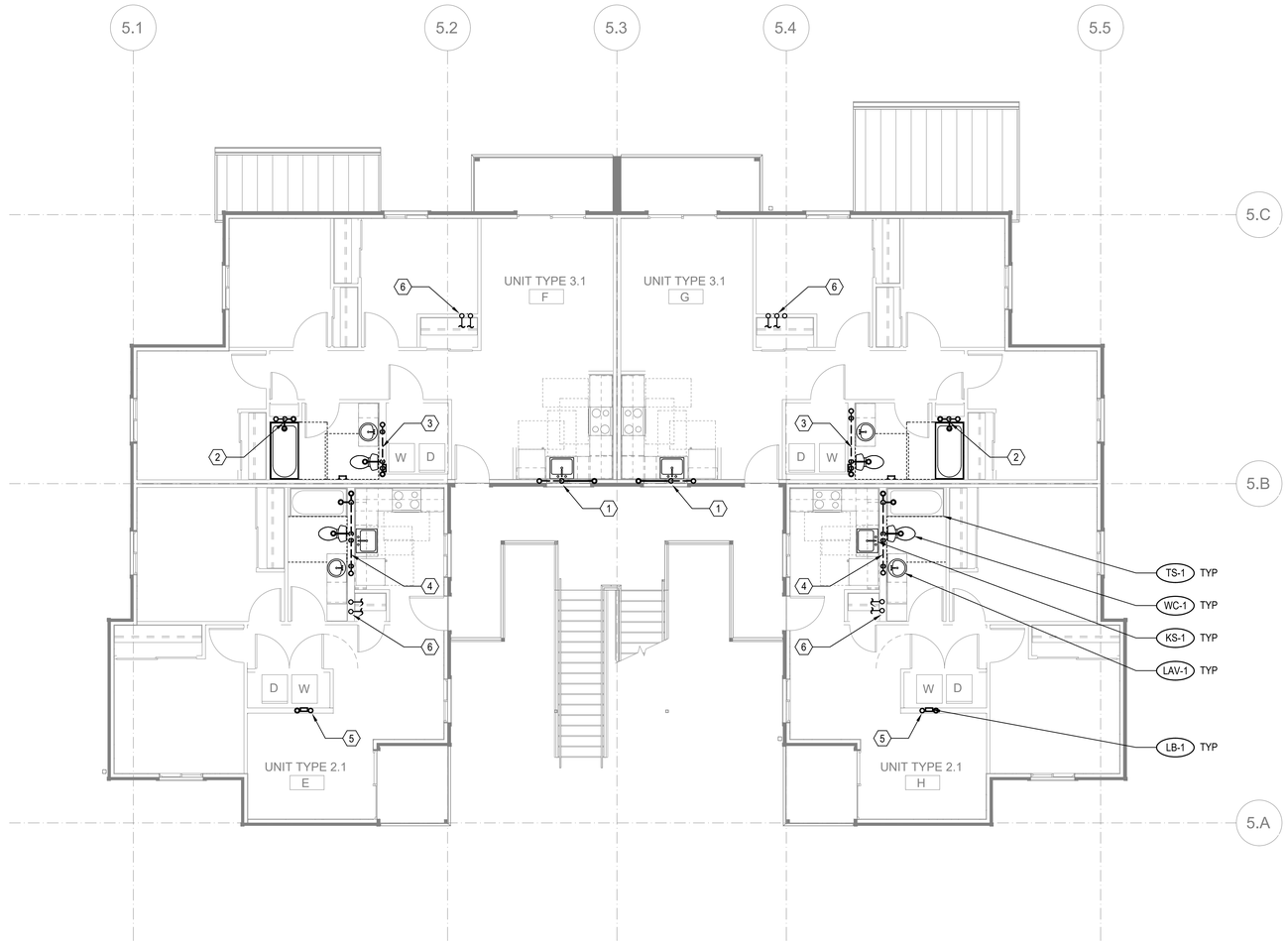
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P21-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 21 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

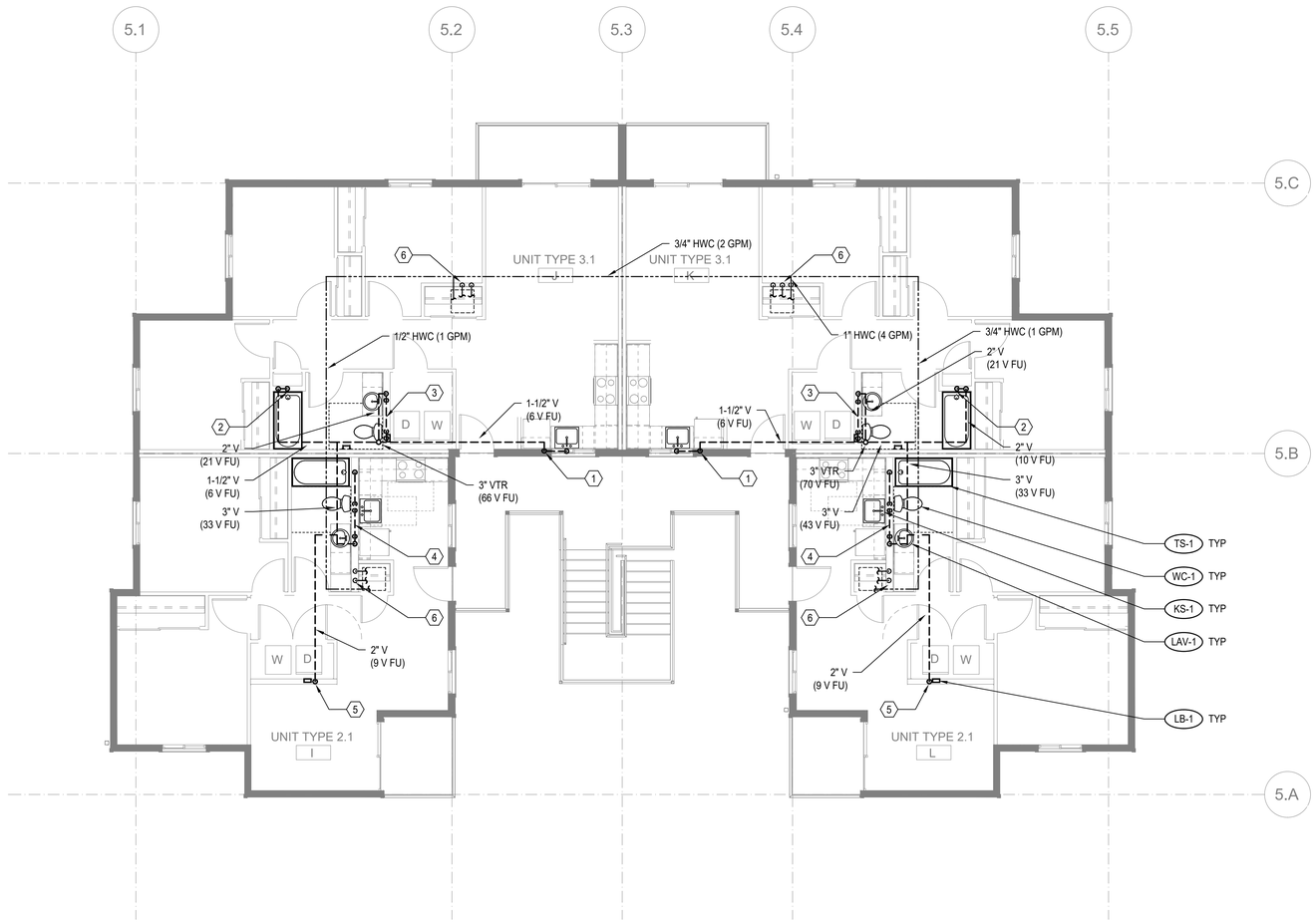
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P21-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 21 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

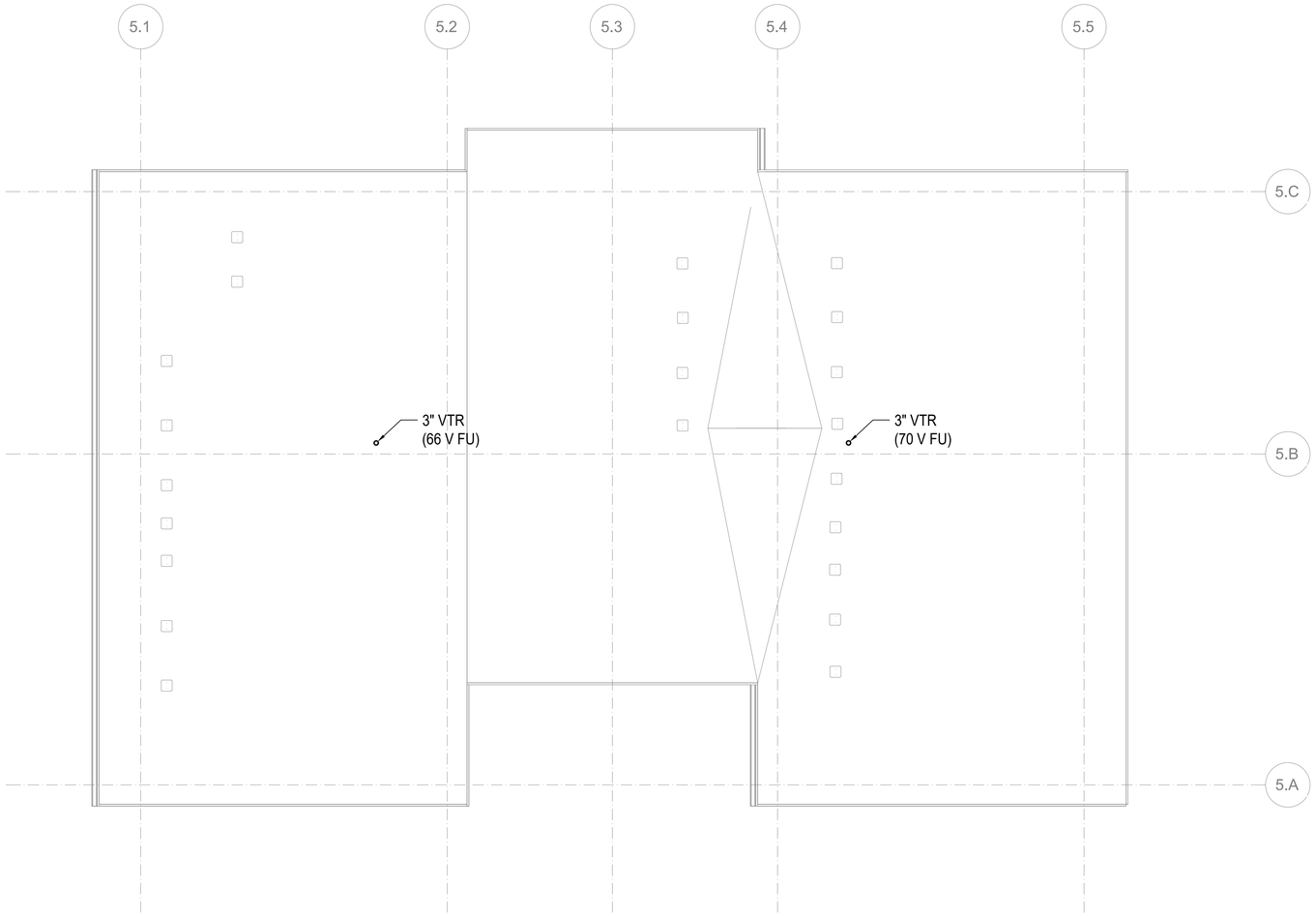
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P21-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 21 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P21-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2 WH-3	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	C.W.	H.W.	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
		PIPE SIZE						
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE					FIXTURE UNITS PER APPENDIX A		
		DOMESTIC WATER WSFU			SEWER DFU		
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	12	2.5	30	-	-	3	36
Lavatory (Public or Private)	12	1	12	0.75	9	1	12
Bathtub or Combo Bath/Shwr	12	4	48	3	36	2	24
Kitchen Sink	12	1.5	18	1.125	13.50	2	24
Clothes Washer	12	4	48	3	36	3	36
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**64**		**159.5**		**94.50**		**136**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU
TOTAL BUILDING DEMAND IS 58 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2".
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 136. BUILDING SERVICE SIZE = (1X) 4".

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

DANA LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P22-002

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

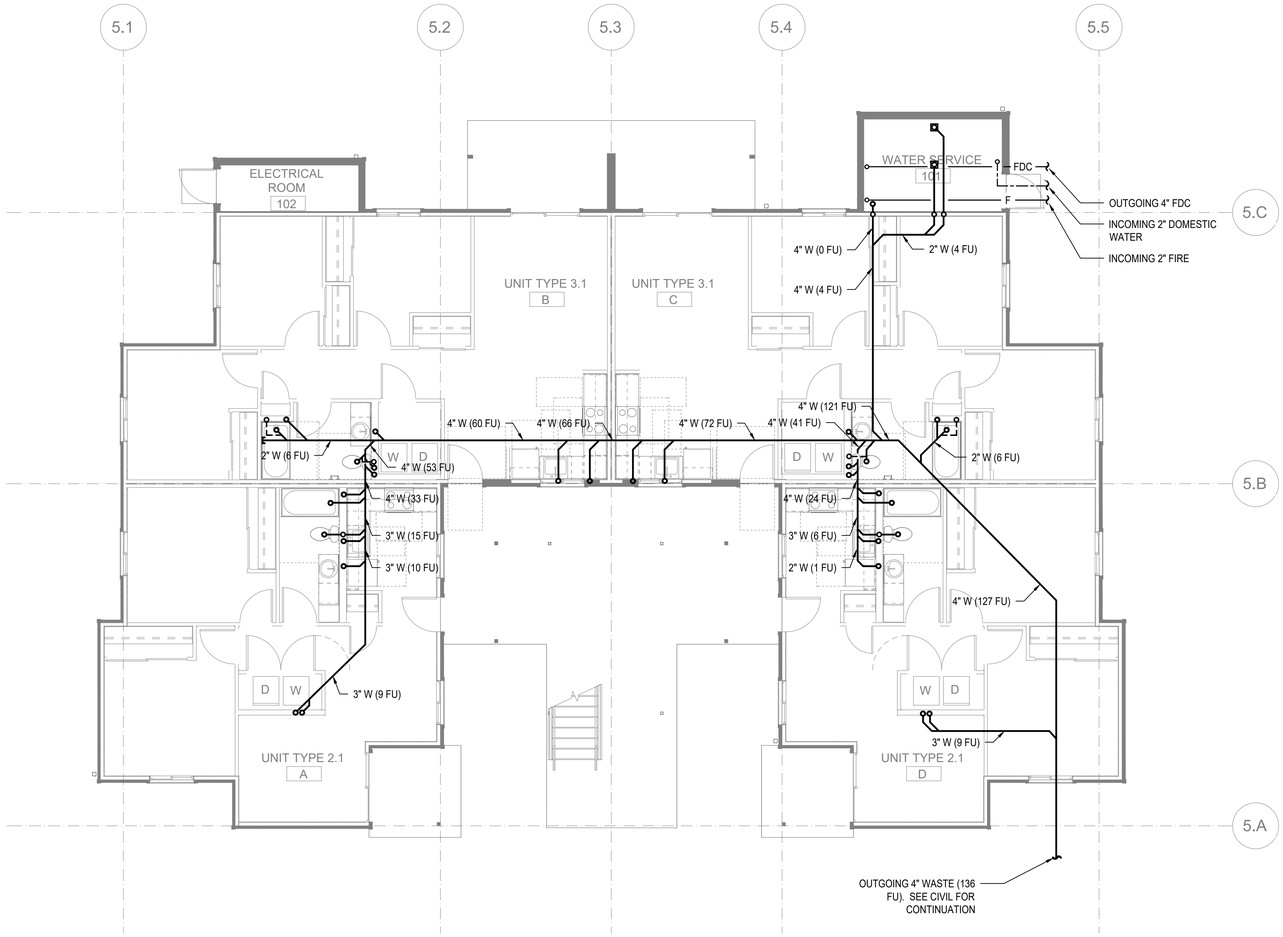
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P22-011



FLOOR PLAN - BUILDING 22 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

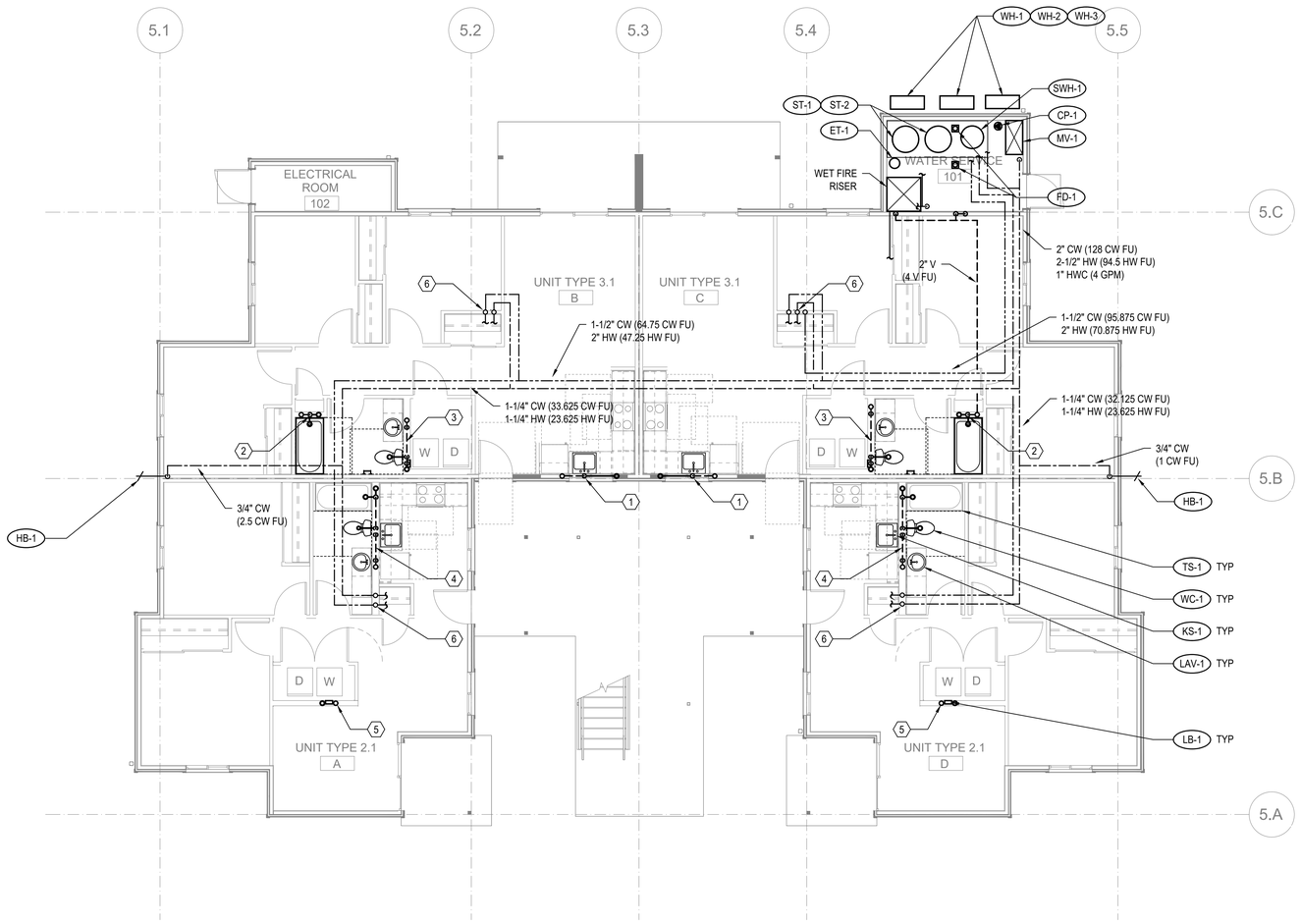
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P22-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 22 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

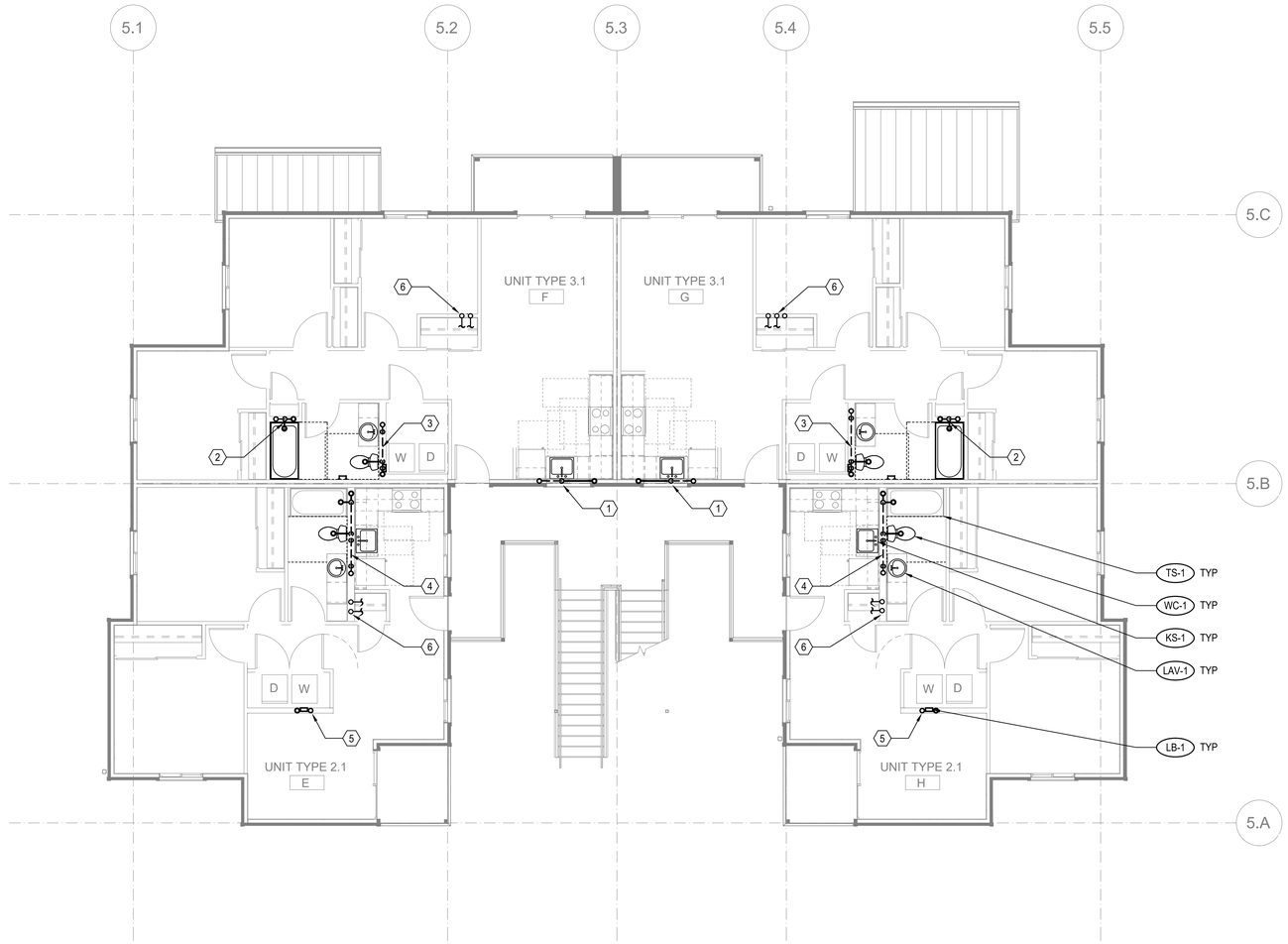
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P22-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 22 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

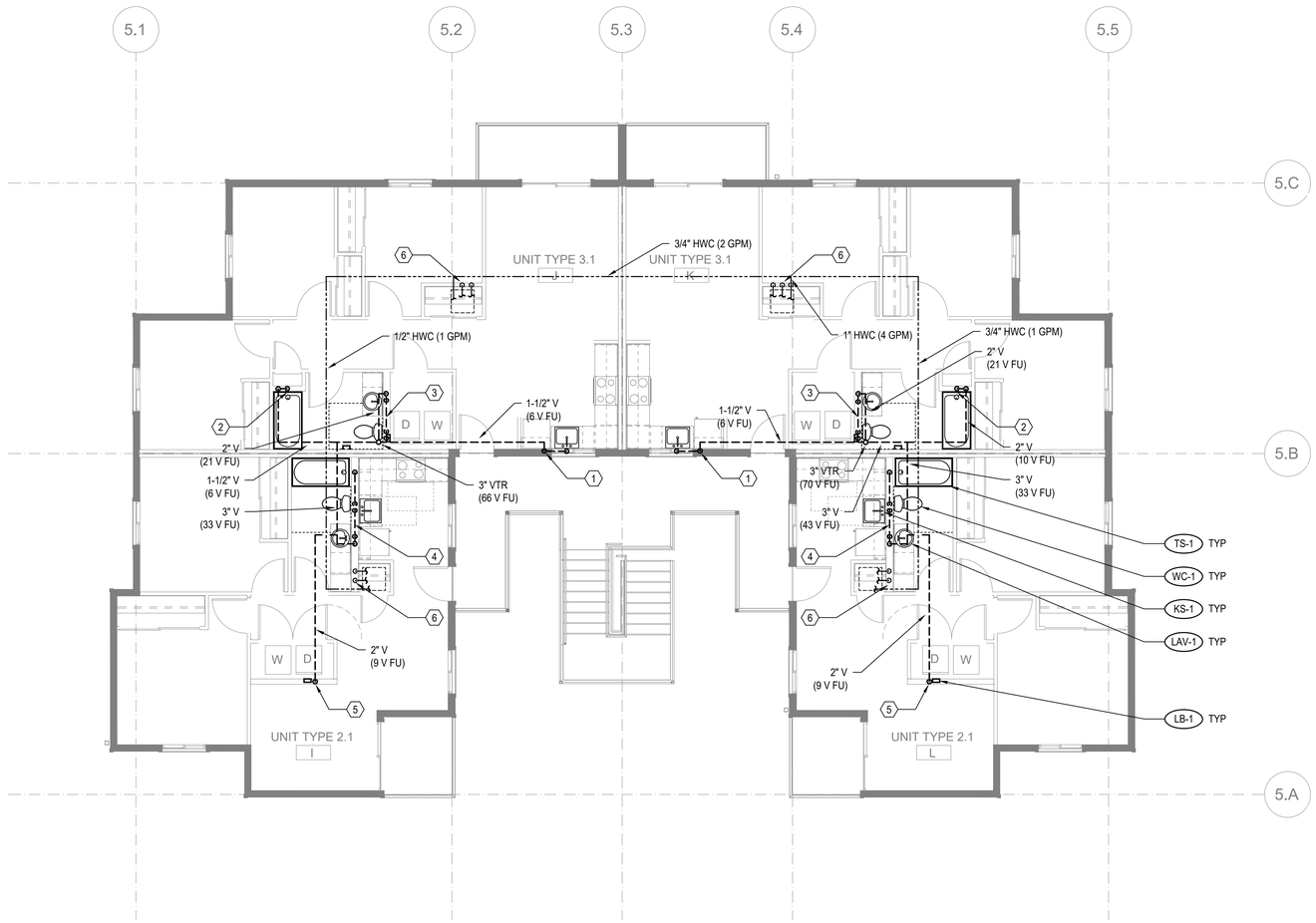
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P22-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 22 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

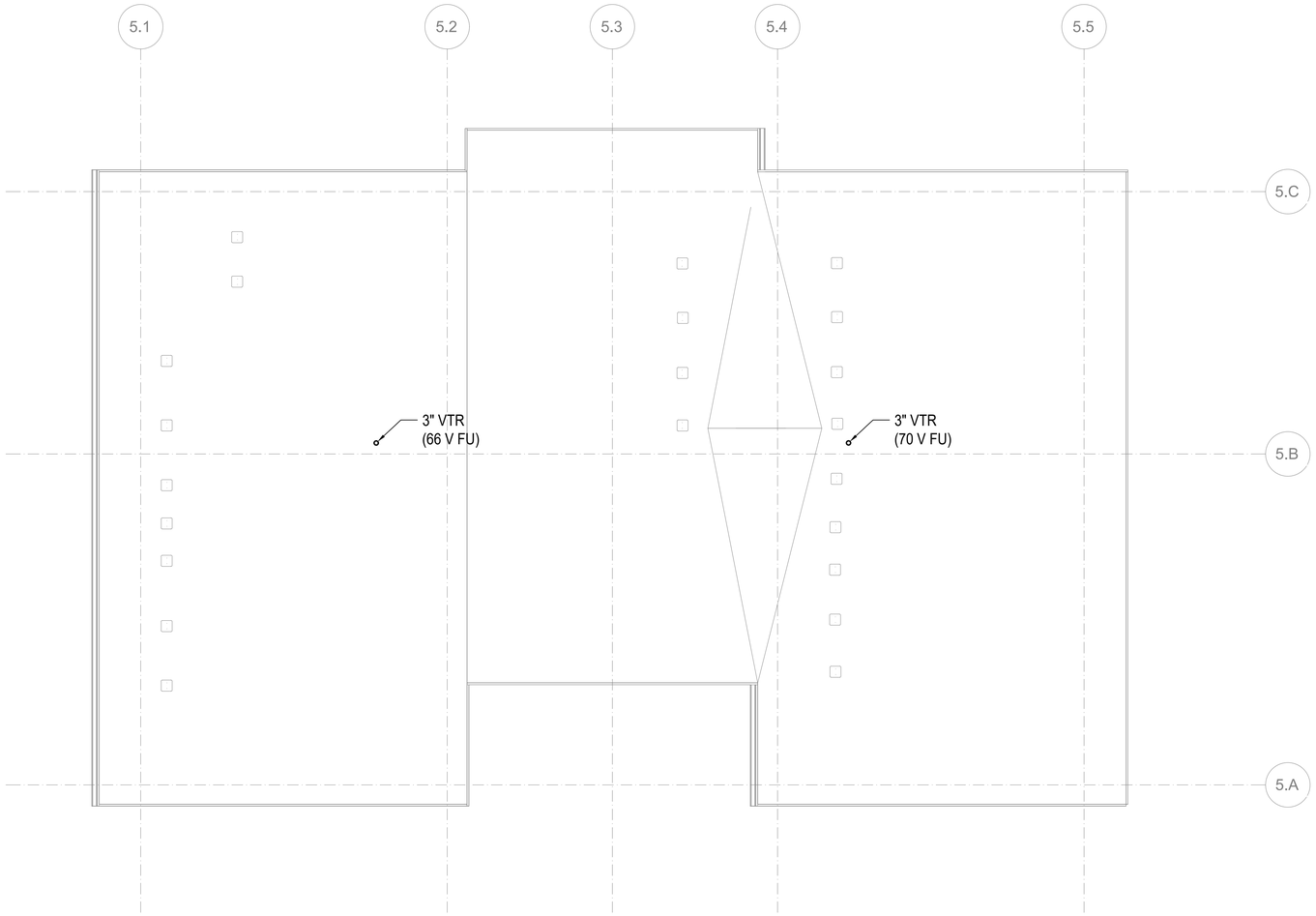
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P22-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 22 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P22-104

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN	ZURN: Z415BZ	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (COLD WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: LE280T3-3	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

***Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements**

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"		3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	4	4	16	3	12	2	8
Kitchen Sink	4	1.5	6	1.125	4.50	2	8
Clothes Washer	4	4	16	3	12	3	12
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**32**		**69.5**		**34.50**		**64**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 33 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 1.5".
BUILDING WATER METER SIZE = 1".
TOTAL BUILDING WASTE FIXTURE UNITS IS 64. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P23-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

DAN AMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

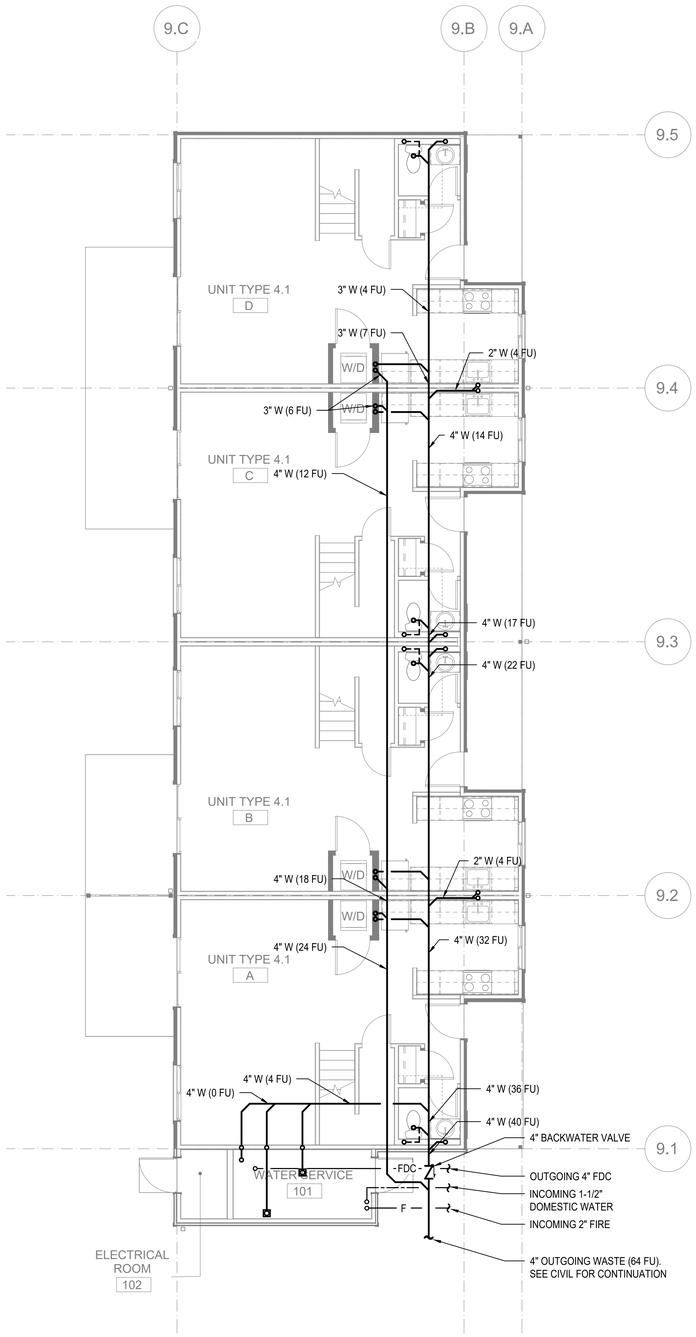
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P23-011



FLOOR PLAN - BUILDING 23 - FOUNDATION

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

DAVID AMBER KIMSON
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

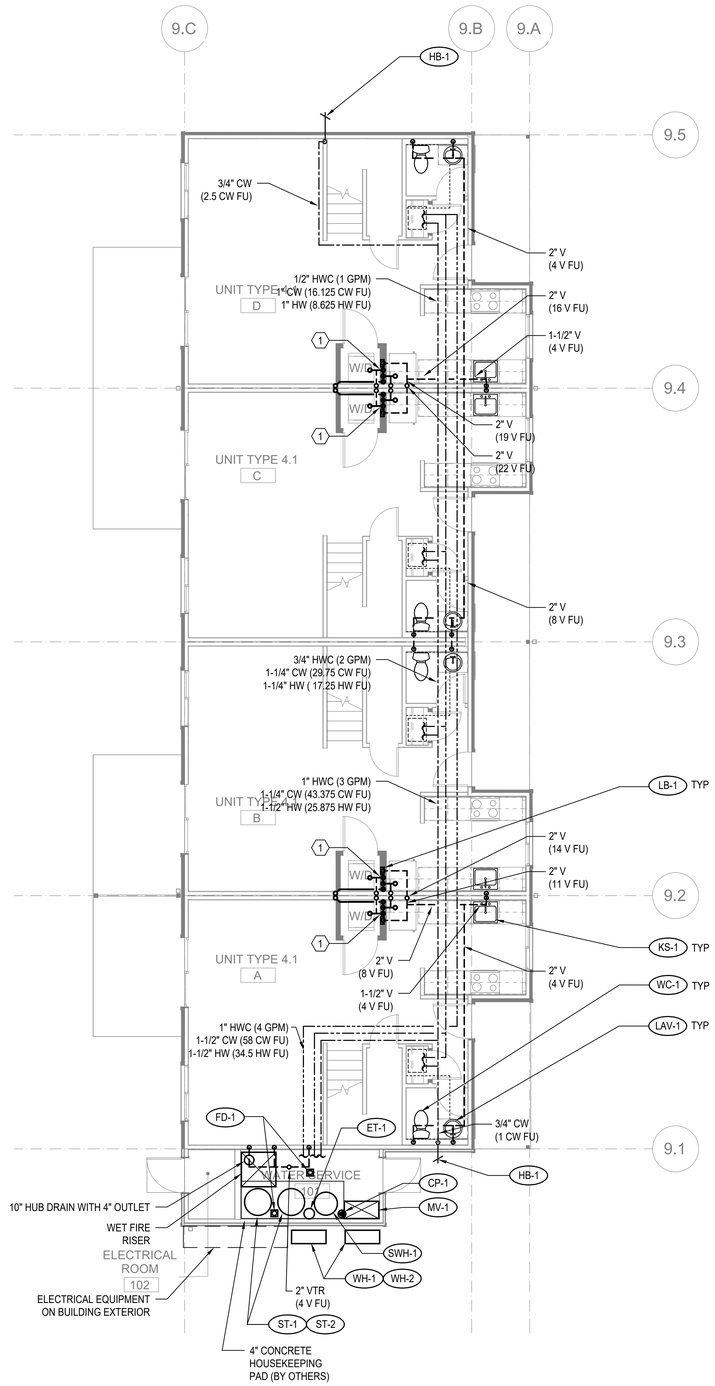
DPD STAMP

TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P23-100



FLOOR PLAN - BUILDING 23 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

(1) SEE WASTE RISER 1 ON SHEET P-202 FOR WASTE AND VENT PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

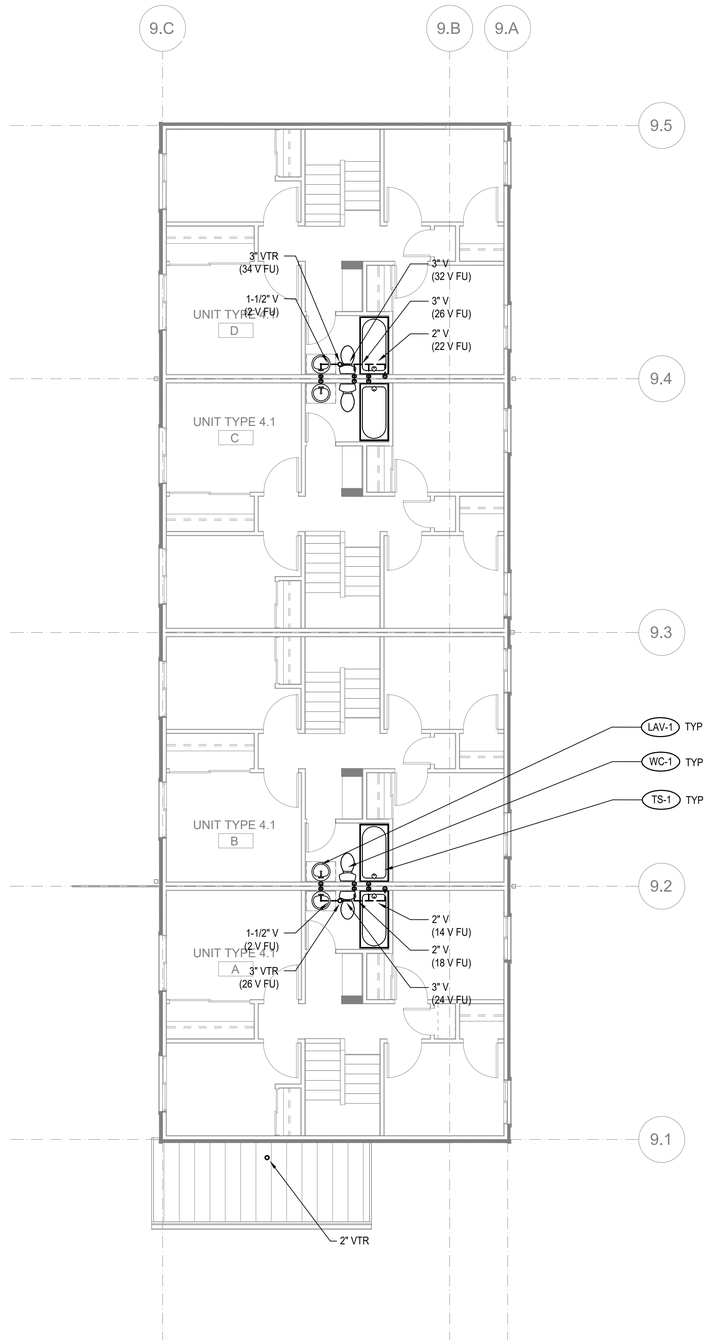
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P23-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 23 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

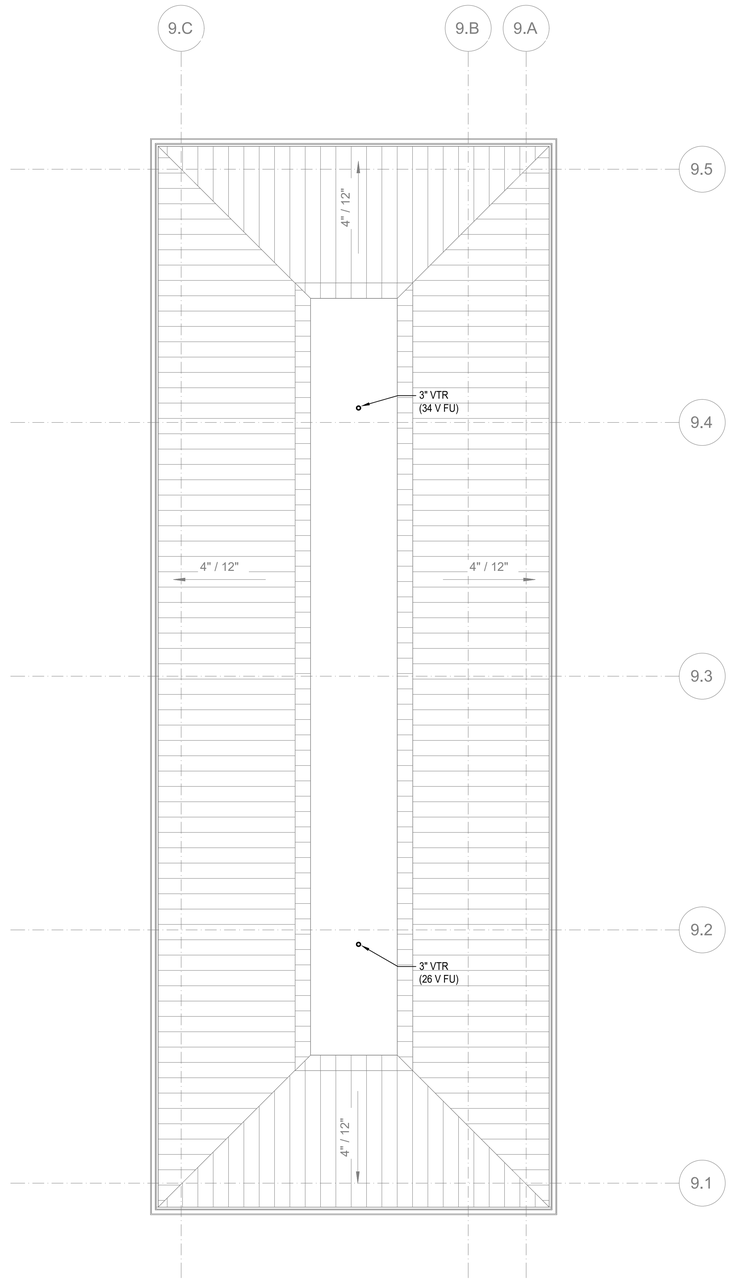
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P23-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 23 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P23-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN Z415BZ DISCONTINUED	ZURN: Z415BZ1	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	8	4	32	3	24	2	16
Kitchen Sink	8	1.5	12	1.125	9.00	2	16
Clothes Washer	8	4	32	3	24	3	24
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**44**		**107.5**		**63.00**		**92**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 44 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2"
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 92. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 24

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P24-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 24

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

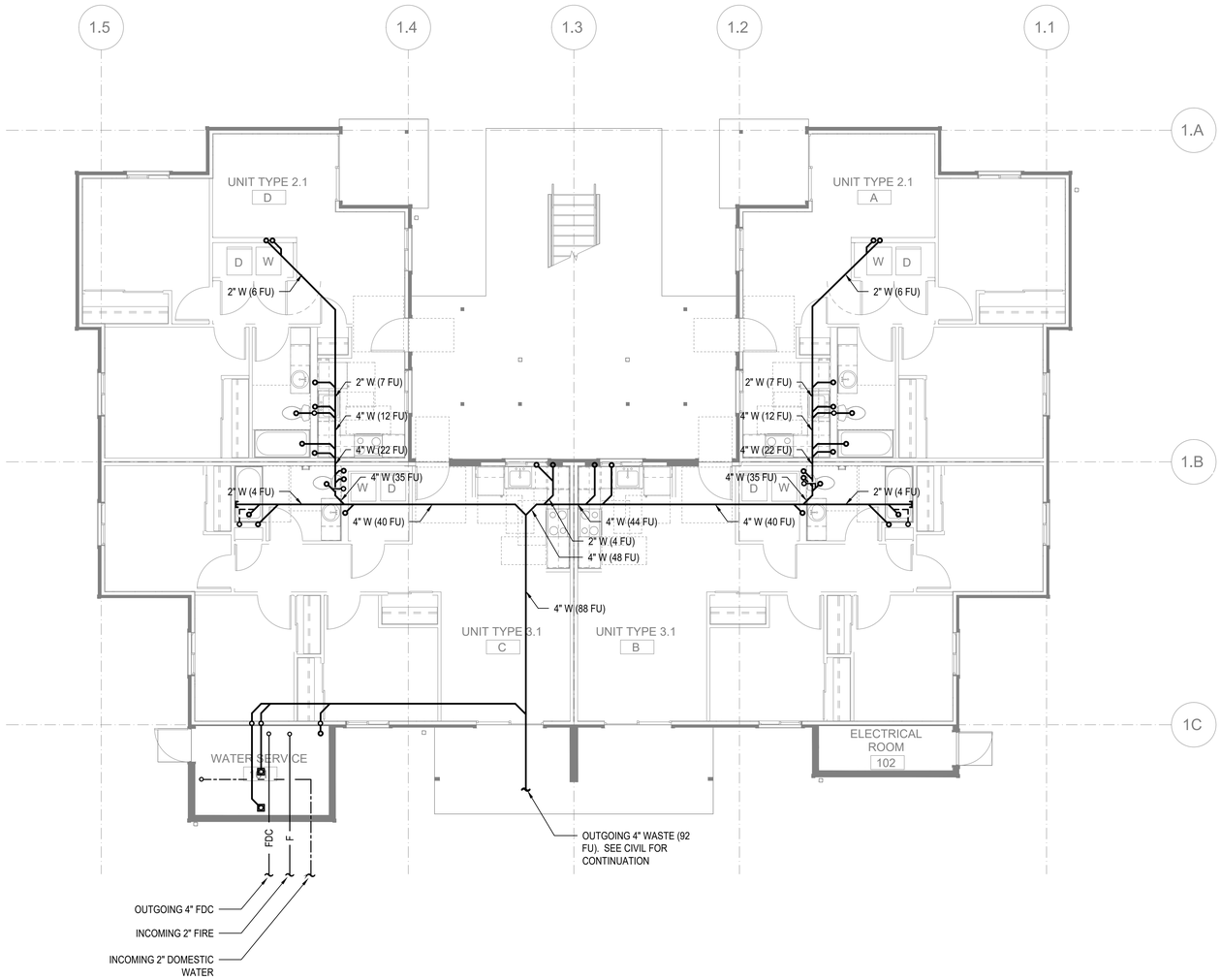
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P24-011



FLOOR PLAN - BUILDING 24 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 24

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

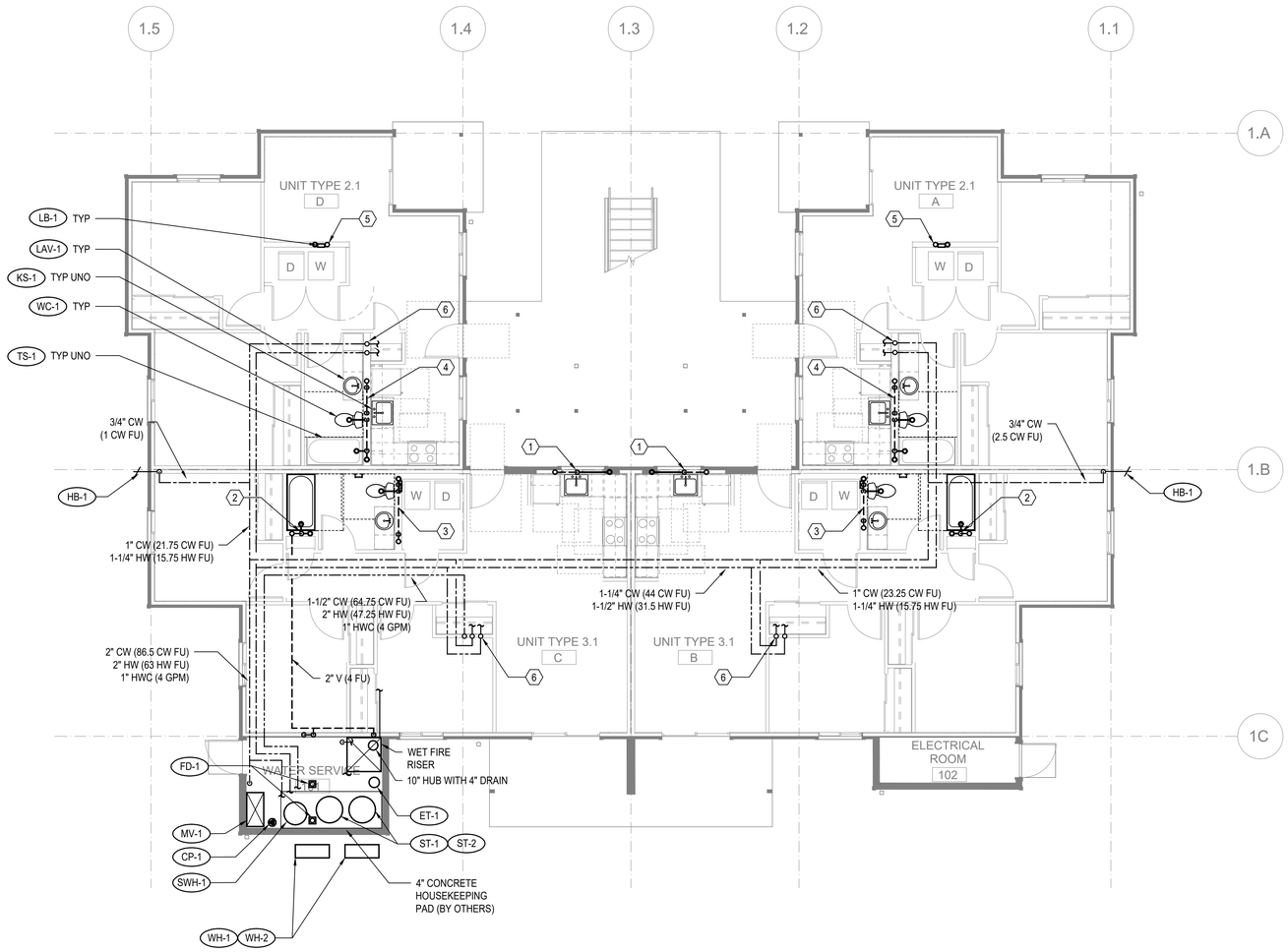
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P24-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 24 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 24

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

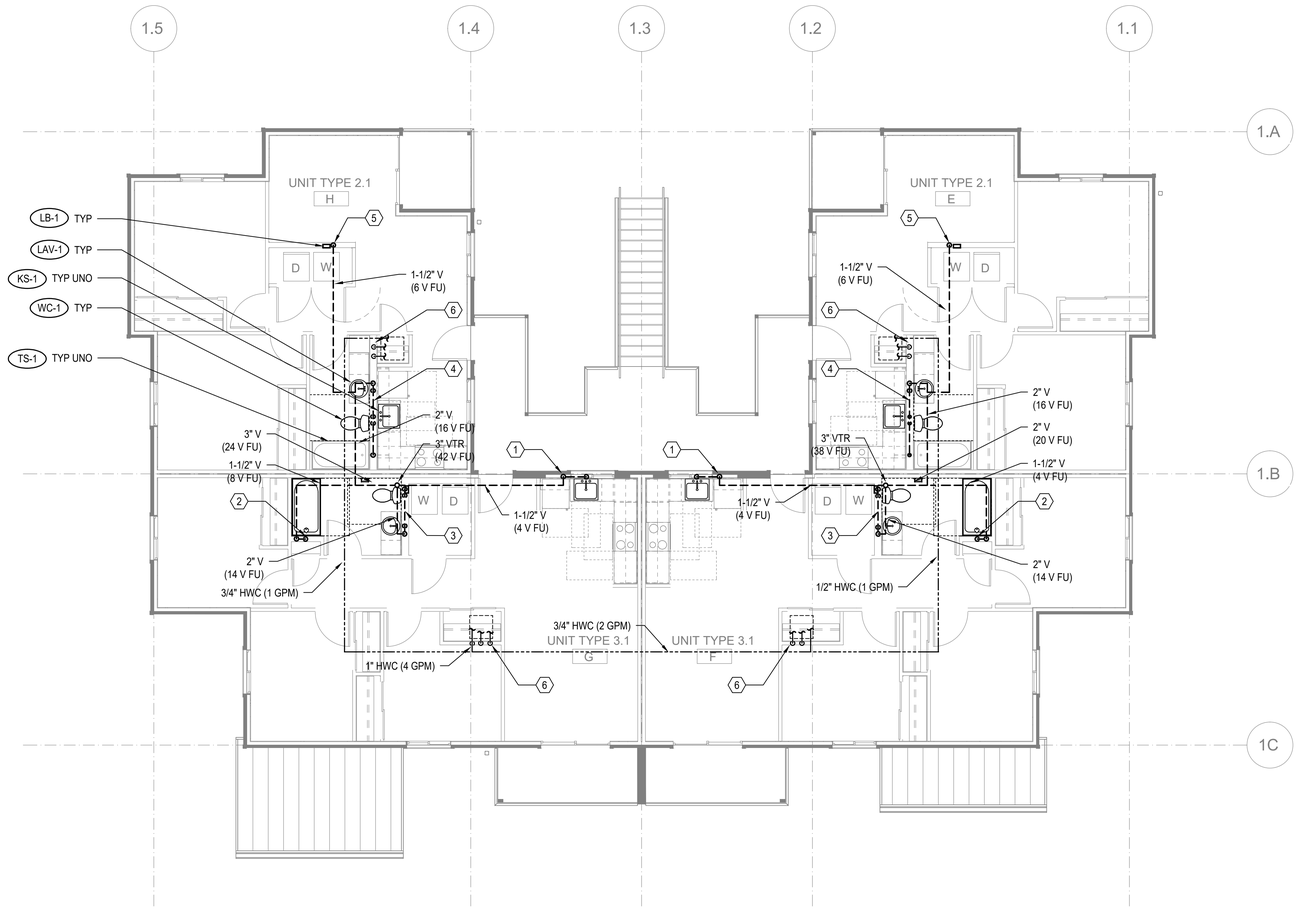
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P24-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 24 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 24

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

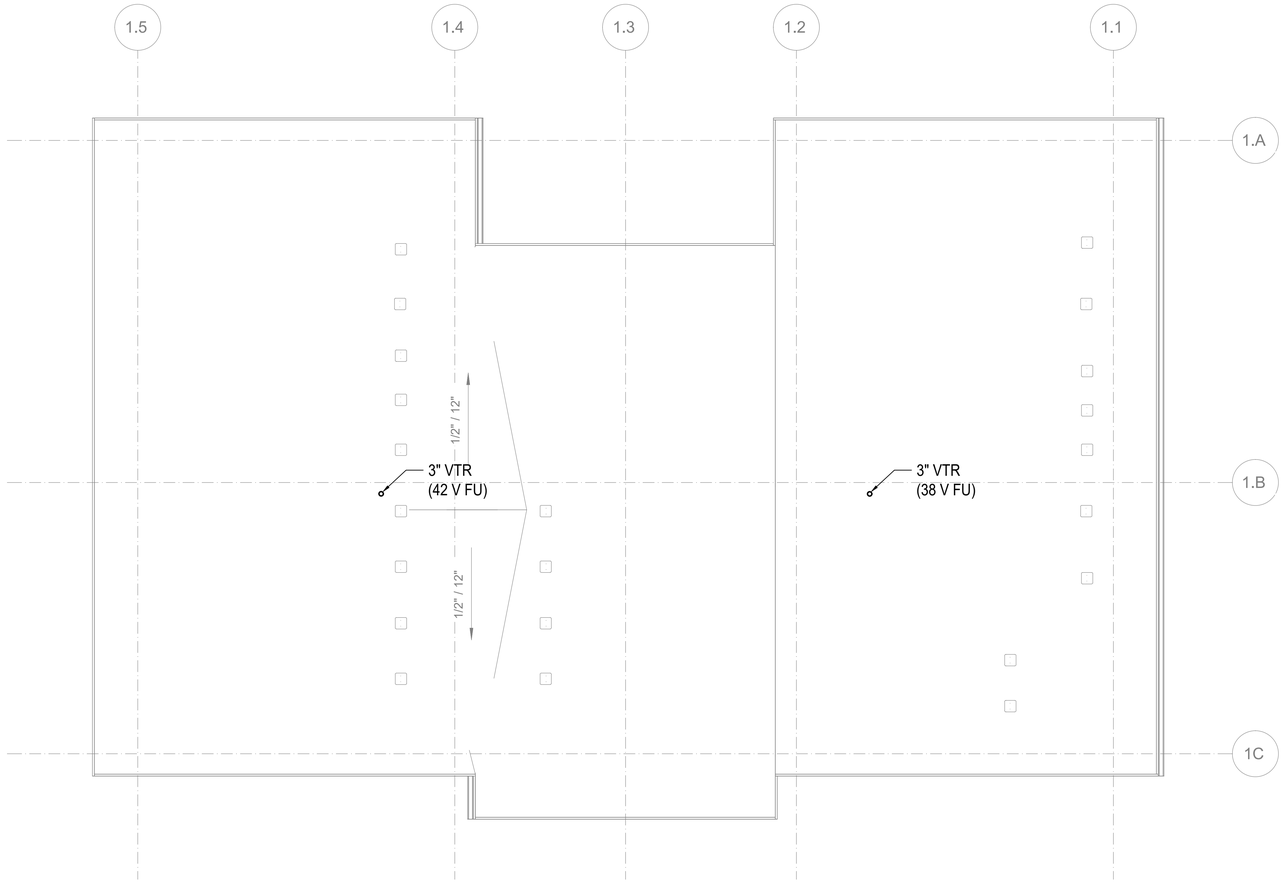
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P24-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 24 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 24

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P24-103

10/7/2021 7:33:34 AM

GENERAL CONTRACTOR NOTE:

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR PLUMBING SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	NIAGARA: N7717 + N7714TFH	FLOOR MOUNT, TANK TYPE, VIT. CHINA, ELONGATED BOWL, 0.8 GPF, 12" ROUGH-IN, 17" TALL BOWL, WATERSENSE, PROVIDE STAINLESS BRAIDED SUPPLY AND 1/4 TURN ANGLE STOP, INSTALL WITH LEVER ON OPEN SIDE OF BATHROOM, ADA.
	SEAT	BEMIS: 1200SLOWT	ELONGATED, CLOSED FRONT, W/ COVER.
LAV-1	LAVATORY (RESIDENTIAL)	KOHLER: K-2196-4	20-1/4" X 17-1/2", DROP IN, VITEROUS CHINA, 3 HOLES ON 4" CENTERS, WHITE, ADA.
	FAUCET	MOEN: L4621	SINGLE HANDLE, POP UP DRAIN ASSEMBLY, ADA, WATERSENSE, STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS. PROVIDE 1.0 GPM AERATOR (IN LIEU OF STANDARD 1.2 GPM)
	DRAIN		INSULATE DRAIN AND WATER SUPPLIES.
TS-1	TUB/SHOWER	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	TUB / SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, POSI-TEMP BALANCING VALVE, WATERSENSE. PROVIDE 1.5 GPM SHOWER HEAD.
	DRAIN		GRID TYPE DRAIN.
TS-2	SHOWER (ADA)	AMERICAN STANDARD: NEW SALEM RECESSED	60"X30"X14-1/4", ENAMELED STEEL, ADA. **VERIFY RIGHT OR LEFT HAND OUTLET.**
	SHOWER VALVE	MOEN: L2353EP	PRESSURE-BALANCING MIXING VALVE TRIM, LESS SHOWER HEAD. PROVIDE SYMMONS MODEL T736 36" GRAB BAR WITH 1.5 GPM HAND SHOWER.
	DRAIN		GRID TYPE DRAIN.
KS-1	KITCHEN SINK	ELKAY: DLR252210	25" X 22" X 10-3/8", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
KS-2	KITCHEN SINK (ADA)	ELKAY: LRAD252265	25" X 22" X 6-1/2", SINGLE COMPARTMENT, STAINLESS, 18 GAUGE, 3 HOLES, ADA.
	FAUCET	MOEN: 67425	SWING SPOUT, 4" CENTERS, 1.5 GPM, ADA, COPPER SUPPLY CONNECTIONS. PROVIDE BRAIDED STAINLESS STEEL SUPPLY LINES FROM FIXTURE STOPS.
	DRAIN		BASKET STRAINER. INSULATED DRAIN AND WATER PIPING PER ADA.
	OVERFLOW	FISHER: 11223	OVERFLOW ELBOW KIT, PROVIDE PIPING TO SINK DRAIN PIPE.

NOTE: CONTRACTOR SHALL VERIFY CABINET DIMENSIONS BEFORE ORDERING SINK.

MARK	ITEM	MFR: MODEL	DESCRIPTION
HB-1	HOSE BIBB (FREEZE-PROOF)	PRIER: P-264	WALL MOUNT, 3/4" HOSE THD., NON FREEZE, LOOSE KEY QUARTER TURN CONTROL.
FD-1	FLOOR DRAIN Z415BZ DISCONTINUED	ZURN: Z415BZ1	2" C.I. BODY, 5" DIAMETER NICKEL BRONZE STRAINER, PROVIDE TRAP PRIMER OR TRAP SEAL DEVICE (ONLY IF ALLOWED BY AHJ) **REFER TO FLOOR DRAIN DETAIL FOR DRAIN CONST. &/OR COVERING.**
LB-1	LAUNDRY BOX	OATEY: FIRE RATED	FIRE RATED WASHING MACHINE OUTLET BOX, 1/2" HW & 1/2" CW, 2" DRAIN, WATER HAMMER ARRESTORS.
ET-1	DOMESTIC EXPANSION TANK	AMTROL: ST-35-CL	10" DIAMETER X 37" HIGH, FAB, STEEL, MAX 150 PSI, 1" NPT CONNECTION SIZE.
CP-1	HW CIRCULATION PUMP	ARMSTRONG: ASTRO 230SS	4 GPM @ 12' HEAD, 0.13 HP, 115 V/1PH, STAINLESS STEEL CONSTRUCTION, LEAD FREE.
HWM	HOT WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
CWM	COLD WATER METER	NORGAS SINGLEMAG (HOT WATER)	3/4". LEAD FREE, APPROVED FOR DOMESTIC WATER USE, NSF 61.
WH-1 WH-2	HEAT PUMP WATER HEATER	SANCO2: GS4-45HPC-D	15.4 MBH HEAT PUMP WATER HEATERS, 15A BREAKER SIZE, UEF 3.40, COP 2.4 @ 47 DEG F. 7.2 MCA, 208/230V, 1 PHASE.
SWH-1	ELECTRIC SWING TANK	BRADFORD WHITE: M-2-80R6DS	80 GALLON, 4.5 KW, NON-SIMULTANEOUS ELEMENTS, 240V, 1 PHASE. 1000 LB WET.
ST-1 ST-2	DOMESTIC STORAGE TANK	SANCO2: SAN-119GLBK	119 GALLON STORAGE TANK. 1500 LB WET.
MV-1	MIXING VALVE	HEAT TIMER: ETV PLATINUM PLUS	1-1/4" ELECTRONIC MIXING VALVE COMPLETE ASSEMBLY INCLUDING IMMERSION SENSORS, STAINLESS VALVE, ACTUATOR AND CONTROL MODULE (120V/1 PHASE). MOUNT CONTROL MODULE ON WALL AND PROVIDE SYSTEM WITH HOT, COLD, AND MIXED WATER SENSORS.

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W.	PIPE SIZE H.W.	PIPE SIZE WASTE	PIPE SIZE VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
WC-1	WATER CLOSET	3/4"	-	3"	2"	2.5	3	TANK TYPE, ADA
LAV-1	LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1	1	ADA
TS-1	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	
TS-2	BATHTUB	1/2"	1/2"	2"	1-1/2"	4	2	ADA
KS-1	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	1.5	2	ADA
HB-1	HOSE BIBB	3/4"	-	-	-	2.5	-	FREEZE PROOF
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
LB-1	LAUNDRY BOX	1/2"	1/2"	2"	1-1/2"	3	3	

ESDS V4.0 CREDITS

CRITERION #	CRITERION
4.01B	ADVANCED WATER-CONSERVING FIXTURES
4.04B	WATER METERING - NEW CONSTRUCTION
4.06	EFFICIENT PLUBING LAYOUT & DESIGN

PLUMBING CALCULATIONS

2018 UPC PLUMBING CODE		FIXTURE UNITS PER APPENDIX A					
		DOMESTIC WATER WSFU				SEWER DFU	
FIXTURE	QTY	PER FIXTURE	TOTAL	HW PER FIXTURE	TOTAL	PER FIXTURE	TOTAL
Private Tank Water Closet	8	2.5	20	-	-	3	24
Lavatory (Public or Private)	8	1	8	0.75	6	1	8
Bathtub or Combo Bath/Shwr	8	4	32	3	24	2	16
Kitchen Sink	8	1.5	12	1.125	9.00	2	16
Clothes Washer	8	4	32	3	24	3	24
Hose-bibb*	2	2.5	3.5	-	-	-	-
Floor Drain	2	-	-	-	-	2	4
TOTALS	**44**		**107.5**		**63.00**		**92**

*EACH ADDITIONAL HOSE BIBB AFTER FIRST IS 1.0 WSFU.
TOTAL BUILDING DEMAND IS 44 GPM PER APPENDIX A OF 2018 UPC. BUILDING WATER SERVICE SIZE = 2"
BUILDING WATER METER SIZE = 1-1/2".
TOTAL BUILDING WASTE FIXTURE UNITS IS 92. BUILDING SERVICE SIZE = (1X) 4".

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 25

BID SET

DANA LAMBER BERGSTROM, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P25-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 25

BID SET

DAN LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

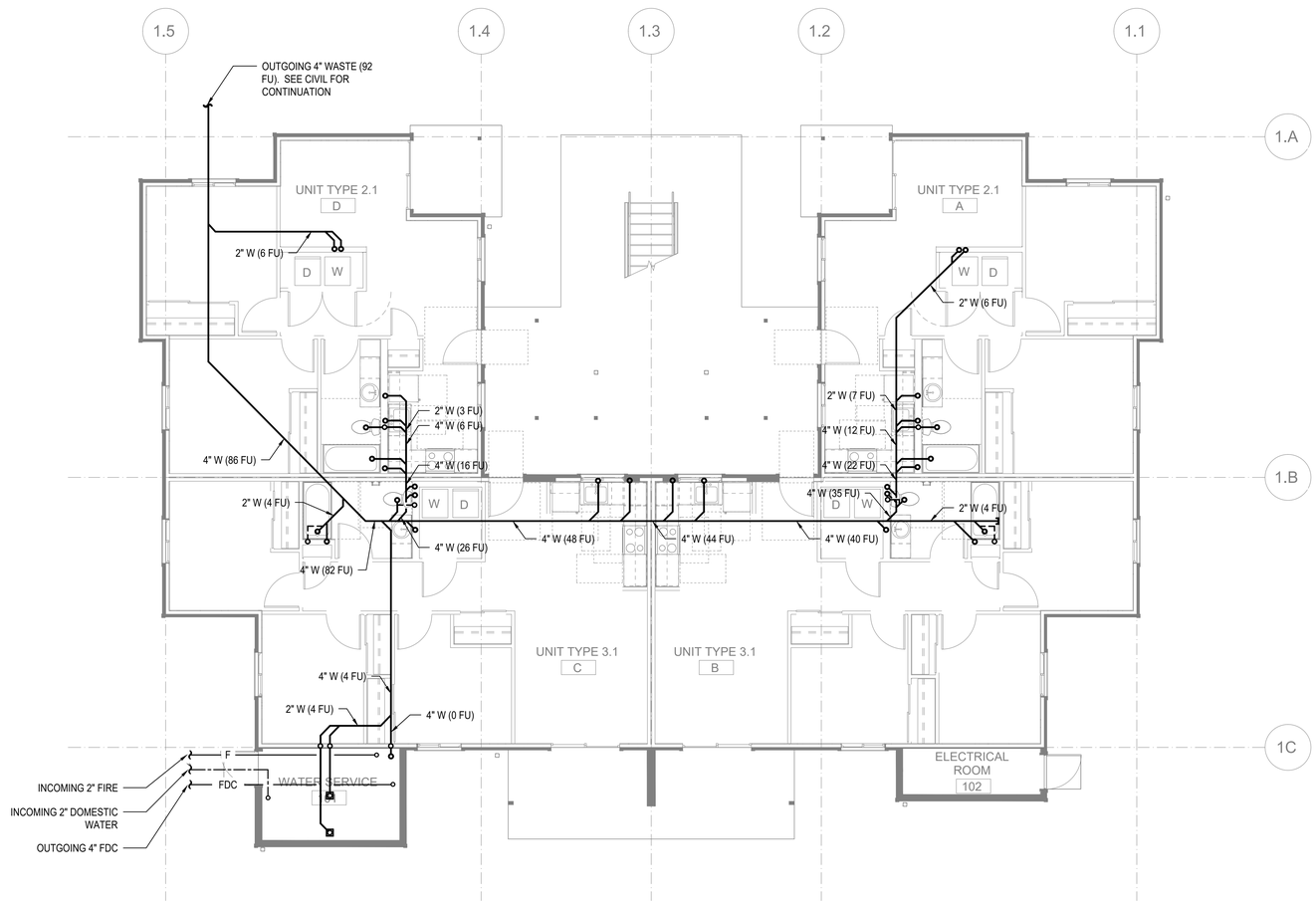
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P25-011



FLOOR PLAN - BUILDING 25 - FOUNDATION

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 25

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

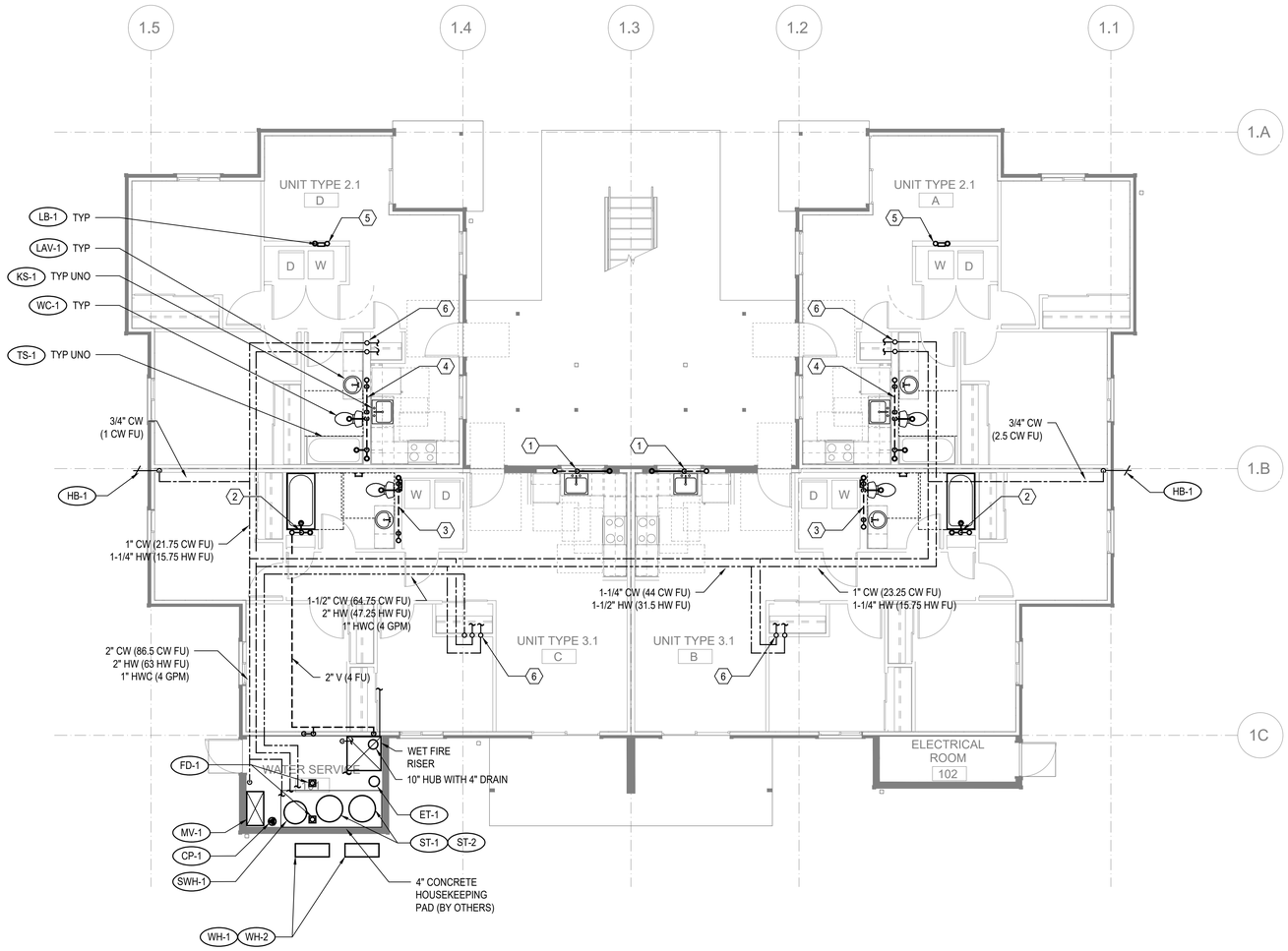
TITLE

PLAN - FOUNDATION

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P25-100

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 25 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 25

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

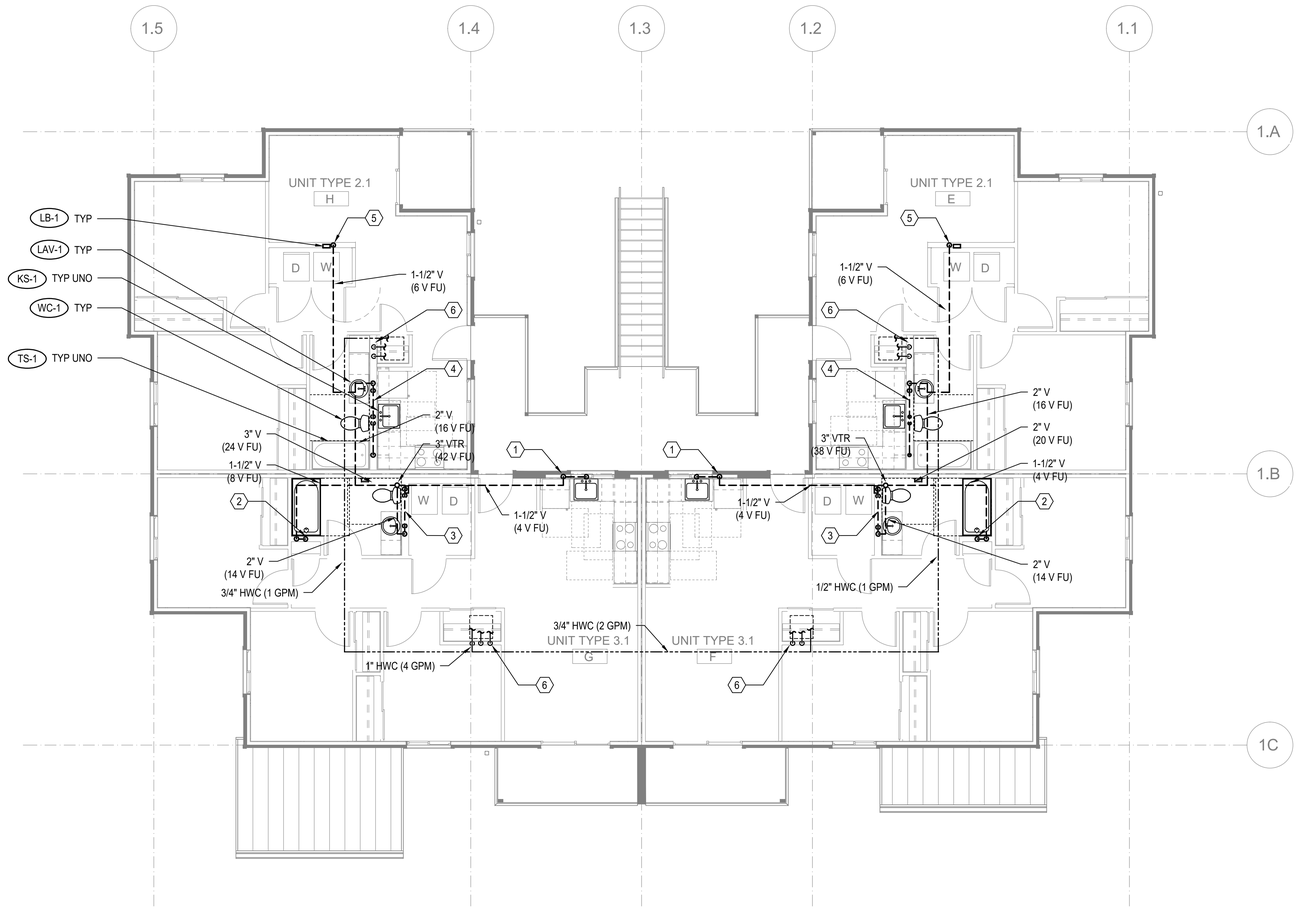
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P25-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 25 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. SEE WASTE RISER 1 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
2. SEE WASTE RISER 2 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
3. SEE WASTE RISER 3 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
4. SEE WASTE RISER 4 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
5. SEE WASTE RISER 5 ON SHEET P202 FOR WASTE AND VENT PIPE SIZING.
6. SEE WATER RISER 7 ON SHEET P202 FOR CW AND HW PIPE SIZING.

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 25

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

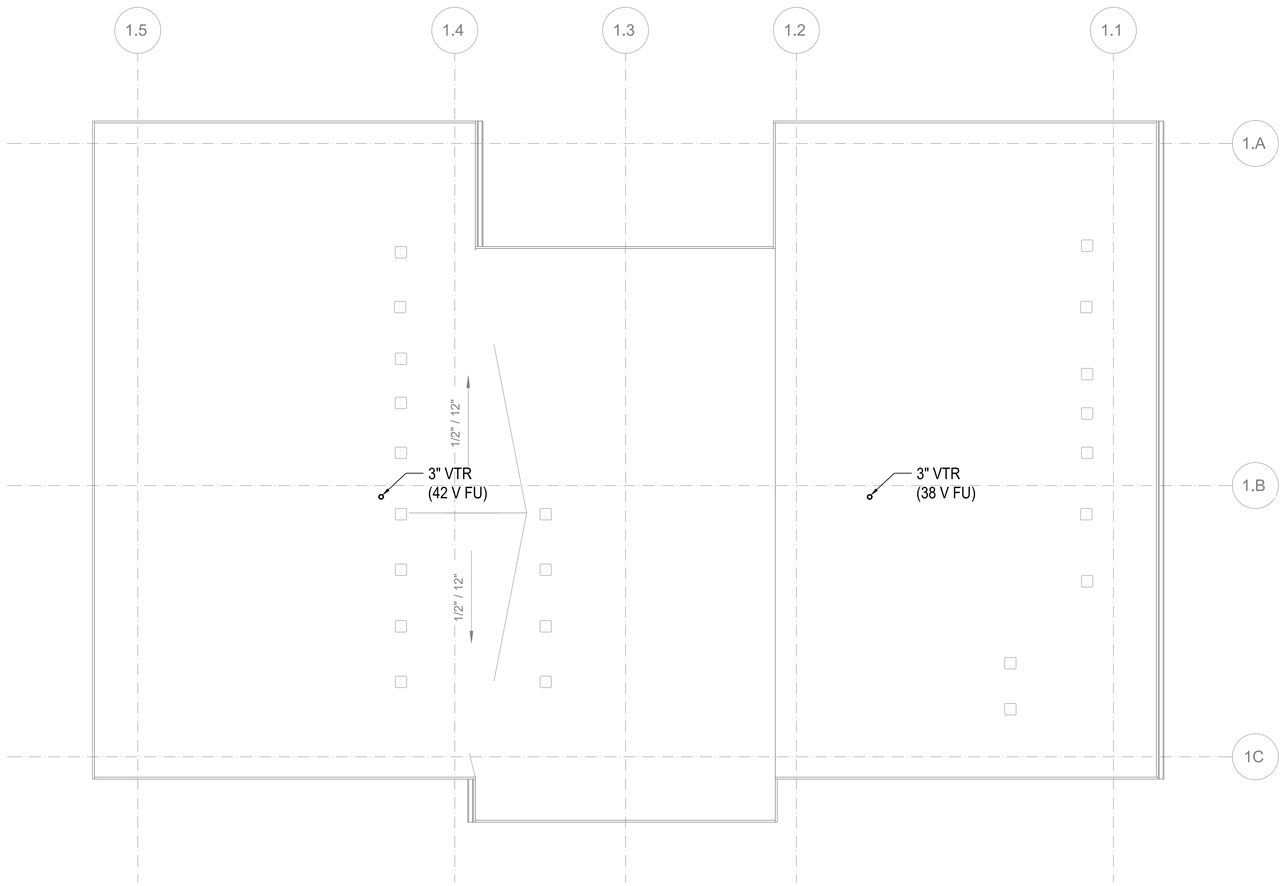
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P25-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 25 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. -

GENERAL NOTES:

1. -

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 25

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

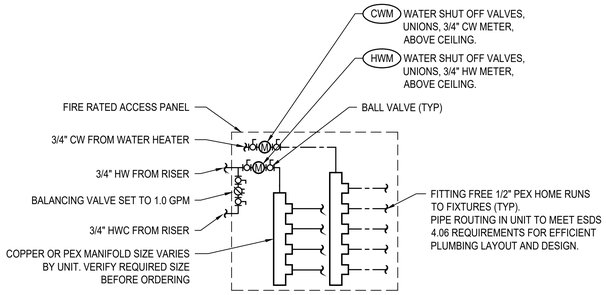
P25-103

10/7/2021 7:33:34 AM

GENERAL NOTES:

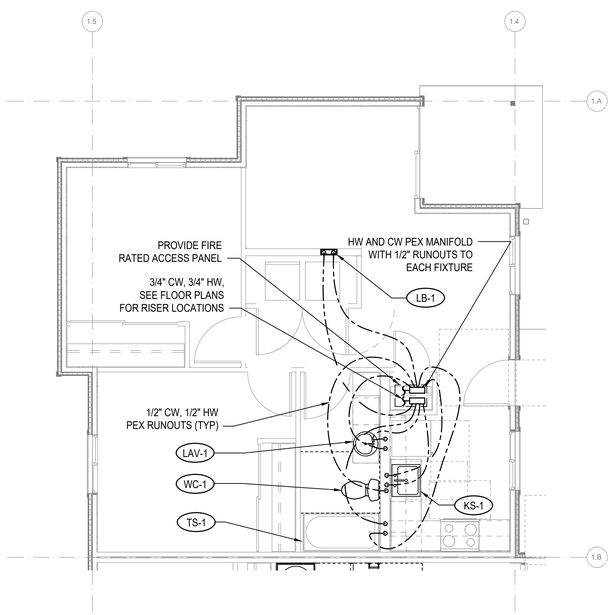
1. PLUMBING ROUTING AND LAYOUT TO BE IN ACCORDANCE WITH ESDS V4.0 SECTION 4.06 EFFICIENT PLUMBING LAYOUT AND DESIGN.

FLAG NOTES (X):



1 / P201 RESIDENTIAL PEX PIPING DETAIL

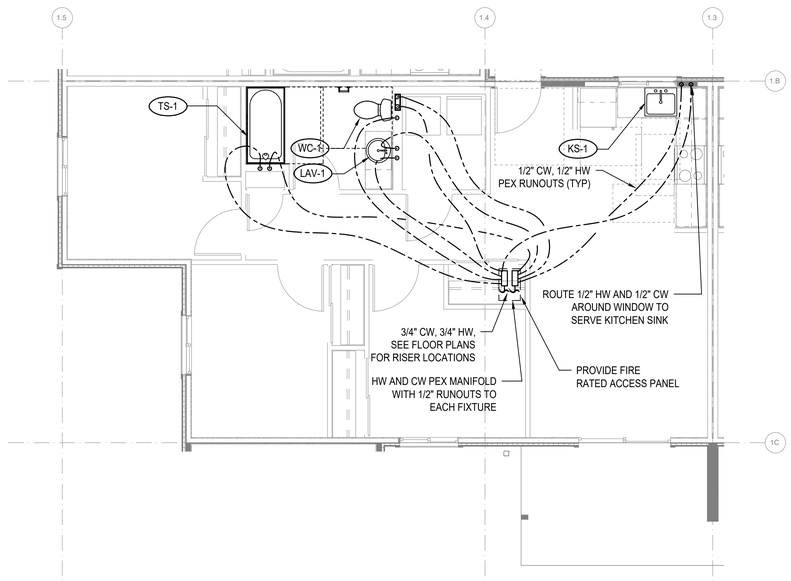
N.T.S.



2 / P201 ENLARGED PLAN - 2-BED

1/4"=1'-0"

UNITS: A, D, E, H



3 / P201 ENLARGED PLAN - 3-BED

1/4"=1'-0"

UNITS: B, C, F, G

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

DANA LAMBER KOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

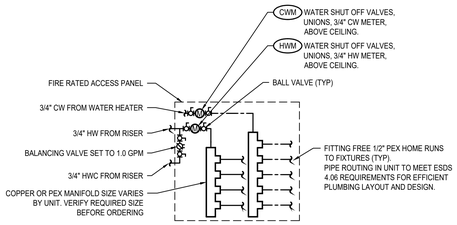
TITLE

ENLARGED UNIT PLANS

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P1-201

10/7/2021 7:33:34 AM

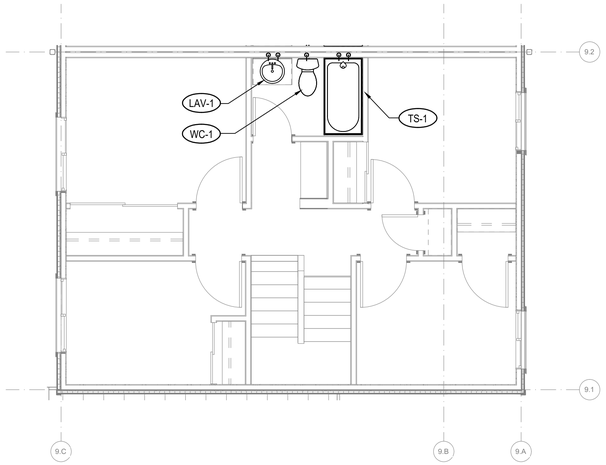


1 P201 **RESIDENTIAL PEX PIPING DETAIL**
N.T.S.

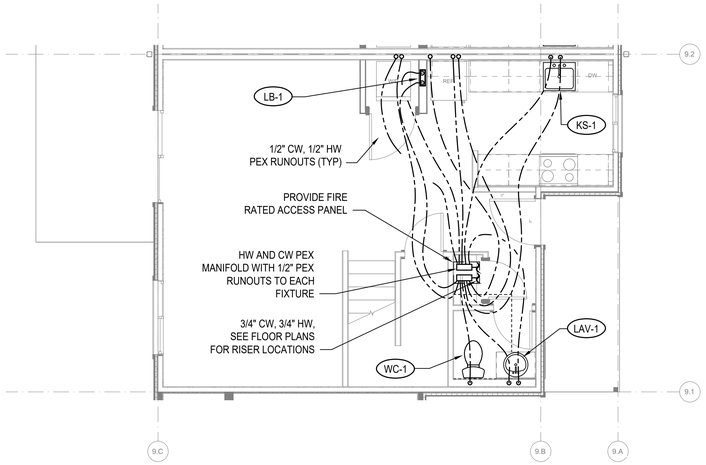
GENERAL NOTES:

1. PLUMBING ROUTING AND LAYOUT TO BE IN ACCORDANCE WITH ESDS V4.0 SECTION 4.06 EFFICIENT PLUMBING LAYOUT AND DESIGN.

FLAG NOTES (X):



2 P201 **ENLARGED PLAN - TH - LEVEL 2**
1/4"=1'-0"



1 P201 **ENLARGED PLAN - TH - LEVEL 1**
1/4"=1'-0"

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

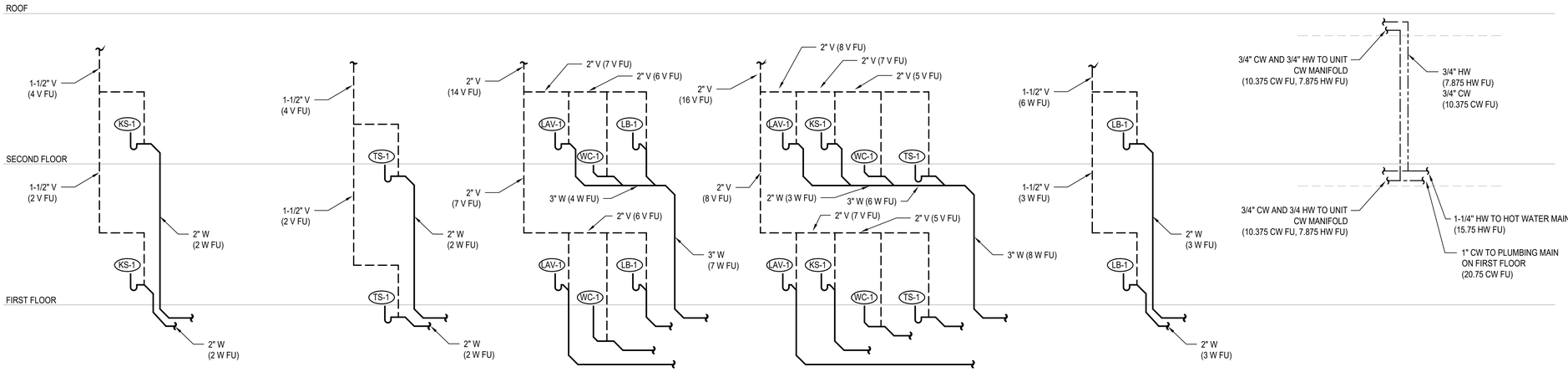
P9-201

10/7/2021 7:33:34 AM

NOTES:

1. FIXTURE LABELS MAY DIFFER FOR RISERS SERVING ADA UNITS. SEE FLOOR PLANS FOR CORRECT FIXTURE LABELS.

2. SEE FIXTURE CONNECTION SCHEDULE ON SHEET P002 FOR WASTE AND VENT CONNECTION SIZES TO INDIVIDUAL FIXTURES



1 P202 WASTE RISER - KITCHEN SINK
N.T.S.

2 P202 WASTE RISER - TUB/SHOWER
N.T.S.

3 P202 WASTE RISER - LB, LAV, WC
N.T.S.

4 P202 WASTE RISER - LAV, KS, WC, TS
N.T.S.

5 P202 WASTE RISER - LAUNDRY BOX
N.T.S.

6 P202 WATER RISER
N.T.S.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

RISERS

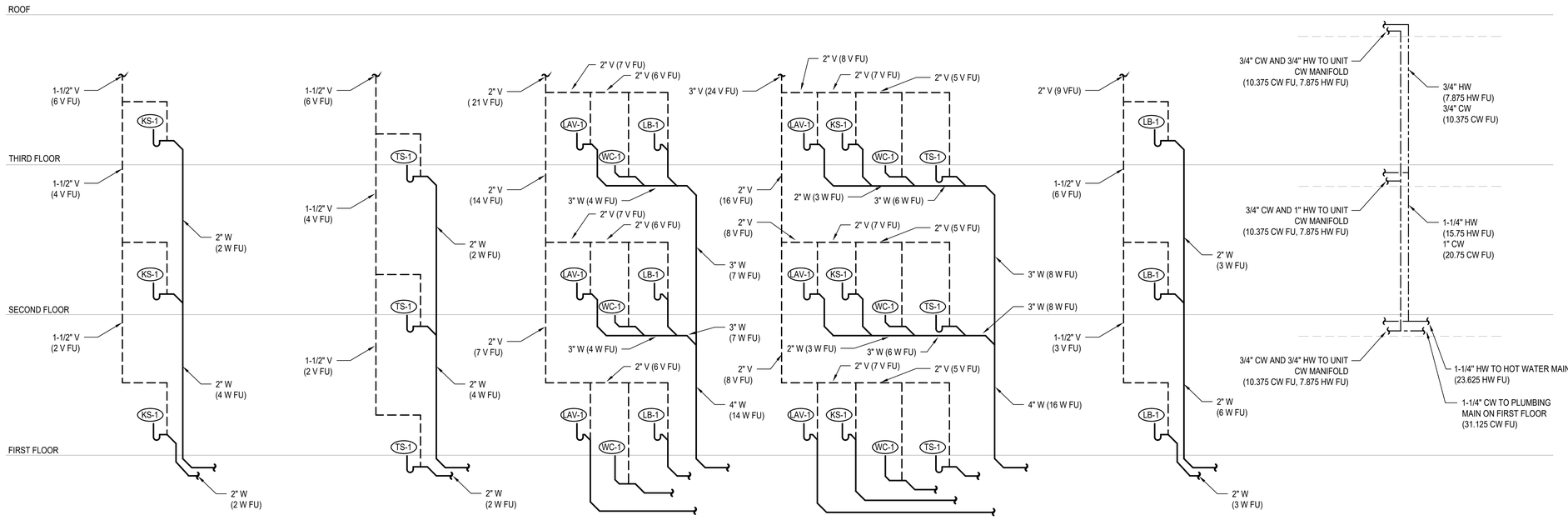
PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P1-202

10/7/2021 7:33:34 AM

NOTES:

1. FIXTURE LABELS MAY DIFFER FOR RISERS SERVING ADA UNITS. SEE FLOOR PLANS FOR CORRECT FIXTURE LABELS.
2. SEE FIXTURE CONNECTION SCHEDULE ON SHEET P002 FOR WASTE AND VENT CONNECTION SIZES TO INDIVIDUAL FIXTURES



1 P202 **WASTE RISER - KITCHEN SINK** N.T.S.

2 P202 **WASTE RISER - TUB/SHOWER** N.T.S.

3 P202 **WASTE RISER - LB, LAV, WC** N.T.S.

4 P202 **WASTE RISER - LAV, KS, WC, TS** N.T.S.

5 P202 **WASTE RISER - LAUNDRY BOX** N.T.S.

6 P202 **WATER RISER** N.T.S.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

RISERS

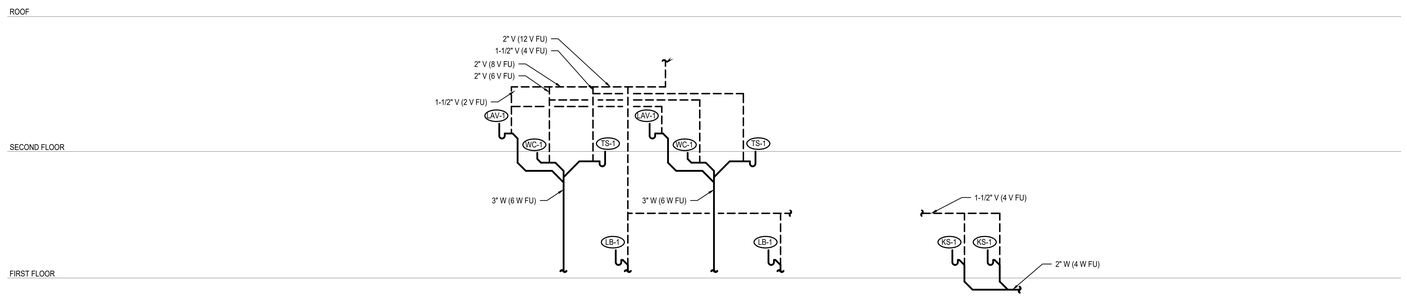
PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P5-202

10/7/2021 7:33:34 AM

NOTES:

1. FIXTURE LABELS MAY DIFFER FOR RISERS SERVING ADA UNITS. SEE FLOOR PLANS FOR CORRECT FIXTURE LABELS.
2. SEE FIXTURE CONNECTION SCHEDULE ON SHEET P002 FOR WASTE AND VENT CONNECTION SIZES TO INDIVIDUAL FIXTURES



1 P202 WASTE RISER - LB, LAV, WC, TS
N.T.S.

1 P202 WASTE RISER - KS
N.T.S.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

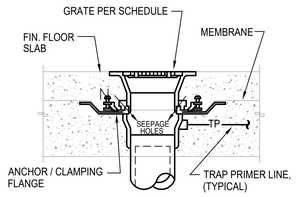
TITLE

RISERS

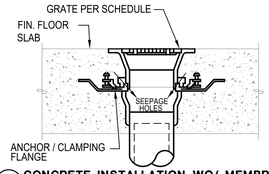
PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

P9-202

10/7/2021 7:33:34 AM

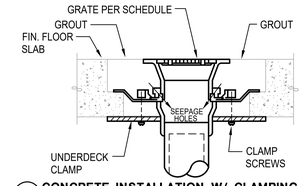


A CONCRETE INSTALLATION W/ MEMBRANE

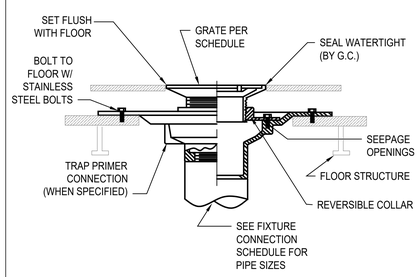


B CONCRETE INSTALLATION WO/ MEMBRANE

NOTES:
1. VERIFY FLOORING CONSTRUCTION BEFORE ORDERING DRAINS.
2. FLOOR DRAINS SHALL BE FLUSH TO 1/4" BELOW FIN. FLOOR. FLOOR SINKS SHALL BE 1/2" ABOVE TO 1/4" BELOW FIN. FLOOR VERIFY W/ LOCAL PLUMBING INSPECTOR.

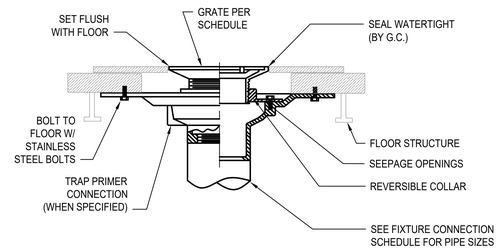


C CONCRETE INSTALLATION W/ CLAMPING RING



D FOR USE W/ DOUBLE WOOD FLOORS

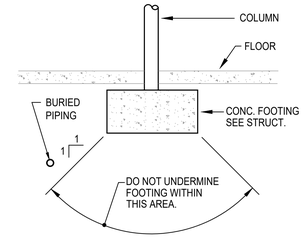
NOTES FOR WOOD FLOOR INSTALLATION
1. VERIFY ASSEMBLY PROCEDURE W/ FLOORING MANUFACTURER.
2. ONLY INSTALL FLOOR DRAINS COMPATIBLE WITH WOOD CONSTRUCTION.
3. VERIFY FLOOR ASSEMBLY WITH ARCHITECT TO DETERMINE APPROPRIATE INSTALLATION METHOD.



E FOR USE W/ SINGLE WOOD FLOORS

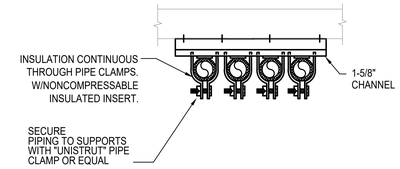
1 P301 FLOOR DRAIN / SINK INSTALLATION STYLES

N.T.S.



2 P301 BURIED PIPING DETAIL

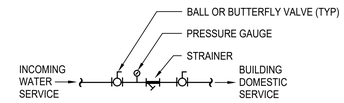
N.T.S.



NOTE: QUANTITY OF PIPES SHOWN REPRESENTATIVE ONLY, PROVIDE QUANTITY OF PIPES REQUIRED.

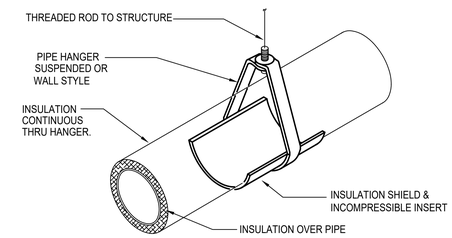
3 P301 PIPE SUPPORT

N.T.S.



4 P301 INCOMING WATER SERVICE DETAIL

N.T.S.

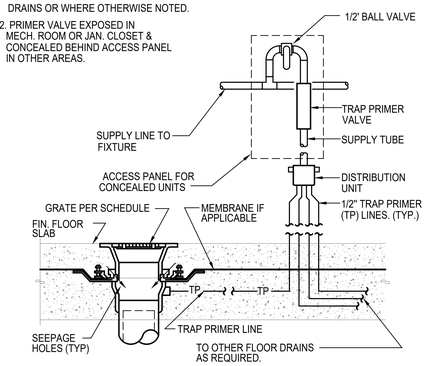


NOTE:
INSULATE & LABEL PIPING PER. SPEC.

5 P301 PIPE HANGER DETAIL

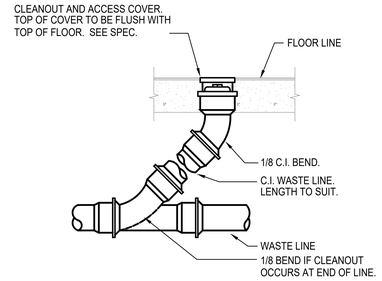
N.T.S.

NOTES:
1. PROVIDE TRAP PRIMERS ON ALL FLOOR DRAINS & FLOOR SINKS EXCEPT SHOWER DRAINS OR WHERE OTHERWISE NOTED.
2. PRIMER VALVE EXPOSED IN MECH. ROOM OR JAN. CLOSET & CONCEALED BEHIND ACCESS PANEL IN OTHER AREAS.



6 P301 TRAP PRIMER DETAIL

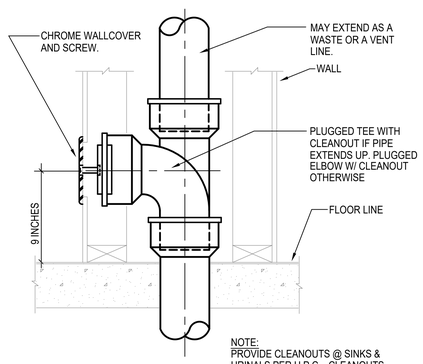
N.T.S.



NOTE:
FOR GRADE CLEANOUTS (GCO) IN VEHICULAR TRAFFIC AREAS, PROVIDE ACCESS HOUSING EQUAL TO WADE # 8300 MF-39.

7 P301 FLOOR CLEANOUT DETAIL

N.T.S.

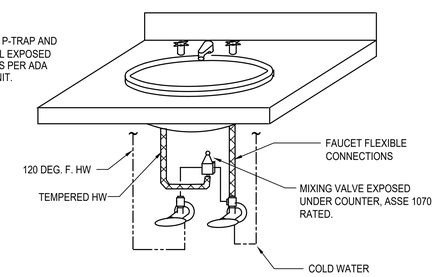


NOTE:
PROVIDE CLEANOUTS @ SINKS & URINALS PER U.P.C.. CLEANOUTS SHALL BE LOCATED BELOW FIXTURE.

8 P301 WALL CLEANOUT DETAIL

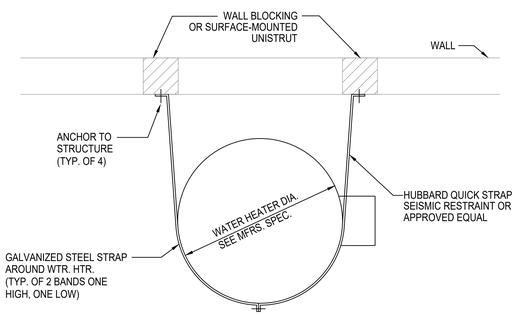
N.T.S.

NOTES:
1. PROVIDE INSULATED P-TRAP AND SUPPLY COVERS AT ALL EXPOSED P-TRAPS AND SUPPLIES PER ADA STANDARDS IN ADA UNIT.



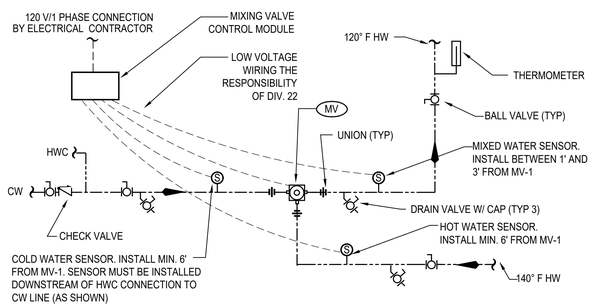
9 P301 PRIVATE LAVATORY WATER CONNECTION DETAIL

N.T.S.



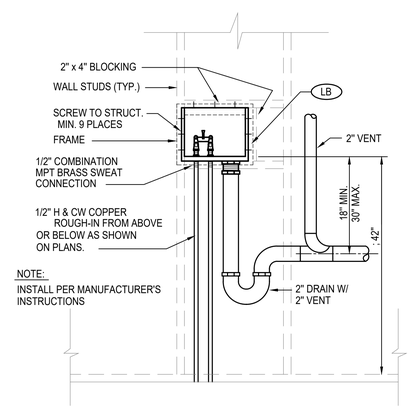
10 P301 WATER HEATER/ STORAGE TANK SEISMIC BRACING

N.T.S.



11 P301 MASTER MIXING VALVE DETAIL

N.T.S.



12 P301 LAUNDRY BOX DETAIL

N.T.S.

SIDER + BYERS
MECHANICAL • ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

DANA AMBER BOYNTON, STATE OF WASHINGTON, 22041000, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

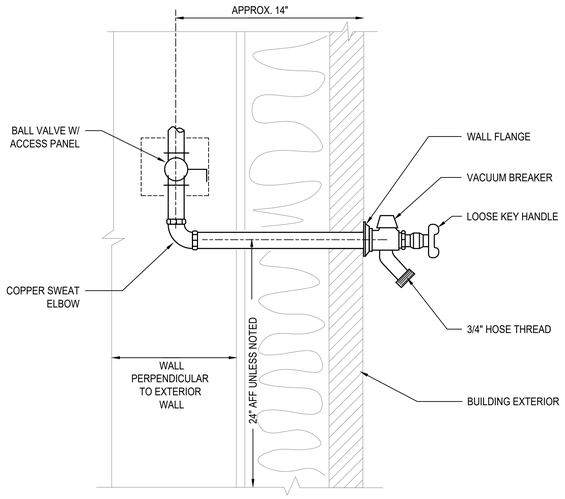
DPD STAMP

TITLE

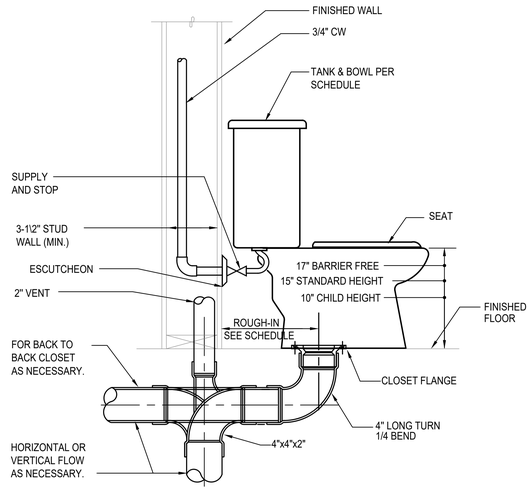
DETAILS

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	P1-301

10/7/2021 7:33:34 AM



1 P302 **FREEZE PROOF HOSE BIBB DETAIL**
N.T.S.



2 P302 **TANK WATER CLOSET DETAIL**
N.T.S.

3 P302 **NOT USED**
N.T.S.

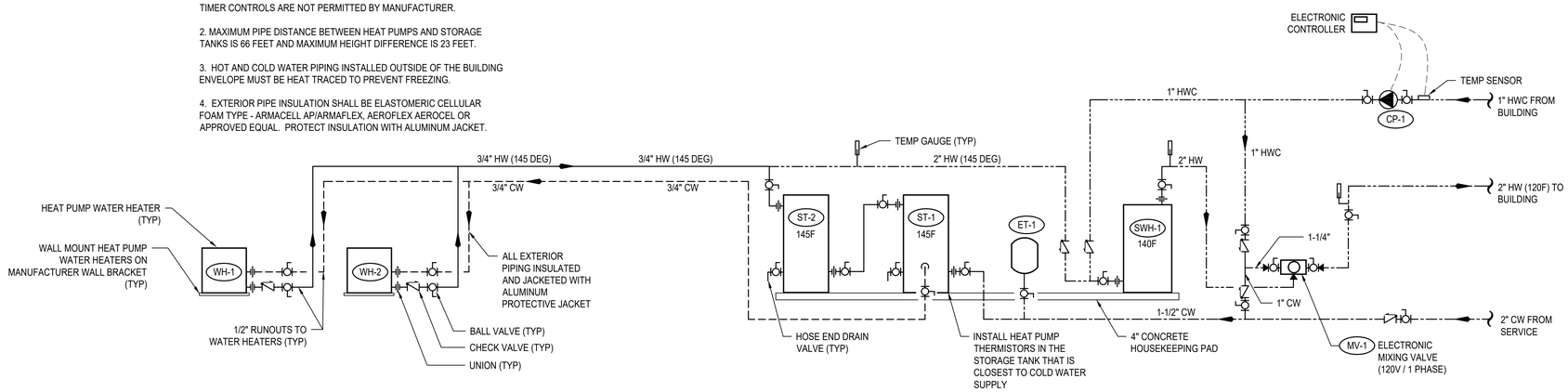
NOTES:

1. RECIRCULATION SYSTEM MUST OPERATE ON SENSOR OR AQUASTAT. TIMER CONTROLS ARE NOT PERMITTED BY MANUFACTURER.

2. MAXIMUM PIPE DISTANCE BETWEEN HEAT PUMPS AND STORAGE TANKS IS 66 FEET AND MAXIMUM HEIGHT DIFFERENCE IS 23 FEET.

3. HOT AND COLD WATER PIPING INSTALLED OUTSIDE OF THE BUILDING ENVELOPE MUST BE HEAT TRACED TO PREVENT FREEZING.

4. EXTERIOR PIPE INSULATION SHALL BE ELASTOMERIC CELLULAR FOAM TYPE - ARMACELL AP/ARMAFLEX, AEROFLEX AEROCEL OR APPROVED EQUAL. PROTECT INSULATION WITH ALUMINUM JACKET.



4 P302 **HEAT PUMP WATER HEATER DETAIL**
N.T.S.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

DETAILS

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

P1-302

10/7/2021 7:33:34 AM

MECHANICAL SYMBOLS LEGEND

DUCTWORK LABELS

- INTERNALLY LINED DUCT
- HIDDEN DUCT
- 16X12 — DUCT (1ST DIMENSION SIDE SHOWN, 2ND DIMENSION OTHER SIDE)
- FLEX DUCT
- RECTANGULAR SUPPLY DUCT OUT OF PAGE
- RECTANGULAR SUPPLY DUCT INTO PAGE
- SUPPLY DIFFUSER
- RECTANGULAR RETURN / EXHAUST DUCT OUT OF PAGE
- RECTANGULAR RETURN / EXHAUST DUCT INTO PAGE
- OR — RETURN OR EXHAUST GRILLE
- TURNING VANES
- STRAIGHT TAP
- TAPERED FITTING
- BELL MOUTH FITTING
- CONICAL FITTING
- 45 DEG. ANGLE TAP
- ROUND ELBOW OUT OF PAGE
- ROUND ELBOW INTO PAGE
- ROUND DUCT OUT OF PAGE
- ROUND DUCT INTO PAGE
- ROUND DUCT BREAK (CONTINUATION)
- RECTANGULAR DUCT BREAK (CONTINUATION)
- FLEX CONNECTION

REFERENCE SYMBOLS

- M-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- D / 0 — DIFFUSER/GRILLE TYPE / CFM
- 1 — SECTION NUMBER / SHEET NUMBER

LIFE SAFETY SYMBOLS

- CEILING RADIATION DAMPER
- OR — COMBINATION SMOKE/FIRE DAMPER
- HORIZONTAL SMOKE DAMPER
- FIRE DAMPER

CONTROL SYMBOLS

- VOLUME DAMPER
- M — MOTORIZED CONTROL DAMPER
- OR — REMOTE OPERATED VOLUME DAMPER
- BACKDRAFT DAMPER
- T — THERMOSTAT, MOUNT @ 4'-0" A.F.F.

MECHANICAL SHEET LIST

M-001	COVER SHEET
M-002	NOTES AND SCHEDULES
M-011	MECHANICAL SITE PLAN
M-101	LEVEL 1 FLOOR PLAN
M-102	LEVEL 2 FLOOR PLAN
M-103	ROOF PLAN
M-301	DETAILS

REFERENCE DESIGN CODES

CITY OF KIRKLAND MUNICIPAL CODE
2018 INTERNATIONAL BUILDING CODE (IBC)
2018 WASHINGTON STATE RESIDENTIAL ENERGY CODE (WSREC)
2018 INTERNATIONAL FIRE CODE (IFC)
2018 INTERNATIONAL MECHANICAL CODE WAC-51-52 (IMC)
2018 INTERNATIONAL FUEL GAS CODE (IFGC)
2020 NATIONAL ELECTRICAL CODE (NEC)
2018 UNIFORM PLUMBING CODE WAC-51-56 (UPC)
2010 ADA STANDARDS + HUD DOCKET NO. FR-5784-N-01 - THE SAFE HARBOR FOR UFAS/SECTION 504 OF THE REHABILITATION ACR
LIFE SAFETY CODE NFPA 101-2015

PROJECT DATA

ADDRESS OF PROPERTY:
KIRKLAND HEIGHTS APARTMENTS
13324 NE 133RD ST.
KIRKLAND, WA 98034

ASSESSOR PARCEL NO.:
2226059034

LEGAL DESCRIPTION:
SEE SURVEY

ZONING:
RMA 2.4, HIGH DENSITY RESIDENTIAL

DEPARTURES:
NONE

PROJECT DESCRIPTION:
THE PROJECT INCLUDES THE REHABILITATION OF THE EXISTING RESIDENTIAL BUILDINGS, THIRD FLOOR ADDITION TO 11 EXISTING BUILDINGS, TWO NEW THREE-STORY APARTMENT BUILDINGS, THE REPLACEMENT OF THE EXISTING COMMUNITY BUILDING, AND ASSOCIATED SITE AND UTILITY WORK AT THE KIRKLAND HEIGHTS APARTMENTS IN ORDER TO MAXIMIZE SITE DENSITY AND INCREASE PARKING COUNTS AT THIS AFFORDABLE HOUSING DEVELOPMENT. THE SITE CURRENTLY CONSISTS OF 25 BUILDINGS CONTAINING (79) 2-BEDROOM UNITS, (80) 3-BEDROOM UNITS, AND (20) 4-BEDROOM TOWNHOMES FOR A TOTAL OF 179 UNITS.

THE REHABILITATION OF THE EXISTING BUILDINGS INCLUDES THE REMOVAL AND REPLACEMENT OF ALL WINDOWS, DOORS, SIDING AND TRIM, BALCONIES, AND STAIRS. INTERIOR REHABILITATION INCLUDES THE REMOVAL AND REPLACEMENT OF ALL INTERIOR FINISHES INCLUDING FLOORING, WALL, AND CEILING FINISHES. ALL ELECTRICAL, PLUMBING AND MECHANICAL WILL BE REMOVED AND REPLACED TO MEET CURRENT CODE. THE WORK WILL ALSO INCLUDE THE ADDITION OFA THIRD STORY TO 11 EXISTING BUILDINGS CONTAINING 4 NEW UNITS PER BUILDING WITH ASSOCIATED STAIRS AND BALCONIES.

TWO NEW APARTMENT BUILDINGS ARE PROPOSED ADDING 24 NEW UNITS PER BUILDING CONTAINING (12) 1-BEDROOM UNITS, (24) 2-BEDROOM UNITS, (10) 3-BEDROOM UNITS, AND (2) 4-BEDROOM UNITS FOR A TOTAL OF 93 NEW UNITS SITE-WIDE. THE PROJECT ALSO INCLUDES THE DEMOLITION AND REPLACEMENT OF THE EXISTING COMMUNITY AND LAUNDRY BUILDING.

NOTE: SEE ELSM PERMIT FOR ALL SITE, CIVIL AND LANDSCAPE INFORMATION.

PROJECT INFORMATION:

CONSTRUCTION TYPE:	VA
OCCUPANCY:	R-2
EXISTING SITE AREA:	589,476 SF; APPROX. 13.5 ACRES
EXISTING BUILDING FOOTPRINT:	83,516 SF
EXISTING BUILDING AREA:	169,691 SF
EXISTING DENSITY CALC:	183 UNITS / 13.5 ACRES = 13.6 UNITS PER ACRE
PROPOSED BUILDING FOOTPRINT:	102,749 SF
PROPOSED BUILDING AREA:	254,116 SF
PROPOSED DENSITY CALC:	276 UNITS/13.5 ACRES = 20.4 UNITS PER ACRE

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL/ARCHITECT
AS	AIR SEPARATOR
AUX	AUXILIARY
BFF	BELOW FINISHED FLOOR
BHP	BRAKE HORSE POWER
BLDG	BUILDING
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CA	COMBUSTION AIR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
C/L	CENTER LINE
CLG	CEILING
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
COND	CONDENSATE
CW	COLD WATER
CX	CONNECT TO EXISTING
dB	DECIBEL
DB °F	DRY BULB TEMPERATURE
° OR DEG.	DEGREE
Ø OR DIA	DIAMETER
DL	DOOR LOUVER
DN	DOWN
DWG(S)	DRAWING(S)
DWV	DRAIN, WASTE, VENT
EX	EXISTING/EXISTING TO REMAIN
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWH	ELECTRIC WALL HEATER
EXP	EXPANSION
FC	FAIL CLOSED
FSD	FIRE/SMOKE DAMPER
FF	FINISHED FLOOR
FLA	FULL LOAD AMPS
FO	FAIL OPEN
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET/FOOT
FTG	FOOTING
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER
FSD	FIRE/SMOKE DAMPER
G	NATURAL GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
G.C.	GENERAL CONTRACTOR
GSM	GALVANIZED SHEET METAL
H	HEIGHT
HD	HEAD
HP	HORSEPOWER
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HX	HEAT EXCHANGER
HZ	HERTZ
ID	INSIDE DIAMETER/DIMENSION
IN	INCH/INCHES
IN WC	INCHES WATER COLUMN
KW	KILOWATT/KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LF	LINEAL FOOT
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LWT	LEAVING WATER TEMPERATURE
MBH	1000 BRITISH THERMAL UNIT PER HOUR
MCD	MOTORIZED CONTROL DAMPER
MD	MOTORIZED DAMPER
MED	MEDIUM
MEP	MECHANICAL, ELECTRICAL & PLUMBING
MEZZ	MEZZANINE
MIN	MINIMUM OR MINUTE
MISC	MISCELLANEOUS
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA/OSA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
ΔP	PRESSURE DIFFERENTIAL
PERF	PERFORATED
Φ OR PH	PHASE
PIVD	PRESSURE INDEPENDENT VOLUME DAMPER
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER INCH GAUGE
PTAC	PACKAGE TERMINAL AIR CONDITIONER
QTY	QUANTITY
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RM	ROOM
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RLX	RELOCATE EXISTING
RTU	ROOF TOP UNIT
RV	RELIEF VALVE
RX	REMOVE EXISTING
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SF	SQUARE FOOT
S.L.	SOUND LINER
SP	STATIC PRESSURE
SPEC	SPECIFICATION
S/S, OR SS	STAINLESS STEEL
STD	STANDARD
T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
TBD	TO BE DETERMINED
TEMP	TEMPERATURE
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOD	TOP OF DECK
TOJ	TOP OF JOIST
TOS	TOP OF SLAB/TOP OF STEEL
T&P	TEMPERATURE & PRESSURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UTR	UP THROUGH ROOF
V	VOLT
VAV	VARIABLE AIR VOLUME
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VIB	VALVE-IN-BOX
VOL	VOLUME
W/	WITH
W/IN	WITHIN
W/O	WITHOUT
WB °f	WET BULB TEMPERATURE
WC	WATER COLUMN
WPD	WATER PRESSURE DROP
WT	WEIGHT

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

DANA LAMBER — STATE OF WASHINGTON — 0041009 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

COVER SHEET

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M1-001

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M1-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

DAN AMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

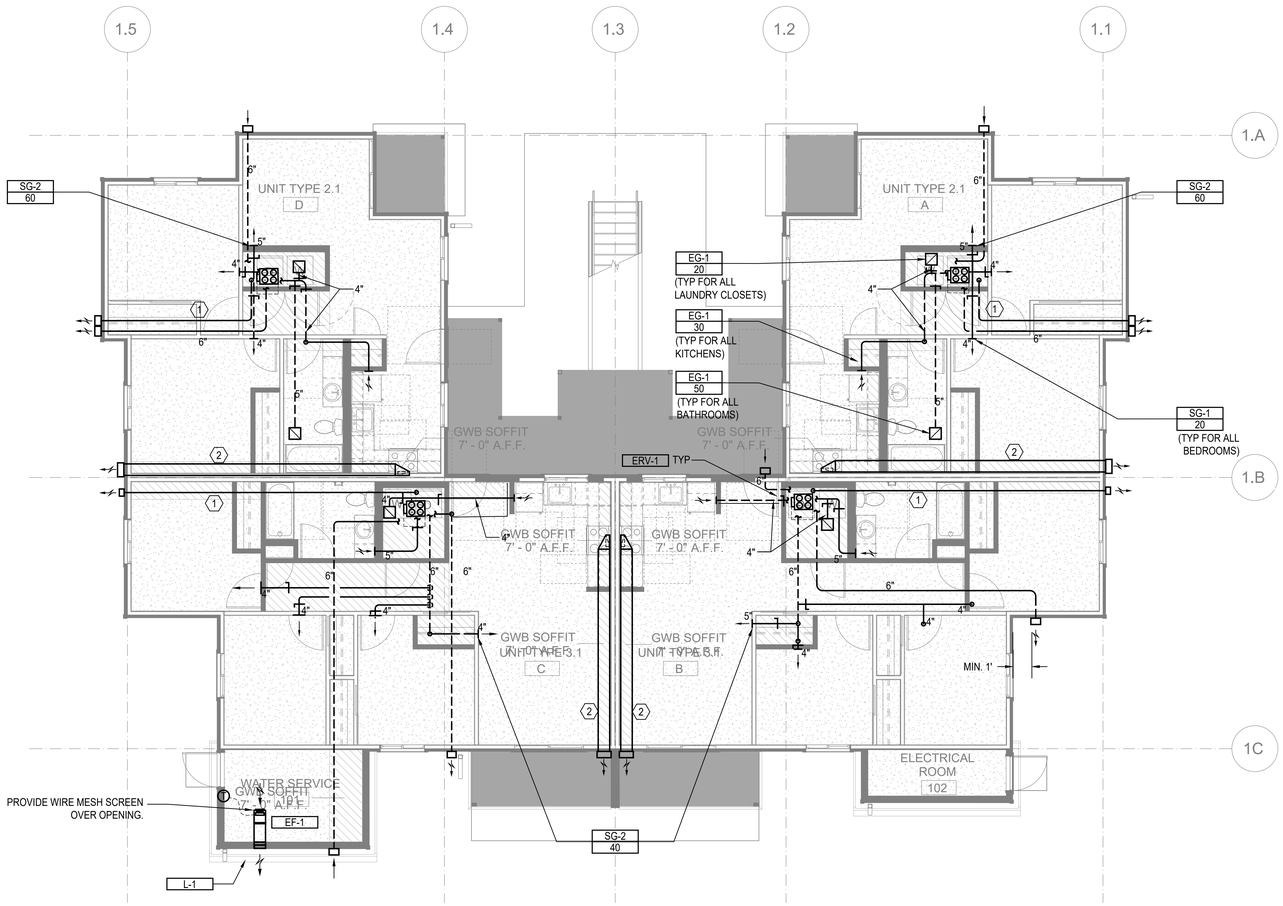
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M1-011



FLOOR PLAN - BUILDING 1 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

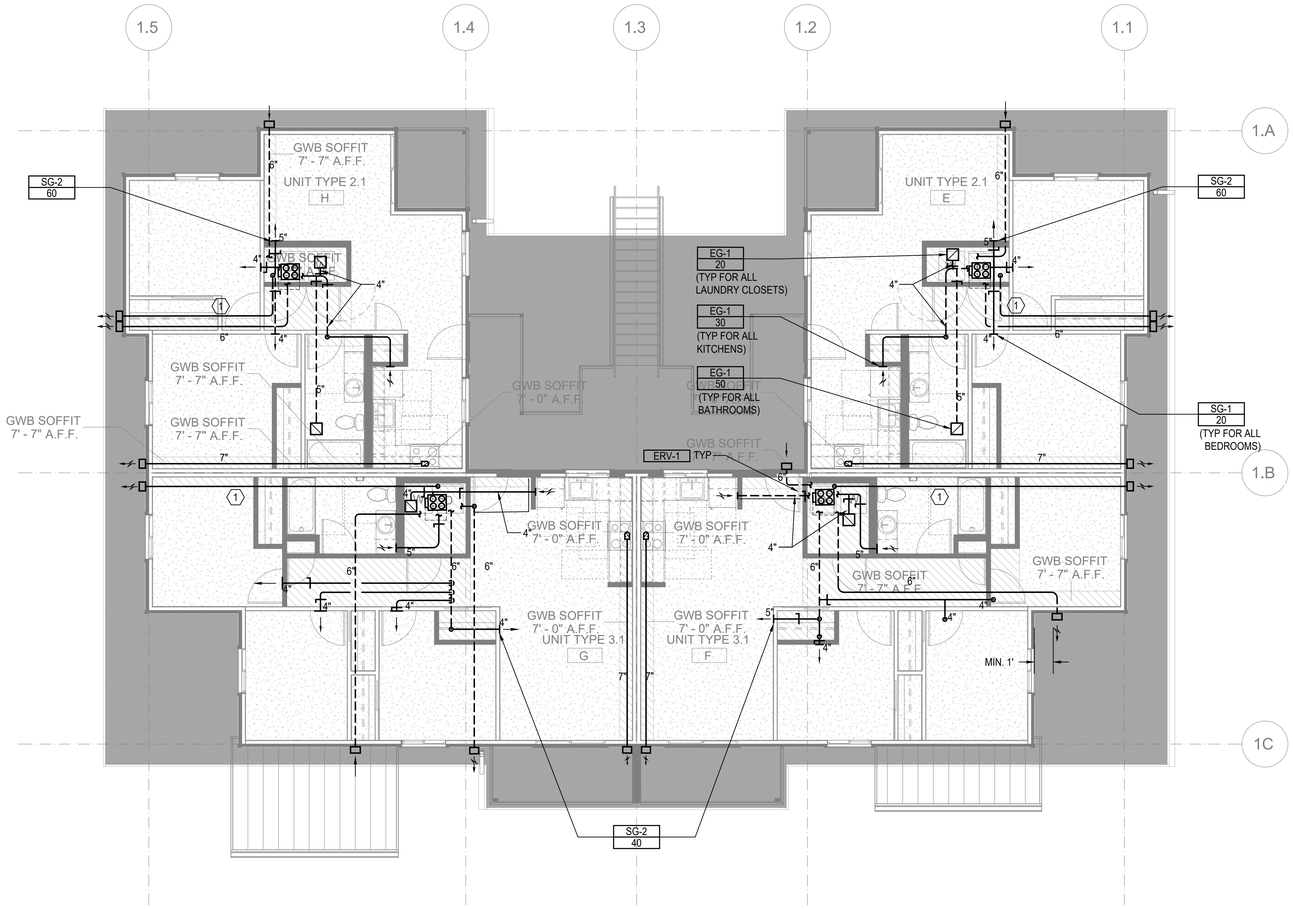
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M1-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 1 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

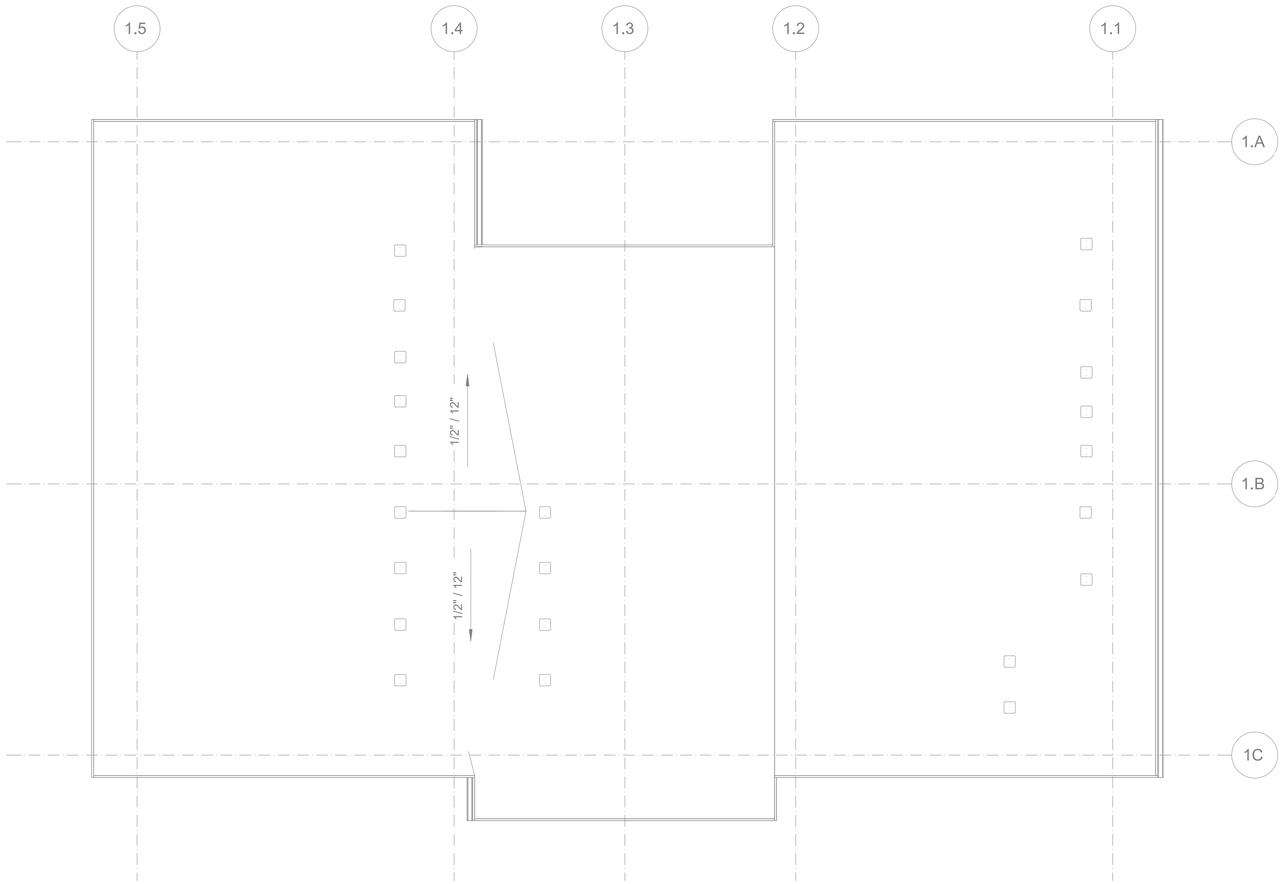
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	M1-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 1 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X) :

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M1-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M2-002

10/7/2021 7:33:34 AM

BUILDING NUMBERS	TYPE	FLOORS
1	FLAT	2
2	FLAT	2
3	FLAT	2
4	FLAT	2
6	FLAT	2
7	FLAT	2
8	FLAT	2
24	FLAT	2
25	FLAT	2
5	FLAT	3
10	FLAT	3
11	FLAT	3
12	FLAT	3
13	FLAT	3
14	FLAT	3
16	FLAT	3
18	FLAT	3
20	FLAT	3
21	FLAT	3
22	FLAT	3
9	TOWNHOME	2
15	TOWNHOME	2
17	TOWNHOME	2
19	TOWNHOME	2
23	TOWNHOME	2

SITE PLAN
SCALE: 1"=30'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

DANA LAMBER
STATE OF WASHINGTON
0041009
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

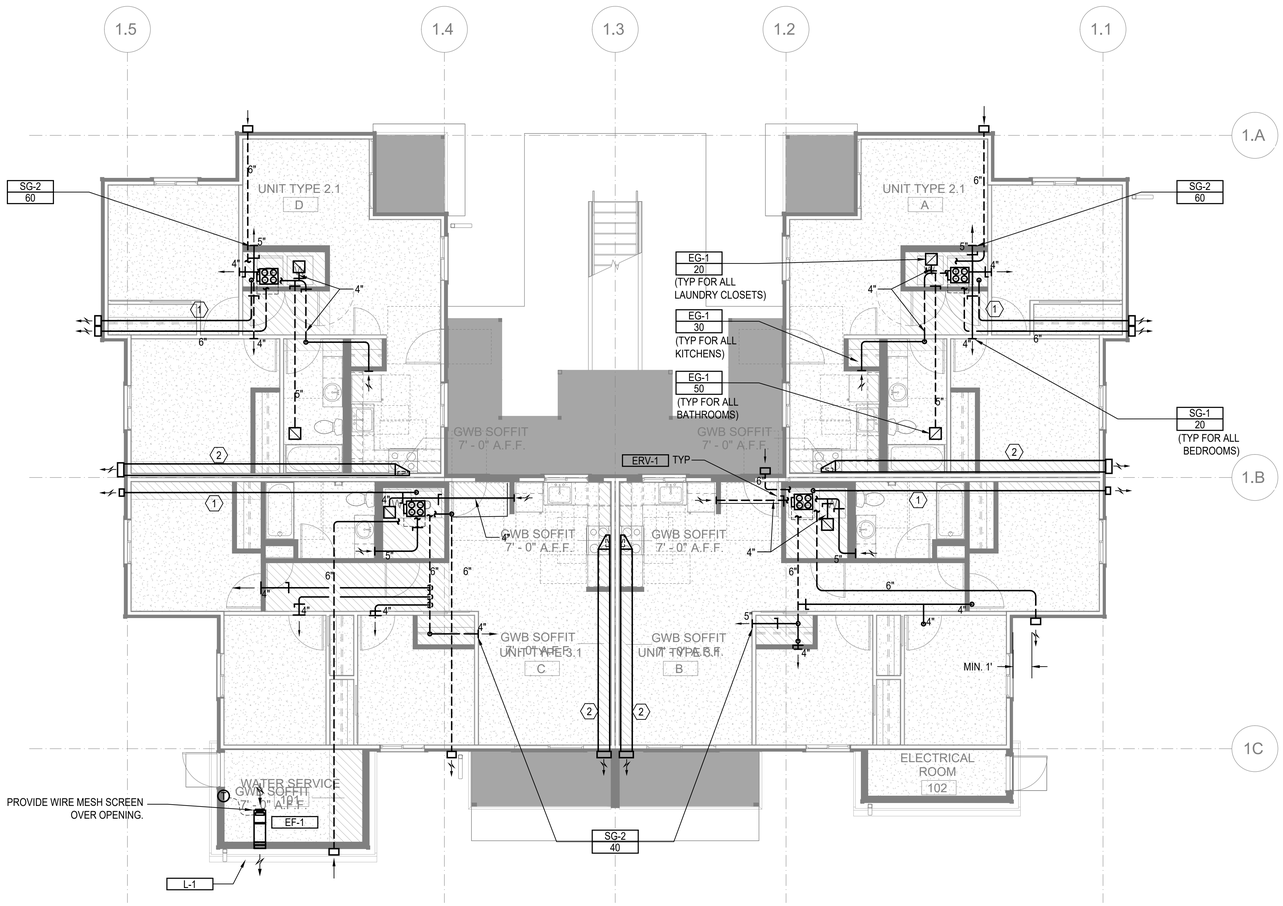
DPD STAMP

TITLE

SITE PLAN

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M2-011



FLOOR PLAN - BUILDING 2 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

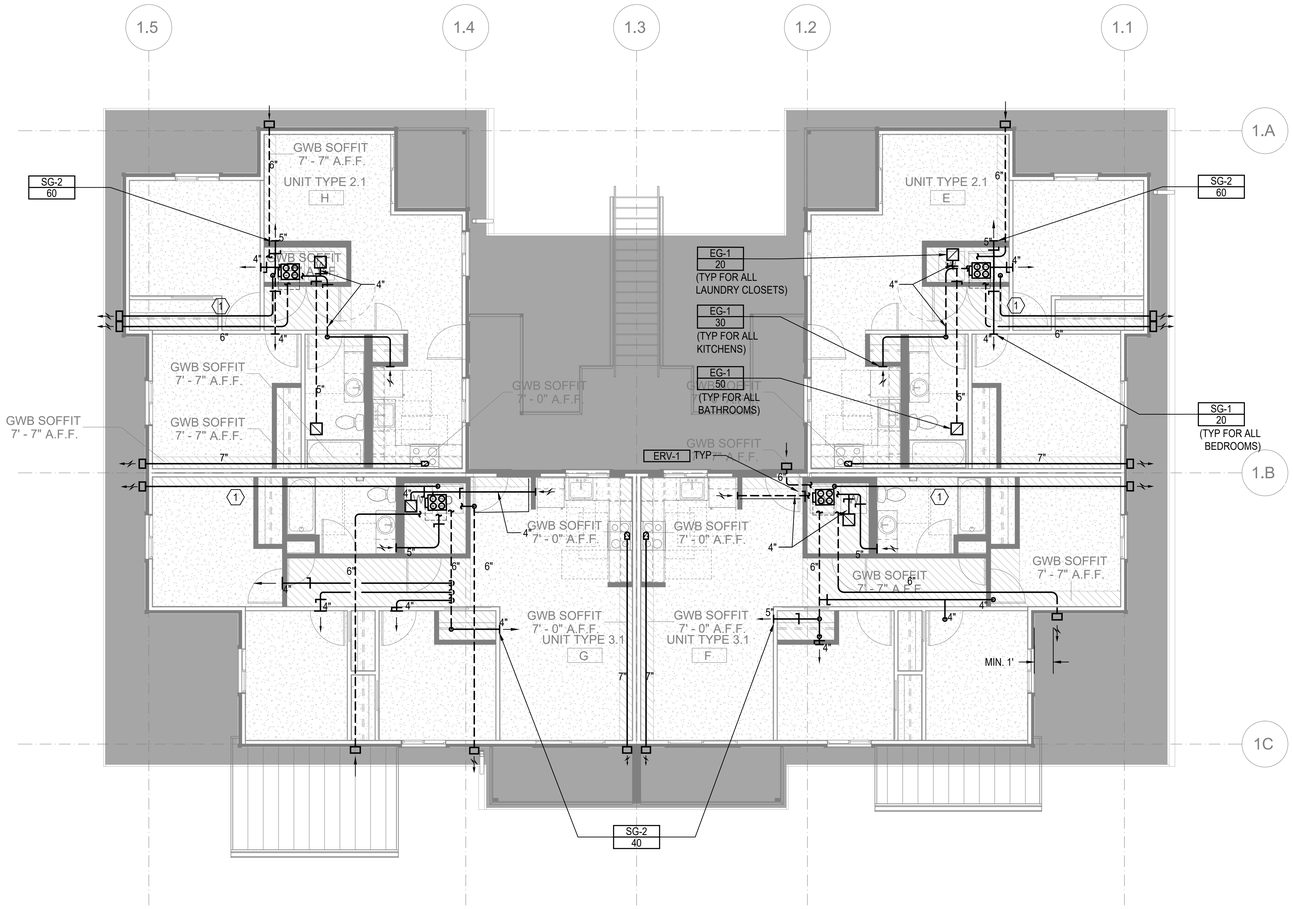
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M2-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 2 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

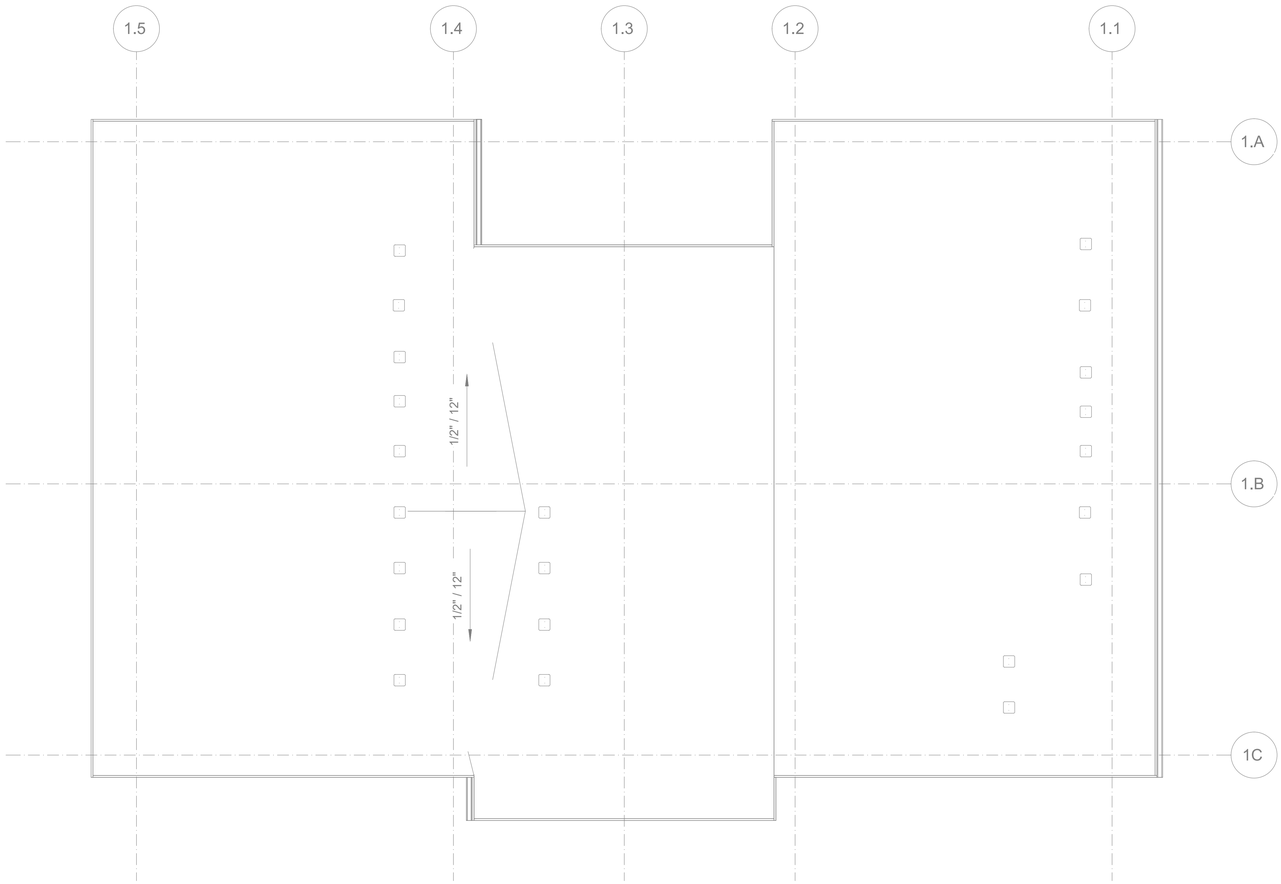
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	M2-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 2 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M2-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

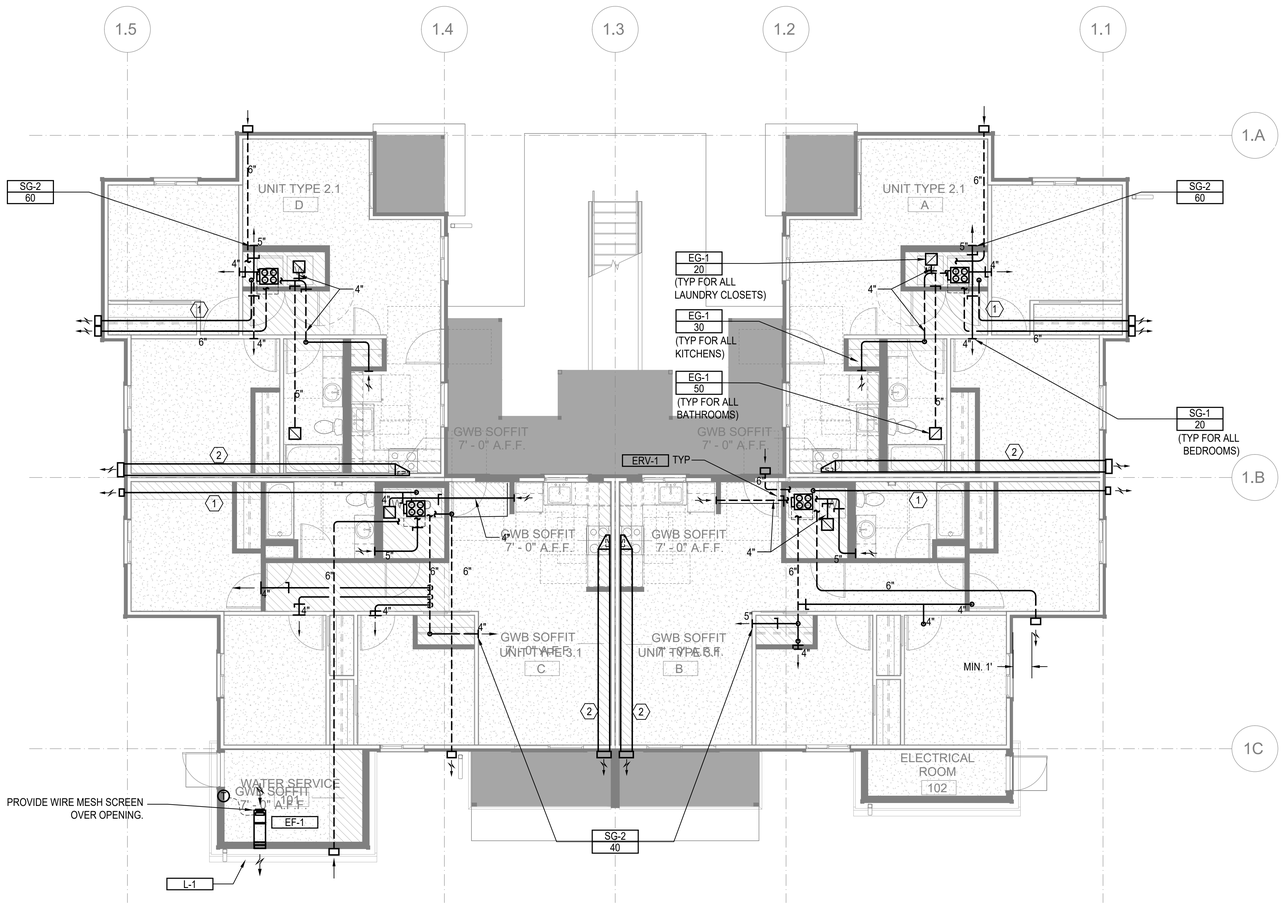
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M3-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 3 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

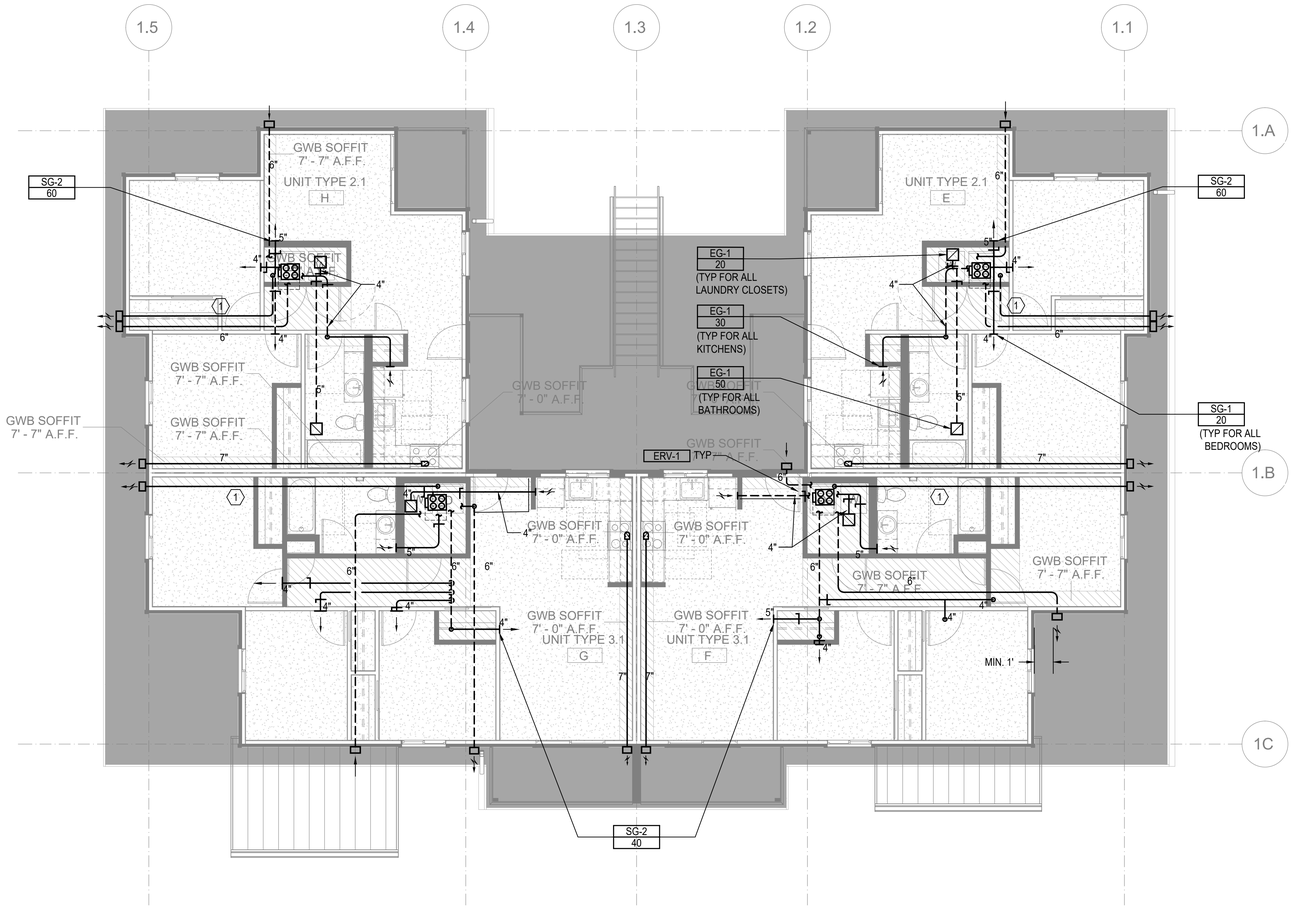
DPD STAMP

TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	M3-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 3 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

DIANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

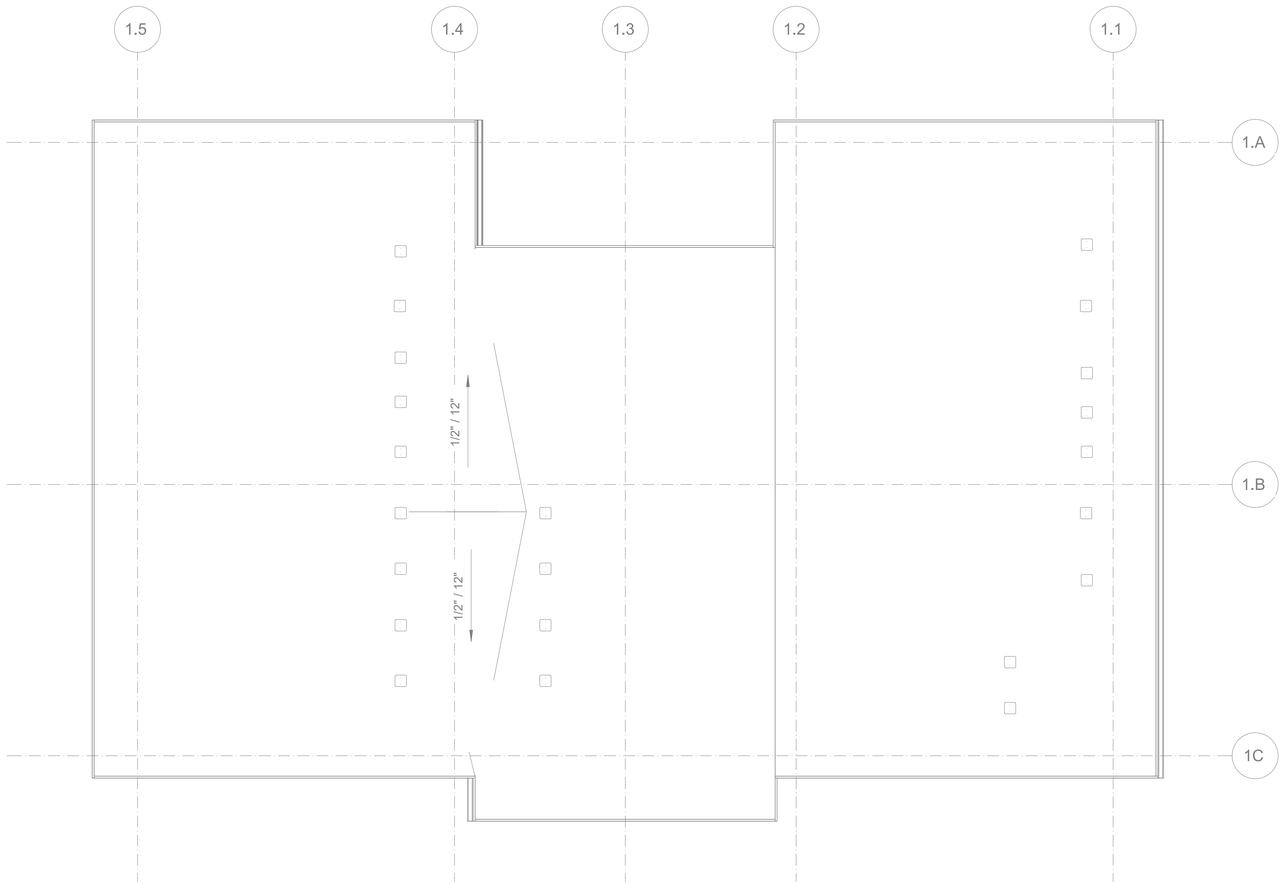
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M3-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 3 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M3-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

DAN A. AMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

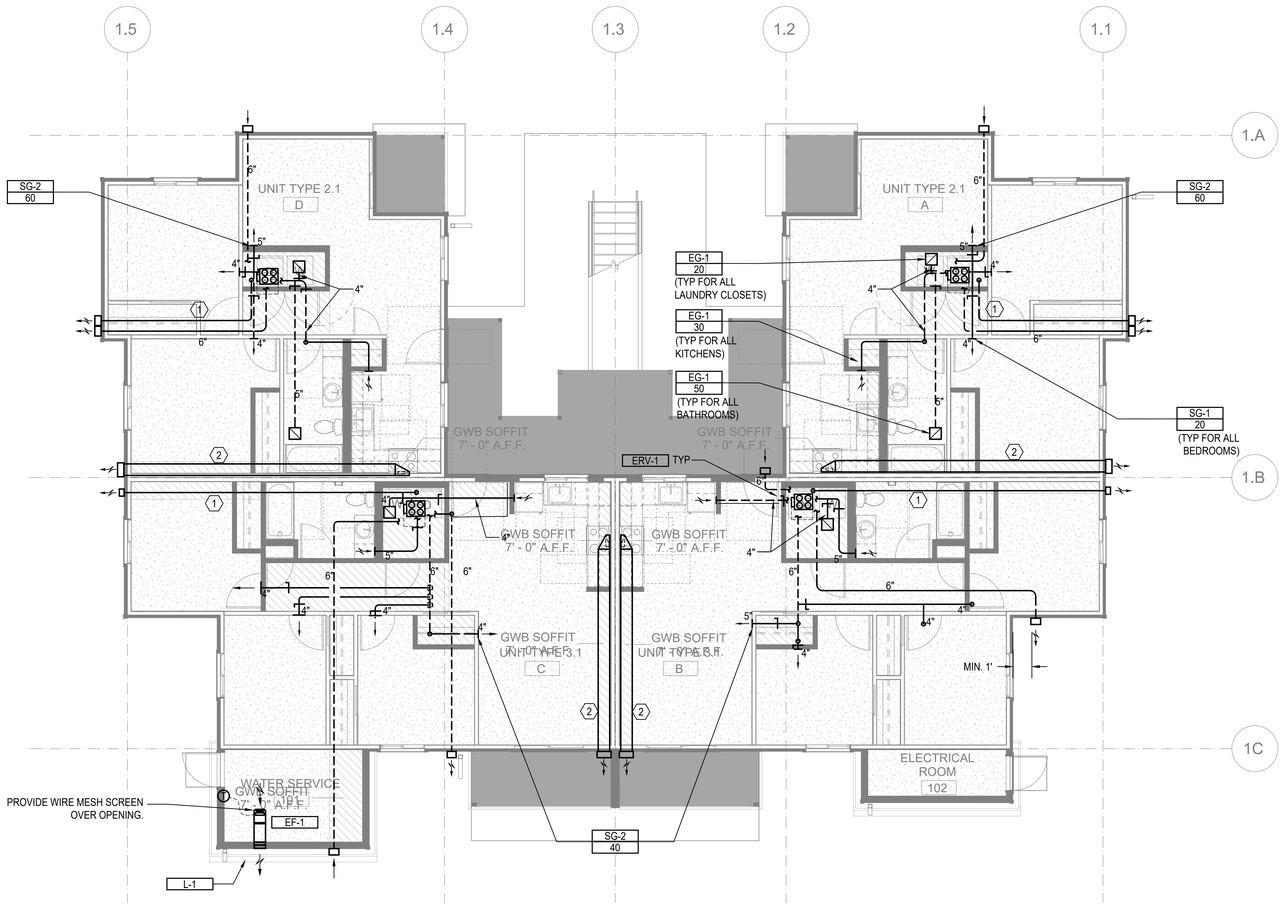
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M4-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 4 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST – – – – – –

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

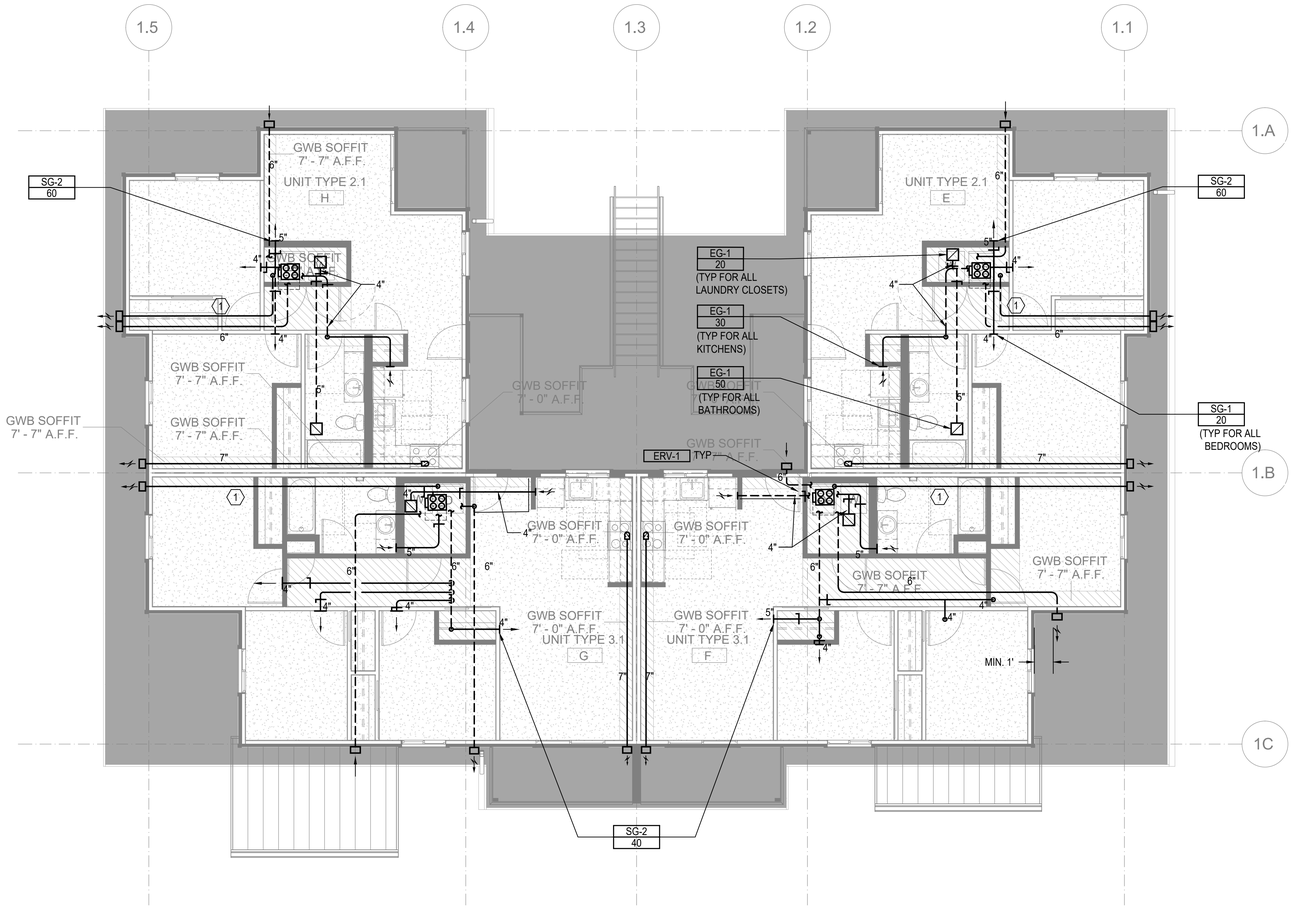
DPD STAMP

TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	M4-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 4 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

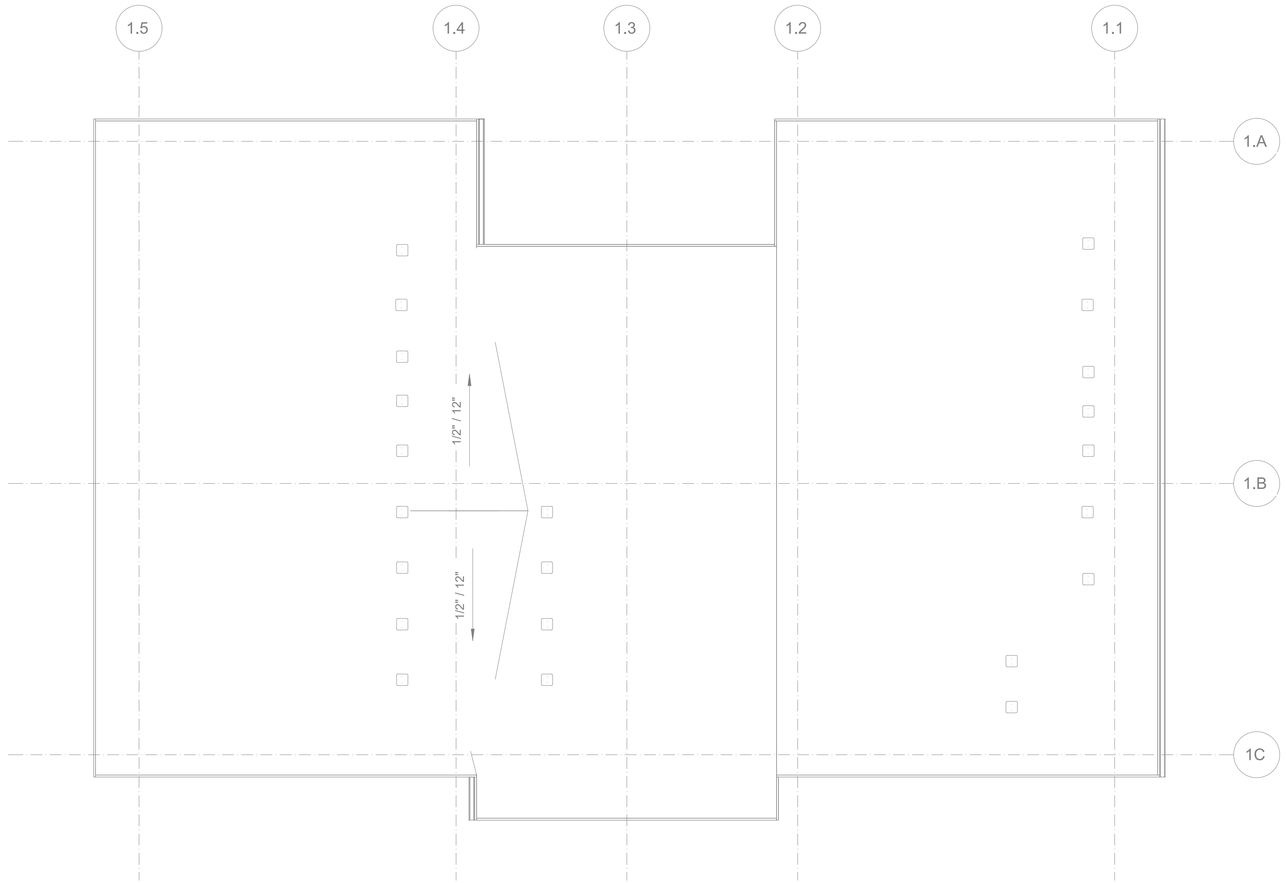
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M4-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 4 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M4-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

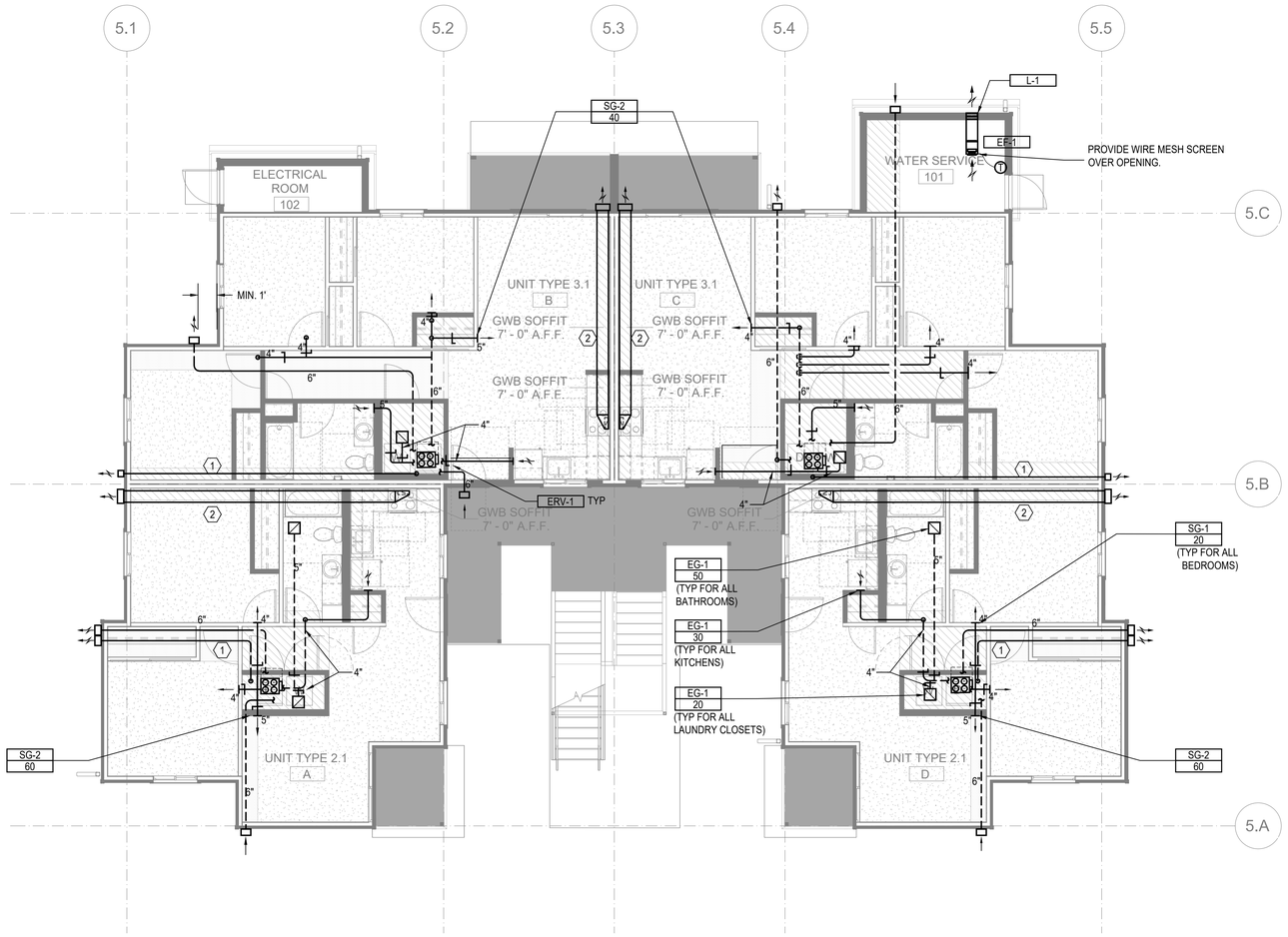
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M5-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 5 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

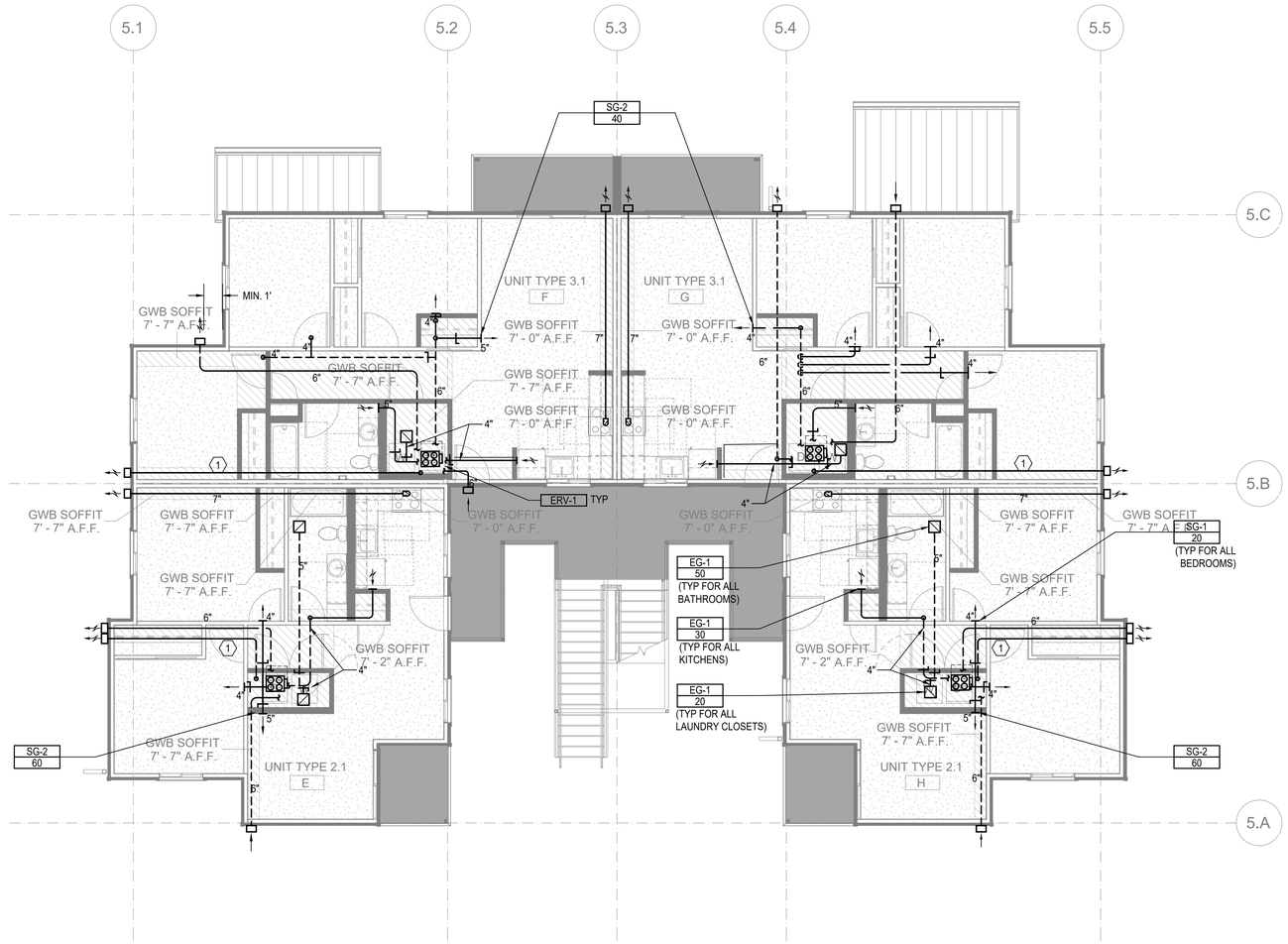
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M5-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 5 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

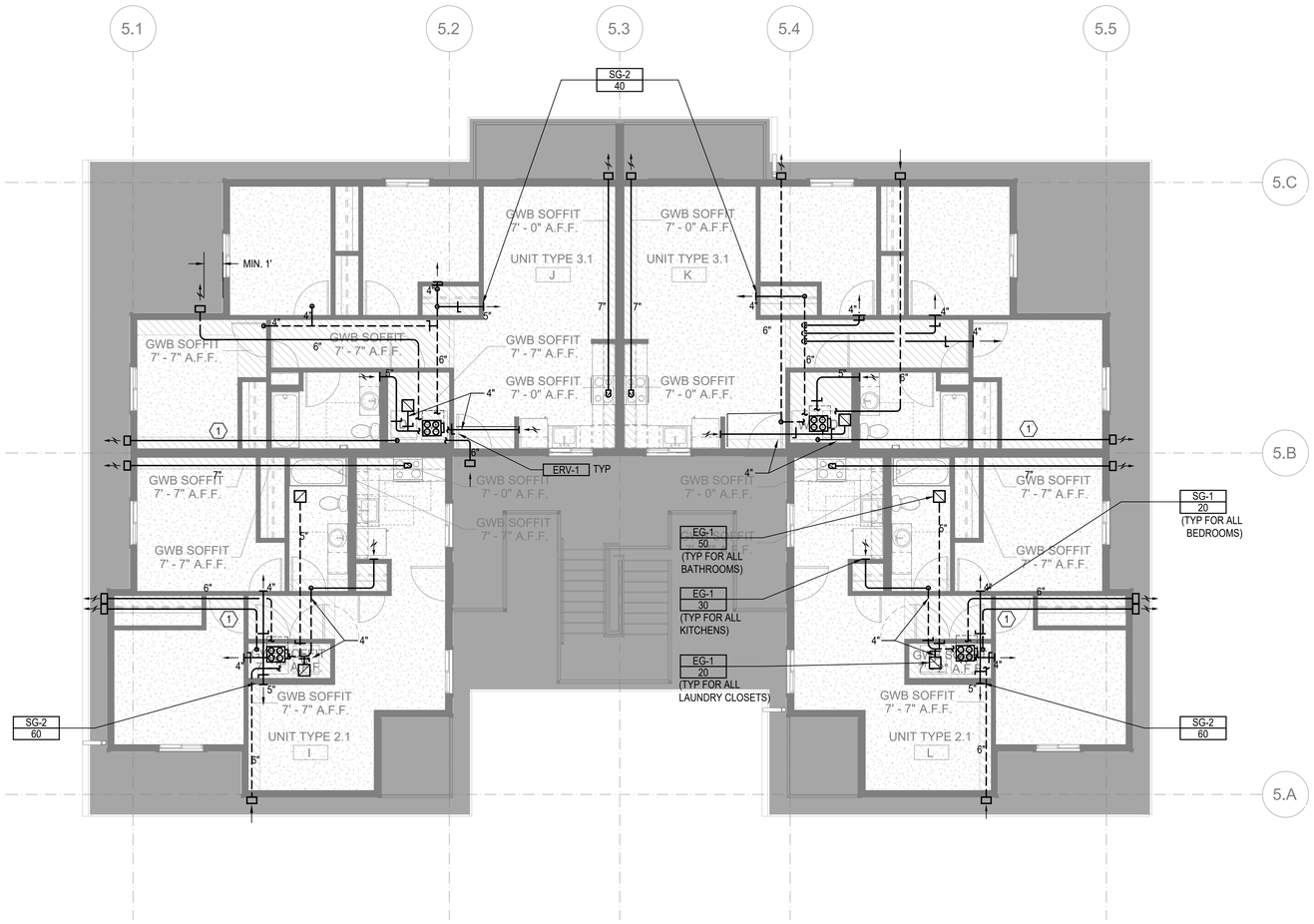
DPD STAMP

TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	M5-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 5 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

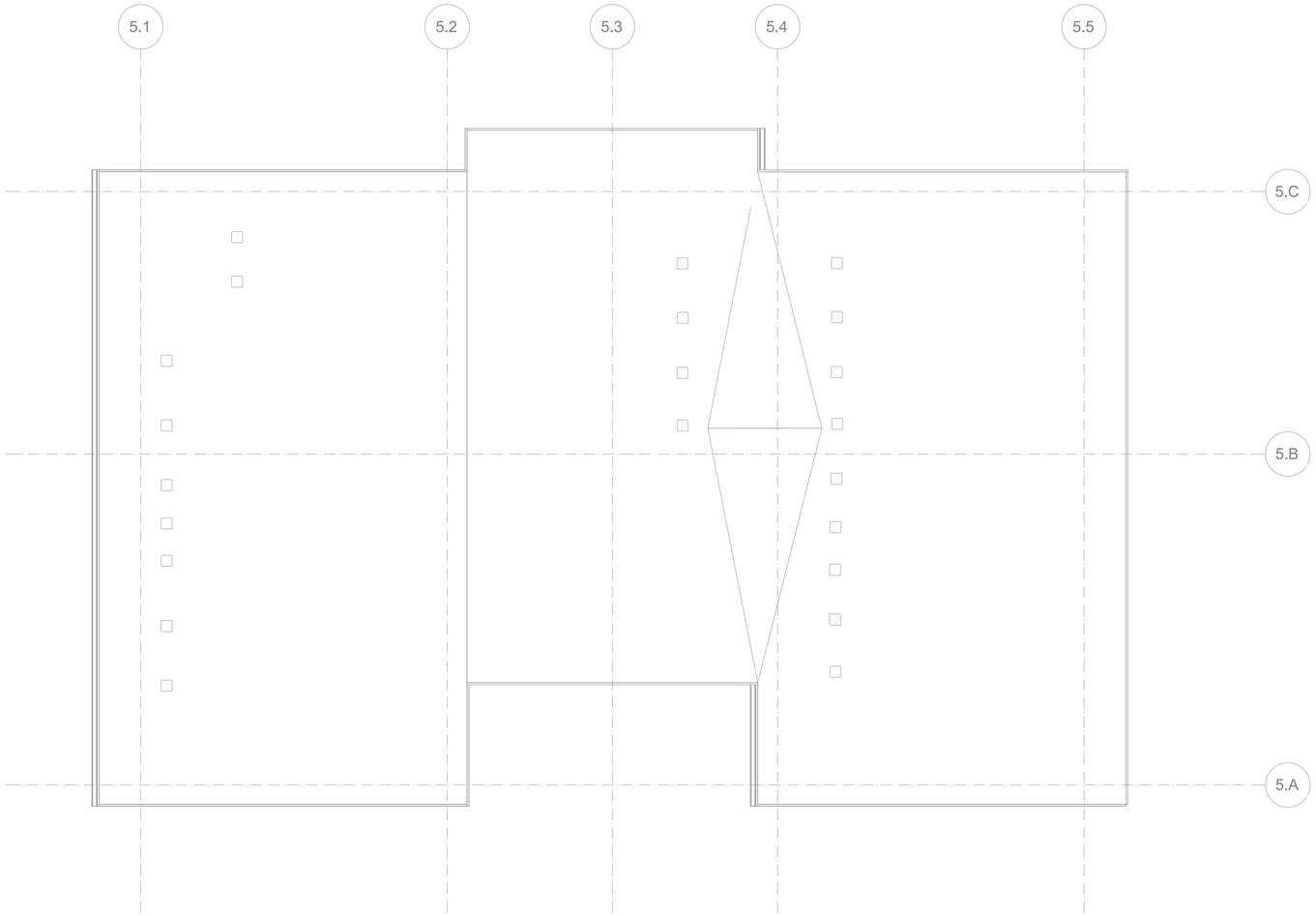
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M5-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 5 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M5-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

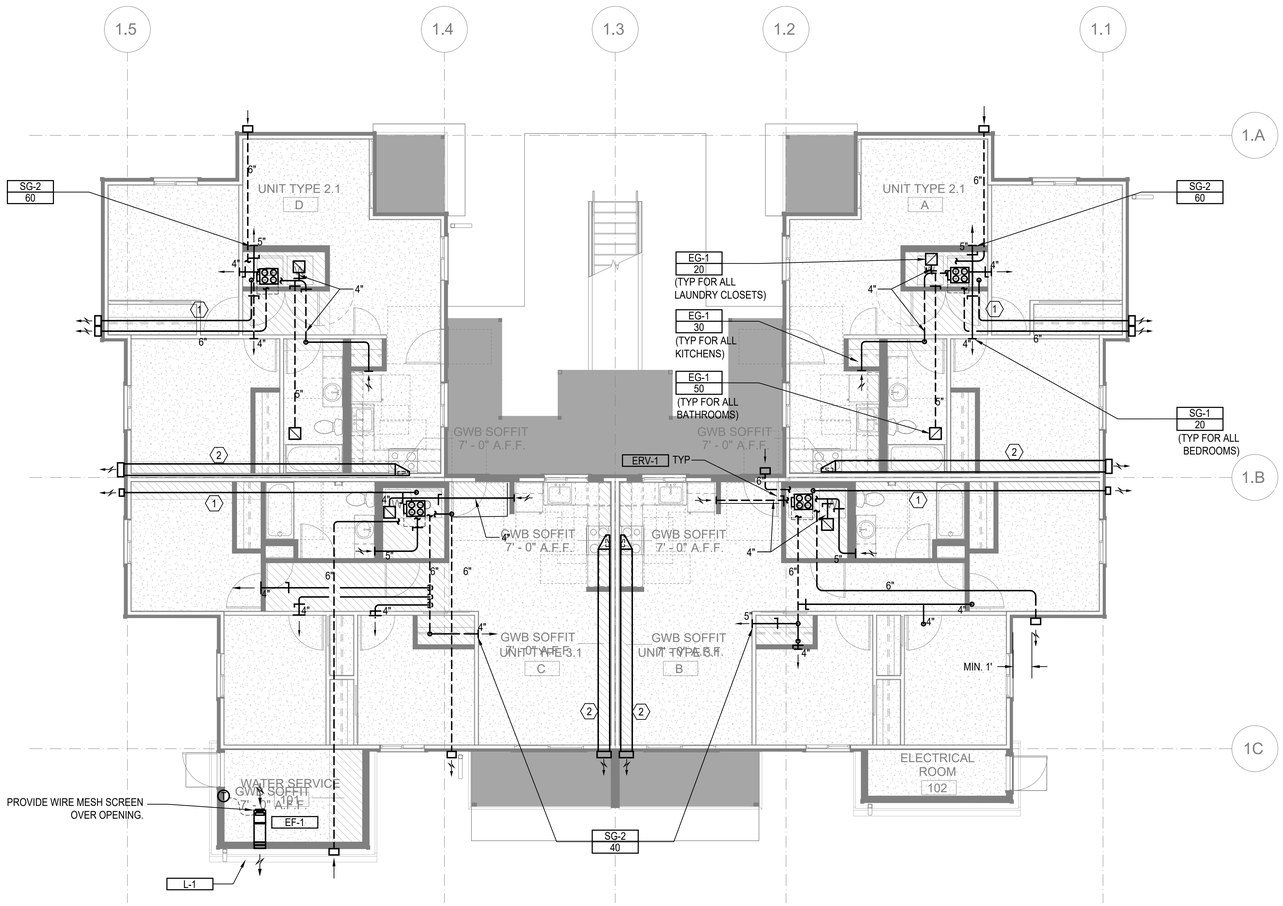
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M6-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 6 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

DAN LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

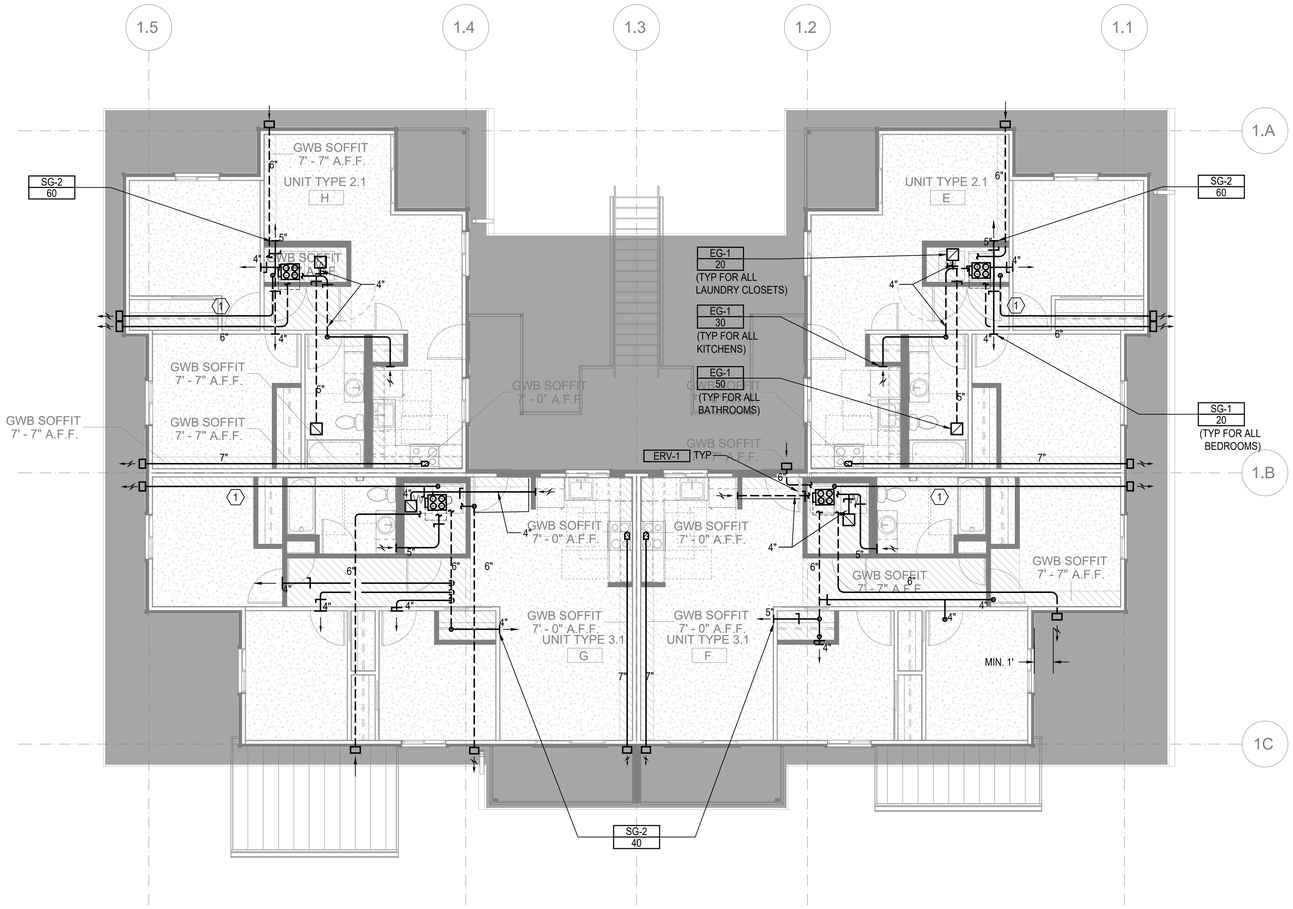
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M6-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 6 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

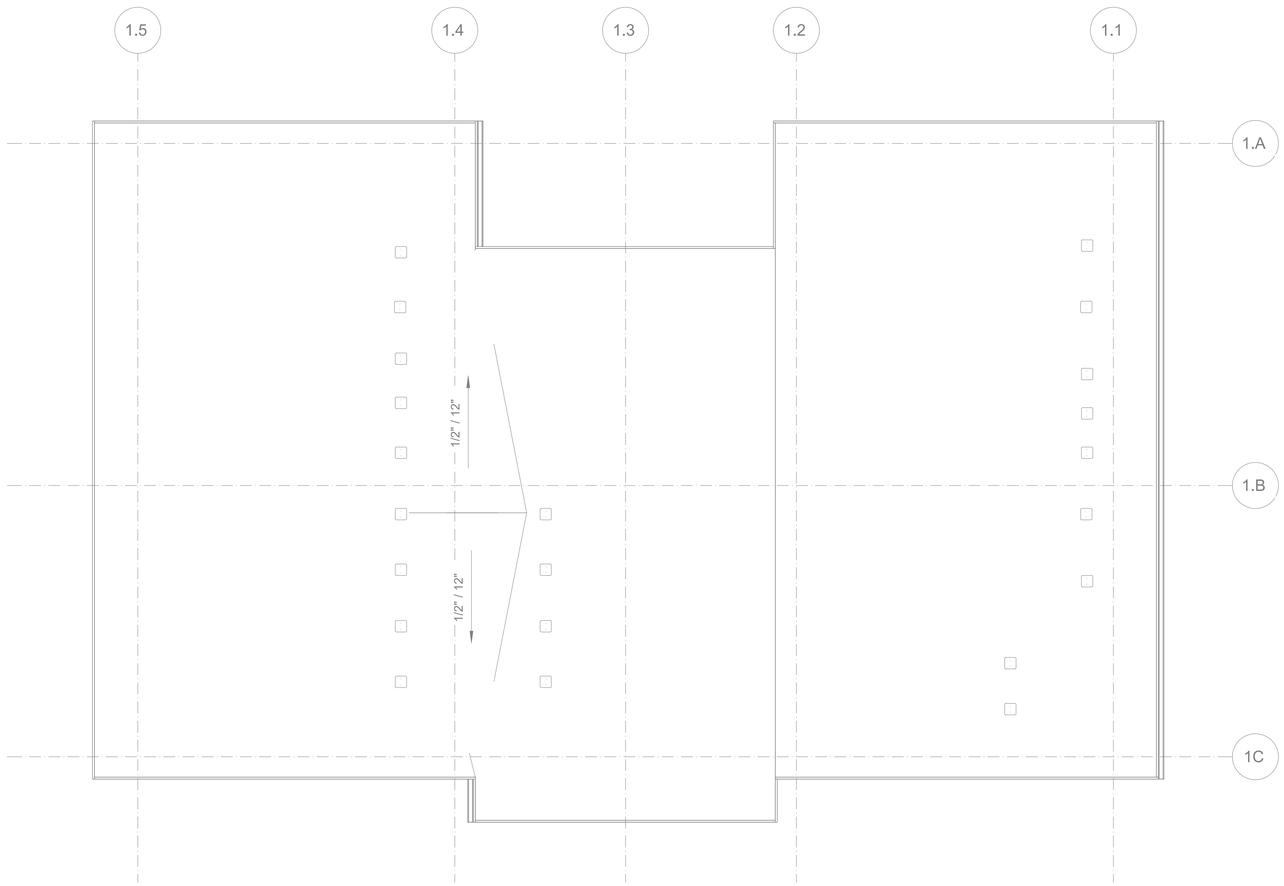
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M6-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 6 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M6-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category			Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope			Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation			Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC				0.0	
4	High Efficiency HVAC Distribution System			Not Selected	0.0	-
5.1	Efficient Water Heating			Not Selected	0.0	-
5.2-5.6	Efficient Water Heating			Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy		kWh	Not Selected	0.0	
7	Appliance Package			Option 7.1	1.5	Appliance Package
				Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

10/7/2021 7:33:34 AM

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

DANA AMBER FORBES · STATE OF WASHINGTON · 0041009 · REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

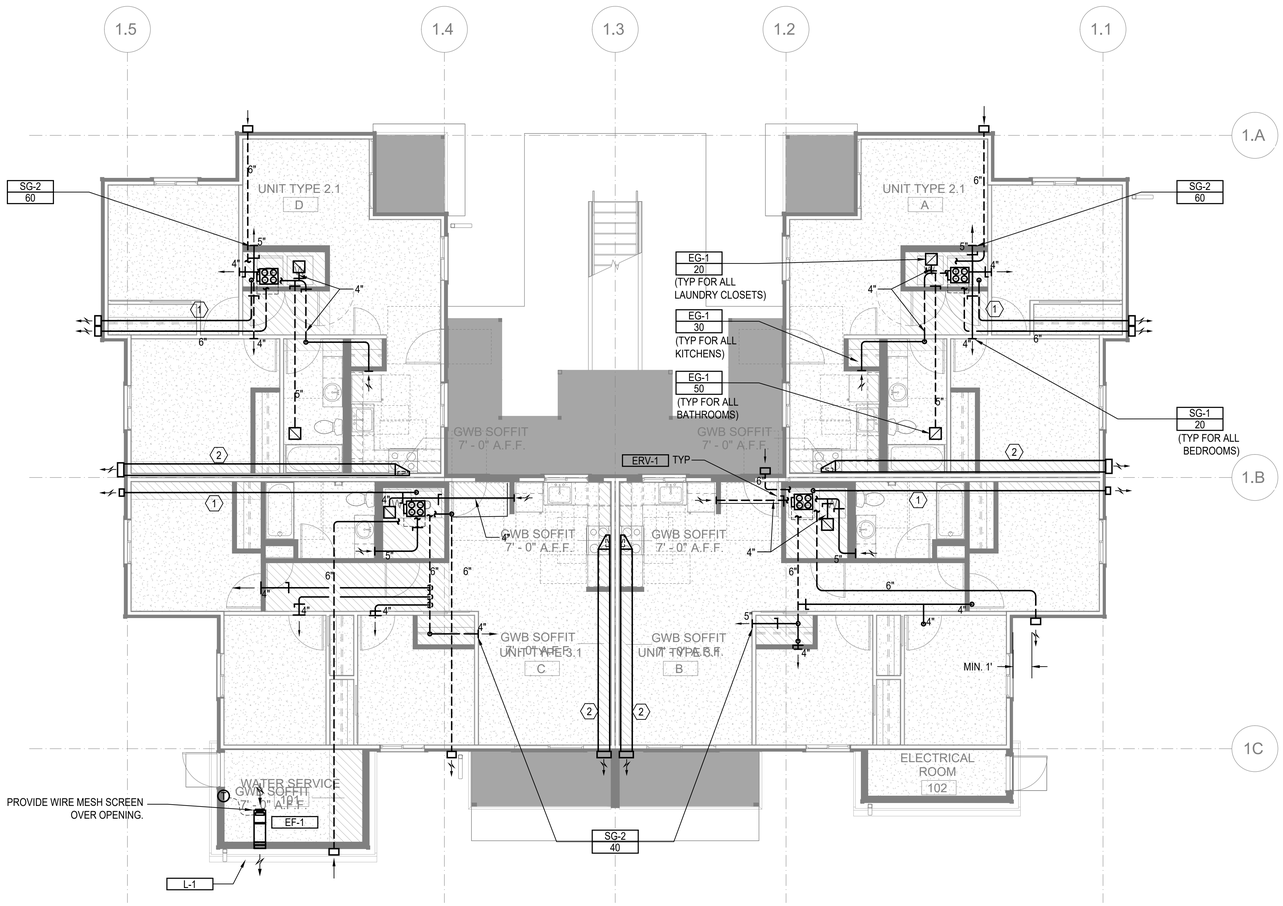
DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M7-002



FLOOR PLAN - BUILDING 7 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

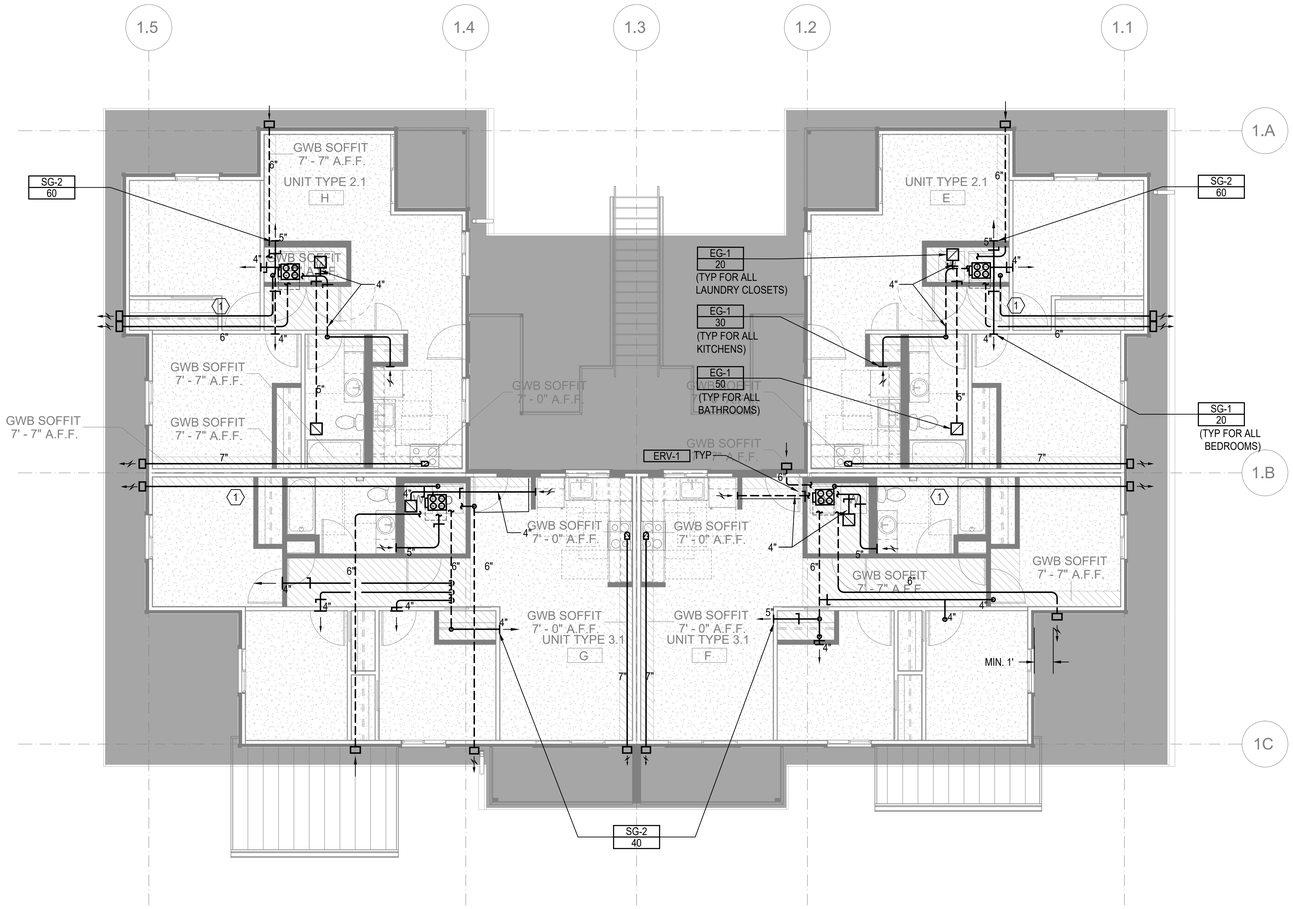
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M7-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 7 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

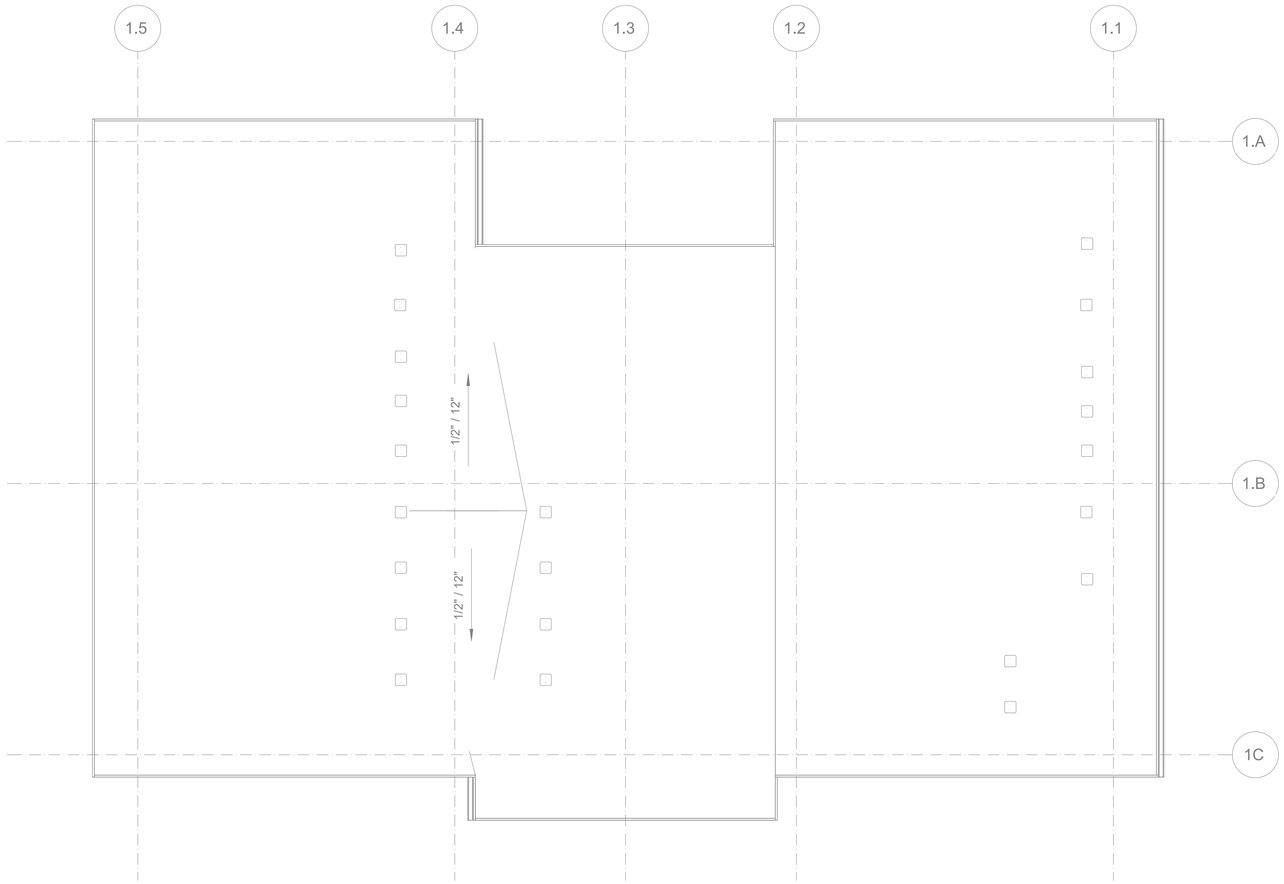
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M7-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 7 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M7-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-2	BROAN	ERV200 ECM	INDOOR	140	1.2	140	1.2	POLYMER	74%	135	120/1	110	28	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

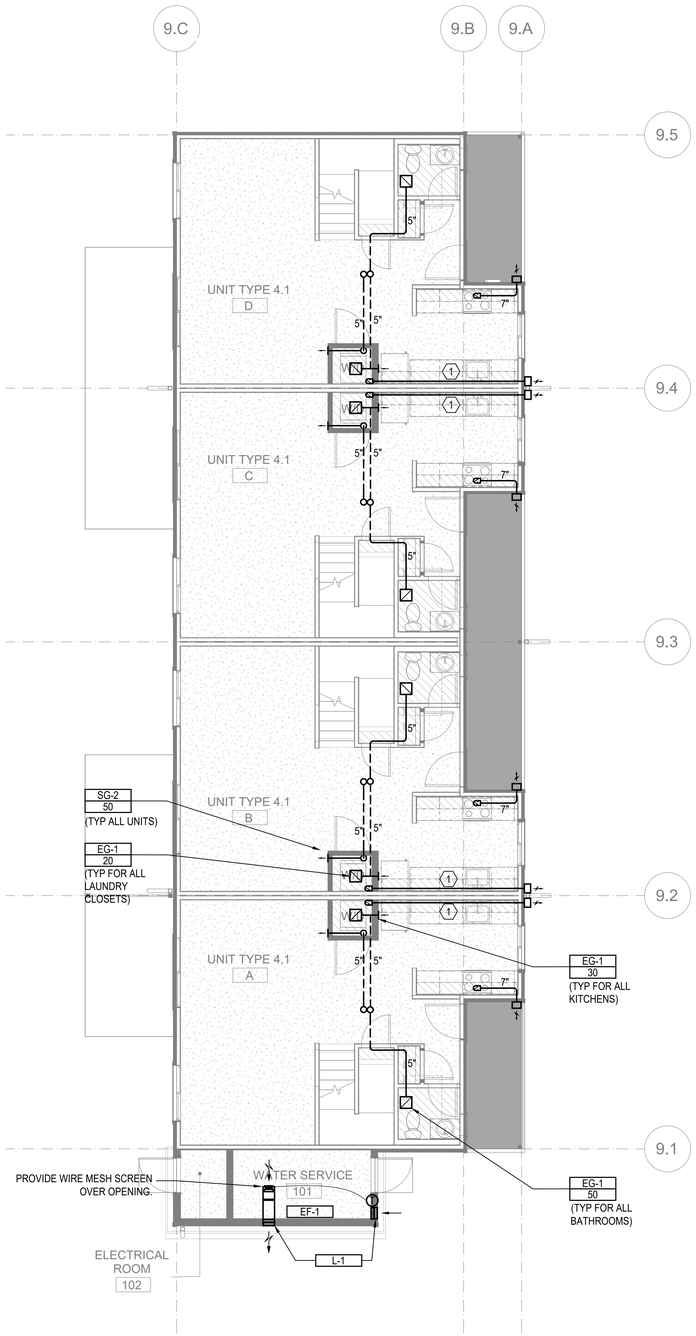
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M9-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 9 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUSE AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

DANA AMBER FOREST
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

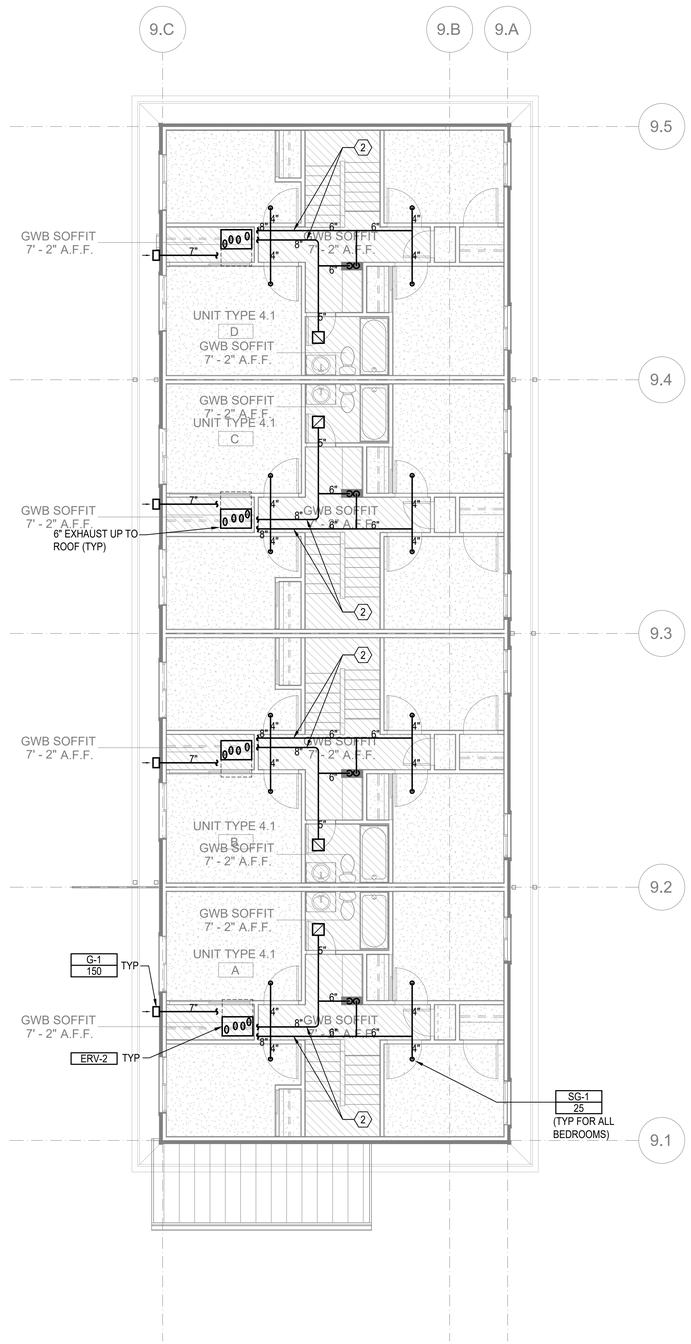
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M9-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 9 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. DUCTWORK WILL GO UP INTO ATTIC. WILL REQUIRE MINERAL WOOL INSULATION WRAP.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

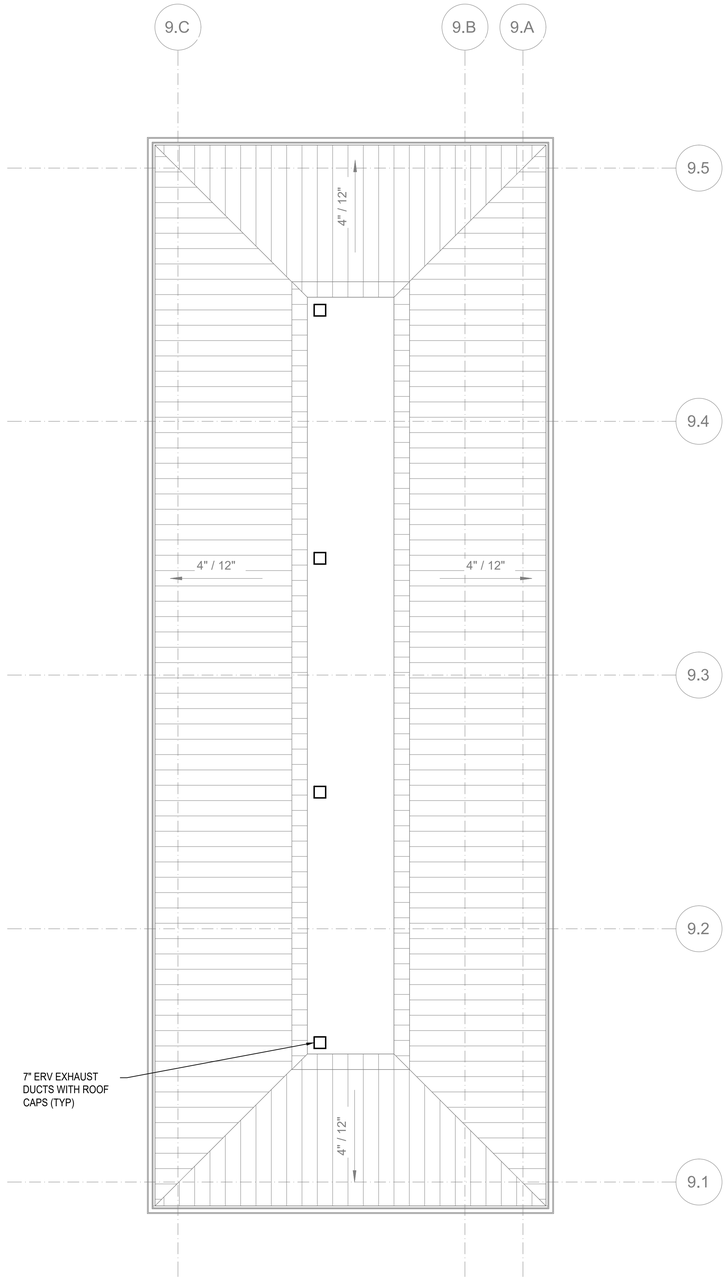
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M9-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 9 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
2. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
3. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
4. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
5. ERV EXHAUST SHALL USE BROAN MODEL 611CM ROOF CAP.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

DAVID AMBER PAULSON
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M9-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

DAN AMBER CORPORATION
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

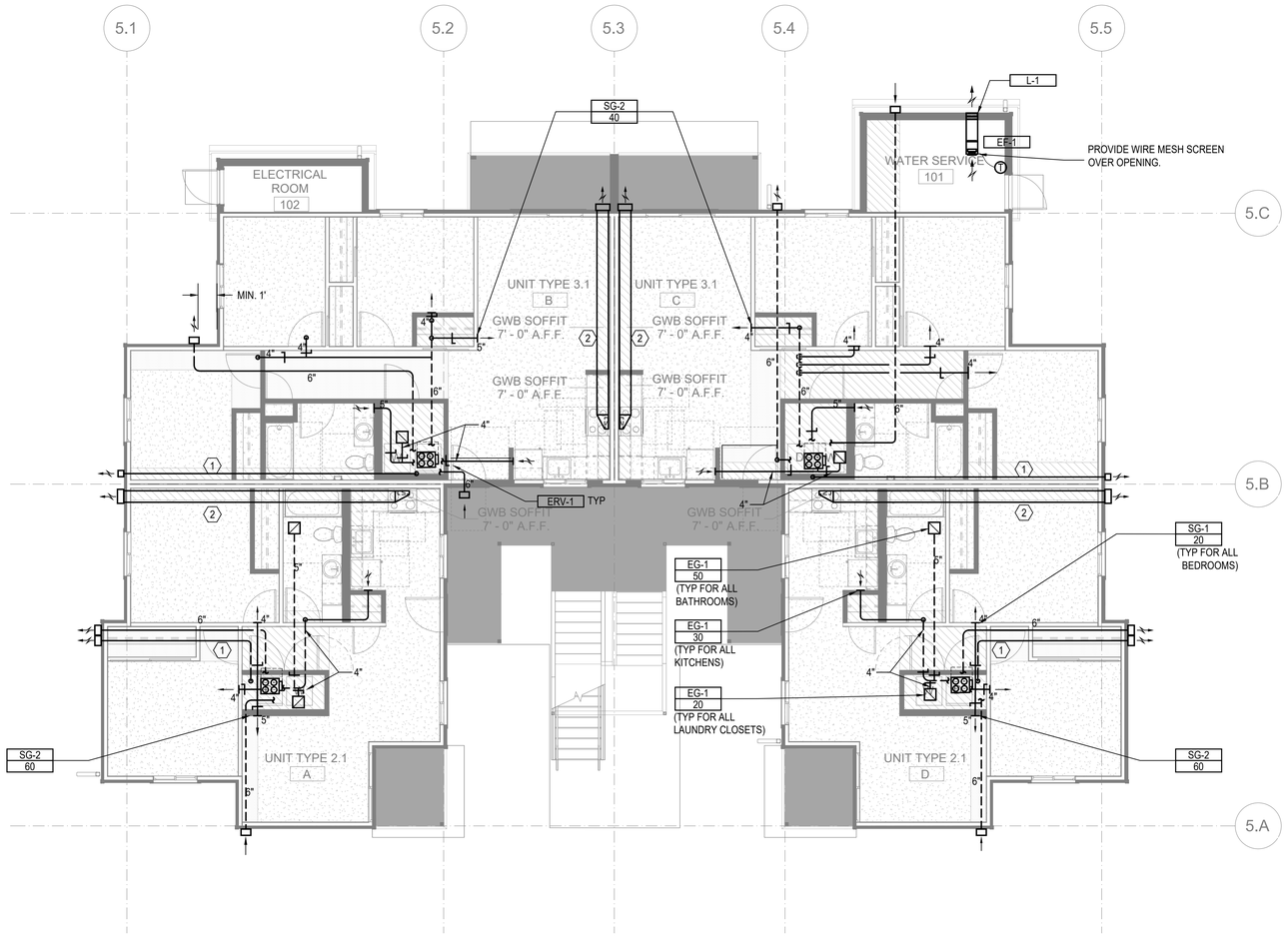
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M10-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 10 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

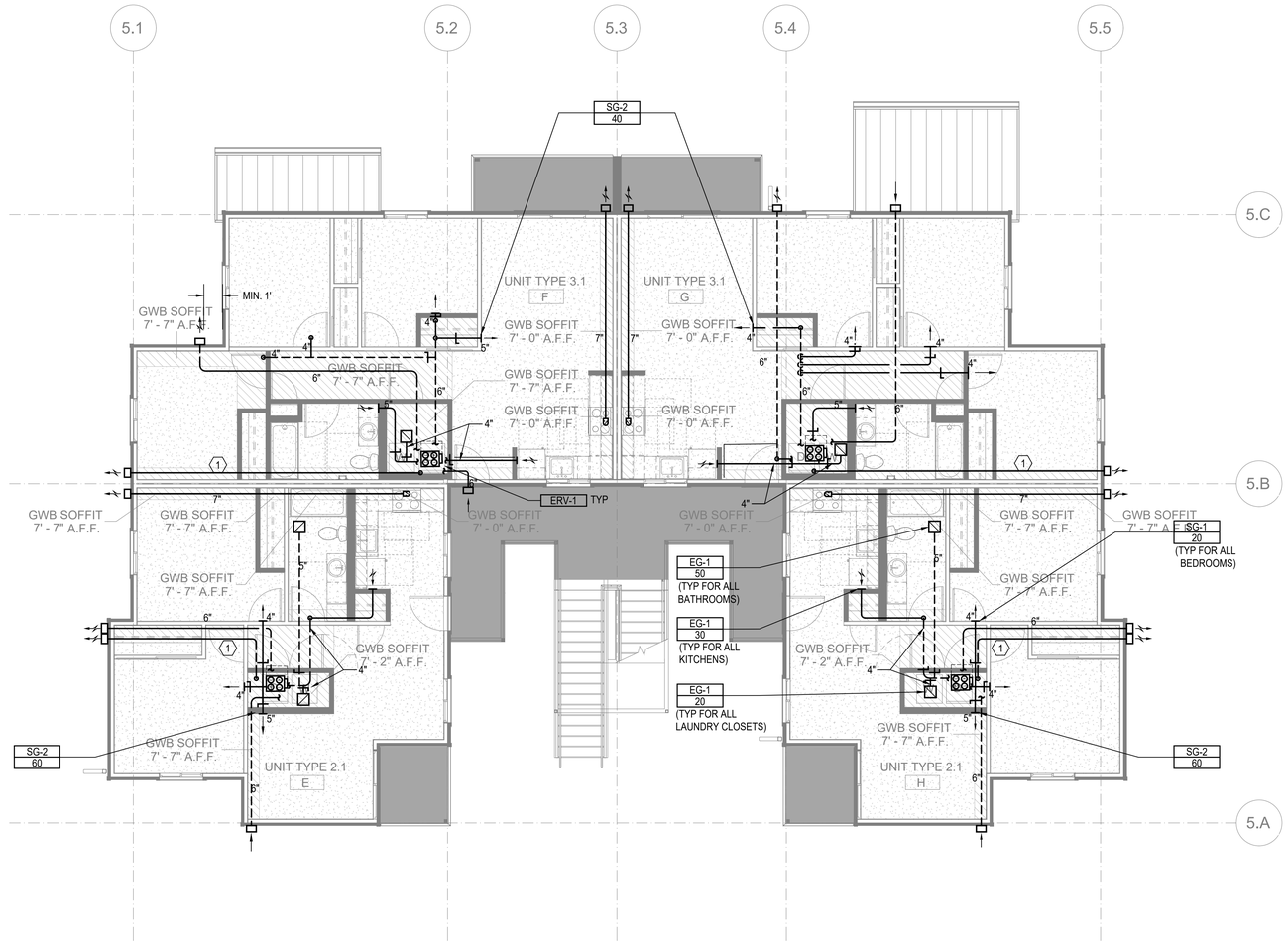
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M10-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 10 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

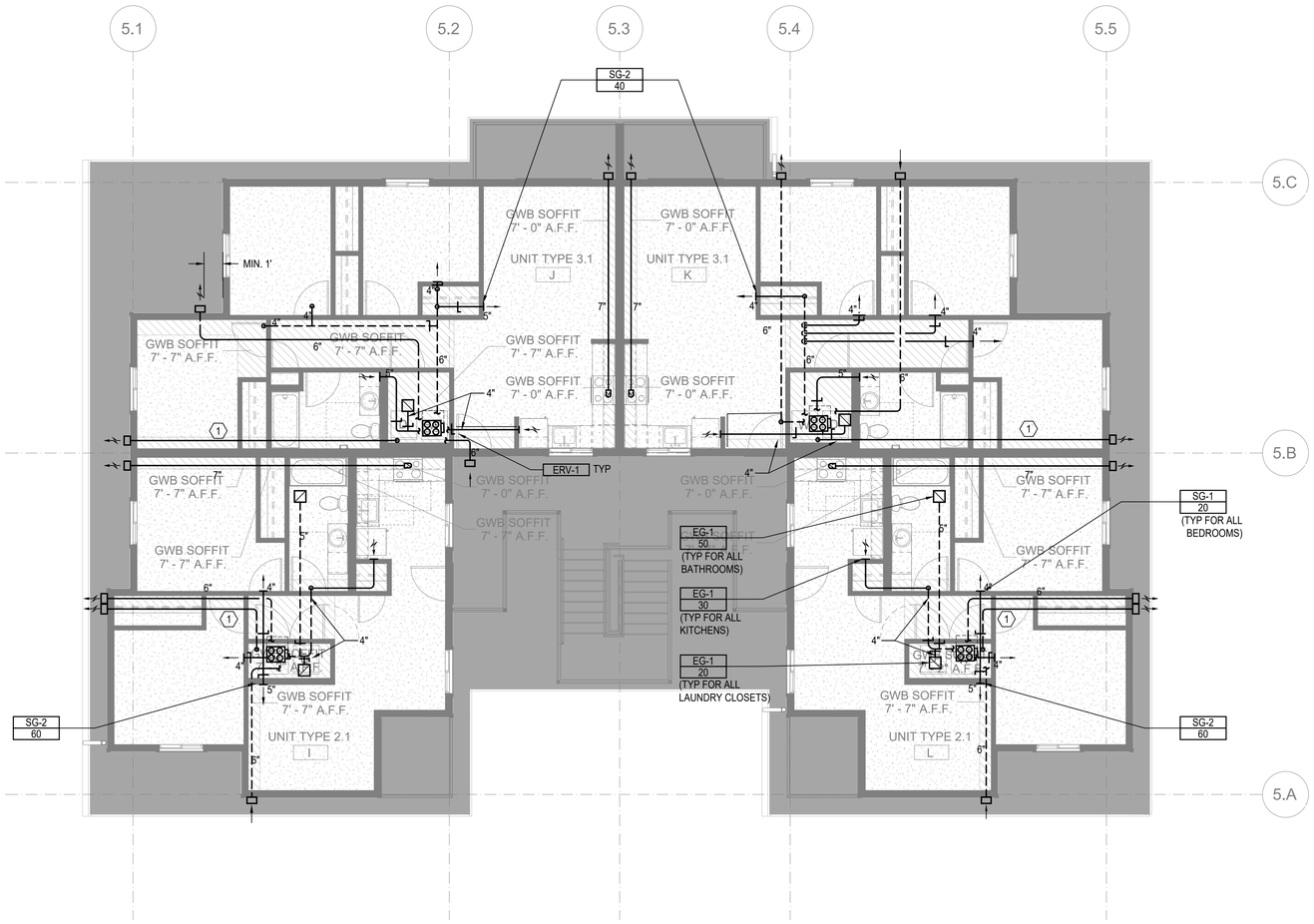
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M10-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 10 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

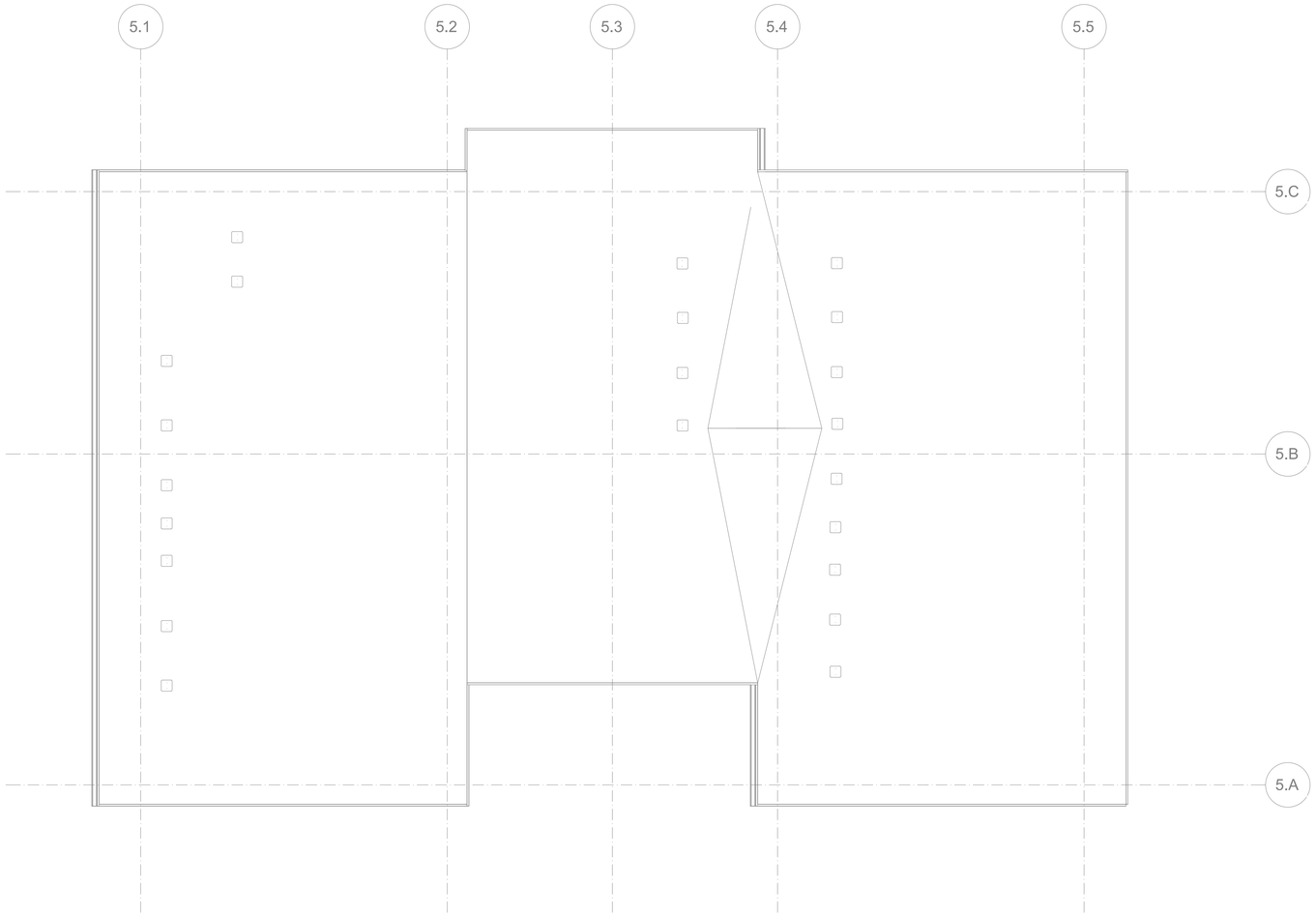
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M10-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 10 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M10-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (FT^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

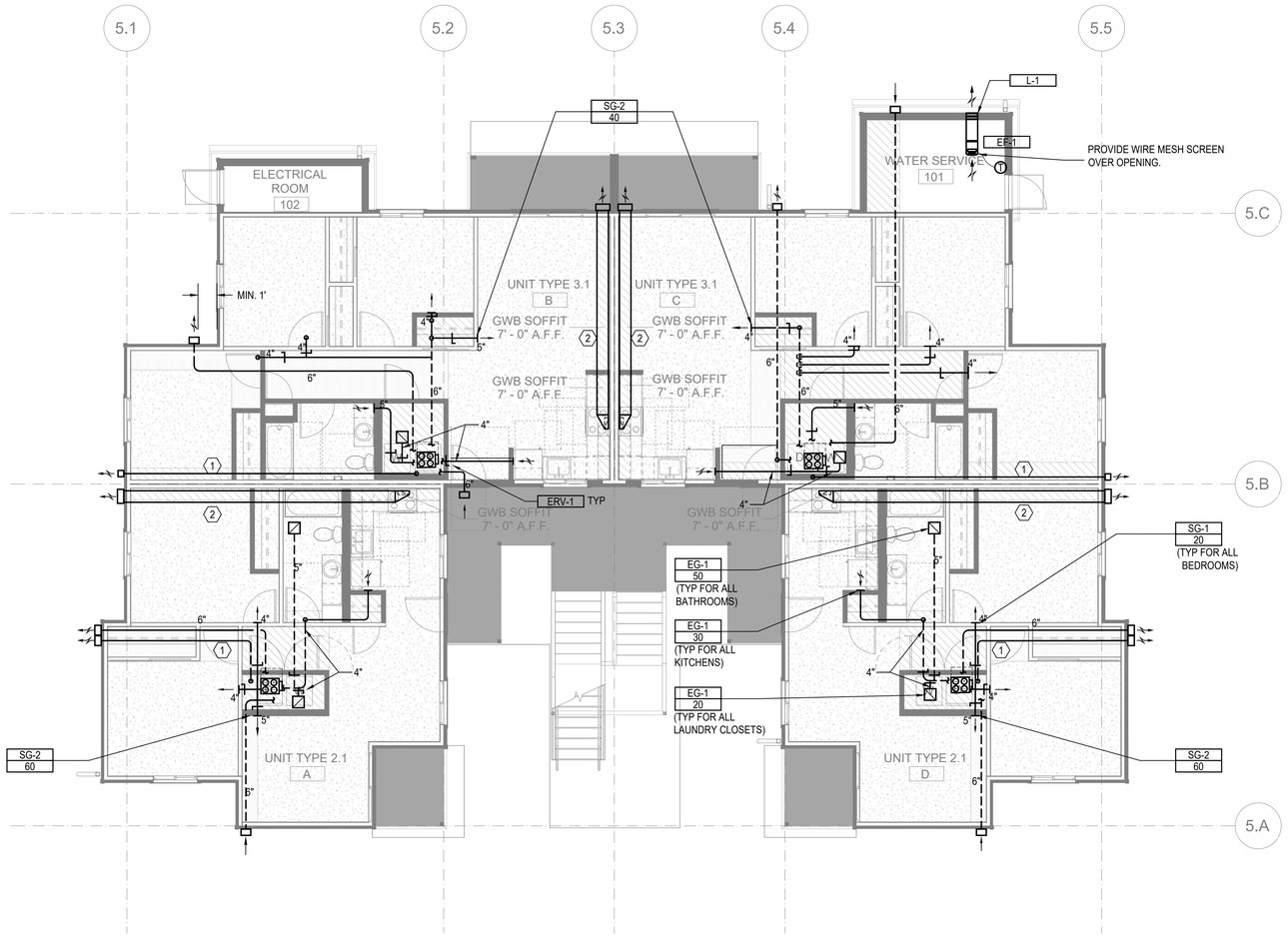
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M11-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 11 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

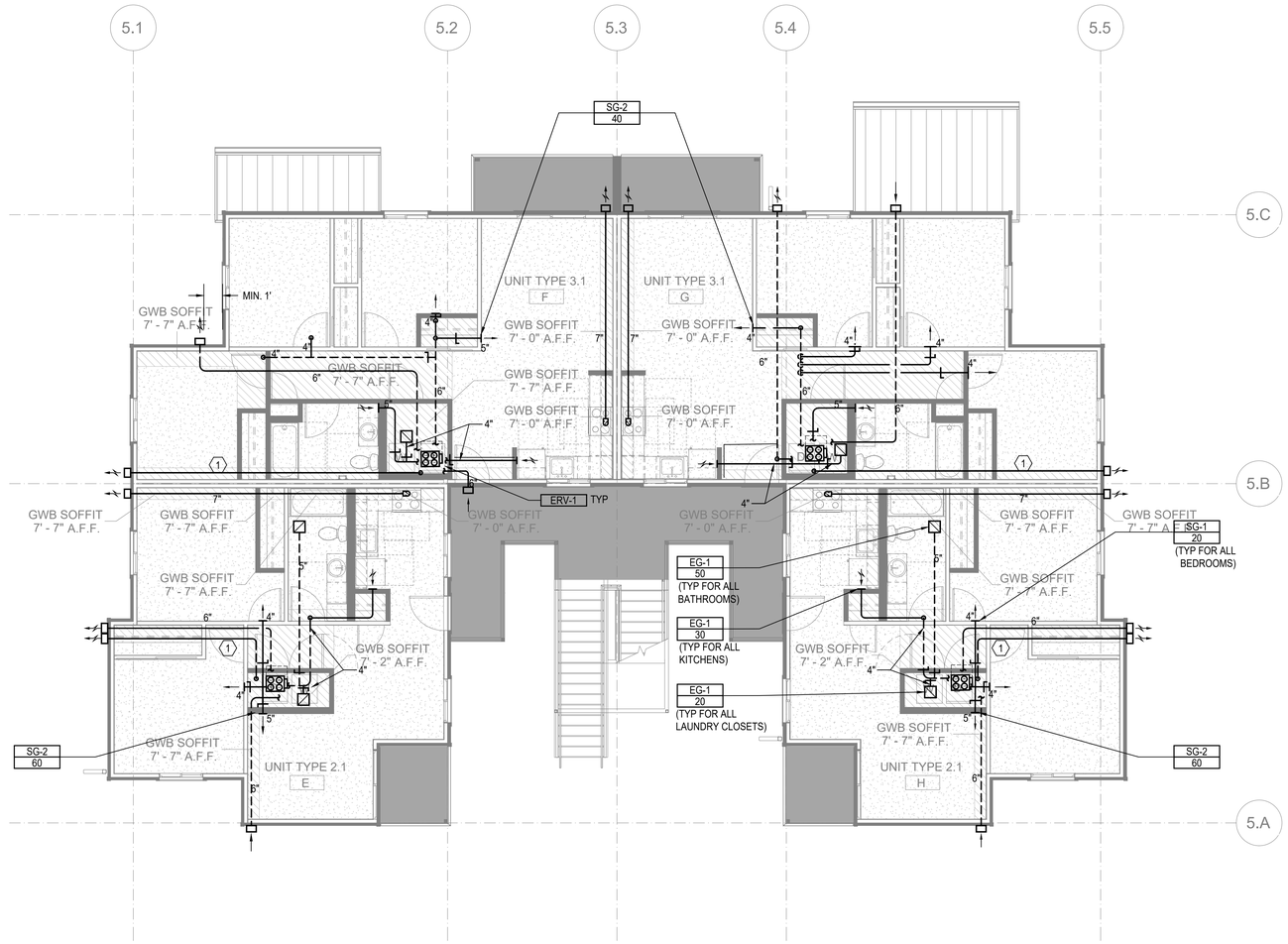
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M11-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 11 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

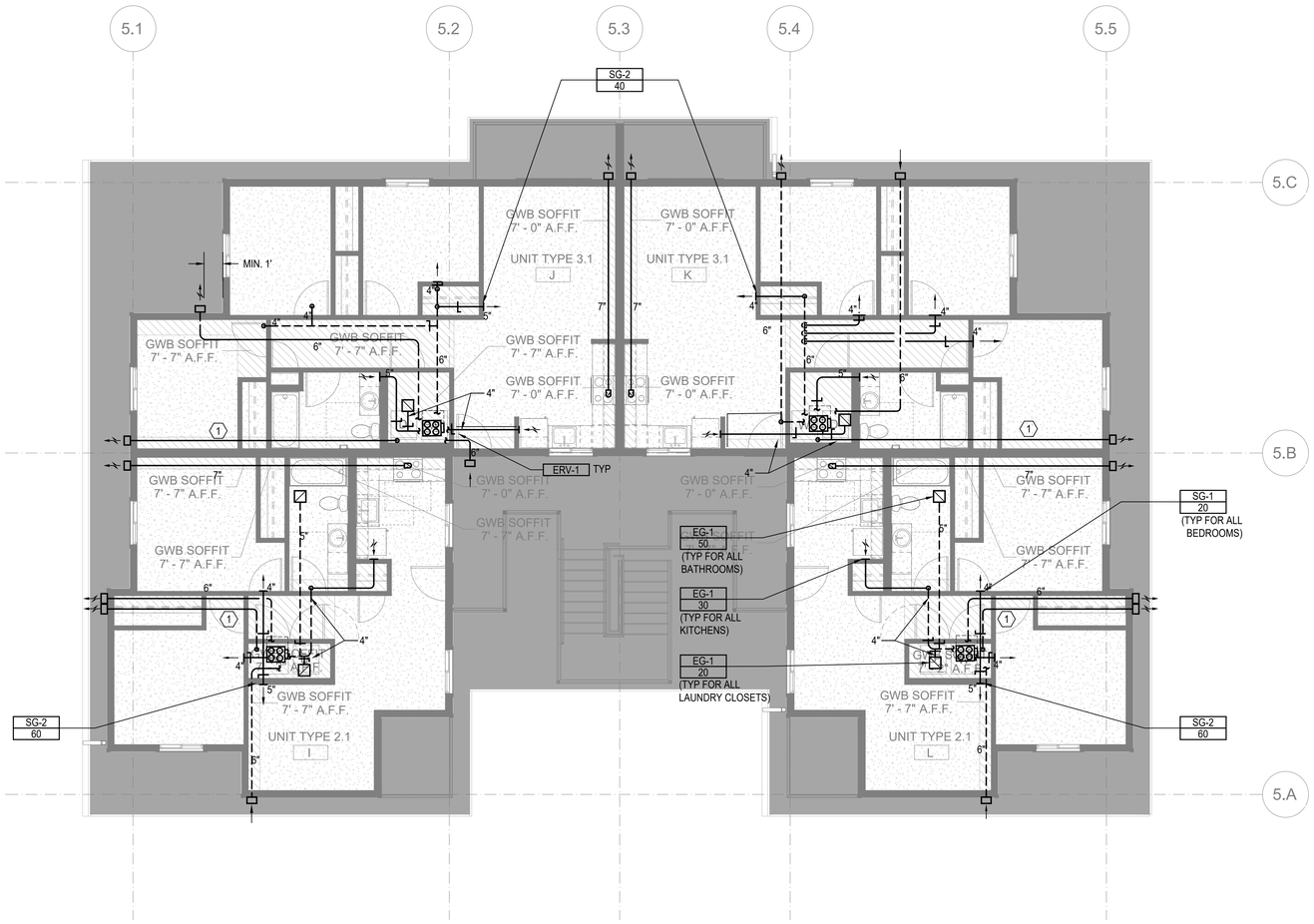
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M11-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 11 - LEVEL 3

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

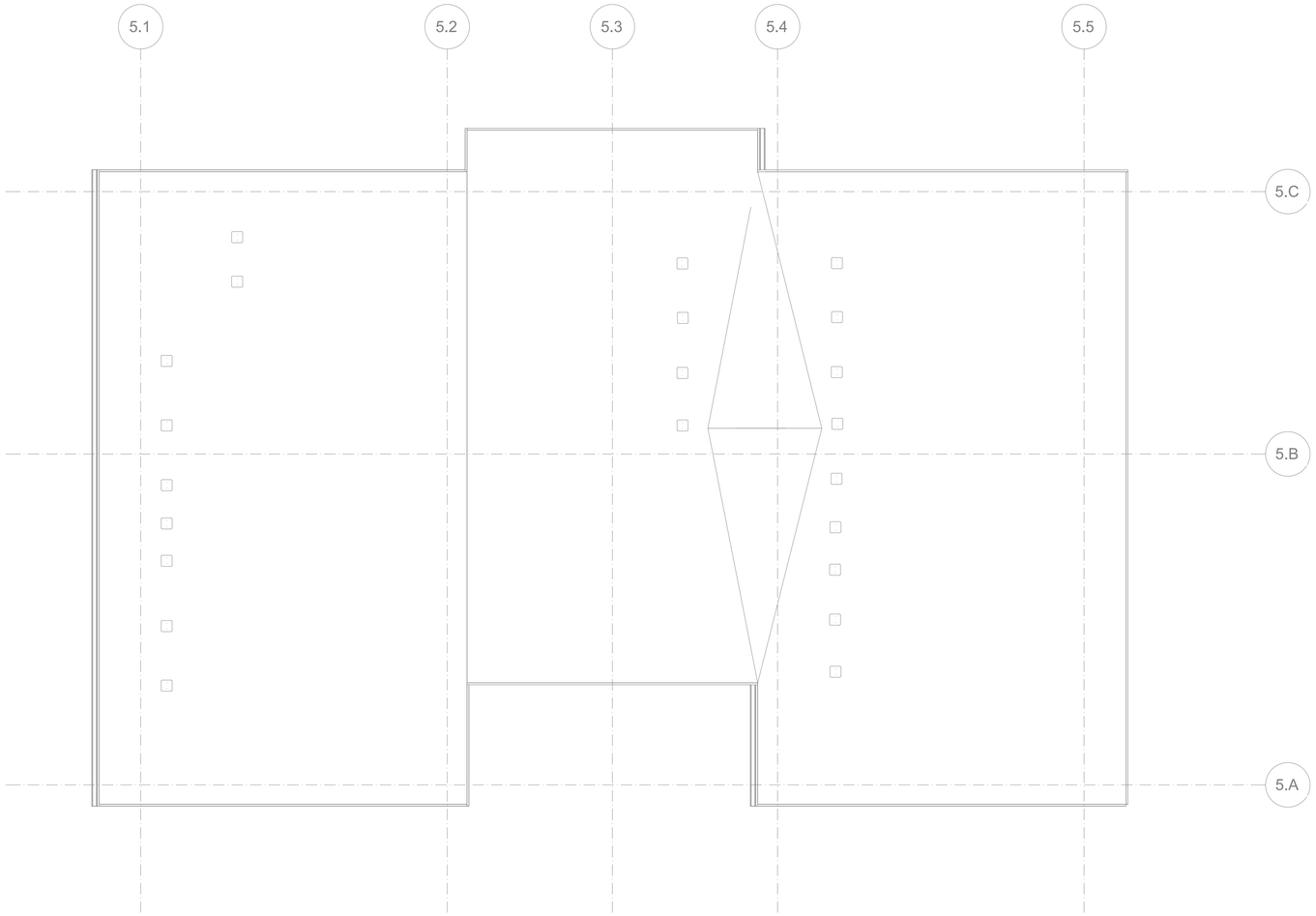
DPD STAMP

TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M11-103



FLOOR PLAN - BUILDING 11 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M11-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

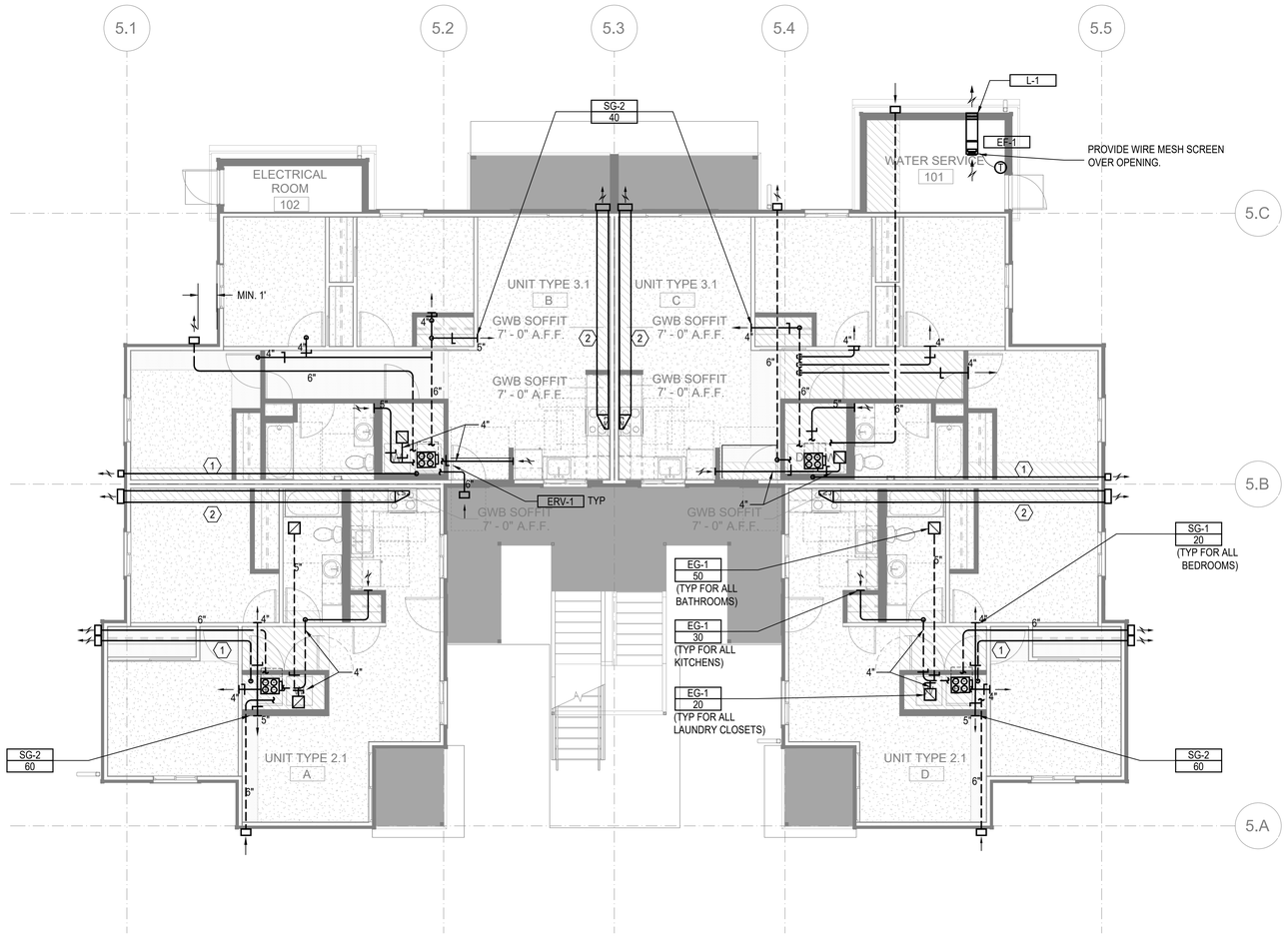
DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:
M12-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 12 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

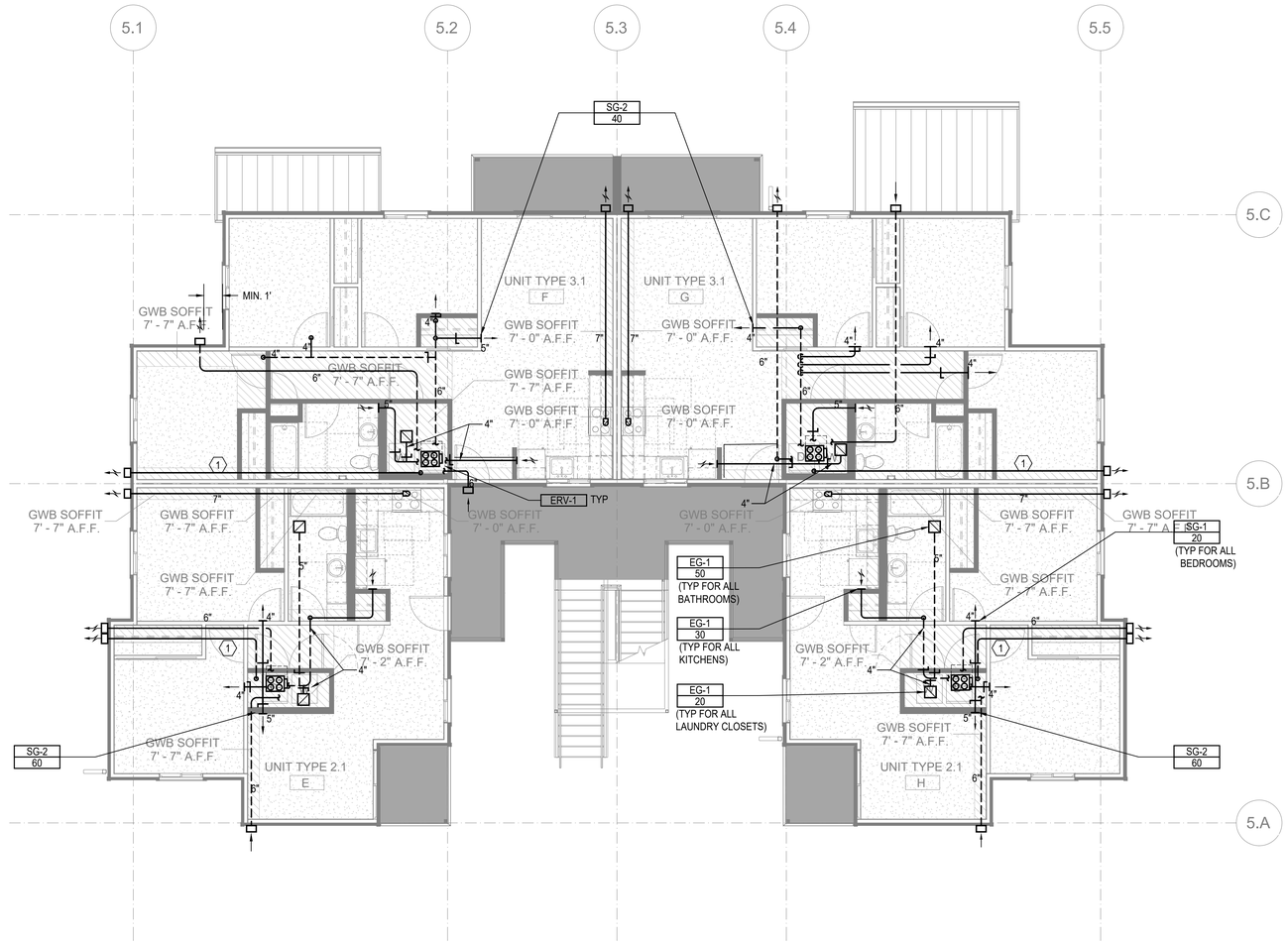
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M12-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 12 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

DAN AMBER FOX
STATE OF WASHINGTON
004100
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

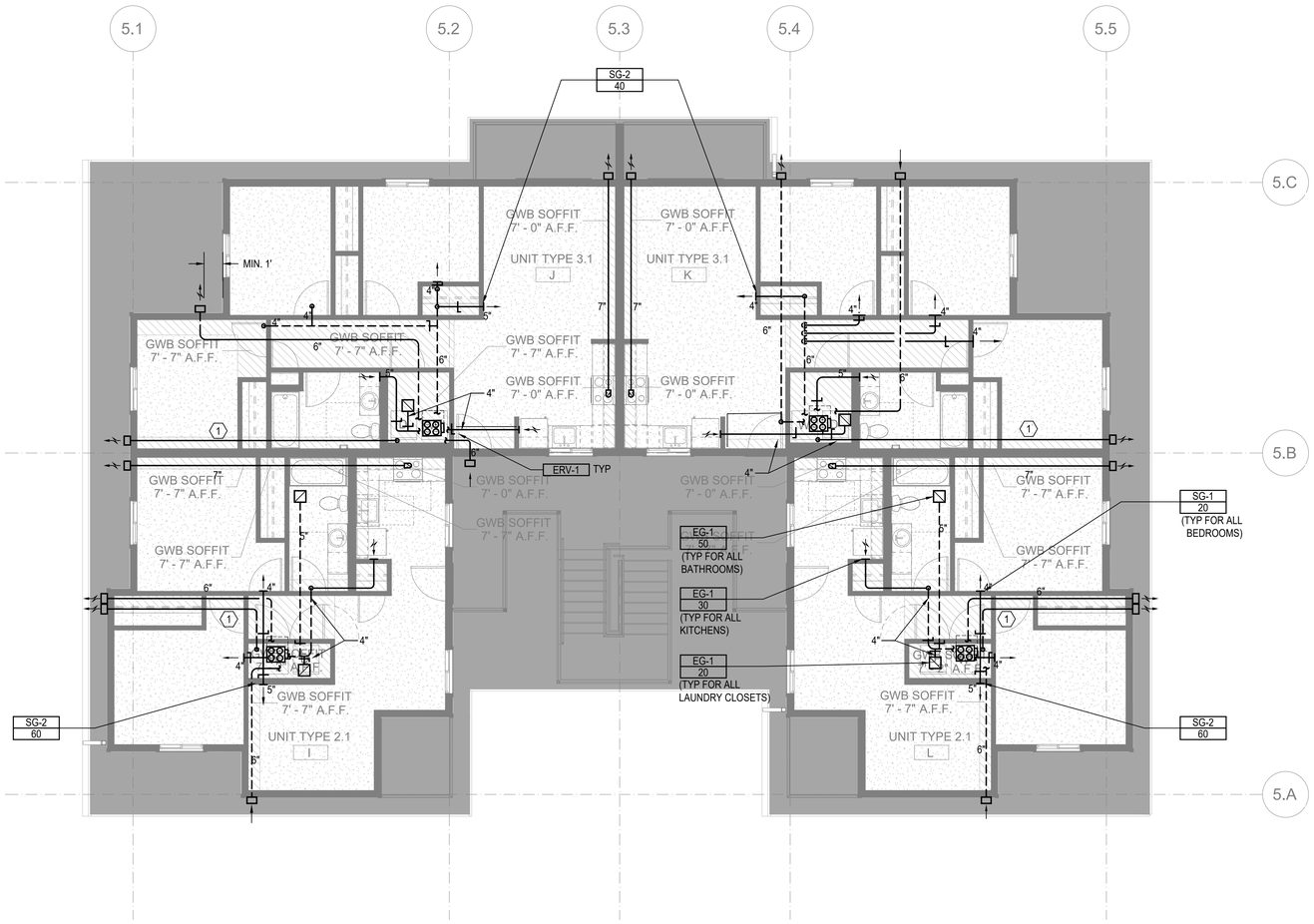
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M12-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 12 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

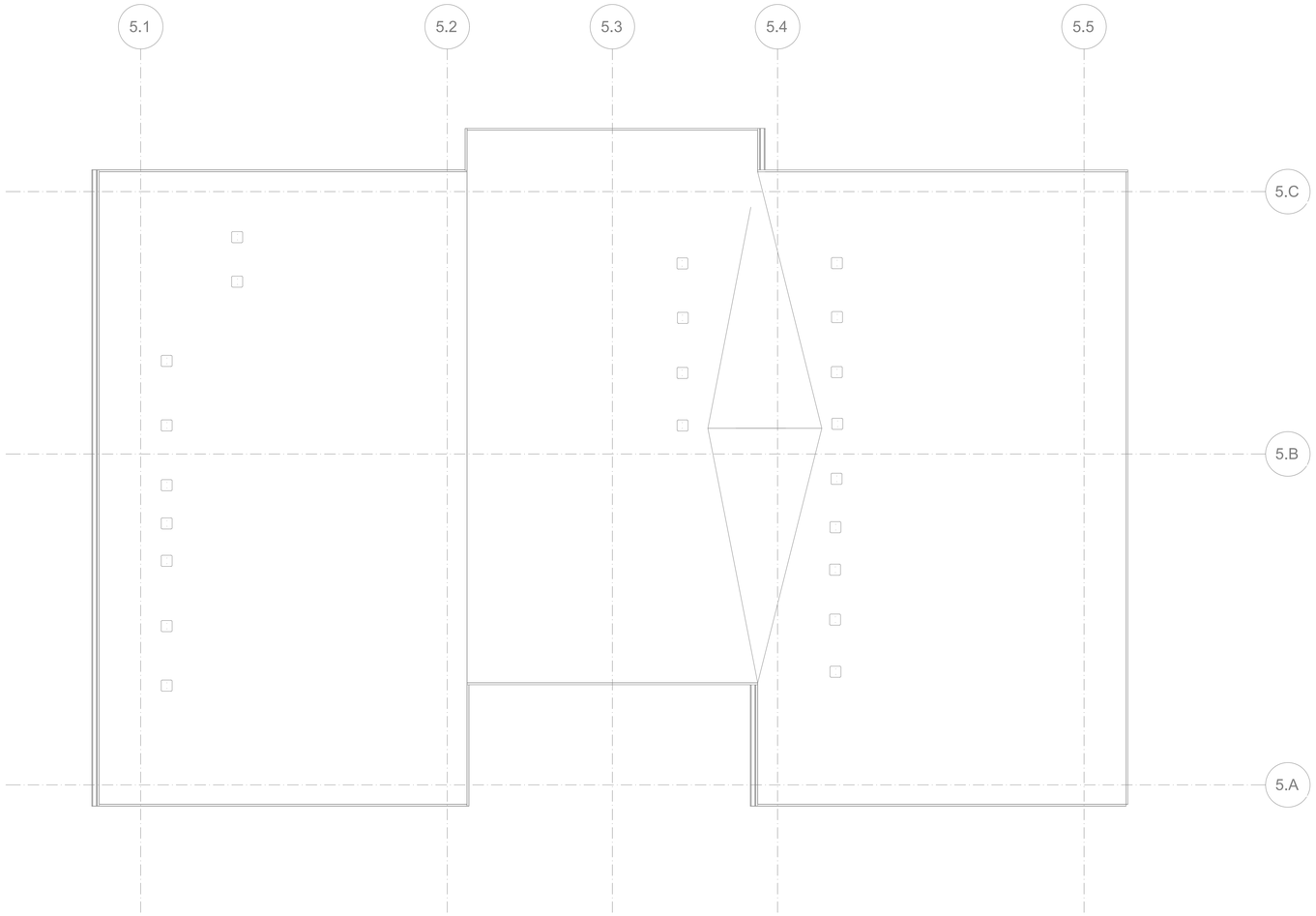
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M12-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 12 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M12-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

				SUPPLY		EXHAUST		HEAT EXCHANGER		ELECTRICAL		WGT.		
MARK	MAKE	MODEL	TYPE	CFM	ESP	CFM	ESP	MATERIAL	WINTER EFF.	WATTS	VOLT/PH	LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

						ESP			HP	ELEC	WT.	MAX	NOTES:
MARK	SERVES	MAKE	MODEL	TYPE	CFM	INCH WC	RPM	BHP	(WATTS)	VOLT/PH	LBS	SONES (DBA)	
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2)			
		FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104
PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS
13317 NE 133rd St., Kirkland, WA 98034

BUILDING 13
BID SET

DANA AMBER FORBES STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

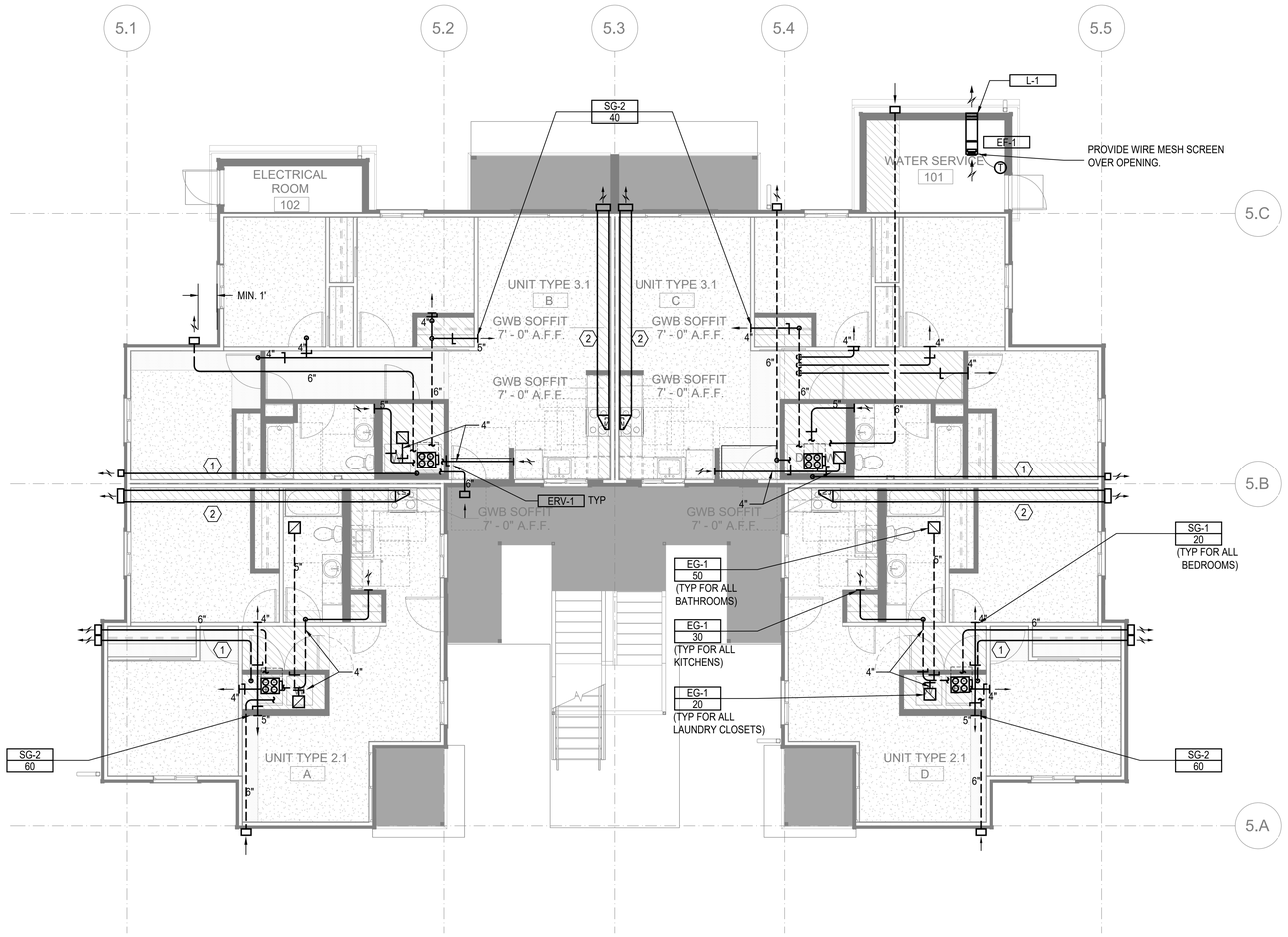
REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE
NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:
M13-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 13 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

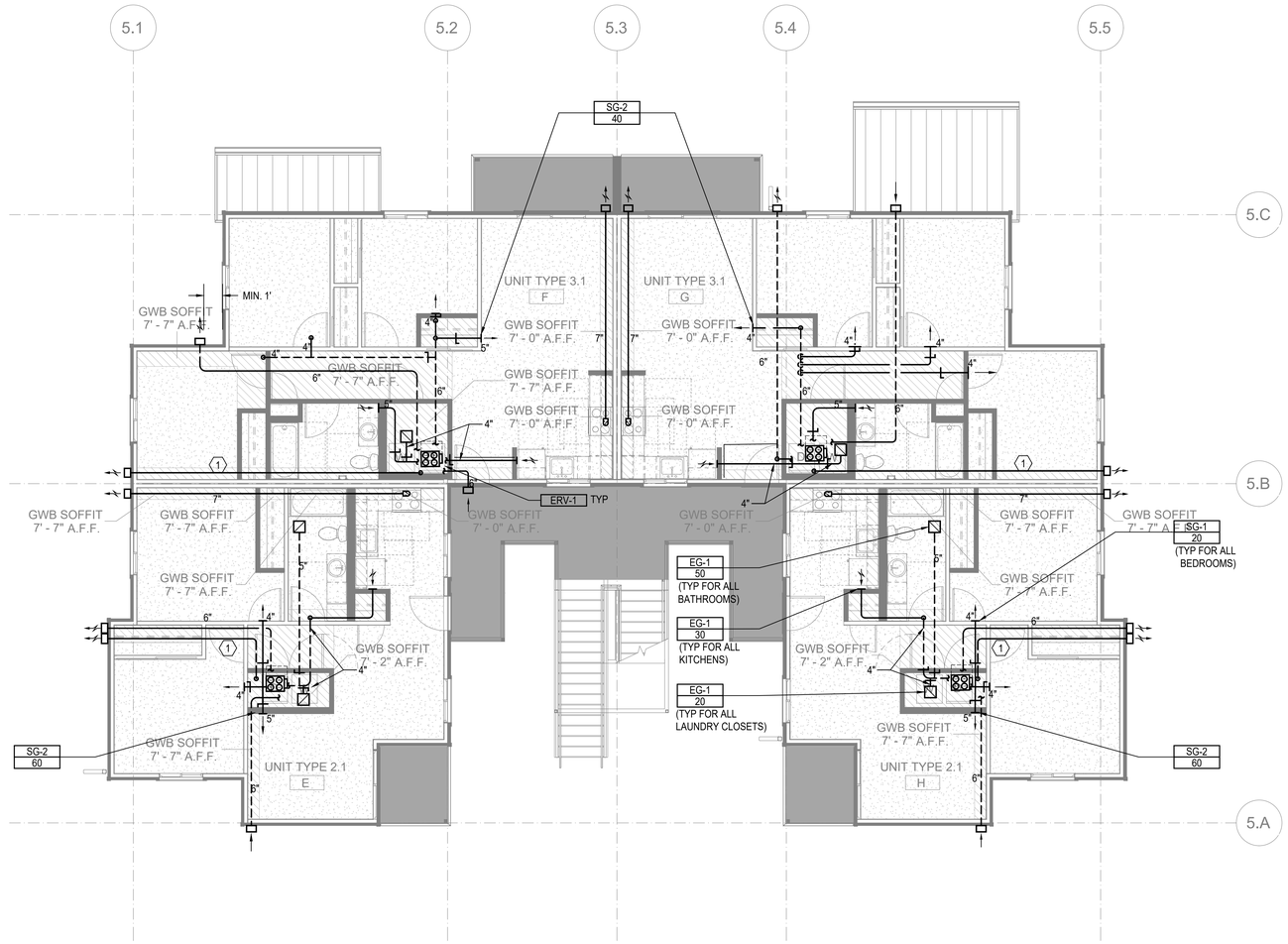
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M13-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 13 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

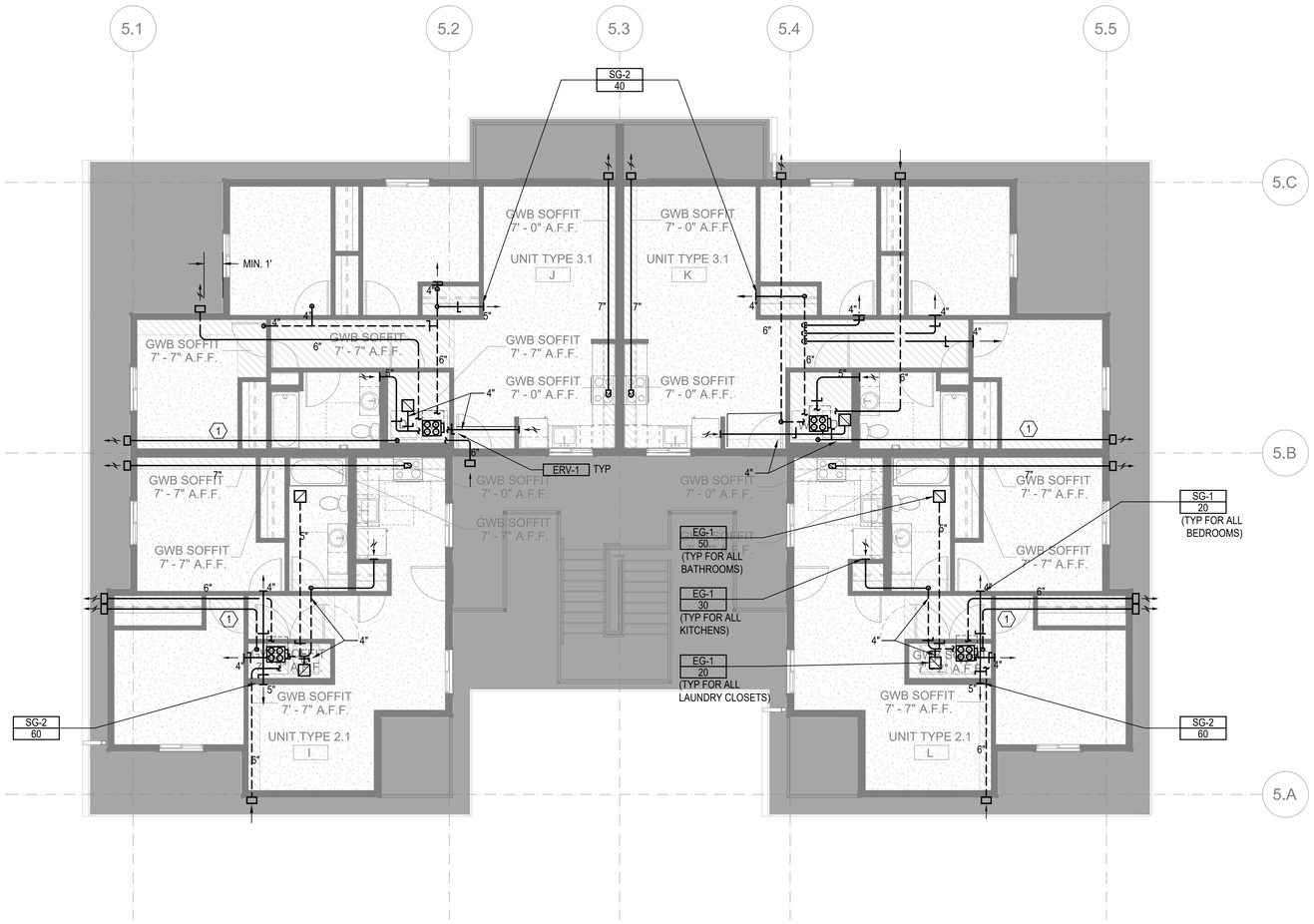
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M13-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 13 - LEVEL 3

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

DANA LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

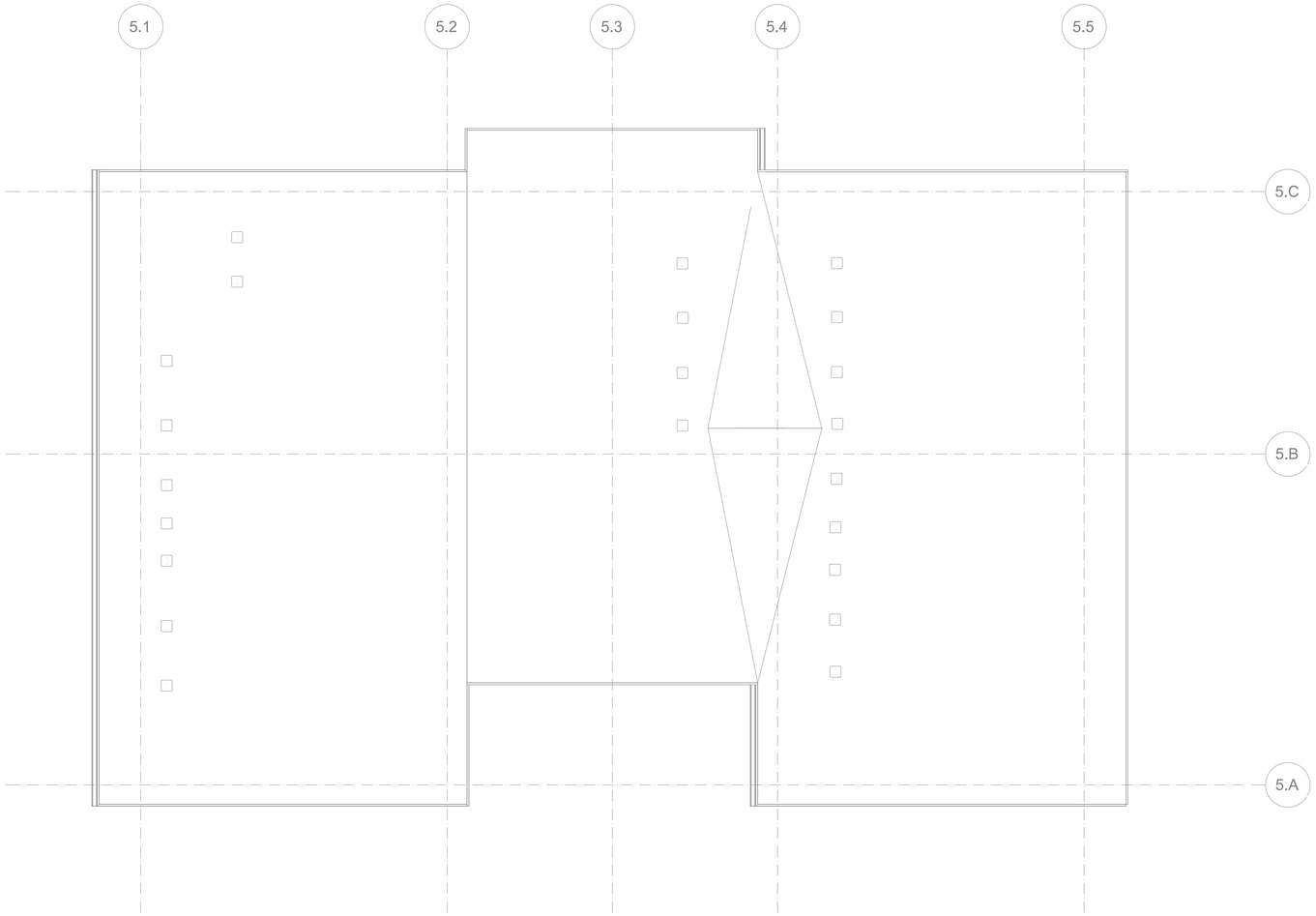
DPD STAMP

TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M13-103



FLOOR PLAN - BUILDING 13 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M13-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

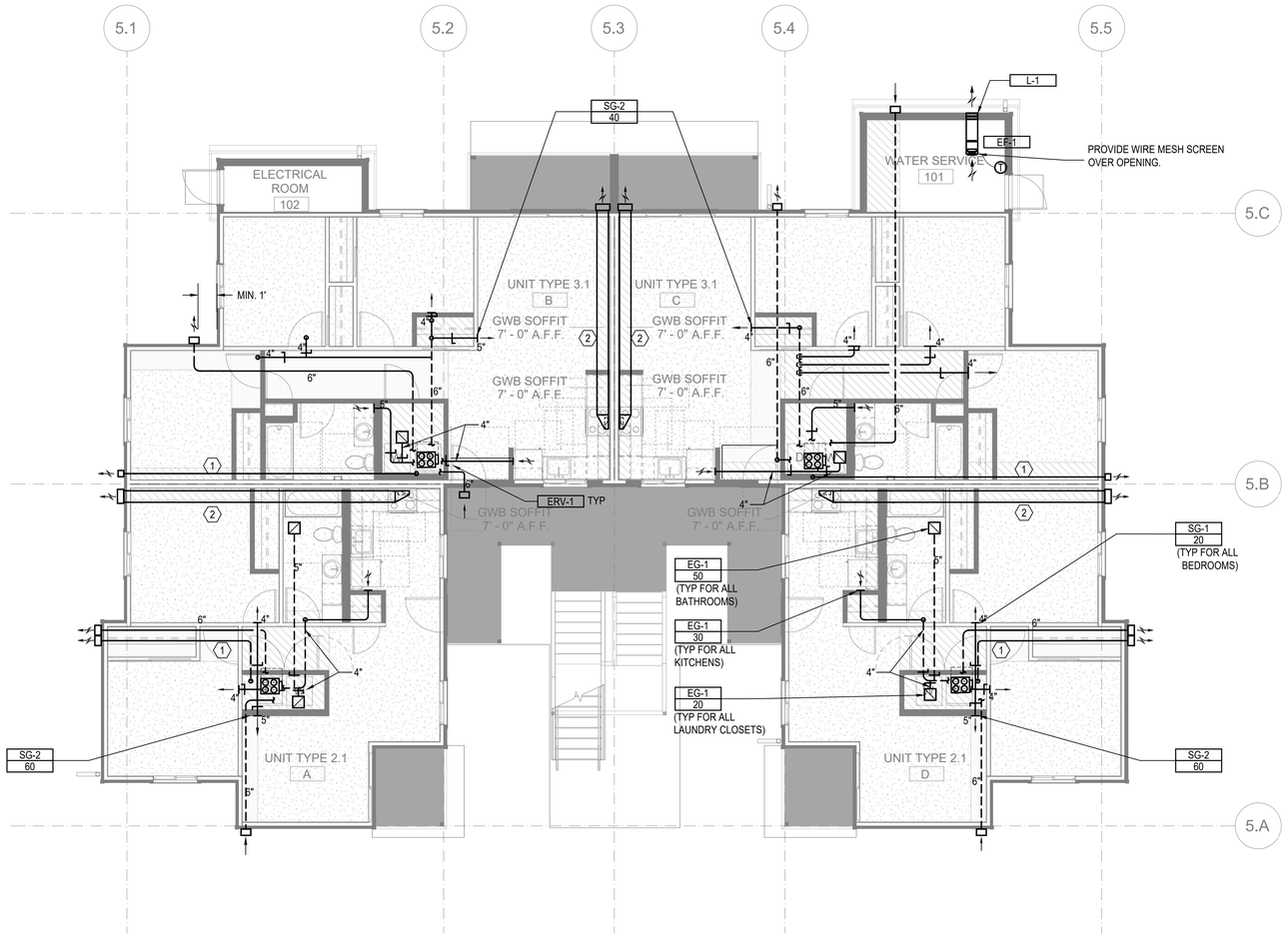
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M14-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 14 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

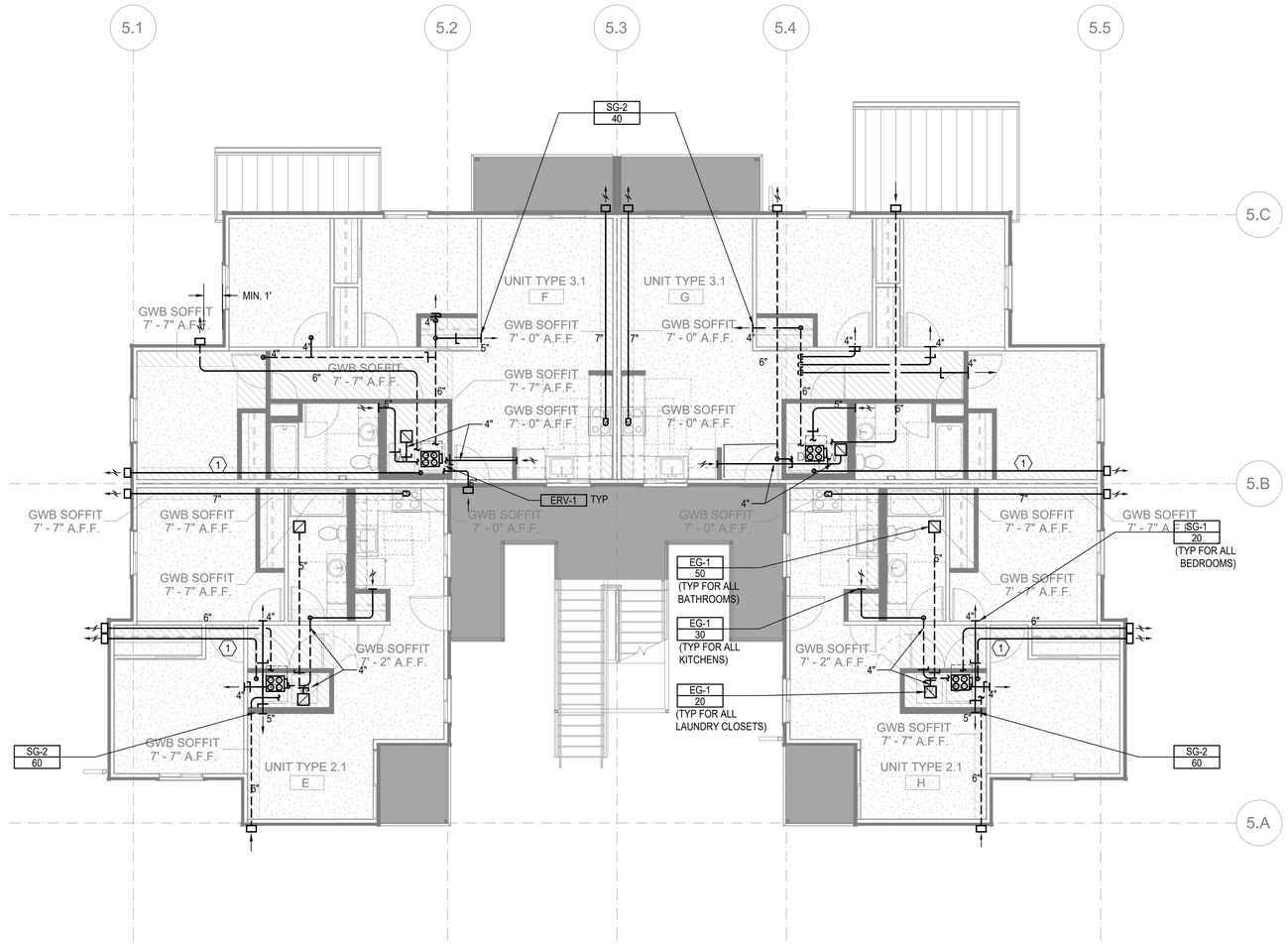
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M14-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 14 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

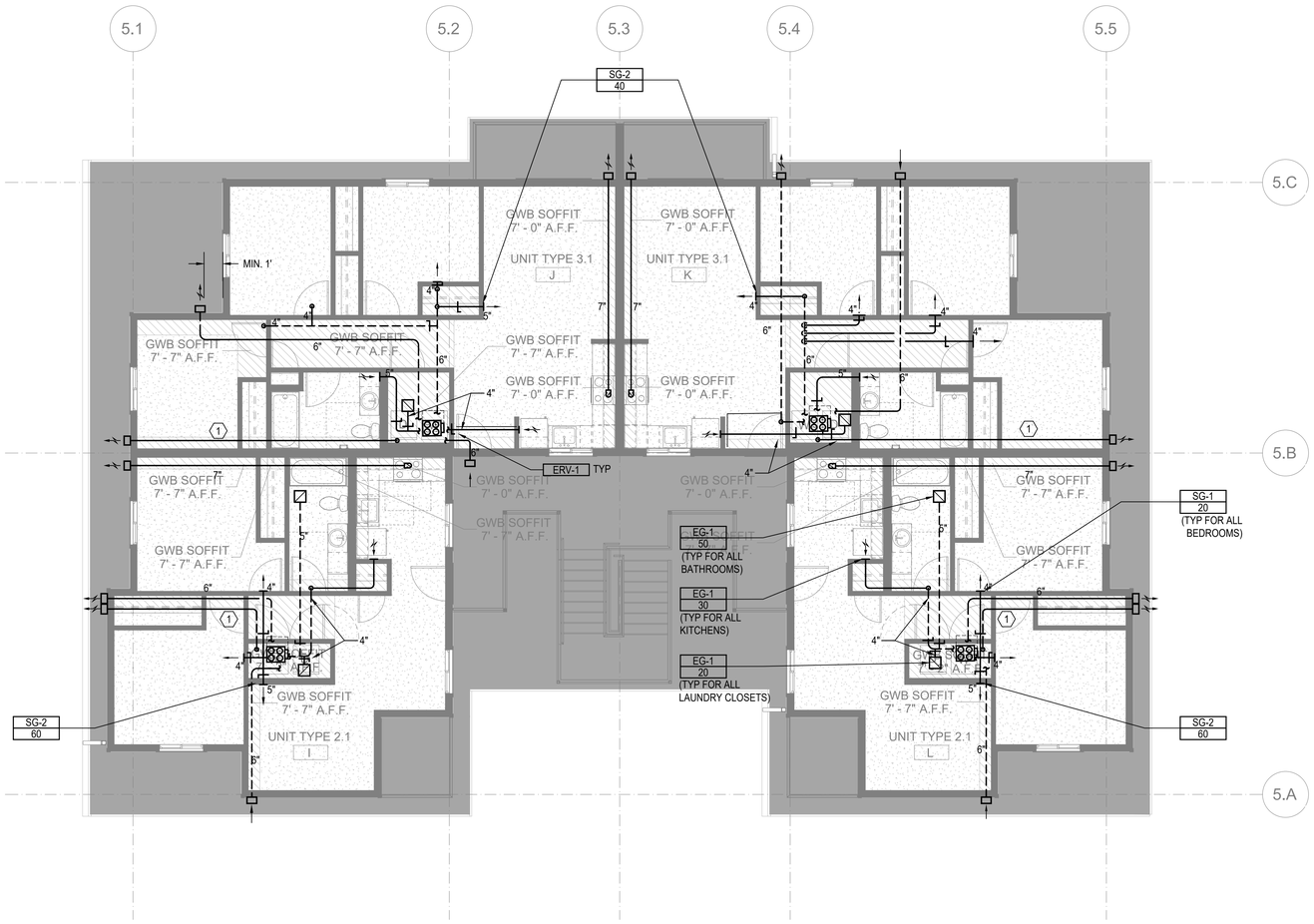
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M14-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 14 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

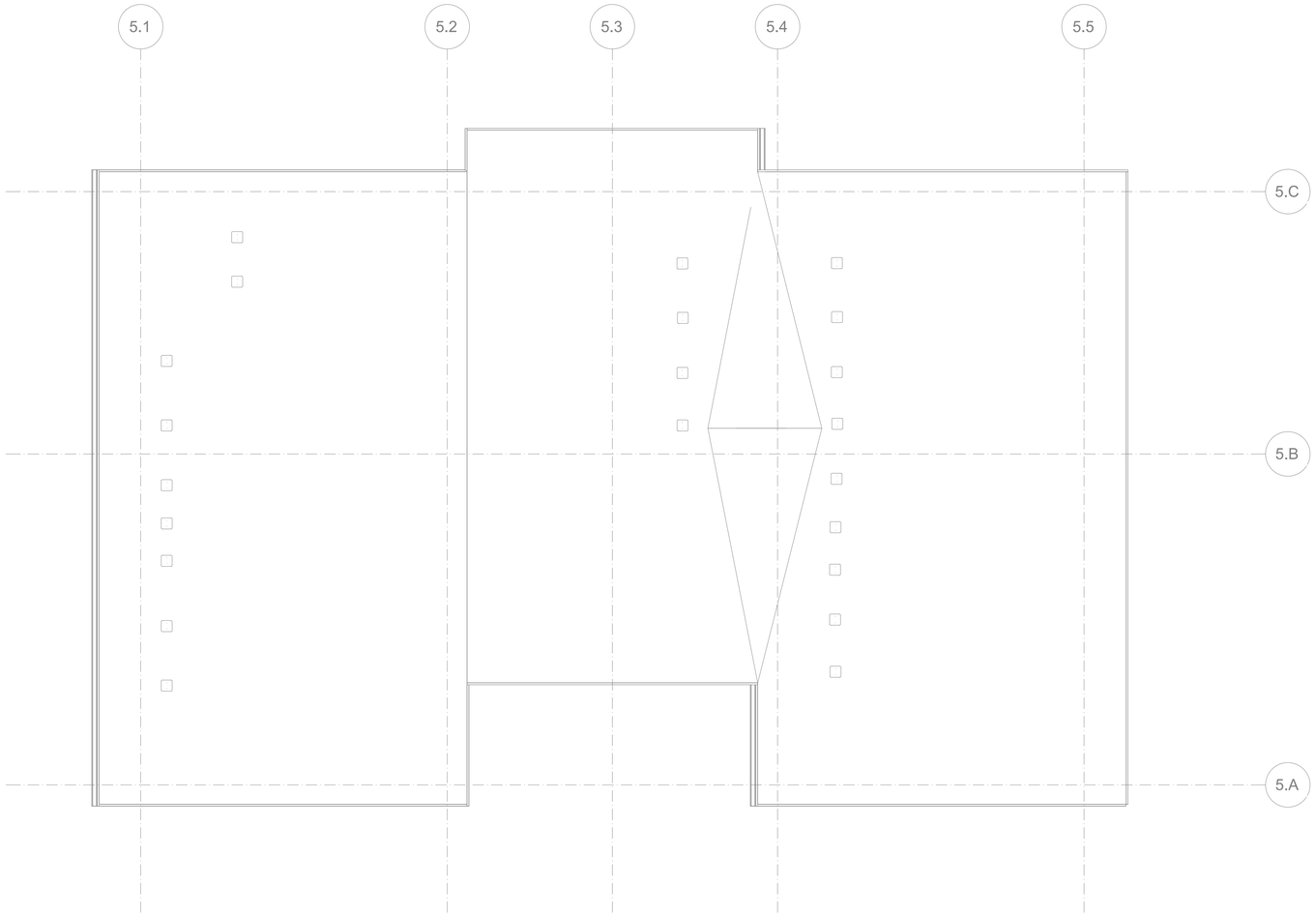
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M14-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 14 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M14-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-2	BROAN	ERV200 ECM	INDOOR	140	1.2	140	1.2	POLYMER	74%	135	120/1	110	28	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

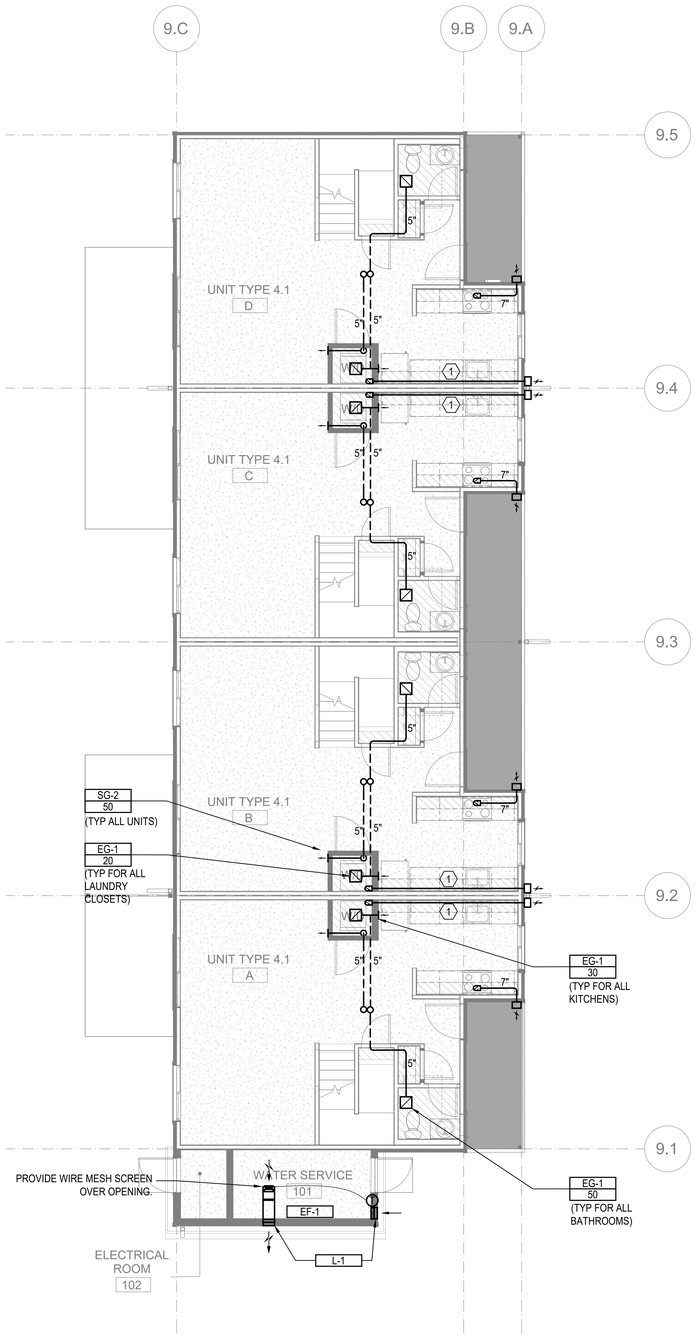
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M15-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 15 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUSE AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

DAN AMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

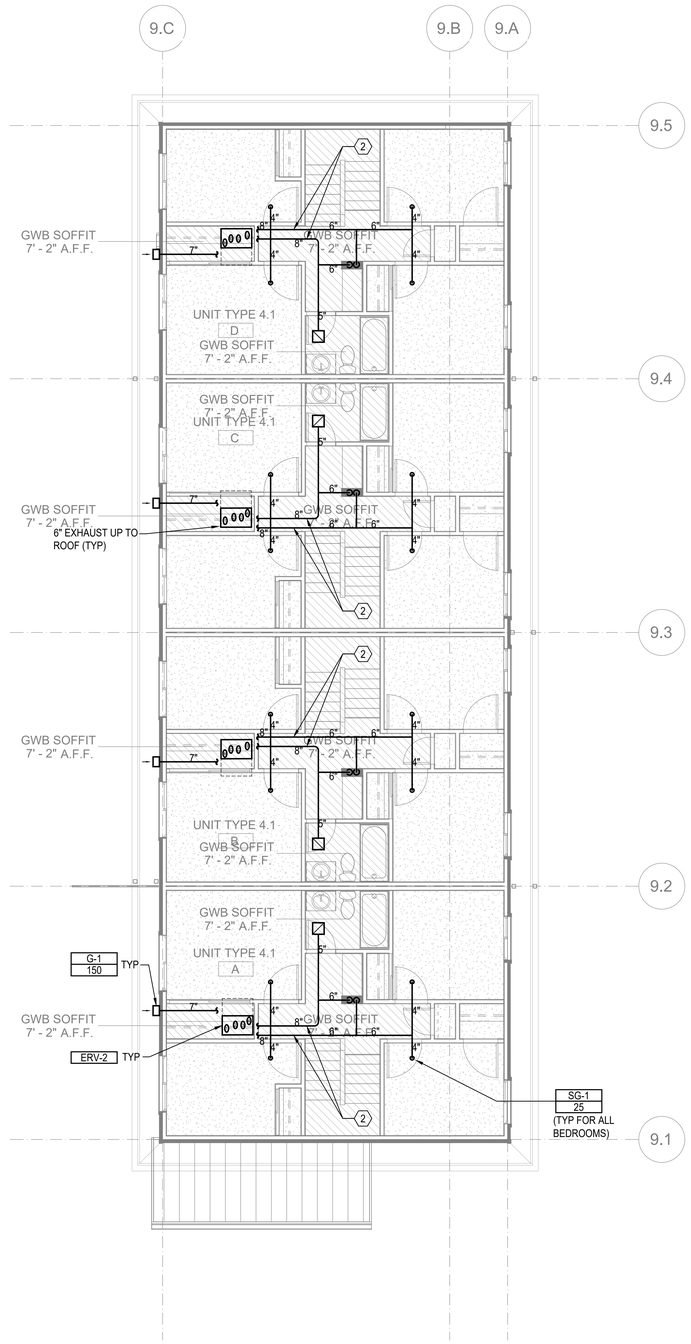
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M15-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 15 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. DUCTWORK WILL GO UP INTO ATTIC. WILL REQUIRE MINERAL WOOL INSULATION WRAP.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST – – – – – –

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

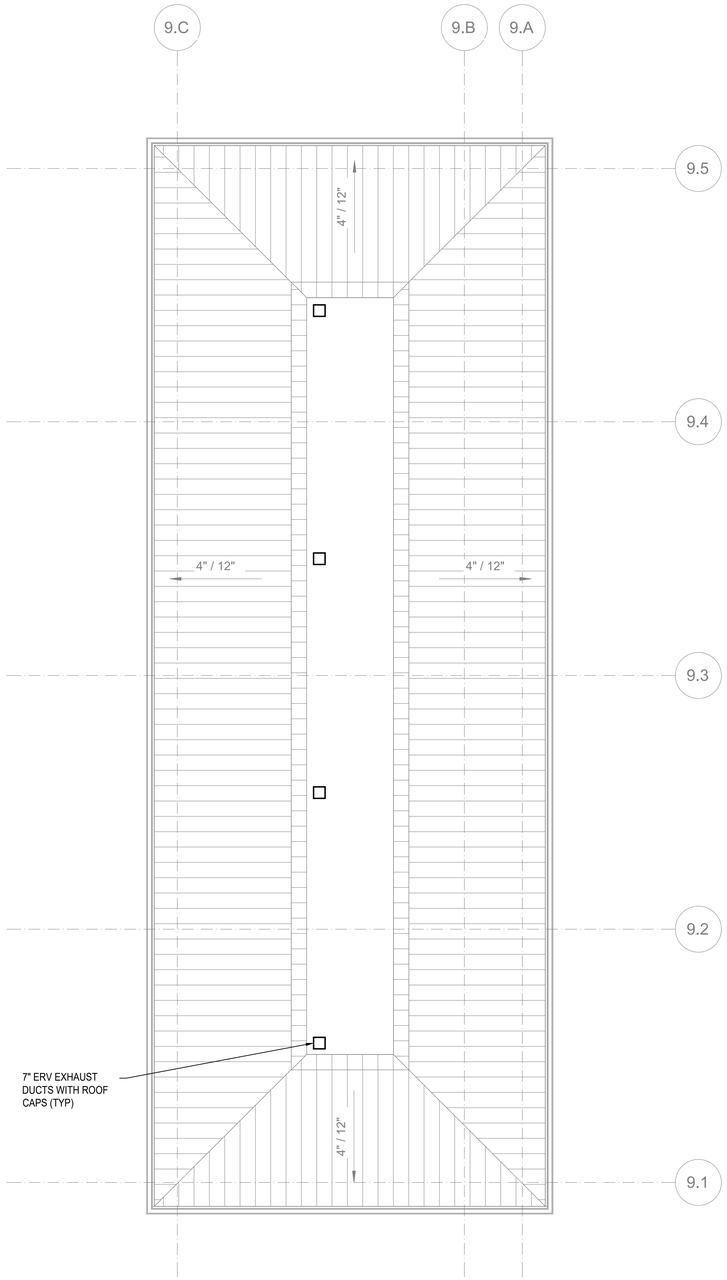
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M15-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 15 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
2. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
3. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
4. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
5. ERV EXHAUST SHALL USE BROAN MODEL 611CM ROOF CAP.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M15-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

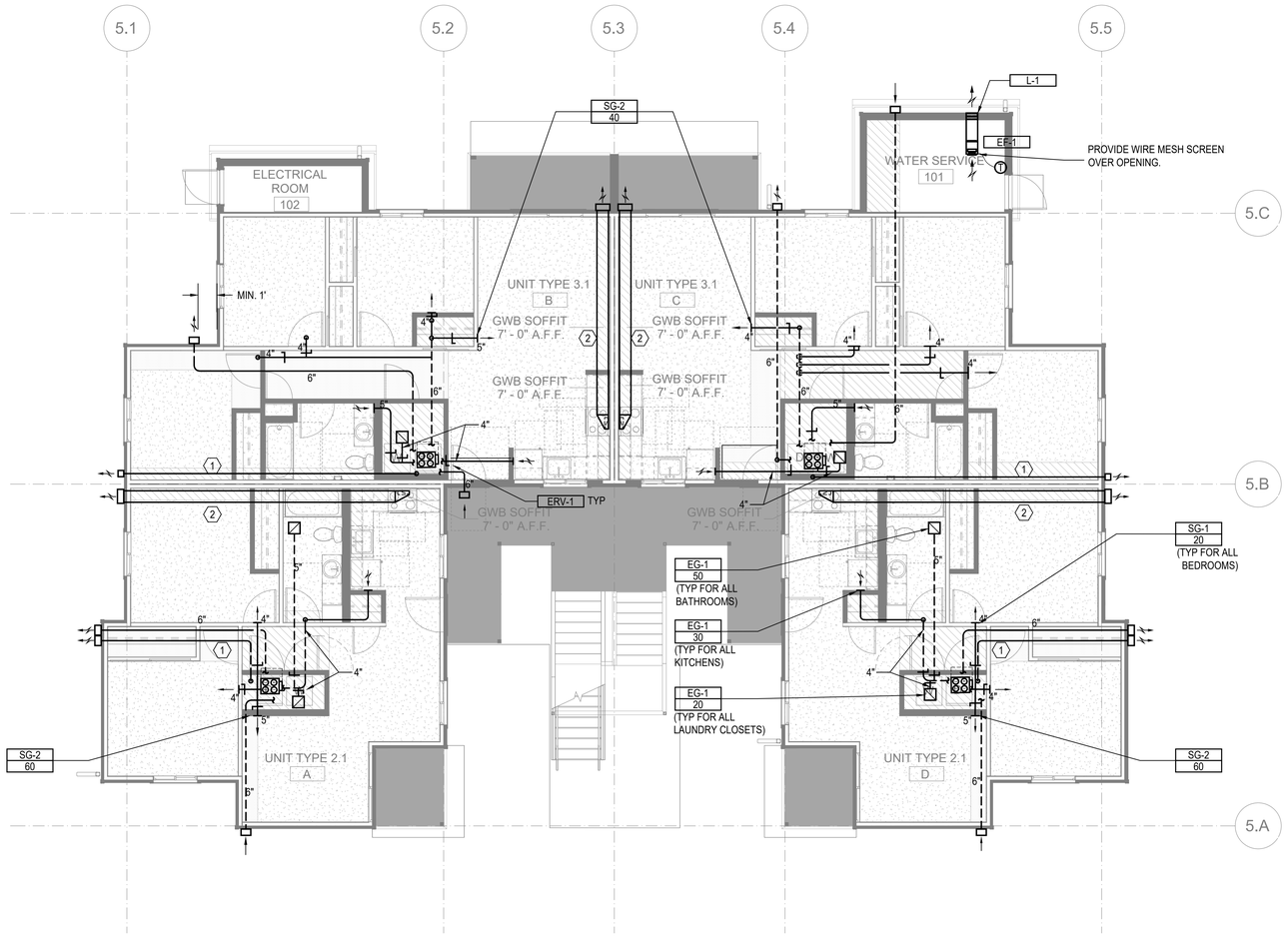
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M16-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 16 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

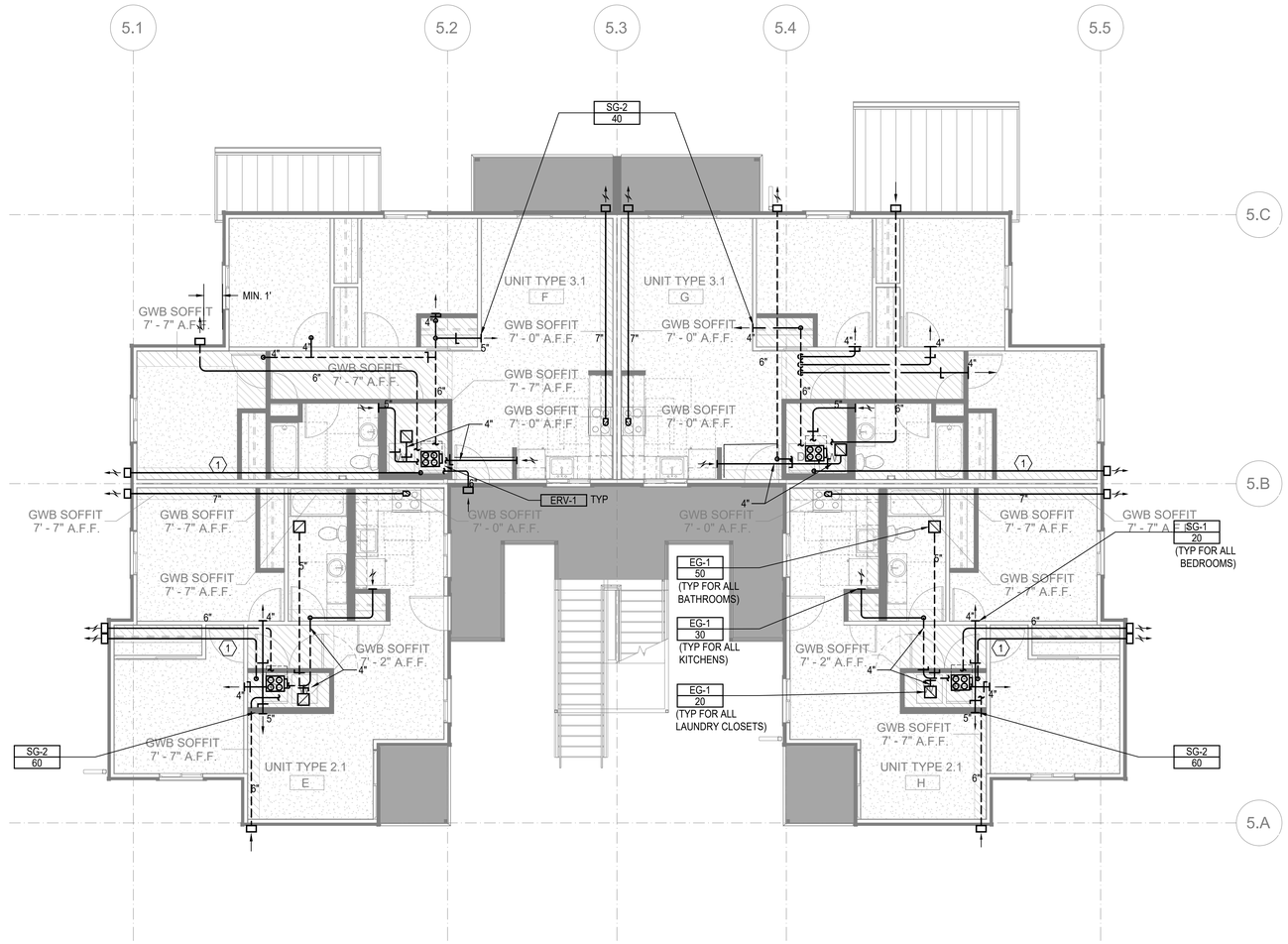
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M16-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 16 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

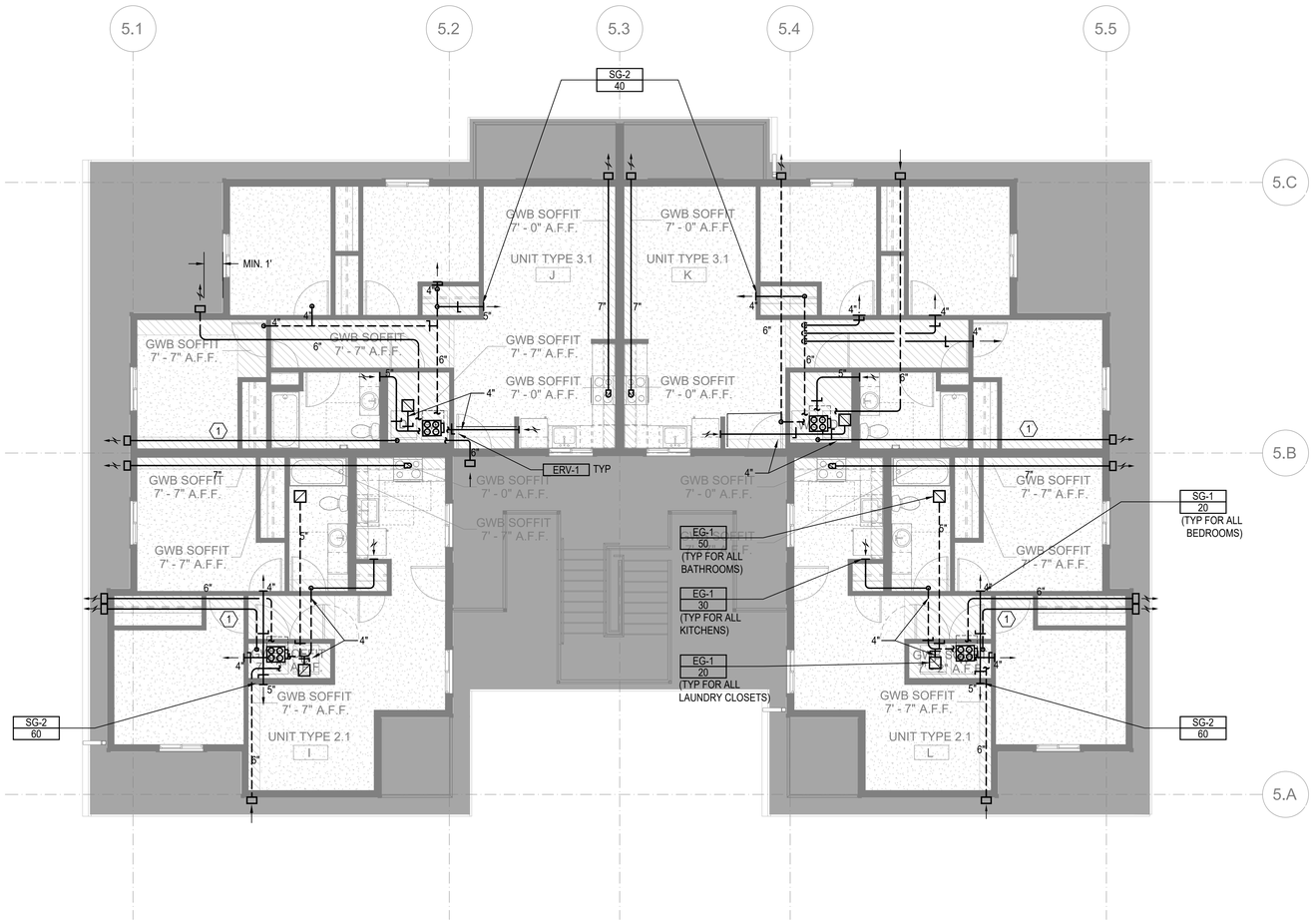
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M16-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 16 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

DANA LAMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

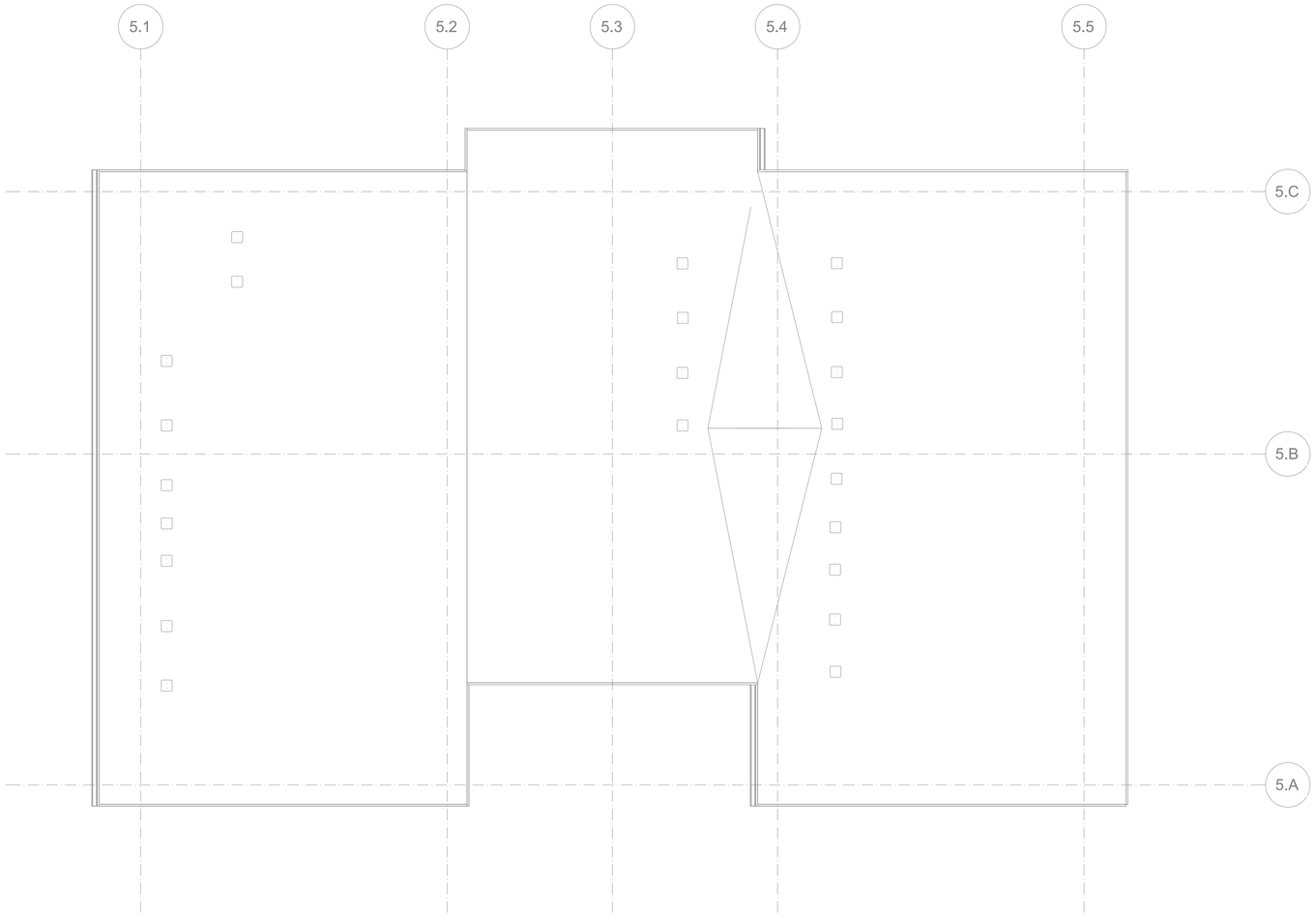
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M16-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 16 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M16-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-2	BROAN	ERV200 ECM	INDOOR	140	1.2	140	1.2	POLYMER	74%	135	120/1	110	28	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

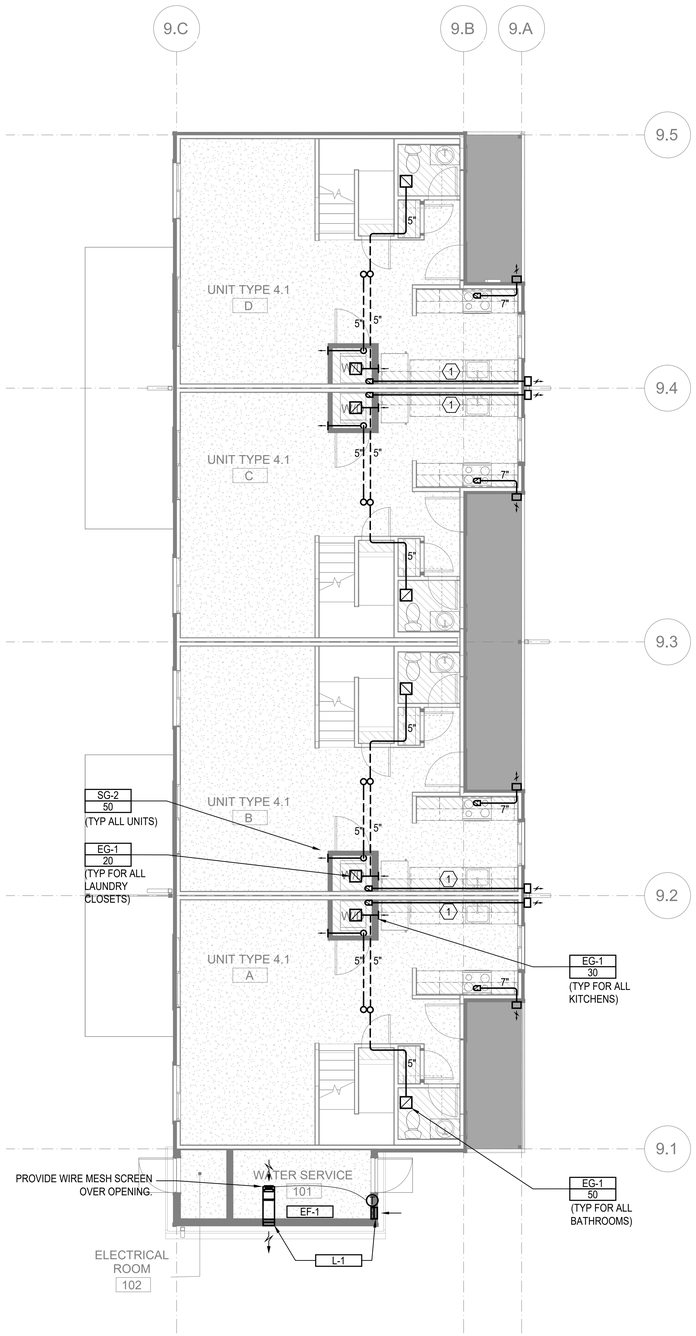
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M17-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 17 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUSE AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

DAN AMBER, STATE OF WASHINGTON, 0041009, REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

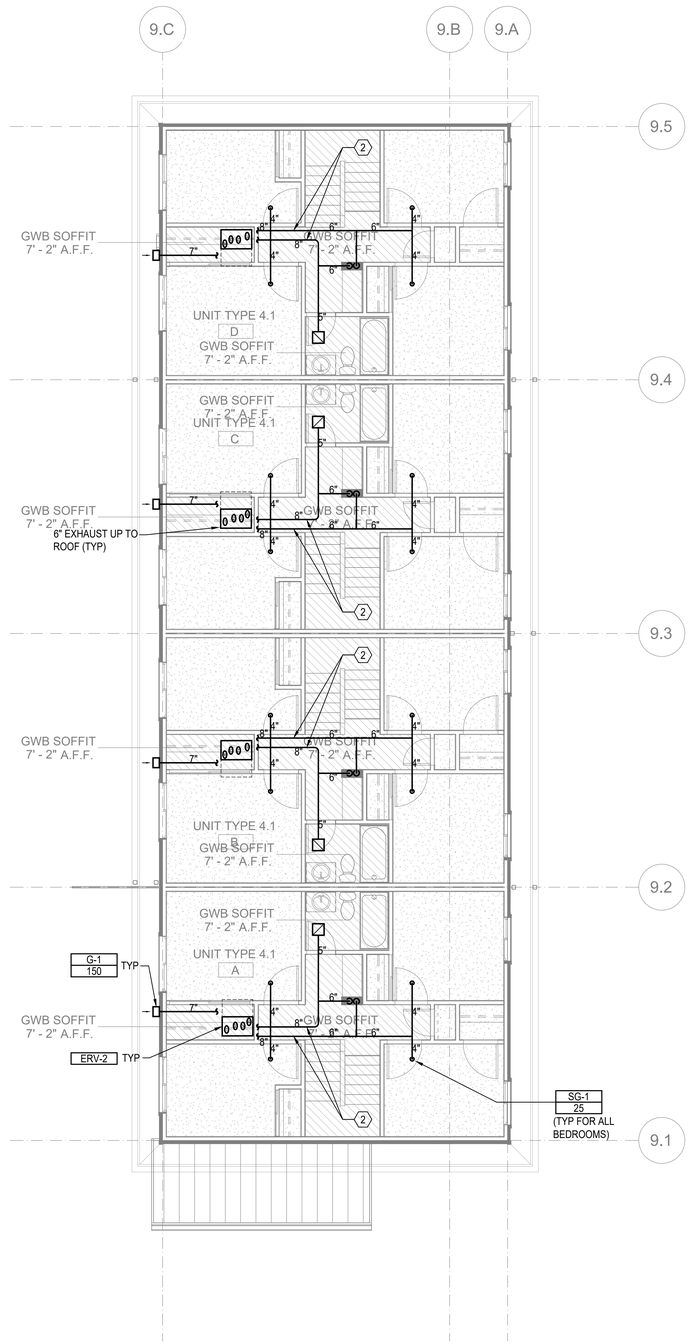
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M17-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 17 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. DUCTWORK WILL GO UP INTO ATTIC. WILL REQUIRE MINERAL WOOL INSULATION WRAP.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

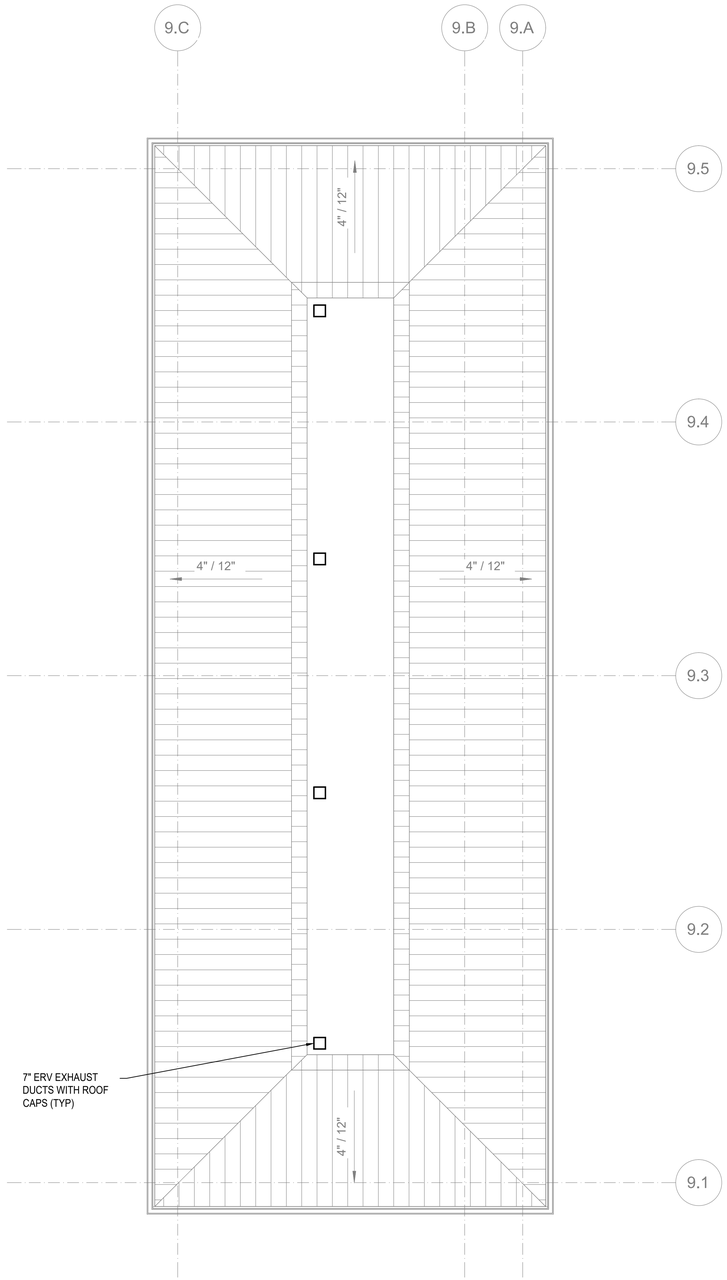
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M17-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 17 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
2. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
3. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
4. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
5. ERV EXHAUST SHALL USE BROAN MODEL 611CM ROOF CAP.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

DAN LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M17-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

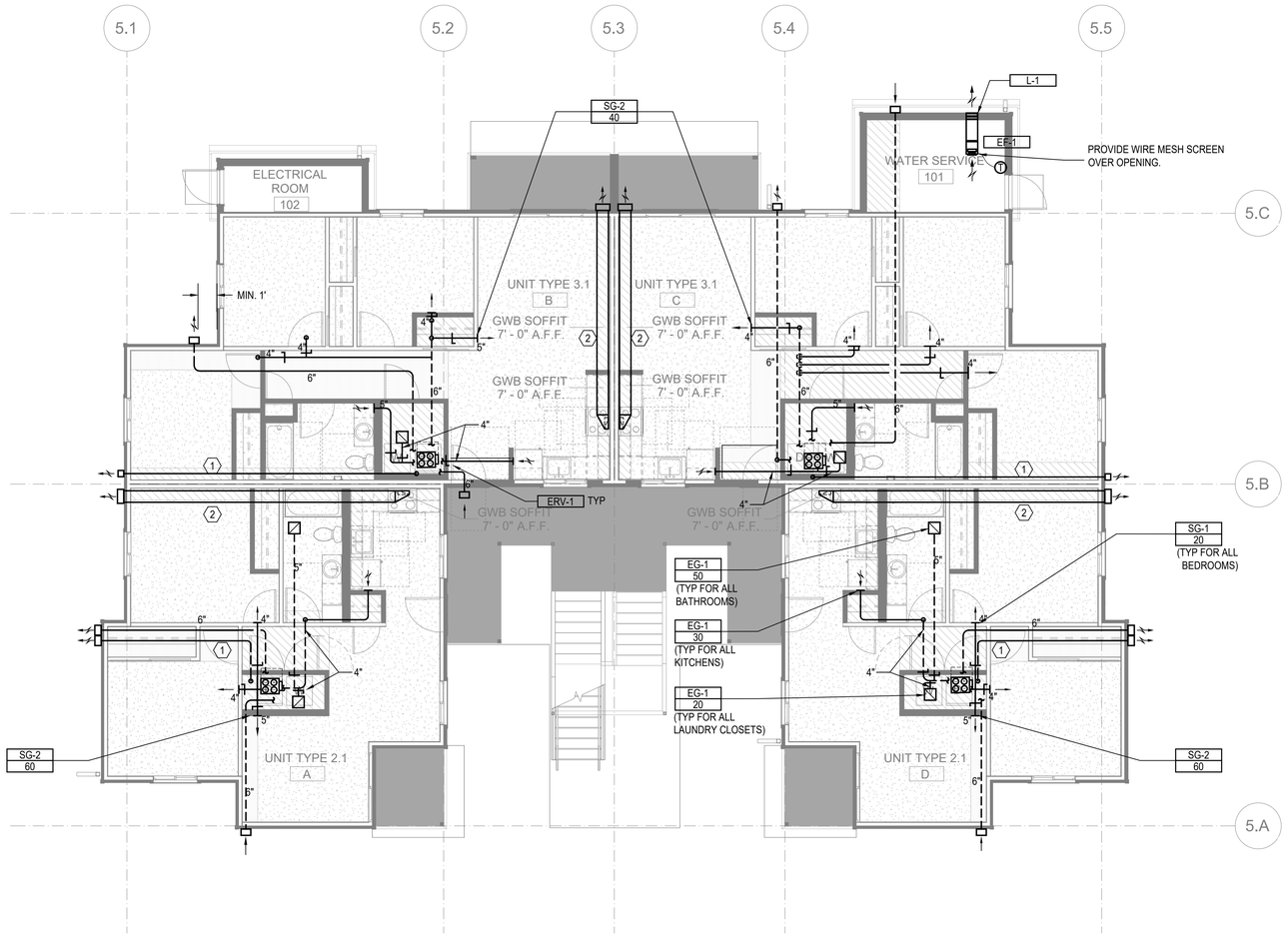
DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:
M18-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 18 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

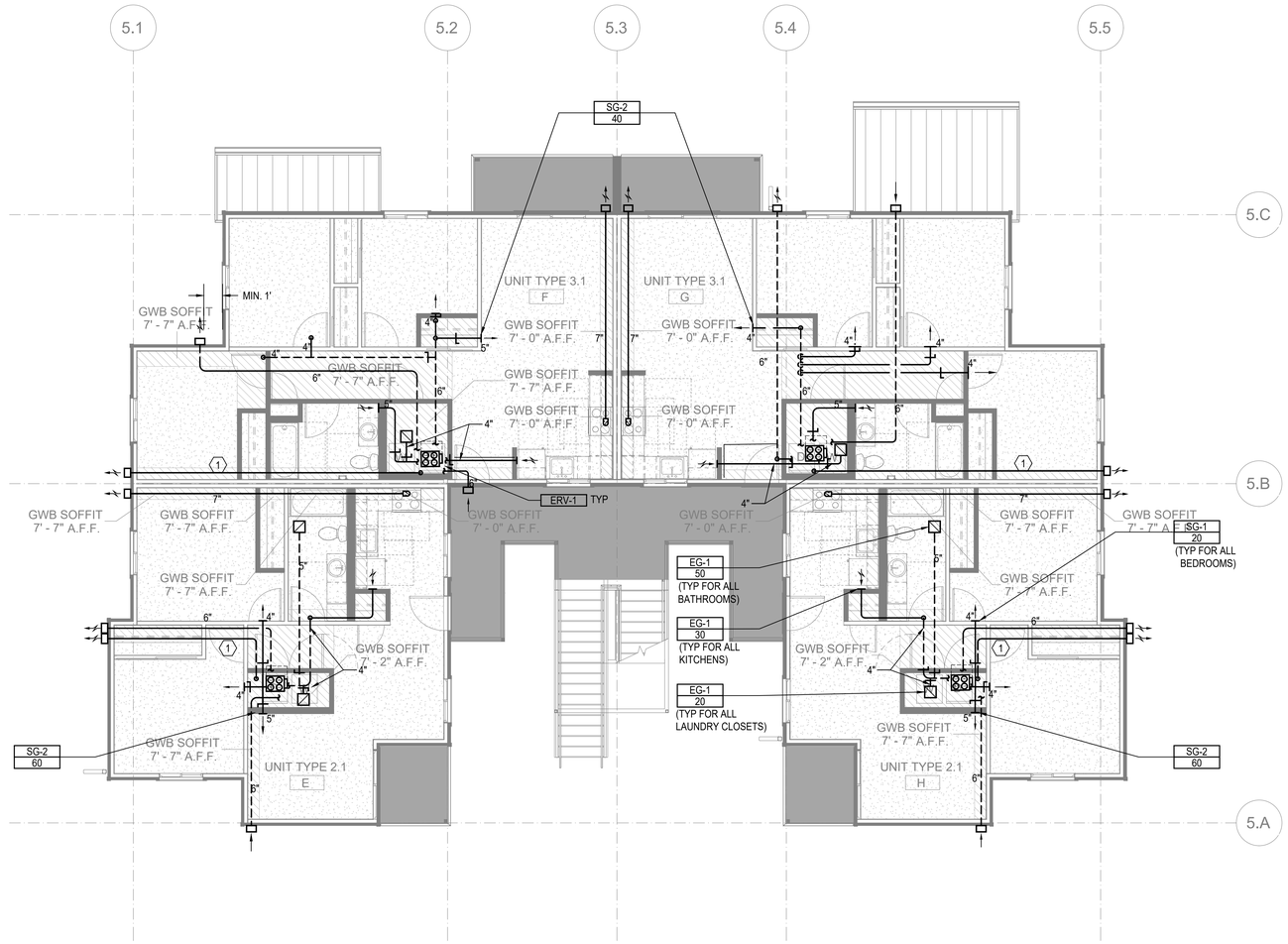
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M18-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 18 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

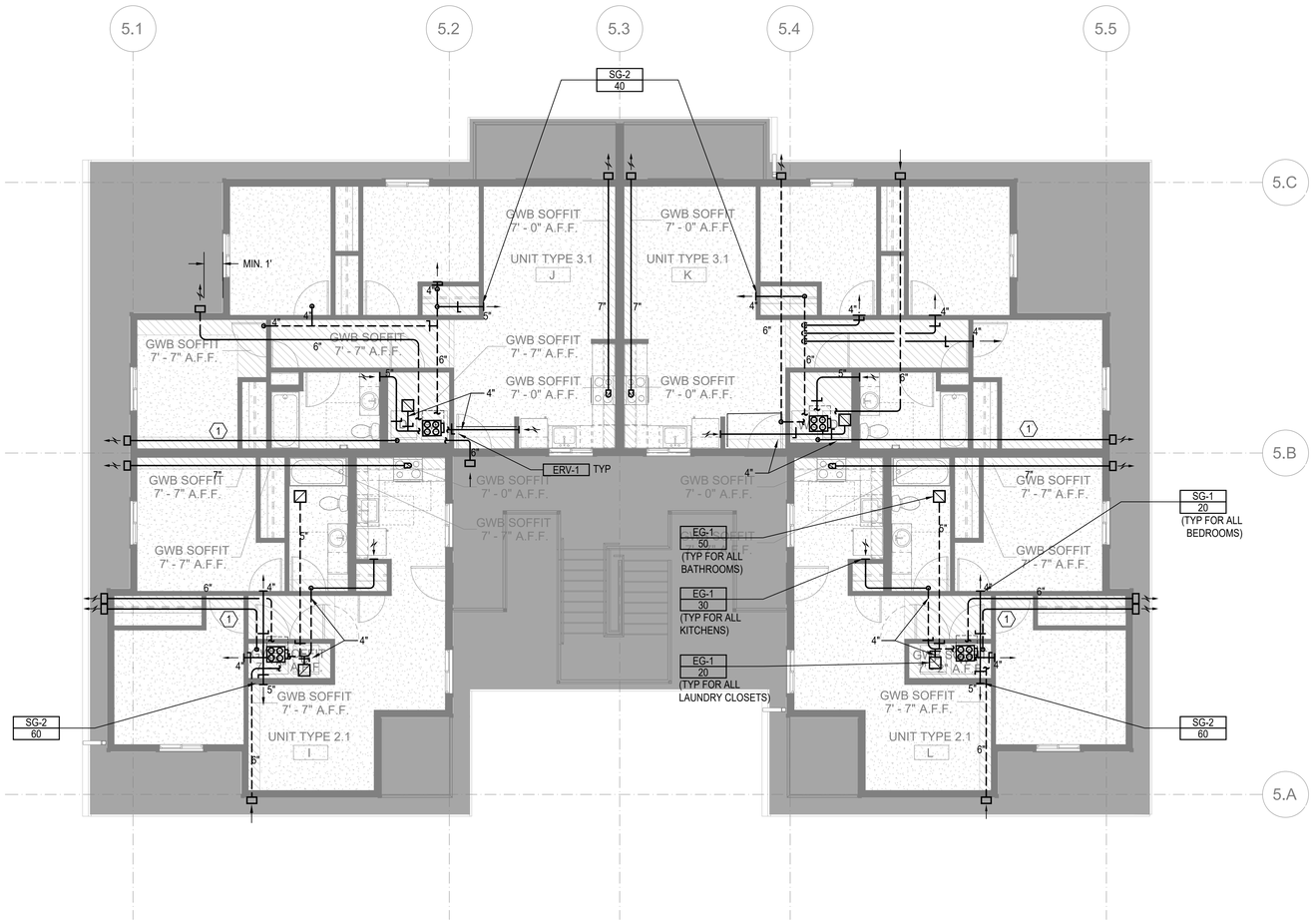
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M18-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 18 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

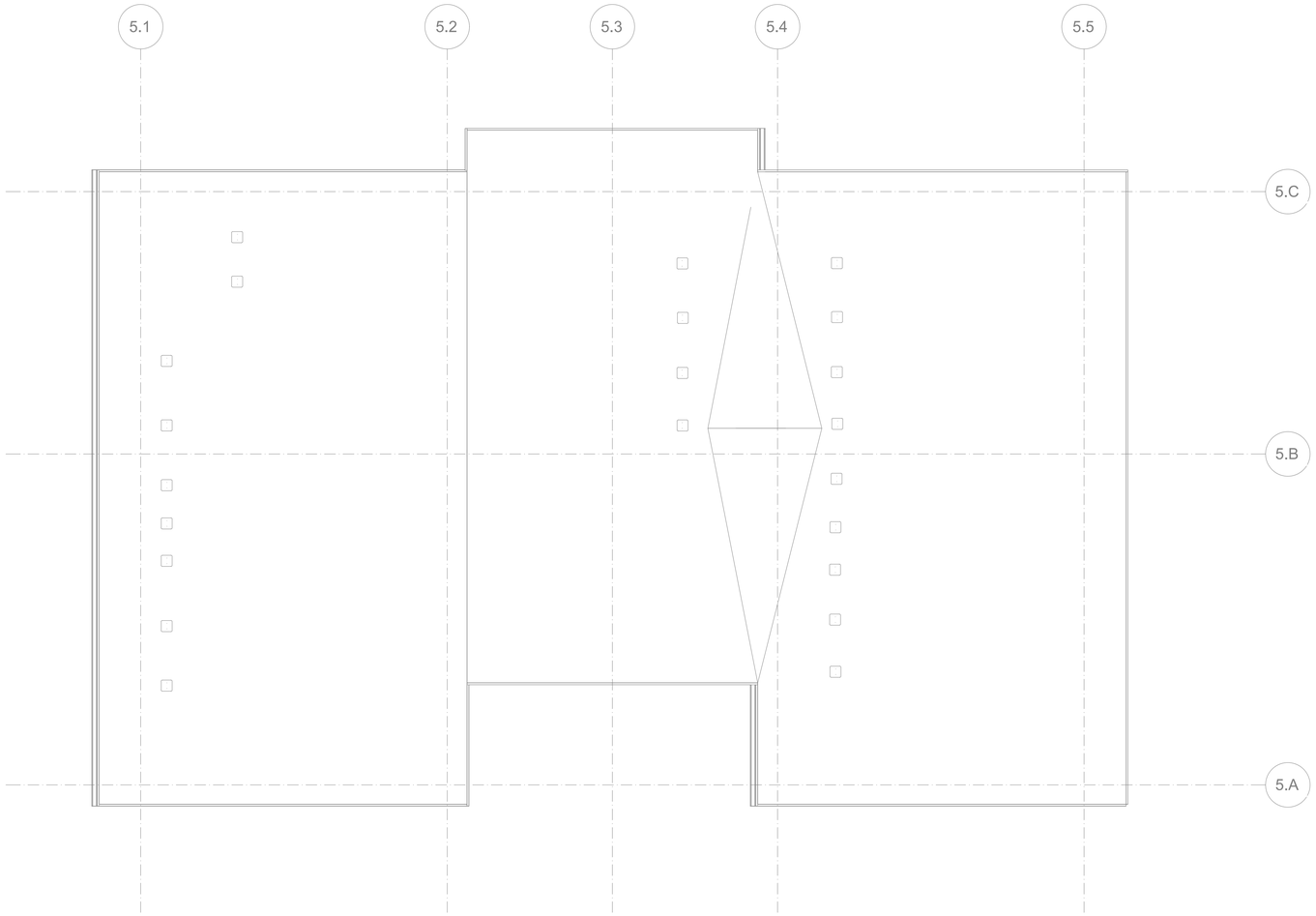
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M18-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 18 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 18

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M18-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-2	BROAN	ERV200 ECM	INDOOR	140	1.2	140	1.2	POLYMER	74%	135	120/1	110	28	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

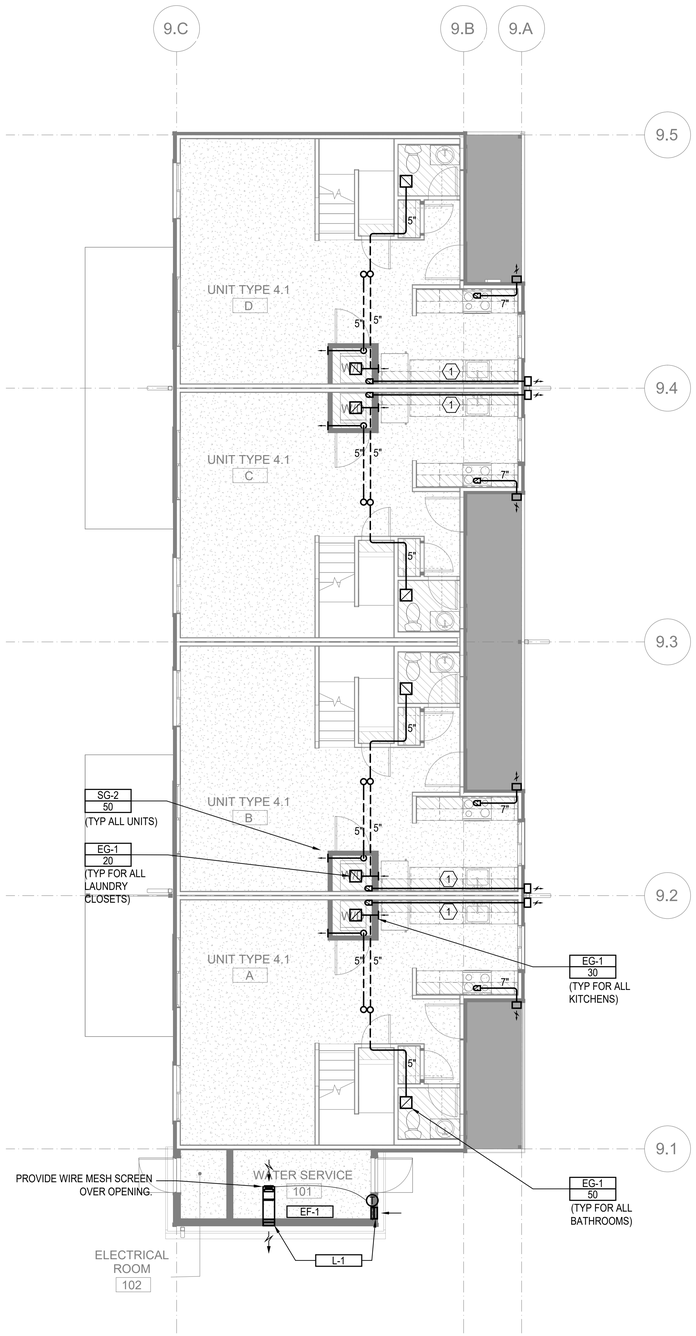
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M19-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 19 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUSE AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

DANA AMBER FOREST
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

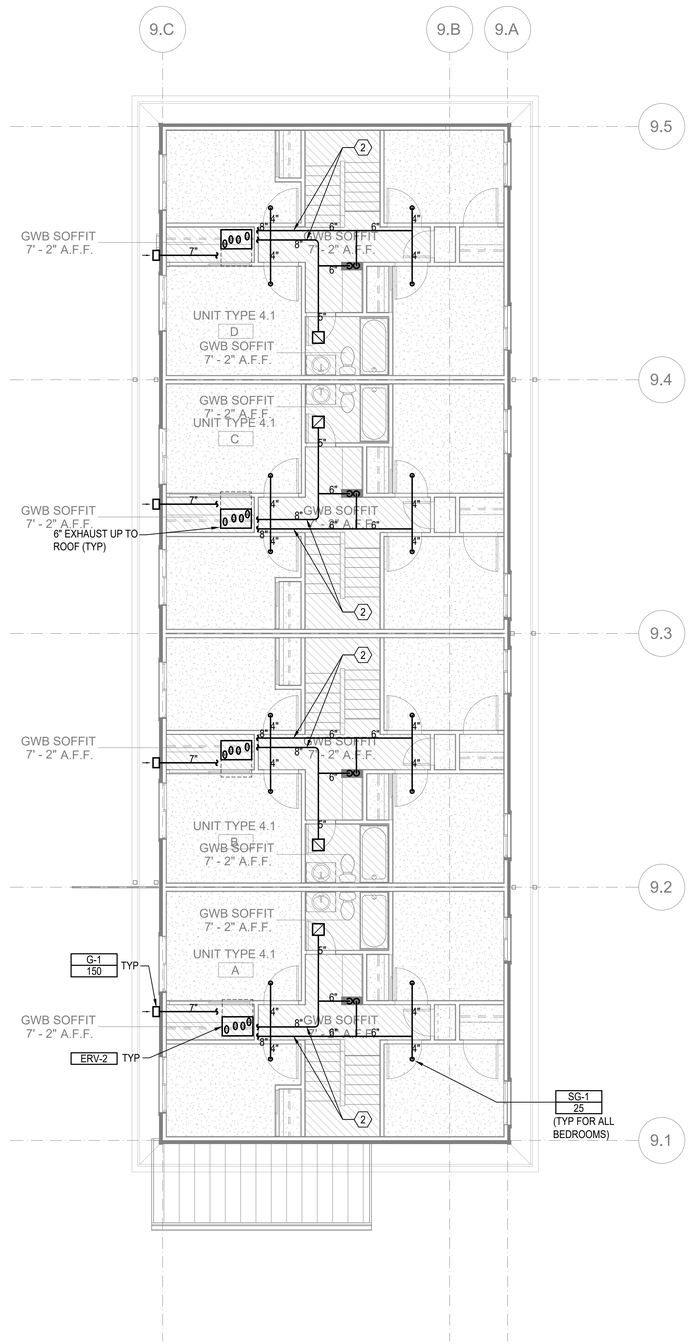
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M19-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 19 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. DUCTWORK WILL GO UP INTO ATTIC. WILL REQUIRE MINERAL WOOL INSULATION WRAP.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

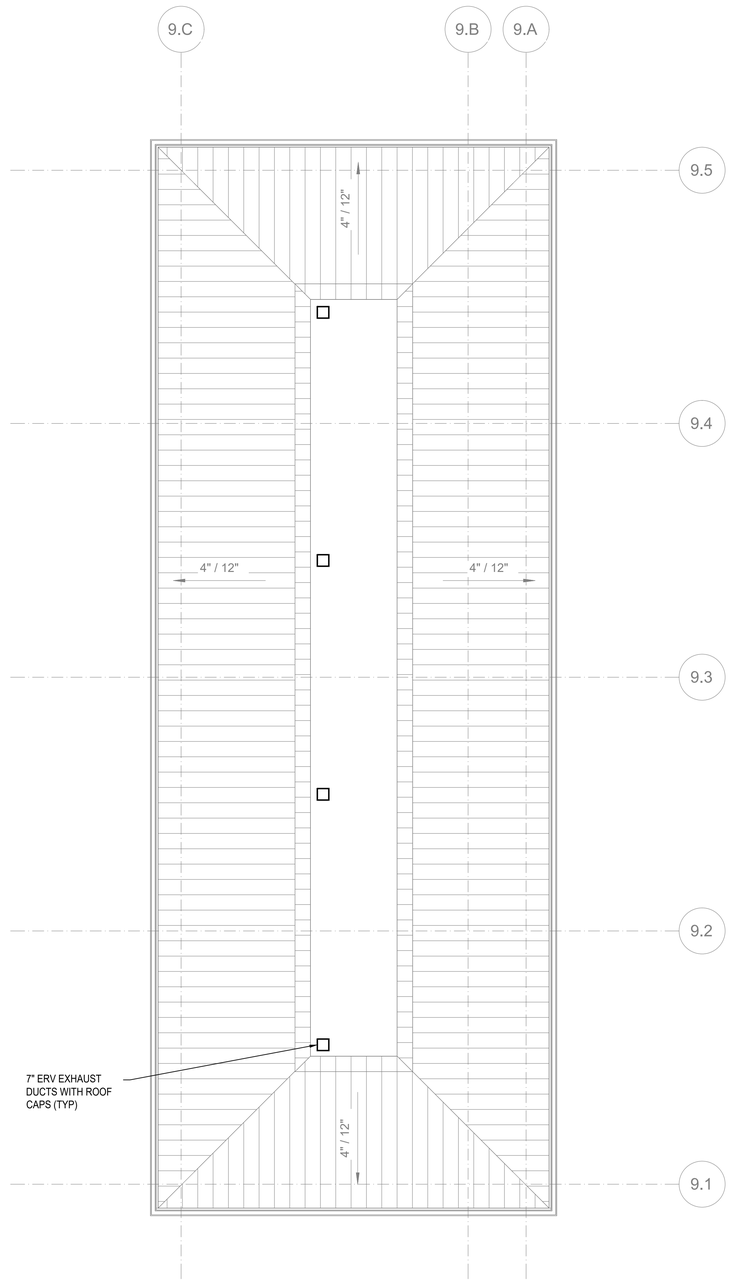
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M19-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 19 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
2. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
3. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
4. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
5. ERV EXHAUST SHALL USE BROAN MODEL 611CM ROOF CAP.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 19

BID SET

DANA LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M19-103

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (FT^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

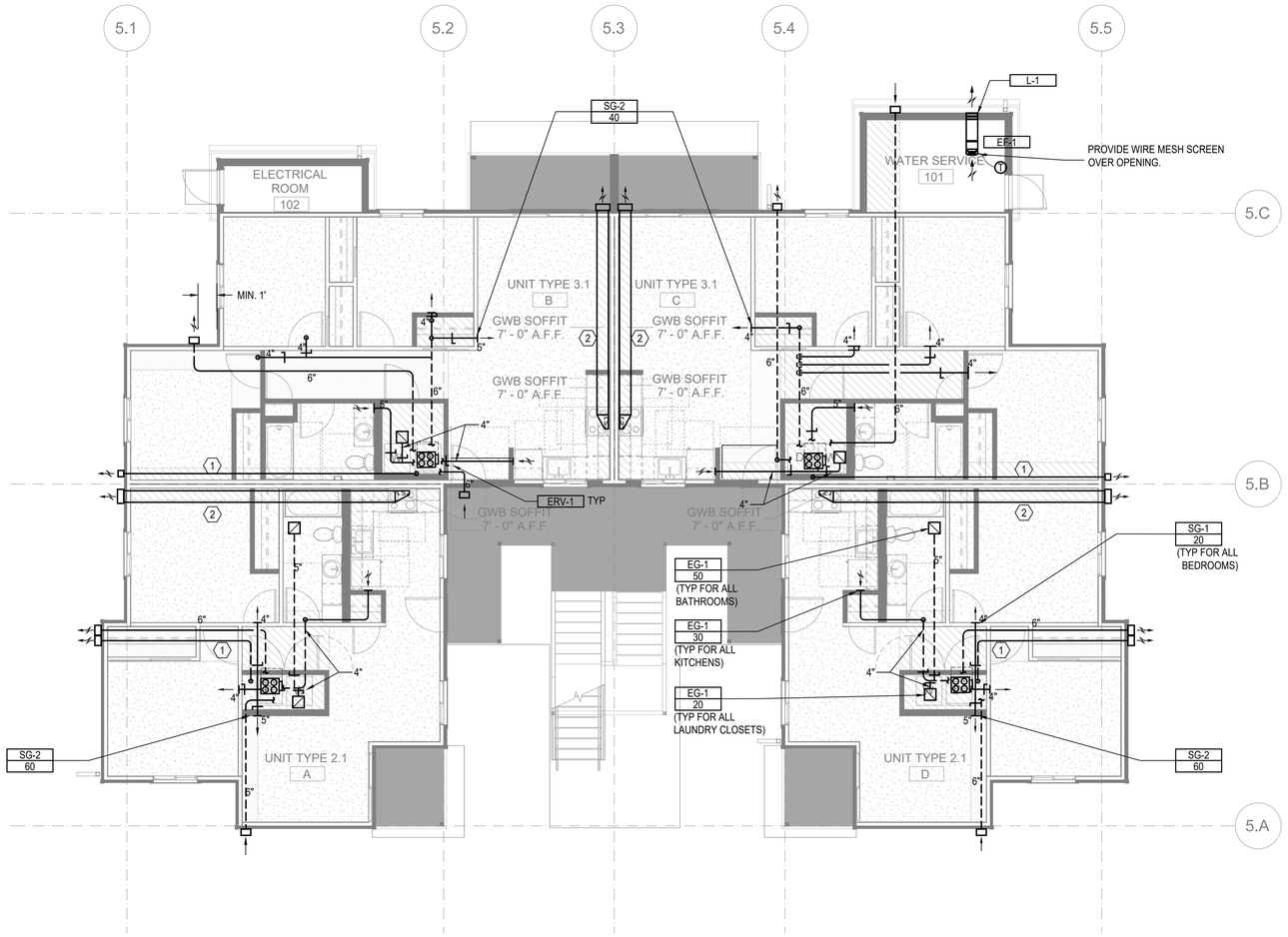
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M20-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 20 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

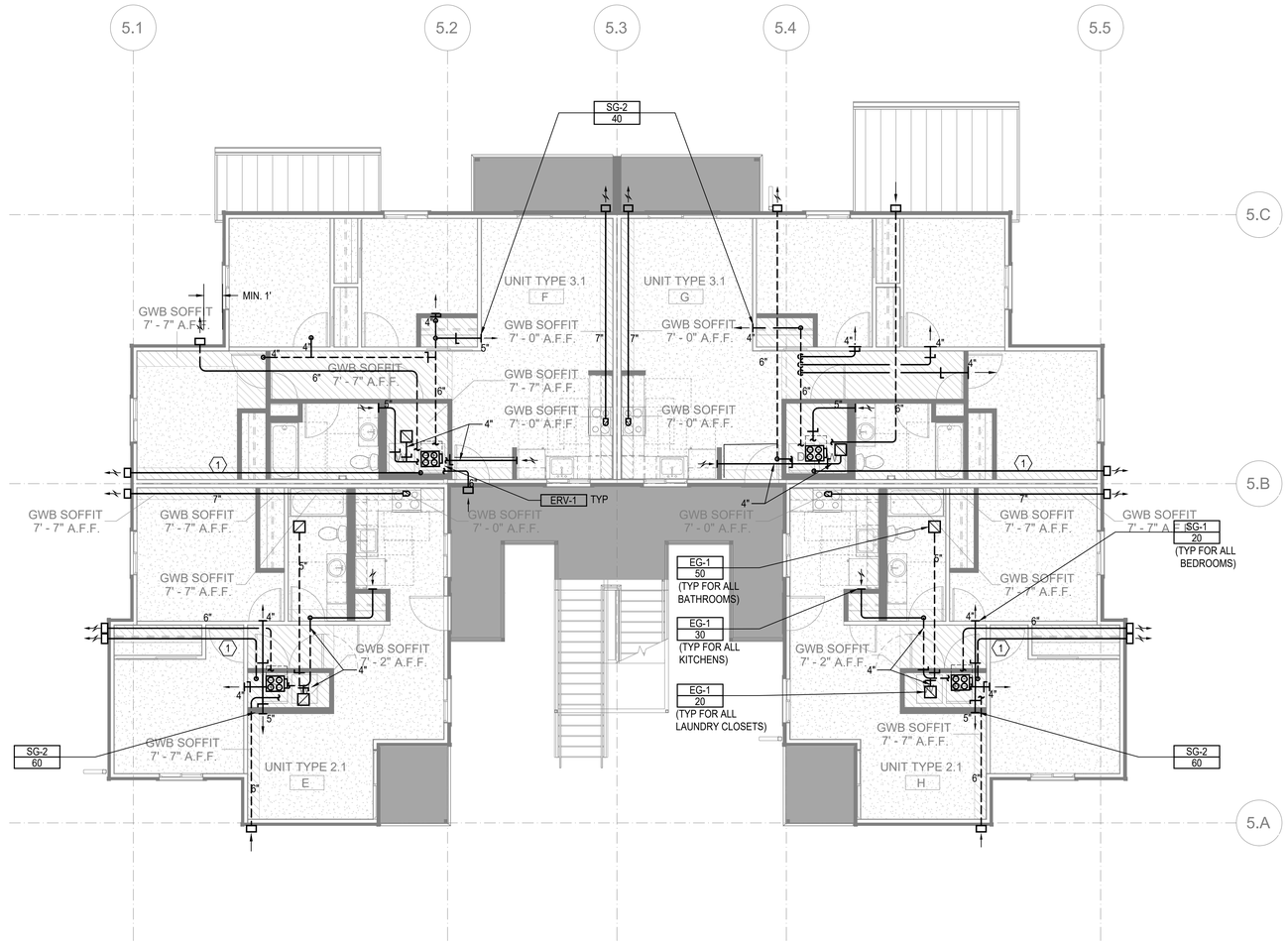
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M20-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 20 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

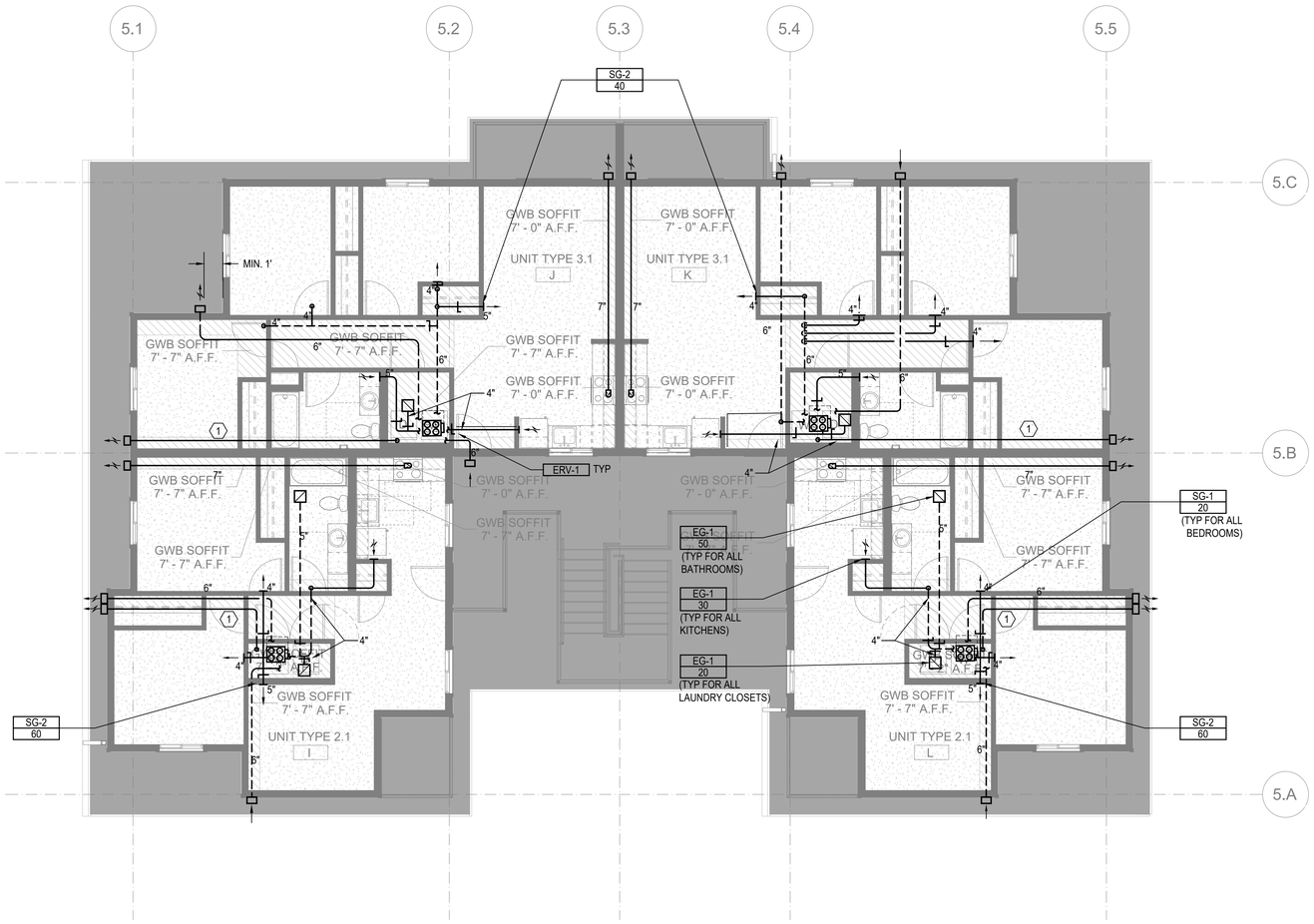
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M20-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 20 - LEVEL 3

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

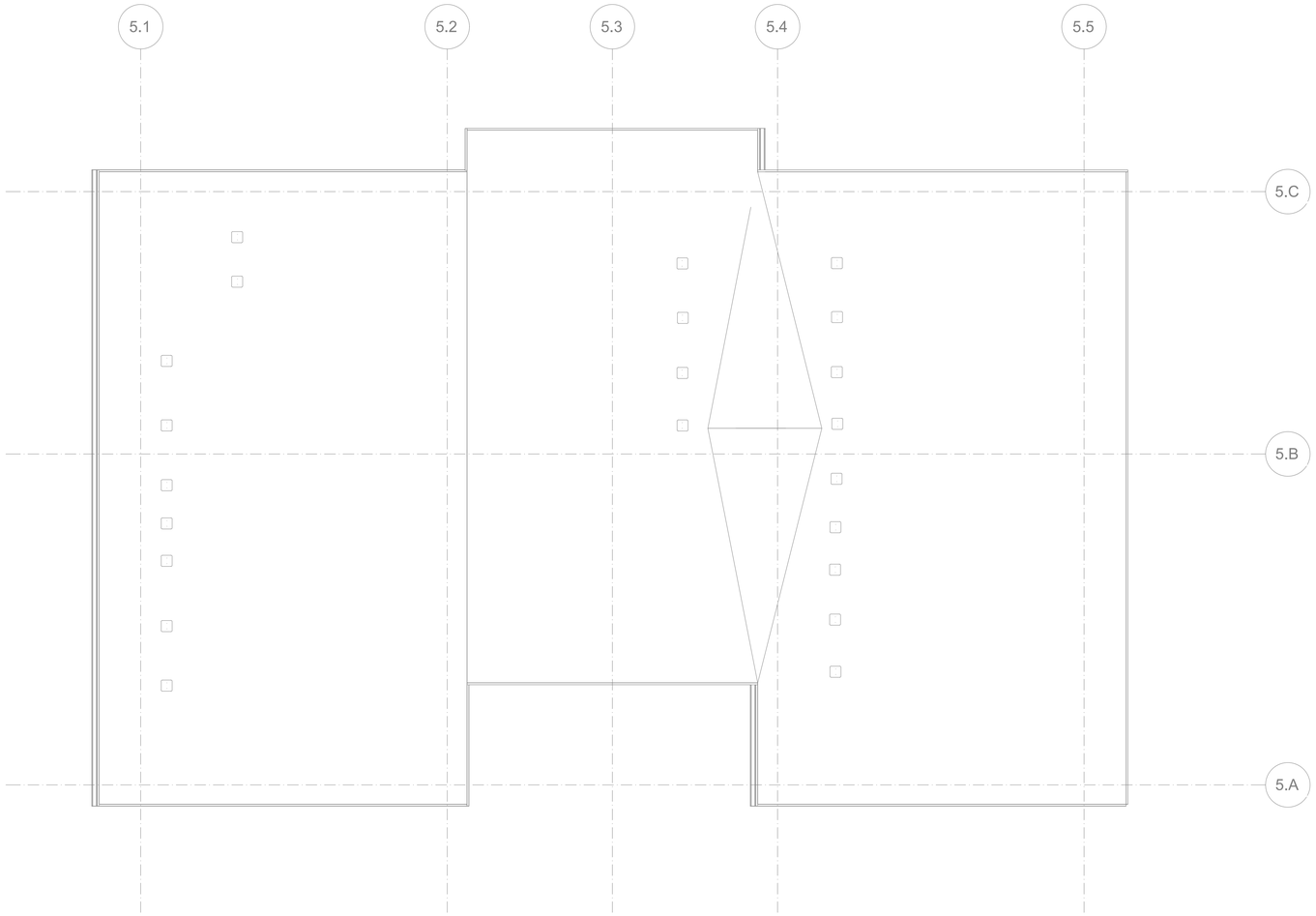
TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M20-103

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 20 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 20

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M20-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

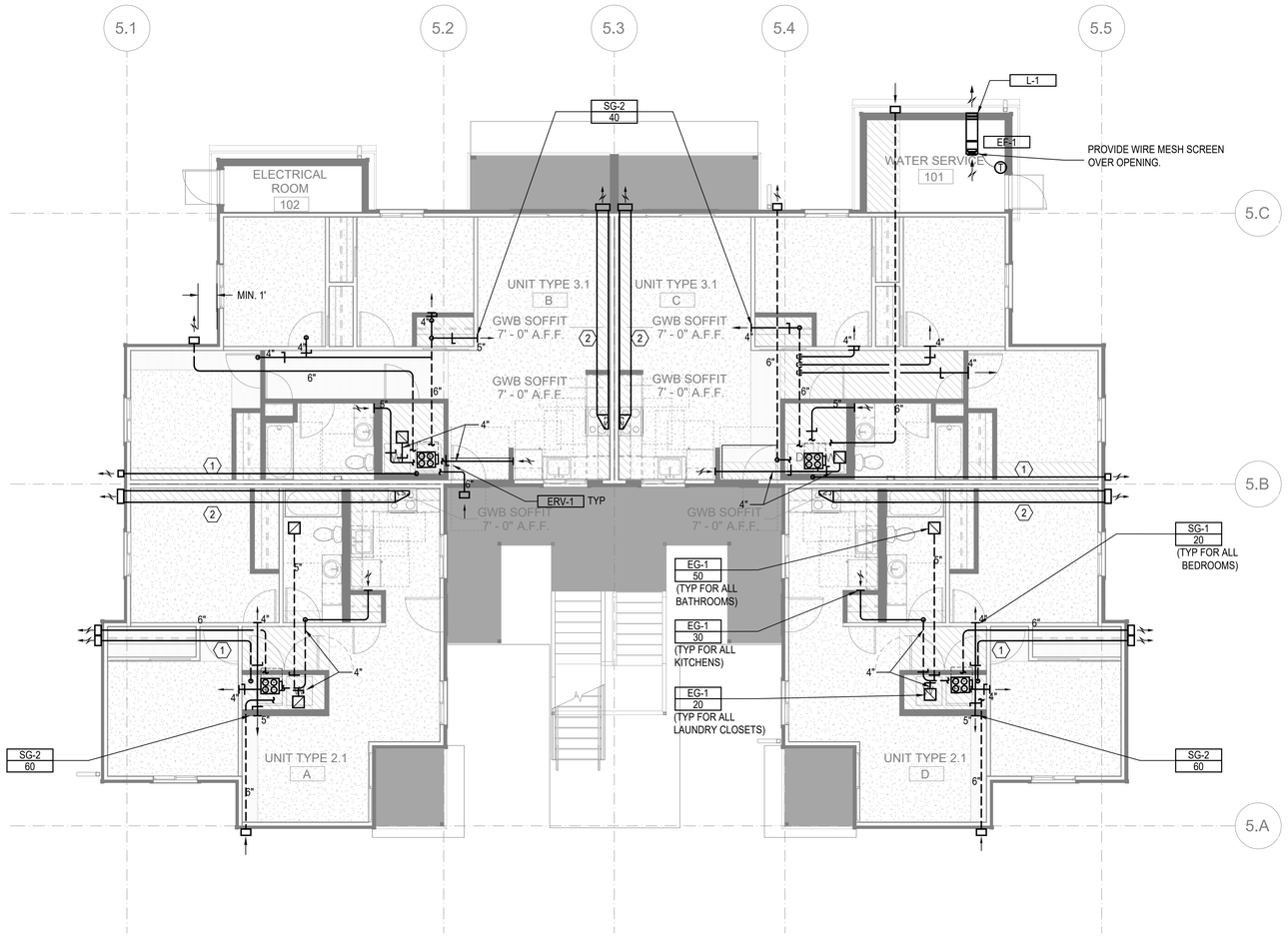
TITLE

NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:

M21-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 21 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

DAN LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

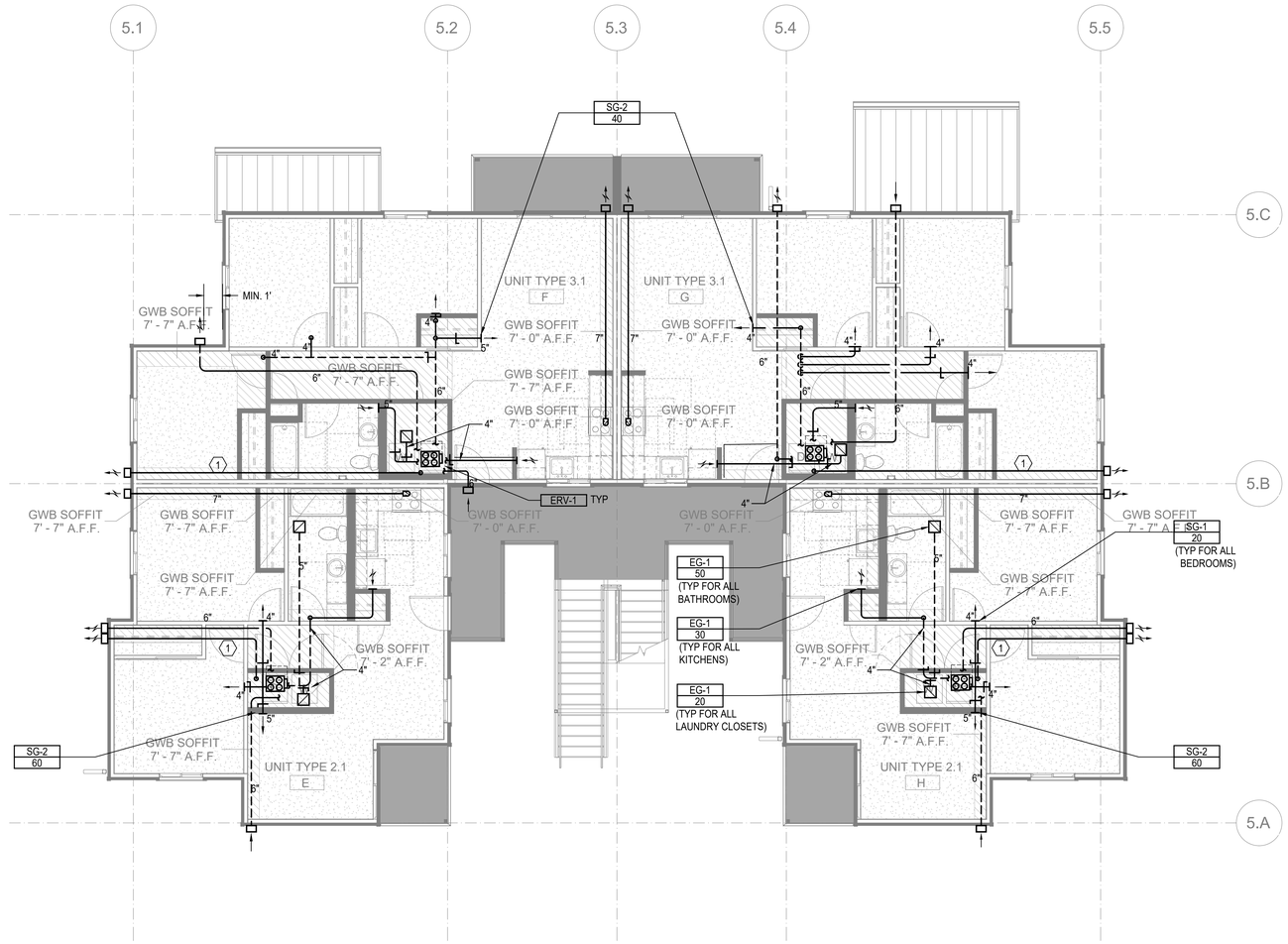
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M21-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 21 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

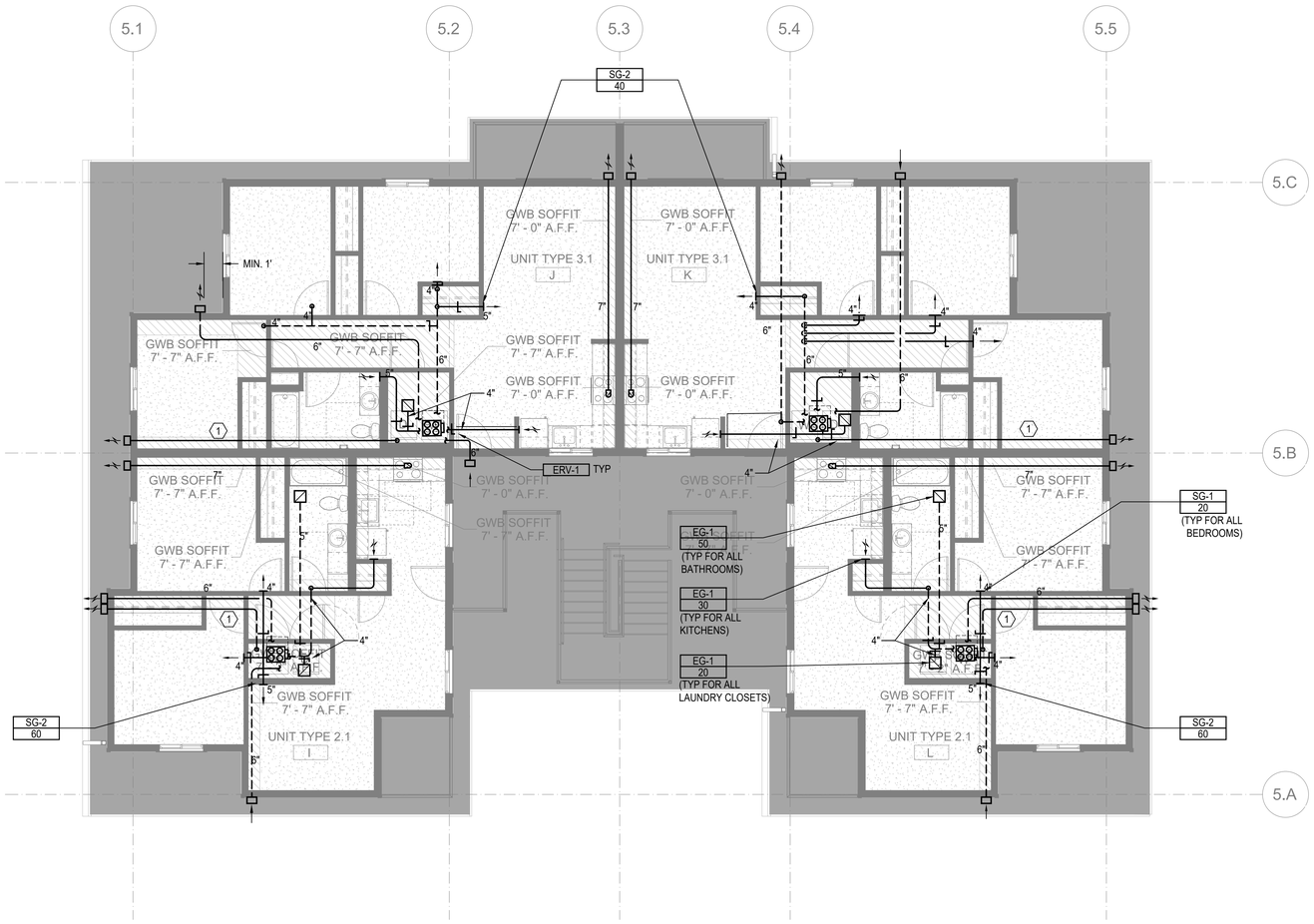
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M21-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 21 - LEVEL 3

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

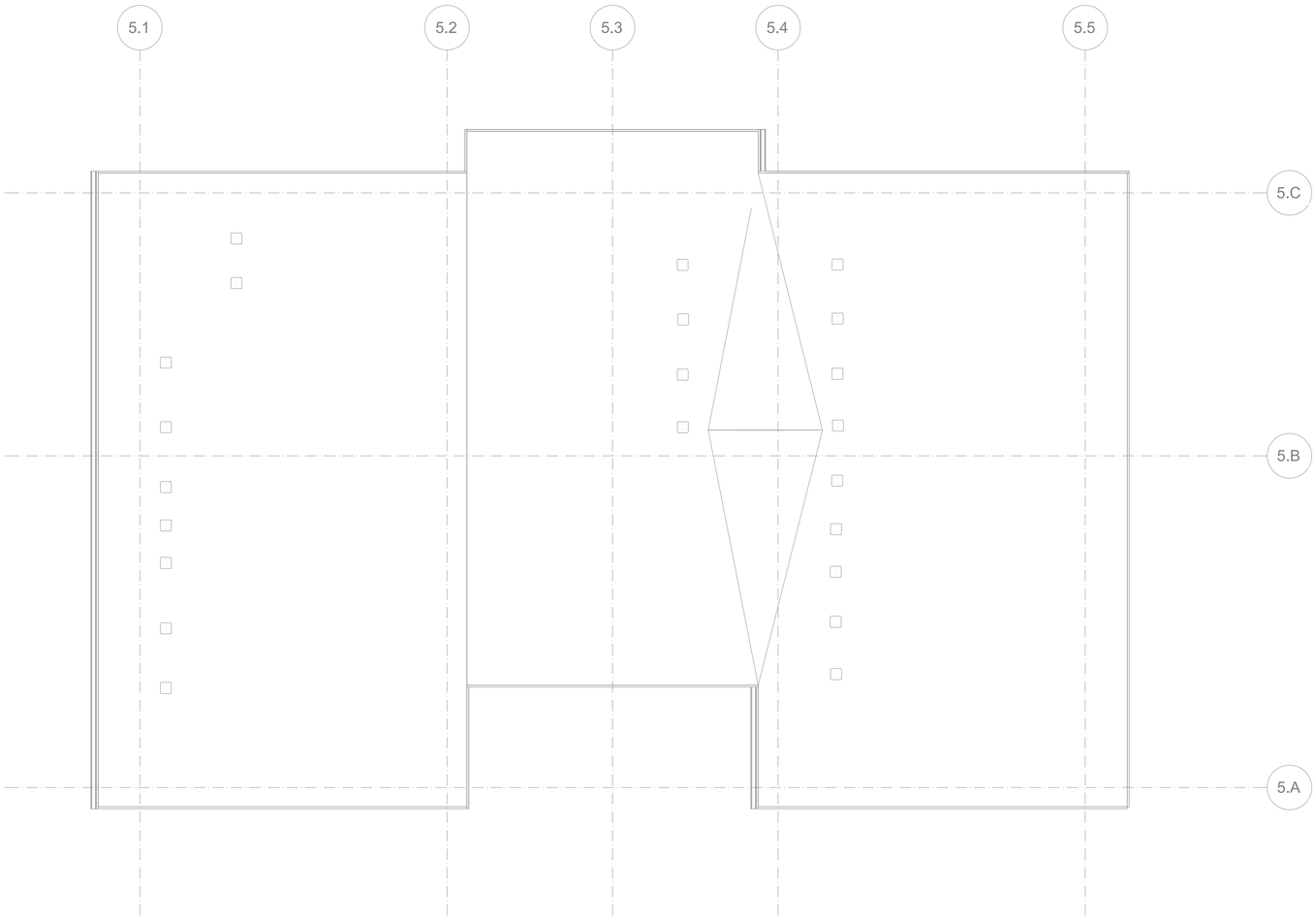
DPD STAMP

TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M21-103



FLOOR PLAN - BUILDING 21 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 21

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M21-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	-
5.1	Efficient Water Heating	Not Selected	0.0	-
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy kWh	Not Selected	0.0	
7	Appliance Package	Option 7.1	1.5	Appliance Package
		Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

				SUPPLY		EXHAUST		HEAT EXCHANGER		ELECTRICAL		WGT.		
MARK	MAKE	MODEL	TYPE	CFM	ESP	CFM	ESP	MATERIAL	WINTER EFF.	WATTS	VOLT/PH	LBS	DBA	NOTES
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

						ESP			HP	ELEC	WT.	MAX	NOTES:
MARK	SERVES	MAKE	MODEL	TYPE	CFM	INCH WC	RPM	BHP	(WATTS)	VOLT/PH	LBS	SONES (DBA)	
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2)			
		FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104
PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS
13317 NE 133rd St., Kirkland, WA 98034

BUILDING 22
BID SET

DANA AMBER FORBES, STATE OF WASHINGTON, 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

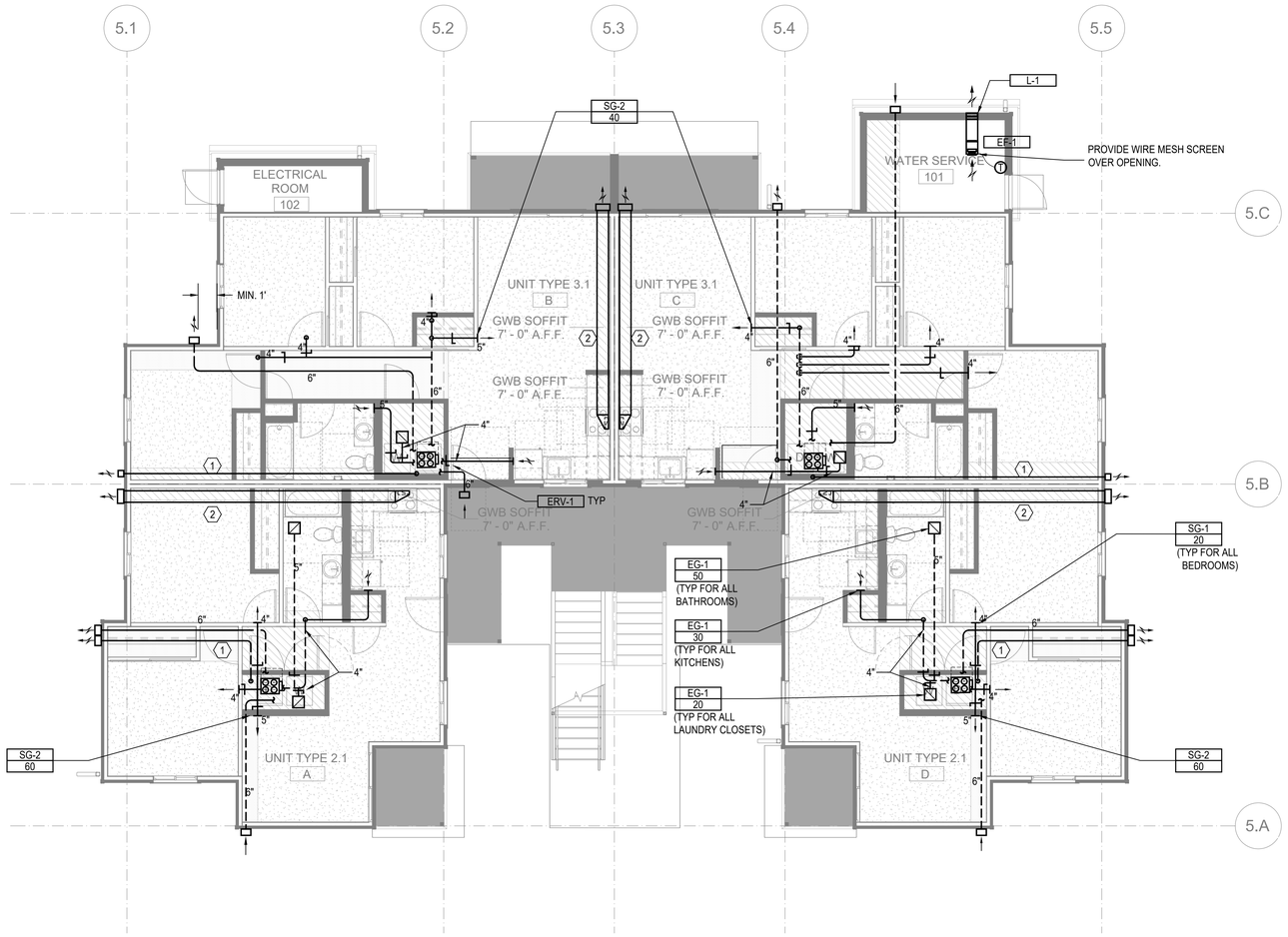
REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE
NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:
M22-002

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 22 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

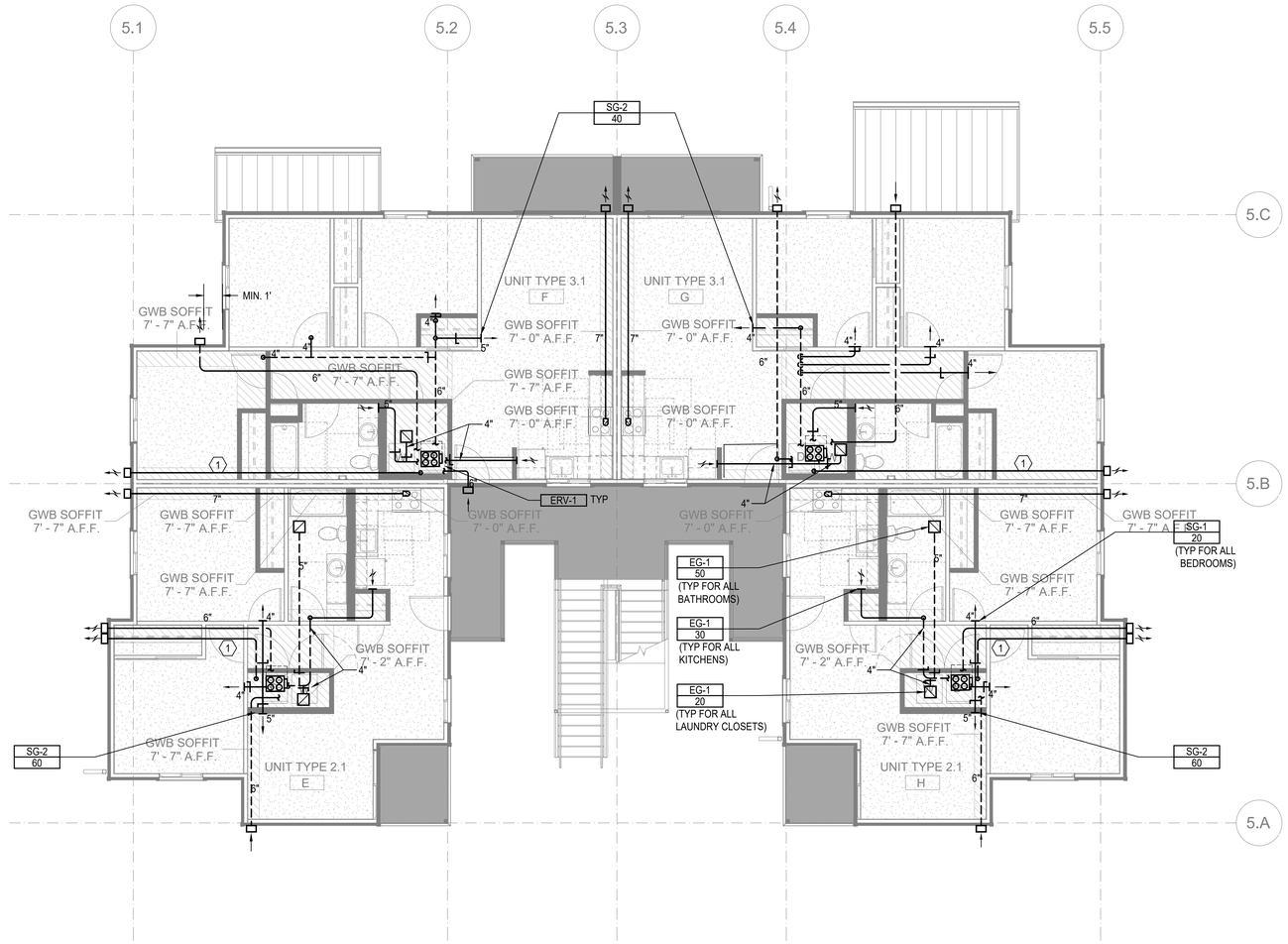
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M22-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 22 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

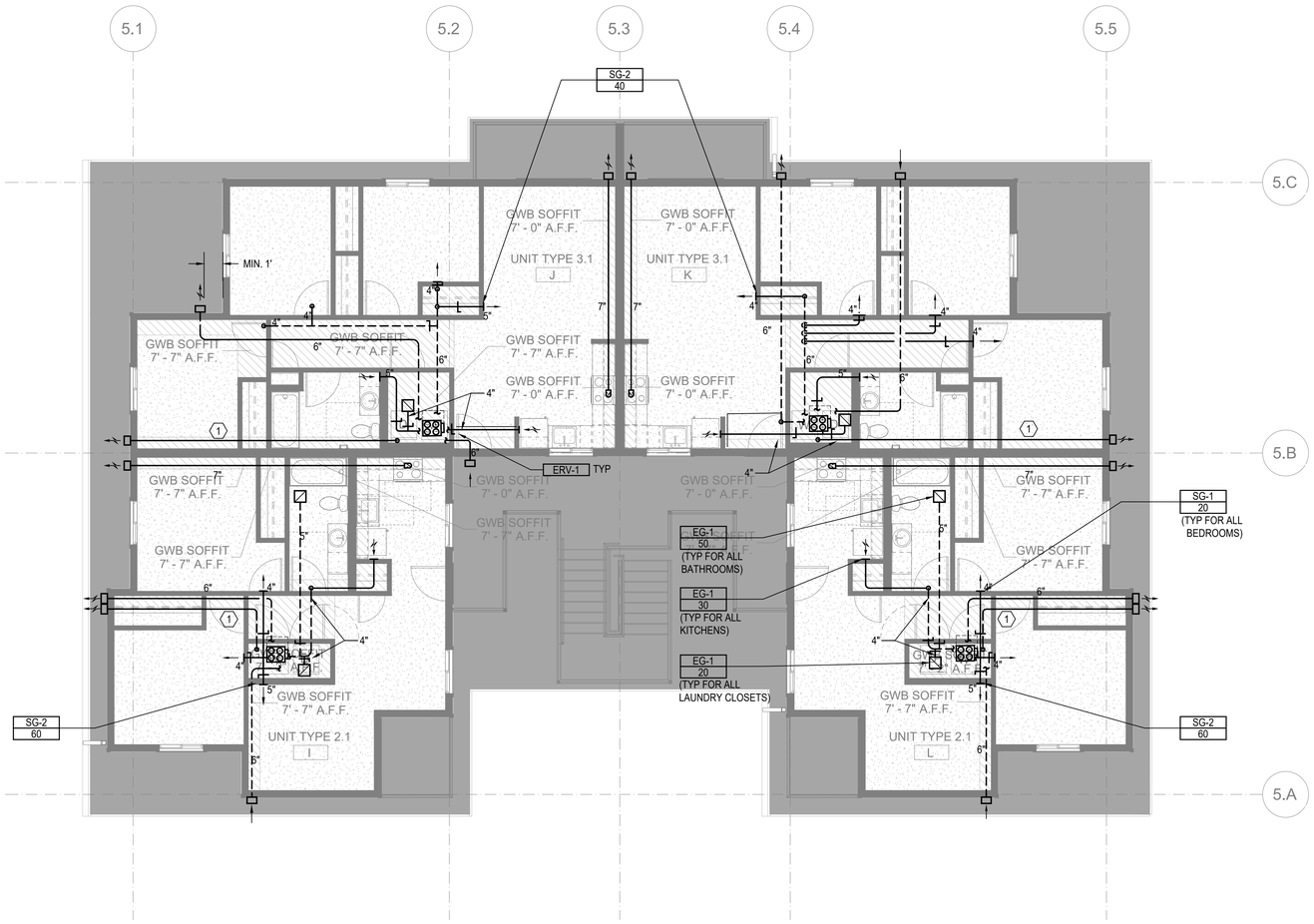
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M22-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 22 - LEVEL 3

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. 12" X 4" RECTANGULAR DUCT

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
11. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN DUCTWORK AND EQUIPMENT INSTALL IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH AN OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN THE CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

DANA LAMBER STATE OF WASHINGTON 0041009 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

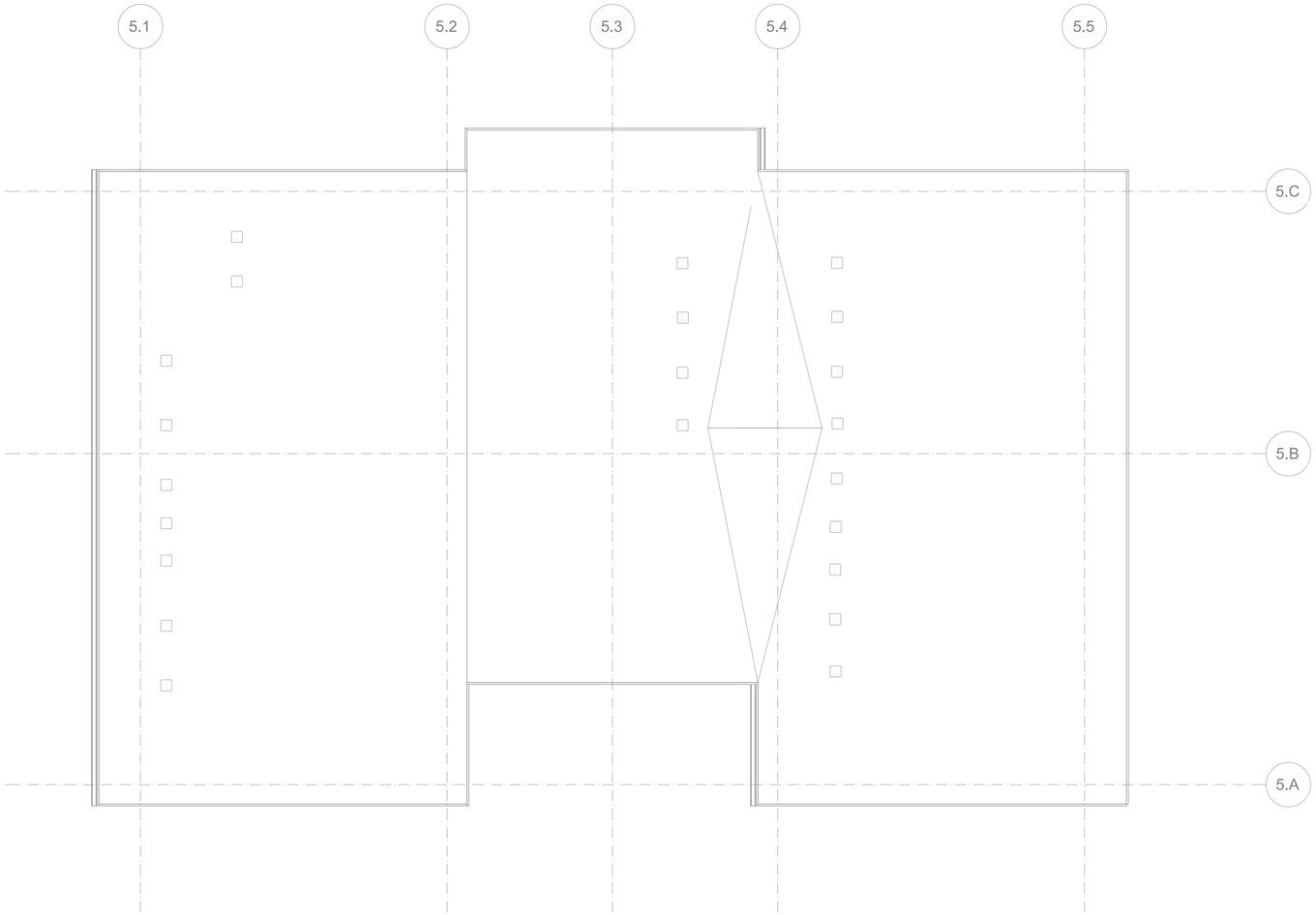
DPD STAMP

TITLE

PLAN - LEVEL 3

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M22-103



FLOOR PLAN - BUILDING 22 - ROOF - FOR REFERENCE ONLY

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

LINE TYPES:

GENERAL NOTES:

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 22

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M22-104

10/7/2021 7:33:34 AM

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC
2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.
4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITIION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.
5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.
6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.
7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.
8. DUCT SEALING SHALL MEET R403.3.2.
9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.
10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.
11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITITES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.
12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.
13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7: ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B EINSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. fLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.
14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.
15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.
16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.
17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.
18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1
19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).
20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.
21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.
22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits

System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits

Option No.	Category			Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope			Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation			Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC				0.0	
4	High Efficiency HVAC Distribution System			Not Selected	0.0	-
5.1	Efficient Water Heating			Not Selected	0.0	-
5.2-5.6	Efficient Water Heating			Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy		kWh	Not Selected	0.0	
7	Appliance Package			Option 7.1	1.5	Appliance Package
				Energy Credits	5.5	

*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MAKE	MODEL	TYPE	SUPPLY CFM	SUPPLY ESP	EXHAUST CFM	EXHAUST ESP	HEAT EXCHANGER MATERIAL	HEAT EXCHANGER WINTER EFF.	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WGT. LBS	DBA	NOTES
ERV-2	BROAN	ERV200 ECM	INDOOR	140	1.2	140	1.2	POLYMER	74%	135	120/1	110	28	ALL

NOTES:
1. ECM MOTORS, DIRECT DRIVE
2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS
3. WALL MOUNT BRACKETS
4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS
5. RECIRCULATION DEFROST MODEL
6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)
B. RUNS CONTINUOUSLY
C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

NOTES:
1. ECM MOTOR WITH SPEED CONTROL
2. MOTORIZED CONTROL DAMPER, CLASS 1A
3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2) FLOOR AREA (ft^2)	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9
   a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE
   b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS
   a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3
   b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3
   c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2
   d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5
   e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104
PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS
13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23
BID SET

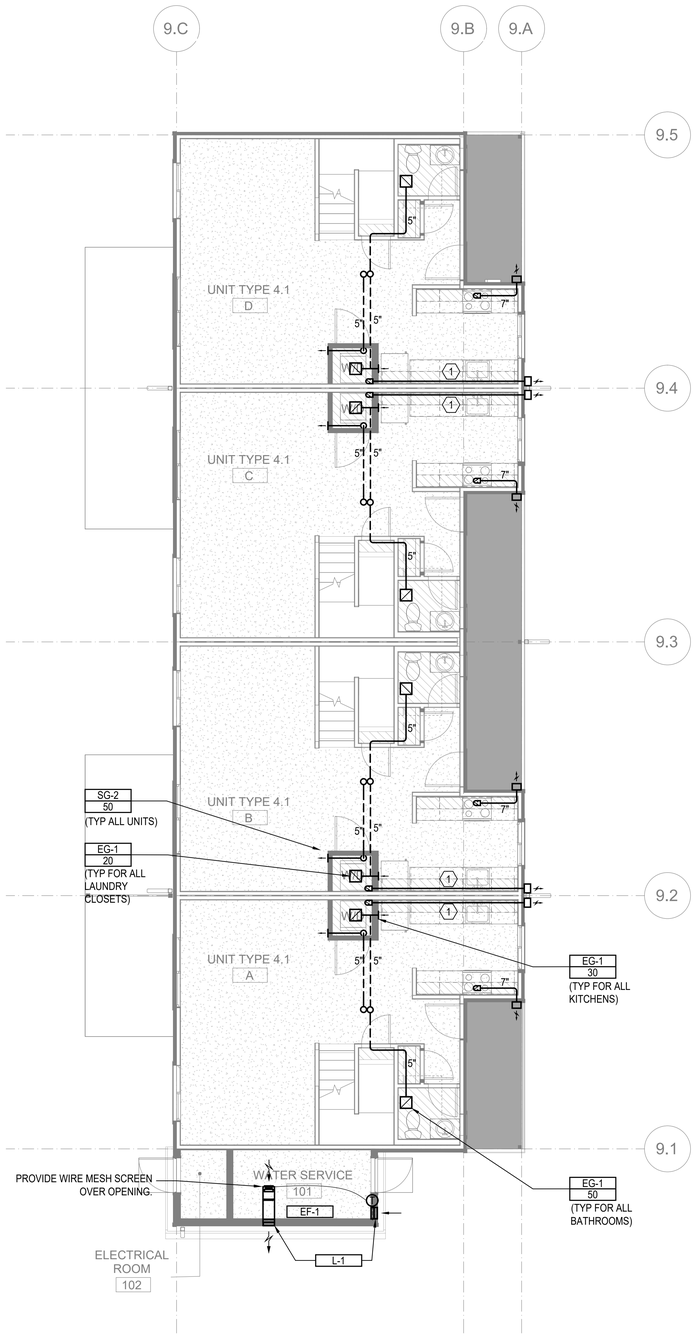
DANA AMBER FORBES · STATE OF WASHINGTON · 0041009 · REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE
NOTES AND SCHEDULES

PERMIT #
DRAWN AJ, JL, PH, BF, KS
CHECKED DF
ISSUE DATE 4/14/2023
JOB NO. 22016
SHEET NO.:
M23-002



FLOOR PLAN - BUILDING 23 - LEVEL 1

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUSE AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

DANA AMBER FOREST
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

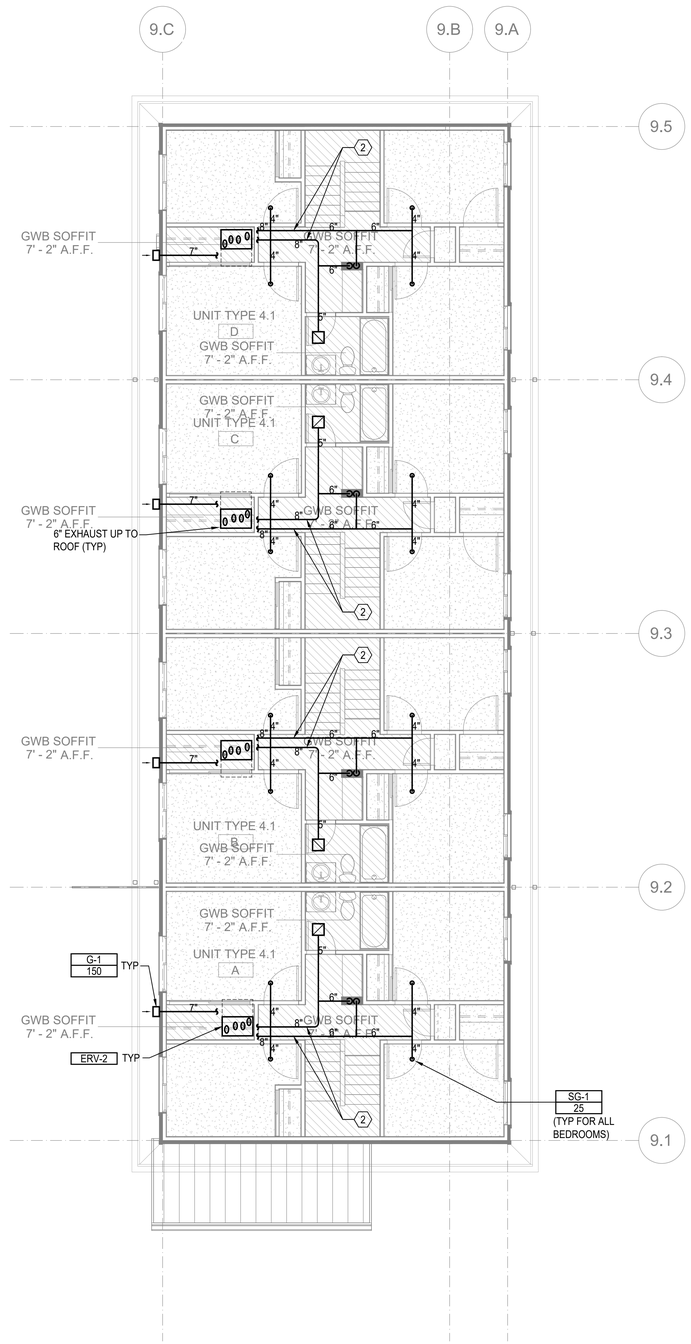
TITLE

PLAN - LEVEL 1

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M23-101

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 23 - LEVEL 2

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
2. DUCTWORK WILL GO UP INTO ATTIC. WILL REQUIRE MINERAL WOOL INSULATION WRAP.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
2. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
3. OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
4. DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
5. RANGE HOOD TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
6. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
7. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
8. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
9. ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
10. ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

DANA AMBER FOSTER
STATE OF WASHINGTON
0041009
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

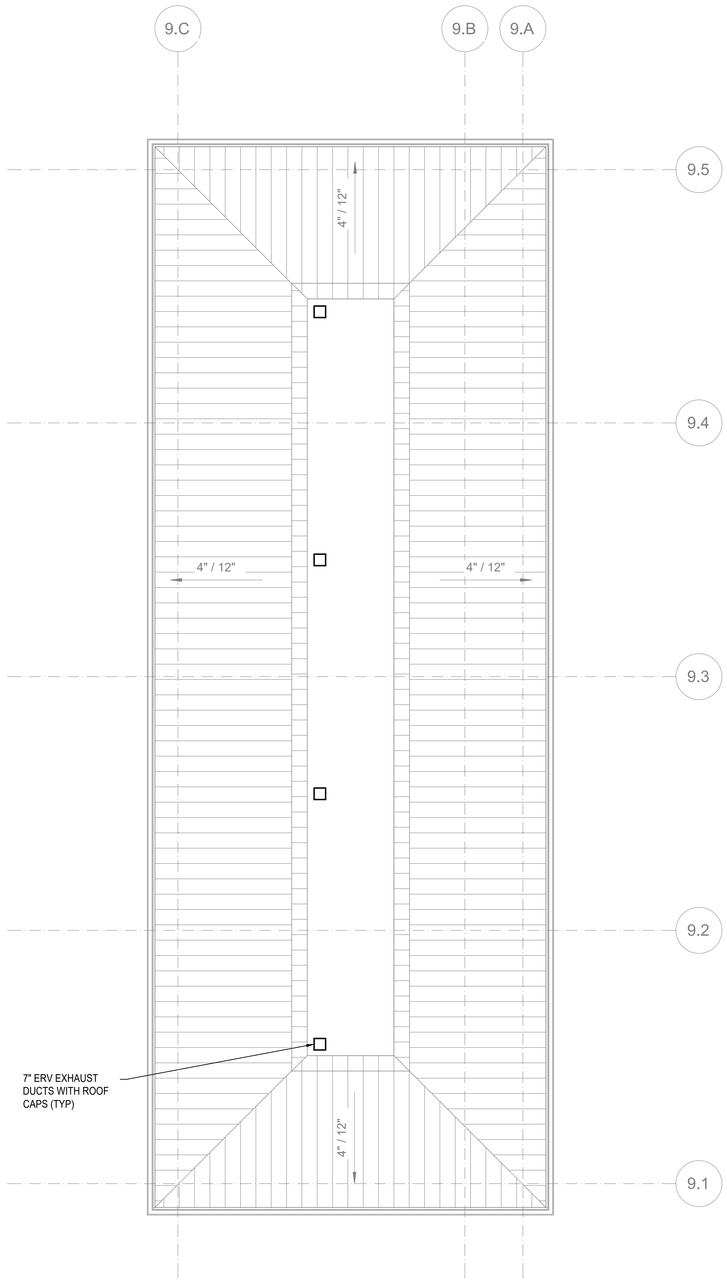
TITLE

PLAN - LEVEL 2

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M23-102

10/7/2021 7:33:34 AM



FLOOR PLAN - BUILDING 23 - ROOF

SCALE: 3/16"=1'-0"

FLAG NOTES (X):

1. 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.

LINE TYPES:

1. DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST - - - - - -

GENERAL NOTES:

1. EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
2. ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
3. DUCTS ROUTED WITHIN JOISTS SHALL BE SHEET ROCKED LINED (SEE ARCHITECTURAL DETAILS). THIS IS A CODE REQUIREMENT.
4. ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
5. ERV EXHAUST SHALL USE BROAN MODEL 611CM ROOF CAP.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,
Kirkland, WA 98034

BUILDING 23

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION

DPD STAMP

TITLE

PLAN - ROOF

PERMIT #	
DRAWN	AJ, JL, PH, BF, KS
CHECKED	DF
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

M23-103

10/7/2021 7:33:34 AM