GENERAL NOTES

GENERAL NOTES – MECHANICAL

1. REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).
2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC. OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.
3. CODES: COMPLETE INSTALLATION OF THE MECHANICAL SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.
4. PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL DUCTWORK, DAMPERS, EQUIPMENT, PIPING, ETC.
   A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL.
   B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK.
   C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM.
   D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
5. MECHANICAL CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITHIN THE STRUCTURE.
6. ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.
7. RATED PENETRATION: DUCT PENETRATIONS THROUGH RATED ENCLOSURES SHALL BE FIRE/SMOKE DAMPERED PER THE LATEST EDITION OF THE UNDERWRITERS LABORATORIES(UL) FIRE RESISTANCE WITH HOURLY RATINGS FOR THROUGH-PENETRATION FIRE STOPS SYSTEM VOLUME #2, OR SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S UL LISTINGS (3M OR EQUIVALENT). DETERMINE REQUIREMENTS WITH GENERAL CONTRACTOR PRIOR TO BID.
8. EXHAUST OUTLETS: SOURCE-SPECIFIC FANS SHALL BE VENTED TO OUTDOORS WITH A MINIMUM 3' CLEARANCE BETWEEN VENT OUTLETS AND BUILDING OPENINGS, AND 10' MINIMUM BETWEEN VENT OUTLETS AND MECHANICAL AIR INTAKES.
9. ROOF PENETRATIONS: SEE ARCHITECTURAL DRAWINGS FOR ROOF CAP, ROOF CURB, ROOF DRAIN, AND VTR DETAILS.
10. EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.
11. PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.
12. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.
13. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.
14. MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL LOAD.
15. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

COORDINATION REQUIREMENTS

1. PIPING: COORDINATE WITH STRUCTURAL FOR EXACT LOCATION OF ALL STRUCTURAL FRAMING AND FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL AND AT THE SITE PRIOR AND DURING THE CONSTRUCTION.
2. DUCTWORK: LOCATE AND COORDINATE THE EXACT LOCATION OF DUCTWORK WITH STRUCTURAL PLANS AND WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY STRUCTURE OR EQUIPMENT. COORDINATE WITH FRAMING CONTRACTOR TO ASSURE JOIST SPACES LINE UP WHEN DUCTWORK MUST PASS THROUGH DIFFERENT JOIST SPACES.
3. ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.
4. APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, ETC. CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH HIS MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THESE REQUIREMENTS IN HIS BID.
5. FIRE PROTECTION: CONTRACTOR SHALL PROVIDE A FULLY DESIGNED FIRE PROTECTION SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA AND LOCAL CODES. PROVIDE DESIGN, PERMITS, MATERIALS, INSTALLATION, TESTING AND ALL OTHER FOR A FULLY OPERATIONAL SYSTEM. LOCATION OF ALL PIPING TO BE COORDINATED WITH OTHER TRADES.
6. FIREPLACES: COORDINATE WITH THE GENERAL CONTRACTOR TO DETERMINE GAS FIREPLACE FLUE AND COMBUSTION AIR DUCTWORK REQUIREMENTS PRIOR TO BIDDING.

PIPING NOTES

1. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
2. REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.
3. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.
4. DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.
5. REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
6. CONDENSATE DRAIN: PROVIDE A P-TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.

INSULATION/LINING NOTES

1. ENERGY CODE: AS A MINIMUM, COMPLY WITH THICKNESSES AND TYPES LISTED IN ENERGY CODE ENFORCED BY AHJ.
2. EXTENT OF INTERNAL DUCT LINING:
   A. GRILLE AND DIFFUSER BOXES AND BOOTS.
   B. TRANSFER DUCTS.
   C. THE FIRST 10 FEET OF SUPPLY AND RETURN DUCTWORK FROM THE AIR HANDLER.
3. EXTENT OF EXTERNAL DUCT INSULATION:
   A. SUPPLY AND RETURN AIR IN UNCONDITIONED SPACES, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND EQUIPMENT ROOMS NOT SPECIFIED TO BE INTERNALLY LINED.
   B. SUPPLY AIR ABOVE CEILINGS OR EXPOSED NOT SPECIFIED TO BE INTERNALLY LINED.
   C. OUTDOOR AIR INTAKE.
4. MISCELLANEOUS DUCT FITTINGS (CONICAL TAKEOFFS, ETC.): WRAP WITH INSULATION FOR CONDENSATION CONTROL.

PLAN NOTES

1. DUCTWORK SHALL BE METALLIC DUCTWORK
2. TEST AND BALANCE WORK SHALL BE PERFORMED BY AN INDEPENDENT TEST AND BALANCE AGENCY. PROVIDE (3) COPIES OF TEST AND BALANCE REPORT TO OWNER.
3. COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.
4. RESTROOM EXHAUST SHALL BE A MINIMUM OF 10' FROM ANY MECHANICAL OUTSIDE AIR INTAKES.
5. ROUTE DUCTWORK UNDERNEATH JOISTS UON.
6. TRANSITION DUCT UNDER BEAMS AND DUCTS. FIELD VERIFY AVAILABLE CEILING CAVITY DIMENSIONS.
7. COORDINATE MOUNTING HEIGHT OF DIFFUSERS WITH ARCHITECTURAL PLANS.

SHEET METAL NOTES

1. REFERENCE: SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE, CURRENT EDITION.
2. CLEARANCE: COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.
3. ROUND ELBOWS AND OFFSETS: FULL RADIUS (R/D = 1.5), 5-PIECE SEGMENTED OR STAMPED. REFER TO SMACNA HVAC FIG 2-7, 3-3. DO NOT USE ANGLED OFFSET (TYPE 1). MITERED OFFSET (TYPE 2) MAY BE USED UP TO 30 DEGREE OFFSET ANGLE.
4. ROUND TEES AND LATERALS: CONICAL TEE PER SMACNA HVAC FIG 3-5; DO NOT USE STRAIGHT TEE; DO NOT USE CONICAL SADDLE TAP FOR EXPOSED DUCTWORK IN FINISHED SPACES. 90-DEGREE TEE WITH OVAL TO ROUND TAP, LATERAL, AND 45-DEGREE RECTANGULAR LEAD-IN PER SMACNA HVAC FIG 3-4.
5. RECTANGULAR ELBOWS AND OFFSETS: FULL RADIUS WHERE SPACE PERMITS, R/W = 1.5; OTHERWISE USE SQUARE CORNER ELBOW WITH TURNING VANES.
6. RECTANGULAR DIVIDED FLOW FITTINGS: USE GENERALLY, EXCEPT BRANCHES TO TERMINALS; SMACNA HVAC FIG 2-5, TYPES 1, 2, 4A, AND 4B. DO NOT USE TYPE 3.
7. TURNING VANES: H.E.P. MANUFACTURER OR APPROVED HIGH EFFICIENCY PROFILE AIRFOIL TYPE FOR RECTANGULAR SQUARE THROAT ELBOWS. ACOUSTICAL TYPE FOR RETURN AIR MITERED ELBOWS.
8. TAKEOFFS TO OPENINGS: CONICAL TYPE WITH VOLUME DAMPER FOR ROUND DUCT BRANCHES PER SMACNA HVAC FIG 2-6, MINIMUM INLET DIAMETER 2 INCHES LARGER THAN DUCT SIZE. 45 DEGREE ENTRY FITTING FOR RECTANGULAR DUCT BRANCHES PER SMACNA HVAC FIG 2-6.
9. FLEXIBLE CONNECTIONS: PROVIDE AT EACH DUCT CONNECTION TO FANS, PACKAGED HVAC EQUIPMENT, EXTERNALLY ISOLATED AIR HANDLING UNITS, FAN COIL UNITS, AND SIMILAR EQUIPMENT. EXCEPTION: EQUIPMENT IN CORRIDOR CEILING SPACES WHERE FIRE RATING IS REQUIRED.

HVAC NOTES

1. ATTACHMENTS: AIR DISTRIBUTION OUTLETS AND LOUVERS SHALL HAVE ALL REQUIRED ACCESSORIES AND ATTACHMENTS FOR A COMPLETE CONNECTION TO THE SPECIFIC TYPE OF STRUCTURE THAT THEY ARE BEING ATTACHED TO. THIS INCLUDES, BUT IS NOT LIMITED TO, EXTERIOR BRICKS, GWB WALLS, GWB CEILING, ETC.
2. DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0", UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
3. VOLUME DAMPERS: PROVIDE AN ACCESSIBLE MANUAL VOLUME DAMPER FOR EACH SUPPLY, RETURN, OSA, AND EXHAUST OPENING, LOCATED AS FAR UPSTREAM AS POSSIBLE FROM THE OPENING. PROVIDE A MANUAL VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING. VOLUME DAMPERS IN NON-ACCESSIBLE CEILINGS SHALL HAVE A CONTROL ARM EXTENDED TO AN ACCESSIBLE LOCATION.
4. SEISMIC: PROVIDE SEISMIC RESTRAINTS FOR MECHANICAL EQUIPMENT, PIPING, AND DUCTWORK PER SMACNA AND LOCAL REGULATIONS.
5. FILTER CLEARANCE: PROVIDE ADEQUATE CLEARANCE FOR CHANGING AIR FILTERS.
6. DUCTWORK AND PIPING OUTSIDE OF MECHANICAL ROOMS SHALL BE CONCEALED, COORDINATE WITH THE GENERAL CONTRACTOR TO FUR-OUT AS REQUIRED.
7. FIRE RATINGS: RATED FLOOR/CEILING JOINT SPACES HAVING DUCTWORK INSIDE THEM SHALL BE FIRE/SMOKE PROTECTED TO MAINTAIN THE 1-HOUR FLOOR/CEILING RATING PER LOCAL JURISDICTIONS. EXHAUST DUCTWORK PENETRATING THE 1-HOUR ROOF/CEILING OR FLOOR/CEILING ASSEMBLY SHALL HAVE ACCESSIBLE CEILING FIRE DAMPERS. ALTERNATIVELY, THE EXHAUST DUCTWORK SHALL BE ROUTED INSIDE A RATED SHAFT TO PROTECT THE CEILING/ROOF RATING PER THE LOCAL JURISDICTIONS.
8. FIRESTOP: PIPE, DUCT AND CONDUIT PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE FIRE AND SMOKE STOPPED PER CODE.
9. DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0" UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
10. VOLUME DAMPERS: PROVIDE AN ACCESSIBLE MANUAL VOLUME DAMPER FOR EACH SUPPLY, RETURN, OSA AND EXHAUST OPENING, LOCATED AS FAR UPSTREAM AS POSSIBLE FROM THE OPENING. PROVIDE A MANUAL VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING. VOLUME DAMPERS IN NON-ACCESSIBLE CEILING SHALL HAVE A CONTROL ARM EXTENDED TO AN ACCESSIBLE LOCATION. PROVIDE "YOUNG" REGULATOR OR EQUAL. EXACT LOCATION OF CONTROL DEVICES VISIBLE IN FINISHED SPACES SHALL BE COORDINATED WITH THE ARCHITECT.
11. CORRIDOR THERMOSTAT: PROVIDE TAMPERPROOF THERMOSTATS IN CORRIDORS. DO NOT PROVIDE PLASTIC GUARDS TO MAKE THE THERMOSTATS TAMPERPROOF. PROVIDE BLANK SECURABLE THERMOSTAT COVERS.

CONTRACTOR SUBSTITUTIONS & REVISIONS

CONTRACTOR SUBSTITUTIONS & REVISIONS: PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR REVISIONS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL OR DOING WORK. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S NAME AND CATALOG DESIGNATIONS, THE MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICATION FOR THAT ITEM ARE CONSIDERED PART OF SPECIFICATION. ENGINEERING COSTS FOR REVISING MEP PLANS SHALL BE ADDRESSED IN THE COST ANALYSIS OF THE SUBSTITUTION PROPOSAL. CONTRACTOR TO COORDINATE WITH ENGINEER AND DETERMINE ASSOCIATED DESIGN AND PERMITTING COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTHER COSTS ASSOCIATED WITH UNFORESEEN ISSUES RESULTING FROM SUBSTITUTIONS OR REVISIONS.

PRE-CON MEETING NOTES

CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE OF REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE MEETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. THE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER AND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES FOR COORDINATION ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS AND METHODS,AND ON-SITE INVESTIGATION OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS THAT COULD AFFECT THE WORK. PERSONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE ISSUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO CHANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS.

THE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM TIME INDICATED:

MECHANICAL SHEET METAL	4 HOURS
GENERAL CONTRACTOR	ALL SESSIONS

ABBREVIATIONS

ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNIT PER HOUR
C	COMMON
CAP	CAPACITY
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CLG	CEILING, COOLING
CO	CLEANOUT
COMB	COMBUSTION
CONT	CONTINUE, CONTROL
COP	COEFFICIENT OF PERFORMANCE
CWS	CHILLED/CONDENSER WATER SUPPLY
CWR	CHILLED/CONDENSER WATER RETURN
D	DIAMETER
DB	DRY BULB, DECIBEL
DIM	DIMENSION
DISCH	DISCHARGE
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
ELEC	ELECTRIC
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
EXT	EXTERIOR, EXTERNAL
F	FAHRENHEIT
FCU	FAN COIL UNIT
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE/SMOKE DAMPER
G	GAS
GAL	GALLONS
GPM	GALLONS PER MINUTE
GRD	GRILLES, REGISTERS, DIFFUSERS
GWB	GYPSUM WALLBOARD
HD	HEAD
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPU	HEAT PUMP UNIT
HRU	HEAT RECOVERY UNIT
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HVU	HEATING & VENTILATION UNIT
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
ID	INDIRECT DRAIN, INSIDE DIAMETER
IN	INCH
KW	KILOWATT
L	LONG, LENGTH
LB	POUND
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MCA	MIN. CIRCUIT AMPACITY
MOCP	MAX. OVER CURRENT PROTECTION
MTD	MOUNTED
OSA	OUTDOOR AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION OR DIAMETER
OPNG	OPENING
P	PUMP
PD	PRESSURE DROP, PUMPED DRAIN
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE IN GAUGE
RA	RETURN AIR
RD	ROOF DRAIN
REF	REFERENCE
RF	RELIEF FAN
RG	RETURN GRILLE
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCH	SCHEDULE
SF	SUPPLY FAN, SQUARE FOOT
SENS	SENSIBLE
SG	SUPPLY GRILLE
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SO	SCREENED OPENING
SP	STATIC PRESSURE
SS	STAINLESS STEEL, SANITARY SEWER
SQ	SQUARE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VENT
VENT	VENTILATION, VENTILATOR
VTR	VENT THRU ROOF
W	WASTE, WATT, WIDE
WB	WET BULB (TEMPERATURE)

SYMBOLS

EQUIPMENT

- EF-1 / DSD — TYPICAL EQUIPMENT DESIGNATION (EXHAUST FAN SHOWN)
- DUCT SMOKE DETECTOR
- T — ROOM THERMOSTAT OR TEMPERATURE TRANSMITTER
- H — ROOM HUMIDISTAT OR HUMIDITY TRANSMITTER
- CO — CARBON MONOXIDE SENSOR
- SD — SMOKE DETECTOR

TERMINALS

- CD-12x12 OR 400 / CD-1 400 — DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE; DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
- CEILING RETURN/EXHAUST GRILLE
- LINEAR DIFFUSER, CEILING OR WALL MOUNTED (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
- WALL SUPPLY GRILLE (SG)
- WALL RETURN/EXHAUST GRILLE (RG, EG)
- 50 — TRANSFER GRILLE (TG), DUCT CONNECTED, WALL MOUNTED W/ OPTIONAL CFM SHOWN
- TRANSFER GRILLE, CEILING MOUNTED WITH FULL-SIZED LINED DUCT CONNECTION

PIPING

- CD — CONDENSATE DRAINAGE
- G — NATURAL GAS – STD. PRESSURE
- MPG — NATURAL GAS – MEDIUM PRESSURE
- PIPE CAP
- PIPE PLUG
- UNION
- FLANGE
- GATE VALVE OR BALL VALVE
- BALL VALVE
- PRESSURE REDUCING VALVE (PRV)
- BREAK IN PIPING OR DUCTWORK
- RL — RAIN LEADER (RL)
- OL — OVERFLOW RAIN LEADER (OL)
- CHECK VALVE

DUCTWORK

- 18x12 — DUCT (1ST FIGURE = SIDE SHOWN, 2ND FIGURE = SIDE NOT SHOWN)
- UP DOWN — DUCT SECTION, POSITIVE PRESSURE
- UP DOWN — DUCT SECTION, NEGATIVE PRESSURE
- UP DOWN — ROUND DUCT SECTION
- UP UP UP — DUCT PENETRATION THRU FLOOR OR ROOF
- VOLUME DAMPER
- FSD FSD — FIRE/SMOKE DAMPER (--◀ = HORIZ DUCT, --◆ = VERT DUCT), 2-HR RATED, UON
- FD FD — FIRE DAMPER (--◀ = HORIZ DUCT, --◆ = VERT DUCT), 2-HR RATED, UON
- 90° ELBOW, R/D OR R/W=1.5
- SQUARE CORNER ELBOW WITH TURNING VANES
- 90° TAKE-OFF OR TEE
- 90° CONICAL TAKE-OFF
- 45° LATERAL TAKE-OFF
- TRANSITION OR REDUCER (FOT = FLAT ON TOP, FOB = FLAT ON BOTTOM)
- WYE FITTING
- 90° RECTANGULAR TAKE-OFF WITH 45° TAPER
- 90° DIVERGING RECTANGULAR TEE, EITHER RADIUS OR TURNING VANES
- PARALLEL FLOW BRANCH CONNECTION, EITHER RADIUS OR TURNING VANES
- FLEXIBLE DUCT
- Ø — ROUND DUCT INDICATOR

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

DRAWING INDEX

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:43:33 PM kwlodarchak

Subject to Field Inspection

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 1-04-2021

DRAWN: JN | DESIGNED: LCH | CHECKED: JMR | APPROVED: JMR

PROJECT:
SEASIDE AT KINGSTON
24700-26200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DATE: 1/04/2021

SHEET TITLE:
LEGEND, GENERAL NOTES, & DRAWING INDEX

SHEET NO.
M0C0

Permit Number: 21-00517

MECHANICAL SCHEDULES

FAN SCHEDULE

EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	AIRFLOW, CFM	ESP. IN WG	ELECTRICAL		OPERATION	WEIGHT, LBS	BASIS OF DESIGN (1)(2)
					VOLTAGE	HP			
BEF–1	BATHROOM	CEILING	50	0.25	120V/1P	FHP	(3)	12	PANASONIC FV–05VK3
BEF–2	BATHROOM	CEILING	50	0.25	120V/1P	FHP	(3)	12	PANASONIC FV–0511VKL2 (5)
WHF–1	LAUNDRY ROOM WHF	CEILING	112	0.25	120V/1P	FHP	(4)	12	PANASONIC FV–11VK3

NOTES:
(1) PROVIDE BACKDRAFT DAMPERS ON EXHAUST FANS.
(2) VIBRATION ISOLATION: FANS < 125 LBS RUBBER ISOLATORS, FANS > 125 LBS SPRING ISOLATORS
(3) INTERLOCK WITH WALL SWITCH
(4) INTERLOCK WITH 24–HOUR CLOCK TIMER THAT RUN 3 HOURS FOR EVERY 4 HOURS. 24–HOUR CLOCK TIMER SHALL HAVE LABEL THAT READS "WHOLE HOUSE VENTILATION (SEE OPERATING INSTRUCTIONS)."
(5) FAN/LIGHT COMBO

SPLIT SYSTEM HEAT PUMP SCHEDULE – INDOOR UNIT

EQUIP NO. (3)	SERVICE	MOUNTING/ DISCHARGE	FAN			ELECTRICAL		WEIGHT, LBS	BASIS OF DESIGN (1)(2)(3)
			AIRFLOW, CFM	ESP, IN WG	MOTOR, HP	VOLTAGE	AMP		
FC–1	TOWNHOUSE 2ND FLOOR	WALL	600	0.1	FHP	208V/1PH	0.4	28	LG LSN240HEV2

NOTES:
(1) REFRIGERANT SHALL BE R–410A.
(2) FIELD WIRE MUST BE RATED FOR AT LEAST 194°F.

SPLIT SYSTEM HEAT PUMP SCHEDULE – OUTDOOR UNIT

EQUIP NO.	SERVICE	CAPACITY, TONS	TOTAL COOLING CAPACITY, BTUH	SEER	TOTAL HEATING CAPACITY, BTUH	HSPF	ELECTRICAL			WEIGHT, LBS	SOUND, DB	BASIS OF DESIGN
							VOLTAGE	MCA	MOCP			(1)(2)(3)(4)(5)
HP–1	FC–1	2.0	22,000	19.0	25,260	9.5	208V/1P	15	20	76	51	LG LS240HEV2

NOTES:
(1) ARI LISTED WITH ALL STANDARD FEATURES, INSTALLATION ACCESSORIES AND COMPRESSOR SHORT CYCLING PROTECTION. FILTER DRIVER, REFRIGERANT LINE FILTER, LIQUID SOLENOID VALVE, AND SAFETY PRESSURE SWITCHES. INSTALL REFRIGERANT TUBING AND LENGTH IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
(2) REFRIGERANT SHALL BE R–410A.
(3) ROUTING OF REFRIGERANT LINES FROM INDOOR TO OUTDOOR UNITS NOT SHOWN ON PLANS. CONTRACTOR TO FIELD COORDINATE ROUTING.

ELECTRIC HEATERS

EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	HEATING	ELECTRICAL	BASIS OF DESIGN
			KW	VOLTAGE	
EWH–1	FLOOR 1 BEDROOM	WALL	2.0	208V/1P	(1)(2)
EWH–2	FLOOR 3 BEDROOM	WALL	1.5	208V/1P	(1)(2)

NOTES: (1) BROAN, KING, CADET, OR EQUIVALENT

PROJECT NOTES

RESIDENTIAL BUILDING CODE

1. MECHANICAL INTAKE OPENING PER WSRC R303.5.1, MECHANICAL AND GRAVITY OUTDOOR AIR INTAKE OPENINGS SHALL BE LOCATED NOT LESS THAN 10' FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT.
2. EXHAUST DUCT PER WSRC R303.5.2.1, EXHAUST DUCT SHALL BE EQUIPPED WITH BACKDRAFT DAMPER. ALL EXHAUST DUCTS IN UNCONDITION SPACE SHALL BE INSULATED TO A MINIMUM OF R–4.
3. OUTSIDE OPENING PROTECTION PER WSRC R303.6, AIR EXHAUST AND INTAKE OPENING THAT TERMINATE OUTDOOR SHALL BE PROTECTED WITH CORROSION–REISTANT SCREENS, LOUVER OR GRILLES HAVING AN OPENING SIZE OF NOT LESS THAN 1/4" AND A MAX OPENING SIZE OF 1/2". OPENINGS SHALL BE PROTECTED AGAINST LOCAL WEATHER CONDITION.
4. REQUIRED HEATING PER WSRC R303.10, WHERE THE WINTER DESIGN TEMPERATURE IN TABLE R301.2(1) IS BELOW 60°F, EVERY DWELLING UNIT SHALL BE PROVIDED WITH HEATING FACILITIES CAPABLE OF MAINTAINING A ROOM TEMPERATURE OF NOT LESS THAN 68°F AT A POINT 3' ABOVE THE FLOOR AND 2' FROM EXTERIOR WALLS IN HABITABLE ROOMS AT THE DESIGN TEMPERATURE.
5. EQUIPMENT AND APPLIANCE SIZING PER WSRC M1401.3, HEATING AND CLOTHES DRYER PER WSRC M1502:
   - 5.1. DRYER EXHAUST SYSTEM SHALL BE INDEPENDENT OF ALL OTHER SYSTEMS AND SHALL COVEY THE MOISTURE TO THE OUTDOORS
   - 5.2. EXHAUST DUCTS SHALL TERMINATE ON THE OUTSIDE OF THE BUILDING. EXHAUST DUCT TERMINATIONS SHALL BE IN ACCORDANCE WITH THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE EXHAUST DUCT SHALL TERMINATE NOT LESS THAN 3' IN ANY DIRECTION FROM OPENINGS INTO BUILDING. EXHAUST TERMINATION SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER. SCREENS SHALL NOT BE INSTALLED AT THE DUCT TERMINATION.
   - 5.3. EXHAUST DUCT SHALL HAVE SMOOTH INTERIOR FINISH AND BE CONSTRUCTED OF METAL HAVING A MINIMUM THICKNESS OF 0.0157" (28 GAGE). DUCT SHALL BE 4" NOMINAL IN DIAMETER.
   - 5.4. EXHAUST DUCTS SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED 12' AND SHALL BE SECURED IN PLACE. THE INSERT END OF THE DUCT SHALL EXTEND INTO THE ADJOINING DUCT OR FITTING IN THE DIRECTION OF AIR FLOW. EXHAUST DUCT JOINTS SHALL BE SEALED IN ACCORDANCE WITH SECTION M16.1.4.1 AND SHALL BE MECHANICALLY FASTENED. DUCT SHALL NOT BE JOINED WITH SCREWS OR SIMILAR FASTENERS THAT PROTRUDE MORE THAN 1/8" INTO THE INSIDE OF THE DUCT.
   - 5.5. TRANSITION DUCTS USED TO CONNECT THE DRYER TO THE EXHAUST DUCT SYSTEM SHALL BE A SINGLE LENGTH THAT IS LISTED AND LABELED IN ACCORDANCE WITH UL 2158A. TRANSITION DUCTS SHALL BE NOT GREATER THAN 8' IN LENGTH. TRANSITION DUCTS SHALL NOT BE CONCEALED WITHIN CONSTRUCTION.
   - 5.6. THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE 35' FROM THE CONNECTION OF THE TRANSITION DUCT FROM THE DRYER TO THE OUTLET TERMINAL. WHERE FITTINGS ARE USED, THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE REDUCED IN ACCORDANCE WITH TABLE M1502.4.5.1. THE MAXIMUM LENGTH OF THE EXHAUST DUCT DOES NOT INCLUDE THE TRANSITION DUCT.
   - 5.7. THE SIZE AND MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE DETERMINED BY THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTION. THE CODE OFFICIAL SHALL BE PROVIDED WITH A COPY OF THE INSTALLATION INSTRUCTION OF THE MAKE AND MODEL OF THE DRYER.
   - 5.8. THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE DETERMINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION FOR THE DRYER EXHAUST POWER VENTILATOR.
   - 5.9. WHERE THE EXHASUT DUCT EQUIVALENT LENGTH EXCEED 35', THE EQUIVALENT LENGHT OF THE EXHAUST DUCT SHALL BE IDENTIFIED ON A PERMANENT LABEL OR TAG. THE LABEL OF TAG SHALL BE LOCATED WITHIN 6' OF THE EXHAUST DUCT CONNECTION.
   - 5.10. WHERE SPACE FOR A CLOTHES DRYER IS PROVIDED, AN EX EXHAUST DUCT SYSTEM SHALL BE INSTALLED, WHERE THE CLOTHES DRYER IS NOT INSTALLED AT THE TIME OF OCCUPANCY THE EXHAUST DUCT SHALL BE CAPPED OR PLUGGED IN THE SPACE IN WHICH IT ORIGINATES AND IDENTIFIED AND MARKED "FUTURE USE".
   - 5.11. PROTECTIVE SHIELD PLATES SHALL BE PLACED WHERE NAILS OR SCREWS FROM FINISH OR OTHER WORK ARE LIKELY TO PENETRATE THE CLOTHES DRYER EXHAUST DUCT. SHIELD PLATES SHALL BE PLACE ON THE FINISHED FACE OF FRAMING MEMBERS WHERE THERE IS LESS THAN 1–1/4" BETWEEN DUCT AND THE FINISHED FACE OF THE FRAMING MEMBER. PROTECTIVE SHIELD PLATES SHALL BE CONSTRUCTED OF STEEL, SHALL HAVE MINIMUM THICKNESS OF 0.062" AND SHALL EXTEND NOT LESS THAN 2" ABOVE SOLE PLATES AND BELOW TOP PLATES.
6. RANGE HOOD PER WSRC M1503:
   - 6.1. RANGE HOODS SHALL DISCHARGE TO THE OUTDOORS THROUGH A DUCT. THE DUCT SERVING THE HOOD SHALL HAVE A SMOOTH INTERIOR SURFACE, SHALL BE AIR TIGHT, SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER AND SHALL BE INDEPENDENT OF ALL OTHER EXHAUST SYSTEMS. DUCT SERVING RANGE HOODS SHALL NOT TERMINATE IN AN ATTIC OR CRAWL SPACE OR AREAS INSIDE THE BUILDING.
   - 6.2. DUCT SHALL BE CONSTRUCTED OF GALVANIZED STEEL, STAINLESS STEEL OR COPPER.
   - 6.3. EXHAUST HOOD SYSTEM CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE MECHANICALLY OR NATURALLY PROVIED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE.EASH DAMPER SHALL BE GRAVITY DAMPER OR AN ELETRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATES. DAMPER SHALL BE ACCESSIBLE.
7. EXHAUST DUCTS AND EXHAUST OPENINGS PER WSRC M1506:
   - 7.1. THE LENGTH OF EXHAUST AND SUPPLY DUCT USED WITH VENTILATING EQUIPMENT SHALL NOT EXCEED THE LENGTH DETERMINED IN ACCORDANCE WITH TABLE M1506.2.
   - 7.2. AIR EXHAUST OPENINGS SHALL TERMINATE NOT LESS THAN 3' FROM PROPERTY LINES; 3' FROM OPERABLE AND NONOPERABLE OPENING INTO THE BUILDING AND 10' FROM MECHANICAL AIR INTAKES EXCEPT WHERE THE OPENING IS LOCATED 3' ABOVE THE AIR INTAKE.
8. MECHANICAL VENTILATION PER WSRC M1507
   - 8.1. CONTINUOUS WHOLE–HOUSE FAN SHALL BE EQUIPPED WITH OVERRIDE CONTROL. PROVIDE LABEL THAT READS "WHOLE HOUSE VENTILATION".
   - 8.2. INTERMITTENT MECHANICAL VENTILATION SYSTEM SHALL OPERATED AT LEAST ONE HOUR OUT OF EVERY FOUR HOUR.
   - 8.3. WHOLE–HOUSE EXHAUST FANS SHALL HAVE A FLOW RATING AT 0.25 INCHES WATER GAUGE.
   - 8.4. WHOLE–HOUSE EXHAUST FANS LOCATED 4' OR LESS FORM THE INTERIOR GRILLE SHALL HAVE A SONE RATING OF 1.0 OR LESS MEASURED AT 0.1 INCHES WATER GAUGE.
   - 8.5. EACH HABITABLE SPACE SHALL BE PROVIDED WITH OUTDOOR AIR INLETS WITH AN OPENABLE AREA NOT LESS THAN 4 SQIN OF FREE AREA OF OPENING FOR EACH 10 CFM OF OUTDOOR AIR REQUIRED BY TABLE M1507.3.3(1). UNDERCUT DOOR MINIMUM 1/2" ABOVE FINISH FLOOR FOR AIR DISTRIBUTION.
9. DUCT CONSTRUCTION PER WSRC M1601:
   - 9.1. DUCT THICKNESS PER WSRC TABLE M1601.1.1.
   - 9.2. DUCT INSULATION MATERIAL PER M1601.3:
     - 9.2.1. DUCT COVERINGS AND LININGS, INCLUDING ADHESIVES FLAME SPREAD INDEX NOT HIGHER THAN 25 AND SMOKE–DEVELPED INDEX NOT OVER 50.
   - 9.3. DUCT SHALL LAP NOT LESS THAN 1" AND THE MALE END OF THE DUCT SHALL EXTEND INTO THE ADJOINING DUCT IN THE DIRECTION OF AIRFLOW.

APPLICABLE CODE

BUILDING CODE:
2015 WASHINGTON STATE RESIDENTIAL CODE (WSRC)

MECHANICAL CODE:
2015 WASHINGTON STATE MECHANICAL CODE (WSMC)

ENERGY CODE:
2015 WASHINGTON STATE ENERGY CODE (WSEC)

RESIDENTIAL ENERGY CODE

1. WHOLE–HOUSE FAN EFFICACY PER TABLE R403.6.1.
2. EQUIPMENT AND APPLIANCE SIZING PER R403.7, HEATING AND COOLING EQUIPMENT AND APPLIANCES SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR OTHER APPROVED SIZING METHODOLOGIES BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES
3. ELECTRIC RESISTANCE ZONE PER R403.7.1, ELECTRIC ZONAL HEATING AS PRIMARY HEAT SOURCE SHALL INSTALL DUCTLESS MINI–SPLIT HEAT PUMP IN THE LARGEST ZONE IN THE DWELLING UNLESS TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.

WHOLE HOUSE VENTILATION CRITERIA

UNIT	2015 SMC CRITERIA (1)			
	FLOOR AREA, SQFT	NUMBER OF BEDROOMS	REQUIRED CFM (2)	REQUIRED CFM (4)
tYPE A, TYPE B, TYPE C, TYPE D	1501–2000	3	85	111

NOTE:
(1) VENTILATION CRITERIA BASED ON THE SMC TABLE 403.8.1
(2) MIN. OSA FOR OPERATING CONTINUOUSLY
(3) OUTDOOR AIR INLET REQUIREMENT BASED ON THE SMC 403.8.6.1
(4) MIN. OSA FOR OPERATING 75% INTERMITTENT PER SMC TABLE 403.4.5.1

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 1–04–2021

DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT:
SEASIDE AT KINGSTON
24700–28200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DATE: 1/04/2021

SHEET TITLE:
PROJECT NOTES, MECHANICAL SCHEDULES, & DETAILS

SHEET NO.
M0C1

LOAD CALCULATIONS

Walls

Room Number	Length	Height	Area (Minus Doors and Glass)	Type	Facing Direction	On Perimeter
Type C - Second Floor	10'-2"	9'	50 ft²	WD - GWB - R21	S	
Type C - Second Floor	2'-9"	9'	25 ft²	WD - GWB - R21	E	
Type C - Second Floor	10'	9'	78 ft²	WD - GWB - R21	E	
Type C - Second Floor	4'-4"	9'	18 ft²	WD - GWB - R21	N	
Type C - Third Floor	10'-9"	8'	49 ft²	WD - GWB - R21	N	
Type C - Third Floor	5'-10"	8'	46 ft²	WD - GWB - R21	W	
Type C - Third Floor	10'-6"	8'	59 ft²	WD - GWB - R21	S	
Type C - Third Floor	4'-9"	8'	38 ft²	WD - GWB - R21	S	
Type C - Third Floor	5'-7"	8'	34 ft²	WD - GWB - R21	E	
Type C - Third Floor	4'-6"	8'	36 ft²	WD - GWB - R21	N	
Type D - First Floor	4'-9"	8'	38 ft²	WD - GWB - R21	N	
Type D - First Floor	9'-7"	8'	77 ft²	WD - GWB - R21	W	
Type D - First Floor	11'-8"	8'	93 ft²	WD - GWB - R21	S	
Type D - First Floor	27'-11"	8'	213 ft²	WD - GWB - R21	E	
Type D - First Floor	10'-3"	8'	52 ft²	WD - GWB - R21	N	
Type D - Second Floor	4'-5"	9'	40 ft²	WD - GWB - R21	N	
Type D - Second Floor	10'-8"	9'	60 ft²	WD - GWB - R21	N	
Type D - Second Floor	4'-4"	9'	18 ft²	WD - GWB - R21	N	
Type D - Second Floor	9'	9'	69 ft²	WD - GWB - R21	W	
Type D - Second Floor	11'	9'	72 ft²	WD - GWB - R21	S	
Type D - Second Floor	4'-5"	9'	40 ft²	WD - GWB - R21	S	
Type D - Second Floor	4'	9'	36 ft²	WD - GWB - R21	S	
Type D - Second Floor	4'-5"	9'	40 ft²	WD - GWB - R21	E	
Type D - Second Floor	27'-11"	9'	196 ft²	WD - GWB - R21	E	
Type D - Second Floor	10'	9'	48 ft²	WD - GWB - R21	E	
Type D - Second Floor	1'-9"	9'	16 ft²	WD - GWB - R21	E	
Type D - Third Floor	10'-8"	8'	55 ft²	WD - GWB - R21	N	
Type D - Third Floor	4'-6"	8'	26 ft²	WD - GWB - R21	W	
Type D - Third Floor	11'-2"	8'	69 ft²	WD - GWB - R21	S	
Type D - Third Floor	4'	8'	32 ft²	WD - GWB - R21	S	
Type D - Third Floor	42'-4"	8'	287 ft²	WD - GWB - R21	E	
Type D - Third Floor	1'-9"	8'	14 ft²	WD - GWB - R21	E	
Type D - Third Floor	4'-6"	8'	36 ft²	WD - GWB - R21	N	

Wall Types

Wall Type	U-Value	ASHRAE Type	Color	Description
BRK - GWB - R11	0.091		10 Dark	Brick - GWB - R11
WD - GWB - R21	0.056		1 Dark	

Walls

Room Number	Length	Height	Area (Minus Doors and Glass)	Type	Facing Direction	On Perimeter
Type A - First Floor	27'-10"	8'	213 ft²	WD - GWB - R21	W	
Type A - First Floor	9'-7"	8'	77 ft²	WD - GWB - R21	E	
Type A - First Floor	4'-9"	8'	38 ft²	WD - GWB - R21	N	
Type A - First Floor	10'-3"	8'	52 ft²	WD - GWB - R21	N	
Type A - Second Floor	4'-5"	9'	40 ft²	WD - GWB - R21	N	
Type A - Second Floor	4'-4"	9'	18 ft²	WD - GWB - R21	N	
Type A - Second Floor	1'-9"	9'	16 ft²	WD - GWB - R21	W	
Type A - Second Floor	10'	9'	48 ft²	WD - GWB - R21	W	
Type A - Second Floor	27'-10"	9'	196 ft²	WD - GWB - R21	W	
Type A - Second Floor	4'-6"	9'	40 ft²	WD - GWB - R21	W	
Type A - Second Floor	4'	9'	36 ft²	WD - GWB - R21	S	
Type A - Second Floor	11'	9'	72 ft²	WD - GWB - R21	S	
Type A - Second Floor	4'-5"	9'	40 ft²	WD - GWB - R21	S	
Type A - Second Floor	9'	9'	69 ft²	WD - GWB - R21	E	
Type A - Second Floor	10'-8"	9'	60 ft²	WD - GWB - R21	N	
Type A - Third Floor	4'-6"	8'	36 ft²	WD - GWB - R21	N	
Type A - Third Floor	42'-4"	8'	299 ft²	WD - GWB - R21	W	
Type A - Third Floor	1'-9"	8'	14 ft²	WD - GWB - R21	W	
Type A - Third Floor	4'	8'	32 ft²	WD - GWB - R21	S	
Type A - Third Floor	11'-2"	8'	73 ft²	WD - GWB - R21	S	
Type A - Third Floor	4'-7"	8'	26 ft²	WD - GWB - R21	E	
Type A - Third Floor	10'-8"	8'	55 ft²	WD - GWB - R21	N	
Type B - First Floor	9'-7"	8'	77 ft²	WD - GWB - R21	W	
Type B - First Floor	4'-9"	8'	38 ft²	WD - GWB - R21	N	
Type B - First Floor	10'-3"	8'	52 ft²	WD - GWB - R21	N	
Type B - Second Floor	10'-7"	9'	59 ft²	WD - GWB - R21	N	
Type B - Second Floor	2'-9"	9'	25 ft²	WD - GWB - R21	W	
Type B - Second Floor	9'	9'	69 ft²	WD - GWB - R21	W	
Type B - Second Floor	4'-9"	9'	43 ft²	WD - GWB - R21	S	
Type B - Second Floor	10'-2"	9'	50 ft²	WD - GWB - R21	S	
Type B - Second Floor	4'-4"	9'	18 ft²	WD - GWB - R21	N	
Type B - Third Floor	10'-9"	8'	56 ft²	WD - GWB - R21	N	
Type B - Third Floor	4'-6"	8'	36 ft²	WD - GWB - R21	W	
Type B - Third Floor	10'-6"	8'	59 ft²	WD - GWB - R21	S	
Type B - Third Floor	4'-9"	8'	38 ft²	WD - GWB - R21	S	
Type B - Third Floor	5'-9"	8'	46 ft²	WD - GWB - R21	E	
Type B - Third Floor	4'-4"	8'	35 ft²	WD - GWB - R21	N	
Type C - First Floor	10'-3"	8'	52 ft²	WD - GWB - R21	N	
Type C - First Floor	9'-7"	8'	77 ft²	WD - GWB - R21	E	
Type C - First Floor	4'-9"	8'	38 ft²	WD - GWB - R21	N	
Type C - Second Floor	10'-7"	9'	50 ft²	WD - GWB - R21	N	
Type C - Second Floor	4'-9"	9'	43 ft²	WD - GWB - R21	S	

Roof Types

Roof Type	U-Value	ASHRAE Type	Color	Description
Code Min Roof	0.026		1 Dark	R-49

Roofs

Location	Type	Area
Room Type A - Third Floor	Code Min Roof	(100% of Room) 641 ft²
Room Type B - Third Floor	Code Min Roof	(100% of Room) 621 ft²
Room Type C - Third Floor	Code Min Roof	(100% of Room) 635 ft²
Room Type D - Third Floor	Code Min Roof	(100% of Room) 641 ft²

Project Information

Project Name:	Seaside at Kingston		
Project Location:	Silverdale, WA		
Default Heating Temperature:	70° F	**Heating Safety Factor (Room):**	0%
		Heating Safety Factor (Ventilation):	0%
Default Cooling Temperature:	75° F	**Cooling Safety Factor (Room):**	0%
		Cooling Safety Factor (Ventilation):	0%
Default Relative Humidity:	50%	**Floor Slab Heat Loss Coefficient:**	0.54
Calculation Date:	December 31, 2020, 9:36 a.m.		

Design Conditions

OSA Low:	25° F	**Latitude:**	48° N
OSA Daily Range:	18° F	**Elevation:**	446'
	OSA High Dry Bulb	**OSA High Wet Bulb**	
July	83° F		66° F

Glass

Room Number	Area	Type	Facing Direction	Shaded
Type D - Third Floor	10 ft²	Fenestration	W	
Type D - Third Floor	10 ft²	Fenestration	S	
Type D - Third Floor	10 ft²	Fenestration	S	
Type D - Third Floor	42 ft²	2015 WA Min - Entrance Doors	E	
Type D - Third Floor	10 ft²	Fenestration	E	

Glass Types

Glass Type	U-Value	SHGC	Description
2013 CA Min - Fixed	0.36	0.25	2013 CA Minimum - Fixed
2015 WA Min - Entrance Doors	0.6	0.4	2015 WA Minimum - Entrance Doors
Fenstration	0.28	1	

Glass

Room Number	Area	Type	Facing Direction	Shaded
Type A - First Floor	10 ft²	Fenestration	W	
Type A - First Floor	30 ft²	Fenestration	N	
Type A - Second Floor	42 ft²	2015 WA Min - Entrance Doors	W	
Type A - Second Floor	15 ft²	Fenestration	W	
Type A - Second Floor	15 ft²	Fenestration	W	
Type A - Second Floor	15 ft²	Fenestration	W	
Type A - Second Floor	10 ft²	Fenestration	W	
Type A - Second Floor	27 ft²	Fenestration	S	
Type A - Second Floor	12 ft²	Fenestration	E	
Type A - Second Floor	36 ft²	Fenestration	N	
Type A - Third Floor	10 ft²	Fenestration	W	
Type A - Third Floor	30 ft²	Fenestration	W	
Type A - Third Floor	8 ft²	Fenestration	S	
Type A - Third Floor	8 ft²	Fenestration	S	
Type A - Third Floor	10 ft²	Fenestration	E	
Type A - Third Floor	30 ft²	Fenestration	N	
Type B - First Floor	30 ft²	Fenestration	N	
Type B - Second Floor	36 ft²	Fenestration	N	
Type B - Second Floor	12 ft²	Fenestration	W	
Type B - Second Floor	42 ft²	2015 WA Min - Entrance Doors	S	
Type B - Third Floor	30 ft²	Fenestration	N	
Type B - Third Floor	25 ft²	Fenestration	S	
Type C - First Floor	15 ft²	Fenestration	N	
Type C - First Floor	15 ft²	Fenestration	N	
Type C - Second Floor	45 ft²	Fenestration	N	
Type C - Second Floor	42 ft²	2015 WA Min - Entrance Doors	S	
Type C - Second Floor	12 ft²	Fenestration	E	
Type C - Third Floor	38 ft²	Fenestration	N	
Type C - Third Floor	25 ft²	Fenestration	S	
Type C - Third Floor	10 ft²	Fenestration	E	
Type D - First Floor	10 ft²	Fenestration	E	
Type D - First Floor	30 ft²	Fenestration	N	
Type D - Second Floor	36 ft²	Fenestration	N	
Type D - Second Floor	12 ft²	Fenestration	W	
Type D - Second Floor	27 ft²	Fenestration	S	
Type D - Second Floor	15 ft²	Fenestration	E	
Type D - Second Floor	15 ft²	Fenestration	E	
Type D - Second Floor	15 ft²	Fenestration	E	
Type D - Second Floor	10 ft²	Fenestration	E	
Type D - Second Floor	42 ft²	2015 WA Min - Entrance Doors	E	
Type D - Third Floor	30 ft²	Fenestration	N	

Door Types

Door Type	U-Value	ASHRAE Type	Color	Description
2015 WA Min - Nonswinging	0.34		2 Dark	2015 WA Minimum - Nonswinging (Roll-up or Sliding)

Doors

Room Number	Area	Type	Facing Direction
Type A - Second Floor	21 ft²	2015 WA Min - Nonswinging	N
Type B - Second Floor	21 ft²	2015 WA Min - Nonswinging	N
Type C - Second Floor	21 ft²	2015 WA Min - Nonswinging	N
Type D - Second Floor	21 ft²	2015 WA Min - Nonswinging	N

Partitions

Location	Type	Area	Low Temperature	High Temperature	U-Value
Room Type A - First Floor	Horizontal	320 ft² (100% of Room)	OSA Low	OSA High	0.1
Room Type A - First Floor	Wall	27 ft²	OSA Low	OSA High	0.056
Room Type A - First Floor	Wall	93 ft²	OSA Low	OSA High	0.056
Room Type A - First Floor	Wall	15 ft²	OSA Low	OSA High	0.056
Room Type A - First Floor	Door	21 ft²	OSA Low	OSA High	0.34
Room Type A - Second Floor	Horizontal	240 ft² (42% of Room)	OSA Low	OSA High	0.029
Room Type A - Third Floor	Horizontal	60 ft² (9.4% of Room)	OSA Low	OSA High	0.029
Room Type B - First Floor	Horizontal	319 ft² (100% of Room)	OSA Low	OSA High	0.1
Room Type B - First Floor	Wall	15 ft²	OSA Low	OSA High	0.056
Room Type B - First Floor	Door	21 ft²	OSA Low	OSA High	0.34
Room Type B - First Floor	Wall	93 ft²	OSA Low	OSA High	0.056
Room Type B - First Floor	Wall	27 ft²	OSA Low	OSA High	0.091
Room Type B - Second Floor	Horizontal	240 ft² (42% of Room)	OSA Low	OSA High	0.029
Room Type B - Third Floor	Horizontal	60 ft² (9.7% of Room)	OSA Low	OSA High	0.029
Room Type C - First Floor	Horizontal	319 ft² (100% of Room)	OSA Low	OSA High	0.1
Room Type C - First Floor	Wall	27 ft²	OSA Low	OSA High	0.056
Room Type C - First Floor	Wall	93 ft²	OSA Low	OSA High	0.056
Room Type C - First Floor	Wall	15 ft²	OSA Low	OSA High	0.056
Room Type C - First Floor	Door	21 ft²	OSA Low	OSA High	0.34
Room Type C - Second Floor	Horizontal	240 ft² (42% of Room)	OSA Low	OSA High	0.029
Room Type C - Third Floor	Horizontal	60 ft² (9.4% of Room)	OSA Low	OSA High	0.029
Room Type D - First Floor	Horizontal	320 ft² (100% of Room)	OSA Low	OSA High	0.1
Room Type D - First Floor	Wall	15 ft²	OSA Low	OSA High	0.056
Room Type D - First Floor	Door	21 ft²	OSA Low	OSA High	0.34
Room Type D - First Floor	Wall	27 ft²	OSA Low	OSA High	0.056
Room Type D - Second Floor	Horizontal	240 ft² (42% of Room)	OSA Low	OSA High	0.029
Room Type D - Third Floor	Horizontal	60 ft² (9.4% of Room)	OSA Low	OSA High	0.029

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:43:41 PM kwlodarchak

NO.	DATE	DESCRIPTION

REVISIONS

MARK D. ROBISON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
1-04-2021

DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT:
SEASIDE AT KINGSTON
24700-26200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)366-3343

DATE: 1/04/2021

SHEET TITLE:
LOAD CALCULATION

SHEET NO.
M0C2

Permit Number: 21-00517

LOAD CALCULATIONS

Cooling Load Details - System

(Btu/h / % Total)

(See "Cooling Load Details - Room" for lighting, equipment, and people loads)

Location	Peak	Roof	Wall	Glass	Vertical Partitions	Horizontal Partitions	Ventilation		Infiltration	
							Sensible	Latent	Sensible	Latent
Zone Default	July 3:00 p.m.	4,950 3%	9,510 5%	63,100 36%	437 0%	1,300 1%	2,930 2%	1,010 1%	1,860 1%	644 0%
Room Type A - First Floor	July 4:00 p.m.	0 0%	955 10%	2,810 30%	110 1%	239 3%	198 2%	74 1%	87 1%	32 0%
Room Type A - Second Floor	July 4:00 p.m.	0 0%	1,770 7%	16,400 60%	0 0%	52 0%	238 1%	88 0%	174 1%	65 0%
Room Type A - Third Floor	July 4:00 p.m.	1,180 5%	1,510 7%	9,620 43%	0 0%	13 0%	238 1%	88 0%	174 1%	65 0%
Room Type B - First Floor	July 3:00 p.m.	0 0%	315 5%	1,120 16%	125 2%	255 4%	213 3%	74 1%	94 1%	32 0%
Room Type B - Second Floor	July 3:00 p.m.	0 0%	728 5%	4,780 33%	0 0%	56 0%	255 2%	88 1%	187 1%	65 0%
Room Type B - Third Floor	July 1:00 p.m.	1,130 7%	465 3%	4,280 28%	0 0%	11 0%	192 1%	88 1%	134 1%	62 0%
Room Type C - First Floor	July 2:00 p.m.	0 0%	194 3%	1,180 17%	110 2%	238 3%	238 3%	88 1%	87 1%	32 0%
Room Type C - Second Floor	July 1:00 p.m.	0 0%	546 4%	4,740 33%	0 0%	42 0%	192 1%	88 1%	141 1%	65 0%
Room Type C - Third Floor	July 1:00 p.m.	1,160 7%	451 3%	5,240 31%	0 0%	11 0%	192 1%	88 1%	141 1%	65 0%
Room Type D - First Floor	July 2:00 p.m.	0 0%	794 10%	1,780 22%	71 1%	239 3%	198 2%	74 1%	87 1%	32 0%
Room Type D - Second Floor	July 9:00 a.m.	0 0%	991 4%	14,800 61%	0 0%	-33 0%	-152 -1%	88 0%	-112 0%	65 0%
Room Type D - Third Floor	July 2:00 p.m.	1,250 7%	840 5%	6,240 34%	0 0%	13 0%	238 1%	88 0%	174 1%	65 0%

Ventilation Schedule

Location	Room Type	Ventilation Requirements	Area (ft^2)	People	Ventilation CFM	Supply CFM	Ventilation %
Zone Default			6,100	61	345	7,330	5%
Room Type A - First Floor	Hotel Guest Room	Direct	320	3.2	25	382	7%
Room Type A - Second Floor	Hotel Guest Room	Direct	572	5.7	30	1,180	3%
Room Type A - Third Floor	Hotel Guest Room	Direct	641	6.4	30	954	3%
Room Type B - First Floor	Hotel Guest Room	Direct	319	3.2	25	275	9%
Room Type B - Second Floor	Hotel Guest Room	Direct	566	5.7	30	598	5%
Room Type B - Third Floor	Hotel Guest Room	Direct	621	6.2	30	643	5%
Room Type C - First Floor	Hotel Guest Room	Direct	319	3.2	30	271	11%
Room Type C - Second Floor	Hotel Guest Room	Direct	577	5.8	30	592	5%
Room Type C - Third Floor	Hotel Guest Room	Direct	635	6.4	30	696	4%
Room Type D - First Floor	Hotel Guest Room	Direct	320	3.2	25	332	8%
Room Type D - Second Floor	Hotel Guest Room	Direct	572	5.7	30	1,060	3%
Room Type D - Third Floor	Hotel Guest Room	Direct	641	6.4	30	770	4%

Supply Air Requirements

Location	Current Supply CFM	Required Supply CFM	Cooling						Heating				
			Peak	Supply Temperature	Sensible Load (btuh)	Supply CFM	OSA CFM	OSA %	Heating Temperature Difference	Load (btuh)	Supply CFM	OSA CFM	OSA %
Zone Default	0	7,330	July 3:00 p.m.	55° F	159,000	7,330	345	5%	20° F dT	67,900	3,190	345	11%
Room Type A - First Floor	0	382	July 4:00 p.m.		8,290	382	25	7%		5,370	253	25	10%
Room Type A - Second Floor	0	1,180	July 4:00 p.m.		25,600	1,180	30	3%		8,290	390	30	8%
Room Type A - Third Floor	0	954	July 4:00 p.m.		20,700	954	30	3%		6,360	299	30	10%
Room Type B - First Floor	0	275	July 3:00 p.m.		5,970	275	25	9%		4,060	191	25	13%
Room Type B - Second Floor	0	598	July 3:00 p.m.		13,000	598	30	5%		5,100	240	30	13%
Room Type B - Third Floor	0	643	July 1:00 p.m.		13,900	643	30	5%		4,170	196	30	15%
Room Type C - First Floor	0	271	July 2:00 p.m.		5,870	271	30	11%		3,770	177	30	17%
Room Type C - Second Floor	0	592	July 1:00 p.m.		12,800	592	30	5%		5,240	247	30	12%
Room Type C - Third Floor	0	696	July 1:00 p.m.		15,100	696	30	4%		4,460	210	30	14%
Room Type D - First Floor	0	332	July 10:00 a.m.		7,210	332	25	8%		5,650	266	25	9%
Room Type D - Second Floor	0	1,060	July 9:00 a.m.		22,900	1,060	30	3%		8,290	390	30	8%
Room Type D - Third Floor	0	770	July 2:00 p.m.		16,700	770	30	4%		7,120	335	30	9%

Room Information, Part 1

Values in italics have been changed from the default

Number	Name	Area	Ceiling Height	Ventilation		Infiltration		Cooling Temperature	Heating Temperature	Relative Humidity
				Cooling	Heating	Cooling	Heating			
Type A - First Floor	Hotel Guest Room	320 ft^2	*8' Direct*	*25 CFM*	Same as cooling CFM	25 CFM	11 CFM	75° F	70° F	50%
Type A - Second Floor	Hotel Guest Room	572 ft^2	*9' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	22 CFM	75° F	70° F	50%
Type A - Third Floor	Hotel Guest Room	641 ft^2	*8' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	22 CFM	75° F	70° F	50%
Type B - First Floor	Hotel Guest Room	319 ft^2	*8' Direct*	*25 CFM*	Same as cooling CFM	25 CFM	11 CFM	75° F	70° F	50%
Type B - Second Floor	Hotel Guest Room	566 ft^2	*9' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	22 CFM	75° F	70° F	50%
Type B - Third Floor	Hotel Guest Room	621 ft^2	*8' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	21 CFM	75° F	70° F	50%
Type C - First Floor	Hotel Guest Room	319 ft^2	*8' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	11 CFM	75° F	70° F	50%
Type C - Second Floor	Hotel Guest Room	577 ft^2	*9' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	22 CFM	75° F	70° F	50%
Type C - Third Floor	Hotel Guest Room	635 ft^2	*8' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	22 CFM	75° F	70° F	50%
Type D - First Floor	Hotel Guest Room	320 ft^2	*8' Direct*	*25 CFM*	Same as cooling CFM	25 CFM	11 CFM	75° F	70° F	50%
Type D - Second Floor	Hotel Guest Room	572 ft^2	*9' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	22 CFM	75° F	70° F	50%
Type D - Third Floor	Hotel Guest Room	641 ft^2	*8' Direct*	*30 CFM*	Same as cooling CFM	30 CFM	22 CFM	75° F	70° F	50%

Room Information, Part 2

Values in italics have been changed from the default

Number	Lighting Load	Equipment Load		People		Glass
		Sensible	Latent		Sensible btuh / Person	Latent btuh / Person	Zone Type
Type A - First Floor	1 watts / ft^2 1,090	2 watts / ft^2 2,190	0	100 ft^2 / person 3.2 people	250	200	C
Type A - Second Floor	1 watts / ft^2 1,950	2 watts / ft^2 3,900	0	100 ft^2 / person 5.7 people	250	200	C
Type A - Third Floor	1 watts / ft^2 2,190	2 watts / ft^2 4,380	0	100 ft^2 / person 6.4 people	250	200	C
Type B - First Floor	1 watts / ft^2 1,090	2 watts / ft^2 2,180	0	100 ft^2 / person 3.2 people	250	200	C
Type B - Second Floor	1 watts / ft^2 1,930	2 watts / ft^2 3,860	0	100 ft^2 / person 5.7 people	250	200	C
Type B - Third Floor	1 watts / ft^2 2,120	2 watts / ft^2 4,240	0	100 ft^2 / person 6.2 people	250	200	C
Type C - First Floor	1 watts / ft^2 1,090	2 watts / ft^2 2,180	0	100 ft^2 / person 3.2 people	250	200	C
Type C - Second Floor	1 watts / ft^2 1,970	2 watts / ft^2 3,940	0	100 ft^2 / person 5.8 people	250	200	C
Type C - Third Floor	1 watts / ft^2 2,170	2 watts / ft^2 4,340	0	100 ft^2 / person 6.4 people	250	200	C
Type D - First Floor	1 watts / ft^2 1,090	2 watts / ft^2 2,190	0	100 ft^2 / person 3.2 people	250	200	C
Type D - Second Floor	1 watts / ft^2 1,950	2 watts / ft^2 3,900	0	100 ft^2 / person 5.7 people	250	200	C
Type D - Third Floor	1 watts / ft^2 2,190	2 watts / ft^2 4,380	0	100 ft^2 / person 6.4 people	250	200	C

Load Total Summary - Room

(Excludes Ventilation and Plenum Loads)

Location	Area	Cooling									Heating			
		CFM	Peak	btuh			Tons			ft^2 / ton	CFM / ton	CFM / ft^2	CFM	btuh	kW	CFM / ft^2
				Total	Sensible	Latent	Total	Sensible	Latent							
Zone Default	6,100 ft^2	7,330	July 3:00 p.m.	172,000	159,000	12,900	14.3	13.2	1.1	427	512	1.2	3,190	67,900	19.9	0.52
Room Type A - First Floor	320 ft^2	382	July 4:00 p.m.	8,960	8,290	673	0.7	0.7	0.1	429	512	1.19	253	5,370	1.6	0.79
Room Type A - Second Floor	572 ft^2	1,180	July 4:00 p.m.	26,800	25,600	1,210	2.2	2.1	0.1	256	529	2.07	390	8,290	2.4	0.68
Room Type A - Third Floor	641 ft^2	954	July 4:00 p.m.	22,000	20,700	1,350	1.8	1.7	0.1	350	520	1.49	299	6,360	1.9	0.47
Room Type B - First Floor	319 ft^2	275	July 3:00 p.m.	6,640	5,970	670	0.6	0.5	0.1	576	497	0.86	191	4,060	1.2	0.6
Room Type B - Second Floor	566 ft^2	598	July 3:00 p.m.	14,200	13,000	1,200	1.2	1.1	0.1	480	507	1.06	240	5,100	1.5	0.42
Room Type B - Third Floor	621 ft^2	643	July 1:00 p.m.	15,200	13,900	1,300	1.3	1.2	0.1	489	506	1.03	196	4,170	1.2	0.32
Room Type C - First Floor	319 ft^2	271	July 2:00 p.m.	6,540	5,870	670	0.5	0.5	0.1	585	497	0.85	177	3,770	1.1	0.56
Room Type C - Second Floor	577 ft^2	592	July 1:00 p.m.	14,000	12,800	1,220	1.2	1.1	0.1	493	506	1.03	247	5,240	1.5	0.43
Room Type C - Third Floor	635 ft^2	696	July 1:00 p.m.	16,400	15,100	1,330	1.4	1.3	0.1	464	509	1.1	210	4,460	1.3	0.33
Room Type D - First Floor	320 ft^2	332	July 10:00 a.m.	7,880	7,210	673	0.7	0.6	0.1	488	506	1.04	266	5,650	1.7	0.83
Room Type D - Second Floor	572 ft^2	1,060	July 9:00 a.m.	24,100	22,900	1,210	2	1.9	0.1	284	526	1.85	390	8,290	2.4	0.68
Room Type D - Third Floor	641 ft^2	770	July 2:00 p.m.	18,000	16,700	1,350	1.5	1.4	0.1	427	512	1.2	335	7,120	2.1	0.52

Load Total Summary - System

(Includes Ventilation and Plenum Loads)

Location	Area	Cooling									Heating			
		CFM	Peak	btuh			Tons			ft^2 / ton	CFM / ton	CFM / ft^2	CFM	btuh	kW	CFM / ft^2
				Total	Sensible	Latent	Total	Sensible	Latent							
Zone Default	6,100 ft^2	7,330	July 3:00 p.m.	176,000	162,000	13,900	14.6	13.5	1.2	417	501	1.2	3,190	84,400	24.7	0.52
Room Type A - First Floor	320 ft^2	382	July 4:00 p.m.	9,230	8,490	747	0.8	0.7	0.1	417	496	1.19	253	6,560	1.9	0.79
Room Type A - Second Floor	572 ft^2	1,180	July 4:00 p.m.	27,200	25,900	1,300	2.3	2.2	0.1	253	523	2.07	390	9,730	2.9	0.68
Room Type A - Third Floor	641 ft^2	954	July 4:00 p.m.	22,300	20,900	1,440	1.9	1.7	0.1	344	512	1.49	299	7,790	2.3	0.47
Room Type B - First Floor	319 ft^2	275	July 3:00 p.m.	6,920	6,180	743	0.6	0.5	0.1	552	477	0.86	191	5,250	1.5	0.6
Room Type B - Second Floor	566 ft^2	598	July 3:00 p.m.	14,500	13,200	1,280	1.2	1.1	0.1	469	495	1.06	240	6,540	1.9	0.42
Room Type B - Third Floor	621 ft^2	643	July 1:00 p.m.	15,500	14,100	1,390	1.3	1.2	0.1	480	497	1.03	196	5,610	1.6	0.32
Room Type C - First Floor	319 ft^2	271	July 2:00 p.m.	6,870	6,110	758	0.6	0.5	0.1	557	474	0.85	177	5,200	1.5	0.56
Room Type C - Second Floor	577 ft^2	592	July 1:00 p.m.	14,300	13,000	1,310	1.2	1.1	0.1	483	496	1.03	247	6,680	2	0.43
Room Type C - Third Floor	635 ft^2	696	July 1:00 p.m.	16,700	15,300	1,420	1.4	1.3	0.1	456	500	1.1	210	5,900	1.7	0.33
Room Type D - First Floor	320 ft^2	332	July 2:00 p.m.	8,000	7,250	747	0.7	0.6	0.1	481	498	1.04	266	6,850	2	0.83
Room Type D - Second Floor	572 ft^2	1,060	July 9:00 a.m.	24,100	22,800	1,300	2	1.9	0.1	285	528	1.85	390	9,730	2.9	0.68
Room Type D - Third Floor	641 ft^2	770	July 2:00 p.m.	18,400	16,900	1,440	1.5	1.4	0.1	419	503	1.2	335	8,560	2.5	0.52

Heating Load Details - System and Room

(Btu/h / % of System Total)

Location	Roof	Wall	Glass	Slab	Vertical Partitions	Horizontal Partitions	Ventilation	Infiltration
Zone Default	2,970 4%	12,800 15%	15,700 19%	16,100 19%	2,460 3%	7,320 9%	16,500 20%	10,500 12%
Room Type A - First Floor	0 0%	957 15%	504 8%	1,280 19%	663 10%	1,440 22%	1,200 18%	526 8%
Room Type A - Second Floor	0 0%	1,920 20%	2,770 28%	2,230 23%	0 0%	313 3%	1,430 15%	1,050 11%
Room Type A - Third Floor	750 10%	1,350 17%	1,210 16%	1,920 25%	0 0%	78 1%	1,430 18%	1,050 13%
Room Type B - First Floor	0 0%	419 8%	378 7%	596 11%	703 13%	1,430 27%	1,200 23%	526 10%
Room Type B - Second Floor	0 0%	987 15%	1,740 27%	1,010 15%	0 0%	313 5%	1,430 22%	1,050 16%
Room Type B - Third Floor	727 13%	682 12%	693 12%	989 18%	0 0%	78 1%	1,430 26%	1,000 18%
Room Type C - First Floor	0 0%	419 8%	378 7%	348 7%	661 13%	1,430 28%	1,430 28%	526 10%
Room Type C - Second Floor	0 0%	987 15%	1,850 28%	1,040 16%	0 0%	313 5%	1,430 21%	1,050 16%
Room Type C - Third Floor	743 13%	661 11%	914 15%	1,020 17%	0 0%	78 1%	1,430 24%	1,050 18%
Room Type D - First Floor	0 0%	1,190 17%	504 7%	1,560 23%	428 6%	1,440 21%	1,200 17%	526 8%
Room Type D - Second Floor	0 0%	1,920 20%	2,770 28%	2,230 23%	0 0%	313 3%	1,430 15%	1,050 11%
Room Type D - Third Floor	750 9%	1,310 15%	2,020 24%	1,920 22%	0 0%	78 1%	1,430 17%	1,050 12%

Cooling Load Details - Room

(Btu/h / % of Total)

Location	Peak	Roof	Wall	Glass	Vertical Partitions	Horizontal Partitions	Lighting	Equipment		People		Infiltration	
								Sensible	Latent	Sensible	Latent	Sensible	Latent
Zone Default	July 3:00 p.m.	4,950 3%	9,510 6%	63,100 37%	437 0%	1,300 1%	20,800 12%	41,700 24%	0 0%	15,300 9%	12,200 7%	1,860 1%	644 0%
Room Type A - First Floor	July 4:00 p.m.	0 0%	955 11%	2,810 31%	110 1%	239 3%	1,090 12%	2,190 24%	0 0%	801 9%	641 7%	87 1%	32 0%
Room Type A - Second Floor	July 4:00 p.m.	0 0%	1,770 7%	16,400 61%	0 0%	52 0%	1,950 7%	3,900 15%	0 0%	1,430 5%	1,140 4%	174 1%	65 0%
Room Type A - Third Floor	July 4:00 p.m.	1,180 5%	1,510 7%	9,620 44%	0 0%	13 0%	2,190 10%	4,380 20%	0 0%	1,600 7%	1,280 6%	174 1%	65 0%
Room Type B - First Floor	July 3:00 p.m.	0 0%	315 5%	1,120 17%	125 2%	255 4%	1,090 16%	2,180 33%	0 0%	797 12%	638 10%	94 1%	32 0%
Room Type B - Second Floor	July 3:00 p.m.	0 0%	728 5%	4,780 34%	0 0%	56 0%	1,930 14%	3,860 27%	0 0%	1,420 10%	1,130 8%	187 1%	65 0%
Room Type B - Third Floor	July 1:00 p.m.	1,130 7%	465 3%	4,280 28%	0 0%	11 0%	2,120 14%	4,240 28%	0 0%	1,550 10%	1,240 8%	134 1%	62 0%
Room Type C - First Floor	July 2:00 p.m.	0 0%	194 3%	1,180 18%	110 2%	238 4%	1,090 17%	2,180 33%	0 0%	797 12%	638 10%	87 1%	32 0%
Room Type C - Second Floor	July 1:00 p.m.	0 0%	546 4%	4,740 34%	0 0%	42 0%	1,970 14%	3,940 28%	0 0%	1,440 10%	1,150 8%	141 1%	65 0%
Room Type C - Third Floor	July 1:00 p.m.	1,160 7%	451 3%	5,240 32%	0 0%	11 0%	2,170 13%	4,340 26%	0 0%	1,590 10%	1,270 8%	141 1%	65 0%
Room Type D - First Floor	July 10:00 a.m.	0 0%	819 10%	2,410 31%	-20 0%	-67 -1%	1,090 14%	2,190 28%	0 0%	801 10%	641 8%	-24 0%	32 0%
Room Type D - Second Floor	July 9:00 a.m.	0 0%	991 4%	14,800 61%	0 0%	-33 0%	1,950 8%	3,900 16%	0 0%	1,430 6%	1,140 5%	-112 0%	65 0%
Room Type D - Third Floor	July 2:00 p.m.	1,250 7%	840 5%	6,240 35%	0 0%	13 0%	2,190 12%	4,380 24%	0 0%	1,600 9%	1,280 7%	174 1%	65 0%

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:43:45 PM kwlodarchak

Permit Number: 21-00517

REVISIONS

NO.	DATE	DESCRIPTION

MARK D. ROBISON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 1-04-2021

DRAWN:	DESIGNED:	CHECKED:	APPROVED:
JN	LCH	JMR	JMR

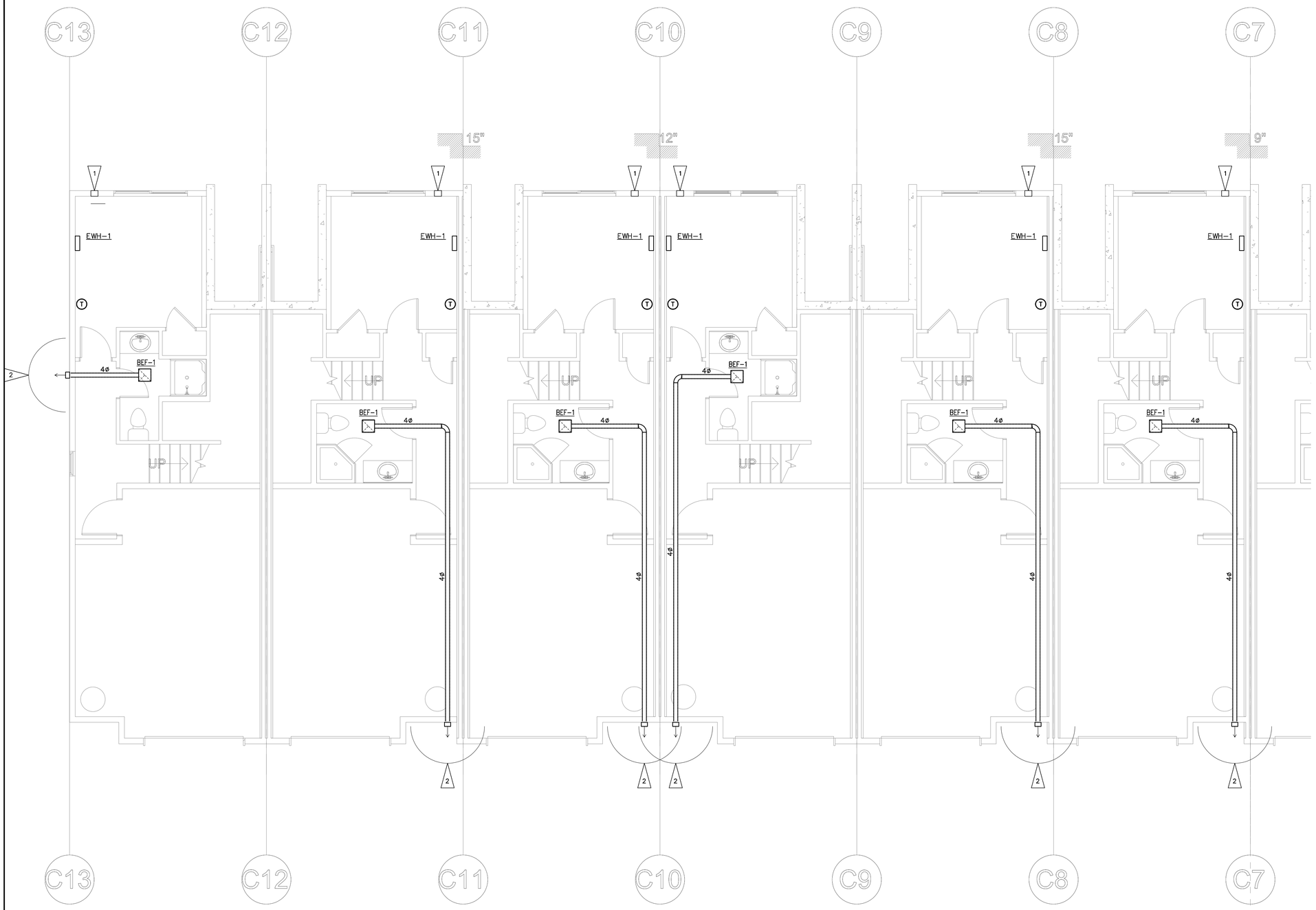
PROJECT:
SEASIDE AT KINGSTON
24700-26200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DATE: 1/04/2021

SHEET TITLE:
LOAD CALCULATION

SHEET NO.
M0C3



Wall heaters and heat pump components shall not be installed in 2-hour fire separation wall.
KW 3/5/2021

GENERAL NOTES

1. LOCATE THERMOSTATS 48" A.F.F.

FLAG NOTES

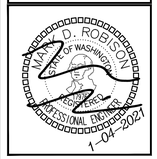
1. PROVIDE AMERICAN ALDES AIRLET TL98 WALL INTAKE.
2. PROVIDE EXHAUST WALL CAPS. 3 FEET CLEARANCE FROM OPERABLE OPENINGS AND INTAKES.
3. CONDENSATE DRAIN TO TERMINATE AT APPROVED RECEPTOR WITH INDIRECT CONNECTION. CONDENSATE PIPE ROUTING DONE BY PLUMBING CONTRACTOR. (TYP.)
4. PROVIDE FULLY LOUVERED LAUNDRY DOOR.
5. NO ROOF PENETRATION WITH 48" FROM PARTY WALL.

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:43:49 PM kwlodarchak

FIRST FLOOR PLAN – NORTH

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

NO.	DATE	DESCRIPTION
		REVISIONS



DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT: **SEASIDE AT KINGSTON**
24700-28200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DATE: 1/04/2021

SHEET TITLE:
BLDG C
FIRST FLOOR PLAN – NORTH

SHEET NO.
M2C0

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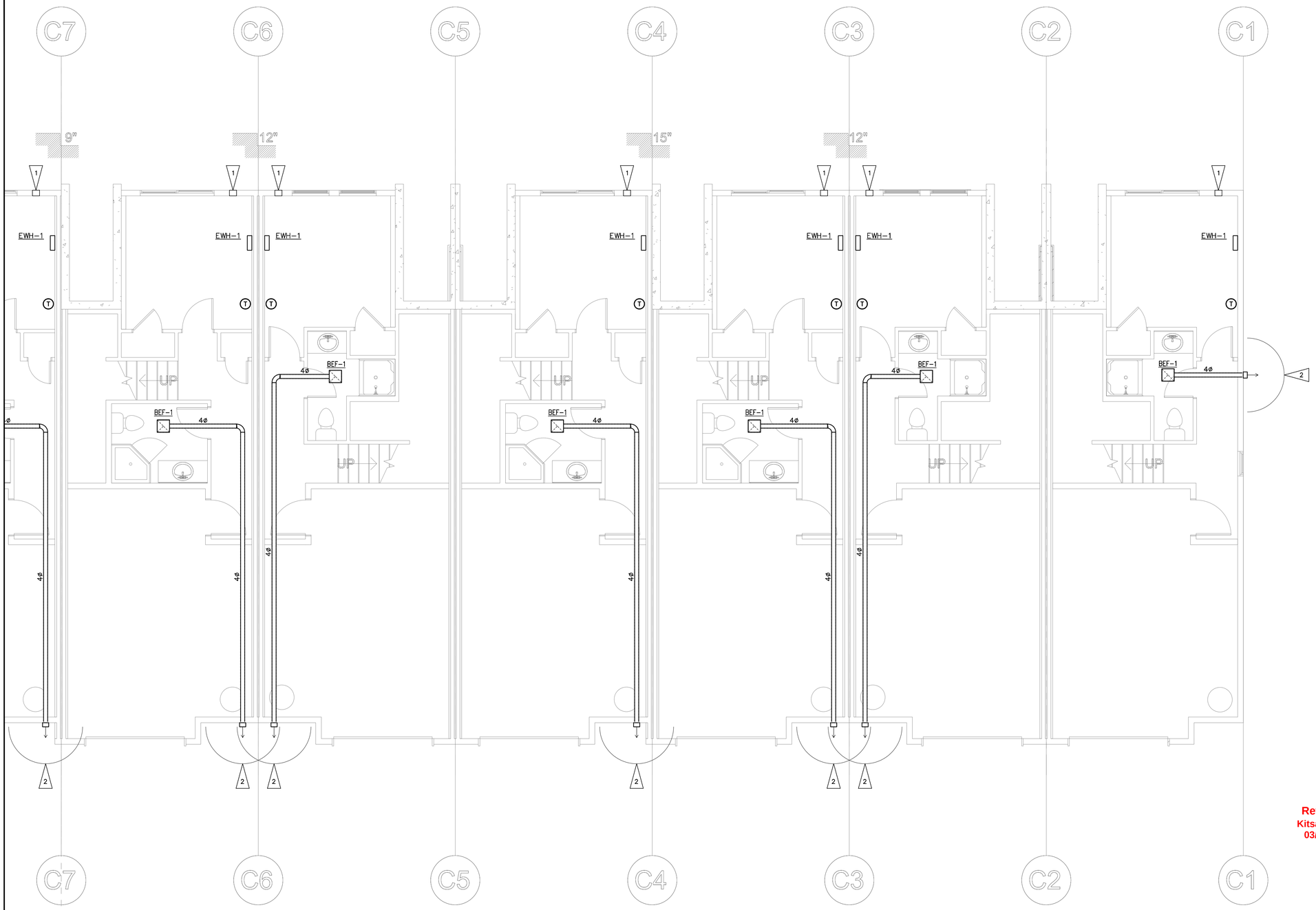
Permit Number: 21-00517



Wall heaters and heat pump components shall not be installed in 2-hour fire separation wall. KW 3/5/2021

GENERAL NOTES

1. LOCATE THERMOSTATS 48" A.F.F.

FLAG NOTES 

1. PROVIDE AMERICAN ALDES AIRLET TL98 WALL INTAKE.
2. PROVIDE EXHAUST WALL CAPS. 3 FEET CLEARANCE FROM OPERABLE OPENINGS AND INTAKES.
3. CONDENSATE DRAIN TO TERMINATE AT APPROVED RECEPTOR WITH INDIRECT CONNECTION. CONDENSATE PIPE ROUTING DONE BY PLUMBING CONTRACTOR. (TYP.)
4. PROVIDE FULLY LOUVERED LAUNDRY DOOR.
5. NO ROOF PENETRATION WITH 48" FROM PARTY WALL.

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:43:52 PM kwlodarchak

FIRST FLOOR PLAN – SOUTH

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

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 1-04-2021

DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT:
SEASIDE AT KINGSTON
24700-28200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)604-3343

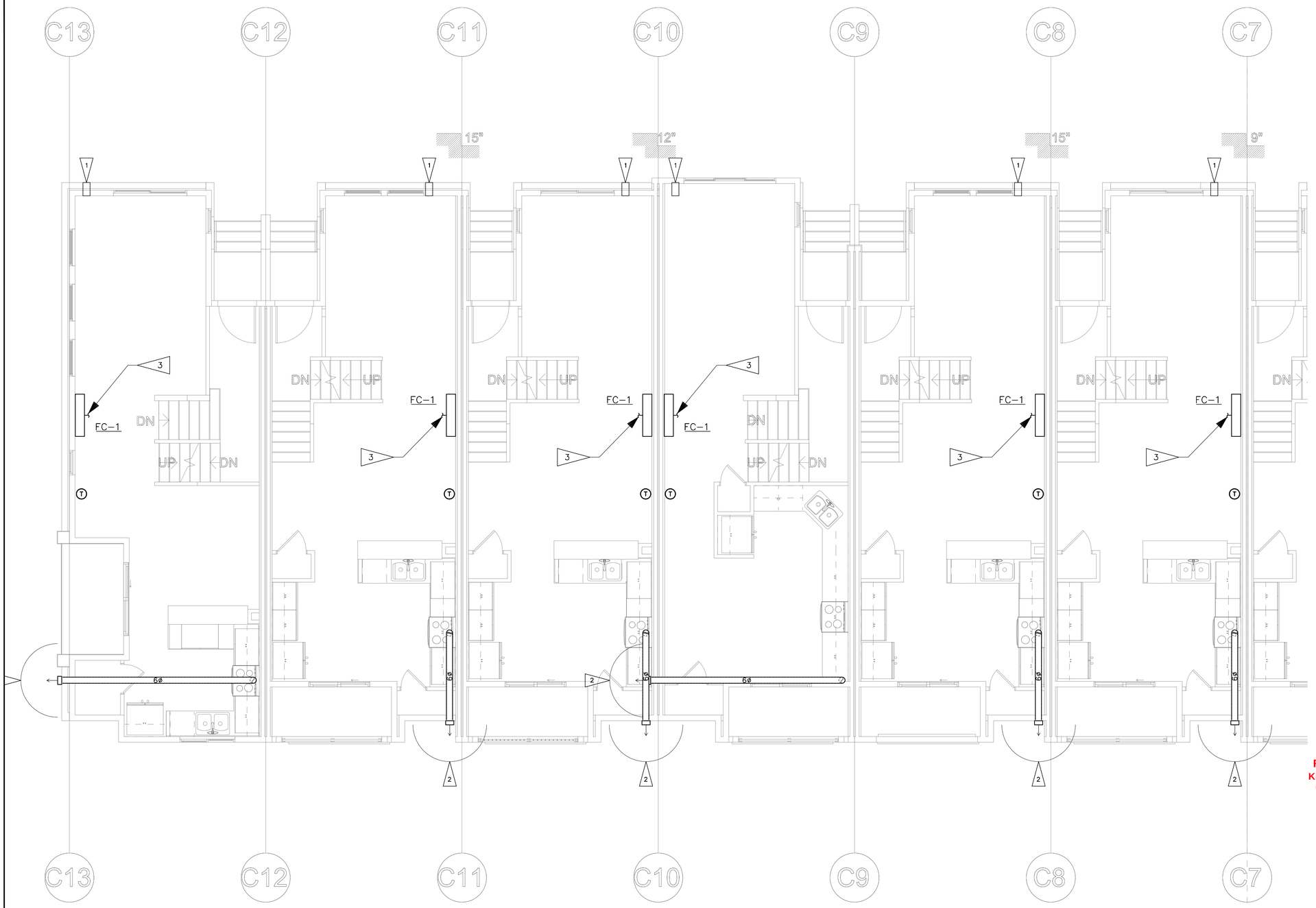
DATE: 1/04/2021

SHEET TITLE:
BLDG C
FIRST FLOOR PLAN – SOUTH

SHEET NO.
M2C1

LHO F:\984-001 SEASIDE AT KINGSTON TOWNHOMES\DWG\M2C0-HVAC_C.DWG 12-23-2020 08:11

Permit Number: 21-00517



Wall heaters and heat pump components shall not be installed in 2-hour fire separation wall. KW 3/5/2021

GENERAL NOTES

1. LOCATE THERMOSTATS 48" A.F.F.

FLAG NOTES

1. PROVIDE AMERICAN ALDES AIRLET TL98 WALL INTAKE.
2. PROVIDE EXHAUST WALL CAPS. 3 FEET CLEARANCE FROM OPERABLE OPENINGS AND INTAKES.
3. CONDENSATE DRAIN TO TERMINATE AT APPROVED RECEPTOR WITH INDIRECT CONNECTION. CONDENSATE PIPE ROUTING DONE BY PLUMBING CONTRACTOR. (TYP.)
4. PROVIDE FULLY LOUVERED LAUNDRY DOOR.
5. NO ROOF PENETRATION WITH 48" FROM PARTY WALL.

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:43:55 PM kwlodarchak

SECOND FLOOR PLAN – NORTH

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

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
1-04-2021

DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT:
SEASIDE AT KINGSTON
24700-28200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

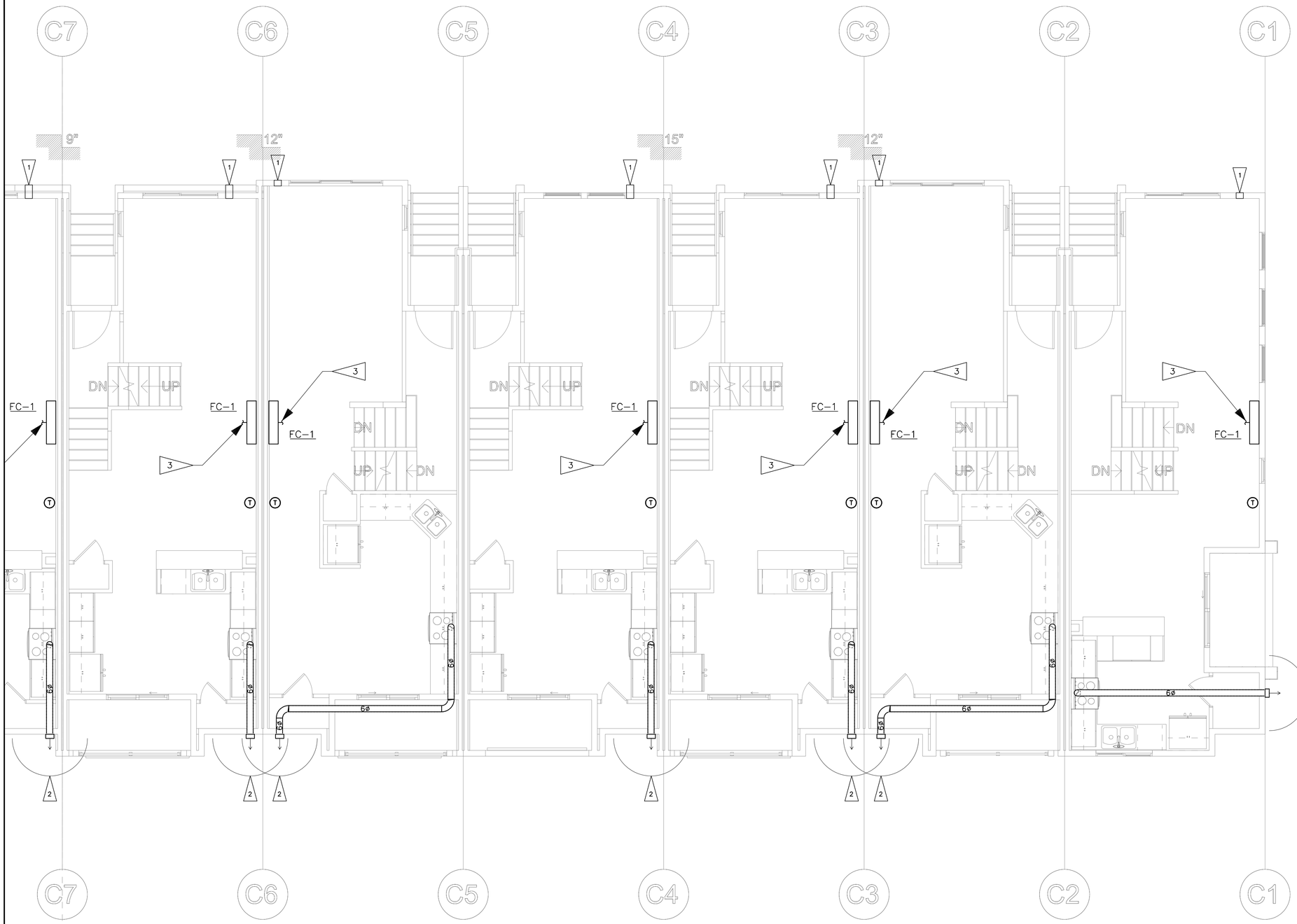
DATE: 1/04/2021

SHEET TITLE:
BLDG C
SECOND FLOOR PLAN – NORTH

SHEET NO.
M2C2

LHO F:\984-001 SEASIDE AT KINGSTON TOWNHOMES\DWG\M2C0-HVAC_C.DWG 12-23-2020 08:11

Permit Number: 21-00517



Wall heaters and heat pump components shall not be installed in 2-hour fire separation wall. KW 3/5/2021

GENERAL NOTES

1. LOCATE THERMOSTATS 48" A.F.F.

FLAG NOTES

1. PROVIDE AMERICAN ALDES AIRLET TL98 WALL INTAKE.
2. PROVIDE EXHAUST WALL CAPS. 3 FEET CLEARANCE FROM OPERABLE OPENINGS AND INTAKES.
3. CONDENSATE DRAIN TO TERMINATE AT APPROVED RECEPTOR WITH INDIRECT CONNECTION. CONDENSATE PIPE ROUTING DONE BY PLUMBING CONTRACTOR. (TYP.)
4. PROVIDE FULLY LOUVERED LAUNDRY DOOR.
5. NO ROOF PENETRATION WITH 48" FROM PARTY WALL.

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:43:58 PM kwlodarchak

SECOND FLOOR PLAN – SOUTH

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

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER 1-04-2021

DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT: SEASIDE AT KINGSTON
24700-26200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

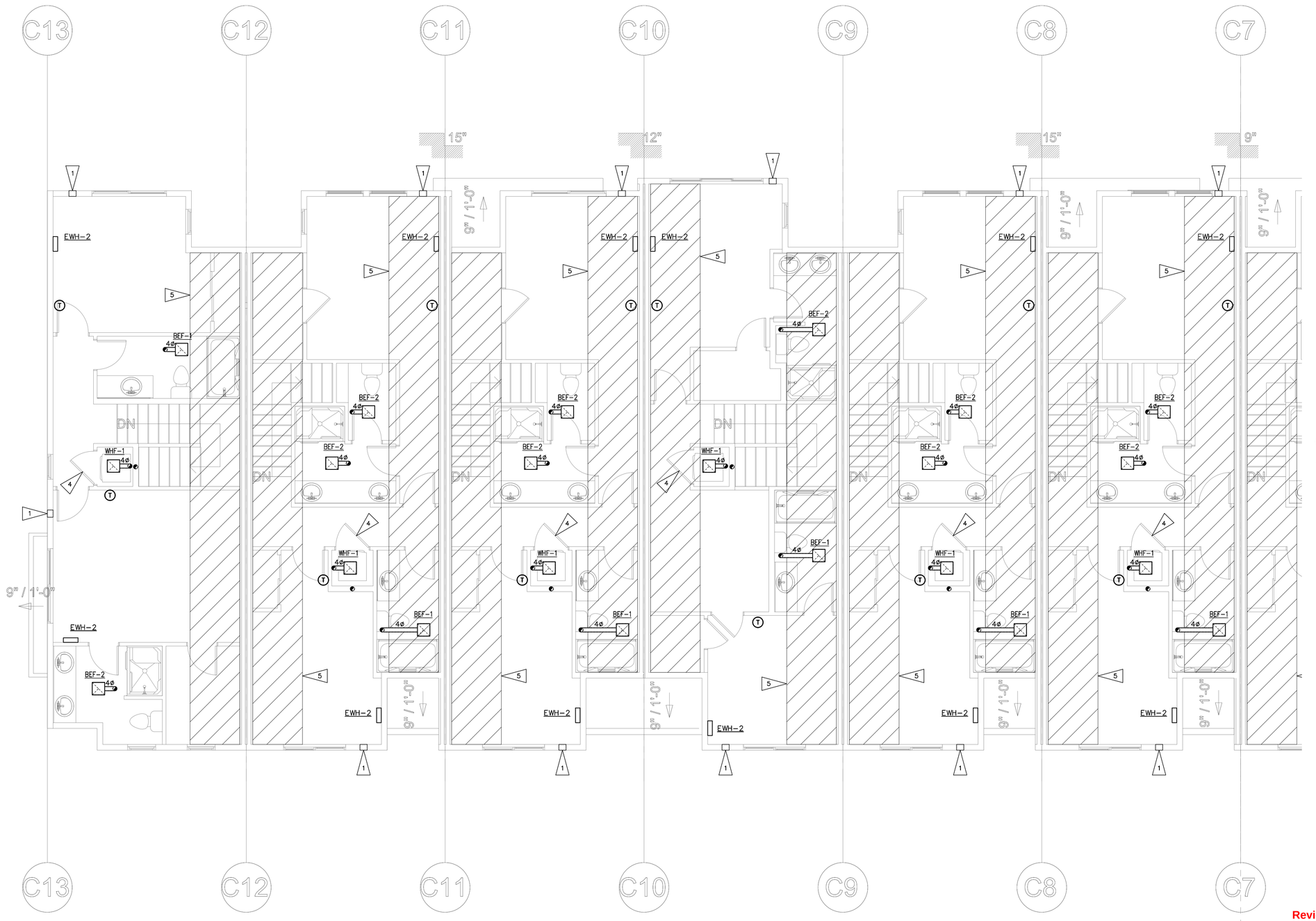
DATE: 1/04/2021

SHEET TITLE:
BLDG C
SECOND FLOOR PLAN – SOUTH

SHEET NO.
M2C3

LHO F:\984-001 SEASIDE AT KINGSTON TOWNHOMES\DWG\M2C0-HVAC_C.DWG 12-23-2020 08:11

Permit Number: 21-00517



GENERAL NOTES

1. LOCATE THERMOSTATS 48" A.F.F.

FLAG NOTES 

1. PROVIDE AMERICAN ALDES AIRLET TL98 WALL INTAKE.
2. PROVIDE EXHAUST WALL CAPS. 3 FEET CLEARANCE FROM OPERABLE OPENINGS AND INTAKES.
3. CONDENSATE DRAIN TO TERMINATE AT APPROVED RECEPTOR WITH INDIRECT CONNECTION. CONDENSATE PIPE ROUTING DONE BY PLUMBING CONTRACTOR. (TYP.)
4. PROVIDE FULLY LOUVERED LAUNDRY DOOR.
5. NO ROOF PENETRATION WITH 48" FROM PARTY WALL.

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:44:00 PM kwlodarchak

THIRD FLOOR PLAN – NORTH

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

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 1-04-2021

DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT:
SEASIDE AT KINGSTON
24700-26200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

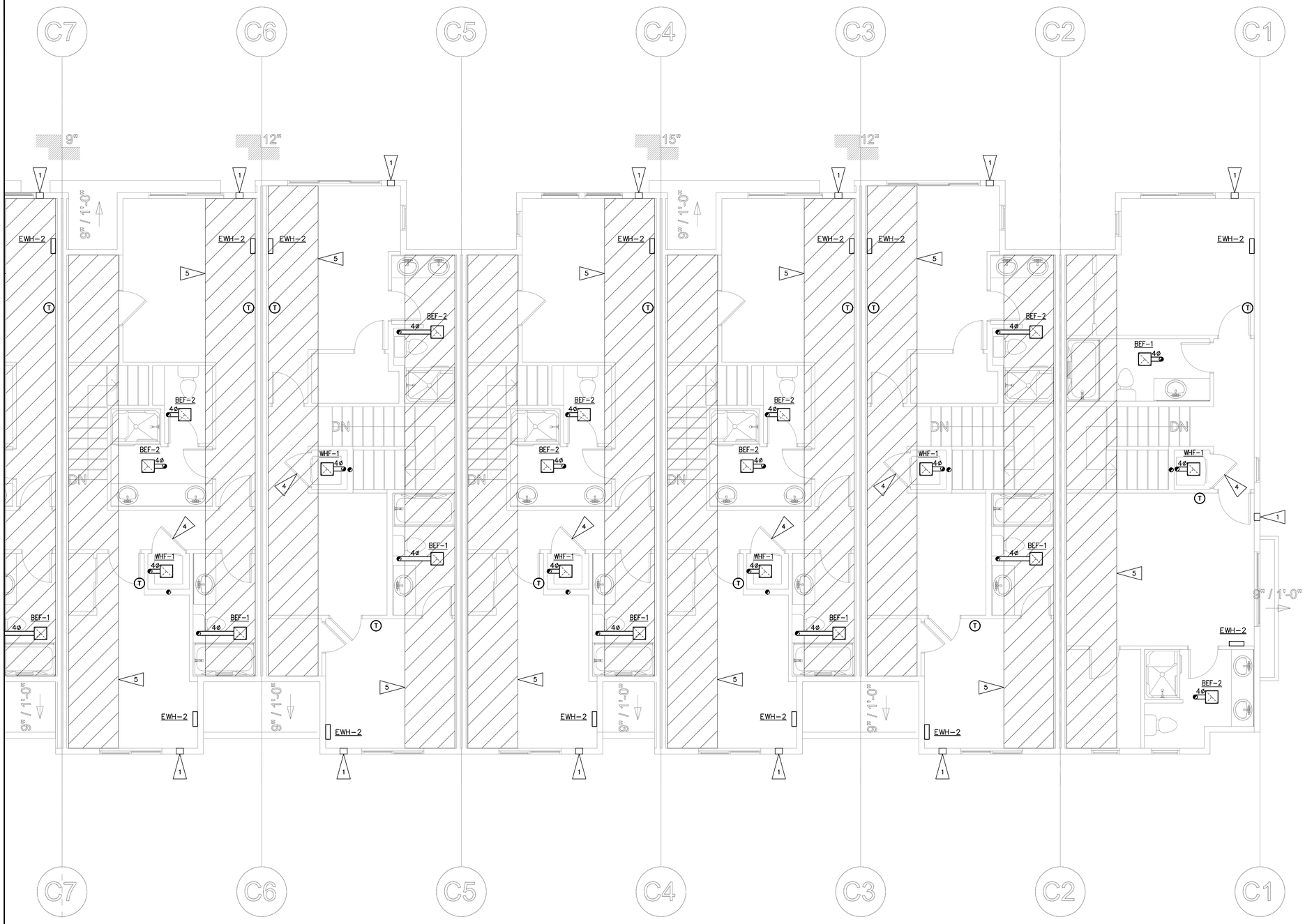
DATE: 1/04/2021

SHEET TITLE:
BLDG C
THIRD FLOOR PLAN – NORTH

SHEET NO.
M2C4

UNO F:\984-001 SEASIDE AT KINGSTON TOWNHOMES\DWG\M2C0-HVAC_C.DWG 12-23-2020 08:11

Permit Number: 21-00517



GENERAL NOTES

1. LOCATE THERMOSTATS 48" A.F.F.

FLAG NOTES <#>

1. PROVIDE AMERICAN ALDES AIRLET TL98 WALL INTAKE.
2. PROVIDE EXHAUST WALL CAPS. 3 FEET CLEARANCE FROM OPERABLE OPENINGS AND INTAKES.
3. CONDENSATE DRAIN TO TERMINATE AT APPROVED RECEPTOR WITH INDIRECT CONNECTION. CONDENSATE PIPE ROUTING DONE BY PLUMBING CONTRACTOR. (TYP.)
4. PROVIDE FULLY LOUVERED LAUNDRY DOOR.
5. NO ROOF PENETRATION WITH 48" FROM PARTY WALL.

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:44:03 PM kwlodarchak

THIRD FLOOR PLAN – SOUTH

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

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 1-04-2021

DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT:
SEASIDE AT KINGSTON
24700-28200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

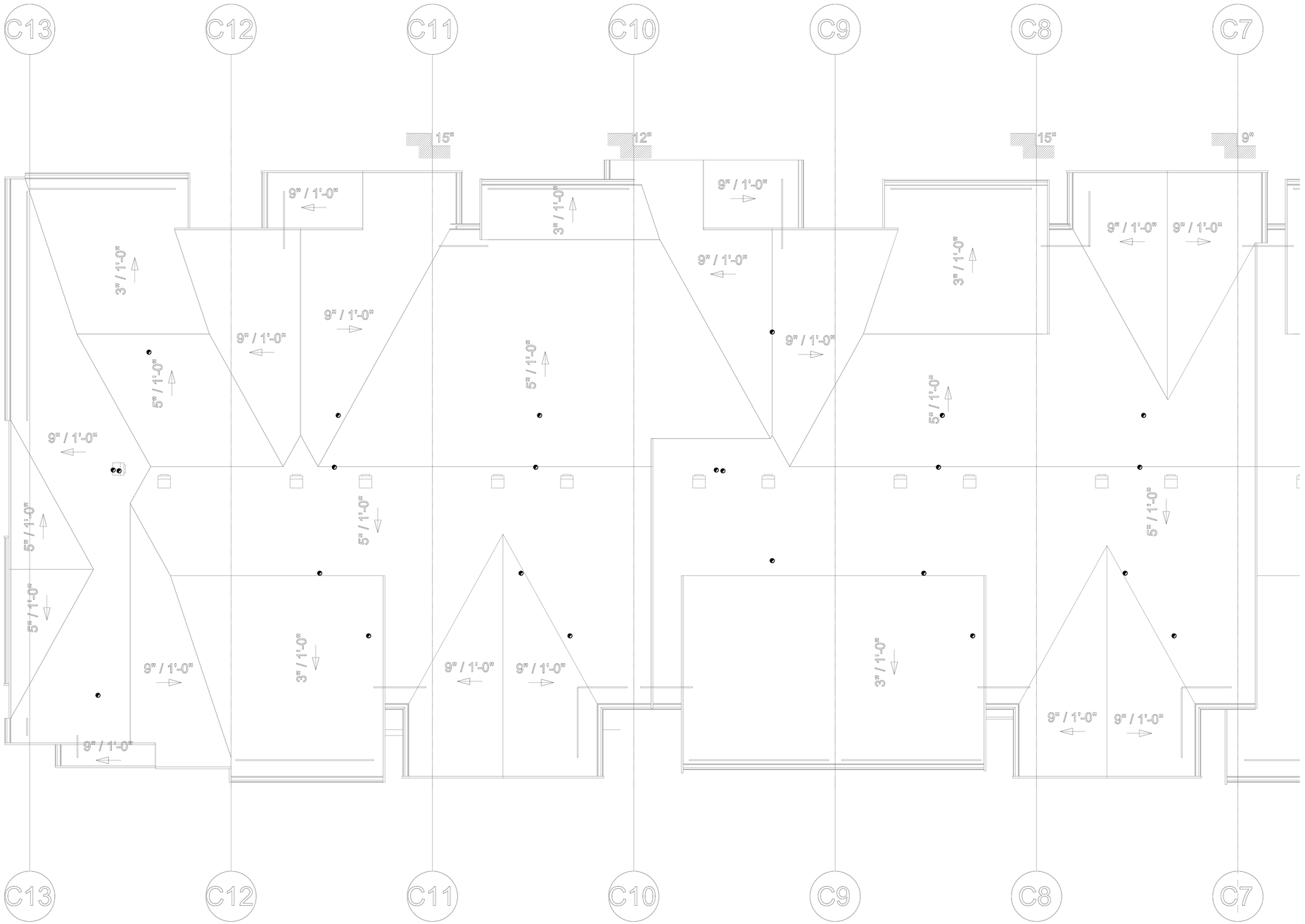
DATE: 1/04/2021

SHEET TITLE:
BLDG C
THIRD FLOOR PLAN – SOUTH

SHEET NO.
M2C5

I:\NO F:\984-001 SEASIDE AT KINGSTON TOWNHOMES\DWG\M2C0-HVAC_C.DWG 12-23-2020 08:11

Permit Number: 21-00517



GENERAL NOTES

1. LOCATE THERMOSTATS 48" A.F.F.

FLAG NOTES 

1. PROVIDE AMERICAN ALDES AIRLET TL98 WALL INTAKE.
2. PROVIDE EXHAUST WALL CAPS. 3 FEET CLEARANCE FROM OPERABLE OPENINGS AND INTAKES.
3. CONDENSATE DRAIN TO TERMINATE AT APPROVED RECEPTOR WITH INDIRECT CONNECTION. CONDENSATE PIPE ROUTING DONE BY PLUMBING CONTRACTOR. (TYP.)
4. PROVIDE FULLY LOUVERED LAUNDRY DOOR.
5. NO ROOF PENETRATION WITH 48" FROM PARTY WALL.

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:44:06 PM kwlodarchak

ROOF PLAN – NORTH

SCALE: 1/4" = 1'–0"

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 1-04-2021

DRAWN:	JN
DESIGNED:	LCH
CHECKED:	JMR
APPROVED:	JMR

PROJECT:
SEASIDE AT KINGSTON
24700-28200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

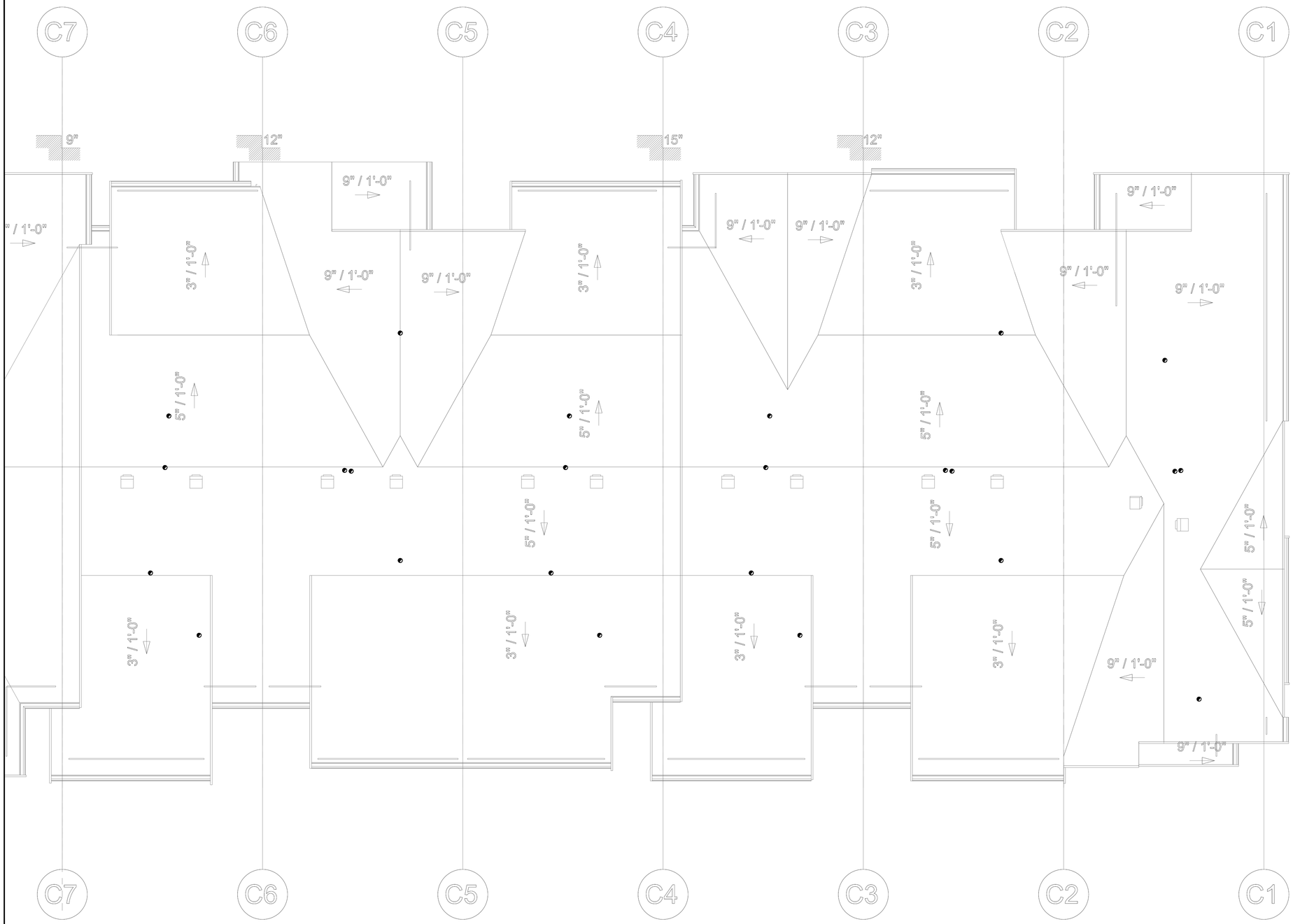
DATE: 1/04/2021

SHEET TITLE:
BLDG C
ROOF PLAN – NORTH

SHEET NO.
M2C6

LHO F:\984-001 SEASIDE AT KINGSTON TOWNHOMES\DWG\M2C0-HVAC_C.DWG 12-23-2020 08:11

Permit Number: 21-00517



GENERAL NOTES

1. LOCATE THERMOSTATS 48" A.F.F.

FLAG NOTES

1. PROVIDE AMERICAN ALDES AIRLET TL98 WALL INTAKE.
2. PROVIDE EXHAUST WALL CAPS. 3 FEET CLEARANCE FROM OPERABLE OPENINGS AND INTAKES.
3. CONDENSATE DRAIN TO TERMINATE AT APPROVED RECEPTOR WITH INDIRECT CONNECTION. CONDENSATE PIPE ROUTING DONE BY PLUMBING CONTRACTOR. (TYP.)
4. PROVIDE FULLY LOUVERED LAUNDRY DOOR.
5. NO ROOF PENETRATION WITH 48" FROM PARTY WALL.

Reviewed for Code Compliance
Kitsap County Building/ Fire Marshals
03/05/20212:44:09 PM kwlodarchak

ROOF PLAN – SOUTH
SCALE: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION
		REVISIONS

MARK D. ROBISON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 1-04-2021

DRAWN: JN
DESIGNED: LCH
CHECKED: JMR
APPROVED: JMR

PROJECT:
SEASIDE AT KINGSTON
24700-26200 LINDVOG ROAD NE
KINGSTON, WA 98346

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)3643343

DATE: 1/04/2021

SHEET TITLE:
BLDG C
ROOF PLAN – SOUTH

SHEET NO.
M2C7

LHO F:\JOB4-001 SEASIDE AT KINGSTON TOWNHOMES\DWG\M2C0-HVAC_C.DWG 12-23-2020 08:11

Permit Number: 21-00517