BALDWIN RESIDENCE

PROJECT INFORMATION

PROJECT ADDRESS:	4215 87th Ave SE, Mercer Island, WA 98040
OWNER:	BALDWIN TYLER+ELLISSA
JURISDICTION:	MERCER ISLAND
PARCEL #:	362250-0115
LEGAL DESCRIPTION:	ISLAND CREST ADD Plat Block: 1 Plat Lot: 23
ZONING:	R-9.6

VICINITY MAP

SHEET INDEX

ARMADA DESIGN & BUILD
(425) 558-9400
15600 NE 8th St. Suite O-2,
Bellevue, WA 98008

BALDWIN RESIDENCE
4215 87th Ave SE
Mercer Island, WA 98040

CLIENT APPROVAL

SIGNATURE DATE

SIGNATURE DATE

REVISIONS

1
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NOTES

REPRESENTATIVE: GH
DRAWN BY: KHS
DESIGNER: YA
PROJECT #: 7070-D
SHEET SIZE: 24 x 36

PROGRESS SET

COVER SHEET

A0.00

PRINT DATE 1/31/2023

PROPERTY INFROMATION

PROJECT ADDRESS:	4215 87th Ave SE, Mercer Island, WA 98040
OWNER:	BALDWIN TYLER+ELLISSA
JURISDICTION:	MERCER ISLAND
PARCEL #:	362250-0115
LEGAL DESCRIPTION:	ISLAND CREST ADD Plat Block: 1 Plat Lot: 23
WATER:	WATER DISTRICT
SEWER:	PUBLIC
YEAR BUILT:	1963

SCOPE OF WORK

REMODELLING KITCHEN & DINING IN FIRST FLOOR IN ADDITION TO ADDING NEW ENTRANCE IN THE FRONT. REMODELLING SECOND FLOOR.

ZONING

ZONING DESIGNATION:	R-9.6
FRONT YARD SETBACK:	20'
SIDE YARD SETBACK:	17% OF LOT WIDTH = 17.85' TOTAL
REAR YARD SETBACK:	25'
MAX BUILDING HEIGHT:	30'
MAX LOT COVERAGE:	40%
MAX HARDSCAPE:	9%

LOT COVERAGE

MAX LOT COVERAGE: 40%

EXISTING COVERAGE

AREA COVERED BY BUILDING (INCLD. ROOF EAVES & GUTTERS):	3,611 sqft
DRIVEWAYS:	1,618 sqft
LOT AREA:	14,280 sqft
TOTAL COVERAGE:	5,229 sqft = 36.6%

PROPOSED COVERAGE

AREA COVERED BY BUILDING (INCLD. ROOF EAVES & GUTTERS):	3,807 sqft
DRIVEWAYS:	1,512 sqft
LOT AREA:	14,280 sqft
TOTAL COVERAGE:	5,319 sqft = 37%

HARDSCAPE CALCULATION

MAX HARDSCAPE:	9%
EXISTING HARDSCAPE:	786 sqft = 5.5%
PROPOSED HARDSCAPE:	793 sqft = 5.6%

GROSS FLOOR AREA (GFA)

MAX GFA: 40%

EXISTING AREA

BASEMENT:	840 sqft
1ST FLOOR:	2,380 sqft
2ND FLOOR:	1,415 sqft
ATTACHED GARAGE:	380 sqft
TOTAL FLOOR AREA:	5,015 sqft
LOT AREA:	14,280 sqft
EXISTING GFA:	35.1%

PROPOSED AREA

BASEMENT:	840 sqft
1ST FLOOR:	2,576 sqft
2ND FLOOR:	1,801 sqft
ATTACHED GARAGE:	380 sqft
TOTAL FLOOR AREA:	5,597 sqft
LOT AREA:	14,280 sqft
PROPOSED GFA:	39.2%

NOTES

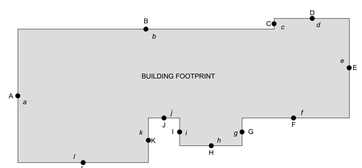
NO TREES TO BE REMOVED & TREE PROTECTION FENCE WILL BE USED SO NO SOIL COMPACTION WILL occur.

LOT SLOPE

LOWEST POINT: 342'
HIGHEST POINT: 346'
ELEVATION DIFFERENCE: 4'
HORIZONTAL DIFFERENCE: 105.3'
CALCULATION: 4/105.3 x 100 = 3.79

NOTE: ALL DRAWINGS COMPLY WITH THESE CODES:
2018 International Residential Code (IRC)
2018 International Fire Code (IFC)
Washington State Energy Code (WCEC)

ABE CALCULATION



MIDPOINT ELEVATION	WALL SEGMENT LENGTH
A= 345.8'	*a*= 37.3'
B= 345'	*b*= 71.6'
C= 344'	*c*= 3'
D= 344'	*d*= 21'
E= 344'	*e*= 27.9'
F= 344'	*f*= 25.8'
G= 344'	*g*= 11.2'
H= 344.5'	*h*= 16.5'
I= 345'	*i*= 11.2'
J= 344.5'	*j*= 13.8'
K= 345'	*k*= 12.6'
L= 345.3'	*l*= 36.4'

ABE CALCULATION

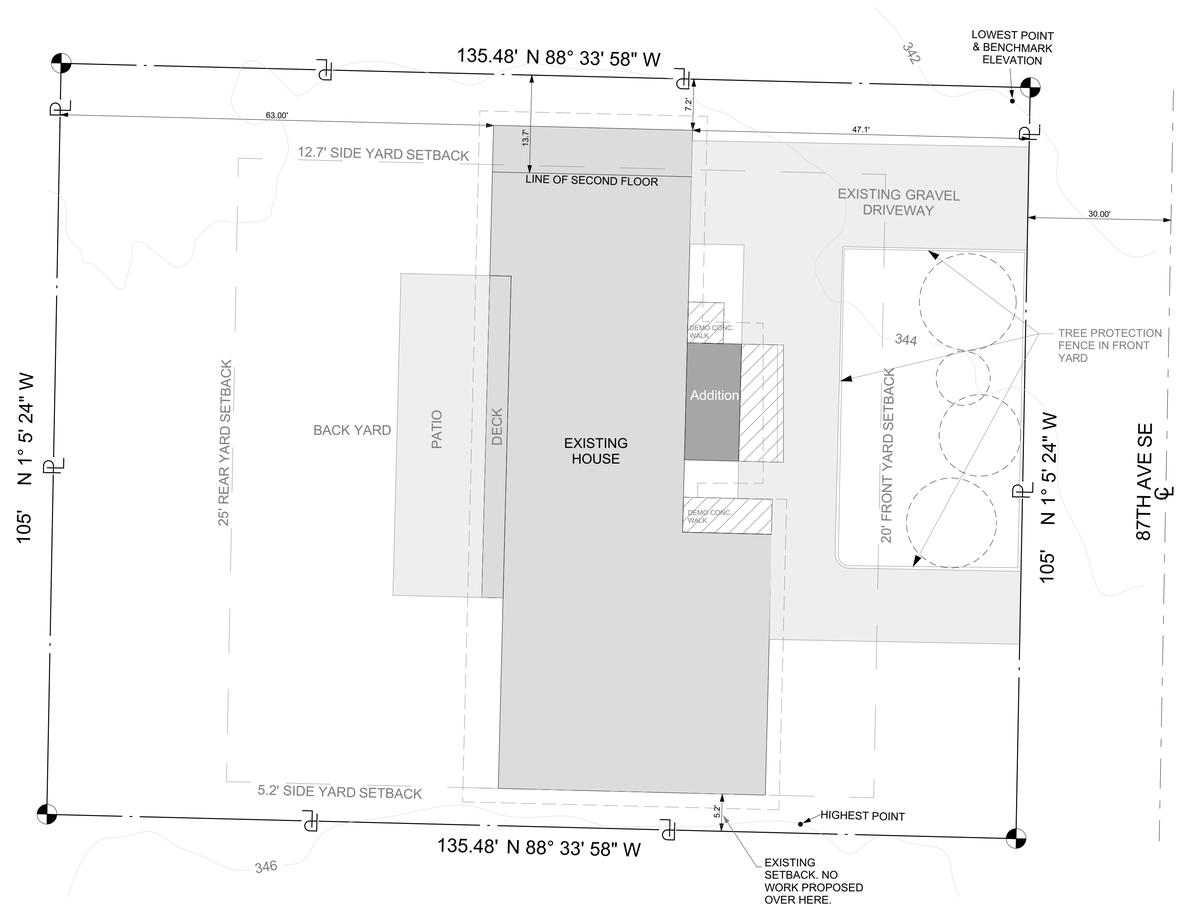
$$\frac{(Axa)+(Bxb)+(Cxc)+(Dxd)+(Exe)+(Fxf)+(Gxg)+(Hxh)+(Ixi)+(Jxj)+(Kxk)+(Lxl)}{a+b+c+d+e+f+g+h+i+j+k+l}$$

$$\frac{(345.8x37.3)+(345x71.6)+(344x3)+(344x21)+(344x27.9)+(344x25.8)+(344x11.2)+(344.5x16.5)+(345x11.2)+(344.5x13.8)+(345x12.6)+(345.3x36.4)}{37.3+71.6+3+21+27.9+25.8+11.2+16.5+11.2+13.8+12.6+36.4}$$

$$\frac{(12,898.34)+(24,702)+(1,032)+(7,224)+(9,597.6)+(8,875.2)+(3,852.8)+(5,684.25)+(3,864)+(4,754.1)+(4,347)+(12,568.92)}{37.3+71.6+3+21+27.9+25.8+11.2+16.5+11.2+13.8+12.6+36.4} = \frac{99,400.21}{288.3} = 344.8'$$

BUILDING HEIGHT

MAX BUILDING HEIGHT:	30'
PROPOSED BUILDING HEIGHT:	26'-2"



1 A0.01 SITE PLAN
SCALE: 1" = 10'

N

Diagram shows that less than 40% of the structure's exterior wall are proposed to be altered as per MICC 19.01.050(D)(1)(b)(i)

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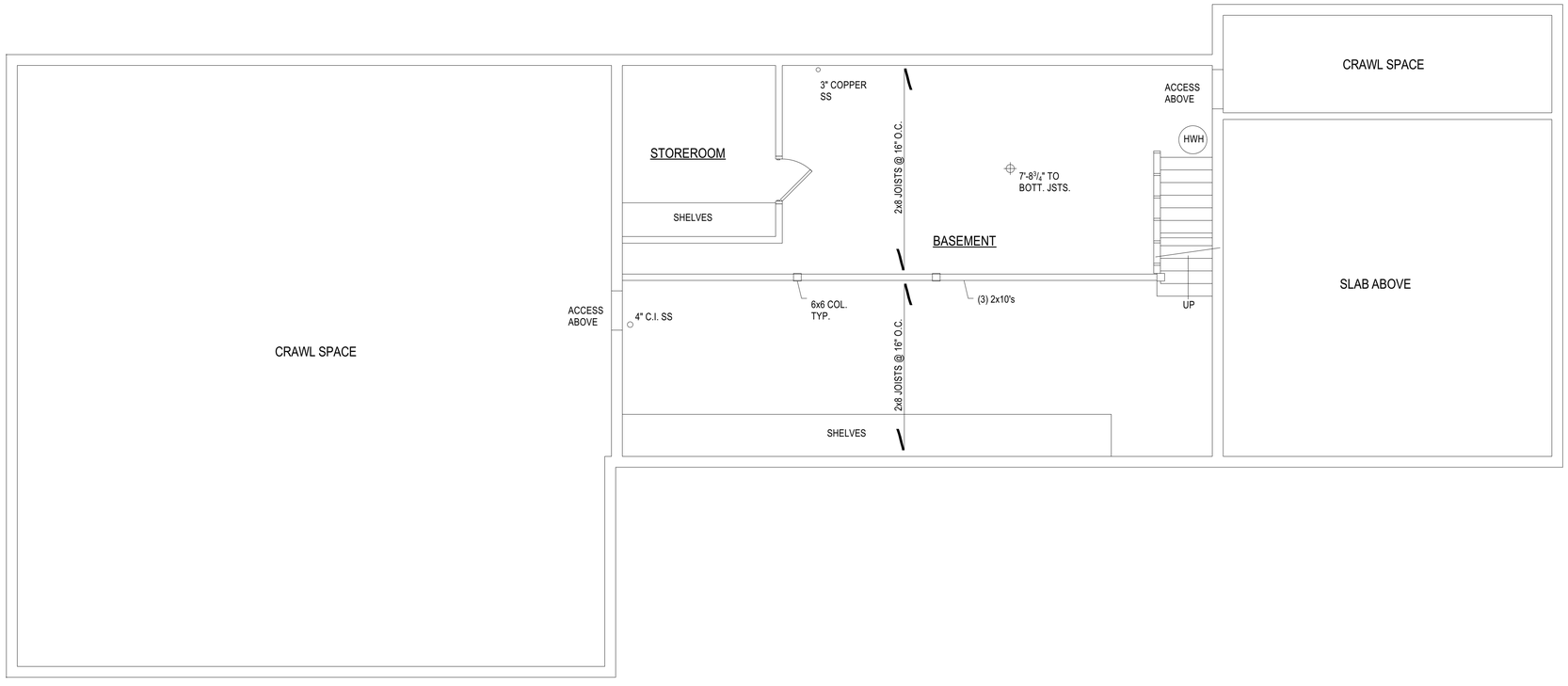
DESIGNER: YA
PROJECT #: 7070-D
SHEET SIZE: 24 x 36

PROGRESS SET

SITE PLAN

A0.01
PRINT DATE 1/31/2023



LEGEND

EXISTING:

DEMO:

1 / A1.00 EXISTING BASEMENT

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

N

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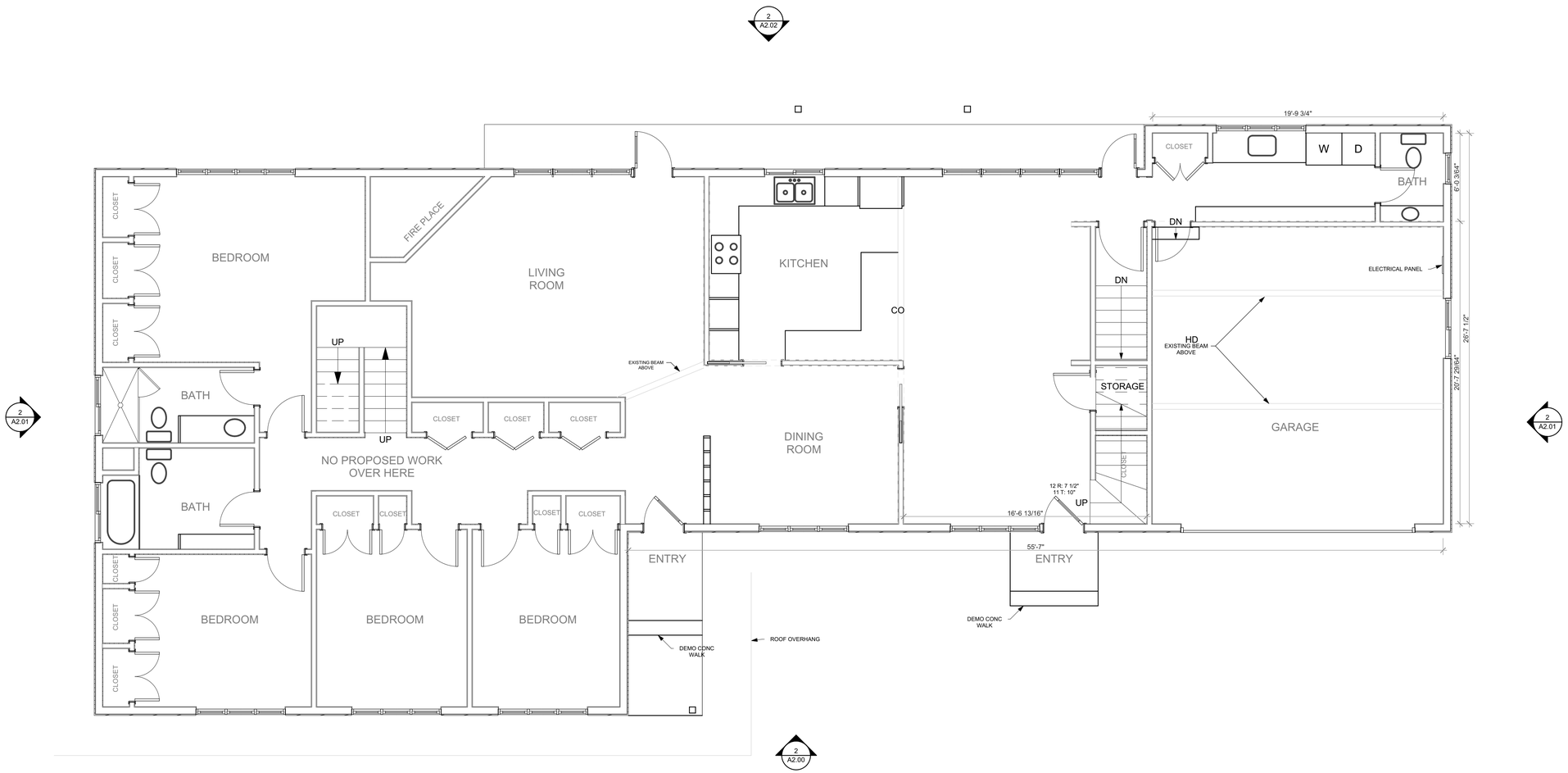
BASEMENT EXISTING

A1.00

PRINT DATE 1/31/2023



1 A1.01 FIRST FLOOR EXISTING
SCALE: 1/4" = 1'-0"

N

LEGEND
EXISTING:
DEMO:

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FIRST FLOOR EXISTING

A1.01

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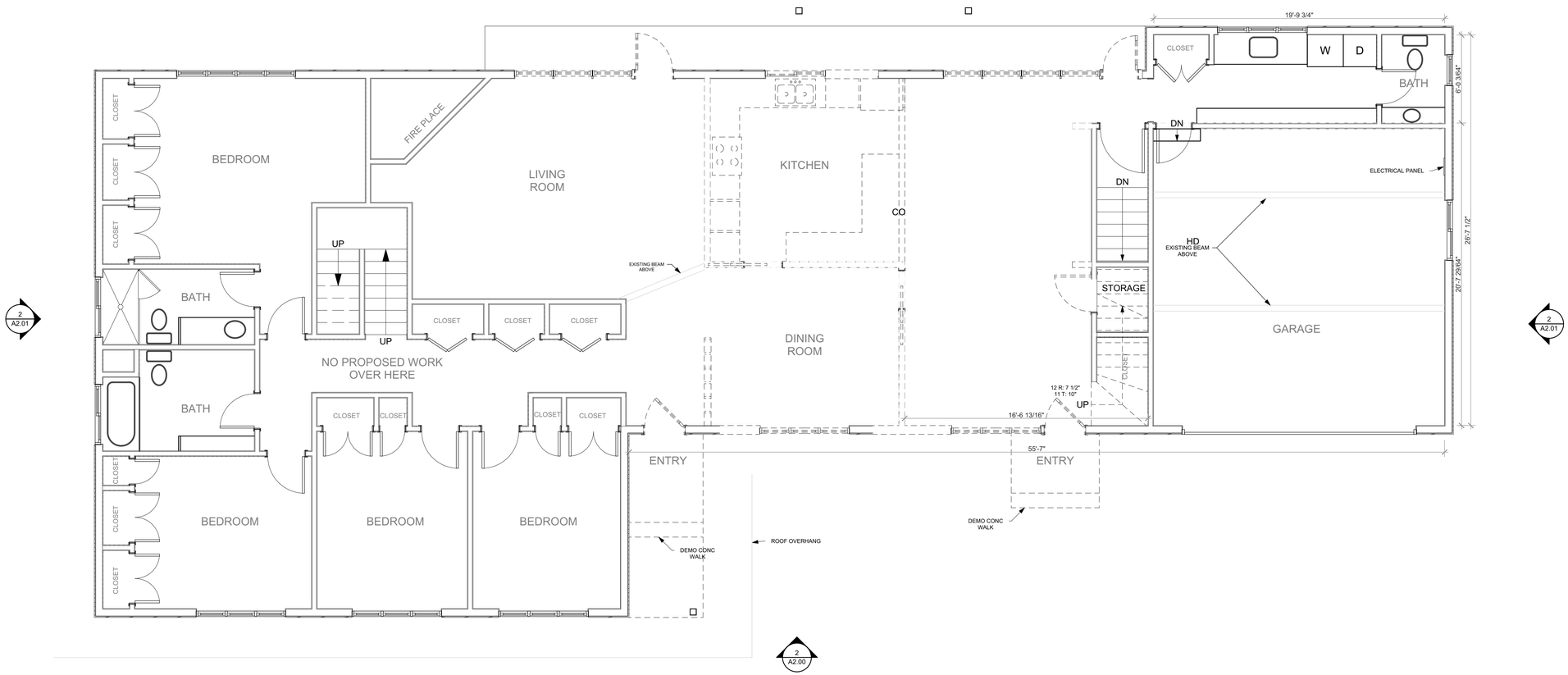

1 A1.02 FIRST FLOOR DEMO
SCALE: 1/4" = 1'-0"

N

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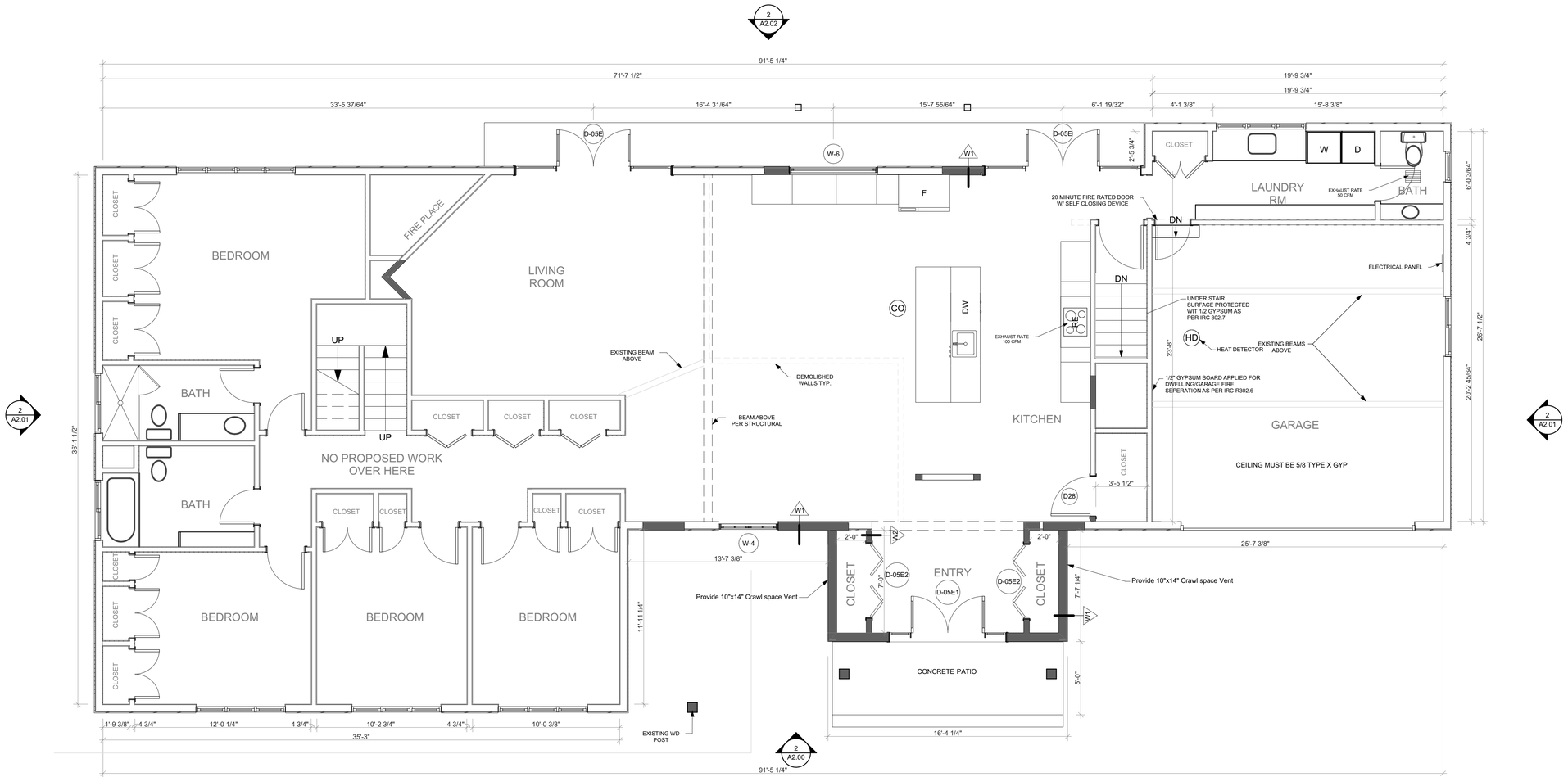
PROGRESS SET

FIRST FLOOR DEMO

A1.02
PRINT DATE 1/31/2023



LEGEND

EXISTING:	
NEW:	

1 A1.03 FIRST FLOOR PROPOSED

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

Note: Crawl Space Ventilation Calculation = 1sqft for 150 sqft.
Adding 196 Sqft, therefore providing 2 Vents.

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FIRST FLOOR PROPOSED

A1.03

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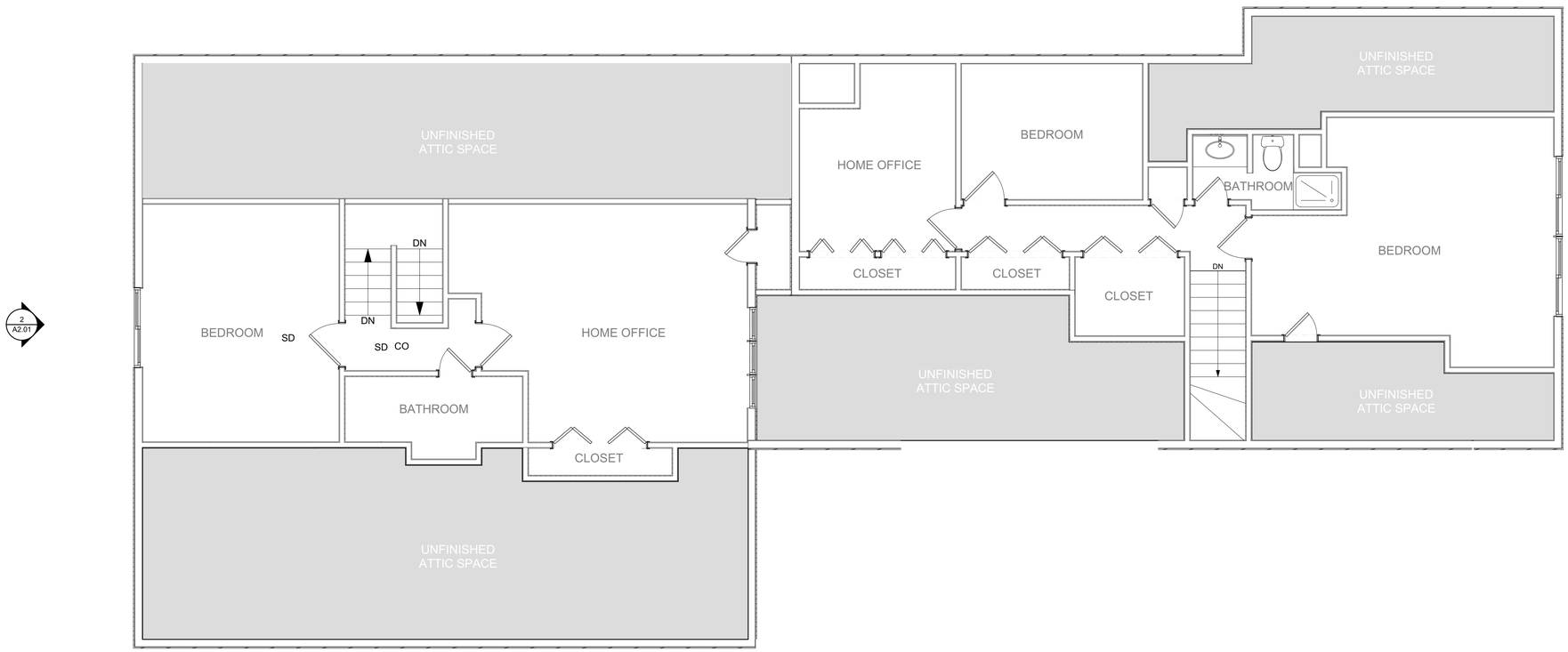

1 A1.04 SECOND FLOOR EXISTING
SCALE: 1/4" = 1'-0"

N

LEGEND
EXISTING:
DEMO:

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SECOND FLOOR EXISTING

A1.04

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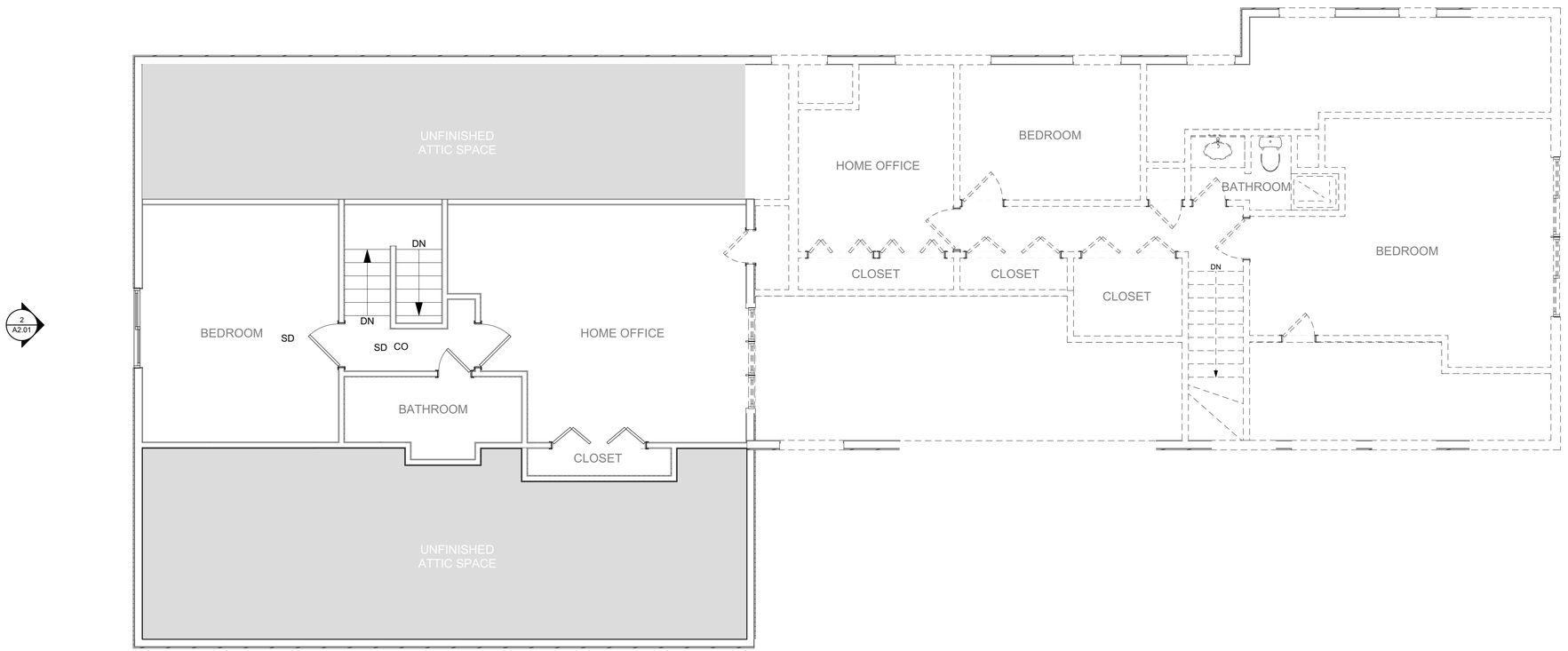

1 / A1.05 SECOND FLOOR DEMO
SCALE: 1/4" = 1'-0"

N

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EXISTING:
DEMO:

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PROGRESS SET

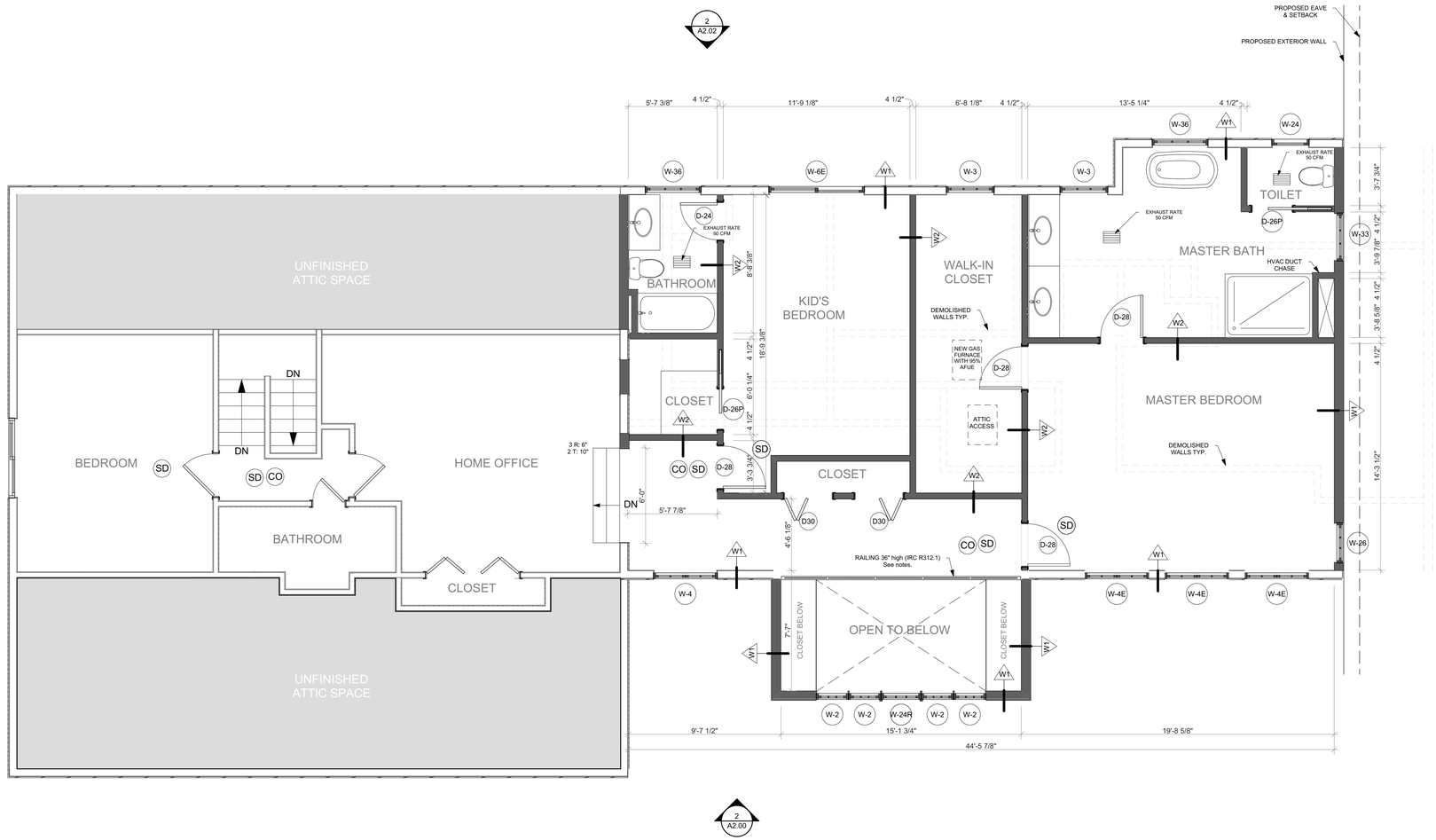
SECOND FLOOR DEMO

A1.05

PRINT DATE 1/31/2023

NOTE: AS PER R302.11, FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS(BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE.

NOTE: CONTRACTOR SHALL VERIFY TO INSPECTOR ALL GUARDS AND RAILINGS SHALL BE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL ACTING IN ANY DIRECTION AS REQUIRED BY IRC TABLE R301.5



1 A1.06 SECOND FLOOR PROPOSED
SCALE: 1/4" = 1'-0"

N

LEGEND
EXISTING:
NEW:

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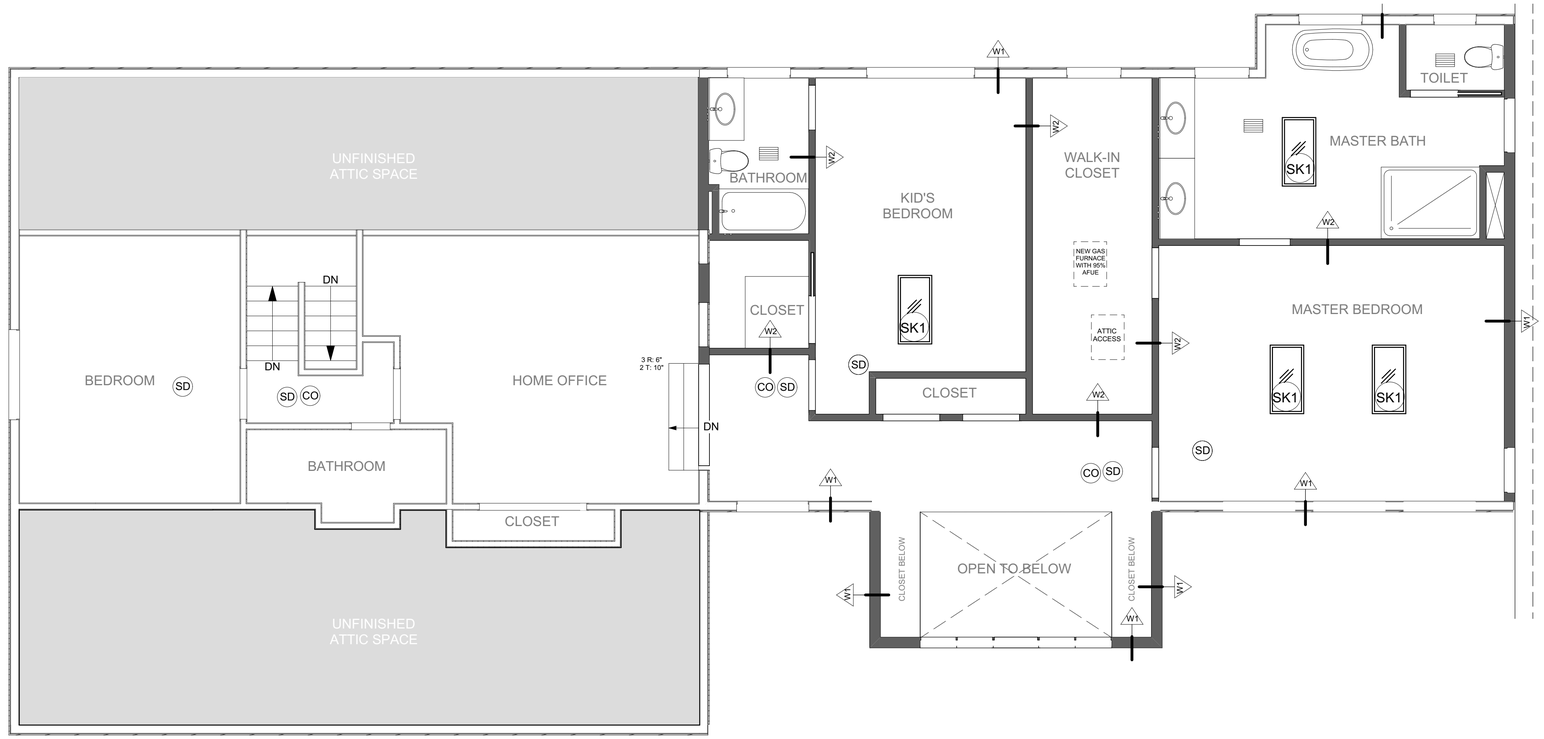
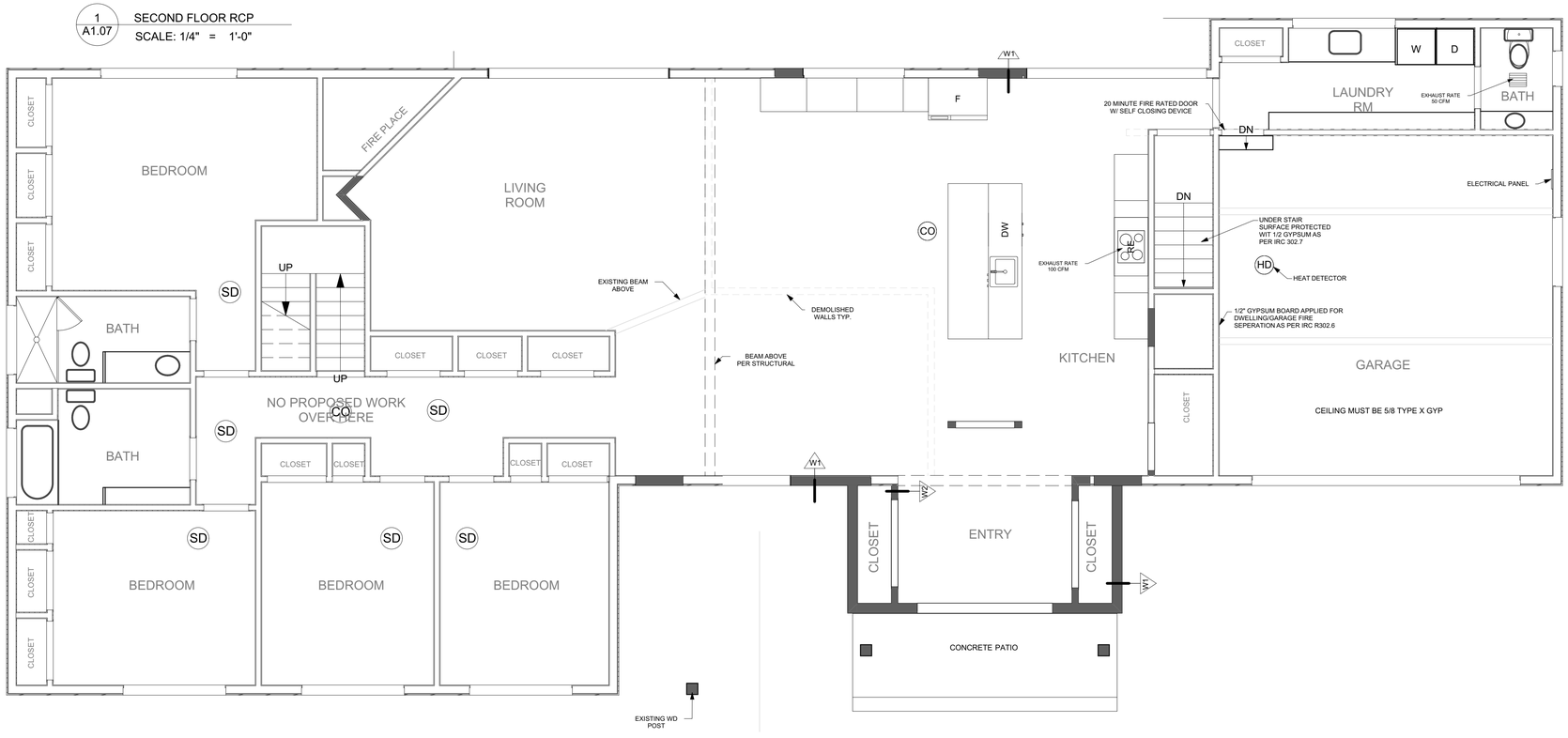
PROGRESS SET

SECOND FLOOR PROPOSED
A1.06
PRINT DATE 1/31/2023



1 A1.07 SECOND FLOOR RCP

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



2 A1.07 FIRST FLOOR RCP

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

N

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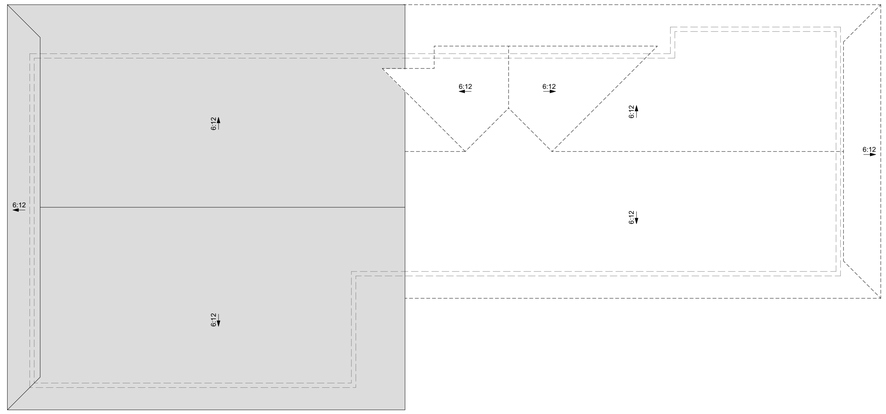
PROGRESS SET

REFLECTED CEILING PLANS

A1.07

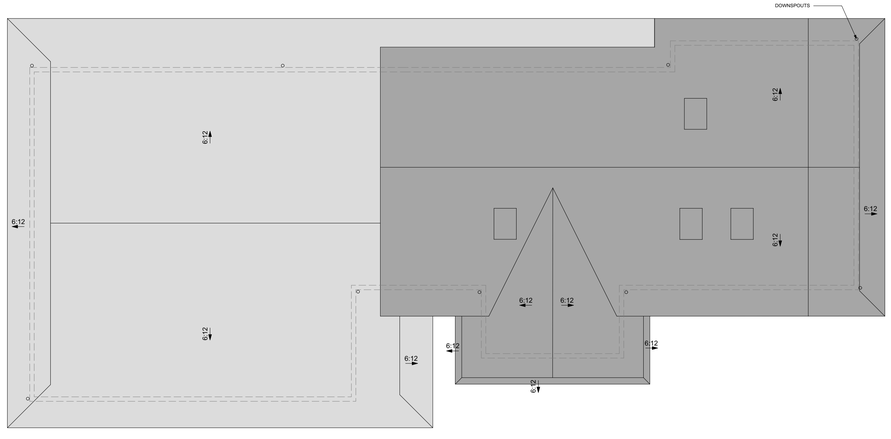
PRINT DATE 1/31/2023

EXISTING



1 / A1.08 EXISTING ROOF PLAN
SCALE: 1/8" = 1'-0"

PROPOSED



1 / A1.08 PROPOSED ROOF PLAN
SCALE: 1/8" = 1'-0"

NOTE: USING EXISTING TIGHT-LINE DOWNSPOUT DRAIN SYSTEM

NOTE: INSTALL RIDGE VENT OVER ALL RIDGES AS WELL AS INTAKE VENT TO ALL SOFFITS.
ATTIC VENTILATION CALCULATION: 1/150 sqft. OF ATTIC FLOOR SPACE, THEREFORE 1945/150 = 13 sqft. needed.

N

LEGEND
EXISTING:
DEMO:
NEW:
WALL BELOW:

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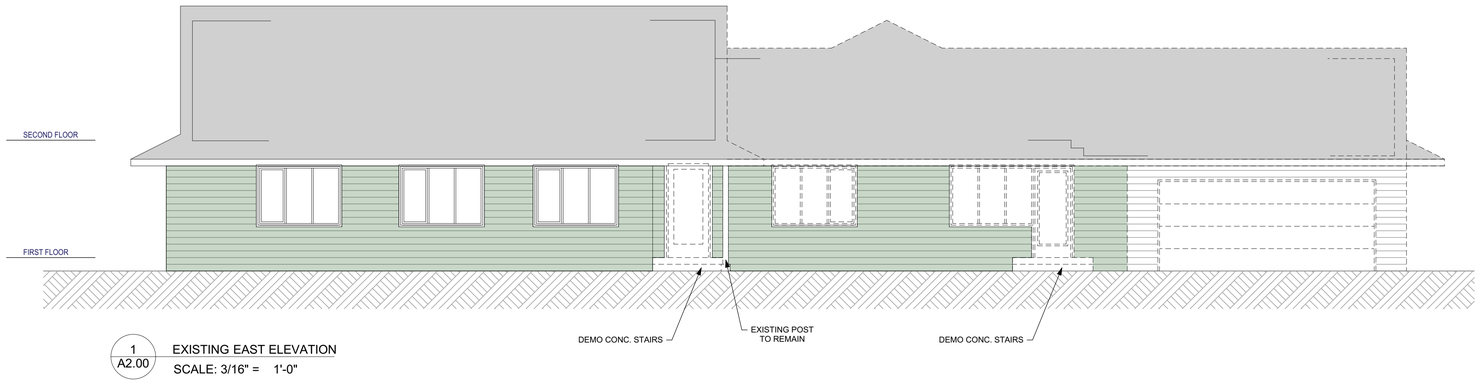
PROGRESS SET

ROOF PLANS

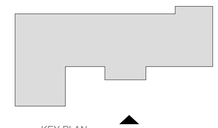
A1.08
PRINT DATE 1/31/2023



1
A2.00
EXISTING EAST ELEVATION
SCALE: 3/16" = 1'-0"

MAXIMUM ALLOWED BUILDING HEIGHT IS 30'

2
A2.00
PROPOSED EAST ELEVATION
SCALE: 3/16" = 1'-0"



KEY PLAN

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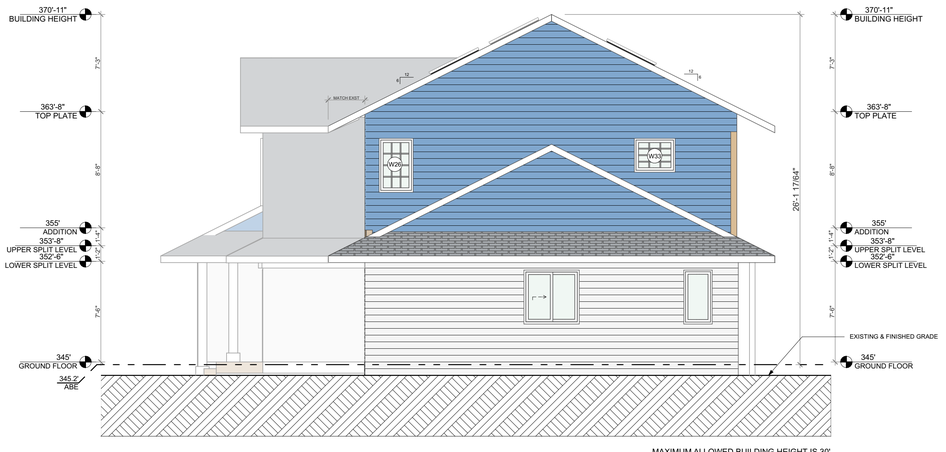
PROGRESS SET

EAST ELEVATIONS

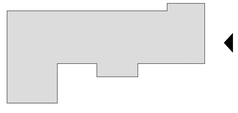
A2.00
PRINT DATE 1/31/2023

1 A2.01 EXISTING NORTH ELEVATION
SCALE: 3/16" = 1'-0"

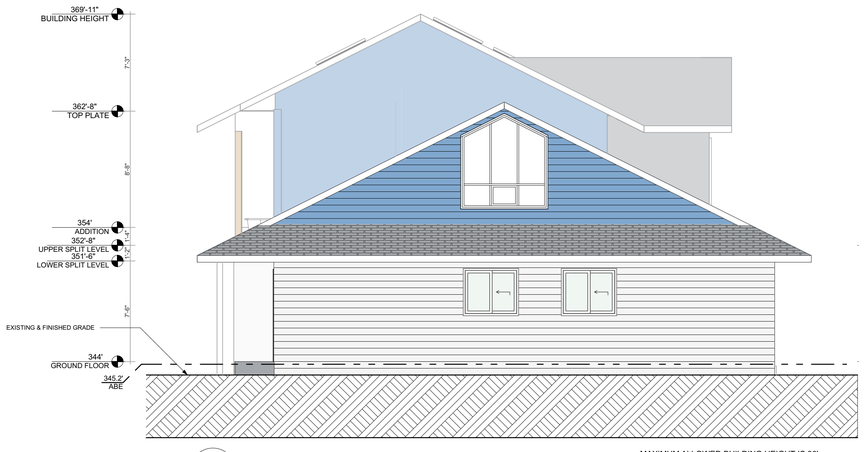
1 A2.01 EXISTING SOUTH ELEVATION
SCALE: 3/16" = 1'-0"



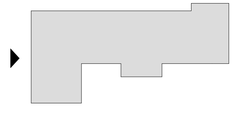
2 A2.01 PROPOSED NORTH ELEVATION
SCALE: 3/16" = 1'-0"



KEY PLAN



2 A2.01 PROPOSED SOUTH ELEVATION
SCALE: 3/16" = 1'-0"



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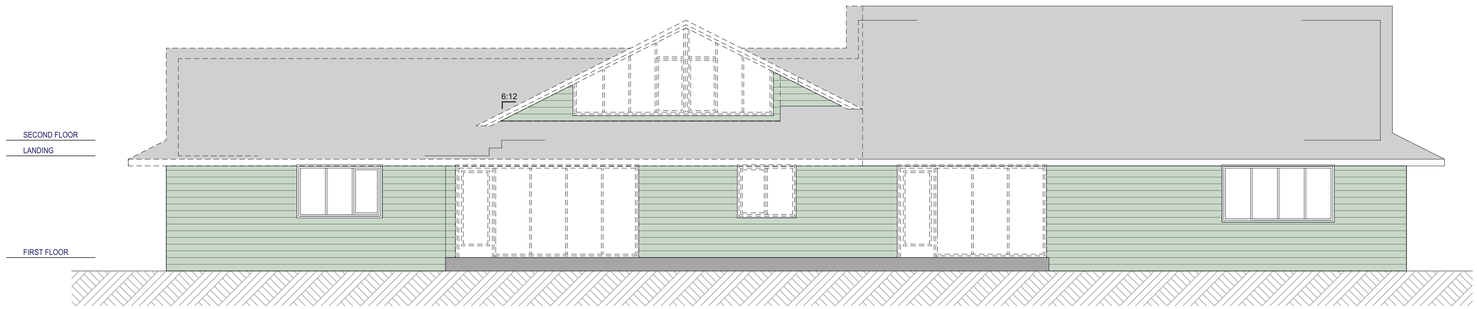
PROGRESS SET

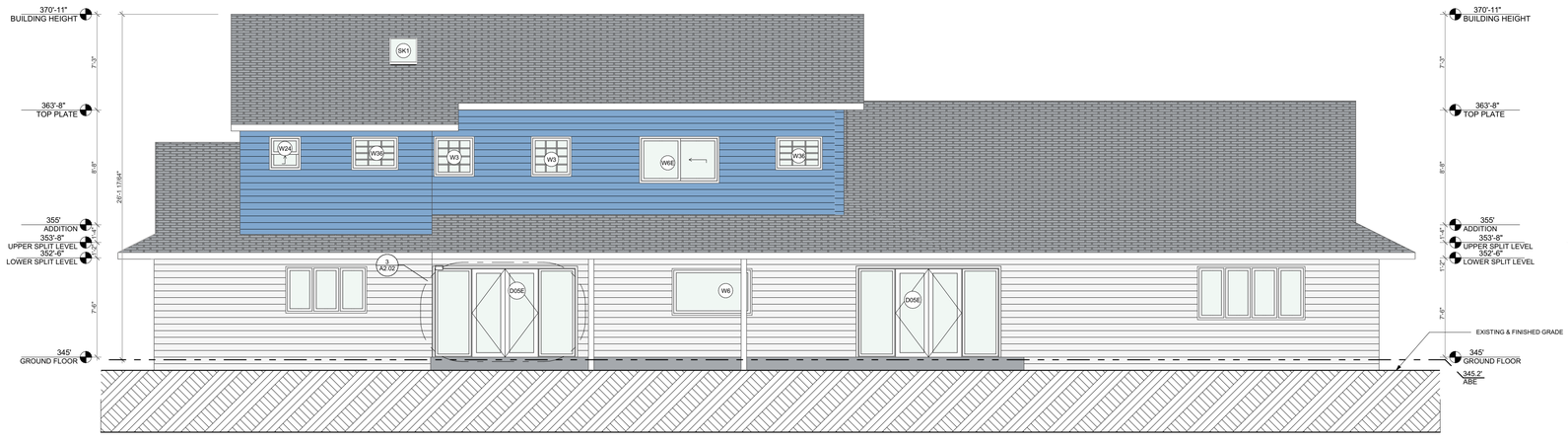
NORTH + SOUTH ELEVATIONS

A2.01

PRINT DATE 1/31/2023

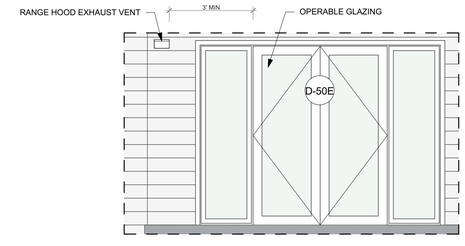


1 / A2.02 EXISTING WEST ELEVATION
SCALE: 3/16" = 1'-0"

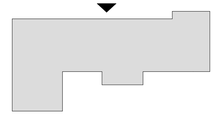


2 / A2.02 PROPOSED WEST ELEVATION
SCALE: 3/16" = 1'-0"

MAXIMUM ALLOWED BUILDING HEIGHT IS 30'



3 / A2.02 ENLARGED PATIO GLAZING ELEVATION
SCALE: 3/8" = 1'-0"



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NOTES

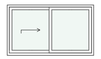
REPRESENTATIVE: GH
DRAWN BY: KHS
DESIGNER: YA
PROJECT #: 7070-D
SHEET SIZE: 24 x 36

PROGRESS SET

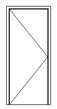
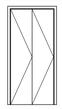
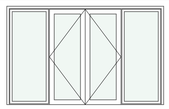
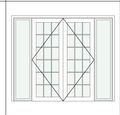
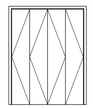
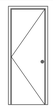
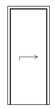
WEST ELEVATION

A2.02
PRINT DATE 1/18/2023

WINDOW SCHEDULE

Element ID	W-2	W-3	W-4	W-4E	W-6	W-6E	W-24	W-24R	W-25	W-26	W-33	W-36
Quantity	4	2	2	3	1	1	1	1	1	1	1	2
PREVIEW												
WINDOW TYPE	CASEMENT		CASEMENT	CASEMENT	FIXED			FIXED	FIXED	CASEMENT	FIXED	
DIMENSIONS	2'-0"×5'-0"	3'-0"×3'-0"	4'-0"×4'-0"	4'-0"×4'-0"	6'-0"×3'-6"	6'-0"×3'-6"	2'-4"×2'-6"	2'-5 1/2"×2'-5 1/2"	2'-6"×6'-3 1/4"	2'-6"×4'-0"	3'-0"×2'-6"	3'-6"×2'-6"
EGRESS	☐	☐	☐	☒	☐	☒	☐	☐	☐	☒	☐	☐
U-VALUE	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
TEMPERED	☐	☒	☐	☐	☐	☐	☒	☐	☐	☐	☒	☒
LOCATION	ENTRY			M.BEDROOM	KITCHEN					M.BEDROOM	MASTER BATH	

DOOR SCHEDULE

MARK	D28	D30	D-05E	D-05E1	D-05E2	D-24	D-26P	D-28
QUANTITY	1	2	2	1	2	1	2	4
PREVIEW								
DIMENSIONS	2'-8"×6'-8"	3'-0"×6'-8"	5'-0"×6'-8"	5'-0"×6'-8"	5'-0"×6'-8"	2'-4"×6'-8"	2'-6"×6'-8"	2'-8"×6'-8"
TYPE	Flush	Flush	No Grid	H-V Grid	Flush	Flush	Flush	Flush
FIRE RATING	20 minutes	20 minutes	Non-Rated	Non-Rated	Non-Rated	Non-Rated	Non-Rated	Non-Rated
EGRESS	☒	☒	☒	☒	☒	☐	☐	☐
MANUFACTUR...	<Undefined>	<Undefined>	KITCHEN/LIVING	ENTRY	CLOSET	<Undefined>	<Undefined>	<Undefined>
LOCATION	GARAGE	GARAGE						
NOTE			SAFETY GLAZING AS PER IRC R308.4					

SKYLIGHT SCHEDULE

MARK	SK1
QUANTITY	4
PREVIEW	
DIMENSIONS	22 1/2"x46 1/2"
TYPE	FIXED
LOCATION	MULTIPLE

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BALDWIN RESIDENCE
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Mercer Island, WA 98040

CLIENT APPROVAL

SIGNATURE DATE

PRINTED DATE

REVISIONS

NOTES

REPRESENTATIVE: GH
DRAWN BY: KHS
DESIGNER: YA
PROJECT #: 7070-D
SHEET SIZE: 24 x 36

PROGRESS SET

SCHEDULES

A3.00

PRINT DATE 1/31/2023

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021) Version 1.0

These requirements apply to all IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

Project Information	*Contact Information*
BALDWIN RESIDENCE	ARMADA DESIGN & BUILD
4215 87th Ave SE Mercer Island, WA 98040	khushboo@armadabuild.com

Instructions: This single-family project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

Authorized Representative	Khushboo Srivastava	*Date*	09/06/2022

All Climate Zones (Table R402.1.1)		
	R-Value [a]	**U-Factor [a]**
Fenestration U-Factor [b]	n/a	0.30
Skylight U-Factor [b]	n/a	0.50
Glazed Fenestration SHGC [b,e]	n/a	n/a
Ceiling [e]	49	0.026
Wood Frame Wall [g,h]	21 int	0.056
Floor	30	0.029
Below Grade Wall [c,h]	10/15/21 int + TB	0.042
Slab [d,f] R-Value & Depth	10, 2 ft	n/a

a. *R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity that is less than the label or design thickness of the insulation, the compressed *R*-value of the insulation from Appendix Table A101.4 shall not be less than the *R*-value specified in the table.

b. The fenestration *U*-factor column excludes skylights.

c. "10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.

d. R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.

e. For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.

f. R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.

g. For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for *climate zone* 5 of ICC 400.

h. Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

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Each dwelling unit ***in a residential building*** shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

1. **Small Dwelling Unit: 3 credits**
   Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area. Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.
2. **Medium Dwelling Unit: 6 credits**
   All dwelling units that are not included in #1 or #3
3. **Large Dwelling Unit: 7 credits**
   Dwelling units exceeding 5,000 sf of conditioned floor area
4. **Additions less than 500 square feet: 1.5 credits**
   All other additions shall meet 1-3 above

Before selecting your credits on this Summary table, review the details in Table 406.3 (Single Family), on page 4.

Summary of Table R406.2

Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option		User Notes
1	Combustion heating minimum NAECA[b]	0.0	☐	
2	Heat pump[c]	1.0	☐	
3	Electric resistance heat only - furnace or zonal	-1.0	☐	
4	DHP with zonal electric resistance per option 3.4	0.5	☐	
5	All other heating systems	-1.0	☐	
Energy Options	**Energy Credit Option Descriptions**	**Credits - select ONE energy option from each category [d]**		
1.1	Efficient Building Envelope	0.5	☐	
1.2	Efficient Building Envelope	1.0	☐	
1.3	Efficient Building Envelope	0.5	☐	
1.4	Efficient Building Envelope	1.0	☐	
1.5	Efficient Building Envelope	2.0	☐	
1.6	Efficient Building Envelope	3.0	☐	
1.7	Efficient Building Envelope ☐	0.5	☐	
2.1	Air Leakage Control and Efficient Ventilation	0.5	☐	
2.2	Air Leakage Control and Efficient Ventilation	1.0	☐	
2.3	Air Leakage Control and Efficient Ventilation	1.5	☐	
2.4	Air Leakage Control and Efficient Ventilation ☐	2.0	☐	
3.1[a]	High Efficiency HVAC	1.0	☉	
3.2	High Efficiency HVAC	1.0	☐	
3.3[a]	High Efficiency HVAC	1.5	☐	
3.4	High Efficiency HVAC	1.5	☐	
3.5	High Efficiency HVAC	1.5	☐	
3.6[a]	High Efficiency HVAC ☐	2.0	☐	
4.1	High Efficiency HVAC Distribution System	0.5	☐	
4.2	High Efficiency HVAC Distribution System ☐	1.0	☐	

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Summary of Table R406.2 (cont.)

Energy Options	Energy Credit Option Descriptions (cont.)	Credits - select ONE energy option from each category [e]		User Notes
5.1[d]	Efficient Water Heating	0.5	☐	
5.2	Efficient Water Heating	0.5	☐	
5.3	Efficient Water Heating	1.0	☐	
5.4	Efficient Water Heating	1.5	☐	
5.5	Efficient Water Heating	2.0	☉	
5.6	Efficient Water Heating ☐	2.5	☐	
6.1[e]	Renewable Electric Energy (3 credits max)	1.0	☐	
7.1	Appliance Package	0.5	☐	
	Total Credits	3.0	Calculate Total	Clear Form

a. An alternative heating source sized at a maximum of 0.5 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
b. Equipment listed in Table C403.3.2(4) or C403.3.2(5)
c. Equipment listed in Table C403.3.2(1) or C403.3.2(2)
d. You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.
e. 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max. See the complete Table R406.2 for all requirements and option descriptions.
f. Use the single radiobutton in the upper right of the second column to deselect radiobuttons in that group.

Please print only pages 1 through 3 of this worksheet for submission to your building official.

DESCRIPTION OF CREDITS

3.1 [2]	Energy Star rated (U.S. North) Gas or propane furnace with minimum AFUE of 95% ***or*** Energy Star rated (U.S. North) Gas or propane boiler with minimum AFUE of 90%. [2]	1.0
5.5	Water heating system shall include one of the following: Electric heat pump water heater meeting the standards for Tier III of NEEA's advanced water heating specification ***or*** For R-2 Occupancy, electric heat pump water heater(s), meeting the standards for Tier III of NEEA's advanced water heating specification, shall supply domestic hot water to all units. If one water heater is serving more than one dwelling unit, all hot water supply and recirculation piping shall be insulated with R-8 minimum pipe insulation. [5]	2.0

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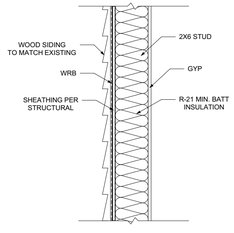
NOTES

REPRESENTATIVE: GH
DRAWN BY: KHS
DESIGNER: YA
PROJECT #: 7070-D
SHEET SIZE: 24 x 36

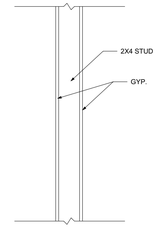
PROGRESS SET

ENERGY CODE

A3.01
PRINT DATE 1/31/2023



W1 2X6 EXTERIOR WALL 1" = 1'-0"



W2 2X4 INTERIOR WALl1" = 1'-0"

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CLIENT APPROVAL
SIGNATURE DATE
SIGNATURE DATE

REVISIONS
1
2
3

NOTES

REPRESENTATIVE: GH
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PROJECT #: 7070-D
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PROGRESS SET

DETAILS

A3.02
PRINT DATE 1/31/2023