

## PROJECT TEAM

OWNER:  
Tom & Kim TSO  
8802 SE 37th St.  
Mercer Island WA 98040  
email:

DESIGNER:  
Kesh Design Lines  
Tel: 425.361.7325  
email: kesh@keshdesignlines.com

ENGINEERING:  
As Needed

## PROPERTY DETAILS

JOB NAME: TSO ADDITION & ADU  
SITE ADDRESS:  
8802 SE 37th ST. MERCER ISLAND WA 98040

LEGAL DISCRPTION:  
MADRONA CREST ADD

ZONING: R-8.4 Single Family(Res Use/Zone)

PARCEL #: 502190-0455

## PROJECT NARATIVE

Proposed is a 2 story Addition above and to the rear of the existing 750 SF garage.  
One bedroom and One bath on lower level and Master Bed and Bath on upper level -  
ADU totaling 899 SF.  
Principal dwelling unit will be owner occupied.  
New construction details will follow the existing design of the house including windows,  
siding and roof pitch.  
2 Additional on site parking will be designated for the ADU  
No trees will be removed or disturbed

## SHEET INDEX

P1 SITE PLAN  
P2 SUPP. SHEET & GFA CALCULATIONS  
A2 GENERAL NOTES  
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A13 WINDOW SCHEDULE & ENERGY CALCS.  
D1 DETAILS & NOTES  
D2 DETAILS & NOTES

STRUCTURAL:  
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S1 FRAMING PLAN  
S2 FRAMING DETAILS  
S3 WSW DETAILS  
  
STRUCTURAL CALCULATIONS:  
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## LOT COVERAGE

A. Gross Lot Area	12,100	Square Feet
B. Net Lot Area	10,960	Square Feet
C. Allowed Lot Coverage Area	4,840	Square Feet
D. Allowed Lot Coverage	40	% of Lot
E. Existing Lot Coverage:		
1. Main Structure Roof Area	2,827 2,873	Square Feet
2. Accessory Building Roof Area	17 94	Square Feet
3. Vehicular Use (driveway, paved access easements [portion used by the lot for access], parking)	790	Square Feet
4. Covered Patios and Covered Decks	216	Square Feet
5. Total Existing Lot Coverage Area (E1+E2+E3+E4)	3,906 3,973	Square Feet
F. (Total Lot Coverage Area Removed)	(147) (94)	Square Feet
G. Proposed Adjustment for Single Story (Area)	0	Square Feet
H. Proposed Adjustment for Flag Lot	0	Square Feet
I. Total New Lot Coverage Area:		
1. Main Structure Roof Area	336 340	Square Feet
2. Accessory Structure Roof Area	0	Square Feet
3. Vehicular Use (driveway, paved access easement [portion used by the lot for access], parking)	0	Square Feet
4. Covered Patios and Covered Decks	0	Square Feet
5. Total New Lot Coverage Area (I1 + I2 + I3 + I4)	336 340	Square Feet
J. Total Project Lot Coverage Area = (E5 - F) + I5	4,216 4,219	Square Feet
K. Proposed Lot Coverage Area = (I/B) x 100	38.46% 38.49%	% of Lot

## HARDSCAPE CALCULATIONS

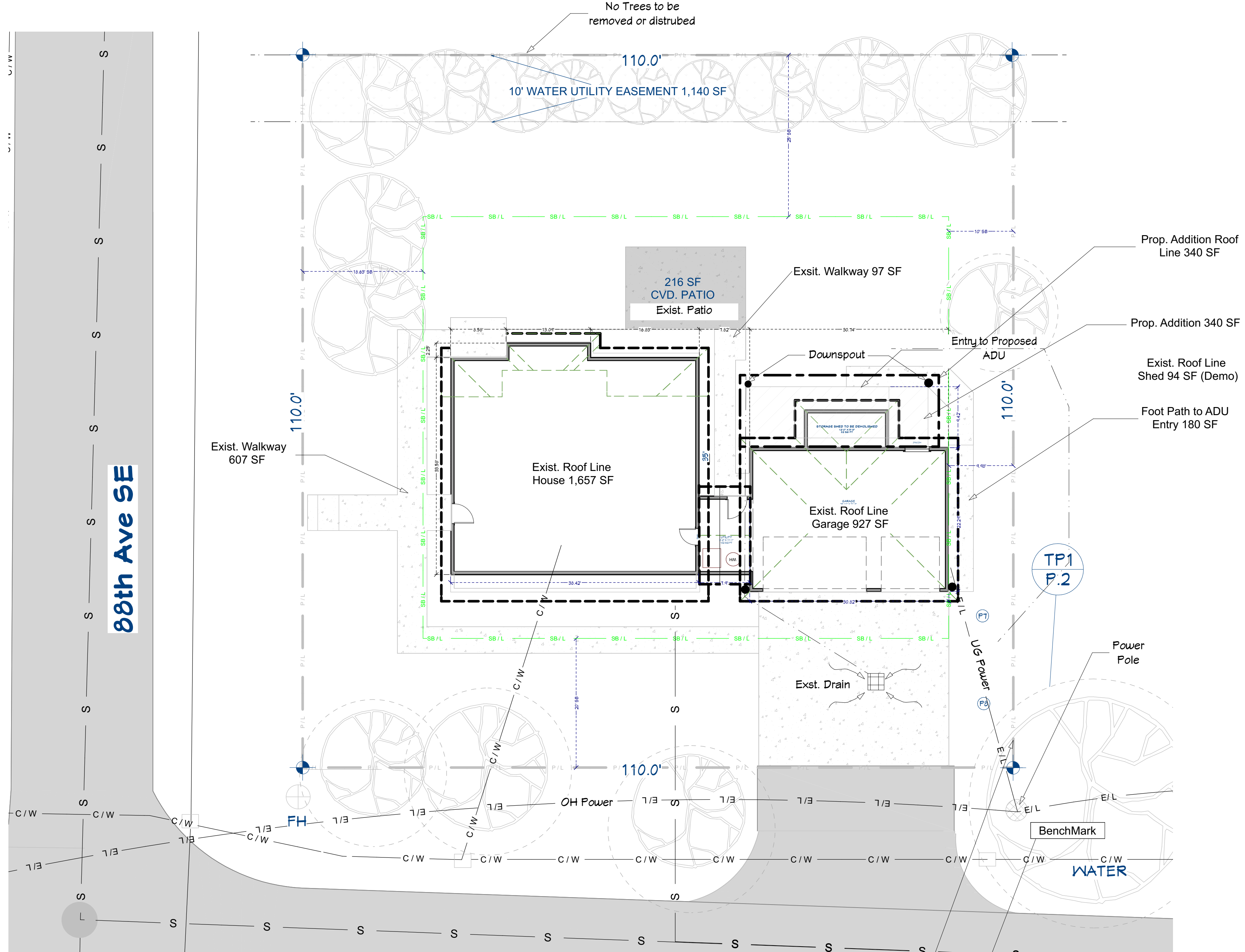
A. Gross Lot Area	12,100	Square Feet
B. Net Lot Area	10,960	Square Feet
C. Area Borrowed from Lot Coverage	0	Square Feet
D. Allowed Hardscape Area = 9% of lot area + C	9	% of Lot
E. Allowed Hardscape Area	986	Square Feet
F. Total Existing Hardscape Area:		
1. Uncovered Decks	0	Square Feet
2. Uncovered Patios	0	Square Feet
3. Walkways	703 704	Square Feet
4. Stairs	0	Square Feet
5. Rockeries and Retaining Walls	0	Square Feet
6. Other	0	Square Feet
7. Total Existing Hardscape Area (F1+F2+F3+F4+F5+F6)	703 704	Square Feet
G. (Total Hardscape Area Removed)	0	Square Feet
H. Total New Hardscape Area:		
1. Uncovered Decks	0	Square Feet
2. Uncovered Patios	0	Square Feet
3. Walkways	94 180	Square Feet
4. Stairs	0	Square Feet
5. Rockeries and Retaining Walls	0	Square Feet
6. Other	0	Square Feet
7. Total New Hardscape Area (H1+H2+H3+H4+H5+H6)	94 180	Square Feet
I. Total Project Hardscape Area = (F7 - G) + H7	800 884	Square Feet
J. Total Project Hardscape Area = (I/B)x100	7.3% 8.07%	% of Lot

## LOT SLOPE

According to the Mercer Island City Code, slope is a measurement of the average incline of the lot or other piece of land calculated by subtracting the lowest elevation of the property from the highest elevation and dividing the resulting number by the shortest horizontal distance between these two points. The resulting product is multiplied by 100.

### LOT SLOPE CALCULATIONS

Highest Elevation Point of Lot:	301	Feet
Lowest Elevation Point of Lot:	302	Feet
Elevation Difference:	1	Feet
Horizontal Distance Between High and Low Points:	110	Feet
Lot Slope*	0.91	%



## SITE PLAN

SCALE: 1" = 10'-0"

To remain Grass (Critical root zone for city tree)  
NOTE: Existing driveway apron will not be extended to ROW.

SHEET NUMBER  
**P1**  
Revision #: 10

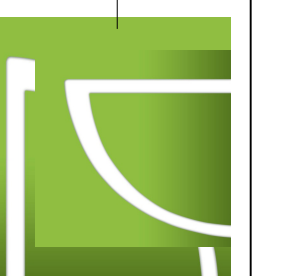
DATE: 05.22.23

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**SITE PLAN**  
SCALE: 1" = 10'-0"

**TOM & KIM TSO**  
**ADDITION & ADU**  
8802 SE 37th ST. MERCER ISLAND WA 98040

Kesh Design Lines  
425 361 7325



## APPLICABLE CODES

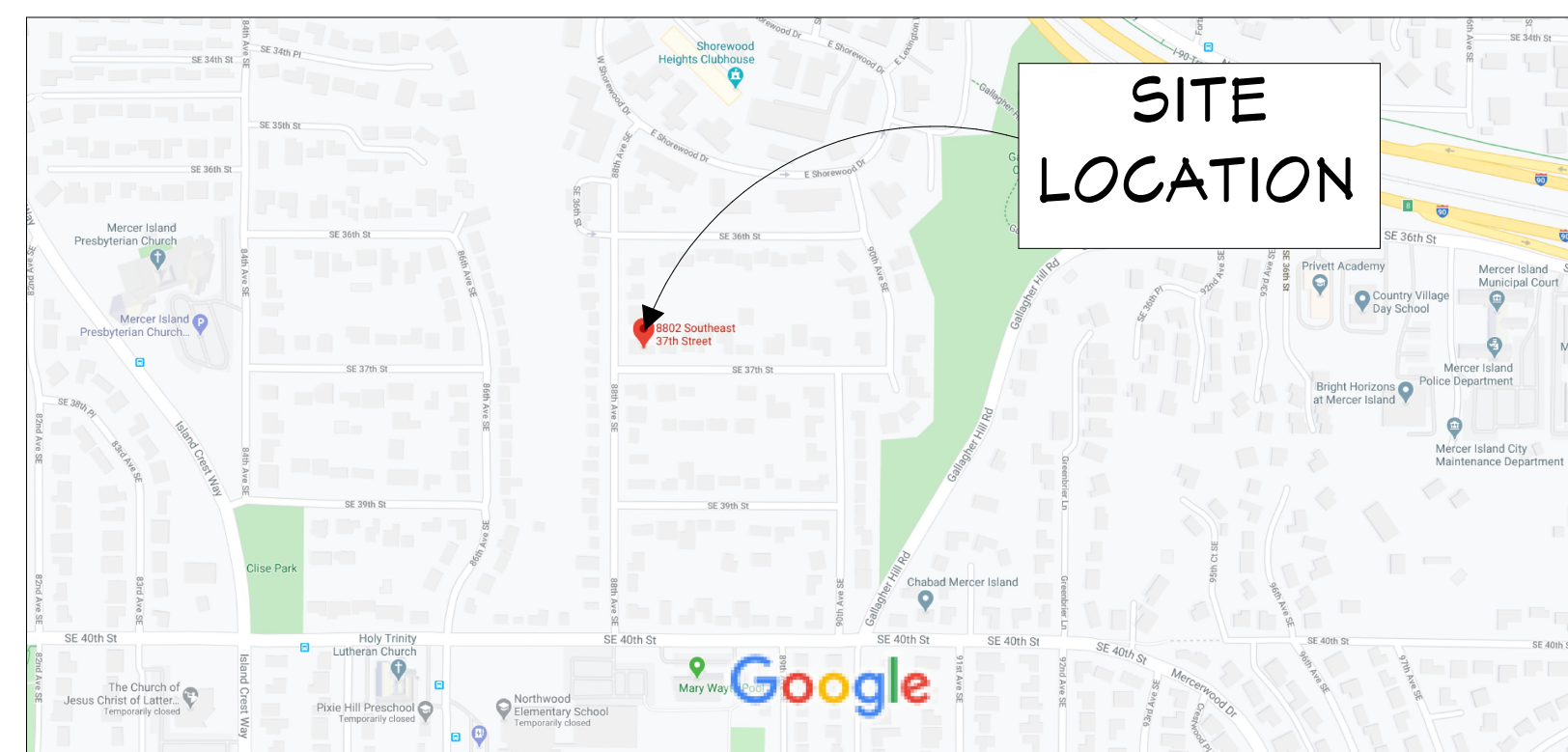
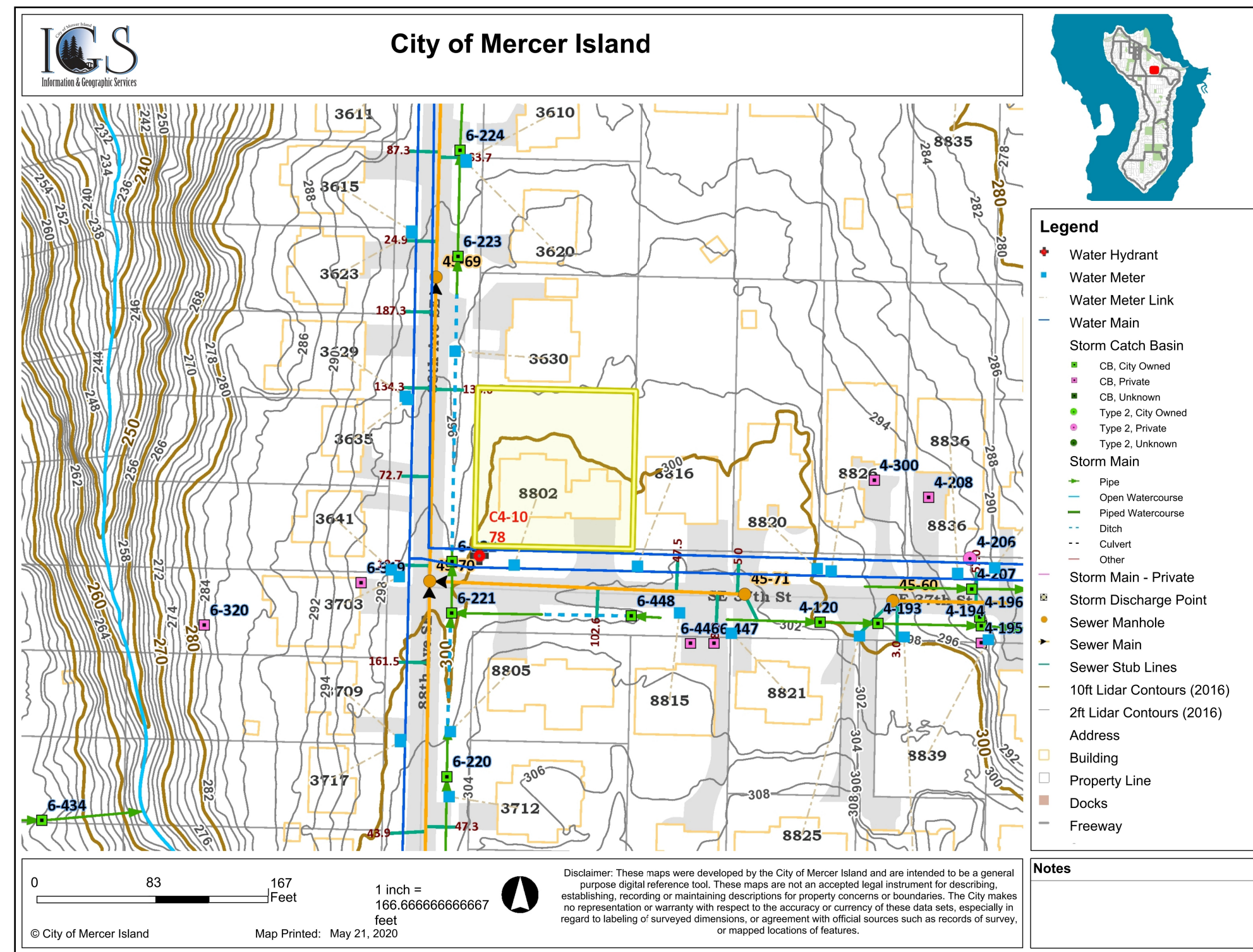
CITY OF MERCER ISLAND MUNICIPAL CODE  
 2018 INTERNATIONAL BUILDING CODE  
 2018 INTERNATIONAL RESIDENTIAL CODE  
 2015 INTERNATIONAL FIRE CODE  
 2015 INTERNATIONAL MECHANICAL CODE  
 2015 INTERNATIONAL FUEL AND GAS CODE  
 2015 UNIFORM PLUMBING CODE  
 2012 WASHINGTON CITIES ELECTRICAL CODE  
 CITY OF MERCER ISLAND ELECTRICAL CODE  
 STATE ENVIRONMENTAL POLICY ACT (SEPA)  
 WASHINGTON STATE ENERGY CODE

## DESIGN CRITERIA

Wind Speed: 110 mph (IBC Figure 1609A)  
 Wind Exposure: Category C  
 Kzt Factor: 1.6 Per City of Mercer Island Wind Map  
 Ground Snow Load: 25 psf (Snow drift per ASCE 7-10)  
 Rain-on-Snow Surcharge: 5 psf added to flat roofs per (ASCE 7-10)  
 Seismic Design Category: D2  
 Rainfall: 1"/Hr (UPC Table D101.1)  
 Soil Bearing Capacity: 1500 psf (IBC Table 1806.2)

**COMPLIANCE PATH PRESCRIPTIVE:**  
 International Residential Code 2018 (IRC 2018)  
 with WA State Amendments

## TOPO & UTILITIES MAP nts



## GROSS FLOOR AREA

EXISTING ROOM AREA - LOWER LEVEL					
ROOM NAME	AREA, (INC. WALLS)	AREA, INTERIOR (SQ FT)	CEILING HEIGHT	DIMENSIONS	NOTES
FORMAL DINING	243	225	109 1/8"	16'-4" X 14'-4"	
HALL	143	129	109 1/8", 121 3/4"	9'-10" X 6'-10"	
(CEILING HGT. MOD. EXIST. ENTRY)	46	33	18.2'	4'-11" X 6'-9"	GRAY AREA
HALL	34	31	109 1/8"	4'-8" X 6'-7"	
LAUNDRY	90	78	109 1/8"	6'-6" X 12'-2"	
LIVING	218	198	109 1/8"	14'-9" X 13'-6"	
(CEILING HGT. MOD. EXIST. LIVING)227		198	18.2'	13'-8" X 14'-6"	GRAY AREA
OFFICE	189	170	109 1/8"	13'-3" X 12'-11"	
POWDER	37	31	109 1/8"	4'-8" X 6'-9"	
STAIRWELL	59	53	121 3/4"	15'-5" X 3'-5"	
STORAGE	18	15	109 1/8"	4'-6" X 3'-5"	
UTILITY	104	92	112 5/8"	8'-3" X 11'-6"	
<b>TOTALS:</b>	<b>1,408.0 SF</b>	<b>1,253.0 SF</b>			

ADU LOWER FLOOR			
ROOM NAME	AREA, INTERIOR (SQ FT)	AREA, INC. WALLS	NOTES
ADU BATH	43.0	48	
ADU BEDROOM 1	70	82	
ADU CLOSET 1	19	15	
ADU HALL/ENTRY	114	134	
(CEILING HEIGHT MODIFIER)	26	39	GRAY AREA
<b>TOTALS:</b>	<b>272.00</b>	<b>318.00 SQ. FT.</b>	

ADU UPPER FLOOR		
ROOM NAME	AREA, INTERIOR (SQ FT)	AREA, INC. WALLS
ADU BATH	69	82
ADU BEDROOM 1	137	154
ADU CLOSET	15	19
ADU GREAT	298	326
ADU LAUNDRY	12	15
ADU STORAGE	15	21
ADU OPEN BELOW 33%33		46
<b>TOTALS:</b>	<b>579 SF</b>	<b>660 SF</b>

ADU TOTAL		
ROOM NAME	AREA, (INC WALLS)	AREA, INTERIOR SQ. FT.
LOWER FLOOR	318 SF	272 SF
UPPER FLOOR	660 SF	579 SF
<b>TOTAL:</b>	<b>978 SF</b>	<b>851 SF</b>

GFA TOTAL	
EXISTING	NEW ADU
2,446 SF	978 SF
<b>TOTAL:</b>	<b>3,424.0 SF</b>
3,346 / 12,100 = 28.30%	

EXISTING ROOM AREA - UPPER LEVEL					
ROOM NAME	AREA, (INC. WALLS)	AREA, INTERIOR (SQ FT)	CEILING HEIGHT	DIMENSIONS	NOTES
BATH	64	56	121 1/2"	5'-6" X 9'-0"	
BATH	10	7	121 1/2"	1'-6" X 4'-10"	
BEDROOM 2	138	121	121 1/2"	9'-1" X 13'-6"	
BEDROOM 1	196	177	121 1/2"	12'-10" X 12'-11"	
BEDROOM 3	149	129	121 1/2"	9'-6" X 13'-6"	
CLOSET	13	10	121 1/2"	2'-9" X 3'-6"	
CLOSET	20	16	121 1/2"	2'-0" X 7'-10"	
CLOSET	36	30	121 1/2"	4'-11" X 6'-1"	
CLOSET	61	55	121 1/2"	9'-4" X 5'-11"	
CLOSET	12	9	121 1/2"	2'-9" X 3'-5"	
HALL	166	160	121 1/2"	10'-0" X 11'-4"	
MASTER BATH	148	130	121 1/2"	15'-2" X 7'-3"	
OPEN BELOW	211	198	243 1/4"	13'-8" X 14'-6"	
OPEN BELOW	46	42	243 1/4"	6'-2" X 6'-10"	
OPEN BELOW	57	53	243 1/4"	15'-8" X 3'-5"	
<b>TOTALS:</b>	<b>1,327 SF</b>	<b>1,193 SF</b>			

EXISTING HOUSE TOTAL		
ROOM NAME	AREA, (INC. WALLS)	AREA, INTERIOR (SQ FT)
LOWER FLOOR	1,408 SF	1,253 SF
UPPER FLOOR	1,327 SF	1,193 SF
<b>TOTAL:</b>	<b>2,735 SF</b>	<b>2,446.0 SF</b>
<b>GARAGE:</b>	<b>893 SF</b>	<b>833.0 SF</b>

## GROSS FLOOR AREA

Building Area	Existing Area	Removed Area	New/Addition Area	Total
Upper Floor	1,193 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	1,193 Sq. Ft.
Main Floor	1,022 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	1,022 Sq. Ft.
Gross Basement Area	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
Garage/ Carport	833 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	833 Sq. Ft.
<b>Total Floor Area</b>	<b>3,048 Sq. Ft.</b>	<b>0 Sq. Ft.</b>	<b>0 Sq. Ft.</b>	<b>3,048 Sq. Ft.</b>
Accessory Buildings	82 Sq. Ft.	(82) Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
Accessory Dwelling Unit	0 Sq. Ft.	0 Sq. Ft.	874 Sq. Ft.	874 Sq. Ft.
2 <sup>nd</sup> & 3 <sup>rd</sup> Story Roofed	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
Decks	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
Basement Area	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
Excluded	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
150% GFA Modifier* (main and upper floor x2)	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
200% GFA Modifier* (main and upper floor x2)	231 Sq. Ft.	0 Sq. Ft.	26 Sq. Ft.	257 Sq. Ft.
Staircase GFA Modifier* (x2 for a three story staircase, x3 for a four story staircase)	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
<b>TOTAL Building Area</b>	<b>3,361 Sq. Ft.</b>	<b>(82) Sq. Ft.</b>	<b>900 Sq. Ft.</b>	<b>4,179 Sq. Ft.</b>

A. Lot Area	12,100	Square Feet
B. Zone R-8.4	R-9.6	
C. Allowed Gross Floor Area (refer to "allowed GFA")	4,840	Square Feet
D. Allowed Gross Floor Area	40%	% of Lot
E. Proposed Gross Floor Area	3,982	Square Feet
F. Proposed Gross Floor Area	32.90%	% of Lot

Gross floor area calculations found on Plan Sheet # P2  
 Basement exclusion calculations found on Plan Sheet # N/A



SHEET NUMBER  
**P2**

DATE: 05.22.23

DRAWN BY: K.C.

**SUPPLEMENTAL SHEET**  
**GFA CALCULATIONS**

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