



ADU Homeowner Workshop

Session #3: Construction & Property Management

December 2, 2024



HRDC
BUILDING A BETTER COMMUNITY



THANK YOU

to our financial supporters!

 **Arthur M. Blank
Family Foundation**



LIVINGSTON
Montana

SW MT
Flood Relief
Fund

Generous
Community
Members



Agenda

5:40 p.m. Goals for Session 3

5:45 p.m. Design into construction

6:00 p.m. Q & A

6:20 p.m. 10-minute break

6:30 p.m. Property management

6:40 p.m. Q & A

7:00 p.m. Discussion: How PCHC can help moving forward

7:25 p.m. Survey and adjourn

Session #3 Goals

- Build a general understanding of how the design process influences the construction process.
- Learn principles and key considerations related to property management.
- Tell the Coalition how we can support you moving forward.

ADU Design to Construction

Special thanks to Lucas Schaad, AIA and founder of LTS Architecture, and Dave Karon, GC and founder of Karon Custom Built, for the content in this section.

Process: Design to Construction



Lucas T. Schad, AIA
Architect
MT License #7407
NCARB Cen. # 78471

THE PROCESS

Planning / Programming:

The architect will work with the client to determine the function of the building and the rough spatial sizes. For instance, in a residential structure, the discussion would focus on the number of bedrooms, bathrooms, etc., and specific use of the gathering spaces. After this phase is complete, everyone involved will have a good idea of the function of the building and there should be a ball park idea of the budget for the structure. The architect will work on this phase of the project on a time card basis. It is very helpful to have discussed the items on the LTS – Programming Guide. Schematic Design will start only after a written program has been completed.

Schematic Design:

The architect will take the Program from the previous phase and create a series of sketches of floor plans, elevations and site plans that meet all of the requirements listed. If they are approved, a Unit Price Cost Estimate will be completed. If a builder is involved at this stage the builder may assist with the Unit Price cost estimate. If the sketches are not approved, then they will be modified until an acceptable schematic design is reached. (For instance a Unit Price for the cost of electrically wiring a building would be the total square footage the building multiplied by the price per square foot to electrically wire a building.) At the end of this phase, both the client and the architect are comfortable with the design and a fairly close cost estimate has been created. The architect and client will enter into an AIA contract at this point. All work previous will be credited to the contract price.

Design Development:

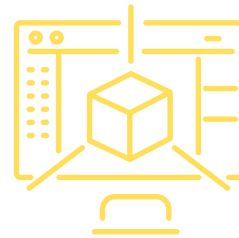
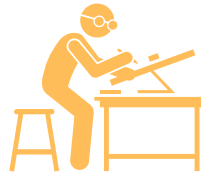
Working drawings are formalized using a CAD program. A 3D model of the exterior of the building is created in the computer. Electrical plans, interior elevations, material selection and determining finishes are just a few topics that are discussed during this phase.

Communication between the Client and the Architect during this phase is paramount. The architect will create yet another Cost Estimate, working with the builder if possible, as this phase progresses and/or verify that the prior cost estimate is still accurate.

Construction Documents:

The architect creates a detailed set of instructions that describes the finished product. The Structural, Mechanical and Electrical Engineering work is being completed. Hardware, Lighting, Door, Window and Finish schedules are being created. The Design Development and Construction Documents phases tend to blur together in most cases.

The Architect is available during construction for Construction/Contract Administration on an as needed basis.



Planning & Programming

Schematic Design

Design Development

Construction Documents

Construction

1

Planning & Programming

The architect works with their client to determine the building's function and rough sizes.

- # of bedrooms
- # of bathrooms
- use/s of gathering spaces

LTS Programming Guide provides a framework for this process.

Builds shared understanding of:

- building's function
- ballpark budget

Necessary precursor to the subsequent Schematic Design phase.

Lucas T. Schad, AIA
Architect
MT License #7407
NCARB Cert. # 78471

LTS AIA Programming Guide

Client Information:
Name: _____
Address: _____
City, State, Zip: _____
Phone: (____) _____ - _____ Alt. Phone: (____) _____ - _____
Email: _____ Alt. Email: _____

Budget:
Total project costs: _____
Total Square Footage: _____

Communal Areas:

Entry size: _____ x _____
 Closet size: _____
 Foyer size: _____

Kitchen size: _____
 island size: _____
 split level/sink/stove....
 Pantry size: _____
 walk-in or cabinet
 Fridge size: _____
 Range size: _____

Dining size: _____ x _____

Lucas T. Schad, AIA
Architect
MT License #7407
NCARB Cert. # 78471

LTS AIA Programming Guide

Client Information:
Name: _____
Address: _____
City, State, Zip: Livingston MT 59047
Phone: (____) _____ - _____ Alt. Phone: _____ - _____
Email: _____ Alt. Email: _____

Budget:
Total project costs: \$500k - \$600k
Total Square Footage: 22500 sqft (willing to be flexible here)

Communal Areas:

Entry size: _____ x _____
 Closet size: _____
 Foyer size: _____

Kitchen size: _____
 island size: _____
 split level/sink/stove....
 Pantry size: _____
 walk-in or cabinet
 Fridge size: at least 25.8-cuft - French Door style
 Range size: at least 40 inches / 48"

Dining size: _____ x _____

Handwritten notes:
 - Would like to integrate into the kitchen a wine cooler - fit about 60 bottles along with an area that could be used as a bar - a place into the dining can be made - doesn't need to be huge or over the top, but thought out
 - Open kitchen into the great room / living room area - interactive
 - Sample Image: COMMUNAL - Interactive
 - Sample Image: Mini island to also serve as a breakfast / lunch bar
 - Slide 23 want the dining room to be connected to the kitchen and great room area
 - Slide 22
 - Slide 23
 - Sample Image: Kitchen sink which is a bit of a wish - want to have a shower and tub - feel like a lot of space - like to be heavenly and with all the idea it totally open shower - shower structure - reference slide 24 - clean, natural and simple
 - While these bedrooms, intent to put down the bedrooms in the interior
 - Flexibility on these two bedrooms - either share a bathroom or have individual bathrooms & depends on impact on budget - definitely would want two bathrooms to have a bath tub though.

Programming Guide

Laundry
 ironing station size: _____ x _____
 laundry sink → would love to consider using the current kitchen sink which
 Master bedroom size: _____ x _____
 Master bath size: _____ x _____
 tub or shower or both
 number of vanities
 Walk-in closet size: _____
 washer/dryer
 ironing station

Guest bedroom(s) qty: _____ size: _____ x _____
 Guest Bath (s) qty: _____ size: _____ x _____
 tub or shower
 number of vanities

Kids bedroom(s) qty: 2 size: _____ x _____
 Walk-in or standard closets
 individual bathrooms

Handwritten notes:
 - Slide 27 for inspiration - want clean, bright space for laundry - storage for laundry materials and back storage - things like paper towels - would like a drying rack for items not to go in dryer and separate area to add items.
 - Sample Image: In the farmhouse in this space
 - Sample Image: a lot of living space + it - bath very spa - like and really - have the idea and like idea it totally open shower - shower structure - reference slide 24 - clean, natural and simple
 - Sample Image: While these bedrooms, intent to put down the bedrooms in the interior
 - Flexibility on these two bedrooms - either share a bathroom or have individual bathrooms & depends on impact on budget - definitely would want two bathrooms to have a bath tub though.

1 Planning & Programming

LTS AIA Programming Guide

Lucas T. Schad, AIA
Architect
MT License #7407
NCARB Cert. # 78471

Client Information:
Name: _____
Address: _____
City, State, Zip: _____
Phone: _____ Alt. Phone: _____
Email: _____ Alt. Email: _____

Budget:
Total project costs: *Have NOT agreed on Budget, but agreed we DO NOT want to go over \$2M.*
Total Square Footage: *CURRENTLY 2,000 plus garage!*

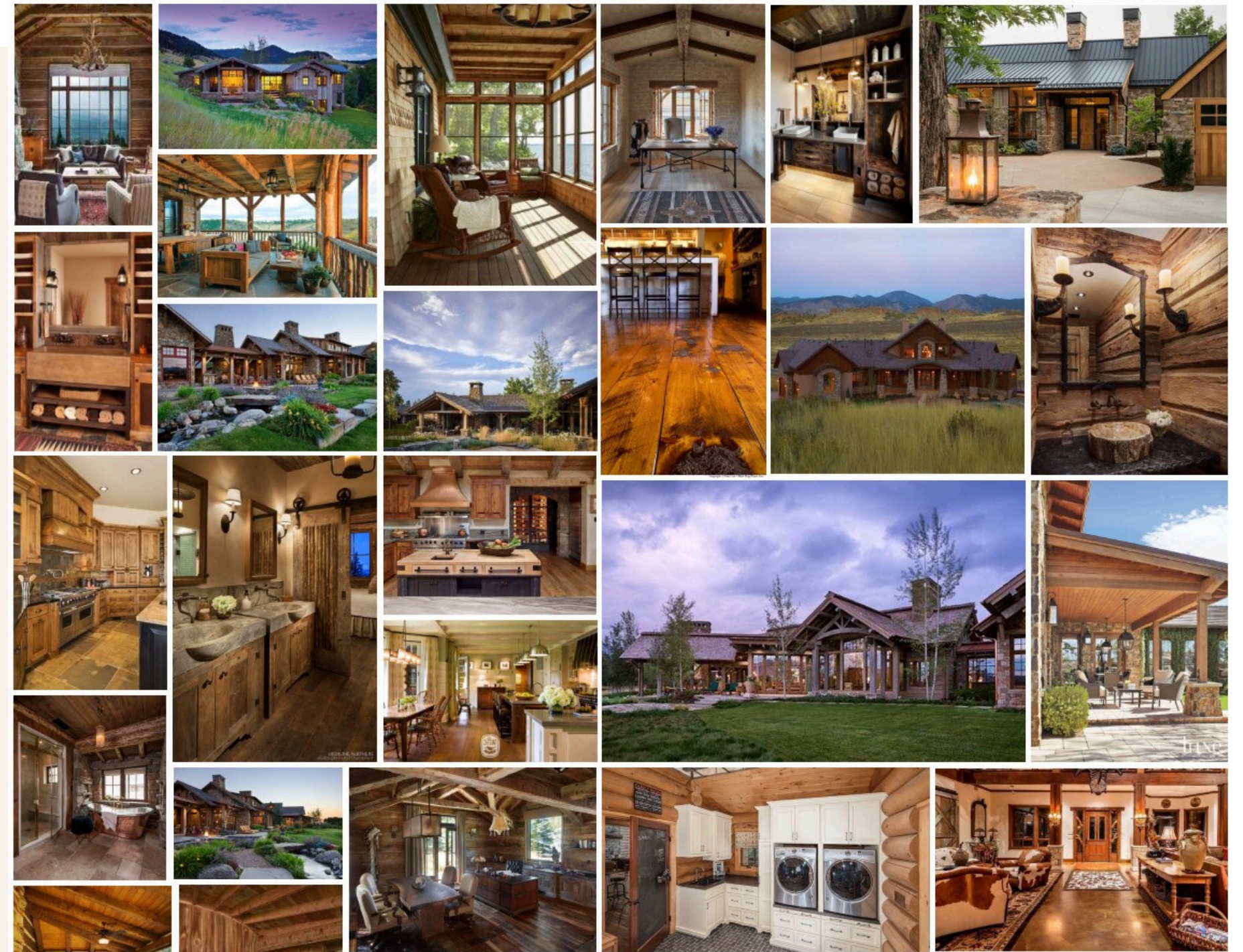
Communal Areas:

Entry size: *7' x 7'* Sample Image: _____
 Closet size: *2' x 4'* Sample Image: _____
 Foyer size: _____ Sample Image: _____
FRONT door at least 36"

Kitchen size: *14' x 10'* Sample Image: *#1*
 island size: *6' x 3.5'* Sample Image: _____
 split level/sink/stove.... *DOUBLE stainless steel sink*
 Pantry size: *4' x 4'* Sample Image: _____
 walk-in ~~or~~ cabinet
 Fridge size: *36" French door (Freezer on bottom)*
 Range size: *30" wide - Induction stove - FRIGIDAIRE*
 Microwave and Dishwasher

Dining size: *10' x 12'* Sample Image: _____

EXAMPLE IMAGES



Example client mood board that is part of the planning & programming stage

2 Schematic Design

The actual build.

A photograph of the home depicted in the previous page's schematic design drawings.



2 Schematic Design

The evolution of a schematic design:

1. A sketch from the Schematic Design phase
2. Hardline drawing from the Schematic Design phase
3. The completed structure



2 Schematic Design

SCHEMATIC DESIGN COST ESTIMATE with SD-4

LTS ARCHITECTURE, PLLC

SCHEMATIC DESIGN COST ESTIMATE with SD-4

DECKS	372
MAIN LEVEL	1,734
GARAGE	582
MAIN LEVEL TOTAL	2,316
UPPER LEVEL	928
FINISHED AREA	2,662
TOTAL AREA	3,616
PROJECT DURATION (MO)	12

DIV 1	GENERAL CONDITIONS								DESCRIPTION
A	ON SITE SUPERINTENDANT	1	lsum	@	\$25,000.00	ea		\$25,000.00	BILLED HOURLY
B	CONTRACTOR MILEAGE / TRAVEL TIME	1	lsum	@	\$25,000.00	ea		\$25,000.00	BILLED AS USED
C	PORTABLE TOILET	12	mos.	@	\$200.00	per month		\$2,400.00	
D	GRADALLS / BOBCAT	12	mos.	@	\$1,000.00	per month		\$12,000.00	BILLED DAILY AS USED
E	RENTAL EQUIPMENT	1	lsum	@	\$2,500.00	ea		\$2,500.00	USED AS NEEDED - TEMP HEATER, MAUNAL LIFT, SCAFFOLDING, ETC
F	DUMPSTER/TRASH REMOVAL	1	lsum	@	\$12,000.00	ea		\$12,000.00	
G	GENERAL CLEAN UP	3,616	sf	@	\$0.75	per SF		\$2,712.00	BILLED HOURLY
H	FUEL ALLOWANCE	12	lsum	@	\$300.00	per month		\$3,600.00	
I	SNOW REMOVAL ALLOWANCE	1	lsum	@	\$5,000.00	ea		\$5,000.00	BILLED HOURLY
J	FINAL CLEAN UP	3,616	sf	@	\$0.50	per SF		\$1,808.00	BILLED HOURLY
K	PERMITS AND FEES	0	lsum	@	\$0.00	ea		\$0.00	By Owner
L	BUILDERS RISK INSURANCE	0	lsum	@	\$0.00	ea		\$0.00	By Owner
M	WELL DRILLING AND PUMP	0	lsum	@	\$0.00	ea		\$0.00	By Owner
N	NEW ELECTRICAL SERVICE	0	lsum	@	\$0.00	ea		\$0.00	By Owner
O	PUNCHLIST	1	lsum	@	\$4,000.00	ea		\$4,000.00	MISC. AT THE END
								Division Total	\$96,020.00

DIV 2	SITE WORK								
A	SITE EVALUATION FOR SEPTIC	1	lsum	@	\$6,000.00	ea		\$6,000.00	
B	BUILDING EXCAVATION & BACKFILL	1	lsum	@	\$12,000.00	ea		\$12,000.00	Allowance
C	WASHED ROCK	1	lsum	@	\$3,000.00	ea		\$3,000.00	Allowance
D	DRAIN TILE SYSTEM	220	lin. Ft.	@	\$10.00	lin. Ft.		\$2,200.00	Allowance
E	SEPTIC SYSTEM ALLOWANCE	1	lsum	@	\$17,000.00	ea		\$17,000.00	PRESSURE SYSTEM - ESTIMATE FROM MIKE AT IMEG
F	UTILITY TRENCHING ALLOWANCE	1	lsum	@	\$6,000.00	ea		\$6,000.00	Allowance
G	BURIED PROPANE TANKS	0	# tanks	@	\$6,000.00	per tank		\$0.00	
H	DRIVEWAY ALLOWANCE	1	lsum	@	\$10,000.00	ea		\$10,000.00	
I	ROUGH GRADING	1	lsum	@	\$6,000.00	ea		\$6,000.00	
J	CLEARING & GRUBBING ALLOWANCE	1	lsum	@	\$2,000.00	ea		\$2,000.00	
K	LANDSCAPE	1	lsum	@	\$0.00	ea		\$0.00	By Owner
								Division Total	\$64,200.00

4

Construction Documents

The architect creates a detailed set of instructions that describes the finished product.

- structural, mechanical, and electrical engineering work is underway
- hardware, lighting, door, window, and finish schedules are being created

The Design Development and Construction Documents phases often blur together.

The architect is available during construction for Construction/Contract Administration on an as-needed basis.

STANDARD ABBREVIATIONS:

AB	ANCHOR BOLT	K.D.	KNOCKED DOWN
A/C	AIR CONDITIONING	K/S	K'S PER SQUARE INCH
A/D.A.	AMERICANS WITH DISABILITIES ACT	LPG	LIQUID PROPANE GAS
ADJ	ADJUSTABLE ADJACENT	MAG	MAGNETIC
ALT	ALTERNATE	MAS	MASONRY
ALUM	ALUMINUM	MAT	MATERIAL
APPROX	APPROXIMATE	MAX	MAXIMUM
ARCH	ARCHITECTURAL/ARCHITECT	MCH	MECHANICAL
#	AND	MFR/MFG	MANUFACTURER
#	AT	MIN	MINIMUM
BRKT	BRACKET	MISC	MISCELLANEOUS
BLDG	BUILDING	MR	MILLIMETER
BLOCK	BLOCKING	MR	MISURE RESISTANT
BLNG	BLOCKING	MTL	METAL
BM	BENCH MARK	N	NORTH
B.M.	BENCH MARK	N.C.	NOT IN CONTRACT
B.O.P.	BOTTOM OF FOOTING	NOM	NOMINAL
BSMT	BASEMENT	N.T.S.	NOT TO SCALE
BTR	BETTER	OC	ON CENTER
BU	BUILT UP	OD	OUTSIDE DIAMETER
CAB	CABINET	OH	OVERHEAD
CL	CASSET	OP	OPENING
C.L.	CONTROL/CONSTRUCTION JOINT	OPP	OPPOSITE
CLO	CLOSET	ORIG	ORIGINAL
CLR	CLEAR	#	#
C.M.	CONSTRUCTION MANAGER	FM	FLOOR OR MING
C.M.U.	CONCRETE MASONRY UNIT	PN	PENETRATION
CLD	CLAND	PL	PLATE
COL	COLUMN	PLAM	PLASTIC LAMINATE
CONC	CONCRETE	PART	PART
CONST	CONSTRUCTION	POLY	POLYURETHANE
CONT	CONTINUOUS	PP	PREFABRICATED
CONTR	CONTRACTOR	PS	POUNDS/SQUARE FOOT
COORD	COORDINATE	PVC	POLY VINYL CHLORIDE
COOR	COORDINATED	Q	QUARRY TILE
CPT	CARPET	R	RADIUS
CTR	CENTER	R.D.	ROOF DRAIN
C.W.	COLD WATER	REF	REFERENCE
D	DRAIN	REIN	REINFORCE/REINFORCING
D.B.	DOUBLE	REQ	REQUIRED
DET	DETAIL	RET	RETAINED
DIA	DIAMETER	REV	REVISION
DISP	DISPENSER/DISPOSAL	RND	ROUND
DN	DOWN	R.O.	ROUGH OPENING
D.P.	DAMP PROOFING	R	ROUND
DR	DOOR	S	SAND # POLYURETHANE
DWG	DRAWING	SV	STAIN & VARNISH
E	EAST	S.C.	SOLID CORE
EA	EACH	SCHED	SCHEDULE
EB	EXPANSION BOLT	SEC	SECTION
EP	EXTENSION INSULATION AND FINISH SYSTEM	S.F.	SQUARE FEET
EQ	EQUAL	SG	SHEATHING
EQIP	EQUIPMENT	SH	SH
EXT	EXISTING	SHS	SHEATHING
ELEC	ELECTRICAL/ELECTRIC	SHS	SHEATHING
ELEV	ELEVATION/ELEVATION	SHS	SHEATHING
EPDM	ETHYLENE PROPYLENE DIENE MONOMER	SHS	SHEATHING
EQ	EQUAL	SHS	SHEATHING
EQIP	EQUIPMENT	SHS	SHEATHING
EXT	EXISTING	SHS	SHEATHING
ELEC	ELECTRICAL/ELECTRIC	SHS	SHEATHING
ELEV	ELEVATION/ELEVATION	SHS	SHEATHING
EPDM	ETHYLENE PROPYLENE DIENE MONOMER	SHS	SHEATHING
F	FLAT	SHS	SHEATHING
F.D.	FLOOR DRAIN	SHS	SHEATHING
FDN	FOUNDATION	SHS	SHEATHING
FIN	FINISH	SHS	SHEATHING
FL/PLK	FLOOR	SHS	SHEATHING
F.O.B.	FACE OF BRICK OR BEAM	SHS	SHEATHING
FRMS	FRAMING	SHS	SHEATHING
FRP	FIBER REINFORCED PANEL	SHS	SHEATHING
FT	FEET/FOOT	SHS	SHEATHING
FTS	FOOTING	SHS	SHEATHING
FURK	FURRING	SHS	SHEATHING
G	GLOSS	SHS	SHEATHING
GALV	GALVANIZED	SHS	SHEATHING
GEN	GENERAL	SHS	SHEATHING
GL	GLASS	SHS	SHEATHING
G.P.S.M.	GYPSPUM WALLBOARD	SHS	SHEATHING
HD	HOSE END	SHS	SHEATHING
HDP	HANDICAPPED	SHS	SHEATHING
H.C.	HOLLOW CORE	SHS	SHEATHING
HDR	HARDWARE	SHS	SHEATHING
H.M.	HOLLOW METAL	SHS	SHEATHING
H.SHT	HESIT	SHS	SHEATHING
H.W.	HOT WATER	SHS	SHEATHING
I.D.	INSIDE DIAMETER	SHS	SHEATHING
INFO	INFORMATION	SHS	SHEATHING
INS	INSULATION	SHS	SHEATHING
INT	INTERIOR	SHS	SHEATHING
JAN	JANITOR	SHS	SHEATHING
JT	JANITOR	SHS	SHEATHING

BOTHY

LEGEND:

□	ROOM NUMBER	⊕	INTERIOR LEVEL / PAGE NUMBER
○	DOOR / OPENING NUMBER	⊕	EXTERIOR LEVEL / PAGE NUMBER
○	WINDOW / AREA TYPE	⊕	HALL SECTION / PAGE NUMBER
△	DEVELOPMENT NOTE	⊕	DETAIL NUMBER / PAGE NUMBER
◇	LANDSCAPE TYPE	⊕	SECTION NUMBER
◇	ACCESSORY TYPE	⊕	SECTION NUMBER
→	SLOPE DOWN	⊕	SECTION NUMBER

HATCHES

▨	BATH - IN SECTION	▨	FRAMING OR CONTRACE NOSE
▨	BRICK - IN SECTION	▨	ROOFING - IN SECTION
▨	CONCRETE - IN SECTION	▨	BATH REVISION - IN SECTION
▨	BRK - IN SECTION	▨	ALL OTHERS (SPEAK) / INSULATION - IN SECTION
▨	METAL - IN SECTION		
▨	TRIMMED FLOOR - IN SECTION		
▨	FINISH BOARD - IN SECTION		

PROJECT INFORMATION:

OWNER: [REDACTED]

ARCHITECT: LUCAS T. SCHAD, AIA
215 E. LEWIS ST. ROOM 102
LIVINGSTON, MT 59047
OFFICE: 406.333.0533

NOTES:

- * VERIFY ALL LOCAL CODES, ENERGY TYPES, AND SITE CONDITIONS PRIOR TO CONSTRUCTION.
- * SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- * REGULATE THE WATER HEATER WITH RIGID METAL PIPE OR APPROVED STRAPPING.
- * THE MINIMUM WIDTH OF A HALLWAY SHALL BE NOT LESS THAN 8'-0".
- * ALL GUARDRAILS TO BE 36" ABOVE FINISH SURFACE. INTERMEDIATE RAILS SHALL NOT ALLOW PASSAGE OF AN OBJECT 4" OR GREATER.
- * HALLWAYS MUST TERMINATE INTO A HALL OR NEEL PORT.
- * INSULATE ALL INTERIOR WALLS.
- * CONTRACTOR TO PROVIDE FLOOD BLOODGUM FOR ALL EXTERIOR ACCESSORIES, HAND RAILS, PANELS, AND CHAIRPOSS, INSTALLATION.
- * WINDOW OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING FOR EMERGENCY ESCAPE AND RESCUE OF 5.7 SQ. FT. (MIN. CLEAR HEIGHT OF 24" MIN. CLEAR WIDTH OF 20").
- * S.C. TO DETERMINE PROPER SPANS AND SIZES FOR EACH DOOR PRIOR TO ORDERING. DOOR SIZES ARE GIVEN AS A GUIDE. ACTUAL ROUGH OPENINGS MUST BE DETERMINED IN RESPECT TO MANUFACTURER OF CHOICE. DIMENSIONS ARE SHOWN TO CENTER LINE OF ROUGH OPENING. ADJUSTMENTS BY CONTRACTOR DURING CONSTRUCTION MAY BE NECESSARY FOR HOLD DOWN ALIGNMENT. S.C. TO VERIFY HALLOW PRODUCE ASSEMBLES, OPERATOR, AND BRIG PATTERNS FROM 1/4" TEMPERED.
- * UNAUTHORIZED USE OF THESE DRAWINGS IS PROHIBITED. AUTHORIZED USE OF THESE DRAWINGS IS FOR THE CONVENIENCE OF THE USER. HELP VERIFY ALL CONDITIONS AND DIMENSIONS.

SHEET INDEX:

NAME	SHEET DESCRIPTION
G-1	COVER SHEET
G-1	SITE PLAN
A1.1	FLOOR PLAN
A2.1	ELEVATIONS
B1.1	FOUNDATION & ROOF FRAMING PLANS

FILE: ADM-B - GDWG

REVIEW/BID SET ONLY: NOT FOR CONSTRUCTION OR PERMITTING

LTS Architecture
LTS Architecture
215 East Lewis, Room 102
Livingston, MT 59047
(406) 333-0533
lucas@LTSAA.com

PRINT DATE: JULY 2019 2024

BOTHY
COVER SHEET

G-1

Construction documents typically include a cover sheet, a site plan, floor plans, elevations, and foundation and roof framing plans. These documents detail how the structure should be built.

Construction Documents

Sheet S1.1:

- 1 FLOOR PLAN** SCALE: 1/4" = 1'-0"
- 2 INT. TRIM DETAIL** SCALE: 3/4" = 1'-0"
- 3 BREAK WALL SCHEDULE**
- 4 DOOR SCHEDULE**
- 5 ELECTRICAL NOTES**
- 6 ELECTRICAL LEGEND**
- 7 ADWCAD SWX Text**
- 8 REVIEW/BID SET ONLY: NOT FOR CONSTRUCTION OR PERMITTING**
- 9 chitecture**
- 10 LTS Architecture**
- 11 AIA**
- 12 BIG TIMBER, MONTANA**

Sheet A2.1:

- 1 FOUNDATION PLAN** SCALE: 1/4" = 1'-0"
- 2 TYP. INT. BRNG. WALL** SCALE: 3/4" = 1'-0"
- 3 CONTROL JOINT DETAIL** SCALE: 3/4" = 1'-0"
- 4 ROOF PLAN** SCALE: 1/4" = 1'-0"
- 5 TYP. TOP PLATE SPLICE** SCALE: 3/4" = 1'-0"
- 6 TYP. HEADER DETAIL** SCALE: 3/4" = 1'-0"
- 7 TYP. SHEATHING LAYOUT** SCALE: 3/4" = 1'-0"
- 8 GABLE END TRUSS DETAIL** SCALE: 3/4" = 1'-0"
- 9 NON-STRUCTURAL KNEE BRACE** SCALE: 3/4" = 1'-0"
- 10 ENTRY KNEE BRACE DETAIL** SCALE: 3/4" = 1'-0"
- 11 PLUMB CUT EAVE DETAIL** SCALE: 3/4" = 1'-0"
- 12 PLUMBING FIXTURE SC**
- 13 FOUNDATION & ROOF FRAMING PLANS**
- 14 REVIEW/BID SET ONLY: NOT FOR CONSTRUCTION OR PERMITTING**
- 15 chitecture**
- 16 LTS Architecture**
- 17 AIA**
- 18 BIG TIMBER, MONTANA**

Sheet C-1:

- 1 BUILDING ELEVATION** SCALE: 1/4" = 1'-0"
- 2 BUILDING ELEVATION** SCALE: 1/4" = 1'-0"
- 3 BUILDING ELEVATION** SCALE: 1/4" = 1'-0"
- 4 BUILDING ELEVATION** SCALE: 1/4" = 1'-0"
- 5 BUILDING SECTION** SCALE: 1/4" = 1'-0"
- 6 BUILDING SECTION** SCALE: 1/4" = 1'-0"
- 7 BUILDING SECTION** SCALE: 1/4" = 1'-0"
- 8 EXT. TRIM DETAIL** SCALE: 3/4" = 1'-0"
- 9 WALL SECTION** SCALE: 1" = 1'-0"
- 10 POND SCHEDULE**
- 11 SITE INFORMATION**
- 12 LEGEND**
- 13 SITE PLAN** SCALE: 1" = 15'-0"
- 14 REVIEW/BID SET ONLY: NOT FOR CONSTRUCTION OR PERMITTING**
- 15 chitecture**
- 16 LTS Architecture**
- 17 AIA**
- 18 BIG TIMBER, MONTANA**

4

Construction Documents

APPLICATION AND CERTIFICATION FOR PAYMENT

TO OWNER: [REDACTED] APPLICATION NO: 49.0
 [REDACTED] PERIOD FROM: 11/6/2020
 [REDACTED] PERIOD TO: 11/20/2020
 CONTRACT FOR: CONSTRUCTION CONTRACT DATE: 6/1/2018

LTS Architecture
 Distribution to:
 OWNER
 ARCHITECT
 CONTRACTOR

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

1. ORIGINAL CONTRACT SUM	\$ 1,202,535.99
2. Net change by Change Orders	\$ 291,275.37
3. CONTRACT SUM TO DATE (Line 1 + 2)	\$ 1,438,811.36
4. TOTAL COMPLETED & STORED TO DATE (Column G on Continuation Sheet)	\$ 1,321,190.90
5. RETAINAGE:	\$ 0.00
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total)	\$ 1,321,190.90
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)	\$ 1,313,719.19
8. CURRENT PAYMENT DUE	\$ 7,471.72
9. BALANCE TO FINISH (Line 3 less Line 6)	\$ 117,620.46

CONTRACTOR: [REDACTED]
 By: _____

ARCHITECT: [REDACTED]
 In accordance with the quality of the work performed, the Architect certifies that the quality of the work is entitled to the amount shown above.
 Attach as Appendix A to this Certificate.
 By: _____
 This Certificate is not valid unless countersigned by the Contractor.

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Total changes approved in previous apps by Owner		\$16,891.88	
Total approved this app		\$0.00	
TOTALS		\$16,891.88	\$0.00
NET CHANGES by Change Order			

BUDGET ANALYSIS

APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certificate is attached.

A	Description	
Division 01: General Conditions		
01a	Site Superintendent	
01b	Contractor Mileage/Travel	
01c	Portable Toilet	
01d	Gradalls	
01e	Dumpster/Trash Removal	
01f	Rental Equipment	
01g	General Clean-up / Final Clean up	
01h	Site Utilities / Fuel	
01i	Snow Removal	
01j	Punchlist	
Division Total		

Division	Description	Budget	Actual	Change	Remaining	%	Balance
Division 02: Site Work							
02a	Excavation (Phase I)	\$9,520.00	\$9,520.00	\$0.00	\$0.00	100%	\$0.00
02b	Backfill & Final Grading (Phase II)	\$3,000.00	\$2,500.00	\$2,500.00	\$0.00	100%	\$0.00
02c	Washed Rock (Phase II)	\$4,000.00	\$3,123.40	\$3,123.40	\$0.00	100%	\$0.00
02d	Drain Tile System (Phase II)	\$1,500.00	\$1,300.00	\$1,300.00	\$0.00	100%	\$0.00
02e	Septic System (Phase II)	\$8,500.00	\$6,500.00	\$6,500.00	\$0.00	100%	\$0.00
02f	Utility Trenching Allowance (Electrical and Water) (Phase II)	\$2,500.00	\$2,900.00	\$2,900.00	\$0.00	100%	\$0.00
02g	Buried Propane Tanks (Phase II)	\$9,000.00	\$8,500.00	\$8,500.00	\$0.00	100%	\$0.00
02h	Equipment Mobilization	\$1,500.00	\$520.00	\$520.00	\$0.00	100%	\$0.00
02i	Misc. Site work	\$2,000.00	\$2,000.00	\$1,937.46	\$0.00	97%	\$62.54
02j	Clearing and Grubbing (Phase I)	\$2,500.00	\$2,500.00	\$2,500.00	\$0.00	100%	\$0.00
02k	Driveway work - Allowance (Phase I)	\$6,800.00	\$6,800.00	\$6,800.00	\$0.00	100%	\$0.00
02l	Landscape Allowance	\$5,000.00	\$0.00	\$0.00	\$0.00	0%	\$5,000.00
02m	Connect water Line Allowance	\$2,500.00	\$0.00	\$0.00	\$0.00	0%	\$2,500.00
02n	Future water Line conduit (Phase I)	\$2,600.00	\$2,600.00	\$2,600.00	\$0.00	100%	\$0.00
02o	Best Management Practices (Phase I)	\$2,500.00	\$200.00	\$200.00	\$0.00	0%	\$2,300.00
Division Total		\$63,420.00	\$48,963.40	\$48,700.86	\$0.00	99%	\$262.54

CONTINUATION SHEET

APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certificate is attached.

A Description	B Scheduled Values	C Revised Values	D Work Completed		F Materials Presently Stored	G Total Completed and Stored to Date	H % (G + C)	I Balance to Finish (C - G)
			From Previous Application (D + E)	This Period				
Division 01: General Conditions	\$94,267.75	\$108,483.24	\$98,710.69	\$281.10	\$0.00	\$98,991.79	91%	\$9,491.45
Division 02: Site Work	\$63,420.00	\$48,963.40	\$48,700.86	\$0.00	\$0.00	\$48,700.86	99%	\$262.54
Division 03: Concrete	\$83,125.00	\$126,890.20	\$126,890.20	\$0.00	\$0.00	\$126,890.20	100%	\$0.00
Division 04: Masonry	\$41,200.00	\$41,200.00	\$41,200.00	\$0.00	\$0.00	\$41,200.00	100%	\$0.00
Division 05: Metals	\$10,375.00	\$7,068.47	\$6,568.47	\$0.00	\$0.00	\$6,568.47	93%	\$500.00
Division 06.1: Rough Carpentry	\$126,810.00	\$149,598.49	\$149,598.49	\$0.00	\$0.00	\$149,598.49	100%	\$0.00
Division 06.2: Finish Carpentry	\$58,277.00	\$48,377.00	\$32,854.82	\$2,770.00	\$0.00	\$35,624.82	74%	\$12,752.18
Division 07: Thermal & Moisture	\$114,242.40	\$119,661.99	\$119,661.99	\$0.00	\$0.00	\$119,661.99	100%	\$0.00
Division 08: Doors and Windows	\$66,147.60	\$67,174.47	\$62,334.14	-\$336.12	\$0.00	\$61,998.02	92%	\$5,176.45
Division 09: Finishes	\$126,859.65	\$123,756.59	\$119,590.60	\$19.99	\$0.00	\$119,610.59	97%	\$4,146.00
Division 10: Specialties	\$8,660.00	\$7,460.00	\$2,795.00	\$1,805.00	\$0.00	\$4,600.00	62%	\$2,860.00
Division 11: Equipment	\$22,550.00	\$22,550.00	\$22,190.17	\$0.00	\$0.00	\$22,190.17	98%	\$359.83
Division 12: Cabinetry	\$46,730.00	\$50,630.00	\$42,189.62	\$0.00	\$0.00	\$42,189.62	83%	\$8,440.38
Division 15.1: Mechanical	\$49,767.00	\$43,530.50	\$40,963.00	\$67.50	\$0.00	\$41,030.50	94%	\$2,500.00
Division 15.2: Plumbing	\$29,900.00	\$32,023.50	\$32,023.50	\$0.00	\$0.00	\$32,023.50	100%	\$0.00
Division 16.1: Electrical	\$51,500.00	\$41,500.00	\$30,825.35	\$0.00	\$0.00	\$30,825.35	74%	\$10,674.65
Division 53: Adds to Contract	\$0.00	\$264,795.79	\$217,193.27	\$2,185.00	\$0.00	\$219,378.27	83%	\$45,417.52
Construction Sub Total		\$993,831.40	\$1,303,663.64	\$1,194,290.17	\$6,792.47	\$1,201,082.64	92%	\$102,581.00
Contingency @ 10%		\$99,383.14	\$54,346.69	Contingency Used	\$45,036.45	Percentage Used	45%	\$54,346.69
Construction Management Fee @ 10%		\$109,321.45	\$135,801.03	\$119,429.02	\$679.25	\$120,108.26		\$15,692.77
Totals		\$1,202,535.99	\$1,493,811.36	\$1,313,719.19		\$1,321,190.90		\$172,620.46

Total Work Completed This Period: \$7,471.72

5

Construction

The work triangle consists of three factors: time, cost, and quality.

When you change one of those factors, it is likely to influence the other factors.

For example, when you need a project built faster than anticipated there are two potential outcomes:

- a decrease in quality as a set number of workers try to complete the same amount of work over a shorter period.
- an increase in costs as more workers are hired to complete high-quality work within a shorter period.

One way to keep track of the work triangle is to request regular reports from contractors.

The Construction Triangle

Completed Rapidly

High Quality

Low Cost

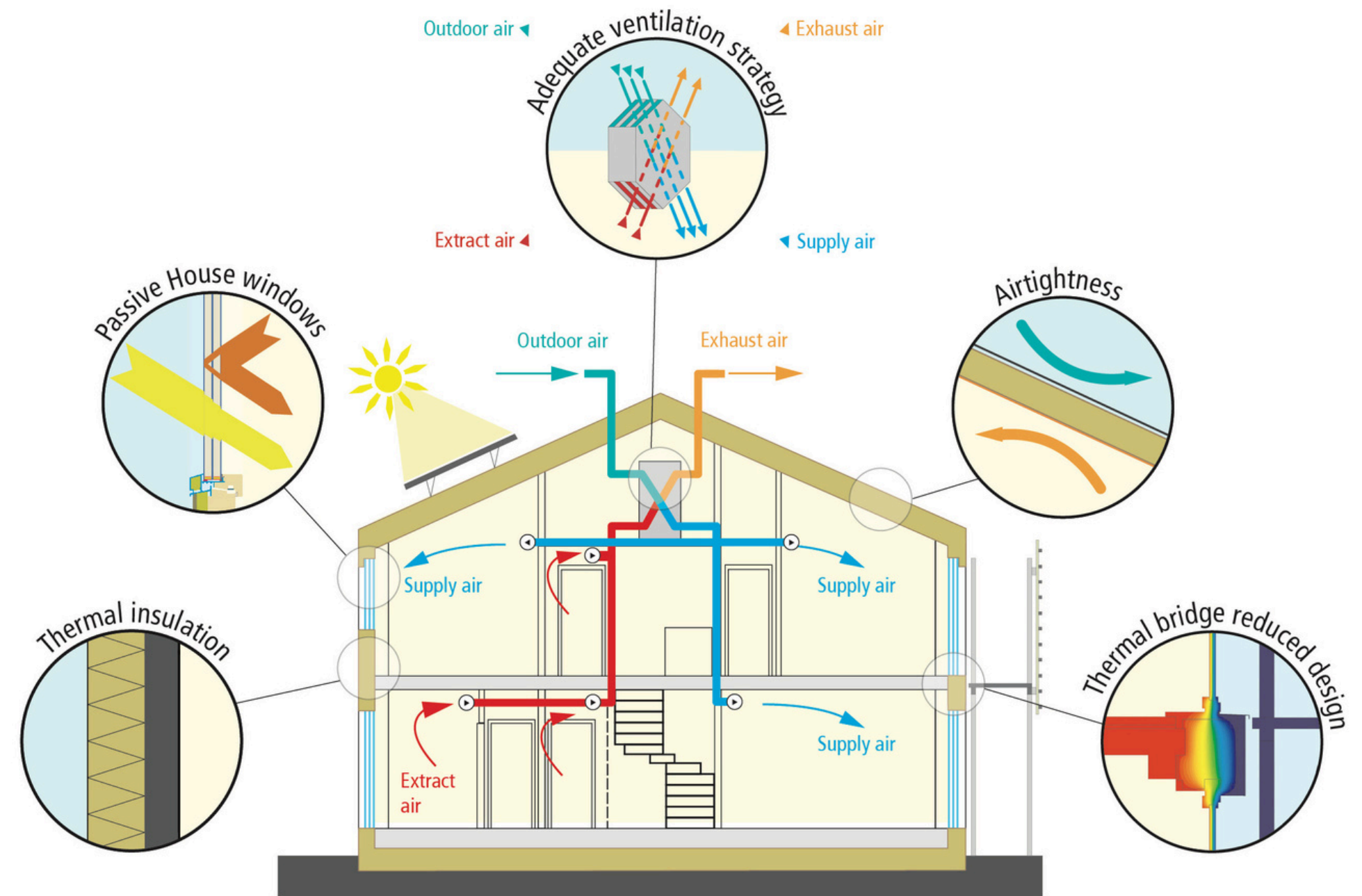
You can't have all three at once.

Note About Passive House

Another example of how design flows into construction is the Passive House design and construction standard, which can reduce a home's energy use by up to 80-90%. Passive House principles are often integrated in these stages:

- **Site Planning.** Consideration of solar gain and window placement
- **Design Development.** Energy modeling is often conducted during this phase to help create an airtight building envelope without moisture issues.
- **Construction Documents.** Specifies high-performing windows and details to reduce thermal bridges, ensure adequate ventilation, and achieve a tight envelope.

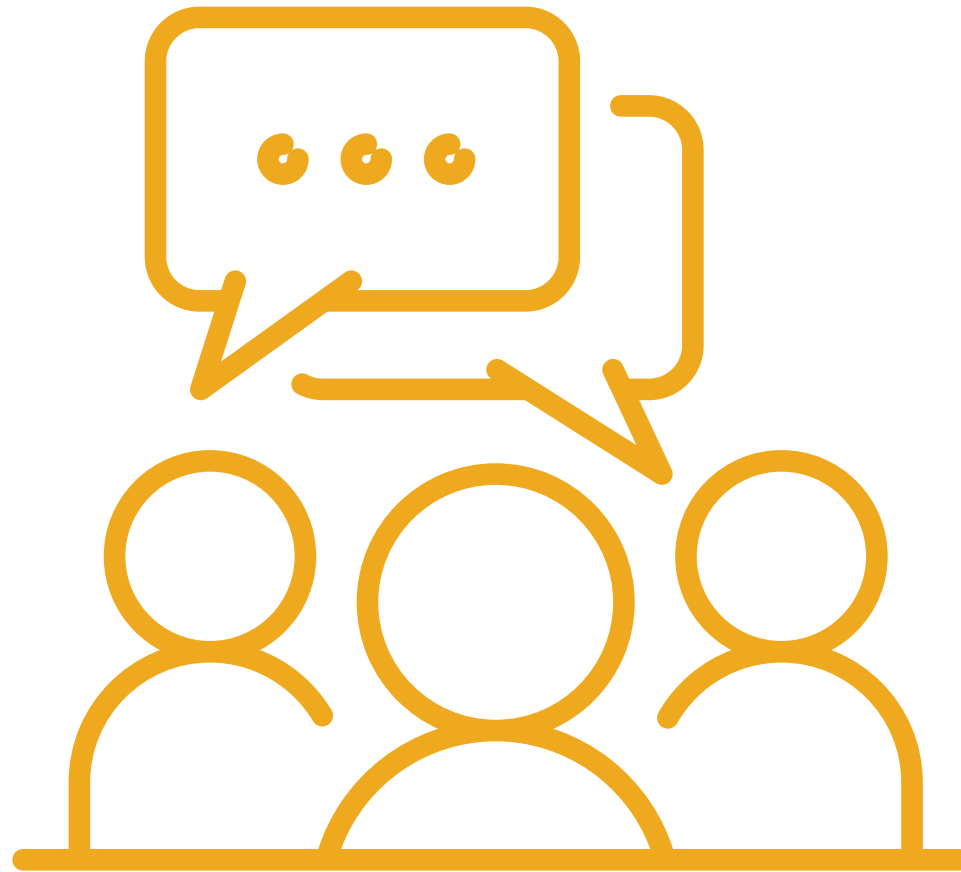
Construction. Contractors execute wall assemblies, air sealing, ventilation, and other unique aspects of a Passive House build.



You can search for and hire professionals certified and/or trained in Passive House principles online at the Passive House member directory:

<https://passivehousenetwork.org/directory-directory/>.

Discussion / Q & A



10-Minute Break



ADU Management

Special thanks to Baily Goodwine, Owner of Maverick Realty, and Michelle Becker for the content in this section.

Short-Term vs. Long-Term Rental

Whether you rent your property short- or long-term depends on your needs for the space!

Do you need your space to be flexible (e.g., available on short notice for stays by family and friends)?

- Renting your property short-term or to visitors (as a vacation rental) might be more appropriate.



Do you need your space to give you consistent income generation (e.g., to support your retirement)?

- Renting your property long-term as a place for someone to live might be more appropriate.



Vacation Rental Considerations



Benefits of vacation/short-term rentals:

- Space can be available when you want to host family and friends.
- Because of more frequent guest turnover and cleanings, you are in the space more often and can evaluate its condition.
- Potential for high return on investment over a short period of time, depending upon market.
- Participate in the community's hospitality industry.
- Many major vacation rental platforms carry insurance to cover property damage from guests.

Challenges of vacation/short-term rentals:

- They do not contribute to community's housing supply.
- The market for vacation rentals is currently saturated in Livingston. There are an estimated 4,000 Air BnBs in the Yellowstone Park area. Six of Michelle Becker's clients have recently converted their properties back to long-term rentals because they weren't getting bookings.
- If you plan to build your ADU with the intent of using it as a vacation rental, consider how you will attract visitors via:
 - Style
 - Amenities
 - Price
- It's currently very difficult and expensive to hire cleaners.
- If you manage your own vacation rental, the demands are 24-7 and your guests will dictate your schedule.
- The terms of your loan might prohibit vacation rentals.

Long-Term Rental Considerations



Benefits of long-term rentals:

- They contribute to the community's supply of housing.
- Source of reliable income.
- Can require inhabitants to carry renter's insurance.
- Lower turnover

Challenges/Drawbacks of long-term rentals:

- Less flexibility to host family and friends, as someone will be living in the space for the term of the lease.
- Fewer opportunities to inspect the building than vacation rentals, due to less frequent tenant turnover.
- Potentially lower financial returns, depending upon the market.

Management Comparison

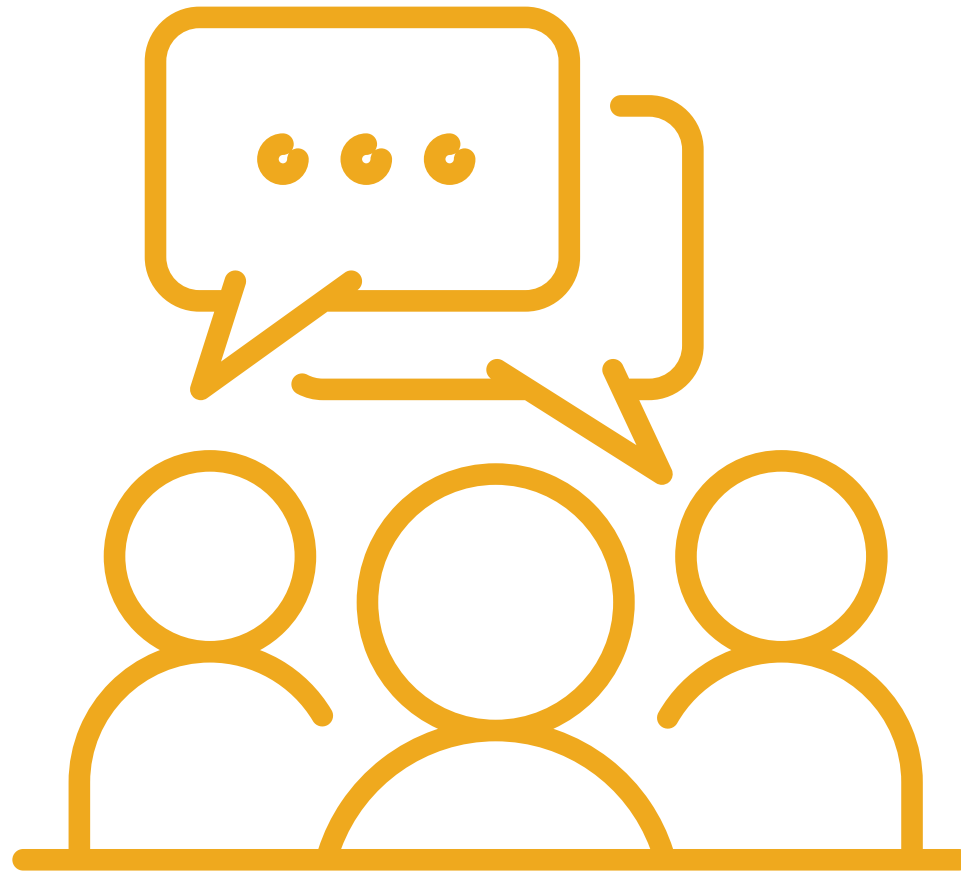
Short-Term Rental Management

- Property management fees in Livingston range 25-30%
 - manage listings
 - schedule cleaning and repairs
 - handle all communications with guests

Long-Term Rental Management

- Property management fees in Livingston range 5-10%
 - screening tenants (e.g., background and credit checks)
 - standardized rental application, lease, lead-based paint and mold disclosures, property condition report
 - handle all communications with tenants
 - provides owner/s monthly reports and income
 - can schedule repairs

Discussion / Q & A





Discussion: How Can PCHC Help?

Instructions: 1-2-4 All

- **1 minute:** By yourself, jot down ideas for how we can help.
 - **2 minutes:** With a partner, build on ideas from self-reflection.
 - **4 minutes:** In a group of 4, share and develop ideas from your pair.
 - **5 minutes:** What is one idea that stood out from your conversation?
- **Types of Assistance:**
 - **Funding?**
 - Grant program? If so, how much?
 - Loan program? If so, how much? For how long?
 - **Pre-Approved Architectural Plans?**
 - **Finding and screening renters?**
 - **Keeping homeowners who build ADUs connected?**
 - **What should the Coalition require of property owners who participate in our ADU program?**
 - Rental requirements (e.g., max household income, work requirements, etc.)?
 - Deed restriction on your property?
 - Membership fees?
 - How long should those requirements last?



Quick Survey

- **Did we meet our session goals?**
- **Should we offer this workshop again?**
- **Any stories you would like to share that I can pass along to the Coalition's funders?**

Link to the online survey:

<https://forms.gle/L7GbCcyEc93Uonyh8>

Want to stay informed about the Coalition's work?



Join the coalition and subscribe to our email list at www.parkcountyhousing.com



Contact us:

- **Katherine Daly, Park County Housing Coalition,** kdaly@thehrdc.org
- **Lucas Schad,** lucas@ltsaia.com
- **Baily Goodwine,** baily@maverickbrokers.com