

# Running a 👨👩 Household, including Maintaining, Buying or Selling a 🏠 House or Condo



Copyright © 2014-2024 by [Eric Piehl and Martha MacCleery](#). This work is made available under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License, <http://creativecommons.org/licenses/by-nc-sa/3.0/>."

While helping 👨👩 family, friends and 👨👩 colleagues on various projects, we have learned some things. In an attempt to keep these processes repeatable, *and keep myself organized*, I 🗂️ record and maintain some helps on this subject. This file is what we know about buying and maintaining a house or condo. For date this file last updated, please see page footer. For information on 🌲 green or `</>` programming subjects, please see a list of [this document's sister docs](#).

**NEW** since 2024-03-06. **TODO.**

## Contents

Running a 👨👩 Household, including Maintaining, Buying or Selling a 🏠 House or Condo .....	1
1 Buying a house or condo .....	2
1.1 Finding your new home .....	2
1.2 Mortgage part 1: getting it .....	2
1.3 HomeOwners Association (HOA) .....	4
1.4 Utilities .....	4
1.5 Appraisal .....	5
1.6 Down payment .....	6
1.7 Offer .....	6
2 Selling your house or condo .....	7
3 Maintaining your house or condo (or apartment) .....	8
3.1 Running your own escrow account (sinking fund) (capital budget) .....	8
3.2 Emergency Cash Reserve .....	8
3.3 HVAC (heating, ventilation, and air-conditioning; and heat pump) .....	9
3.4 Water heater .....	9
3.5 Smoke alarms .....	9
3.6 Sump pump .....	10
3.7 Septic system .....	10
3.8 Driveway or sidewalk .....	11
3.9 Sealing outdoor things .....	11
3.10 Roofing repairs or replacement (roof-over or take-off) .....	11
3.11 Brick exterior .....	12
3.12 Other mechanical things .....	12
3.13 Mortgage part 2: Paying Ahead .....	12

# 1 Buying a house or condo

## Congratulations on wanting to buy a house or condo!

Scary, but many people have done this before. Following are some of our thoughts ...

### 1.1 Finding your new home

You are probably going to buy your new home:

- direct from a private party, if you directly know the seller, or
- through a Real Estate Agent, who will charge the seller 6 or 7 or 8% (varies locally--ask a local agent).

Finding your house or condo will involve many things:

- **location** (**school district**, distance to work or play, busy streets, noise, etc.),
- size (square footage),
- condition,
- intangibles.

Heuristic: *If you aren't going to stay at least 5 years, rent, don't buy.*

- However, this heuristic assumes lots of stuff that might not be true in your case. But think it over.
- If this interests you, please see these [thoughts by Salman Khan on buying versus renting](#).
- If you are still going to buy, please continue ...

In the us USA, research through:

- House, neighborhood, tax, water bill info (has been 3-18+ months stale): [municipal data via BS&A](#) > **Address=address** > **Search**.
- *House, neighborhood, school, tax info:* [Zillow](#) > **Address=address**.
- *Outdated and wrong information, but occasionally useful:* [Real Estate Navigator](#).
- Other tools you might find at [www.icanseenature.com/invasives.html#api](#).

Keep your eyes out for anything you might learn later during your [home inspection](#).

If in the snowbelt (you get more than 1m [40 in] of snow a year):

- Look for driveway facing **South**. Second choice: **West**.  
Snow remaining after shoveling will melt **much** faster, and be more likely to drain or evaporate before it can refreeze into ice.  
Try **not** to get a driveway facing **East**, nor **North**.
- Look for a house with a driveway midblock, or **before** (up-traffic from) an intersection.  
Try **not** to get a house with a driveway down-traffic from an intersection. Snowplows drag **tons** of snow (often over knee-high!) across the base of our driveway — sometimes after my driveway is clear and dry! And causing me to run out and shovel it before it freezes into hockey boards. ☺

### 1.2 Mortgage part 1: getting it

If you are live in the **developing world**, you probably have to buy your land and build your house for **cash**.

Otherwise, you will probably take out a mortgage, paying it back over time. In this case:

- When househunting, before you get serious about a property, try to get a **pre-approved mortgage**:
  - Maybe contact 3 providers.
  - Do not use **Rock Financial** nor **Quicken Loans**. Screwed up my 1997 mortgage.
  - Last time we refinanced, our **local Credit Union** and our **local 6-branch bank** each came in with an interest rate almost 1% under our local regional bank, LendingTree.com, and a national entity. We went with our **local 6-branch bank**, and were very happy with them.
- Ways for the mortgage company to **steal money** from you include (but are not limited to):
  - **PMI insurance**. "Insurance" that **you have to pay for**, but **cannot ever benefit you**. Pays the mortgage holder if you default on your loan. But they get you to pay for it, if you have a down payment under 20%. Is very difficult to get ahead, if you have to pay PMI. Try to not pay this; best method is to have 20% down.

- **Points.** For every *point*, the mortgage holder charges you **1% of the price of your house or condo**. Why? You are already strapped, trying to come up with a down payment. And they want to take this away from you? Yes.
- **Garbage fees.** Nothing really you can do about this.

**Anne's law:** "*Borrow as much as you can, for as long as you can*"

- These days, a mortgage is the **cheapest way to borrow**. It probably has a **lower interest rate** than your credit cards, car loans, student loans, etc. So if you have a balance on your credit cards, or car loan or student loan, then down payment- and PMI-permitting, it might be nice to borrow enough to pay off these other loans.
- Try to get a **30-year fixed**-rate mortgage, even if you plan to stay only a few years.
- A **15-year fixed**-rate mortgage might be OK. Get a quote for this, too.
  - If there is only a ¼% premium for the 30-year-fixed, get it. Little cost, lots of future flexibility. For example: For the first two years, you can make minimum payments on the 30-year loan until you get caught up with immediate repairs, moving costs, furniture you had to buy, and bumping up your **Emergency Cash Reserve**. Then start bumping in a little extra in each payment, paying in *as if* you had a 15-year loan. If you can keep this up, you probably turned a 30-year loan in a 17-year. Then if you suffer a short bout of disability or layoff, you can push your payments back down to the minimum again, until you are back fully on your feet. OK, you now have a 19-year-loan.
- If you get a **7-year balloon** mortgage with a **floating teaser interest rate**, you can end up in **trouble**:
  - When the teaser rate goes up to (or above!) the **market interest rate**. Read the fine print!
  - When the balloon occurs, and you need to **refinance** in a hurry. Might be tough if we are in another recession, or one of you is unemployed or disabled, or ... What are you going to do then?
- Try to minimize the **points**. Actually, a **tradeoff** of *points* versus *interest rate*, combined with *how long you think you might own the house or condo*. Ask us if you want me to recreate how to do that tradeoff. **Or ask GJ. tbd**
- But the **details matter**. We refinanced to a 15-year or 20-year fixed-rate once, I think, when we owned most of it, had cash in other instruments, and were given a real discount (½%?), or maybe fewer *points*, or something that made this a good deal.

For your particular **pre-approved mortgages**:

- Did they **approve** you for a mortgage **large enough** to cover the **price** above?
- Does it meet **Anne's law above**?
- What **down payment** do they require?
- Is that sufficient to avoid you having to pay **PMI insurance**? (One way for the mortgage company to **steal money from you**.)
- What is the **interest rate**?
- Did you minimize **points**, or do a tradeoff analysis versus the **interest rate**? If not, call us **or GJ. tbd**
- What is the **monthly payment**?  
Can you **handle** that payment, without strapping yourself financially for the month? Heuristic: It is best to buy a house or condo only ¾ as expensive as the mortgage company would let you have. Or payments < 35% (something like this) of your take-home pay. We might look this up. **Not stretching yourself** makes it a lot easier to handle future **layoffs, disability, school or other difficulties**.
- Do they require **escrow** of (A) **property taxes** and (B) **fire/liability house or condo insurance**?
  - Uh, oh, the word *escrow* is overloaded.
    - The **other escrow** is where some human takes *your* money and the *seller's* title, collects them all themselves, then parcels them back out again.
    - **This escrow** is where your mortgage company bumps up your mortgage payment by 1/12 of your yearly taxes and insurance, plus prefills this escrow account with a bunch of money sucked in from your house or condo Closing settlement, money that could otherwise be part of your down payment.
  - **"No"** is the right answer for you. You can pay your taxes and insurance **yourself**, **running your own escrow**, giving yourself much more flexibility.
  - **"Yes"** is what they probably will say, especially if you pay **PMI Insurance**.  
Most will just **sign you up**, unless you **complain a lot**. Do that--their escrow policies benefit them, not you--they hold your cash (which you need for paint and carpets), for long periods, without paying you interest.  
If you can **talk them out of requiring this escrow, do that**.

• **Thoughts of Salman Khan on mortgages.**

### 1.3 HomeOwners Association (HOA)

If you are buying a condo, you are also buying into a HOA.

If you are buying a house, find out if they have a HOA (if the development has a sign, there is a good chance that they do).

If **Yes**...

- Try **not** to join a HOA of fewer than **eight units**. **My middle sister** says personalities and circumstances can cause real problems if there are only 2 ... 7 other families in the HOA.
- Please get a copy of the house or condo's HOA's:
- **CC&Rs** (Covenants, Conditions and Restrictions) (rules).
  - Says stuff like, "*You can't paint your door avocado color.*"
  - Please skim, and see if there is anything you can't live with.
- **Financials**. As someone who ran for a HOA Board of Directors, found the budgets totally cactus, and fixed them, **I would like to examine these financials**. This might include:
  - A recent **operating budget**. It might list (A) budget for last year, (B) actuals for last year, (C) budget for this year, and (D) actuals for this year so far.
  - A recent **capital budget**.
    - If it does **not** exist, they probably do every other-than-annual expense by **special assessment**. According to **my middle sister**, this works, too, but you have to know that every time the HOA needs a **roof** or utilities fix or something, you will be getting a bill for your share of that. So you need to keep your own capital fund for things like this.
    - If it does exist, the capital budget probably has a long list of physical assets like: "*Pool.....lifetime 25 years.....cost \$200,000.....needs replacing in 2022.*" Plus some totals, plus how much cash is on hand to handle all this stuff. Plus (you hope), some formulas on how much they should be putting away from the operating budget. You might, **and I do**, want to examine this, to see if (A) the plan is any good, (B) they are meeting this plan, and (C) they are filling it adequately from the operating budget above.

### 1.4 Utilities

If you are buying a house, and you don't want

Our **roads** are supposed to be 30' wide, or 15' each side of the centerline.

- For **your** roads, check with your local road commission, community, or their websites.

The **right-of-way** for our streets are 33' from the centerline, making the new watermain 7' within that.

- For **your** roads, check with your local road commission, community, or their websites.

Our **watermains** are supposed to be **6' down** from the surface, **19'** from the centerline of the road (or **4'** off the road edge), on the **north** side of E-W streets, or on the **west** side of N-S streets.

- To **verify** on your street:
  - Check with your local utility, community, or their websites.
  - Look for **fire hydrants** -- they will be on the side of the street **with** the watermain. Apparently, 100% diagnostic. Maybe two fire hydrants on a short block, or three on a long block.
  - Look for blue **Miss Dig flags** (in photographs, or in your yard if construction is soon).
    - ◆ *In Michigan*, Miss Dig can be accessed via [Miss Dig website](#) or ☎ **811**.
    - ◆ Blue flags indicate water. For this purpose, ignore flags for **individual service lines** ...
- Each house hooks up to this watermain via an underground **service line**, which also goes through a **shutoff valve** in the middle of your driveway or lawn. Thus, about half of these service lines run under the street to get to the main on the other side of the road.
  - After your service line enters your house, it goes through **another shutoff valve** and a **water meter**.
  - Check your service line where enters your **water meter**. If it is:
    - ◆ **Lead** is terrible — get it replaced now, before your family is further injured.
    - ◆ **Blue rubber** is terrible — get it replaced now, before it explodes and floods your basement.

- ◆ **Copper** is best — celebrate your good fortune.
- Our **old** watermains were built of **cast iron**, and break a lot [like it were ceramic] when the ground moves, sometimes in the deep of winter [like across our cul-de-sac road a few winters ago, causing lots of money for emergency repairs -- emergency timing, big crews, digging a big hole in the ground, often during terrible weather, hoping to fix it.] So my water provider has contracted to put in **new** watermains built of **ductile iron** [bends some before it breaks, which should be more resilient to ground movement and temperature changes.] The **new** watermains are supposed to be 26' off the centerline of the road (or 11' off the road edge), or 7' house-ward from the old watermain. As with the old watermains, also 6' down from the surface.
- To put in the **new** watermain, our township is planning to dig a trench, probably 7' deep (a foot deeper than the top of the pipe), maybe 3' wide at the bottom (a human will have to do the connections down there), maybe 6' wide at the top (can't make them vertical — we have sand, and you don't want workers buried if the ground slumps).
- The contractor will start work **away** from main entrances [out in the cul-de-sacs?], working **toward** the main entrances, so as they repair the roads, they have no further reason to run heavy trucks down those roads.
- When both watermains are in place, full of water, a contractor will:
  - swap over each house to the new main, presumably taking over that house's copper service line, street-ward from our existing water shutoff valves in our front yards.
- After everyone's service lines are swapped over to the new watermains and functioning, the contractor will:
  - disconnect the old watermain from its water source.
  - leave it in place in the ground, and
  - fill it with grout.

All **other** utilities -- **natural gas**, and if underground, **electricity** -- are supposed to be on the side of the street **other** than the **watermain**. That would be the **opposite** of the above: on the **south** side of E-W streets, or on the **east** side of N-S streets.

- Not always true. Five of eight blocks around my house violate this rule, putting the electricity on the same side of the street as the water.
- To **verify** on your street:
  - Check with your local utility, community, or their websites.
  - Look for **electrical transformer boxes** - they will be side of the street **with** the electrical main. Apparently, 100% diagnostic. Up to 8 homes connect to each electrical transformer box. Seems to always be the closest box.
  - Look for **yellow** and **red Miss Dig flags** (in photographs, or in your yard if construction is soon).
    - ◆ **Yellow** flags indicate **natural gas**.
    - ◆ **Red** flags indicate **electricity**.
    - ◆ In Michigan, Miss Dig can be accessed via [Miss Dig website](#) or ☎ **811**.
    - ◆ For this purpose, ignore flags for **individual service lines** ...
- Each house hooks up to its **gasmain** via an underground **service line**. About half of these service lines run under the street to get to the main on the other side of the road.
  - Before the gas service line enters your house, it goes through a **shutoff valve** at the **gas meter**.
- Each house hooks up to its **electrical main** via an above- or underground **service line**. If underground, about half of these service lines run under the street to get to the main on the other side of the road.
  - After your electrical service line enters your house, it goes through a **shutoff switch** at the **breaker box**.

**Utility flag colors** (call in Michigan, [Miss Dig](#) or ☎ **811**):

- **Red:** Electric.
- **Orange:** Communications (telephone, cable TV, broadband).
- **Yellow:** Natural gas (usually). Can be petroleum, steam or other gaseous substance.
- **Florescent yellow-green:** Not sure.
- **Green (forest):** Sewer and stormdrains.
- **Black or brown:** Sewer and stormdrains (old).
- **Blue (medium or dark):** Potable domestic water.
- **Purple:** Irrigation water (usually). Can be reclaimed water.
- **Pink or magenta:** Temporary surveying, or virtual dog fence.
- **White:** Proposed excavation.

## 1.5 Appraisal

Get a **known-good** copy of the **appraisal report**.

- Best would be to get a copy from the seller. Offer to pay a hundred bucks or so.
- Next best would be to get your own. \$400 and a week's delay?

- What **final number** does it give?
- Do the **comps** (comparable properties) make that look reasonable?

## 1.6 Down payment

Considering the [mortgage](#) and [appraisal](#) sections above:

- Do you currently have **sufficient funds** for a down payment to avoid paying [PMI](#)? Last I knew, 20%.
  - Try to keep aside an extra \$1,000 for garbage fees (title insurance, flood cert, bug cert, etc.).
  - Try to keep aside another \$1,000 for a truck, rug washer, cleaning stuff, carpets, paint, toilet paper, or whatever you need to move in.
- Is your down payment **after-tax** cash-type money? Including CDs and mutual funds.
  - Would you be **cashing out** a 401(k)?
  - 401(k) loan?
  - Mutual funds?

If you are turning stuff into cash, it is usually easiest to accumulate your down payment in one account, so you can prove to the mortgage company you can easily cut a Cashier's Check to bring to the official house- or condo-buying Closing meeting (whatever that is called).
- If you have a shortfall, you might talk to close relatives, who might get a [distribution from a Roth IRA](#).
  - Your mortgage provider may prohibit you from receiving loans/gifts within three months of your using those funds to purchase the condo.
  - Your mortgage provider may want it called a **gift** rather than a **loan**. And may have paperwork for that.

## 1.7 Offer

- Y'all need to settle on a **price** for the house or condo?
- You may be able to negotiate a **price discount**, due to, if they sell to you versus anyone else, they would:
  - Avoid **real estate fees**. Varies by region--call a local realtor. **7%?**
  - Avoid real estate agent **startup delay** (put in the *MLS* (Multiple Listing Service), tell them what changes to make or stuff to clean, schedule an open house, etc.). **0.5%?**
  - Avoid possible months of delay if the offer were **contingent** on selling their previous home? **3%?**
  - Avoid a two-week delay due you having a **pre-approved mortgage**? **0.5%?**
  - Avoid possible months of delay if they try to sell to someone who **falls out of escrow**. **3%?**
  - Total = **14%?**
  - Try to get as much as you can, while being fair to the seller.
- You need to make your offer **contingent** on:
  - them having **good title**,
  - you being able to acquire **insurance** and **financing**, and a
  - "**successful report from a home inspector**". Will cost you \$400. Do it, it may save you tons of money and time later:
    - ◆ If they find anything **horrible** (e.g., bugs eating the structure), you need to know that, so you can **back out** of the deal.
    - ◆ If they find anything **interesting**, such as the [water heater](#) is about to blow, you also need to know that. You can ask/demand the seller **fix it**. Or give you some kind of **cash giveback** so you have the cash to fix that. Or not, and cover it yourself.
    - ◆ They will find some **minor stuff**, which you will say are fine.
    - ◆ All that will be part of the paper report they will give you for your \$400.
    - ◆ But to get full value, make a note to **be there** during the **house inspection**, and **follow the inspector around**. With a notepad in your hand. Invite your local handy-with-tools relative, too. You will learn all kinds of stuff you will need later, e.g.:
      - whether the roof trusses/rafters are tied down to the load-bearing walls using **hurricane straps** (you want this in hurricane country, 🌩️ tornado country, and in earthquake country),
      - whether the load-bearing walls are tied down to the foundation using **L-bolts** (you want these, 16" on-center, in hurricane country, 🌩️ tornado country, and in earthquake country),
      - you have a **sump pump** and \_\_\_\_\_ is where it is (you want this in any house with a basement or below-grade space),

- the \_\_\_\_ is not to **Code** (the building laws) and should be replaced with \_\_\_\_\_,
  - the \_\_\_\_ is getting old and will need to be **replaced** in \_\_\_\_ years,
  - \_\_\_\_ is where you shut off the **gas**,
  - \_\_\_\_ is where you shut of the **water**,
  - \_\_\_\_ is where you shut of the **electricity**,
  - and lots more.
- ◆ The house inspection is definitely worth it for buying a house, and my sister says is also well worth it for buying a condo:
- You are buying 1/n of the [roof](#), so you want it looked it.

The seller will be fine with this--standard stuff.

- **Make your offer.** But also come up with a **walk-away price**--a price where if the seller rejects your offer but give you a counteroffer, the point where you will just walk away. Nice to have thought this through ahead-of-time, so you don't have to do it in the emotionally-charged heat of the moment.
- Once your offer is **accepted**, you will have to go through the [mortgage](#) and [down payment](#) sections above again, this time nailing everything down with final numbers.
- Then the **Closing meeting**, where you (A) turn over your money, (B) sign your names hundreds of times on a stack of paperwork 2" tall, that you will number understand, and (C) get your key. 😊

## 2 Selling your house or condo

You are probably going to sell your home:

- direct to a private party, if you directly know the buyer, or
- through a Real Estate Agent, who will charge the seller (you) 6 or 7 or 8% (varies locally--ask a local agent).

TBD

### 3 Maintaining your house or condo (or apartment)

#### 3.1 Running your own escrow account (sinking fund) (capital budget)

Will hold your buffer for [expected](#) (and maybe [unexpected](#)) expenses:

- Make a [spreadsheet like this one](#). Call us [or GJ](#).
- One row per expense. Most are probably **yearly** or **semi-annual**. Some might be monthly, if this makes your life easier.
- Type only in the blue-gray boxes.
- Read out the orange amount, for how much from each paycheck, to move from checking to savings, less any listed expenses you paid in this paycheck.

=SUM(A4:A99)/C2	each paycheck, move from checking to savings account this amount, less any listed expense you paid in this paycheck		
=SUM(A4:A99)	total, over	24	paychecks per year
amount per year	payment	times per year	expense
=B4*C4			<b>Stuff that happens less than monthly:</b>
=B5*C5	1500	1	house or condo property taxes (Summer)
=B6*C6	2000	1	house or condo property taxes (Winter)
=B7*C7	1000	1	house or condo fire/liability insurance
=B8*C8	1000	2	car insurance
=B9*C9	220	2	dentist
=B10*C10	1400	0.25	fly to funeral
=B11*C11	6000	0.1	house <a href="#">HVAC (heater/AC/heat pump)</a>
=B12*C12	350	0.15	<a href="#">water heater</a>
=B13*C13	1200	0.05	clothes washer/dryer
=B14*C14	0	1	
=B15*C15			<b>Stuff that happens monthly:</b>
=B16*C16	250	12	save for next car, and car maintenance
=B17*C17	1306	12	mortgage
=B18*C18	0	12	

#### 3.2 Emergency Cash Reserve

As a **renter**, you needed a financial buffer of maybe **\$1,000 to \$1,500** (*2a month's wages?*) for:

- car repairs (e.g., tires, **or** timing chain, **or** struts and alignment), **or**
- plane tickets to a funeral, **or**
- unexpected feeding of visiting family members, **or**
- whatever.

plane tickets for a funeral, **or** new tires, **or** new struts and alignment, or whatever.

As a **homeowner**, you need at least **\$8,000** (*2n month's wages?*) for:

- the above, **or**
- a new [HVAC \(heating, ventilation, and air-conditioning; and heat pump\)](#) and [water heater](#) — yes, I know someone who had both go at the same time! —, **or**
- a new [roof](#).

This could be done using a method combined with your [escrow account above](#).



### 3.3 HVAC (heating, ventilation, and air-conditioning; and heat pump)

Watch ► videos:

- "These **New Heat Pumps** Will Make a Real Difference" <https://YouTu.be/HKnNLp3ptDQ>, and
- "Old HVAC industry practices are holding us back" <https://YouTu.be/DTsQjiPlksA>.

We have an older air-to-air heat pump, not R-290a but R-134a (from memory). We like it a lot. That said, it is cheaper to run than burning natural gas down to about freezing, thus our HVAC company installed it with a thermostat that, when heat is called for and it is above freezing, runs the heat pump, and when below freezing, burns natural gas. A good solution then. But am glad that new engineering has resulted in systems that run in a much wider range of temperatures. When our current system dies, we will replace it with a modern system, that will use:

- a refrigerant without chlorine or fluorine, and
- electricity likely by then to be mostly-wind-and-solar instead of mostly-coal-and-nuclear.

### 3.4 Water heater

To **maintain** your water heater, please see:

- the documentation that came with it,
- the manufacturer, and
- <https://YouTu.be/ByuMk9Gy2RE> and similar sources.

When **replacing** your water heater, it should be with:

- An air-to-air heat pump, according to PBS show This Old House. [citation needed (somewhere in <https://YouTube.com/@ThisOldHouse> or <https://ThisOldHouse.com>)]
- A heat pump in the vast majority of cases:
  - If you are swapping out from electricity, yes, definitely.
  - If you are swapping out from natural gas, yes, highly-probably, but it depends on prices in your area of electricity v. natural gas. — <https://YouTu.be/abGiNL9IT54>

Ours will be, too, when our current water heater dies.

### 3.5 Smoke alarms

Ensure your home is protected by:

- **Carbon monoxide detectors.**
  - I have three, combined with ...
- **Smoke alarms.**
  - **Get** alarms with a **photoelectric (optical)** sensor. **Eschew** those with a **radioactive ionization** sensor. And **not** a combo. For details, see ► video ["There are two types of smoke alarm. One of 'em ain't so good."](#)
  - **Powered** as required by your local code. Probably:
    - *In rental property*, **hardwired**. Battery-backup required?
    - *In owner-occupied*, probably allows **battery**-powered. But check. Ten-year battery?
  - In **all locations** required by your local code. Probably:
    - Inside each bedroom, hallway outside the bedroom area, hallway outside the kitchen, on each level of the home (e.g., upstairs, downstairs, and basement).
    - Bizarrely, not in the garage.
  - **Connected together**, if required by your local code. Such connection allows **all** alarms to sound when **any** alarm alerts.
  - Alerting your smartphone, if you wish.

**Write** the installation date on the alarm itself, using a colorful permanent pen. You will want to know this if you intend to replace every 10 years.

Set up a **test plan**, where you hit the test button once a month or so. And listen for a PASS response.

### 3.6 Sump pump

If you have a **basement**, you should have in the floor of said basement, a sump:

- With a **sump crock** (a large strong plastic bucket), set deep, with its top lip just on top of the basement floor.
  - My sump crock is a Jackel hydrosump, **22" tall**, and **18" dia**. It lets water in through four slits cut in the sides, perhaps cut by a circular saw. When I see water come in, it is typically at level **6"** (16" from top).
  - Better would be a sump crock filled from a pipe from a French drain at the base of the house, uphill side.
- With a **sump pump**, set to automatically activate and eject water from the sump to the outside of the house, well away and downhill from the house.
  - After 2020-03-24, mine is a Barracuda Model=BASPC33V, 115V 60Hz 1/3HP. Controlled by a float on a rod, hacked with a zip-tie to pump water from a lower level:
    - ◆ starting at level **5"** (17" from top),
    - ◆ intermediate level **4"** (18" from top),
    - ◆ ending at level **3"** (19" from top).
  - Until 2020-03-24, mine was a Flotec Model=FP0S3200A-09, 115V 60Hz 5.5A 1/2HP thermally-protected, DateCode=030M12W, 5" tall. Controlled by a floating ball-switch, set to pump water:
    - ◆ starting at level **13"** (9" from top),
    - ◆ intermediate level **11"** (11" from top),
    - ◆ ending at level **3"** (19" from top).

I have notes on it, and elsewhere, to test it every March 15 ("Beware the Ides of March") (or earlier if wet winter and early thaw), by (1) unplug, (2) fill sump crock with water using laundry sink, hose and pipe, (3) plug in, listen for low hum and quick emptying of sump crock to outside, and (4) check exhaust outside North side of house.

If still get water in basement, paint wall with **Drylock**.

### 3.7 Septic system

If you don't pay a city/township water/sewer bill, you have a septic system. Takes some maintenance. I hear you need it to be inspected and possibly pumped every three years. I've never had one of these.

### 3.8 Driveway or sidewalk

If damage or ants in cracks, mechanically clear the cracks, kill the ants with boric acid or other product, and fill the cracks with **Permasand polymer jointing sand**, following directions on the label. It will cure hard enough to resist insects, but soft enough not to destroy your bricks.

### 3.9 Sealing outdoor things

For outdoor sealing, use OSI caulk.

For [roofing](#):

- I have used both **Henry** and **Dewitt** sticky black stuff, to good effect. Get a couple tubes, correct your problem areas, then on all sides, bottoms and top near those, lift the outer corner of the shingle, and squirt a dab underneath. When done with that part of the roof, go back and step on top of that spot, squirting the dab to be a nice connection between that shingle corner and its mate underneath. Will cure in the next few days.
- I see the above now comes in clear and in colors.
- I am now told that **OSI** brand is very good, too.
- And some roofing guys used **Solar Seal**, in a color that matched the roof material and flashing. Very nice — no black to stand out. Quite invisible, unless you are standing right over it. And very rubbery. If it keeps that consistency, I hope to have it keep a good seal for quite a while.

Some findings:

Issue	My local roofing supply company	Amazon
Had the color used on my roof:	<b>84 Imperial Brown</b>	No
Even more extraordinary:	<b>Knew the color used on my roof!</b>	No
Price:	<b>Cheaper! US\$8.xx</b>	More expensive! US\$11.33
Could buy tubes in lots of:	<b>1, 2, 3, ...</b> (I bought two.)	3.
Availability:	<b>Got it today!</b>	Wait for 2-10 working days (I don't have Prime).
Support local economy:	<b>Yes.</b>	No.
While there, got advice on other issues:	<b>Yes.</b>	No.

### 3.10 Roofing repairs or replacement (roof-over or take-off)

See paragraph [above](#).

If you have skylights over your bed, clean the glass about 5 times a year.

- We have four, and enjoy them a lot!
- I found a way to get up on that roof with a 5½' ladder (not my longer ones), and going up through the trellis. Nice!
- Rain-X will keep the (glass) skylights clean longer. Nice!

Ensure you have adequate roof ventilation. *Unless your house has cathedral-ceilings throughout:*

- Before you reroof, crawl into your attic space and see if you have black mold.
  - If Yes, call me. You are going to need a good contractor who will get rid of anything rotten (old insulation, rafters, soffit vents), spray everything salvageable with dilute bleach, several times, using correct PPE, and put it in way better.
- Along the top of the roof, **ridge vent**, nice and open. It uses black plastic to keep out raccoons, and some plastic wool to keep out insects.
- At the bottom of the roof, one of:
  - **Soffit vents** 100%-of them perforated, (ours was built with one panel in four — not good enough). With **egg-crate stuff** installed on the attic rafters, lower 1 m (few feet), to keep your attic insulation from shifting and interfering with the ventilation.
  - **Intake vents**. It uses black plastic to keep out raccoons, and some plastic screen to keep out insects. When my neighbor reroofed, they put in shingle-over intake vents, which say they work on **roof pitches** of 3/12 to 16/12 (measured as rise/run). **Arctan** (these) turns out to be 14° to 53°, a very wide range.

I have a lot to write here, regarding planning, contractors, and quality.

Watch that your contractor **does not wreck** (and *if they do*, complain about it and get them to fix it!) your:

- **Gutters** (if you live where it rains more than a few days a year).
- **Gutter guard** (if you have gutters, and some owner didn't want to periodically clean leaves out of their gutters).
  - BTW, I don't like these, they solve one problem, while making a small mess of their own.
- **C-drip.**
- **D-Drip.**
- Your **plants**.
  - Make sure they climb to and from your roof in only one place.
  - Make sure they throw the trash off your roof into only one place. Ideally, their dumpster.
  - Because they won't live up to the above, put tarps along the edge of your house, protecting your plants.
- **Utilities**, such as exhaust for your [heater](#) or [water heater](#). Your sewer vents (a plastic tube above almost-every toilet, sink, tub, shower and washing machine).

### 3.11 Brick exterior

To prevent **water infiltration** and **breakoff**, every 10 years:

- scrub exterior brick and mortar with a brush,
- rinse,
- dry well, and
- seal (via paintbrush or sponge) with Drylock. Buy a few liters (a gallon). Goes on white, dries clear.

**TODO:** How do I adhere my brick fragments back on the brick, forever?

Repairing mortar joints is called "repointing" and some other term.

### 3.12 Other mechanical things

TBD.

### 3.13 Mortgage part 2: Paying Ahead

You might not be aware that, when making a mortgage payment, you may also include an **additional principal payment**, which will:

- move you along in the mortgage payment schedule,
- reducing the "**carrying amount**" of the loan, now and later,
- reducing the **interest \$** (not **%**) you are paying, and
- **shortening** your loan.

Although **getting ahead** on your mortgage does **not** mean you can later **fall back** by that amount. It does not work that way--see [Anne's Law above](#).

Do **not** pay ahead unless you first:

- Are getting the **full match** on your employers' 401(k)/403(b), ESOPs, etc.
- Have a **zero balance** in **all** other loans with **higher interest rates**, including **credit cards, car loans, student loans**, etc.
- Have a **buffer** of a **few thousand dollars** (a month's wages???) for car repairs, plane tickets to funerals, new [heater](#) or [water heater](#), etc. This could be done using a method combined with your [escrow account above](#).

-End.- [send comments to the author](#)