Plumbing Pitfalls

FOR BATHROOM REMODELS

Before you commit to a price, inspect the existing piping and fixtures for hidden problems

by *JLC* Staff

Beginning contractors often make the mistake of pumping up a customer's early expectations, only to discover unresolved issues and problems later that cause the cost of the job to change, most often in a northerly direction. This is especially true of bathroom remodels, where much of the work is hidden behind walls and under floors, and where the number and variety of product choices is overwhelming.

To avoid problems, it's important that during the initial site visit you work through a list of the common problems that typically plague bathroom remodels, especially when it comes to investigating existing piping and fixtures. Until you're comfortable with this kind of detective work, ask your plumbing sub to visit the site with you. You'll look like a hero to your client if you underpromise and overdeliver, and your plumber will be a lot happier if, before

saying "No problem, my plumber can do that," you actually talk to your plumber about "that."

This article deals with those bathroom remodeling pitfalls that, if overlooked at the outset, are most likely to rear their ugly heads before the job is finished.

Delay Pricing Discussions

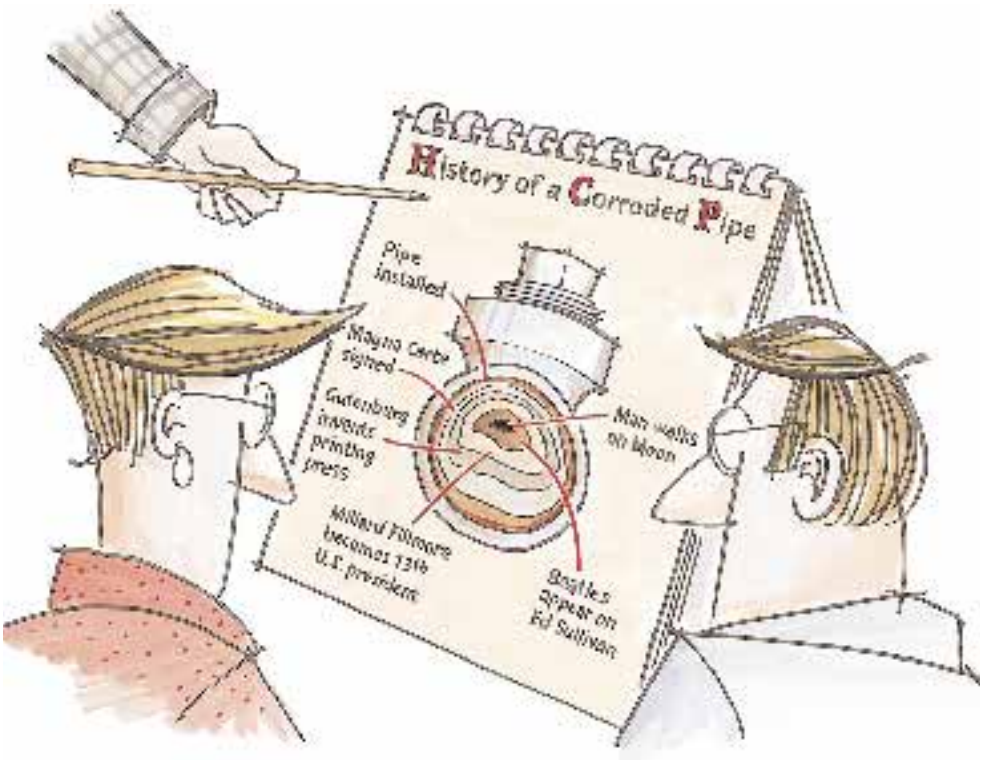
In the desire to get the work, many contractors will readily quote a price or price range for a bathroom remodel without knowing any of the details. In most cases, the homeowner envisions a Ferrari while the contractor is pricing a Fiat, and once these unrealistic expectations are set, they are hard to undo. As negotiations grow more serious and the job specs begin to take shape, contractors start backpedaling with excuses about "hidden conditions" or expensive fixture "upgrades." Alternatively, they wait until the job has started and try to make up the shortfall by overcharging for change orders. In the worst cases, the contractor simply walks away from the work. All of these options leave the homeowner with a low regard for contractors — all contractors.

To avoid being lumped in with "all contractors," never provide a quote or give an estimate of any sort unless you are sure that you can and will do the work for that amount. Save your ballpark estimates until after you have thoroughly inspected the job and you know all of the specifics.

Old Pipes Never Die

The age of the existing plumbing will greatly affect the cost of the upgrade work. Many cast-iron drain systems are on their last legs, but because cast iron comes in varying grades, its deteriorated condition may not be obvious. Cast iron rots from the inside out, so it may look okay but actually have very thin walls that could fail at any time. Tap the pipe somewhere other than the hubs with a steel wrench or heavy screwdriver: A change in tone frequently indicates either a buildup of solids within the pipe or thin walls caused by corrosion. In either case, the pipe may need to be repaired or replaced.

Galvanized pipes are usually ready for replacement when the bathroom is ready for updating. Plan on replacing the entire pipe run, because old threaded galvanized pipe joints are usually frozen tight from corrosion and can't be disassembled without breaking.



If the customer insists on tying into the old galvanized pipe, strongly consider passing up the job: The potential problems can far outweigh the benefits of saving the pipe.

Copper supply lines can also fool you. In some areas of the country, mineral deposits from hard water will cause copper lines to corrode from the inside out, much like cast iron and galvanized pipe. This is especially true if thin-wall (type-M) copper tubing was used. Corrosion may, however, be visible at soldered joints.

Plastic water-supply pipe presents different problems. Polybutylene pipe has been banned for years in most areas of the country, but you may find existing installations that are still in use. In this case, your plumber will know whether code requires this piping to be replaced. Newer systems plumbed with cross-linked polyethylene (PEX) should pass muster, but make sure your plumber has the tools and expertise needed to work with this relatively new material.

Liability. Regardless of the kind of piping you discover, keep in mind your potential liabilities. Obviously, when you replace the entire system, you are responsible for any leaks in the pipe. But when you tie into an existing plumbing system, your potential liability escalates substantially. Heating joints and twisting fittings may well cause problems upstream or downstream, problems which may not be readily apparent and that could cause leaks to turn up long after you've left the job. If any of those leaks cause damage, you'll be the first one the homeowner turns to for compensation.

Pressure-testing new piping will provide you with some peace of mind, but testing is far from foolproof, especially when new plumbing ties into old. When you've got doubts about the condition of the existing plumbing, the best solution is not to do the work. Since that may not always be possible, include a clause in your contract that generally limits your liability for damage resulting from a leak or other piping problem not immediately adjacent to your work. You should also prepare and

Bathroom Remodeling Checklist

Job Name:
Date:

BASEMENT/CRAWLSPACE

- ☐ No access
- ☐ Existing access okay for materials
- ☐ Existing access okay for equipment
- ☐ Existing access okay for workers
- ☐ Modify or create access
- ☐ Working room adequate/inadequate
- ☐ Helper needed/not needed
- ☐ Room for materials & equipment adequate/inadequate
- ☐ Distance from delivery area

Obstructions:

- ☐ Remove/Salvage/Replace insulation
- ☐ Pipes/Ducts/Wires/Other

Working conditions:

- ☐ Ventilation adequate/inadequate
- ☐ Dry
- ☐ Damp, needs Poly/Planks/Other
- ☐ Lighting Good/Poor
- ☐ Needs temporary lighting
- ☐ Electrical Outlets/No Outlets

FLOORS & CEILINGS

Access to existing plumbing:

- ☐ Drains: Open/Concealed Easy/Difficult
- ☐ Vents: Open/Concealed Easy/Difficult
- ☐ Supply: Open/Concealed Easy/Difficult

Size and type:

- ☐ Drains: Lead/Cast/Galv/Copper/PVC/ABS/Other
- ☐ Vents: Lead/Cast/Galv/Copper/PVC/ABS/Other
- ☐ Supply: Lead/Galv/Copper/Plastic

Obstructions:

- ☐ Floor joists Location/Depth
- ☐ Ceiling joists/rafters
- ☐ Stud location at Med. Cab./Shower/Sink/Other
- ☐ Insulation in Walls/Floor/Ceiling
- ☐ Blocking
- ☐ Other _____

Structure:

- ☐ Joist size adequate/inadequate

EXTERIOR

Water service:

- ☐ Accessible
- ☐ Adequate size
- ☐ Usable condition

Trash removal:

- ☐ Access easy/difficult

BASEMENT/CRAWLSPACE PLUMBING

Existing DWV:

- ☐ Lead/Cast/Galv/Copper/PVC/ABS/Other
- ☐ Size _____
- ☐ Condition _____
- ☐ Tie-in/Replace
- ☐ Obstructions _____

Existing supply lines:

- ☐ Lead/Galv/Copper/Plastic
- ☐ Size _____
- ☐ Condition _____
- ☐ Tie-in/Replace
- ☐ Obstructions _____

WALLS

DWV:

- ☐ Location Known/Unknown
- ☐ Size adequate/inadequate
- ☐ Stud depth adequate/inadequate

ATTIC

- ☐ No access
- ☐ Existing access okay for materials
- ☐ Existing access okay for equipment
- ☐ Existing access okay for workers
- ☐ Modify or create access
- ☐ Working room adequate/inadequate
- ☐ Helper needed/not needed
- ☐ Room for mat'ls & equip adequate/inadequate

Obstructions:

- ☐ Remove/salvage/Replace insulation
- ☐ Pipes/Ducts/Wires/Other

Working conditions:

- ☐ Ventilation adequate/inadequate
- ☐ Temperature Hot/Comfortable/Cold
- ☐ Joists Exposed/Covered
- ☐ Lighting Good/Poor
- ☐ Needs temporary lighting
- ☐ Electrical Outlets/No Outlets

Vents:

- ☐ Bath Fan & Vent Add/Replace/Relocate Stack
- ☐ Existing — DWV Lead/Cast/Galv/Copper/PVC/ABS
- ☐ Type _____
- ☐ Size _____
- ☐ Condition _____
- ☐ Obstructions _____
- ☐ New — Tie-in/Add/Relocate/Resize

FIXTURES

Existing Toilet: Manuf._____ One-pc./Two-pc. Color _____

Existing Lav: Manuf._____ Cast/Steel/China/Other _____ Color _____

Pedestal/Ring-mount/Self-rim/Undermount/Other _____

Shutoffs: Straight/Angled Working/Stuck open Reuse/Replace/Relocate

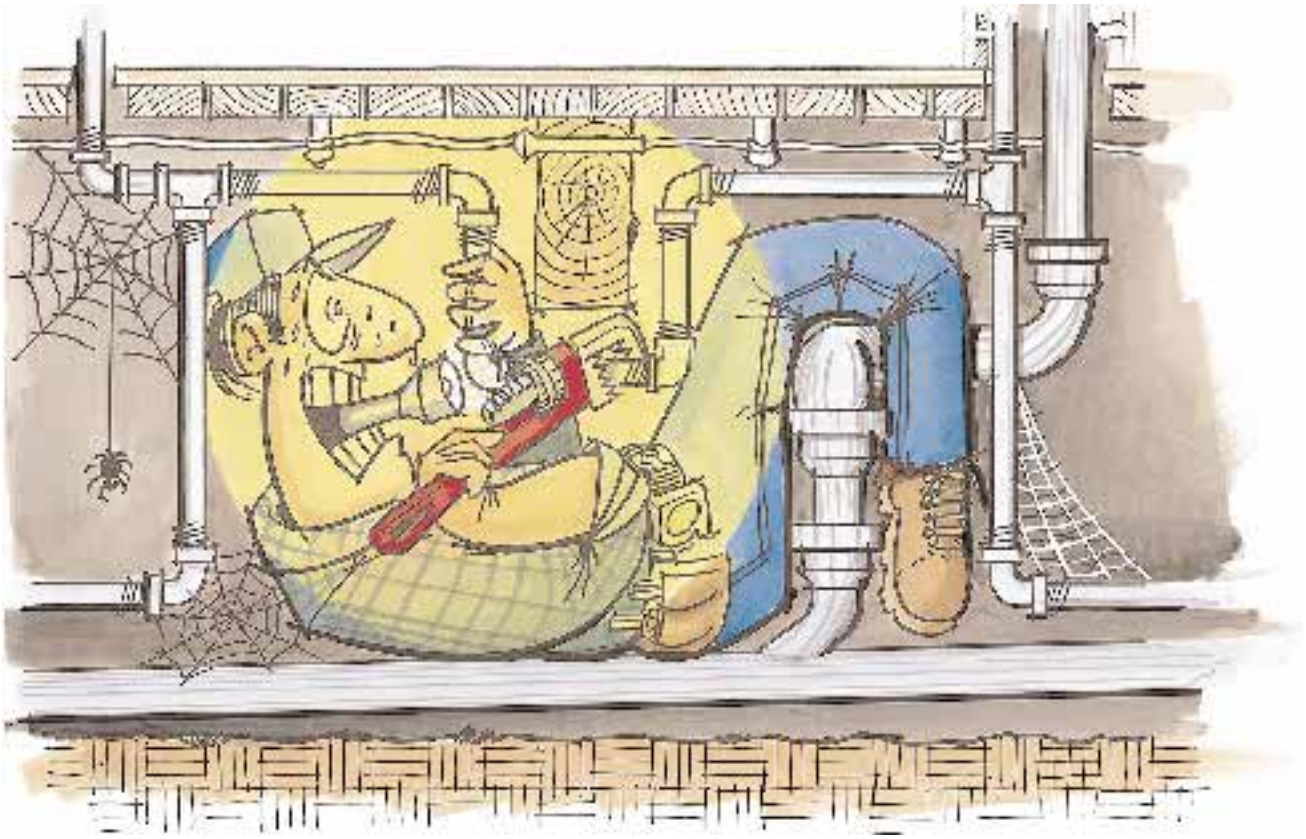
Existing Tub: Manuf._____ Cast/Steel/FG/Acrylic/Other Color _____

Valves: Reuse/Replace/Relocate Surround: One-pc./Two-pc./Other

Existing Shower: Manuf._____ Cast/Steel/FG/Acrylic/Other _____ Color _____

Valves: Reuse/Replace/Relocate One-pc./Two-pc./Other

General Notes: _____



have your client sign a separate document clearly stating that, where you are tying into existing work at the request of the customer and you have advised against such action, you will not be liable for any leaks or damage not occurring at your work points. Hire a lawyer to draft these provisions for you; not every state allows for such clauses, nor does every state allow you to limit your damages without some other restrictive or informative language. A good lawyer can advise you on the proper course of action, and the cost will be less than the cost of defending a lawsuit.

Remember, though, that all the paper in the world will not enhance your professional reputation or endear you to an unhappy customer when a fixture leaks or a joint fails. You need to be clear with customers about the risks of using old pipes. Seeing is believing: The most convincing argument is to show them the built-up corrosion and sediment from a section of corroded pipe that you've removed from a home similar to theirs.

Fixtures

If a tub unit is to be replaced, the major trouble spots will be access to the drain and supply lines; the tub itself shouldn't present many problems. Remember, though, that a cast-iron tub is very heavy. Breaking it up may be the only practical way to get the old tub out of the bathroom. Fiberglass and steel tubs can often be removed in one piece, unless they are oversize.

Occasionally, the homeowner wants to save the tub, either because of its antique value, or because cousin Bob wants it for his own remodeling project. Even if the tub can be moved in one piece, make sure it will fit through the doorway and down the hall and stairs. It's not unusual for tubs, particularly modern whirlpool units, to have been surrounded by framing after the tub was set; sometimes tubs are lifted into place with a crane or boom along with upper-story framing materials. Where this has happened, be sure that the customer accepts the risk that the tub may have to be destroyed to be removed.

Getting the old tub out is one thing; getting the new tub in means making sure it will fit into the existing space and that it will clear all obstacles. The only way to know is to have your client decide on the specific tub before you agree to the work. In fact, you should have the correct measurements for the tub they want in hand as you make your initial site review. If you have to remove the door trim and frame to gain necessary inches, it could get expensive, and somebody (preferably the homeowner) has to pay for the work.

Sinks and vanities. Removing existing sinks and vanities is generally straightforward. You may run into problems with pipe sizes and corroded fittings that require different or extra fittings than are called for "by the book." You may also find that the necessary vent is missing, a problem when the original scope of work does not involve gutting the space.

Another problem to look out for is a sink, either purchased or specced by the homeowner, that might not fit into an existing cabinet. This can happen whether the sink comes from a home improvement center or a specialty shop. Whether the solution is a different sink or a new cabinet, the cost should be included in your estimate.

Also inspect the supply tubes and fittings under the sink. Often, the shut-

offs are frozen open, making replacement more difficult, especially if there is no primary shutoff for the whole fixture group. Again, remember that disturbing old and corroded fittings can cause problems down the line. When in doubt, plan on replacing the supplies.

Color match. One nice thing about white fixtures is that you can always match the color. Designer colors, on the other hand, seem to change about every five years or so, and matching a five-year-old color may be difficult at best and impossible at worst. Be sure that customers who are concerned about consistent fixture color are willing to replace *all* of the fixtures. If you can't be sure of the need or desire to replace the fixtures before the job starts, use a fixture allowance and explain that the final cost will be determined by the fixture selection.

Stall Showers

The biggest problem here is subsurface water damage. Leaking shower valves and pans can cause tremendous damage to the structure, almost all of which may be hidden until the fixture is removed. You need to be clear with your customer about the potential for extra costs in the event structural repairs are needed.

If the shower is going to be rebuilt, be sure that the homeowner has selected the finish material for the shower floor and walls. This is especially important with tile, because variations in thickness will affect rough openings and the stub-outs for faucets and diverters.

Finally, if the shower plumbing is being replaced, don't make the mistake of assuming your customers will be happy with "standard" rough-in heights. Instead, have them stand in the tub or shower space and tell you at what height they want the shower valve and head located. This is especially useful with taller people, or with couples who differ greatly in height. Be sure that they are standing at the floor level of the tub or shower, not directly on the subfloor, since the difference can be 3 or 4 inches.

Crawlspaces

Failing to inspect the crawlspace can lead to significant problems and additional expense. Most crawlspaces are dark and damp, and are accessible only with difficulty.

Headroom. While most codes require a minimum of 18 inches of crawlspace headroom, in practice many crawlspaces are much smaller. You may be willing to put up with this if you have to work only at one corner of a building, but if you have to run lines from one end of the building to the other, you may have to increase your working room with shallow trenches. Hand-digging a crawlspace is hard work, so you need to be sure that the customer understands that the prep work is part of the bill.

Access. While you are inspecting the crawlspace, also determine if you can gain access to each of the areas where you need to work. In many cases, grade beams, retaining walls, and retrofitted support walls impede or close off large areas of a crawlspace, and you will have to cut access holes in the floor to reach these areas. Include the cost of this work in your price, and be sure to specify who will repair the floor once you are done with your work.

Water and light. A damp crawlspace is an uncomfortable place to work. You may need to lay down plastic sheeting or even build wooden catwalks to keep yourself and your materials and tools dry. More than one plumber, working a very dark crawlspace, has found himself 80 feet from the entrance when he tugged on his work light and disconnected it. Some plumbers find it useful to install "string lights" or other types of temporary lighting when they plan to work in a crawlspace for more than a few hours.

Upper Floors

A limiting factor in any remodeling project is the joist depth of upper floors. Many older buildings have relatively shallow floor joists into which pipe, many times old lead pipes, have been tightly stuffed. These "creative" configurations may be difficult to disassemble. Moreover, getting new drain lines into the same cramped space may be difficult or impossible. To complicate the problem, modern codes — not to mention good sense — may restrict your ability to cut away or modify joists sufficiently to allow for easy installations.

Similarly, concealed supply and drain lines can be counted on to throw a wrench into the works, directly affecting the budget. You need to look at places where notching and drilling may be necessary to determine what is in the way and how you can perform your work with minimal waste and damage. You might consider purchasing one of the new electronic testers to locate concealed piping and wiring. These devices are readily available and are now reasonably priced; if you do a lot of remodeling, they are a worthwhile investment.

Walls and Floors

Vent sizing requirements may have changed since the structure was built, or the vents may have to be upgraded due to the addition of new fixtures and appliances. Similarly, code restrictions against cutting top and bottom plates may make it impossible to run a 3-inch stack in a 3 1/2-inch wall, and furring out the wall may not be feasible.

Also, remember that while it may be easier to run supply lines straight up an exterior wall cavity, the presence of existing insulation or the need for added insulation may preclude using that route. This is more of a problem in the northern states and other areas where energy conservation is paramount.

Be sure to verify the floor joist spacing. If a tile floor is being considered, include the expense of having to add joists to strengthen the floor. If it appears necessary to build up the subfloor, figure out how you will handle the threshold, which can be both ugly and dangerous if it's too high.

*Thanks to plumber **Randy Teets** and builder **Carl Hagstrom**, both of Montrose, Pa., for help with this article.*