

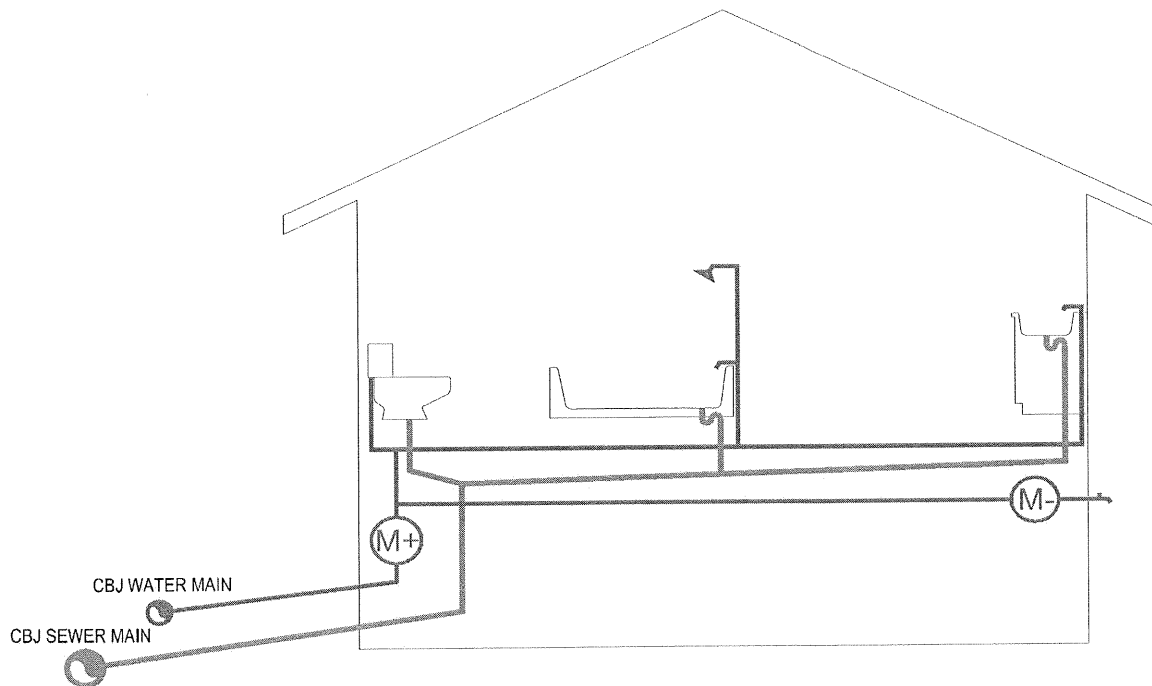
Thinking about installing a *Subtraction Meter*?

What are the benefits of a Subtraction Meter?

A subtraction meter is used to reduce your wastewater bill by metering water that will not enter the city's sanitary sewer system. Examples include outdoor power washing, car washing, garden watering and similar uses. For a metered water and wastewater account, both your water **and** wastewater bills are based on the total amount of water measured as it enters your building. If only a portion of your water usage is discharged into the city sewer system the addition of a subtraction meter to your plumbing system may result in a reduced sewer bill. The inclusion of subtraction metering would not reduce the monthly sewer bill for a flat rate account.

How does a subtraction meter work?

A subtraction meter measures the amount of water you *do not discharge* into the city sewer system. That amount is then subtracted from the metered water coming into your building and the difference is used to calculate the sewer portion of your utility bill. A subtraction meter might be worth installing if a significant portion of the water you use does not drain into the city's wastewater collection system. (Modifying your plumbing, so that water flowing through the subtraction meter returns to the city's sanitary sewer system, would be illegal and fraudulent. The discovery of such modifications would result in a back-bill to the time the subtraction meter was installed and the possibility of other legal action.)



How do I know if it's worth the expense?

Installing a subtraction meter will only make sense if its installation cost is exceeded by the reduction in your sewer billing. The costs of permits, plumbing, labor and other activities incurred to install a subtraction meter, and the cost of the meter itself are all borne by you. You'll want to weigh your costs against the savings you might realize on the sewer portion of your bill. We encourage you to closely examine these factors before deciding to install a subtraction meter. With information from your utility bill and the examples on the back of this handout, you can make a decision about whether it will be worthwhile under your unique circumstances. Please feel free to contact the CBJ Water Utility at 907-780-6888 if you have questions.

Is there any place in my building that I *should not* install a subtraction meter?

Yes! Because fixtures that discharge to the City sewer system (sinks, toilets, showers, etc.) are inappropriate for subtraction metering, your installation will need to be carefully reviewed and inspected to assure that a subtraction meter is measuring only water uses (like an outdoor hose bib) that *will not discharge to the sewer system*.

What are my expenses to install a subtraction meter?

The City & Borough of Juneau Municipal Code (Chapter 75.01 WATER) requires that all water metering devices be installed in accessible, warm, and safe locations. The subtraction meter must be installed so that all of water flowing through it does not discharge to the city's sanitary sewer system. Costs associated with installing a subtraction meter include permit fees, installation labor and materials, the cost of the subtraction meter itself, and in some cases increased heating costs if necessary to protect the meter installation from freezing. Our experience is that professional plumbing services for the plumbing portion of a household meter yoke installation is between \$300 and \$700 in 2009 dollars, depending on how complicated it was. Be sure to account for costs for the other trades as well!

What do I need to do if I decide to take install a subtraction meter?

Contact the CBJ Permit Center to obtain a permit to install a subtraction meter. The Permit Center is in the Marine View Building at 230 South Franklin (4th floor, 907-586-0770) or email the Center at permits@ci.juneau.ak.us. Your building permit fee (based on the valuation of construction work: labor and materials at a contractor's rate) and the fee for the subtraction meter (varies by meter size) will entitle you to the meter yoke with certain accessory parts, as well as inspections to confirm acceptable installation. Once the yoke is properly installed and inspections are approved, contact the Water Utility at 907-780-6888 to have your subtraction meter installed and to have your sewer billing account adjusted.

Estimated fee for actual subtraction meter in addition to permit costs is as follows:

¾"	size	\$368.28	2"	\$	867.46
1"	size	\$448.88	3"	\$	2,313.12
1 ½"	size	\$760.01			

Example cost calculations for subtraction meter installations

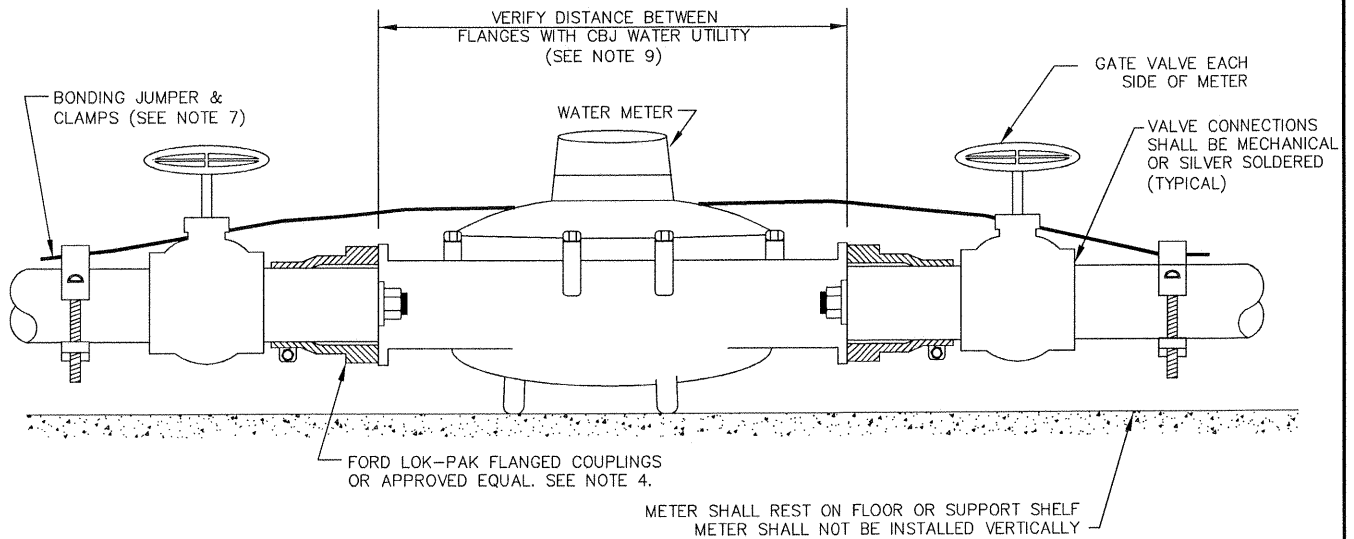
The examples below are intended to help metered water and wastewater customers determine if it is economical to install a subtraction meter. Please note that your actual costs to install a subtraction meter could be higher or lower than the examples and that the installation has the potential to reduce only your wastewater bill; it will not reduce your water bill.

Calculation Assumptions:

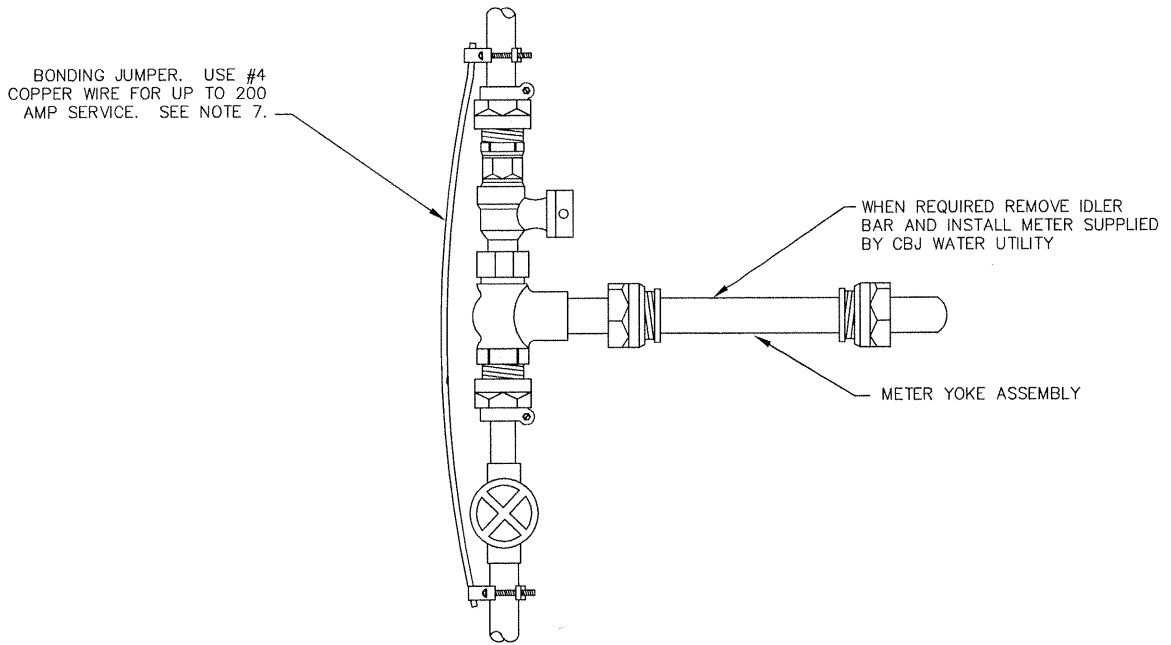
Task	Cost	Remarks
Meter installation	\$600	This is a rough estimate for the examples shown below. Actual costs will vary by installation size and location.
Wastewater utility fees (2013 rates)		
Base Rate	\$64.13/month	Covers the first 4,000 gallons of consumption each month.
Volume Charge	\$8.53/1000 gallons	For additional usage above 4,000 gallons/month.

Example 1: If you consume 4,000 gallons or less water each month, of which any amount is used outdoors and doesn't discharge to the sanitary sewer system, then a subtraction meter would not reduce your wastewater bill.

Example 2: If you used 7,000 gallons of water each month, of which 2,000 gallons goes through the subtraction meter, having the subtraction meter would save you two 1,000 gallon increments costing \$8.53 each, or \$17.06 per month. If you used that same amount of water and the same amount of "outdoor" water for seven months out of the year, then your yearly savings would be \$119.42. At this rate it would take slightly less than 6 years to pay off an investment of \$600 for the installation of a subtraction meter.



1.5" or LARGER METER



3/4" or 1" METER YOKE

NOTES:

1. ALL COMMERCIAL FACILITIES AND RESIDENTIAL BUILDINGS WITH TWO OR MORE UNITS MUST INSTALL A WATER METER.
2. INSTALL WITH BASE OF METER PARALLEL TO FLOOR.
3. INSTALL THREE 22 GAUGE MULTICOLORED CONDUCTORS IN 1/2" ELECTRICAL CONDUIT FROM MAIN ENTRANCE OF BUILDING TO WITHIN 12" OF METER REGISTER (NOT TO EXCEED 100'). ALLOW AN EXTRA 2 FEET OF WIRE FOR METER CONNECTIONS.
4. PROVIDE MINIMUM 18" CLEARANCE ABOVE METER, AND MINIMUM 12" CLEARANCE EACH SIDE AND BELOW METER.
5. FOR 1.5" OR 2" METERS, COUPLINGS SHALL BE FORD LOK-PAK METER COUPLING CF34 (COPPER), CF35 (IRON), CF37 (PVC), OR AN APPROVED EQUAL WITH IDLER BAR.
6. WATER METERING SHALL BE COORDINATED WITH AND APPROVED BY THE CBJ WATER UTILITY.
7. BONDING JUMPER MUST MATCH ELECTRICAL COLD WATER GROUND WIRE. CLAMPS SHALL BE COMPATIBLE WITH COPPER PIPE.
8. NO SERVICE TAPS ALLOWED PRIOR TO METER INSTALLATION.
9. INSTALL IDLER BAR BETWEEN FLANGES AND VERIFY METER DIMENSION WITH CBJ WATER UTILITY PRIOR TO INSTALLATION.

SCALE: NTS		DATE: 12/12/96	CITY AND BOROUGH OF JUNEAU, ALASKA	
DRAWN BY: DRW		CHECKED BY: STAFF	METER INSTALLATION	
APPROVED BY: <i>DRW</i>		REVISED: 8/14/2011	STANDARD 420	