Do you have a capital improvements plan (CIP)? Is it really a plan or is it a list of projects you hope to do over the next several years? How often is the plan updated? Do you review your plan each year? How many years does your plan cover? Do you have a plan for financing each project in your plan or do you proceed with projects until the money runs out? Does your plan mesh with your long-range plan, comprehensive plan, land-use plan or other "vision" plan for your overall community? Have you thought about how the projects in your CIP will affect your long range goals or vision for your community? These are just some of the questions you should ask in reviewing the adequacy (or inadequacy) of a capital improvement program or plan. In short, what is your system's future (as you see it today) and how do you plan on getting to that future?

What is a Capital Improvements Plan?
Capital improvements planning is the multi-year scheduling of system improvements accompanied by the intended sources of funding for those improvements and the approximate timetable for accomplishing the listed projects. These improvements may take the form of system upgrades and expansions to accommodate growth or simply involve the replacement or restoration of existing apparatus to like new condition. A true CIP is a road map to the future of an infrastructure system of any kind: where you want to go and how you plan to get there. It is perhaps the single biggest step in moving a system, particularly a small system, from that reactive, crisis management mode, into a planned for, "I meant to do that" mode. Your list of projects, if that is what you have, is just that: a wish list, and not a plan for attaining those goals and improvements.

You cannot escape the responsibility of tomorrow by evading it today.
Abraham Lincoln (1809–1865)
There are a number of misconceptions about the CIP process that a community may run into when attempting a first CIP. Common questions include how rigid these plans are, how much debt they will entail, if they are required, and the need for developing one in the first place.

**If I develop and adopt a CIP, won’t I be locked into doing all the things it lists?**

The public, and sometimes even decision makers, perceive the multi-year schedule as something that locks them into the planned improvements. Because a CIP document must be flexible and reviewed each year to reassess needs and goals, the CIP is not a rigid document that commits the system to the projects it contains. If it is not reviewed and adapted as goals and needs change, it becomes simply an exercise in planning, or something one must do to comply with requirements rather than a useful guidance document for better management of the system.

**If I develop and adopt a CIP, won’t I be burdened with debt to accomplish the projects?**

The CIP process incorporates an analysis of affordability and debt service capability and, thus, helps to avoid imprudent debt obligations. It can be a valuable tool in and of itself in the avoidance of over-burdensome debt. Analyzing affordability includes figuring out what your customers can pay for as well as what your system can afford to assume.

Moreover, this common misconception about the CIP process overlooks the fact that debt is but one of the ways to pay for capital improvements and replacement. With proper advance planning and sound financial management, even a small system can do some CIP projects without incurring any debt at all. Pay-as-you-go funding is largely dependent on adequate monetary reserves accumulated over time by recognizing equipment wear as a real cost of operation rather than a “paper” number that doesn’t need to be funded by rates. In short, recognizing depreciation and funding it annually will enable more such self-funding of smaller projects and

will accumulate the local match that is usually required by programs that fund larger projects. Don’t ever be tempted to defer the accumulation of reserves for fear of not qualifying for funding because you don’t need it. One way or the other that money will not go to waste in the proper stewardship of your system.

**Is there a regulation or rule that says I have to have a CIP?**

There is no rule in federal regulations that says a system must have a CIP. However, if a system applies for funding from a state revolving fund program or any other that examines its financial management practices as a condition of funding, one of the first things that will be asked is whether the system has a CIP. Having a CIP is both a practice and a measure of sound financial and managerial capacity in any water or wastewater system, regardless of regulation. Financial and managerial capacities are cornerstones of a system’s sustainability. Can it be run in a consistent, compliant level over time? Conversely, the lack of these capacities can lead to a system’s inability to operate in compliance with regulations and operational requirements, and, thereby, its eventual failure.

**If I don’t have to have a CIP why should I go to the trouble to develop one?**

A CIP can offer a jurisdiction a number of advantages in addition to its inherent asset management benefits. A CIP provides a formal framework for the decision making process and a clear link to long range or master plans. It helps to focus a community’s attention on goals, needs, and financial capability while helping to avoid the waste of public resources. It serves as a guide for system operations for the planned years and provides a formal vision for the system’s future and its value to the community. This planned approach to managing the community’s assets helps to sustain the utility and to provide some stability to the rate structure over time. The plan and the planning process can also be used by the utility to heighten public awareness of the system, its activities, and its needs.

The need for a CIP is all the more evident in light of recent U.S. Environmental Protection Agency estimates that approximately $224 billion would need to be expended for the next 20 years for capital improvements to water and wastewater systems nationwide to keep them in compliance with health and regulatory standards. For systems serving more than 100,000 people, this estimate represents a significant impact per connection, but for...
small systems—those under 10,000 in population—the potential impact is staggering. While the large systems may have a higher total expenditure figure for their improvement needs, they have a larger customer base over which to spread the costs. The heavier burden on the small systems just means they need to be that much more careful in their planning and in how they spend their more limited resources. Small systems need to get the optimum “bang for their buck” so that no time or money is wasted, and that means planning for expenses rather than simply covering them as they arise. One of the best and most basic ways to do that is to have a CIP.

**Getting Started**

The first step in doing a CIP is to establish the framework for the process itself. This means determining the participants, the timetable, the procedures, and the policies that will direct the planning process. Establishing clear and defensible standards for judging and prioritizing proposed projects is one area where a written policy can be crucial to the success of a plan. Someone is bound to ask why one project was ahead of another on the list of planned improvements and a written set of standards that governed those decisions can go a long way toward satisfying such questions and potential criticisms. Other policies may relate to things like borrowing versus self-funding, citizen input procedures, or to something as pedestrian as the format for the written CIP document. Looking at CIP documents from other jurisdictions may help identify a format and presentation that works for your community.

The next step is to do an inventory of the system and all its assets, fixtures, and equipment, itemizing and evaluating the conditions found. Doing this inventory with an eye toward possible visual aids and data that will help support and sell the eventual plan is a good way to approach this step. Pictures of rusty pumps and data on time spent repairing ancient equipment will be a more effective tool than mere verbal assertions saying the same thing. Data on wasted resources due to decrepit equipment can also be a big consideration in prioritizing projects.

From this inventory a list of needed projects can be derived and the planning body can begin to prioritize projects to address the most urgent needs. Some of the considerations for prioritization could be:

1. Is there a legal mandate or order requiring a particular improvement?
2. Will the project eliminate an existing or potential threat to the public health?
3. Will the project benefit all the population or only a segment?
4. Will the project provide better safety for system employees?
5. Will the project improve efficiency, save money and time, or enhance service quality?
6. Will a project modernize an outdated facility or piece of equipment that has outlived its expected usefulness?

There are any number of questions that might be asked, depending on the community and its philosophy and goals for...
the future of the utility. There are times where the priority order of a project may be changed for funding availability, timing, or for factors outside of the objective considerations attached to prioritizing needs. For example, a water line replacement planned for the third year of a plan may be moved up to the first year if it is learned that the state or county intends to re-pave the street over it. The same project could be moved back in priority to a later date if it is to coincide with another jurisdiction’s plans for the related area.

The third step in the CIP process is to analyze financial capacity of both the system and its customers. The utility may look at things like trends and growth prospects along with its past financial performance for itself. Another consideration may be the portion of its average customer’s income that goes to pay utility user charges when examining the impact of planned expenditures and debt on its customers. It is important to be sure, in either context, that the projects included in the final plan will be affordable for the utility and its users. If the utility can’t afford to pay the debt service, it will have to raise rates even higher than planned for that project. But, if the rates go up higher than the average residential customer can legitimately afford to pay, the utility’s cash flow and bottom line revenue will suffer from unpaid bills. Either scenario would be a disservice to the consuming public.

From this financial analysis, the planning body can go forward with identifying specific funding options and programs for the various projects. Potential sources will likely include the traditional (grants, loans, and bonds), as well as the less traditional (impact fees, depreciation reserves, cash reserve funds, and the like). The important thing is that general fund and tax dollars should not be spent to keep utility enterprise funds afloat. Enterprise funds are supposed to be exactly what the name implies: self-supporting enterprises. By the same token, enterprise funds are not designed to be cash cows for the general fund. Either side of the coin is contradictory to the premise behind enterprise or “proprietary” funds—that users pay for what they use, rather than just for the generic service involved.

The final step in the planning process is to put the plan together, making sure to include all the pertinent information for each project proposed. The plan should contain the project description and purpose, alternatives considered and rejected along with the reasons, cost estimates, proposed funding sources, and the intended schedule of improvements. Be especially attentive to funding program requirements and whether or not your specific activities or projects are eligible for their funding. Also make sure that you can meet the various application and advertising deadlines specified by the programs you are suggesting as sources. Allow enough lead time to advertise and meet any public hearing or notice requirements.

After any internal reviews and approvals and adoption by the governing body, it is critical that the CIP is not treated as just another study or exercise in planning that gathers dust on a shelf. It must be a guiding document as well as a fluid document that can be reviewed and revised as the community’s needs and goals change. A road map is only helpful if it is consulted before the driver gets lost. Likewise, a CIP is only helpful if it is referred to and reviewed regularly as the community moves forward.

For More Information
The National Environmental Services Center has several products to help systems with planning and budgeting.

- The “Utility Manager’s Guide to Water and Wastewater Budgeting” presents financial concepts, especially as they apply to annual budgets. Request product #FDBLFN1349.
- The Summer 2004 On Tap was devoted to “Running Your System Like a Good Business.” Request product #DWQUNL14.

To order these products, call (800) 624-8301 or e-mail info@mail.nesc.wvu.edu.