Roof asset management is the process a building owner employs to maintain the roof system's integrity, and value in a cost-effective manner. A roof system is a valuable asset, though often forgotten or neglected -- that is, until there is a problem, such as a leak. Roof systems are purchased to keep water out of buildings, contain energy costs and protect buildings and their occupants.

Similar to the rest of a building, roof system, if properly managed, should not interfere with the building occupants' activities. If you own a roof system, you already practice some form of roof asset management, whether or not you realize it. It may be limited to a reactive approach, that is, reacting to problems as they occur. Or you may be somewhat proactive by scheduling regular inspections and repairs. A full roof asset management program, however, involves much more.

The Process

Ideally, the roof asset management process begins in the roof system design phase. From the beginning, the roof system is designed for maintainability. This should include easy access to the roof for maintenance personnel; elimination of high-maintenance items, such as pitch pockets (where possible); proper roof system selection; good specifications; quality, detail design; and on-site quality assurance monitoring. In addition, new construction or reroofing offers the advantage of the owner being able to start out with a complete and accurate roof system history.

However, in most cases, the owner will be managing existing structures. In this case, the roof asset management process begins with designating trained; knowledgeable people to execute the program properly. The roof asset management program manager can be an in-house employee, an outsourced consultant or a roofing contractor.

The next step of roof asset management is to create a historical file. The historical file should contain information regarding the original contractor; when the roof system was installed; what types of problems and repairs have been made; whether there is a warranty and if so, what it covers. (If you are beginning a roof asset management program midstream, the file should contain the roof system’s history to the best of your ability to provide it.)

Next, an ongoing program database will need to be developed. This database contains information pertinent to the status and condition of the roof system. For example; it should contain the number of square feet, perimeter in linear feet, arid number of roof drains and their locations. The type of roof system and flashing used; roof measurements and details; and repairs and maintenance work that have been performed also should be included. This will take some effort but is a wise investment of both time and money. Finally, an inspection and condition assessment will determine maintenance needs to bring the roof system up to a fully serviceable condition. Test cuts may be required to determine or verify current construction.

For an owner of a limited number of roof systems, a simple file folder or spreadsheet approach and manual calculation method are all the paperwork required for a roof asset management program. For an owner with a large number of roof systems, there are
computer programs available to assist with the process. Detailed programs assist in determining the condition of the roof system, projecting life expectancy, and providing budget information. Other programs do less analysis but provide good record retention and report generation.

After these initial steps, regular inspections are scheduled. They usually take place in the spring, in the fall and after any rooftop activity such as repairs, maintenance or installation of rooftop equipment. Corrective and preventive maintenance also is scheduled and performed. The result of regular inspection and maintenance will be consistent and reliable roof system performance. This level of attention will extend the roof system's life and lower its overall cost.

The last step in the roof asset management process is to generate a budget based on projected maintenance costs. This allows owners and managers more accurately to predict expenses and plan for maintenance and eventual replacement.

A Win-Win Situation

Roof asset management is gaining popularity for several reasons. It is a win-win situation for all involved parties. If a roofing contractor contracts to provide the roof asset management functions, he or she will be paid for this service and the necessary roof maintenance work. When the roof system reaches its inevitable replacement condition, the contractor will be in a preferred position to bid or negotiate the project. If a consultant performs the roof asset management function, he or she will be compensated for this activity and will likely provide other functions for the owner, such as new construction specifications work, quality assurance work, etc. The owner also may elect to delegate this function to an existing employee who has received proper training. Training may be costly in both time and money, but upon completing the training, the employee will be knowledgeable about roof asset management programs and possess skills that produce cost savings for a long time. No matter who performs the roof asset management function, the owner will lower his or her life-cycle costs due to an increased roof system life expectancy. He or she will also gain additional benefits, such as more accurate budgeting and fewer disruptions to the building's function.

How do you know the cost of implementing a roof asset management program is a good investment? The best way to estimate the payback of the roof asset management investment is to project the life-cycle costs under various maintenance programs. A lifecycle cost analysis is an accounting tool used to predict the roof system's cost by evaluating a project or project alternatives over a preset period of time. This means comparing the life-cycle costs of different types of maintenance programs, or the life-cycle costs of roof systems of varying quality, over a designated period of study (for roofing, usually 20 to 25 years).

The American Society of Testing and Maintenance (ASTM) calculation method defined in ASTM 917-93 "Standard Practice for Measuring Life-Cycle Costs of Building and Building Systems" is such a cost analysis tool. It offers the credibility of an ASTM standard method and provides cost projections in a way that is understood easily. Data provided by building owners and roofing professionals give convincing testimony that money invested in a roof asset management program provides a good payback and low life-cycle costs.

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