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LESSONS LEARNED:
Facilities Engineering
OBSERVATIONS & LESSONS FROM THE SCHOOL OF EXPERIENCE

ROOF ASSET MANAGEMENT

Roof Asset Management is a systematic approach to increasing the roof's performance and is also a means to extend its expected useful life. Think of roof asset management similar to financial planning in that these programs potentially put more money in the owner's pocket by saving on the total costs. The old adage "a dollar saved is a dollar earned" applies in this case. Similar to financial planning, these programs typically require small capital investments over a period of time in the form of maintenance and repair expenditures. These preventative measures will increase the roof's useful life, reduce the possibility of leaks, and decrease the number of roof replacements over the building's life.

As is the case with all consultation services, the first objective is to discuss the future plans, goals, and objectives for the subject property with the owner. After all, it does not make a lot of sense to reroof a building if the plan is to demolish it the following year! Once the goals and objectives have been clarified, these programs optimize a roof maintenance, repair, and replacement schedule to make the roof more cost effective. Furthermore, these systems create a more predictable budget and they nearly eliminate unexpected expenditures. Similar to regular car maintenance, it is typically far more inexpensive to proactively maintain your roof assets than to reactively fix them.

The roof asset management process involves routine visual evaluations, data acquisition, roof maintenance, and perhaps moisture surveys. Initially, a baseline visual evaluation is performed. This process entails inventorying the roof system, developing roof plans, along with accurate dimensions, and identifying penetrations, roof top units, etc. The roof system is then observed for construction and material deficiencies. These deficiencies are subsequently categorized according to severity: low severity (cosmetic deficiency); medium severity (cosmetic deficiency that may likely leak soon); or high severity (deficiency that leaks or has the high probability to leak). Remember water intrusion leads to mold and other indoor air quality problems, and more capital expenses.

The next phase requires entering all of the surveyed information into a computerized asset management program that provides a roof rating. There are several programs in the industry that provide objective, repeatable and verifiable results. Depending on the roof type, age, and condition of the system at the time the roof asset management process begins, the program, along with an experienced roofing consultant, will determine the most cost effective solutions by developing and prioritizing the maintenance, repair, and replacement schedules. As repairs are made, most computerized programs can be updated to reflect the improved rating.

For illustrative purposes, let's take a look at a 100,000 square foot built up roof on a typical building with a 40 year expected useful life. We will examine no maintenance (\$0.00/sf/year), moderate maintenance (\$0.01/sf/year), and aggressive maintenance (\$0.02/sf/year). This roof system in the southeastern United States will typically perform for 12 to 15 years prior to replacement with **no maintenance**; 14 to 16 years with **moderate maintenance**; and 18 to 20 years with **aggressive maintenance**. Based on these assumptions, the roofing system will be replaced only once with aggressive maintenance and three times with no maintenance. In today's dollars, the roof system construction costs for a typical commercial project are on the order of \$500,000. Including inflation costs, the total predicted maintenance and replacement costs over the building's life equate to approximately \$4.5 million with no maintenance, \$3.2 million with moderate maintenance, and \$1.7 million with aggressive maintenance. It is more cost effective to "fix it before it's broke!"

We hope this "Lessons Learned" has given you a better understanding of some of the major points of Roof Asset Management programs. Should you have questions, please contact Mr. Christopher A. Bowman, Director of Facilities Services in our Orlando, Florida office, (407) 859-8378.

Respectfully,
ECS Corporate Services, LLC

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