

Atkinson Building Maintenance Plan

PURPOSE:

The purpose of an effective maintenance plan is to achieve the following five key goals:

- Preserve taxpayers' investments in public buildings.
- Help buildings function as they were intended and operate at peak efficiency, including minimizing energy consumption.
- Prevent failures of building systems that would interrupt occupants' activities and the delivery of public services.
- Sustain a safe and healthful environment by keeping buildings and their components in good repair and structurally sound.
- Provide maintenance in ways that are cost-effective.

PLANNED MAINTENANCE:

Planned maintenance can extend the life of building components, thus sustaining buildings' value and the significant tax dollars they represent. Because planned maintenance keeps buildings and equipment functioning as designed and reduces inefficiencies in operations and energy usage. Protecting the physical integrity of building components through planned maintenance preserves a safe environment for employees and the public. It can prevent minor problems from escalating into major system and equipment failures that result in costly repairs. In avoiding costs of major repairs, planned maintenance creates efficiencies.

PRO-ACTIVE MAINTENANCE:

Planned maintenance, including scheduled, pro-active replacement of components at end of anticipated life, can reduce time and dollars spent reacting to crises, which is a more cost-effective way to operate buildings. Deferring pro-active replacement of these components can generate higher costs over the long term.

PROCESSES AND ACTIONS FOR ATKINSON'S PLANNED MAINTENANCE PROGRAM:

1. Inventory building components and assess their condition - A program of preventive maintenance begins with an inventory of the Town's facilities and basic information on their condition. Collecting this information is necessary to help the Town identify maintenance needs and quantify deferred maintenance. Inventory and condition data also provide the Town with the information needed to plan maintenance projects, set priorities among them, and estimate their costs. As a prelude to the planned maintenance process, the Town Administrator should oversee periodic inspections of buildings' conditions and create an inventory of buildings' components and equipment.

a) ***Keep an Accurate Inventory of Building Components and Equipment:*** An inventory is a reliable count of the various building components and equipment comprising Atkinson's Town facilities. A complete inventory, periodically updated, offers an information base with which the Town can plan assessments and needed preventive maintenance. Typically, information in the inventory should include the building components' condition and functional performance, as well as the equipment's age, usage, location, warranty information, and model type.

b) ***Building Inspections:*** Each facility should be inspected by a team that includes the Town Administrator, the maintenance supervisor and the Department Head

responsible for the facility. All building components should be included in the inspection. A checklist will be provided with information on how to record building component deficiencies. If required to adequately assess a building's structural condition, a structural engineer should participate in the inspection process. Inspections will take place semiannually in February and August.

2. Rank/prioritize maintenance projects and evaluate their costs.

To operate buildings as they were intended and in a cost-effective manner, active planning of building maintenance is necessary. Planning involves setting project priorities to target resources toward the highest needs. As the Town determines what maintenance projects are required, it should use an objective process for setting priorities among them. Because maintenance needs can outpace available resources, good planning requires a process for ranking maintenance projects—including preventive maintenance, general maintenance, and projects necessary to correct deficiencies. A ranking process recognizes that not all projects share equal importance. For instance, some projects left undone would involve too great a risk to building occupants' safety or could result in premature and expensive equipment failure. The danger in assigning lower priorities lies in the risk that less important projects left unattended eventually grow in urgency. A project's cost, environmental concerns, and the need to comply with building and safety codes and standards are other factors that may influence project priorities. Depending on buildings' uses, a district may have multiple priority systems for ranking projects.

3. Plan strategically for maintenance in the long-and-short-term. To get optimum benefits from preventive maintenance, the Town needs to plan for it. Absent planning, maintenance tends to occur when the need for repair arises—typically a more costly arrangement leading to premature equipment failure. The Town should include active preventive maintenance along with other maintenance projects in long- and short-term maintenance plans that are tied to capital improvement programs, capital budgets, reserved accounts, and operating budgets. Active planning for preventive maintenance should occur at the same time as planning for other maintenance; it is needed both for the long-term (at least a three-year outlook) and the short-term (the upcoming year). Long-term planning includes a long-range facility plan and a capital improvement program. Short term planning includes annual work plans and annual budgets.

a) **Establish a Reserved Account:** Maintenance and planned replacements vary from year to year. Some years require larger expenditures for major projects, such as reroofing, tuck pointing brick exteriors, and replacing a boiler or cooling tower. Consequently, districts should reserve an amount of money each year to provide funding for the renewal of building components. Defined simply, reserved accounts spread out over many years the payments for replacing building components. Establishing reserved funds requires a district to place high priority on renewing building components when setting budgets. With reserved funds, districts affirm the importance of an ongoing investment in preserving their physical plant. Planning adequate reserved funds depends on needs identified from building condition assessments, calculations of components' useful remaining life, and accurate estimates of project costs.

b) **Develop an Annual Work Plan:** An annual work plan and budget should flow from the strategic long-term goals and objectives developed for a district's buildings. Some

annual plans are more complete than others, however. The work plan should list all expected maintenance projects for the year: preventive maintenance, general maintenance, major and minor repairs, custodial operations, alterations, and construction. It should also include projects needed to reduce backlogs of deferred maintenance.

- c) **Link Work Plan to Annual Budgets:** The annual work plan should link directly to the yearly maintenance budgets. Projects in the work plan transform from ideas into reality only when they are included in operating or capital budgets. In the budget, building managers balance maintenance needs against available funding. The annual budget shows for the coming year what money is needed for each project in the annual work plan, including projects intended to reduce maintenance backlogs. Budget development requires preparing cost estimates for annual operations, such as personnel and supplies costs, as well as for capital costs, such as making major repairs. Each year's capital budget should flow from the longer-range capital improvement program described earlier. The amount of spending needed for facility maintenance depends on the costs of buildings' identified needs, the extent of deferred maintenance, and the planned period over which the district hopes to reduce building deficiencies. Higher spending any given year will bring conditions to their desired level faster; lower spending lengthens the time. No single rate of maintenance spending applies to all buildings.

4. Structure a framework for ongoing maintenance programs

By definition, preventive maintenance means inspecting, adjusting, lubricating, testing, and replacing on a regular, ongoing basis. To do this effectively, building managers need a framework that supports the preventive maintenance program.

- a) **Coordinate the Program with Other Maintenance:** In Town, preventive maintenance projects will be performed among many other maintenance requirements. Therefore, the overall maintenance program requires coordination to ensure work is performed when it is supposed to be. A coordinator should be responsible for synchronizing all maintenance jobs—including preventive, general, and emergency maintenance. This helps ensure that maintenance projects of one type do not interfere with others, such as repainting a wall that is soon to be modified as part of a remodeling project.
- b) ^{update or} **Develop Checklists of Tasks and Their Frequency:** Including every piece of every building system in a preventive maintenance program is unnecessary and prohibitively expensive. The time involved with such an effort would be enormous and the outcomes unlikely to justify the expense. The Town should exclude from a preventive maintenance program equipment that is inexpensive and easy to replace. Consequently, The Town must determine in advance which equipment is critical to the continued safe operation of the building, carries high repair or replacement costs, or is difficult to purchase "off the shelf." Equipment of this type should be part of the preventive maintenance program. After deciding which items to include in the program, the Town should develop a checklist of preventive maintenance tasks. The checklist should specify for each type of equipment what inspections, calibrations, lubrications, or replacements are needed. The checklist should indicate the frequency of the preventive maintenance task. This timetable for servicing equipment should specify whether the task is to be performed weekly, monthly, annually, or

at some other interval. To produce the checklist, the Town should rely to the extent possible on recommendations by manufacturers of the specific equipment. Manufacturers' guidance will indicate which preventive maintenance tasks are necessary and their frequency.

- c) ***Schedule Timelines to Perform Tasks:*** As part of the annual work plan, The Town should prepare one-year schedules of the preventive maintenance tasks to be performed. The timelines should depend on equipment manufacturers' recommendations or other predetermined intervals. Scheduling similar tasks across facilities, to the extent possible, helps maximize efficiency.

5. Involve appropriate maintenance personnel in decision-making and planning process

To gain optimum benefits from planned maintenance, the Town should include the Maintenance Department and appropriate Department Heads in the building planning and decision making process. The town should keep systematic maintenance records, either by computer or manually. The town Administrator should evaluate the maintenance program to improve it over time.

- a) ***Use a Work-Order System:*** The Town should invest in a work-order system as a standard way of planning and reporting maintenance work, whether the job originates as a problem communicated by building users or as part of planned maintenance projects. A work-order system provides uniformity in planning maintenance jobs. Using work orders for upcoming preventive maintenance tasks helps ensure that this work does not get abandoned amidst multiple maintenance jobs. Work orders may also provide a written record of actual work done each day, as well as the number of hours to complete tasks, parts needed for the job, and feedback on the completed work.
- b) ***Keep Systematic Records:*** All the actions discussed above, from assessing the condition of buildings to scheduling preventive maintenance tasks, require keeping data. Keeping accurate records means having a system for retaining and managing their maintenance information. An information system allows managers to compare budgeted to actual costs and evaluate maintenance performance. Trend data on maintenance and repair costs provide useful information for estimating budget items.
- c) ***Evaluate the Program:*** To improve the quality of preventive maintenance, the Town should periodically evaluate the maintenance work. Planned, ongoing evaluations help identify what aspects of the program need improvement. They also identify what is working successfully and should continue into the future
- d) ***Involve Personnel in Decision Making and in Communicating Building Needs Process:*** The Town should include Department Heads in decisions on facility matters, including planned/preventative maintenance. Doing so can provide insight into future maintenance needs and avoid unnecessary costs.
- e) ***Educate Decision Makers about Building Needs:*** Selectmen, the Budget Committee and other elected officials need information on maintenance projects and costs, albeit at a different level of detail than the Maintenance Department and Department Heads.

- 1.0 Introduction
- 2.0 Building Maintenance Plan Outline
 - 2.1 Inventory Buildings
 - 2.1.1 Building descriptions
 - 2.1.1.1 Age
 - 2.1.1.2 History
 - 2.1.1.3 Foundation
 - 2.1.1.4 Number of floors
 - 2.1.1.5 Rooms
 - 2.1.1.6 Use
 - 2.1.1.7 Etc.
 - 2.1.2 Components
 - 2.1.2.1 HVAC
 - 2.1.2.2 Elevators
 - 2.1.2.3 Etc.
 - 2.1.3 Assess condition
 - 2.1.4 Break out ongoing costs, e.g., lightbulbs, boiler cleaning, etc.
 - 2.1.5 Rank/prioritize work/projects
 - 2.1.6 Evaluate cost
 - 2.1.6.1 Quote vs. RFP
 - 2.1.7 Determine who will do the work
 - 2.1.7.1 Who evaluates major work
 - 2.1.8 Determine timing of work
 - 2.2 Project work
 - 2.2.1 Project definition
 - 2.2.2 Bid process
 - 2.2.2.1 Development
 - 2.2.2.2 Advertising
 - 2.2.2.3 Selection
 - 2.2.2.4 Award
 - 2.2.3 Contracting process
 - 2.2.4 Project management
 - 2.2.5 Project tracking
 - 2.2.6 Project closure

- 2.3 Preventative Maintenance
 - 2.3.1 What can/should be PM'ed and by whom
 - 2.3.1.1 Boilers/burners - Contracted fuel provider
 - 2.3.1.2 Geothermal system at Town Hall - Skillings
 - 2.3.1.3 Hot water heaters – Contracted fuel provider
 - 2.3.1.4 LULA Lift at Fire Station – Halley Elevator
 - 2.3.1.5 Fire extinguishers – Quality Fire Protection
 - 2.3.1.6 Emergency lighting – Town Maintenance
 - 2.3.1.7 Alarm Systems - Pulsar
 - 2.3.1.8 Plumbing – open/close – Mike Cuomo
 - 2.3.1.9 HVAC systems – Audette Mechanical
 - 2.3.1.10 Generators – United Compressor
 - 2.3.1.11 Sprinklers – Quality Fire Protection
 - 2.3.1.12 Grease trap at the Community Center - Boraczeks
 - 2.3.1.13 Garage doors – Overhead Door Company
 - 2.3.1.14 Septic Systems – Pete’s Septic
 - 2.3.1.15 Timer resets – Town maintenance
 - 2.3.1.16 Irrigation – open/close – TBD
 - 2.3.1.17 AED batteries – Town maintenance
 - 2.3.1.18 Battery changes – Town Hall back door – Town maintenance
 - 2.3.2 Schedule
 - 2.3.3 Cost component
- 2.4 Life-cycle management
 - 2.4.1 Component replacement
 - 2.4.1.1 Proactive vs. reactive
 - 2.4.2 Schedule
 - 2.4.3 Increased inspections/maintenance with age
 - 2.4.4 Etc.
- 2.5 Documentation
 - 2.5.1 TBD

Building Maintenance Overview

Building	Date Inspected	Overall Condition	Key Issues
Fire Department	4/1/2016	Excellent	Structural/siding issues
Police Department	5/3/2016	Good	Repainting of Building
Town Hall	3/3/2016	Excellent	No major issues
Kimball House	4/4/2016	Good	Bathroom Remodel, Outside painting, old interior
East Road Barn	5/3/2016	Good	No major issues
Highway Department Garage	4/1/2016	Fair	Lighting, air quality, ceiling paint
Highway Department Shed	4/1/2016	Fair	Roof
Community Center	3/18/2016	Good	Interior appearance, Windows, Insulation; A/C
Cemetery Shed	5/18/2016	Excellent	No issues
Cemetery - Hearse House	5/18/2016	Good	No issues
Cemetery - Storage Building	5/18/2016	Poor	Structural issues (roof and siding)
Family Mediation	4/4/2016	Fair	Windows
Woodlock Park - Field 2 Dugouts	5/3/2016	Excellent	No major issues
Woodlock Park - Scoreboard	5/3/2016	Good	No major issues
Woodlock Park - Sun-n-Fun Storage	5/3/2016	Excellent	No major issues
Woodlock Park - Pavilion	5/3/2016	Good	No major issues
Woodlock Park - Pump House	5/3/2016	Excellent	No major issues
Woodlock Park - Field 1 Dugouts	5/3/2016	Excellent	No major issues
Woodlock Park - Baseball Storage	5/3/2016	Excellent	No major issues
Woodlock Park - General	5/3/2016	Excellent	No major issues
Library	5/3/2016	Excellent	No major issues
Capital Equipment			

Family Mediation	EARLY 1900s	1,131	Furnace Water heater	2005	10	20	2025	April
Woodlock Park			Water Heater					
Library			Boiler 1	2008	7	20	2028	April
			Boiler 2	2008	7	20	2028	May
			Air Conditioner 1	2008	7	20	2028	April
			Air Conditioner 2	2008	7	20	2028	April
			Air Conditioner 3	2008	7	20	2028	April
			Hot Water Heater	2008	7	20	2028	
			Generator	2012	3	20	2031	Semi-annually