OFFICE OF THE SUPERINTENDENT

Millburn Public Schools

INFORMATION ITEM

September 7, 2010

To: Board of Education Members

From: Ellen E. Mauer, PhD

Subject: Update on Closing West Status

I just wanted to give everyone a brief update on where we are with this inquiry.

Jason did a brief overview of how the demographics would look if we were only at Central in 2015 and closed West. We would need to have 8 trailers to maintain our current programming of related arts and keep class sizes between 20 and 27.

I have attached a letter from the Regional Office of Education stating that as long as we have a viable building, they will not issue permits for trailers.

I have also attached a report I got from a colleague indicating some of the considerations we must look at when undertaking "mothballing" of a building. I called our architect and they are doing cost estimates for a beginning facility study for mothballing. Although we do not have their estimate yet, my colleague shared that theirs cost between $15,000 and $20,000 in 2004.

I do have an estimate for a mobile unit so that you can see the cost of one trailer. That estimate is attached.

Given these initial findings, we will need direction as to how to proceed. We can go ahead and begin the facility study once we know the cost to do so; however, if the ROE is not going to issue permits for trailers, do we really want to spend those dollars?

Regional Office of Education

Roycealee J. Wood
Regional Superintendent of Schools

800 Lancer Lane Suite E-128
Grayslake, Illinois 60030-2656
Phone 847 543 7833
Fax 847 543 7832
www.lake.k12.il.us

LakeCounty

August 25, 2010

Dr. Ellen Mauer, Superintendent
Millburn School District 24
18550 Millburn Road
Wadsworth, IL 60083-9248

Dear Dr. Mauer:

Pursuant to our recent telephone conversation and your request regarding housing students in temporary/mobile teaching units, I am responding as follows:

1) Mobile units are intended to be used to remedy overcrowding and to be used only in the absence of other appropriate housing being available for students.

2) The Millburn West School is a viable and up to code standards building. As such, it cannot and should not be "moth balled" so that students in that building can be housed as an alternative in temporary/mobile teaching units at Millburn Central School.

Please be assured that, at this time, I would not approve such a request.

If you have further questions, please call me at 847-543-7491.

Thank you.

Sincerely,

Roycealee J. Wood
Regional Superintendent of Schools
Lake County, Illinois

C: Dr. John Barbini

RJW/lmn
Wood, Royce/2010/Letters/Dr. E. Mauer #24 8-25-10

SPACE BY WILLIAMS SCOTSMAN

WILLIAMS SCOTSMAN, INC

,
Phone: (630)293-0095 Ext. 47225
Fax:
Toll Free: 800-782-1500
Patrick Johnson
Sales Representative
jpjohnso@willscot.com

Quote Number: 25540
Date: June 29, 2010
Expiration: July 29, 2010

Customer:
Millburn School District
18550 W Millburn Rd
Old Mill Creek, Illinois 60083-9248

Contact:
Ellen Mauer
18550 W Millburn Rd
Old Mill Creek, IL 60083-9248
Phone: (847) 245-1647
Fax:
Email: emauer@millburn24.net

Ship To:

WADSWORTH, IL
60083 US

68x24 Classroom (64x24 Box)

Option	Minimum Term	Monthly Rate
1	36 Months	$600.00

DELIVERY FREIGHT:	$920.00
INSTALLATION:	$2,592.00
TEARDOWN:	$2,432.00
RETURN FREIGHT:	$920.00

Insurance Valuation: $51,625.81

OPTIONS

QTY	DESCRIPTIONS	PRICE	FREQUENCY	EXTENDED
12	Tiedowns into dirt	$684.72	Initial	$684.72
176	Vinyl skirting	$1,936.00	Initial	$1,936.00
12	Tiedown-Dirt Removal	$20.65	Final	$247.73
176	Skirting Removal - Vinyl LF	$1.04	Final	$182.58
2	Dry Erase Boards	$281.25	Initial	$562.50

In addition to the above quoted prices, customer shall pay Williams Scotsman any local, state, or provincial, federal and/or personal property tax or fees related to the equipment or its user. Physical Damage & commercial liability insurance coverage are required beginning on the date of delivery.

Williams Scotsman is not responsible for changes required by local code or building inspectors. Customer is responsible for locating and marking underground utilities prior to delivery. Quote assumes a level site with clear access.

MONTHLY CHARGES:	$600.00
INITIAL CHARGES:	$6,695.22
FINAL CHARGES:	$3,782.84
TOTAL CHARGES:	$32,078.06

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Patrick Johnson,Sales Representative
jpjohnso@willscot.com

Clarifications/Scope of Work

Modular complex installation - limited scope of work - **no below grade foundations.**
Project or Bid No.:

1 Williams Scotsman will provide all permits necessary for delivery of the module(s) to the site. The customer shall obtain and be responsible for all permits pertaining to the building, installation, site work and occupancy.
2 Requirements or directives by local inspectors and/or other agencies shall be the responsibility of the Buyer/Lessee.
3 Pricing provided herein is based upon the use of non-union set-up & delivery labor working standard business hours Monday through Friday.
4 The lessee will be responsible for normal maintenance during lease period, such as changing HVAC filters, light bulbs, janitorial services, and minor repairs.
5 Pricing provided herein, for the "available space" unit, shall be subject to availability.
6 Pricing does not include hidden conditions, latent conditions, rock removal, dewatering of site, or hazardous waste removal or working conditions. Williams Scotsman Inc. is not responsible for any unknown easements, appurtenances or subsurface geological features.
7 This proposal is based on a site that is assumed to be level + / - 8" across the building envelope.
8 This proposal is based on acceptable access to and egress from the site and a staging area for the size of modules proposed. The proposed set-up is limited to placement of modular sections by use of truck only.
9 Installation will be accomplished utilizing CMUs dry stacked on grade or owner provided poured concrete piers. Tie-downs accomplished with auger type anchors, cross-drive type anchors or expansion bolts in concrete piers. Jack hammering through concrete is additional. This proposal does not include soil testing or engineered foundation design. Unless otherwise noted in proposal or scope of work, the customer is responsible for foundations or suitable soil compaction of site. Any additional costs or damages arising from settling due to the site soil bearing capacity are the customer's responsibility.
10 Typical installations are set at a floor elevation of 28" - 38" floor to grade. Excavated building sites where modular units are to be set below or at grade (pit sets) require special drainage and ventilation systems. Such drainage and ventilation systems are the customer's responsibility. Failure to provide adequate drainage and ventilation on "pit set" buildings may result in damage cost billed to the customer.
11 Fire alarm system, data lines and equipment phone lines and equipment and intercoms by others.
12 This proposal does not include site utility work. Main distribution panel, Electrical extensions and final connections to the sub-panels in the modular units are to be supplied and installed by the customer at site. Final plumbing connections and plumbing manifolding to be supplied and installed by the customer on site.
13 Sprinkler systems, if necessary, provided by others. Dumpsters to be provided by others on site.
14 The owner is responsible for any required fire-rated assemblies for the proposed structure based on proximity to property lines or any existing facility.
15 Safety barricades and traffic control, if required, provided by others.
16 Delivery and installation dates are subject to weather and site conditions.
NOTE: "Others" denotes not by Williams Scotsman, or its agents, employees and/or subcontractors

Owner/Customer acceptance signature: _____
Date:_____

Mothballing Report
(Paraphrased from October, 2004 Mothballing Report from Jess Porres)

Long-term state of storage would still require a minimal level of heat/ventilation, inspectional tours and maintenance to prevent costly deterioration that would prevent resale/rent of the property. Following is documentation collected to store and mothball an unused building.

When all means of finding a productive use for an unused building have been exhausted, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future.

This report focuses on the steps needed to "de-activate" a property for an extended period of time. Mothballing should not be done without careful planning to ensure that needed physical repairs are made prior to securing the building. The steps discussed in this report can protect buildings for periods of up to ten years; long-term success will also depend on continued, although somewhat limited, monitoring and maintenance. For all but the simplest projects, hiring a team of preservation specialists is recommended to assess the specific needs of the structure and to develop an effective mothballing program. A project team usually consists of an architect, contractor, and sometimes a structural engineer.

A vacant building cannot survive indefinitely in a boarded-up condition, and so even marginal interim uses where there is regular activity and monitoring, such as a caretaker residence or non-flammable storage, are generally preferable to mothballing. In a few limited cases when the vacant building is in good condition and in a location where it can be watched and checked regularly, closing and locking the door, setting heat levels at just above freezing, and securing the windows may provide sufficient protection for a period of a few years.

But if long-term mothballing is the only remaining option, it must be done properly. This will require stabilization of the exterior, properly designed security protection, generally some form of interior ventilation – either through mechanical or natural air exchange systems – and continued maintenance and surveillance monitoring.

Comprehensive mothballing programs are generally expensive. However, the money spent on well-planned protective measures will seem small when amortized over the life of the resource. Regardless of the location and condition of the property or the funding available, the following 9 steps are involved in properly mothballing a building:

<u>Documentation</u>

1. Document the architectural and historical significance of the building.
2. Prepare a condition assessment of the building.

<u>Stabilization</u>

3. Structurally stabilize the building, based on a professional condition assessment.
4. Exterminate or control pests, including termites and rodents.

5. Protect the exterior from moisture penetration.

Mothballing

6. Secure the building and its component features to reduce vandalism or break-ins.
7. Provide adequate ventilation to the interior.
8. Secure or modify utilities and mechanical systems.
9. Develop and implement a maintenance and monitoring plan for protection.

These steps will be discussed in sequence below. Documentation and stabilization are critical components of the process and should not be skipped over. Mothballing measures should not result in permanent damage, and so each treatment should be weighed in terms of its reversibility and its overall benefit.

Documentation

Documenting the physical condition of the property will provide information necessary for setting priorities and allocating funds. The following should be documented:

- The original purpose of the property and dates of construction;
- The chronology of any alterations or additions and their approximate dates; and
- Types of building materials, constructions techniques, and any unusual detailing

Photographs can be helpful in identification. On a walk-through, the architect should identify any architecturally significant elements of the building, both inside and out.

A site plan and schematic building floor plans can be used to note important information. Because a mothballing project may extend over a long period of time, with many different people involved, clear records should be kept and a building file established. Copies of all important data, plans, photographs, and lists of consultants or contractors who have worked on the property should be added to the file as the job progresses. Recording actions taken on the building and identifying where elements that have been removed are stored will be helpful in the future.

During the mothballing process, the project coordinator should keep the building file updated and give duplicate copies to the owner. A list of emergency numbers, including the number of the key holder, should be kept at the entrance to the building or on a security gate, in a transparent vinyl sleeve.

Preparing a condition assessment of the building

A condition assessment can provide the owner with an accurate overview of the current condition of the property. If there are significant interior architectural elements in the building that will need special protection during the mothballing years, undertaking a condition assessment is highly recommended, but it need not be exhaustive.

A modified condition assessment, prepared by an architect or preservation specialist, and in some case a structural engineer, will help set priorities for repairs necessary to stabilize the property for both the short and long-term. It will evaluate the age and condition of the following major elements: foundations; structural systems; exterior materials; roofs and gutters; exterior porches and steps; interior finishes; staircases; plumbing; electrical, mechanical systems; special features such as chimneys; and site drainage.

To record existing conditions of the building and site, it will be necessary to clean any debris from the building and to remove unwanted or overgrown vegetation to expose foundations. The interior should be emptied of its furnishing (unless provisions are made for mothballing these as well), all debris removed, and the interior swept with a broom.

Photographs or a videotape of the exterior and all interior spaces of the resource will provide an invaluable record of "as is" conditions. If a videotape is made, oral commentary can be provided on the significance of each space. Pictures should be printed; they should be numbered, dated, and appropriately identified. Photographs should be cross-referenced with the room numbers on the schematic plans. A systematic method for photographing should be developed; for example, photograph each wall in a room and then take a corner shot to get floor and ceiling portions in the picture. Photograph any unusual details as well as examples of each window and door type.

Stabilization

Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural areas must be reinforced; insects and other pests removed and discouraged from returning; and the building protected from moisture damage both by weatherizing the exterior envelope and by handling water run-off on the site. Even if a modified use or caretaker services can eventually be found for the building, the following steps should be addressed.

Structurally stabilizing the building

The condition assessment may reveal areas of hidden structural damage. Roofs, foundations, walls, interior framing, canopies all have structural components that may need reinforcement. If the building is in a northern climate, then the roof framing must be able to hold substantial snow loads. Bracing the roof at the ridge and midpoints should be considered if sagging is apparent. Likewise, interior framing around stair openings or under long ceiling spans should be investigated. Underpinning or bracing structural piers weakened by poor drainage patterns may be a good precaution as well. Damage caused by insects, moisture, or from other causes should be repaired or reinforced and, if possible, the source of the damage removed.

If the building is in a southern or humid climate and termites or other insects are a particular problem, the foundation and floor framing should be inspected in ensure that there are no major structural weaknesses. This can usually be done by observation from the crawl space or basement. For those structures where this is not possible, it may be advisable to lift selective floorboards to expose the floor framing. If there is evidence of

pest damage, particularly termites, active colonies should be treated and the structural members reinforced or replaced, if necessary.

Controlling pests

Pests can be numerous and include squirrels, raccoons, bats, mice, rats, snakes, termites, moths, beetles, ants, bees and wasps, pigeons, and other birds. Termites, beetles, and carpenter ants destroy wood. Mice too gnaw wood as well as plaster, insulation, and electrical wires. Pigeon and bat droppings not only damage wood finishes but create a serious and sometimes deadly heal hazard.

If the property is infested with animals or insects, it is important to get them out and to seal off their access to the building. If necessary, exterminate and remove any nests or hatching colonies. Chimney flues may be closed off with exterior grade plywood caps, properly ventilated, or protected with framed wire screens. Existing vents, grills, and crawl spaces should be screened with bug mesh or heavy-duty wire, depending on the type of pest being controlled. It may be advantageous to have damp or infected wood treated with insecticides (as permitted by each state) or preservatives, such as borate, to slow the rate of deterioration during the time that the building is not in use.

Securing the exterior envelope from moisture penetration

It is important to protect the exterior envelope from moisture penetration before securing the building. Leaks from roofs as well as ground moisture from improper site run-off or rising damp at foundations can cause long-term damage to interior finishes and structural systems. Any serious deficiencies on the exterior, identified in the condition assessment, should be addressed.

Roofs are often the most vulnerable elements on the building exterior and yet in some ways they are the easiest element to stabilize for the long term, if done correctly. "Quick fix" solutions, such as tar patches, should be avoided as they will generally fail within a year or so and may accelerate damage by trapping moisture. Use of tarpaulin over a leaking roof should be thought of only as a very temporary emergency repair because it is often blown off by the wind in a subsequent storm.

Mothballing

The actual mothballing effort involves controlling the long-term deterioration of the building while it is unoccupied as well as finding methods to protect it from sudden loss by fire or vandalism. This requires securing the building from unwanted entry, providing adequate ventilation to the interior, and shutting down or modifying existing utilities. Once the building is de-activated or secured, the long-term success will depend on periodic maintenance and surveillance monitoring.

Securing the building from vandals, break-ins, and natural disasters

Securing the building from sudden loss is a critical aspect of mothballing. If the building is located where fire and security service is available then it is highly recommended that some form of monitoring or alarm devices be used.

Mothballed buildings are usually boarded up, particularly on the first floor, to protect glass windows from breaking and to reinforce entry points. Infill materials for closing door and window openings include plywood, corrugated panels, metal grates, chain fencing, metal grills, and cinder or cement blocks. The method of installation should not result in the destruction of the opening and all associated sash, doors, and frames should be protected or stored for future reuse.

Generally, exterior doors are reinforced and provided with strong locks. Alternatively, security gates in a new metal frame can be installed within existing door openings, much like a storm door. If plywood panels are installed over door openings, they should be screwed in place, as opposed to nailed, to avoid crowbar damage each time the panel is removed. This also eliminates new nail holes each time the panel is replaced.

For windows, the most common security feature is the closure of the openings; this may be achieved with wooden or pre-formed panels or, as needed, with metal sheets or concrete blocks.

There is some benefit from keeping windows unboarded if security is not a problem. The building will appear to be occupied, and the natural air leakage around the windows will assist in ventilating the interior. The presence of natural light will also help when periodic inspections are made. Rigid polycarbonate clear storm glazing panels may be placed on the window exterior to protect against glass breakage. Because the sun's ultraviolet rays can cause fading of floor finishes and wall surfaces, filtering pull shades or inexpensive curtains may be options for reducing this type of deterioration for significant interiors. Some acrylic sheeting comes with built-in ultraviolet filters.

Securing the building from catastrophic destruction from fire, lightning, or arson will require additional security devices. Lightning rods properly grounded should be a first consideration if the building is in an area susceptible to lightning storms. A high security fence should also be installed if the property cannot be monitored closely. These interventions do not require a power source for operation. Since many buildings will not maintain electrical power, there are some devices available using battery packs, such as intrusion alarms, security lighting, and smoke detectors, which through audible horn alarms can alert nearby neighbors. These battery packs must be replaced every 3 months to 2 years, depending on type and use. In combination with a cellular phone, they can also provide some level of direct communication with police and fire departments.

If at all possible, new temporary electric service should be provided to the building. Generally a telephone line is needed as well. A hard-wired security system for intrusion and a combination rate-of-rise and smoke detector can send an immediate signal for help directly to the fire department and security service. Depending on whether or not heat will be maintained in the building, the security system should be designed accordingly. Some systems cannot work below 32°F (0° C). Exterior lighting set on a timer, photoelectric sensor, or a motion/infra-red detection device provides additional security.

Providing adequate ventilation to the interior

Once the exterior has been made weather-tight and secure, it is essential to provide adequate air exchange throughout the building. Without adequate air exchange, humidity may rise to unsafe levels, and mold, rot, and insect infestation are likely to thrive. The needs of each resource must be individually evaluated because there are so many variables that affect the performance of each interior space once the building has been secured.

A mechanical engineer or a specialist in interior climates should be consulted, particularly for buildings with intact and significant interiors. In some circumstances, providing heat during the winter, even at a minimal 45°F (7°C), and utilizing forced-fan ventilation in summer will be recommended and will require retaining electrical service. For masonry buildings, it is often helpful to keep the interior temperature above the spring dew point to avoid damaging condensation. In most buildings it is the need for summer ventilation that outweighs the winter requirements.

There are four critical climate zones when looking at the type and amount of interior ventilation needed for a closed up building: hot and dry (southwestern states); cold and damp (Pacific northwestern and northeastern states); temperate and humid (Mid-Atlantic states, coastal areas); and hot and humid (southern states and the tropics).

Once closed up, a building interior will still be affected by the temperature and humidity of the exterior. Without proper ventilation, moisture from condensation may occur and cause damage by wetting wallboard, peeling paint, staining woodwork, warping floors, and in some cases even causing freeze thaw damage. If moist conditions persist in a property, structural damage can result from rot or returning insects attracted to moist conditions. Poorly mothballed masonry buildings, particularly in damp and humid zones have been so damaged on the interior with just one year of unventilated closure that none of the interior finishes were salvageable when the buildings were rehabilitated.

The absolute minimum air exchange for most mothballed buildings consists of one to four air exchanges every hour; one or two air exchanges per hour in winter and twice that amount in summer. Even this minimal exchange may foster mold and mildew in damp climates, and so monitoring the property during the stabilization period and after the building has been secured will provide useful information on the effectiveness of the ventilation solution.

There is no exact science for how much ventilation should be provided for each building. There are, however, some general rules of thumb. Buildings, such as adobe structures, located in hot and arid climates may need no additional ventilation if they have been well weatherized and no moisture is penetrating the interior. Also frame buildings with natural cracks and fissures for air infiltration may have a natural air exchange rate of 3 or 4 per hour, and so in arid as well as temperate climates may need no additional ventilation once secured. The most difficult buildings to adequately ventilate without resorting to extensive louvering and/or mechanical exhaust fan systems are masonry buildings in humid climates. Even with basement and attic vent grills, a masonry building many not have more than one air exchange an hour. This is generally unacceptable for summer

conditions. For these buildings, almost every window opening will need to be fitted out with some type of passive, louvered ventilation.

Depending on the size, plan configuration, and ceiling heights of a building, it is often necessary to have louvered opening equivalent to 5%-10% of the square footage of each floor. For example, in a hot humid climate, a typical 10'x30' (6.1m x 9.1m) brick residence with 600 sq. ft. (55.5 sq.m) of floor space and a typical number of windows, may need 30-60 sq. ft. (2.75sq.m-5.5 sq.m) of louvered openings per floor. With new window measuring 3'X5' (.9m x 1.5m) or 15 sq. ft. (1.3 sq.m), the equivalent of 2 to 4 windows per floor will need full window louvers.

Small pre-formed louvers set into a plywood panel or small slit-type registers at the base of inset panels generally cannot provide enough ventilation in most moist climates to offset condensation, but this approach is certainly better than no louvers at all. Louvers should be located to give cross ventilation, interior doors should be fixed ajar at least 4" (10cm) to allow air to circulate, and hatches to the attic should be left open.

Monitoring devices, which can record internal temperature and humidity levels can be invaluable in determining if the internal climate is remaining stable. These units can be powered by portable battery packs or can be wired into electric service with data downloaded into laptop computers periodically. This can also give long-term information throughout the mothballing years. If it is determined that there are inadequate air exchanges to keep interior moisture levels under control, additional passive ventilation can be increased, or, if there is electric service, mechanical exhaust fans can be installed. One fan in a small to medium sized buildings can reduce the amount of louvering substantially.

If electric fans are used, study the environmental conditions of each property and determine if the fans should be controlled by thermostats or automatic timers. Humidistats, designed for enclosed climate control systems, generally are difficult to adapt for open mothballing conditions. How the system will draw in or exhaust air is also important. It may be determined that it is best to bring dry air in from the attic or upper levels and force it out through lower basement windows. If the basement is damp, it may be best to zone it from the rest of the building and exhaust its air separately. Additionally, less humid day air is preferred over damper night air, and this can be controlled with a timer switch mounted to the fan.

The type of ventilation should not undermine the security of the building. The most secure installations use custom-made grills well anchored to the window frame, often set in plywood security panels. Some vents are formed using heavy millwork louvers set into existing window openings. For buildings where security is not a primary issue, where the interior is modest, and where there has been no heat for a long time, it may be possible to use lightweight galvanized metal grills in the window openings. A cost effective grill can be made from the expanded metal mesh lath used by plasterers and installed so that the mesh fins shed rainwater to the exterior.

Securing mechanical systems and utilities

At the outset, it is important to determine which utilities and services, such as electrical or telephone lines, are kept and which are cut off. As long as these services will not constitute a fire hazard, it is advisable to retain those, which will help protect the property. Since the electrical needs will be limited in a vacant building, it is best to install a new temporary electric line and panel (100 amp) so that all the wiring is new and exposed. This will be much safer for the building, and allows easy access for reading the meter.

Most heating systems are shut down in long term mothballing. If a hot water radiator system is retained for low levels of heat, it generally must be modified to be a self-contained system and the water supply is capped at the meter. This recirculating system protects the property from extensive damage from burst pipes. Water is replaced with a water/glycol mix and the reserve tank must also be filled with this mixture. This keeps the modified system from freezing, if there is a power failure. If water service is cut off, pipes should be drained. Sewerage systems will require special care, as sewer gas is explosive. Either the traps must be filled with glycol or the sewer line should be capped off at the building line.

Developing maintenance and monitoring plan

While every effort may have been made to stabilize the property and the slow the deterioration of materials, natural disasters, storms, undetected leaks, and unwanted intrusion can still occur. A regular schedule for surveillance, maintenance, and monitoring should be established. The fire and police departments should be notified that the property will be vacant. A walk-through visit to familiarize these officials with the building's location, construction materials, and overall plan may be invaluable if they are called on in the future.

The optimum schedule for surveillance visits to the property will depend on the location of the property and the number of people who can assist with these activities. The more frequent the visits to check the property, the sooner that water leaks or break-ins will be noticed. Also, the more frequently the building is entered, the better the air exchange. By keeping the site clear and the building in good repair, the community will know that the building has not been abandoned. The involvement of neighbors and community groups in caring for the property can ensure its protection from a variety of catastrophic circumstances.

The owner may utilize volunteers and service companies to undertake the work outlined in the maintenance chart. Service companies on a maintenance contract can provide yard, maintenance, and inspection services, and their reports or itemized bills reflecting work undertaken should be added to update the building file.

Mothballing Checklist

In reviewing mothballing plans, the following checklist may help to ensure that work items are not inadvertently omitted.

Moisture

- ❑ Is the roof watertight?
- ❑ Do the gutters retain their proper pitch and are they clean?
- ❑ Are downspout joints intact?
- ❑ Are drains unobstructed?
- ❑ Are windows and doors and their frames in good condition?
- ❑ Are masonry walls in good condition to seal out moisture?
- ❑ Is wood siding in good condition?
- ❑ Is site properly graded for water run-off?
- ❑ Is vegetation cleared from around the building foundation to avoid trapping moisture?

Pests

- ❑ Have nests/pests been removed from the building's interior and eaves?
- ❑ Are adequate screens in place to guard against pests?
- ❑ Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?
- ❑ If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?

Housekeeping

- ❑ Have the following been removed from the interior: trash, hazardous materials such as inflammable liquids, poisons, and paints and canned goods that could freeze and burst?
- ❑ Is the interior broom-clean?
- ❑ Have furnishings been removed to a safe location?
- ❑ If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?
- ❑ Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?
- ❑ Is there a building file?

Security

- ❑ Have fire and police departments been notified that the building will be mothballed?
- ❑ Are smoke and fire detectors in working order?
- ❑ Are t he exterior doors and windows securely fastened?
- ❑ Are plans in place to monitor the building on a regular basis?
- ❑ Are the keys to the building in a secure but accessible location?
- ❑ Are the grounds being kept from becoming overgrown?

Utilities

- ❑ Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?
- ❑ If the building will not remain heated, have water pipes been drained and glycol added?
- ❑ If the electricity is to be left on, is the wiring in safe condition?

Ventilation

- ❑ Have steps been taken to ensure proper ventilation of the building?
- ❑ Have interior doors been left open for ventilation purposes?
- ❑ Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?

Maintenance Chart - 1-3 months; periodic

- ❑ Regular drive by surveillance
- ❑ Check attic during storms, if possible
- ❑ Monthly walk arounds
- ❑ Check entrances
- ❑ Check windowpanes for breakage
- ❑ Mowing as required
- ❑ Check for graffiti or vandalism
- ❑ Enter every 3 months to air out
- ❑ Check for musty air
- ❑ Check for moisture damage
- ❑ Check battery packs and monitoring equipment

- ❑ Check light bulbs
- ❑ Check for evidence of pest intrusion (every 6 months; spring and fall)
- ❑ Site clean up; pruning and trimming
- ❑ Gutter and downspout check
- ❑ Check crawlspace for pests
- ❑ Clean out storm drains (every 12 months)
- ❑ Maintenance contract inspections for equipment/utilities
- ❑ Check roof for loose or missing shingles
- ❑ Termite and pest inspection/treatment
- ❑ Exterior materials spot repair and touch up painting
- ❑ Remove bird droppings or other stains from exterior
- ❑ Check and update building file

Conclusion

Providing temporary protection and stabilization for vacant buildings can arrest deterioration and buy the owner valuable time to find a compatible use for the property. A well-planned mothballing project involves documenting the condition of the building, stabilizing the structure to slow down deterioration, and finally, mothballing the structure to secure it. The three highest priorities for a mothballed building are 1) to protect the building from sudden loss; 2) to weatherize and maintain the property to stop moisture penetration; and 3) to control the humidity levels inside once the building has been secured.

While issues regarding mothballing may seem simple, the variables and intricacies of possible solutions make the decision-making process very important. Each building must be individually evaluated prior to mothballing. In addition, a variety of professional services as well as volunteer assistance is needed for careful planning and repair, sensitively designed protection measures, follow-up security surveillance, and cyclical maintenance.

In planning for the future of the building, complete and systematic records must be kept and generous funds allocated for mothballing. This will ensure that the property will be in stable condition for its eventual preservation, rehabilitation, or restoration.