BUILDING INSPECTORS - CONSULTANTS - MANAGERS

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Commercial Property Condition Assessment

Inspection Date:

8/14/2011

Prepared For:

Mr. John Smith
ABC Company Inc.
1234 Maple Avenue
Any Town, Ct. 12245

Property Address:
123 Main Street
Your Town, Ct. 06400

Report Number:

CR2364

Prepared By:

Independent Inspections

Inspector:
Lawrence Mingrone
CT. License #300

1.0 Summary

Overall building maintenance appears to have been satisfactory.

No major structural deficiencies were noted.

The electrical system was generally found to be in satisfactory condition.

The heating and air-conditioning systems are in satisfactory condition.

The ventilation systems are satisfactory overall, however, no form of fresh air provision was noted for the first-floor offices. As the windows are not operable, a fresh-air makeup duct should be provided for the roof-mounted heating and cooling unit for these offices.

The plumbing system was generally found to be in satisfactory condition. Provisions are needed in the west electrical room to protect the plumbing supply lines from freezing.

The roofing system is in satisfactory condition for the most part. Numerous areas of minor blistering were noted on the warehouse roof surface. This is likely due to the original installation of the membrane and/or the installation of the membrane on rigid foam insulation. No repairs are considered necessary at this time. Eventually, these blisters may require repair. Repairs are required to the west rooftop heating and cooling unit curb flashing.

It appears that phenolic foam insulation may have been used on top of the steel roof deck. Corrosion of steel roof decks has been linked to this type of insulation if continually wet. As no signs of leakage or rusting were noted, no improvements are considered necessary at this time; however, the type of insulation installed on the roof deck will need to be verified.

The exterior walls were found to be in satisfactory condition for the most part, although a more than typical amount of efflorescence build-up was noted, primarily on the warehouse walls. This was noted on the interior and exterior surfaces. This may be due to greater amounts of water runoff from the small sloped roofs above the east and west walls, combined with other factors, such as the conditions when the masonry was installed. The efflorescence is not seen as a significant structural concern.

Overall the windows and doors were found to be in satisfactory condition.

The asphalt paving is in satisfactory condition. Localized repairs to cracks along the west driveway would be desirable. A proper catch basin should be provided in front of the southwest loading door. Depending upon the elevations of the storm sewers nearby, a pump mechanism may be required.

At the request of our client, the fire protection systems were not included in the assessment and a check for outstanding building or fire code violations was not undertaken.

SUMMARY OF REPAIRS

1.1 SUMMARY OF NECESSARY REPAIRS

The following table summarizes the recommendations made in this report that are of an immediate, necessary nature.

Recommendations	**Report Reference**	**Budget Cost** (2011 Dollars)
Install steps on west façade; provide railing at south exit door	11.2.8	Minor
Install spillways at base of roof drain discharge pipes	11.2.9	Minor
Provide drain catch basin at base of rear ramp to drive-in overhead door	11.2.10	Dependent upon approach time ($3,000 to $5,000 and up)
Install exhaust fan in main service electrical room	4.2.5	Minimal
Provide heat source in west electrical room	5.2.7	Minor
Provide fresh-air makeup for first-floor offices	7.2.2	$1,000 to $1,500
Rooftop unit curb flashing repair	9.2.2	Minimal
Verify type of foam insulation on steel roof deck	12.2.2	Minimal
	Total	**$4,000 to $6,500**

* The timing for replacement of components is unpredictable. Statistically, it has reached the end of its life expectancy at this time.

2.0 Introduction

As per the request and in the company of Mr. John Smith of ABC Company Ltd. and in accordance with our proposal dated March 1, 2000, a visual inspection was performed of the property. Our inspection was limited to identify the existing conditions of the following readily visible building components:

- Structure
- Heating System
- Plumbing System
- Ventilation System
- Insulation
- Fire Protection Systems
- Swimming Pool and Associated Equipment
- Electrical System
- Air-conditioning System
- Roofing System
- Exterior Components
- Interior Components
- Elevators

This assessment meets or exceeds the ASTM standard E2018-01 for Property Condition Assessments.

This report provides recommendations, preliminary cost estimates and priorities for:

- remedying major deficiencies,
- -updating ageing major components, and
- undertaking further detailed investigations.

The recommendations are for remedial actions that are considered to be beyond the normal maintenance of the building. Costs are provided for recommendations expected to exceed $3,000. The costs are only intended to provide an order of magnitude. Contractors should be contacted for exact quotations.

This report is intended for the exclusive use of our client. Use of the information contained within the report by any other party is not intended and, therefore, we accept no responsibility for such use.

This report is considered to be preliminary in nature. Before any major repairs are undertaken, we recommend that a specialist perform a detailed condition survey and develop a plan of action.

Only the items specifically addressed in this report were examined. No comment is offered on fire protection equipment or on fire regulation, building code and building bylaw compliance, or environmental concerns.

BUILDING DESCRIPTION

The subject property consists of a single-story industrial building with an adjacent two-story office complex common to the northeast corner of the property. It was reported that the industrial building has a total area of 16,200 square feet while the offices, contain 8,700 square feet of usable space.

The visible evidence suggests that the building was constructed in 1992.

The building is presently used a custom machine fabrication facility and general office space.

For the purpose of this report, the front of the building is considered to be facing north.

PLANS

No plans or drawings were available at the time of this inspection.

3.0 Structure

3.1 DESCRIPTION

The building is of slab-on-grade construction.

The monolithic poured concrete foundation supports the exterior concrete block walls on all sides.

The east and west exterior masonry walls support the roof structure, consisting primarily of a conventional open web steel truss and deck system.

3.2 OBSERVATIONS AND DISCUSSION

3.2.1 No major structural defects were noted.

3.2.2 The east, west and south façades exhibited areas of efflorescence on the surface of the masonry units. These areas are reflective of similar conditions on the inside face of these masonry walls.

It appears that the efflorescence is a result of the original construction of the masonry walls and water runoff from the sloped roofs above the warehouse. No remedial action is considered necessary.

3.2.3 Minor cracking was noted in the exterior masonry walls. Some of these cracks resulted from the installation of vertical expansion joists, which were not continuous. These cracks are not a major structural concern.

4.0 Electrical

4.1 DESCRIPTION

The electrical service to the building is underground.

The building is equipped with a 200-amp, 600-volt, three-phase, four-wire electrical service.

This capacity was determined by the size of the main fuses.

There is a 45-kVA transformer in the electrical room that steps a portion of the 600-volt service down to a 120/208-volt, three-phase service for the main building panels. There is a 45-kVA transformer in the electrical room that steps a portion of the 600-volt service down to a 440-volt, three-phase service for a piece of machine equipment in the warehouse area. Presently, this service is not in use.

The distribution panels employ circuit breakers.

All wiring examined is copper, with the exception of the main supply wiring, which is aluminium.

4.2 OBSERVATIONS AND DISCUSSION

4.2.1 While detailed load calculations were not performed, no problems are suspected with the service capacity.

This service should be adequate for the present usage.

4.2.2 The distribution equipment is well arranged. No major deficiencies were noted.

There is a breaker panel in the second-floor bathroom. This is not a safe arrangement, particularly since there is a shower installed in this bathroom. A waterproof enclosure, locked with a key, is recommended here. Alternatively, this panel should be relocated.

4.2.3 Representative samples of accessible wiring were examined and electrical switches were spot tested in the areas inspected. All switches tested operated satisfactorily. No major deficiencies were noted.

A trouble light is currently run through the wall between the warehouse and the electrical room. This is not a proper arrangement.

4.2.4 The electrical system and transformers appear to be properly grounded.

4.2.5 Ventilation for the main electrical room is non-existent; however, there is some air circulation because of the construction of the ceiling of this room. Temperature levels in this room should be monitored during the summer, and if noted to be high, installation of an exhaust fan, controlled by a thermostat on the inside of the main electrical service room, is recommended.

4.3 RECOMMENDATIONS, COSTS, AND PRIORITIES

Recommendations		Costs	Time Frame
4.3.2	Install exhaust fan in main service electrical room	Minimal	One year

5.0 Heating

5.1 DESCRIPTION

The office portion of the building is heated by two roof-mounted, gas-fired, heating (electric cooling) units. The heat output of these units is 152,000 BTUs per hour (total).

The warehouse section is heated by two gas-fired, ceiling-mounted unit heaters.

There is a single gas meter for the building.

There is a wall-mounted supplemental electric heater located in the front vestibule area.

5.2 OBSERVATIONS AND DISCUSSION

5.2.1 While detailed heat loss calculations were not performed, no problems are suspected with heating capacity.

5.2.2 The rooftop unit for the first-floor offices is approximately 8 years old. The rooftop unit for the second-floor offices is approximately 4 years old.

While it is impossible to predict with certainty when a heat exchanger will fail, the average life for heating systems of this type is 15 to 20 years

5.2.3 The warehouse heating units are approximately 8 years old.

While it is impossible to predict with certainty when a heat exchanger will fail, the average life for heating systems of this type is 20 years or more.

5.2.4 The rooftop unit for the first-floor offices and the warehouse heating units were observed while in operation. No major deficiencies were noted.

The roof-mounted heating unit for the second-floor offices was not operating in heating mode at the time of the inspection.

5.2.5 The gas lines on the exterior are corroded and require repainting.

The wood blocking supporting the gas lines on the south warehouse roof is displaced and should be replaced.

Standard metal chimneys have been provided for the warehouse heating units. These are in acceptable condition.

5.2.6 The heat distribution appears adequate in most areas.

As is typical, the space between the ceiling tile and the underside of the floor assembly and roof deck is used as the air return plenum. Air return to the offices is via grilles in the ceiling.

The air return arrangement on the second floor is via centrally located grille, as opposed to air return grilles in each office. With this arrangement, air circulation in the north most offices will suffer when the doors are kept closed. It would be relatively easy to provide air returns here by installing grilles in place of ceiling tiles.

5.2.7 The heating supply in the office areas is overhead. With this configuration, the installation of supplemental heat sources (such as electric baseboard heaters) may be desirable below windows.

No heat supply was noted in the west electrical room. As there are plumbing supply pipes in this room, and as such an electric heat source should be provided.

5.3 RECOMMENDATIONS, COSTS, AND PRIORITIES

Recommendations		Costs	Time Frame
5.3.1	Provide heat source in west electrical room	Minor	One year

6.0 Air Conditioning

6.1 DESCRIPTION

The office section of the building is air-conditioned by two rooftop units. The unit for the first floor has a capacity of 6 tons. The unit for the second floor has a capacity of 3 tons.

The type of refrigerant used in the air-conditioning systems could not be verified.

The air is distributed through the same air handling equipment previously mentioned in the Heating section.

6.2 OBSERVATIONS AND DISCUSSION

6.2.1 The total available cooling capacity for the building is 9 tons. While detailed heat gain calculations were not performed, no problems are suspected with cooling capacity.

6.2.2 This unit for the first-floor area is approximately 8 years old. The unit for the second-floor offices is approximately 4 years old.

Air-conditioning compressors have an average life span of 12 to 15 years. All compressors were found to be original.

6.2.3 The air-conditioning equipment was not operating. Severe damage to the compressors can result from operating this equipment when the outside temperature is below 15oC (60oF).

No major deficiencies were noted.

6.2.4 The rooftop unit for the second-floor offices is equipped with a fresh-air makeup duct. This unit allows fresh air from the exterior to enter the return air plenum. This introduction of fresh air helps to improve indoor air quality as well as compensate for air that is expelled through exhaust fans.

The first-floor unit is not equipped with fresh-air makeup.

6.2.5 As mentioned previously in the Heating section, adequate air distribution is provided in most areas.

7.0 Ventilation

7.1 DESCRIPTION

The washrooms are ventilated by individual exhaust fan units.

The second floor offices receive fresh air from the heating and cooling rooftop unit. This unit is equipped with a fresh-air makeup duct, which allows fresh air from the exterior to enter the return air plenum. This introduction of fresh air helps to improve indoor air quality as well as compensate for air that is expelled through exhaust fans.

There are ceiling fans in the warehouse area.

7.2 OBSERVATIONS AND DISCUSSION

7.2.1 The washroom exhaust fans operated properly at the time of the inspection. These fans are properly vented to the building exterior.

7.2.2 The amount of fresh air available to the second floor offices appears adequate.

However, the amount of fresh air available to the first-floor offices is not considered adequate. As the windows in the building are fixed, the rooftop equipment should be equipped with fresh-air makeup. It was noted on the roofs of the four other similar adjacent buildings that each of their rooftop heating and cooling units are equipped with fresh-air makeup.

There is a waste plumbing stack directly beside the rooftop unit for the first-floor offices. When providing a fresh-air makeup duct here, it should be ensured this plumbing stack is properly relocated to prevent sewage odours from entering the building.

7.3 RECOMMENDATIONS, COSTS, AND PRIORITIES

Recommendations		Costs	Time Frame
7.3.1	Provide fresh-air makeup for first-floor offices	$1,000 to $1,500	One year

8.0 Plumbing

8.1 DESCRIPTION

There is a 1-inch-diameter, copper, domestic water supply line to the building.

The main shutoff valve is located in the west electrical room. There is a single water meter for the building.

All supply plumbing examined is copper. The visible waste piping is a combination of ABS plastic and copper.

There is a 40-gallon, electric domestic water heater in the northwest warehouse mezzanine level.

There is a single washroom located in the second-floor warehouse mezzanine and two washrooms located on the main floor at the offices.

No sump pumps were observed in the building.

8.2 OBSERVATIONS AND DISCUSSION

8.2.1 The water flow was tested on the top floor of the building. The reduction in water flow noted, with two faucets flowing and a toilet flushing, was not considered excessive.

8.2.2 The exposed supply piping in the warehouse and in the west electrical room should be insulated to prevent condensation from occurring.

8.2.3 No active leaks were noted in the plumbing pipes, either supply or waste.

Evidence of past leakage was noted below the storm drainpipe in the southeast warehouse area. This should be monitored and repaired as necessary.

Furthermore, the roof drainpipe in the southwest warehouse area contains five 90-degree elbows before it exits through the exterior wall. Because of the number of elbows here, there is great potential for clogging. It should be ensured the roof drain cover is well maintained. Ideally, a cleanout would be provided after the third 90-degree elbow. This should be monitored.

8.2.4 The domestic water heater is approximately 10 years old. While it is impossible to predict with certainty when a domestic water heater will fail, these units typically last 15 years.

The pressure relief valve is properly sized. The pressure-relief valve discharge tube is undersized and should be improved.

8.2.5 The plumbing fixtures that were tested operated satisfactorily.

9.0 Roofing

9.1 DESCRIPTION

The building is covered by built-up asphalt and gravel membranes on two levels.

There are small sloped roofs along the east and west perimeters of the warehouse. These sloped roofs are covered with corrugated metal roofing.

There is a small flat roof above the front entrance to the building. This roof is covered with a built-up asphalt membrane.

The roof drainage is via an interior collection system. There are two drains on the office roof and two drains on the warehouse roof.

There are two metal chimneys above the roof. These chimneys are for the warehouse heating units.

9.2 OBSERVATIONS AND DISCUSSION

9.2.1 The flat roof coverings appear to be in serviceable condition. Since the roofs are covered with gravel (as they should be), the membranes could not be closely examined.

This installation is estimated to be 8 years old. This type of system has an average life expectancy of 20 to 25 years.

9.2.2 Minor blistering was noted on the office roof at the west-central area. Numerous minor blisters were noted throughout the warehouse roof.

Blistering is not a desirable condition in the roof membrane; however, at this time, the membrane is still protected by the gravel and repairs, therefore, are not considered warranted. This should be monitored.

At the curb flashing for the west rooftop heating and cooling unit, a hole was made for a wire penetration. This hole was not properly sealed and is not watertight. This should be improved promptly.

The roof drain cover is damaged at the west office area. This roof drain cover should replaced.

9.2.3 Minor water ponding on the roof was noted at the north end of the warehouse. This is not a desirable condition, but it is probably not cost-effective to rearrange until replacement is necessary.

The roof drainpipes run through the interior of the building and exit through the exterior walls. These pipes should discharge several feet from the building. Splash pads should be provided below the downspouts to ensure water drains away from the building.

Currently, the roof drain discharge at the west side of the offices is discharging water against the foundation wall and has caused minor water damage to the concrete block here.

9.2.4 Gutters were not provided for the sloped roofs on the east and west sides of the warehouse. As such, greater amounts of water accumulation should be anticipated on the east and west warehouse walls. This may lead to efflorescence build-up, staining and water penetration to the inside surface of the block.

The provision of gutters and downspouts for these sloped roofs would improve the situation; however, this is not considered to be a high priority improvement.

9.3 RECOMMENDATIONS, COSTS, AND PRIORITIES

Recommendations		Costs	Time Frame
9.3.1	Rooftop unit curb flashing repair	Minimal	One year
9.3.2	Provide gutters and downspouts for east and west sides of warehouse roof.	Minimal	Discretionary

10.0 Interior

10.1 DESCRIPTION

The office ceiling finishes consist of suspended tile.

The office wall finishes consist of drywall.

The office floor coverings consist of carpet and resilient tile.

10.2 OBSERVATIONS AND DISCUSSION

10.2.1 Since interior components are subjective to some degree, our comments here will be general, except where functional concerns are noted.

Walls are relatively plumb, doorjambs are square and floors are reasonably level.

10.2.2 Overall, the interior finishes are in good condition.

10.2.3 The stairwells are generally in satisfactory condition.

A section of steel railing is missing along the east side of the southwest loading dock area. It should be ensured this missing piece of railing is replaced.

11.0 Exterior

11.1 DESCRIPTION

The exterior walls are concrete block. There are two drive-in doors in the south (rear) façade.

The windows are aluminium-framed, double-glazed units. All windows are fixed glazing.

There is a poured-concrete sidewalk at front (north) façade.

There is asphalt paving on the front, rear and west sides of the building.

11.2 OBSERVATIONS AND DISCUSSION

11.2.1 The exterior masonry is in satisfactory condition.

11.2.2 The entrance and exit doors are in good condition.

11.2.3 The overhead doors are in good condition.

11.2.4 The windows are in satisfactory condition.

11.2.5 The grading is considered to be satisfactory.

11.2.6 The poured-concrete sidewalk at the front of the building is in satisfactory condition.

11.2.7 The asphalt paving is in satisfactory condition.

11.2.8 Exit doors on the west façade of the building have an excessive step height from the interior slab-on-grade to the main exterior finish grade. This condition creates a trip hazard and should be remedied with an additional step at these locations.

Furthermore, the rear (south) façade contains one exit door, located adjacent to the depressed ramp area to the drive-in overhead door dock. The proximity of the door to the ramp and the sloping asphalt grade downward to the base of the ramp may create a tripping hazard in cases of emergency exit use of this access door. A section of guardrail is recommended for this area to alleviate the tripping hazard mentioned.

11.2.9 The pipes from the roof drains are discharging water too close to the building. Spillways should be provided, with proper slopes away from the building.

11.2.10 A proper catch basin has not been provided for the southwest drive-in door. There is a drain at the east side of this door, but it is undersized and not properly arranged.

A proper catch basin or trench drain should be provided. Depending upon the elevation of the storm sewers, a pumping system may also be required.

11.3 RECOMMENDATIONS, COSTS, AND PRIORITIES

Recommendations		Costs	Time Frame
11.3.1	Install steps on west façade; provide railing at south exit door.	Minor	As soon as possible
11.3.2	Install spillways at base of roof drain discharge pipes	Minor	As soon as possible
11.3.3	Provide drain catch basin at base of rear ramp to drive-in overhead door	Dependent upon approach taken ($3,000 to $5,000 and up)	As soon as possible

12.0 Insulation

12.1 DESCRIPTION

The presence of insulation in the exterior walls was spot-checked at an electrical outlet in the second-floor north exterior wall. Fibreglass insulation, valued at approximately R-12, was noted in the office exterior walls.

No insulation was noted in the warehouse walls, as is typical.

Rigid foam insulation, valued at approximately R-10, was noted on the roof.

12.2 OBSERVATIONS AND DISCUSSION

12.2.1 The current amount of insulation in the office walls is considered acceptable.

12.2.2 The recommended amount of insulation in flat roofs is R-10 to R-20. The current amount of insulation is considered acceptable.

The flat roof appears to be insulated by phenolic foam insulation. Corrosion of metal roof decks has been linked to the usage of this insulation without a proper vapour retarder. Further investigation is recommended to verify the type of insulation and whether a proper vapour retarder has been used in the roof. It is understood that the current owner was also the building and would have this information.

No evidence of corrosion of the steel roof deck was noted.

12.3 RECOMMENDATIONS, COSTS, AND PRIORITIES

Recommendations		Costs	Time Frame
12.3.1	Verify type of foam insulation on steel roof deck	Minimal	One year

13.0 Closing Comments

This report provides you with an overview of the condition of the major components in the building. Should you have any questions, please do not hesitate to contact us.

Please find photographs documenting some conditions noted in Appendix A.

Please find a summary of the roof-mounted heating and cooling equipment in Appendix B.

A statement of qualifications and a glossary of terms that may have been used in this report are also included for your reference.

Sincerely,

Lawrence Mingrone
INDEPENDENT INSPECTIONS

Appendix A:
Summary of Photographs

Photo 1: North building elevation

Photo 2: General Roof Area

Appendix B:
Summary of Rooftop Equipment

HVAC Unit #	Year Built	Cooling Capacity X 1000 BTUs	Heating Capacity X 1000 BTUs [output]	Service Panels Removed	Operating Mode	Makeup Air	Manufacturer	Area Serviced	Comments
1	1992	72	93	No	Heating	No	Carrier	First floor offices	Compressor is original
2	1996	36	59	No	Fan only	Yes	Carrier	Second floor offices	Compressor is original