QPK
DESIGN LLP
ARCHITECTURE
ENGINEERING
SITE & PLANNING

PROPERTY and BUILDING CONDITION ASSESSMENT REPORT

Oswego State University of New York Mary Walker Health Center

Rudolf Road, SUNY Oswego Campus
Oswego, New York

QPK Project Number: 213222.00

Date: February 10, 2014

450 South Salina Street P.O. Box 29 Syracuse NY 13201-0029 Tel 315 .472.7806 Fax 315.472.7800
www.qpkdesign.com

February 10, 2014

SUNY Oswego
Facility Services
165 Wilber Hall
Oswego, NY 13216-3599

Attention: Mr. Thomas LaMere

Subject: Mary Walker Health Center Property and Building Assessment Report

Mr. LaMere,

QPK Design LLP has completed the requested Property Condition Assessment (PCA) for the aforementioned property.

This report was conducted in accordance with the American Society for Testing and Materials (ASTM) *Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process* E2018-08 with modifications as described in our contract.

Pathfinder Engineers & Architects LLP was retained for the MEP systems assessment and Ravi Engineering for review of existing Hazardous Materials reports. Individual professionals from each team utilized on this project have been identified under Part 2 "Scope of Work" within this report.

Please do not hesitate to contact our office with any questions or if we can be of further assistance to you and your staff.

Sincerely,

QPK Design LLP

William D. Renihan, R.A.
Associate Partner

QPK DESIGN LLP

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APPENDICES:

1 EXECUTIVE SUMMARY

1A: OVERALL PROPERTY AND BUILDING DESCRIPTION:

The Mary Walker Health Center is a single-story masonry, concrete and steel frame structure approximately 15,200 square feet in area with a flat roof, equipment room penthouse and full basement. The building is located between the sanitary pumping station, Rudolf Road, Lake Ontario and Scales Hall. The exterior foundation walls are cast-in place concrete. Basement floor slab is concrete slab-on-grade; first floor is a 1 or 2-way concrete slab supported by steel beams encased in fireproofing. The roof deck is corrugated metal supported on a system of non-fireproofed steel beams and steel bar joists. The building was constructed in or around 1963. Replacements and renovations included:

- Roof replacement in 1994.
- Fire alarm upgrades in 1999.
- Exterior aluminum clad wood window replacement in 2004.
- HVAC updates in 2004.

The basement appears to have originally been built as a fallout shelter complete with water storage and temporary restroom facilities, but is currently being used as a storage area. The first floor was originally built as an infirmary, but is currently being used primarily as primary care physician offices. A single residential apartment with direct access to the exterior is also located on the first floor.
Roof is insulated, but exterior walls are likely not insulated (insulation was not evident at the inside face of exterior walls during above ceiling plenum observations).

1B: GENERAL OVERALL BUILDING CONDITION:

The Mary Walker Health Center building is in fair condition. The building currently appears to be water-tight (with the exception of some moisture at foundation). The major architectural systems including foundation, exterior walls, windows and roofing appear to be in fair to good condition. It is assumed that the current building is considered a conforming use by the local code enforcement official.

1C: ASBESTOS AND HAZARDOUS MATERIALS SUMMARY:

An Asbestos and Hazardous Materials Building Assessment was conducted to identify suspect asbestos and hazardous containing materials that may be impacted by future renovation projects. This assessment included a brief visual inspection conducted on August 21, 2013, a review of past sampling events, a review of available building record drawings and development of recommendations for asbestos and hazardous materials sampling based on the visual inspection and review of the above mentioned records. Refer to Appendix # 8 for the Asbestos and Hazardous Materials Building Assessment Report.

1D: SUMMARY OF RECOMMENDATIONS:

Items that are *italicized* indicate an "Immediate Need" item. Refer to Part 1E "Immediate Needs Table" for associated construction cost estimates. Note: the "2010 Building Code of NYS" was the primary reference utilized to determine potential safety items.

SITE:

Site Drainage:

- Physical Deficiency Identified:
  - Re-grade negatively sloped areas as needed to provide positive drainage (1/8" per foot minimum) away from the building to minimize the amount of surface water against exterior walls.

Curbing:

- Physical Deficiency Identified:
  - Replace deteriorated curbs that are perpendicular to foot traffic and/or stepped on by regular pedestrian traffic.

Sidewalks:

- Potential Safety Items:
  - *Level the sidewalk with pressure injection below slab or replace concrete sidewalk at bottom of loading dock stair.*
- Physical Deficiencies Identified:
  - Evaluate existing sidewalk slope. Install handrails on each side of the sloping sidewalk in accordance with ANSI A117.1 if slope exceeds 1:12.
  - Replace Concrete Pad at door north of loading dock.
  - Slate Patio; Replace cracked stone and re-set stones as needed to provide positive drainage and replace joint filler material.
  - Reset pavers and fill joints with poly-sand at front entry pavers.
  - Fill existing cracks with pourable sealant.

Handrails, Guards:

- Potential Safety Items:
  - *Install (1) code compliant handrail on each side of the sidewalk stair.*
  - *Install a removable guard rail system that conforms to current NYS building codes for "guards" @ loading dock.*
  - *Exterior basement stair and loading dock stair - replace existing handrails and guards with NYS code compliant guards and handrails.*

BUILDING:

Foundations/ Exterior Walls/ Windows:

- Physical Deficiencies Identified:
  - Repair support for overhanging brick at furthest-most east wall.
  - Re-point mortar at mortar loss locations and replace damaged brick.

- Seal joints between slate sill sections and between slate sills and brick with backer rod & sealant.

Roof:

- Physical Deficiencies Identified:
  - *Provide insulation support under roof membrane at penthouse roof drain.*
  - Locate and repair leaks at de-bonded insulation board locations.
  - Provide (2) two roof inspections that include debris removal each year; schedule (1) one inspection for late fall and (1) one for early spring.
  - Repair/replace existing seams.
  - Repair/ replace roof hatch latch to penthouse roof.

ELECTRICAL:

- Physical Deficiencies Identified:
  - Modify Main distribution Panel for the sides to fit properly.
  - Replace Cloth insulated Feeder Cables.
  - Rebuild original electrical panelboard to update and upgrade with new branch circuit breakers.
  - Remove and Replace conduit seals for the 13.2KV conduit penetrations to exterior foundation wall.
  - Engage communications technician to review telecommunications layout and reorganize / clean up distribution system in the basement.
  - Raise the uninterruptable power supplies up off of the floor and clean filters for the cooling fans.
  - Evaluate relocating the fuel storage tank to the generator room or building a fuel storage room specifically for this storage tank and add provisions as necessary for compliance with NFPA 30 and 110.
  - Provide a new back-up power distribution system with separate transfer switches to separate emergency loads and standby loads. Recommend sizing the generator to cover the entire building load.

HVAC:

- Potential Safety Items:
  - *Modulate the existing outside air damper as necessary to provide ventilation to the interior spaces as the original system was designed.*

- Physical Deficiencies Identified:
  - Provide a rated makeup and combustion air duct penetration to the generator room directly to the outdoors.
  - Provide ventilation to all occupied spaces to provide a healthy atmosphere in accordance with current ASHRAE standards.
  - Engage a mechanical engineer to re-evaluate the ventilation needs of the basement areas. Repair or replace the existing basement air handler and balance the ventilation airflow appropriately.

- Selective service and/or replacement of steam condensate traps throughout the building. Replace the condensate trap at the heating coil in the mechanical penthouse which is leaking into an overflowing bucket.
- Selective testing and possible replacement of noticeably corroded steam system isolation valves.
- Replace corroded fin tube radiators and associated steel distribution piping.
- Engage exhaust fans No. 2 and No. 4.
- Service the penthouse wall fan and provide with a backdraft or motorized damper as necessary to prevent infiltration when the fan is not running.
- Service or replace the pneumatic actuators. Recommended replacement with electrically powered actuators and sensors, operated on the digital control system.
- Replace sections of moisture damaged distribution duct.
- Provide isolation dampers at the basement outside air intake plenum to modulate closed when the unit is not in operation.

PLUMBING:

- Potential Safety Items:
  - *Replace the existing domestic water service meter, bypass and isolation valves including the addition of a building backflow prevention device.*
  - *Adjust the domestic hot water storage temperature to 140 deg F for protection from legionella. Install an ASSE 1017 master mixing valve with downstream domestic hot water adjusted to 110 deg F to end-use fixtures.*
  - *Install a backflow prevention device at the makeup water connection to the heating hot water distribution loop.*

- Physical Deficiencies Identified:
  - Selective replacement of broken or leaky fixtures.
  - Based on end user complaints, perform a domestic water quality analysis.
  - Replace fixtures in ADA labeled facilities with ADA compliant fixtures and provide lavatory covers.
  - Replace leaking sections of pipe with new or replace hub seals.

1E: IMMEDIATE NEEDS TABLE: Cost estimates represent hard construction costs only. Additional costs for engineering, design, documentation and/or permitting may be required.

ITEM DESCRIPTION	COST BASIS	ESTIMATED COST
Provide removable guard; replace guards & handrails @ loading dock stair	RS Means 2014 Open Shop Pricing	Guard = $1,000.00 Rails = $1,600.00
Replace handrails and guards @ basement stair.	RS Means 2014 Open Shop Pricing	Wall rails = $1,200.00 Guard = $ 1,600.00
Provide roof membrane support at penthouse roof drain	RS Means 2014 Open Shop Pricing	$900.00
Replace building main domestic water service shut-off valves and install backflow prevention device	RS Means 2014 Mechanical Cost Data	$10,000.00
Adjust domestic hot water storage to 140 degF min and provide ASSE 1017 mixing valve	RS Means 2014 Mechanical Cost Data	$5,200.00
Modulate outside air dampers at the main supply air fan as necessary to ventilate the space	RS Means 2014 Mechanical Cost Data	$7,000.00
Install a backflow prevention device at the make-up water connection to the heating hot water distribution loop.	RS Means 2014 Mechanical Cost Data	$2,000.00
IMMEDIATE NEEDS TOTAL		$30,500.00

2 PURPOSE, SCOPE AND LIMITATIONS

2A PURPOSE:

The purpose of the Property Condition Assessment is to determine the general condition of the building components identified and provide reasonably predictable repairs or replacement of the specific building components and associated cost estimates.

2B SCOPE OF WORK:

This report is a compilation of information obtained by our staff and consultants in conjunction with interviews/ questionnaires provided by the facilities staff at SUNY Oswego. QPK Design LLP personnel performed a walk-through observation of the subject property on December 30, 2013. Outdoor weather conditions were partly cloudy and windy with a temperature of 19 degrees Fahrenheit. Interior was heated to approximately 72 degrees and occupied by a few staff members.

A separate walk-through on January 15, 2014 for the observation of mechanical, electrical and plumbing systems was performed by Pathfinder Engineers & Architects, LLP.

Personnel:

QPK Design, LLP

- William Renihan R.A; Associate Partner
- Matthew Blair, Intern Architect

Pathfinder Engineers & Architects, LLP

- Eric LePore, PE, LEED AP-BD+C, Mechanical Engineer
- Evan Roberts, Electrical Engineer

Ravi Engineering & Land Surveying, P.C (Hazardous material report review only)

- Refer to Appendix #8

2C LIMITATIONS:

QPK Design LLP and our consultants have performed this Property Condition Assessment (PCA) in accordance with our agreement with SUNY Oswego and the ASTM *Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process* E2018-08. This report does not include calculations, dimensioning, destructive inspections or capacity evaluation of the existing facility or systems.

Preparation of a PCA in accordance with the ASTM guide is intended to reduce, but not eliminate, the uncertainty regarding the potential for a component or system failure. ASTM also recognizes the inherent subjective nature of the consultant's opinions as to issues of workmanship, quality of original installation and estimating the remaining useful life (RUL) of any given component or system. ASTM recognizes that a consultant's suggested remedy may be determined under time constraints, formed without the aid of engineering calculations, testing, exploratory probing or the removal of materials.

Opinions of probable costs or estimates have been provided for observed deficiencies, deferred maintenance and items or systems recommended for repair or replacement. Generally, repair or replacement items that are less than $1,000.00 are considered routine maintenance items and are not included in the Immediate Needs or Opinions of Probable Cost Data. Assumptions regarding the overall condition of the subject property have been developed based on observations of "representative" cases.

2D: CONDITION RATING SYSTEM:

Good: Newer item and well maintained and/or little or no observed items of neither concern nor requiring attention in the near future.
Fair: Older item and/or some observed items of concern requiring attention, repair or replacement in the future.
Poor: Items of concern and/or deterioration of an item requiring attention, repair or replacement in the near future.

3 OBSERVATIONS

3A: SITE ASSESSMENT (WITHIN 10'-0" OF BUILDING):

1) General Drainage Around Building:

Grade beyond a 12'-0" delineation from the building generally appeared to slope down and away from the building. In some areas from the 12'-0" delineation noted above, it appeared that the slope of the grade was either level or sloped down towards the building. Small amounts of moisture were noted inside the basement at the foundation wall to basement slab intersection (south west areas primarily).
Recommendation: Re-grade in select areas as needed to provide positive drainage (1/4" per foot slope) away from the building to minimize the amount of surface water that stores against foundation walls and subsequently reduces the amount of water requiring removal by the foundation drainage system. Grade against the building should be at a maximum elevation that still allows for weeping of the existing exterior brick walls.

2) Access and Egress:

There are (2) two primary building access points:

A. Main entry: The main entry is located on the south façade of the building and is approached by (2) methods.
   - The first approach method is by a single lane driveway drop-off located directly in front of the main doors. From the drop-off, access is by a curb ramp that rises approximately 6" up and continues to rise another 6"+ to a level landing area in front of the main entry doors (refer to ADA Part 4C).
   - The second approach method is by a sloping sidewalk that connects to the handicap parking spaces located in the parking lot to the west of the building.

B. Loading dock: The loading dock is located on the west façade directly adjacent to the parking area. Access to the loading dock is by (2) approach methods.
   - From the parking lot to concrete stairs (5 risers) located north of the loading dock.
   - From the parking lot to a concrete sidewalk stair (3 risers) to the south of the loading dock that continues to a raised slate patio with a single concrete step (2 risers) and (1) step up from the slate patio to the loading dock.

3) Paving, Curbing and Parking:

A. Paving: Existing asphalt paving appears to be in good condition. Crack sealing and top surface sealing maintenance is recommended. This work is considered to be a maintenance item and is therefore not included within the probable cost estimates.

B. Curbing: Existing curbing is generally in good condition, but some locations (specifically at walkway areas) are in poor condition due to salt and ice melt materials and direct, frequent foot traffic.
   Recommendation: Replace curbs or sections of curbs located perpendicular to pedestrian walkway areas.

C. Parking: Existing parking consists of approximately (28) spaces; (2) of which are handicap accessible. The existing parking ratio to building square footage is (1) space per 550 sf.
    - The existing parking configuration is a double loaded dead-end access drive resulting in limited vehicular circulation. This building's existing parking lot may be improved upon through reconfiguration and utilization of the northern single lane access as an exit access lane. If parking space shortage is a current issue, further evaluation may be warranted.

4) Sidewalks, Exterior Stairs and Railings

A. Sidewalks: Sidewalks are generally in fair condition with the following exceptions:
    1) Cracking was evident in the concrete sidewalk at the manhole in front of the building and at the intersection of the front and side sidewalks.
    Recommendation: Fill all existing cracks with pourable urethane sealant to prevent water intrusion and further freeze/thaw damage (considered a maintenance item).
    2) Sloping sidewalk between parking area and front entry may be considered a "ramp". Further evaluation, including measuring degree of slope and vertical rise, is recommended.
    Recommendation: Install handrails on each side of the ramp in accordance with ANSI A117.1 if existing slope exceeds 1:12 slope.
    3) Settlement of the concrete landing has occurred (bottom of loading dock stair). Likely due to settlement, but may be due to heaving.
    Recommendation: Level the sidewalk with pressure injection below slab or replace concrete sidewalk.
    4) Concrete sidewalk at door north of the loading dock has deteriorated.
    Recommendation: Replace concrete pad.
    5) Slate Patio at resident entry on the west wall: Slate is showing signs of delamination, cracking and loss of joint material.
    Recommendation: Replace cracked stone, re-set stones as needed to provide positive drainage and replace joint filler material.
    6) Paver patio area at front entry: Pavers have settled and are sloping towards the building; joint material is recessed.
    Recommendation: Reset pavers as needed to provide a positive slope and fill joints with poly-sand.

B. Exterior Stairs: There are three distinct sets of exterior stairs.
    1) Sidewalk stairs from parking area. This set of stairs consists of (3) risers and shows deterioration at the leading edge/ nosing. There are currently no handrails on this stair.
    Recommendation: Replace stairs and install (1) handrail on each side of stair. Option to replacing stairs is to install abrasive nosings.
    2) Loading dock stairs: Stairs are concrete, located to the north of the loading dock and consists of 5 risers. Some cracking and spalling evident, but stairs appear to be in fair condition.

3) Basement stairs on east side of building; Stair bottom landing covered with thick layer of leaves; stairs partially covered. Visible portion of concrete stair and abrasive nosings appeared to be in good condition.
Recommendation: Clear leaves and debris from bottom landing to avoid blocking floor drain (maintenance item).

C. Railings: There are two distinct areas where railings are present.
1) Loading dock Guard: The current fall protection or "guard" consists of (2) chains spanning across a 10'-0"+ opening with loop clasps on each side for removability. Although guards are not required by the current Building Code of NYS at loading docks, this location is directly adjacent to a building exit discharge location and employee entrance.
Recommendation: Due to regular nearby pedestrian traffic, install a removable galvanized guard pipe rail system that conforms to current NYS building codes for "guards".
2) Loading dock Stair: The stair currently has a steel handrail on each side of the stair. The handrails continue down from the loading dock and terminate short of the last riser. The "guard" or fall protection resembles an "industrial" or warehouse 2-rail design.
Recommendation: Due to regular pedestrian traffic, replace existing handrails and guards with NYS code compliant guards and handrails.
3) Basement Stairs; existing metal guard fall protection and hand rails on each side of stair. The wall mounted stair hand rail is loose, and stops approximately ¾ of the way down the stairs. Handrail brackets appear to have been damaged and are bent down resulting in a lower than normal handrail height. The guard appears to be sturdy, but is of an industrial guard design.
Recommendation: Replace existing handrails and guard with NYS code compliant guards and handrails.

3B: BUILDING ENVELOPE:

1) Foundations:

The foundations were viewed from the exterior and interior and appear to be in fair condition overall. A majority of the exterior foundation walls were below grade. There were a few areas where the grade had settled and the upper portions of the foundation walls were exposed. In these locations, a waterproofing or damp-proofing material was evident. This material appeared to be asphalt based and was loose/ flaking on the west wall possibly due to UV exposure.
Several vertical cracks were noted on the interior of foundation walls. These are likely due to concrete shrinkage and do not appear to pose issues at this time.
On the east wall, the brick veneer was overhanging the exterior face of the foundation wall. In some areas, the base course of brick was missing, crumbling or loose resulting in a possible lack of adequate support for the brick wall and potential entry for moisture at the top of the foundation wall. It appears that past repairs have been attempted in this area.

Recommendations:
Confirm existing support system for brick wall is adequate. If not, excavate below frost, repair/ replace damp-proofing and backfill with frost resistant material. Install a support (Stainless or Galvanized steel angle) at the foundation wall and reinstall brick and mortar base course to support existing wall (Provide new brick and mortar with similar properties as existing brick and mortar).

2) Exterior Walls:
The exterior walls are primarily brick and mortar and are in fair condition overall. Window walls to on the north elevation appear to be aluminum clad and installed as part of the window replacement work scope. The following was observed:

A. Vertical cracking evident at the North wall; east and west outside corners.
B. Vertical cracking evident at East wall; north outside corner.
C. Loss of mortar at the bottom of the west wall by Apartment and Loading dock (likely due to salting).
D. Mortar loss at bottom and ends of window sills.
E. Mortar loss at floor level slate sill at south wall projection.
F. Damaged brick at bottom course, outside corners of north wall, east corner and east wall, north corner.
G. Mortar loss at tops of windows in front of embedded legs of steel lintel above.
H. Mortar loss between top course of brick and soffit on south elevation.
I. Un-sealed penetrations at steel tube exterior canopy/roof framing.
J. Lack of wash/ means for preventing water accumulation at horizontal surfaces of brick at the bottom of vertical brick recesses.

Recommendations:

- At vertical cracking, the long term solution is to cut full height control joints into the brick and fill the joints with backer rod & sealant to alleviate the stress forces and water infiltration (water and moisture intrusion may have caused freeze/thaw damage observed at bottom bricks). However, we recommend the less expensive option of replacing the cracked brick and re-pointing loose and cracked mortar joints since 50 years have resulted in minimal cracking to date.
- At mortar loss locations identified, re-point mortar to minimize moisture intrusion. At joints between slate sill sections and between slate sills and brick, provide backer rod & sealant in lieu of mortar.
- At damaged brick locations, replace damaged brick with brick and mortar that have similar physical and visual properties as the existing brick and mortar.
- Seal around all penetrations through brick with backer rod and sealant.
- Replace mortar washes.

3) Basement Slab on Grade:
The existing concrete slab on grade may have experienced hydrostatic pressure resulting in heaving and cracking of the slab through-out (the tops of the slab at the cracks felt higher than the surrounding floor while walking normally). Refer to Appendix #3 for schematic slab cracking plan.
Previous basement flooding had occurred; potentially on more than one occasion. Signs included rusted bottoms of hollow metal doors and frames, rusted threshold of lift and

loss of paint on the lower 2"-3" of basement walls. According to discussions with building maintenance staff and questionnaire responses in Appendix #7, the main storm line for the foundation drainage system was clogged and was the potential cause of the flooding. The drains were snaked and a floor drain/ sump pump system was installed in response to these issues. After this work was completed, the flooding events stopped and heaved portions of the slab began to lower. However, the slabs did not completely return to the original level leaving the slightly noticeable raised portions of the floor noted above.
Staining and efflorescence at the cracks in the slabs were observed suggesting that there may be some trapped moisture under the slab, but that it has been drying out over time. The basement did not have a noticeable musty or mildew odor suggesting that the presence of moisture was not persistent or constant.
Recommendation: The existing floor appears to be acceptable for the current use (storage). If different uses are anticipated or floor finishes are desired, topping of the slab in some areas may be necessary in addition to a full evaluation of slab moisture, water vapor transmission and finish selections. Estimated cost range for concrete topping: $4.00 to 6.00/ SF.

4) Exterior Windows:

The exterior windows were replaced in 2004 and appeared to be in good condition. Exterior sealants were contiguous, intact, and showed good adhesion to the substrates. Aluminum window cladding and glazing were in good condition. On the north elevation, high winds from the lake created uncomfortable "drafty" conditions within the occupied space during the winter months.
Options for reducing draft:

- Install storm doors and storm windows.
- Replace doors, window and wall system on the north elevation with a higher performance wall, window and door system.

5) Exterior Doors:

A. Front/ Main Entry Doors: Set of double doors with glazing inserts. Glazing appeared to be in good condition. Lever handles present; doors operated smoothly. Exterior sealants were contiguous, intact, and showed good adhesion to the substrates. Doors are protected by an overhang.
B. Apartment Door: Single leaf hollow metal door and frame. Door was locked and not accessible, but appeared to be in fair condition. Bottom of door shows signs of rust; concrete threshold has extensive deterioration. Cylindrical knob handle.
C. Loading dock doors; Pair of Hollow metal doors with clear wire glass inserts and cylindrical knob. Right leaf is operable with an attached astragal. Doors and frame appear to be in good condition.
D. Door north of loading dock: Hollow metal single leaf door with cylindrical knob. Door frame and bottom hinge show signs of rust.
E. Basement Door: Appeared to stick and did not latch well; this appeared to be an adjustment/ maintenance item.
F. Replacement "Pella" Doors at north offices: Appeared to be in fair condition; Thresholds are exhibiting signs of rot/ wear; doors are drafty.

G. Exterior penthouse to roof door: Paint finish has deteriorated.
Recommendations:

- Clean, prep, prime & paint door and frame at penthouse (maintenance item).
- Replacement of apartment door, hardware and concrete threshold will likely be needed within 6-8 years.
- Refer to options for reducing draft under "Exterior Windows" above regarding the "Pella" doors.

6) Roofing System:

The existing roofing system was installed in 1993 and has been out of warranty since 2003. The system is comprised of a fully adhered EPDM membrane over insulation board. The overall roofing system, including membrane, seams, terminations and flashings, appeared to be in fair condition with the following exceptions:

A. General Observations:
   - Top layer of insulation/ cover board exhibited separation from base insulation in a few locations. Stepping on the insulation in these areas caused a portion of the top board to rise and stretch the EPDM membrane. This de-bonding may be due to trapped moisture.
   - Seam sealant (likely butyl polymer) is beginning to dry out and crack.
   - Ponding evident in multiple locations. This may be partly due to the leaf/ debris blockages observed at the roof drains or by the "raised" crickets.

B. Mechanical Room Penthouse roof was accessible by a fixed ladder and roof hatch. Roof and flashings appeared to be in good condition with the following exception:
   - Roof membrane located around roof drain is currently not supported. This area appeared to be approximately 36" square. There is a possibility that ice and snow weight or foot traffic could cause the membrane to tear.
   - Roof hatch latch appeared to be broken; access to and from roof was more difficult than normal.

Recommendations:

- Provide insulation and structural support under roof membrane at penthouse roof drain. Removal and replacement of existing drain and portion of existing roof membrane is likely required.
- Locate (moisture probe) and repair leaks/moisture intrusion at de-bonded insulation board locations.
- Provide (2) two roof inspections that include debris removal each year; schedule (1) one in late fall and (1) one in early spring (maintenance item).
- Replace and/or tape seal existing seams.
- Repair/ replace roof hatch latch at penthouse roof (maintenance item).

With the recommended repairs, an inspection program and maintenance program, the existing roof system could last another 10 years.

3C: ELECTRICAL, MECHANICAL, and PLUMBING SYSTEMS:

1) Electrical Systems:

a) Power Distribution System:

The Mary Walker Building is supplied by the campus 13.2KV medium voltage loop via an inert gas-filled medium voltage load break switch located in the basement electrical room. The medium voltage load break switch or "Puffer Switch" is manufactured by S&C Electric Company CAT#933212-R1ST1V1-E108, Model #321, Serial #98V174, Date 9/98, and is in excellent condition. The high voltage feeder cables appear to be in good condition.

The puffer switch feeds a Cutler Hammer transformer for supplying the building with 120/208V power. The transformer is a 225 KVA, dry type, 13.2KV primary delta with a 208/120V, 3-phase 4-wire, wye secondary configuration. The Cutler Hammer transformer has a serial #24-37114L16 and Spec #PBU-01242 with a copper core. The transformer appears to have been replaced at the same time the puffer switch was replaced around 1998 and is in good condition. Cables from the puffer switch to the transformer appear to be in good condition.

The secondary distribution Main Panelboard is a Cutler Hammer Pow-R Line T #PRL, is rated 1200 Amp, 3-phase, 4-wire, 208/120V. Main Circuit breaker is 1200 Amp, 3-pole breaker with log time, short time, instantaneous, and ground fault settings CAT#HND 65K. This Panelboard has a manufacturing date of 12/98 and is in good condition. It appears the side covers of the panelboard are being prevented from proper installation due to three bus covers toward the bottom of the panel. It is suggested these be replaced with proper covers so the main side covers can be installed correctly. All feeder breakers in the panel are in good condition.

Although the feeder breakers are in good condition, two 150A/3P feeder circuits to Panels LP-1A and LP-1B consist of cloth insulated conductors while the rest of the feeder cable is thermoplastic insulated. Pathfinder highly recommends replacing these feeders with new thermoplastic insulated cables, per latest code requirements, since the cloth insulated cables are outdated, have surpassed their useful life, and could pose a fire hazard in the future.

Most of the distribution panels located throughout the building are original with a few new panels located near the generator and electrical rooms. These original panels and branch circuit breakers have outlived their projected life span and should be considered for replacement. The Facilities Group has indicated that the offices in the building fed from 15A/1P breakers in these panels trip often and branch circuit wiring is insulated with a cloth wrapping. Branch circuit wiring should also be considered for replacement.

Two conduit penetrations through the foundation wall appear to be leaking water and causing minor flooding in the basement. These conduits are for the 13.2KV primary service.

Physical Deficiencies Identified:

- Modify the main distribution panel for the side covers to fit properly
- Replace cloth insulated feeder cables
- Rebuild original electrical panelboard to update and upgrade with new branch circuit breakers.

- Remove and replace conduit seals for the 13.2KV conduit penetrations to exterior foundation wall.

b) Emergency Generator System:
The existing emergency generator consists of an ONAN, Model #30DEC-4R8/1675A, Serial #840774166, 30 KW, 120/208V, 3-phase, 4-wire, and is diesel fueled. The generator is original to the building and in poor condition.
The emergency system also includes an ONAN line transfer switch, model #LTD100-4/1451A, 3-phase, 3-pole, 120/208V, 100 Amp automatic transfer switch. The transfer switch is also original and in poor condition.
The facility has indicated the generator is undersized for the building's needs. The existing emergency power system is an existing non-compliant system since the standby power loads, such as heating equipment, are not separated from the emergency loads, such as egress lighting and fire alarm, with a separate transfer switch per NEC article 700. Also, with this being a healthcare facility, it should be supported with a back-up power system capable of supporting critical systems during an emergency. The campus may even consider supporting the entire building load.
Physical Deficiencies Identified:

- Provide a new back-up power distribution system with separate transfer switches to separate emergency loads and standby loads. Recommend sizing the generator to cover the entire building load.

c) Telecommunications Systems:
Fiber optic cables feed the communications systems in the building from the campus wide fiber distribution system via a fiber optic demarcation located in the basement, on the top of the data rack. The fiber optic system supports the data system, telephone system and cable television system. The fiber optic back bone appears to be in good condition.

The data system, supported by the campus wide fiber optic backbone, is distributed utilizing Cisco systems access switch gear located on the rack in the basement near the electrical rooms. Cat-5e cable is used for distribution throughout the building to office and computer areas. The data system appears to have been updated in the past five years and is in good condition.
Voice over Internet Protocol (VoIP) is utilized for the telephone system and is also supported from the fiber cable entering the building. Cisco equipment located in the same rack as the data system is utilized for distribution with in the building with CAT-5e cables similar to the data system. The telephone distribution system is in good condition, but old telephone distribution cables, equipment and devices remain; it is unclear what equipment is functioning and/or required.
Cable television distribution is minimal in the building with approximately (12) coaxial cables routed around the building from the splitters located near the data/telephone equipment. The cable TV is also supported from the fiber optic service and appears to be in good condition. Coaxial cables appear in good condition as well.

Uninterruptable power supplies (UPS) located on the bottom of the data rack that support the telecommunications equipment appear to have excessive dust on the intake screen for the cooling system.

Physical Deficiencies Identified:

- Engage a qualified communications technician to review the telecommunications layout and reorganize / clean up the distribution system in the basement.
- Raise the uninterruptable power supplies up off of the floor and clean filters for the cooling fans.

d) Lighting Systems:

Lighting is performed with a variety of fixtures including recessed cans, recessed troffers, pendants, and surface mounted fluorescent fixtures. It appears the entire building has undergone a light fixture lamp replacement since all fixtures are fitted with either compact fluorescent or T8 linear fluorescent lamps. Most of the lighting looks to be in good condition with only a handful of lighting fixtures being outdated and past the expected life span.

The lighting in the building is controlled via manual wall switches in their respective rooms. The building does not utilize occupancy sensors to automatically turn fixtures off when a room is vacant. 2010 Energy Conservation Construction Code of New York State (505.2.2.2) Automatic Lighting Shutoff indicates buildings larger than 5,000 square feet shall be equipped with an automatic control device to shut off lighting in those areas. This can be performed via a time clock, occupancy sensors, or a signal from a controls system with exceptions for sleeping units, patient care areas, and spaces where automatic lighting shut off might endanger occupants. The addition of occupancy sensors will also assist in achieving Executive Order 88 requirements.

Emergency lighting appears to be code compliant. Emergency lighting is powered by the emergency generator via the distribution panel EMLTG (Emergency Sub Panel) located in the basement, which supplies power to egress lights in the corridor areas. Although the exit lights are original to the building and dated, they appear code compliant and in fair condition.

Exterior site lighting is performed by building-mounted High Pressure Sodium fixtures around the exterior of the building and to the underside of the entryway canopy. Exterior lighting fixtures are controlled by a time clock and contactors located in the basement near the electrical rooms. These fixtures are not energy efficient and appear to be in poor condition.

e) Security / Access Systems:

The building does not appear to have any security or access systems installed. All exterior and interior doors appear to be mechanically key operated. There are no card / key fob access systems for electrically unlocking doors. Security cameras or security notification devices are not installed within the building. Occupants of the building identified the absence of security/access systems and noted this is a concern to some that work within the building. Refer to Part 4A for additional information.

Physical Deficiencies Identified:

- Install card access system for exterior doors and some interior doors. Circuit the card access control panel to the campus central station for recording and programming of access levels.
- Install security cameras at exterior doors and throughout the building to monitor the building occupant safety. Provide security notification phones and/or button to directly notify campus security of any issues that may arise.

2) HVAC Systems:

a) Overall System Description

The building is provided with heat from the campus central steam distribution system. The majority of perimeter spaces in the building are heated with baseboard radiators, cabinet unit heaters and convectors. Interior spaces and basement areas in the building are heated and ventilated with two (2) separate air handlers. There have been updates to the heating hot water system in 2004. The remainder of the system is original to the building and in fair condition. Air conditioning is currently provided to serve the Pharmacy and Pharmacy storage rooms only. These areas are cooled with a multi-zone, ductless split system served by a single condensing unit located on the roof of the building. This air conditioning system appears to be in good condition. There are no other spaces in the building that are provided with air conditioning. Ventilation air is provided to core areas only and the ventilation damper is closed. The existing ventilation system, as installed, does not meet the minimum requirements of the current building code. Specific repairs and upgrades are necessary as noted to meet current code requirements.

b) Heating System:

The existing steam system is part of the original building construction and appears to be in fair condition. Medium pressure steam service enters the basement-level mechanical room where the pressure is dropped with a series of pressure reducing stations before it is distributed to heating and plumbing systems. The steam system in the building serves a pair of heating hot water convertors, air handler heating coils, and one central domestic hot water heating system. The steam-to-hot water convertors in the basement serve perimeter heat in the building with three (3) constant volume zone distribution pumps which flow heating hot water to the perimeter baseboard radiators, convectors and cabinet unit heaters throughout the building. The hot water convertors, zone pumps and associated gauges and valves appear to be in good condition with new insulation. The perimeter heating fin tube radiators, convectors and cabinet unit heaters are original to the building and appear to have reached the end of their remaining useful life. The fin tube radiators have a noted amount of corrosion with dissimilar metals in direct contact. It appears that selective service and/or replacement of steam condensate traps throughout the building is required, especially at the heating coil in the mechanical penthouse which was leaking into an overflowing bucket. Selective testing and possible replacement of noticeably corroded steam system isolation valves may also be required.

Physical Deficiencies Identified:

- Selective service and/or replacement of steam condensate traps throughout the building. Replace the condensate trap at the heating coil in the mechanical penthouse which is leaking into an overflowing bucket.
- Selective testing and possible replacement of noticeably corroded steam system isolation valves.
- Replace corroded fin tube radiators and associated steel distribution piping.

c) General Exhaust Systems:

Bathroom, general and clinic exhaust is served by exhaust fans located in the mechanical penthouse on the roof. Exhaust fans labeled "No. 2" and "No. 4" were not running at the time of the observation. The exhaust fans appear to be original to the building and in fair condition with motors replaced recently. The penthouse is ventilated with a wall mounted exhaust fan that does not have an operating closure damper and has temporary blanket insulation covering the shroud to prevent unwanted infiltration.

Physical Deficiencies Identified:

- Service the penthouse wall fan and provide with a backdraft or motorized damper as necessary to prevent infiltration when the fan is not running.
- Engage exhaust fans No. 2 and No. 4.

d) Penthouse Air Handler:

There is an air handling unit in the mechanical penthouse on the roof that serves heating and ventilation of the interior spaces in the building. This system consists of a series of pneumatic actuated dampers to modulate outside air and return air dampers. The outside air dampers were found to be closed and the mixing section in need of cleaning. This supply air system appears to have reached the end of its remaining useful life. The perimeter and corridor spaces in the building are not provided with ventilation air. Occupants of the perimeter spaces utilize the operable windows when the climate is favorable. Some interior areas such as the central and reception offices are not provided with airflow of any kind and the occupants describe these areas as being stuffy, with elevated temperatures year round and no means of temperature control.

Recommendations:

- Modulate the existing outside air damper as necessary to provide ventilation to the interior spaces as the original system was designed.

Physical Deficiencies Identified:

- Provide ventilation to all occupied spaces to provide a healthy atmosphere in accordance with current ASHRAE standards.

e) Basement Air Handler:

The ducted air handler system in the basement is dedicated to supplying ventilation air to the basement areas including the fallout shelter, storage, mechanical spaces and transfer air for the generator. This air handling system is original to the building, in poor condition and is no longer in operation leaving these spaces currently unventilated. The fallout shelter is now being used as storage space, which will require a different

ventilation rate from the original design per code. The steam service to the heating coil has been isolated. The outside air plenum that this system is ducted to does not have closure dampers causing the adjacent plenum closet to allow untreated infiltration to flow freely. This is a freeze protection issue for the hydronic distribution piping located in this closet. There is some visible moisture damage to the associated supply duct in the basement.

Physical Deficiencies Identified:

- Replace sections of moisture damaged distribution duct.
- Provide isolation dampers at the basement outside air intake plenum to modulate closed when the unit is not in operation.
- Engage a mechanical engineer to re-evaluate the ventilation needs of the basement areas. Repair or replace the existing basement air handler and balance the ventilation airflow appropriately

f) HVAC Control System:

The building HVAC system controls are a combination of pneumatic and digital. Most of the existing zone temperature sensors and thermostats have been replaced with wall-mounted digital temperature sensors that serve newer 3-way zone valves installed in the 2004 renovation. The remainder of the control system is the original pneumatic system which appears to be in fair condition. Many of the pneumatic actuators on dampers were found to be locked and no longer modulating.

Physical Deficiencies Identified:

- Service or replace the pneumatic actuators. Recommended replacement with electrically powered actuators and sensors, operated on the digital control system.

g) Emergency Generator Makeup and Combustion Air:

The emergency generator radiator makeup air and combustion air to the generator located in the basement is provided with a louvered door which does not maintain the appropriate rating of the generator room per code. Makeup and combustion air is supply by the basement air hander and transferred from the adjacent basement spaces into the generator room through the louvered door during operation. The basement air handler is no longer in service. Makeup and combustion air is currently provided with untreated infiltration air from the basement air handler outside air plenum. The fuel storage tank is located in the adjacent basement utility space with fill and vent ports piped to the South side of the building. The basement utility space does not maintain the requirements of NFPA 30 and 110.

Physical Deficiencies Identified:

- Provide a rated makeup and combustion air duct penetration to the generator room directly to the outdoors.
- Evaluate relocating the fuel storage tank to the generator room or building a fuel storage room specifically for this storage tank and add provisions as necessary for compliance with NFPA 30 and 110.

h) Incinerator:
There is an incinerator located in a dedicated room in the middle of the basement level. Per discussion with the SUNY Oswego Director of Planning and Design, the incinerator is no longer utilized and out of service. The existing vent stack continues from the incinerator and up into the chase to the roof. The vent stack roof penetration was removed, likely at the time of the roof replacement project in 1993. Gas piping remains connected to the burner with service isolated. The campus may consider purging and disconnecting the gas pipe connection back to the source as well as removing this equipment as a matter of good practice for abandoned equipment.

3) Plumbing Systems:

a) Overall Domestic Water System:
Domestic water is brought to the building by a municipal water supply system. The water service entrance at the main water meter in the basement is in poor condition and in need of replacement. Per the Building Trades Questionnaire, appendix 7, the domestic water is not considered suitable for drinking. The building is not protected with a backflow prevention device. NYS code and the Department of Health require building water service be provided with a backflow prevention device. The water meter is original to the building and appears to be in fair condition although dated with questionable useable service life remaining. The building water service and meter isolation valves are heavily corroded and noticeably leaking at the stem and bonnet. The domestic water distribution piping throughout the building is copper and appears to be in fair condition. Makeup water piping to the mechanical heating hot water loop is not protected with a backflow prevention device which is a code requirement.
Recommendations:

- Replace the existing domestic water service meter, bypass and isolation valves including the addition of a building backflow prevention device.
- Install a backflow prevention device at the makeup water connection to the heating hot water distribution loop.
- Provide new backflow prevention devices with air gap and indirect waste piping to new or existing floor drains.
- Perform a domestic water quality analysis.

b) Domestic Hot Water System:
The DHW system is original to the building and appears to be in fair to poor condition. The main building domestic hot water system is heated with campus distributed steam when it is available during winter and shoulder heating months. Steam is distributed to a tube bundle inside the main domestic hot water storage tank and modulated to maintain the set point storage temperature. The main domestic hot water storage tank appears to be insulated with suspect ACM materials. Refer to Appendix 8 for the hazardous materials survey. When steam is not available the domestic hot water is heated with a 119 gallon electric domestic water heater. The electric hot water heater appears to be in good condition with relatively new pipe, valves and insulation. Domestic hot water is currently stored and distributed to end-use plumbing fixtures at 130 deg F. The

residential apartment in the building is served with its own, dedicated, 40 gallon electric domestic water heater which appears to be in good condition.

Recommendations:

- Adjust the domestic hot water storage temperature to 140 deg F for protection from legionella. Install an ASSE 1017 master mixing valve with downstream domestic hot water adjusted to 110 deg F to end-use fixtures.

c) Plumbing Fixtures:

The toilet room plumbing fixtures and valves are a combination of newer and older vintage and in good working order. The kitchenette, janitor closet and utility plumbing fixtures are original to the building and are in fair to poor condition. Plumbing fixtures installed throughout the building are not water conservation compliant and in need of selective replacement. There is a single ADA-accessible restroom equipped with fixtures that do not comply with ADA fixture requirements, dimensions or lavatory covers.

Physical Deficiencies Identified:

- Replace fixtures in ADA labeled facilities with ADA compliant fixtures and provide lavatory covers.
- Selective replacement of broken or leaky fixtures.

d) Sanitary and Storm piping:

The existing sanitary and storm system piping is original to the building and in fair condition. The storm service main leaving the building drains to a man-hole at the North end of the building and then directly to Lake Ontario to the North of the building. A small sump pump was added for perimeter and area drains in 2011. The storm pipes around the building and below the basement slab were last serviced and cleared in 2011. The sanitary service main drains to an ejector basin and is then discharged from the building with a pair of ejector pumps. The ejector pumps have been replaced recently and appear to be in good condition. The sanitary and storm piping installed is cast iron, hub-and-spigot type with some leaking joint seals identified. The kitchenette sink drain was noticeably slow. The building occupants have reported some of the sinks in the building drain very slowly, indicating need for cleaning and flushing of the sanitary system from end use fixture drains back to the ejector basin.

Physical Deficiencies Identified:

- Replace leaking sections of pipe with new or replace hub seals.

3D: LIFE SAFETY/ FIREPROTECTION:

1) Fire Alarm Systems:

The fire alarm system has been updated in the past 10 years with a Simplex 4020 Fire Alarm Control Panel which appears to be in good condition. The fire alarm system is fully addressable includes smoke detection, heat detection, pull stations, notification devices, and fan shut down relays for select HVAC equipment. An annunciator panel is located at the front door. The fire alarm control panels are connected to the campus central station via the fiber optic service to the building which also monitors the sewage

ejector high level alarms. The building is fully covered and appears to be code compliant and functioning properly. The entire fire alarm system appears to be in excellent condition.

3E: INTERIOR ELEMENTS:

1) Existing Floor Finishes:

- Terrazzo Flooring located in the Lobby and Corridors appeared to be in good condition.
- 9"x9" Vinyl Tile located in the perimeter rooms and offices appeared to be in good condition. Refer to Appendix #8 Asbestos and Hazardous Materials report regarding the 9x9 tile.
- Carpeting within the offices was in fair to poor condition. Please note that the carpet is likely installed directly over the 9"x9" Vinyl Tile noted above.
- Mosaic Tile floors located in janitor closets and individual office bathrooms appeared to be in fair condition.

2) Ceilings:

- Existing ceilings overall appeared to be in fair to good condition.
- The original ceiling appears to be a suspended structural grid with metal lath and plaster through-out (refer to Appendix #8 Asbestos and Hazardous Materials Report regarding ceiling plaster). The original patient room ceilings with integrated curtain tracks appeared to be in good condition.
- Within most of the spaces, acoustical tile is directly adhered to the lathe and plaster ceiling.
- A conference room with a suspended acoustical panel and T grid system was noted. It appeared as though a portion of the original ceiling was removed in this area (potentially for HVAC updates).
- Exposed wood plank ceilings were observed at the front exterior soffit, front entry and lobby areas. Plank appeared to be in fair condition; each area had evidence of prior leaks resulting in water damage, potential rotting and warping in specific locations.

3) Doors:

- Interior doors appeared to be hardwood solid core wood doors and were generally in fair condition. Several of the room doors to the corridor appeared to have the closures removed; holes were left unplugged.
- Exterior Doors - refer to 3B-5 in this report.

3F: DOCUMENT REVIEW AND INTERVIEWS:

1) Documents Reviewed:

A. QPK Design Reviewed Documents:

a) A-104 Roof Plan Dated 12-23-1963 Prepared by Lorimer Rich and Associates. Roofing system indicated "composition built-up roofing".

b) As-Built: Drawings A-1 and A-2 Infirmary Roof Plan and Details Dated 04-07-1993, prepared by Sargent Webster Crenshaw &

Folley. Drawing A-1 shows EPDM roof replacement system plan and details. Drawing A-2 shows lightning protection plan and details.

c) Great Northern Inc. Roofing Construction Schedule showing a completion of roofing system of 06-21-1994.
d) GenCorp Polymer Products Roof EPDM Roofing Materials (10) Year Warranty; Effective Date 06-30-1994 to 06-30-2004.
e) Window & HVAC Renovation Drawings G-1, A-1, A-2, A-3, A-4, H-1, H-2, H-3 and E-1dated 04-12-2004 prepared by Foit-Albert Associates, PC.
f) Window & HVAC Renovation Specifications dated April 12, 2004 prepared by Foit-Albert Associates, PC.
g) Window & HVAC Renovation Addendum No.1 dated April 26, 2004.
h) Window Replacement Shop Drawings dated 07-20-2004 prepared by Pella Architectural Services.

2) Interviews Conducted:

A. Facilities: Dennis Kowalski (Plumbing): Partial Questionnaire Completed on12/23/2013 (Attached under Appendix #7).
B. Building Trades Questionnaire; Unsigned, Undated: Received 01/27/2014 (Attached under Appendix #7).

3G: REGULATORY OBSERVATIONS:

1) Americans with Disabilities Act (ADA):

A "Tier 1: Visual Accessibility Survey" as defined by ASTM E2018-08 was performed. Measurements, dimensions and counts were not included as part of this scope. Accessible parking spaces with signage and access aisles were observed. There is a sidewalk from the parking spaces accessible by a dropped curb. The sidewalk slopes up toward the front of the building with a slope that may exceed 1:12; further evaluation is recommended (see Site Observations). The front ramp continues to a sloping sidewalk at the front main entrance. The total vertical rise of the sloping sidewalk at the main entry appears to exceed allowable maximum rise in ANSI A117.1. Lever style handles were noted at main entries. Once inside the building, there appears to be adequate maneuverability space in the lobby and corridors.
Restrooms off of the main lobby do not meet accessible maneuverability or floor space requirements. Accessible restroom with larger clearances is located down the corridor, but does not appear to have accessible plumbing fixtures. Refer to Appendix #6 for additional information.

2) Building Code of NYS: The current 2010 Building Code of NYS was utilized as the primary reference for this code review. It was assumed that this building is currently considered a "conforming use" by the local Code Enforcement Official and was code compliant at the time of permitting.

The following code information was observed and/or obtained on a general basis; a full evaluation of this building for code compliance was not performed. Alterations, renovations, repairs and maintenance projects will fall under the Existing Building Code of NYS and/or the Property Maintenance Code of NYS depending on specific items and magnitude of the project(s).

Building Information:
Existing Building: Single-Story Masonry & Steel Frame Construction built circa 1960's.

Construction Type: Type 2B

Occupancy Type: Non-separated Mixed Use: Group B (primary); Group R-2 (Single apartment), Group S-1/ S-2 Storage (basement).

Floor Areas (Approximate):

• Basement:	15,200 SF
• First Floor:	15,200 SF

Allowable Fire Area: Table 503

• Group B (Office)	23,000 SF
• Group S-1 (Moderate Hazard Storage)	17,500 SF
• Group S-2 (Low Hazard Storage)	39,000 SF
• Group R-2 (Student Housing)	16,000 SF

Note: Section 508.3.2 - The most stringent/ most restrictive requirements for the occupancy groups under consideration shall be utilized for non-separated mixed use occupancies.

Frontage Increase: Section 506.2: (137'/481' - .25) negligible

Sprinkler System: Existing Building is Non-Sprinklered.

Egress/ Exiting:

• Exit Access Travel Distance; Table 1016.1; for Group B	200'-0"
• Occupant Load (approx.) Group B @ 100 GSF/ occupant:	150 people
• Number of Exits Required (Table 1019.1)	2 exits minimum
• Number of Accessible Exits Required (Section 1007.1)	2 exits minimum
• Handrails; Section 1012 (each side of each ramp and stair)	Required
• Guards; Section 1013	30" or higher drop
• Common Path of Travel; Section 1014.3 (non-sprinklered)	75'-0" maximum
• Corridor Fire Resistance Rating (Group B; non-sprinklered)	1 hour rating
• Dead End Corridor (Section 1017.3)	20'-0" maximum
• Panic hardware at the (2) main exits	Required

4 CONCEPT NARRATIVES

4A: BUILDING SECURITY CONCEPT NARRATIVE

The two (2) main entries into the building are currently non-controlled and provide easy access into the building during office hours. During non-office hours, our understanding is that all building access is locked.
Observations:

- There did not appear to be any security alarm systems installed.
- The main entry doors are currently visible from the reception area employees.
- Doors that are difficult to latch (exterior stair to the basement door) may inadvertently be left unlatched/ unlocked thereby creating an access point into the building without the use of force or tools.
- The wood doors at the north of the building may provide building access with minimal force at the latch location with a pry bar or similar tools.
- Windows that are left open or unlocked can also become easy building access points with minimal force by cutting open window screens.

Recommendations made for contact alarms, card readers, video cameras and blue-lights anticipate subsequent involvement with Campus security. It is anticipated that each of these items will require a connection to campus security or other similar staffed location.

Recommendations:

- General:
  - Install Security Cameras facing the front drop-off area at main doors and at loading dock doors toward parking lot.
  - Install contact alarms tied back to campus security at all doors. Program system on when building is closed.
  - Install motion detectors within corridors and tie to back to campus security.
  - Install campus security blue lights at parking areas & sidewalks
- Main entry Doors: Currently unlocked during regular hours of operation, but the main entry doors are visible from a staffed reception area. If additional levels of security are desired, the following options are available:
  - Maintain current system to allow for access to the lobby and reception areas. Install (2) new doors at each corridor adjacent to reception areas with card reader access. Cost = $9,00.00.
  - Install electronic strikes at the interior vestibule doors with release switch at the reception desk. Cost = $1,800.00+
- Loading dock doors:
  - Maintain in "locked" or "secure" condition forcing individuals to utilize front main entry doors. Cost = negligible to $900.00.
  - Install electronic Card Reader for access from exterior in conjunction with local hold-open alarm (timed to annunciate after 10 seconds). Cost = $2,400.00+.
- Apartment doors (exterior & interior):

- Maintain in "locked" or "secure" condition.
- Provide deadbolt and contact alarm at exterior door.
- Provide contact alarms at interior door.

- Exterior Basement Doors:
  - Maintain in "locked" or "secure" condition. Cost = negligible to $900.00.
  - Install Electronic Card Reader for access from exterior with local hold-open alarm (timed to annunciate after 10 seconds). Cost = $2,400.00+.
- Wood Doors:
  - Maintain in locked position; Install dead bolts and/or vertical rod locking to create "3-points" of security.
- Windows:
  - Maintain in locked position.

4B: AIR CONDITIONING AND VENTILATION CONCEPT NARRATIVE

Insulation and Air Infiltration:

- The existing roof insulation appears to be acceptable. Based on the as-built drawings referenced under Part 3G of this report, the average roof insulation thickness is approximately 5". With an aged R-value of 5.5 per inch, the existing roof average R-value = 27.5.
- It does not appear that exterior walls are insulated. If renovations are planned, it is recommended that the exterior walls be evaluated for the potential of insulation being installed on the interior side.
- The amount of existing air infiltration can be minimized. Prior recommendations including filling voids at windows, voids in mortar joints and options for north facing doors and windows will help reduce infiltration and increase energy efficiency.
- Exterior hollow metal doors and frames may have minimal insulation values. Replacement with higher R-value doors and insulated frames in conjunction with weather-stripping is recommended (note - replacement of select doors is recommended for varying reasons stated in other Sections of this report).

Conceptual System Recommendation:

- The current ventilation system in the building is inadequate and there is limited air conditioning. Pathfinder's recommendation would be to install a water source heat pump system paired with two (2) dedicated energy recovery ventilators. This system decision is largely influenced by the amount of hazardous materials in the building per Appendix 8 and the need to avoid disturbing them. Terminal water source heat pumps would easily fit and be accessible in the basement. Supply and return air delivered to the perimeter offices would be easily distributed in the basement and rise up through floor penetrations to avoid disturbing hazardous materials.
- Floor penetration sizes and locations within the existing two-way concrete floor slab will require structural evaluation.
- A water source heat pump piping loop would be distributed throughout the basement level with a series of variable speed pumps. The loop would require a

small cooling tower (approximately 35 tons) located at grade, possibly next to the loading dock. The heat pump loop would also require a heat adder either in the form of existing steam convertors with and injection pump or new satellite boilers. Boilers could utilize the existing natural gas line to the incinerator or a new natural gas service could be brought to the building.

- The existing perimeter heating system would remain and act as auxiliary heating during design conditions.
- Ventilation air can be distributed to the heat pumps in the basement by reuse of the existing distribution duct that is not currently being utilized. An energy recovery ventilator (ERV) would be well suited to replace the basement air handler and re-use the existing outside air plenum to the basement for ventilation air supply throughout the perimeter zones. The outside air duct to the ERV would be provided with steam or glycol coils for preheating of ventilation air during design heating months.
- Ventilation air serving the interior spaces could be served by an additional energy recovery ventilator (ERV) to replace the exhaust air fans, return air fans and the supply air handler in the penthouse mechanical room. The existing distribution duct would be reused to serve the interior spaces to avoid disturbing hazardous materials. The replacement ERV would be provided with a heat pump coil to heat, cool and ventilate the interior spaces.
- Preliminary electrical calculations have determined the existing electrical service can support added heat pump electrical loads, but further analysis will be required to determine existing building electrical loads, existing electrical infrastructure, and the impact to existing electrical system in adding proposed heat pumps.
- A control system connected to the campus BMS front end is recommended to operate the central system components (pumps, cooling tower, heat adder, ERV's, etc). Heat pumps could operate and be controlled with stand-alone controllers and thermostats.
- Pathfinder recommends an evaluation study of the existing steam service infrastructure to the building be performed. The existing campus steam distribution system has reached the limit of its serviceable life. Implementation of a heat adder for a new heat pump system would be a good time to install a longer term, more reliable heating service in the building.
- The proposed system would excel at maintaining the desired needs of the occupants and the campus. The proposed system would also comply with NYS Executive Order 88 requirements.

<u>Conceptual System Cost:</u>

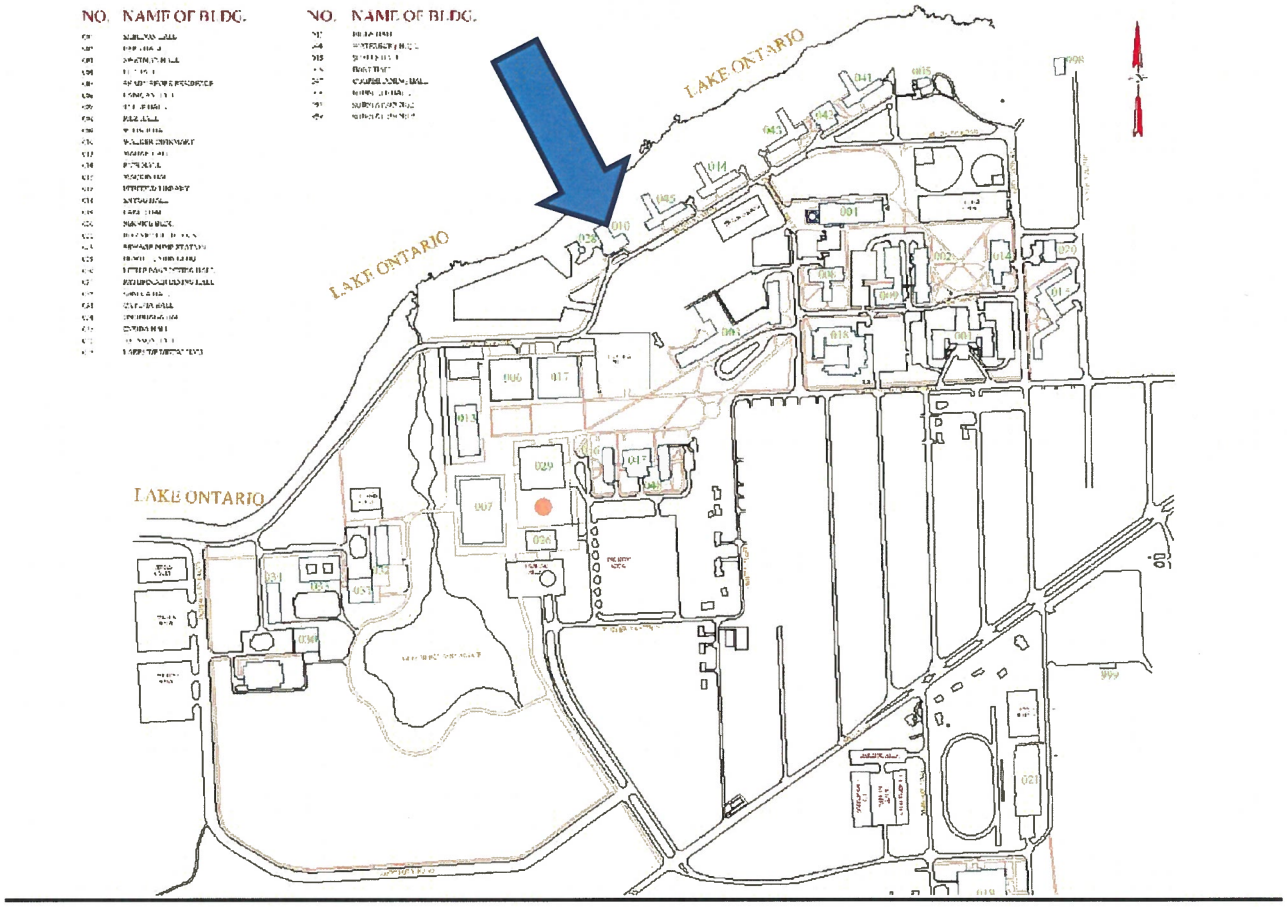
- The air conditioning and ventilation air system as recommended above would cost approximately $450,000. This estimate is based on the square footage of the first floor area being served (15,200 SF) multiplied by cost per square foot data taken from similar projects of this type. This cost estimate does not include insulation and air infiltration improvements listed above or costs for structural evaluation/ modifications.

Conceptual System Alternatives:

The conceptual recommendations for a water-source heat pump system provide a reasonable cost alternative as a place holder for planning purposes. Pathfinder Engineers and Architects also support the following recommendations received from SUNY Oswego Sustainability Engineering Coordinator (email recommendations received 2/5/14).

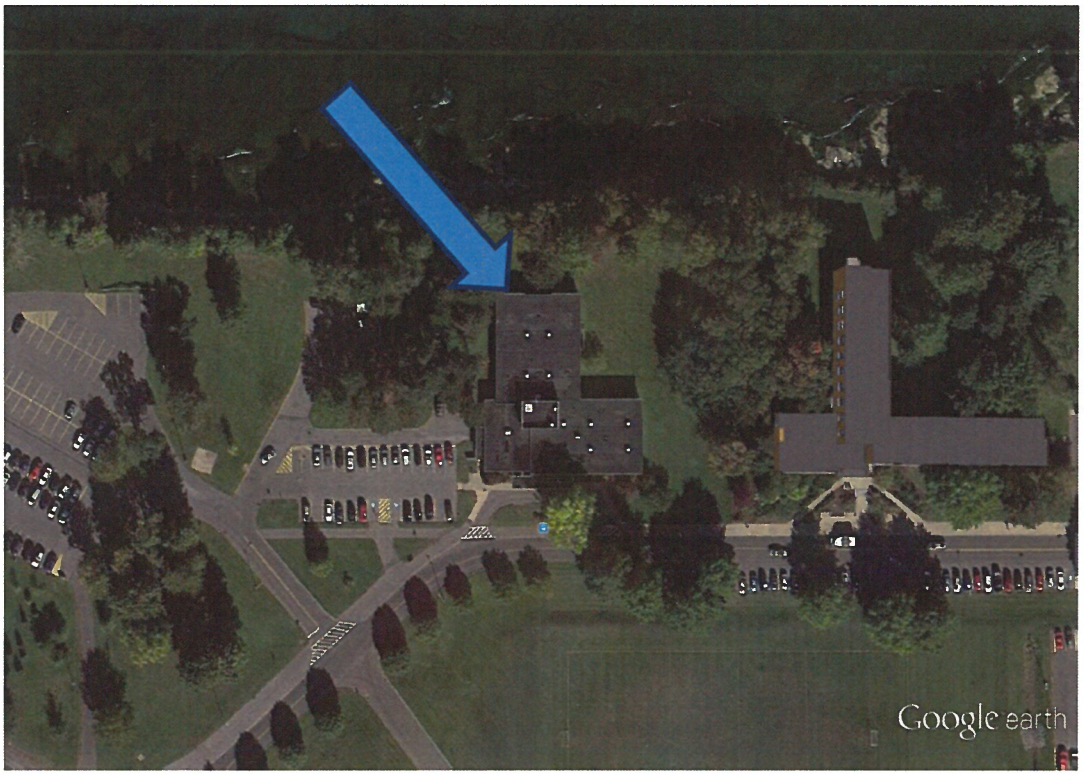
- Feedback from the campus indicates that a 4-pipe fan coil system located overhead in the ceiling space would be desirable for purposes of serviceability when compared to packaged, unitary style zone heat pumps.
- "SUCF standard VAV system with terminal heat. Extensive, if not total, ceiling & lighting replacement would be required along with some soffit construction unless distribution was handled in the basement; floor penetration scope would need to be weighed against the complication/restrictions to going overhead with the necessary ductwork. Utilize air-cooled chiller w/ remote condenser and chilled water w/ glycol to AHU's. Steam-to-water converter for terminal heat loop."
- "Chilled beam/induction unit system with ventilation-only ductwork distributed to each space from new air handlers in the penthouse. Advantages here include a smaller footprint in each space, good individual room control and reduced ductwork size. While dew-point control by a desiccant wheel would be nice, better off planning for drain pans and associated piping at this point. Air cooled chiller w/ remote condenser here as well; chilled water w/ glycol to ahu's, clean water to chilled beams. Spot fan-coils in spaces where they'd be more appropriate than induction units."
- Pathfinder Engineers and Architects will add to the above recommendations that a more extensive abatement scope would be required to support the alternative conceptual systems noted by the campus. 4-pipe fan coils or induction units would also add the need for an air cooled chiller and chilled water distribution piping as noted. We anticipate these alternative systems would add approximately 30 to 40% to the proposed installed cost when compared to the water source heat pump system.
- There are a number of good system alternatives that should be studied as part of a schematic design for a new air conditioning and ventilation renovation project for the building. This and alternative options would need to be developed in concert with the College and their goals for operation and maintenance costs, initial cost, system life and sustainability.

APPENDIX #1 - CAMPUS MAP



QPK DESIGN LLP

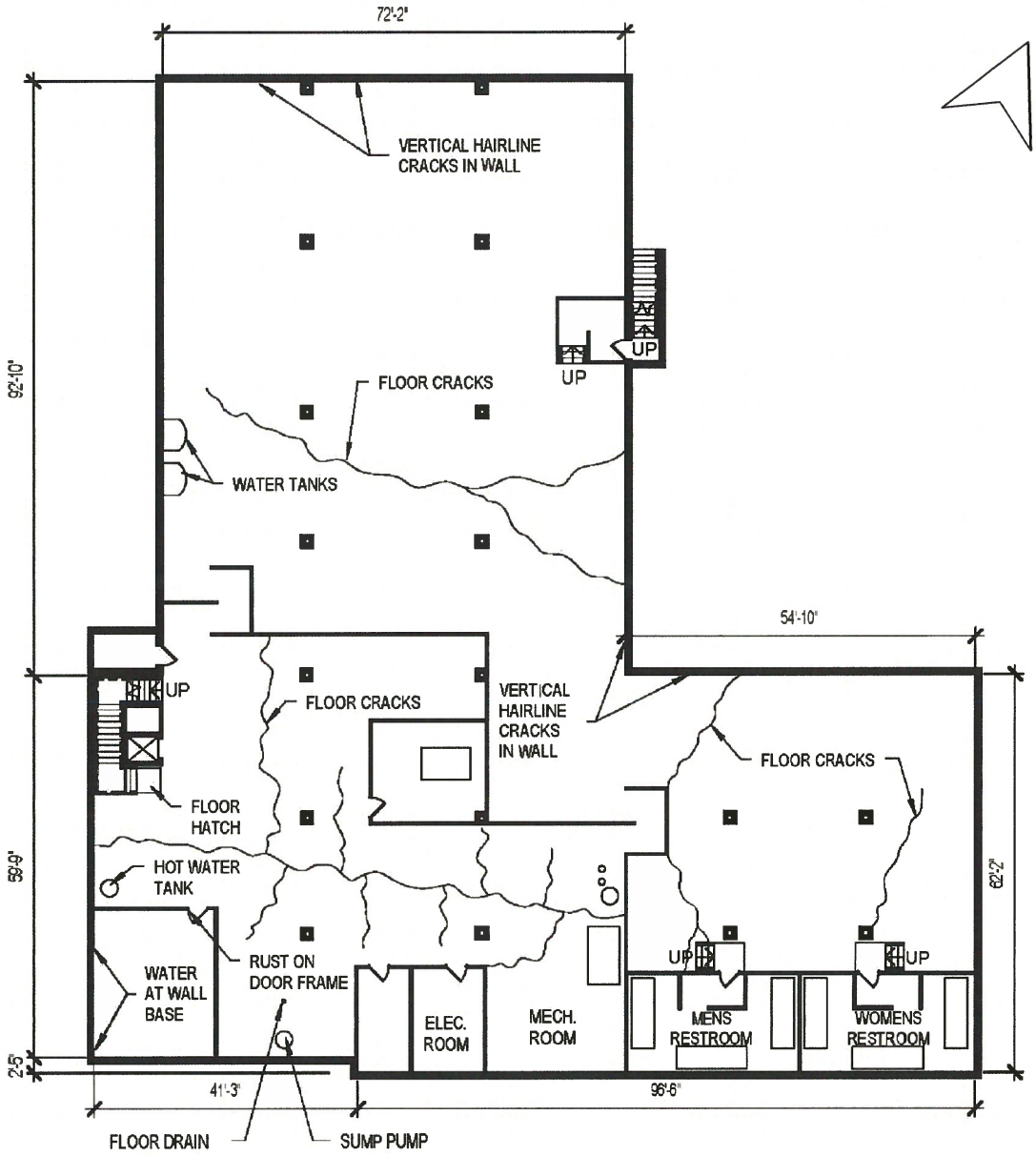
APPENDIX #2 – BUILDING SITE ARIAL PHOTOGRAPH



Google earth feet 400 meters 100

QPK DESIGN LLP

APPENDIX #3 - BASEMENT FLOOR PLAN



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APPENDIX #4 – REPAIR & REPLACEMENT COST SCHEDULE

Note: Mechanical, Electrical and Plumbing cost estimating was not requested to be part of this report. Refer to the individual sections for recommendations.
Mechanical, Electrical and Plumbing Potential Safety Item cost estimates are included as part of the Immediate Needs Table in Section 1E.

EVALUATOR'S SUMMARY OF PROBABLE COSTS						
ITEM	YEAR 2	YEAR 4	YEAR 6	YEAR 8	YEAR 10	TOTAL
Immediate Needs (Part 1E)	$ 30,500.00					$ 30,500.00
Grading @ building incl seeding (approx 100 SY)	$ 1,800.00	$ -	$ -	$ -	$ -	$ 1,800.00
Replace curbing at walkways (approx. 40 lf)	$ -	$ 1,400.00	$ -	$ -	$ -	$ 1,400.00
New concrete sidewalk stair with pipe handrail ea side	$ 2,100.00	$ -	$ -	$ -	$ -	$ 2,100.00
Sidewalk Replacement and leveling	$ 1,100.00	$ -	$ -	$ -	$ -	$ 1,100.00
Handrails each side of sidewalk slope	$ 1,600.00	$ -	$ -	$ -	$ -	$ 1,600.00
Reset Stone, Paver Patios; compact & sand joints	$ 1,400.00	$ -	$ -	$ -	$ -	$ 1,400.00
Apartment door Replacement (incl frame, door, hardware & conc sill)	$ -	$ 2,600.00	$ -	$ -	$ -	$ 2,600.00
Roofing Repairs	$ -	$ 9,400.00	$ -	$ -	$ -	$ 9,400.00
Masonry Pointing & repair (approx. 108 SF)	$ -	$ 1,300.00	$ -	$ -	$ -	$ 1,300.00
Storm windows and doors on north elevation	$ 3,200.00	$ -	$ -	$ -	$ -	$ 3,200.00
Total	$ 41,700.00	$ 14,700.00	$ -	$ -	$ -	$ 56,400.00

APPENDIX #5 – PHOTOGRAPHS

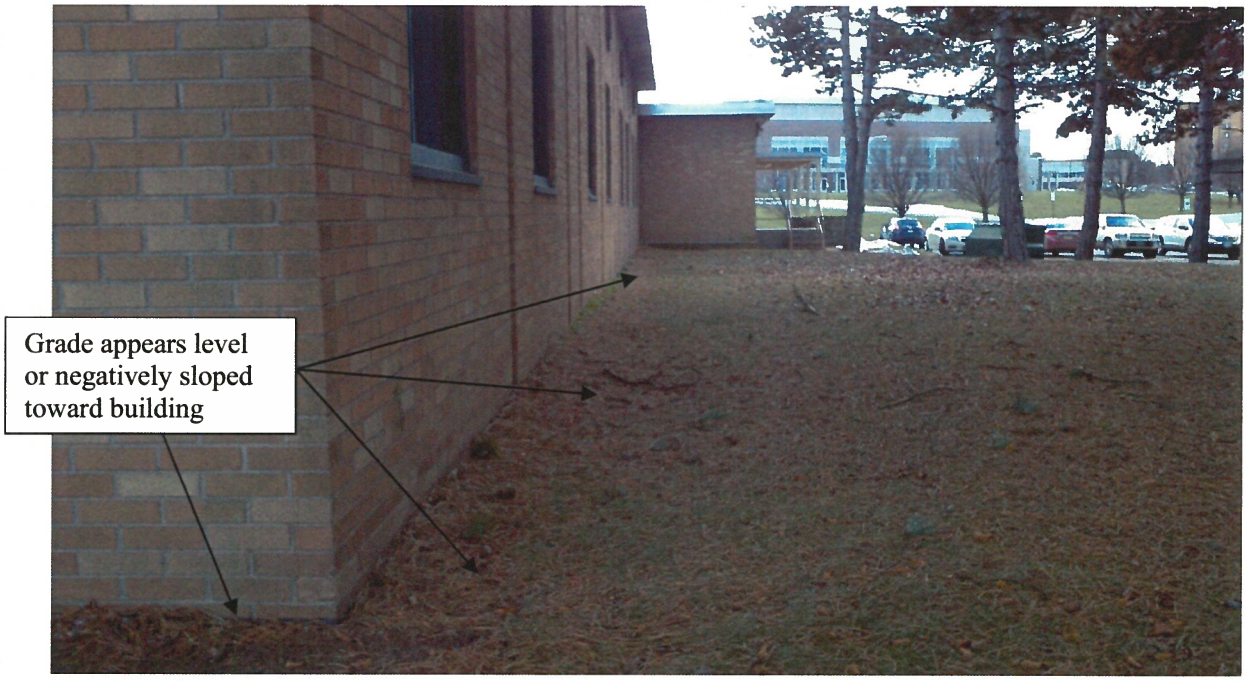
Sidewalk Stair

Slate Patio

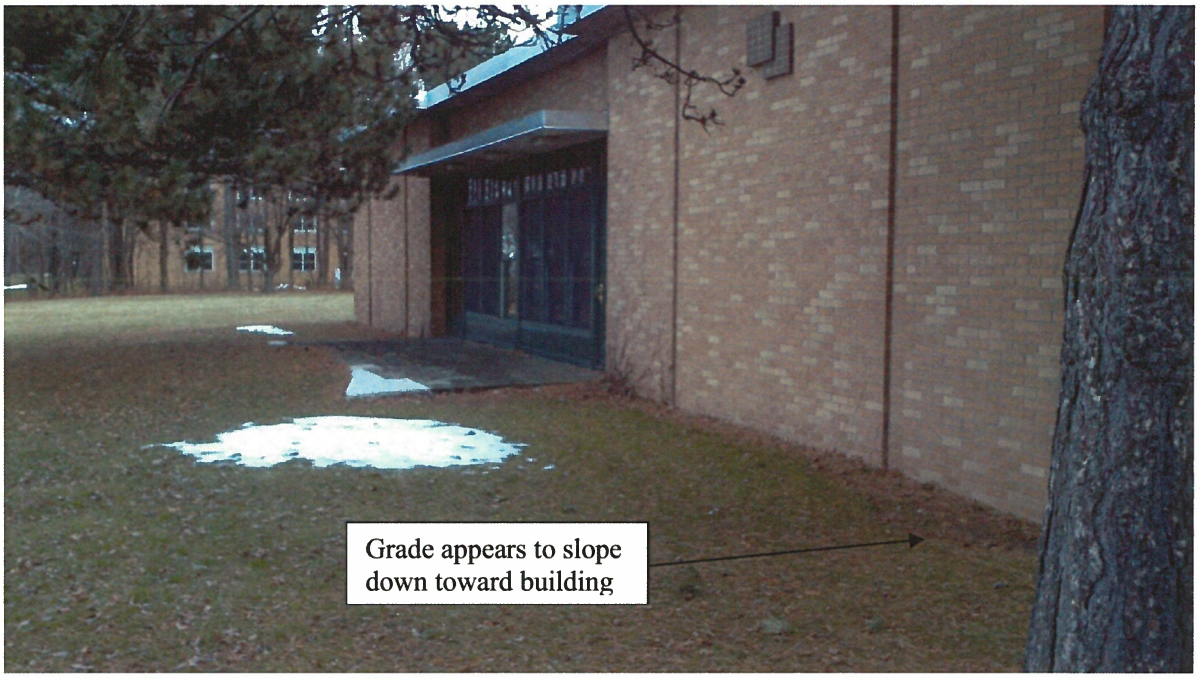
Loading Dock Stair

Loading Dock Guard Rail

Deteriorated Sidewalk at Door North of Loading Dock



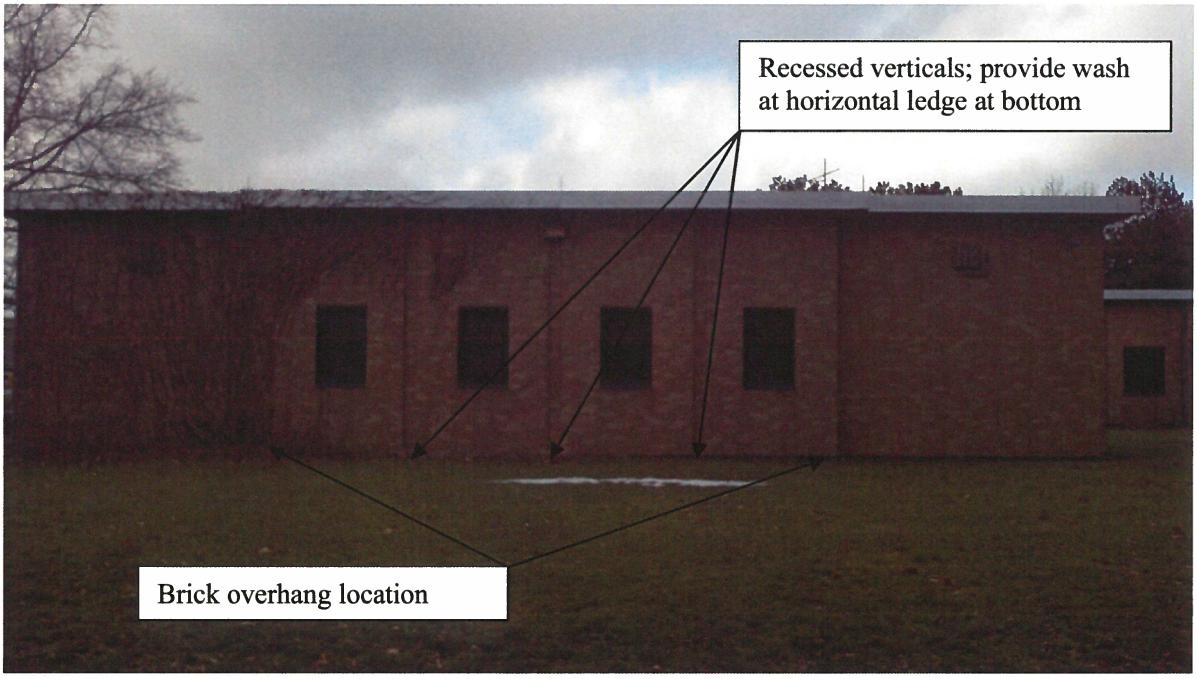
North Elevation Looking South



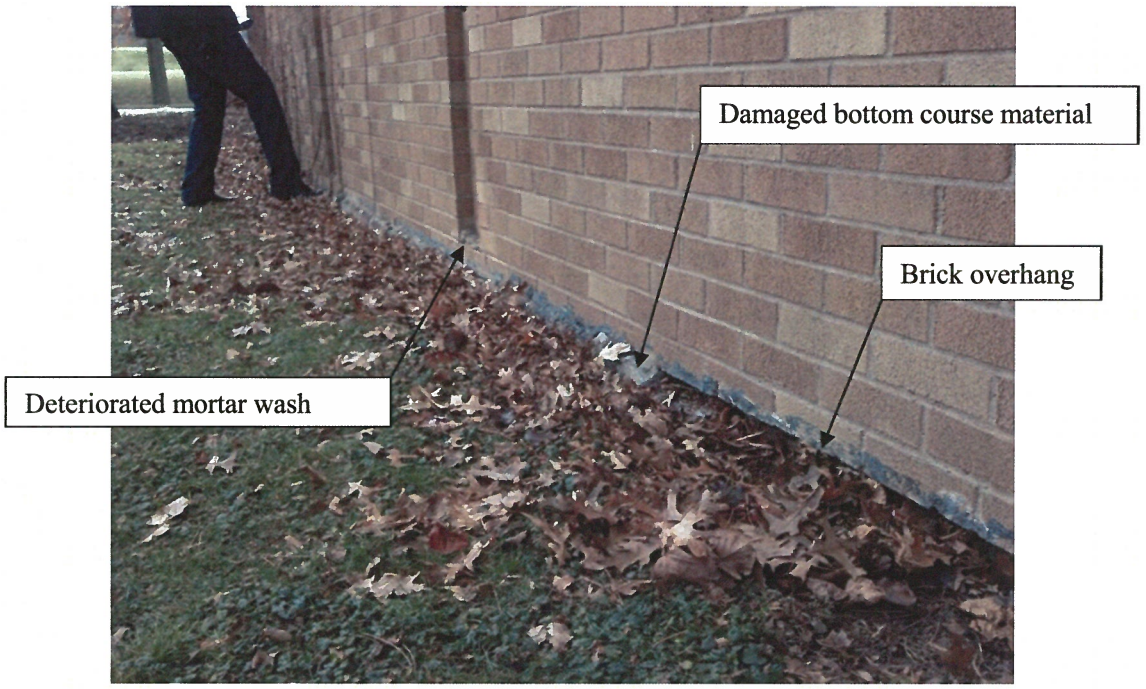
North Elevation Looking East

East and North Elevations

Exterior Basement Stair

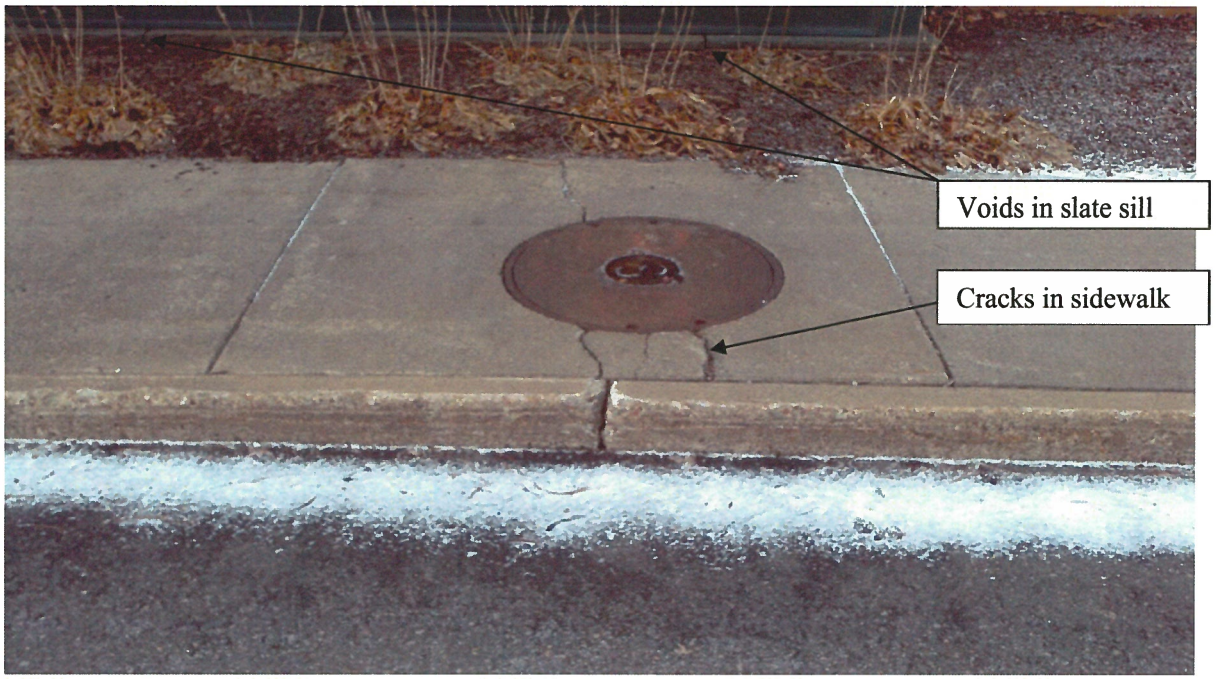


East Elevation



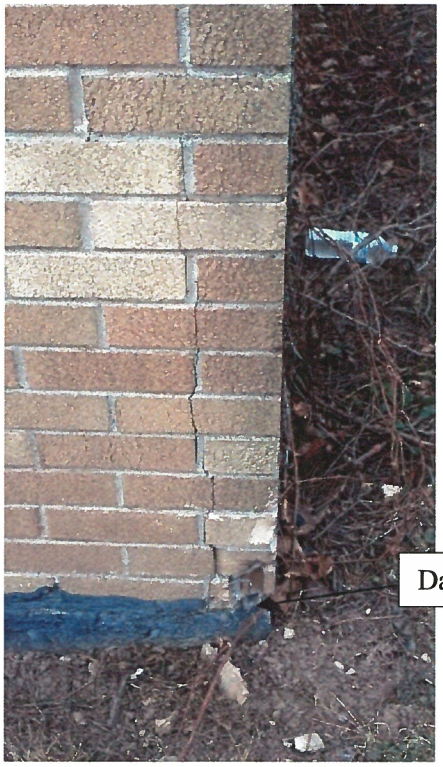
Brick Overhang at East Wall Looking South

South Elevation



South Sidewalk

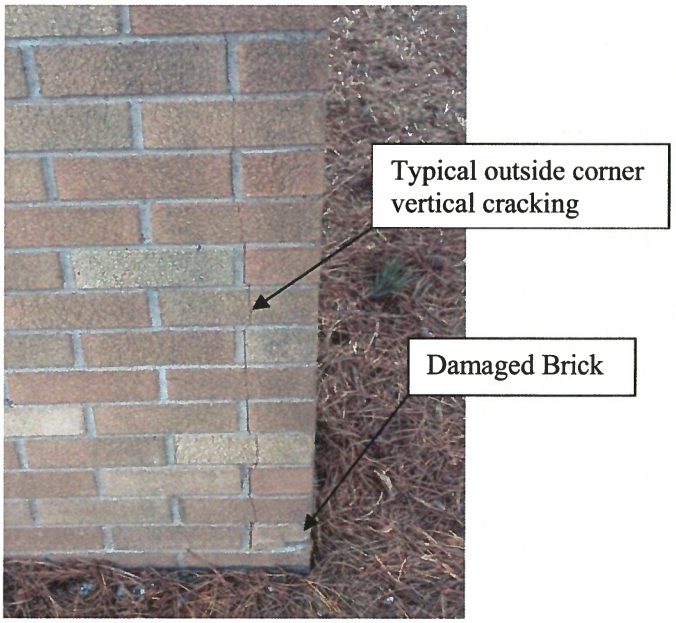
Paver Patio by Main Entry



Northeast Corner

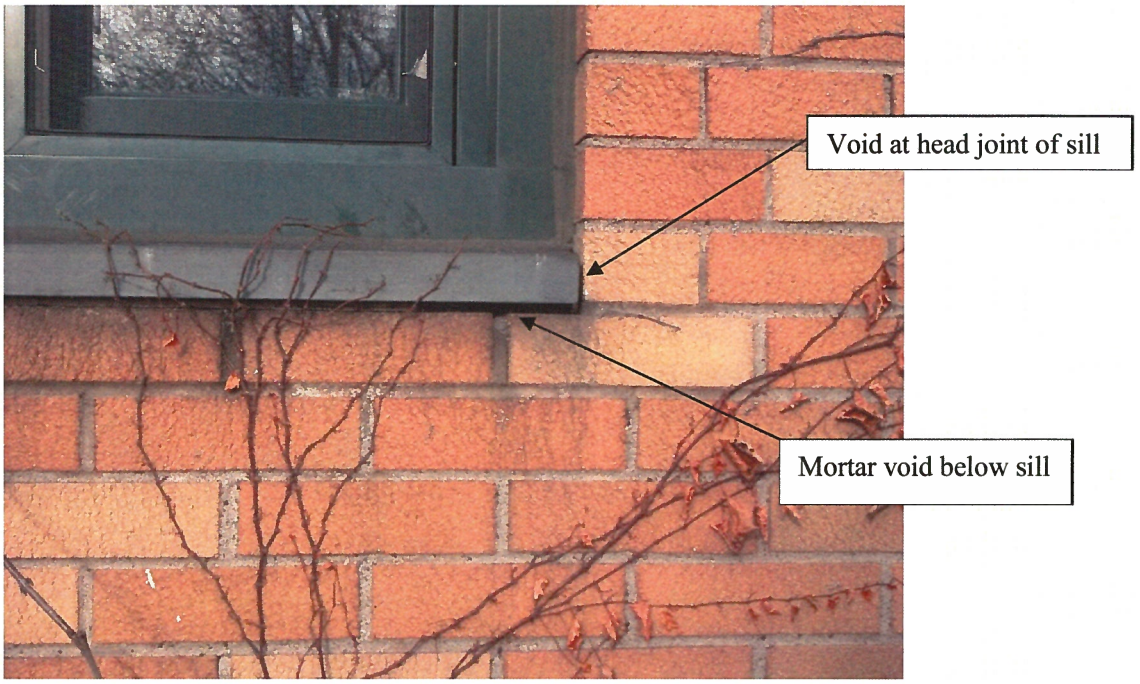
Northernmost Northeast Corner

Southeast corner



Northwest corner

Typical Outside Corner Vertical Cracking Observations



Voids at Typical Window Sills

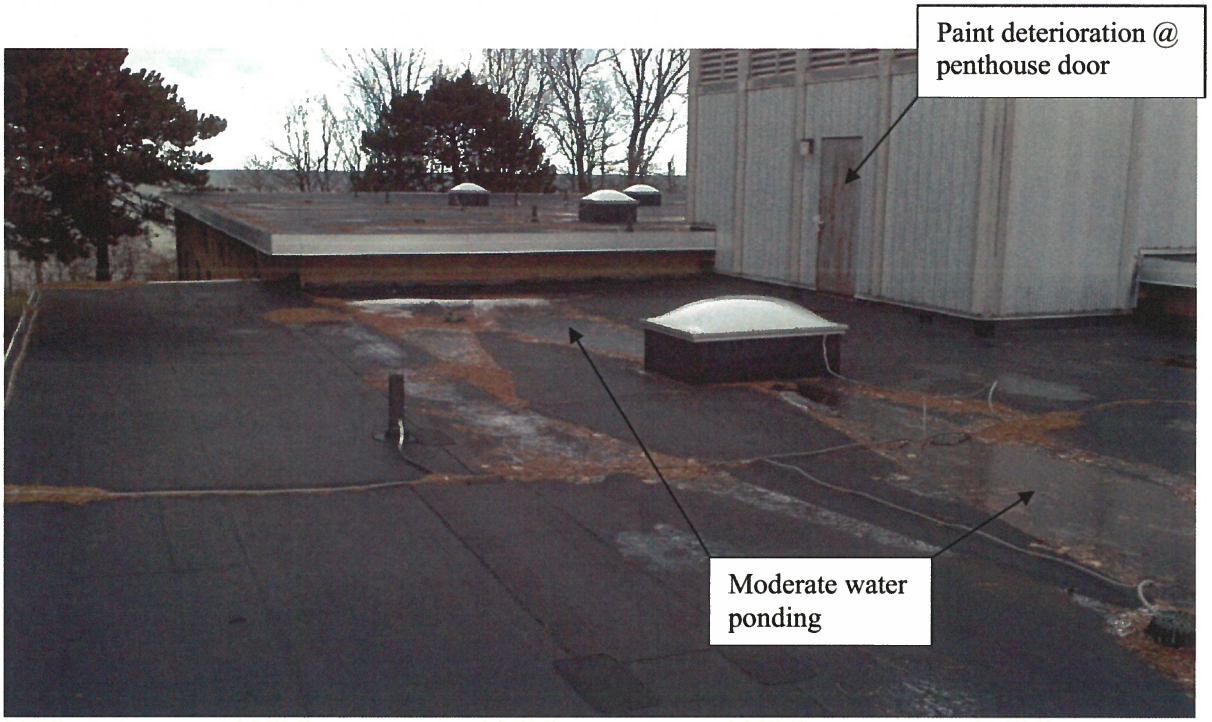
Slate Sill at Building Projection Adjacent to Front Entry

Drop-off Curb Ramp at Main Entry

Basement Slab Cracking

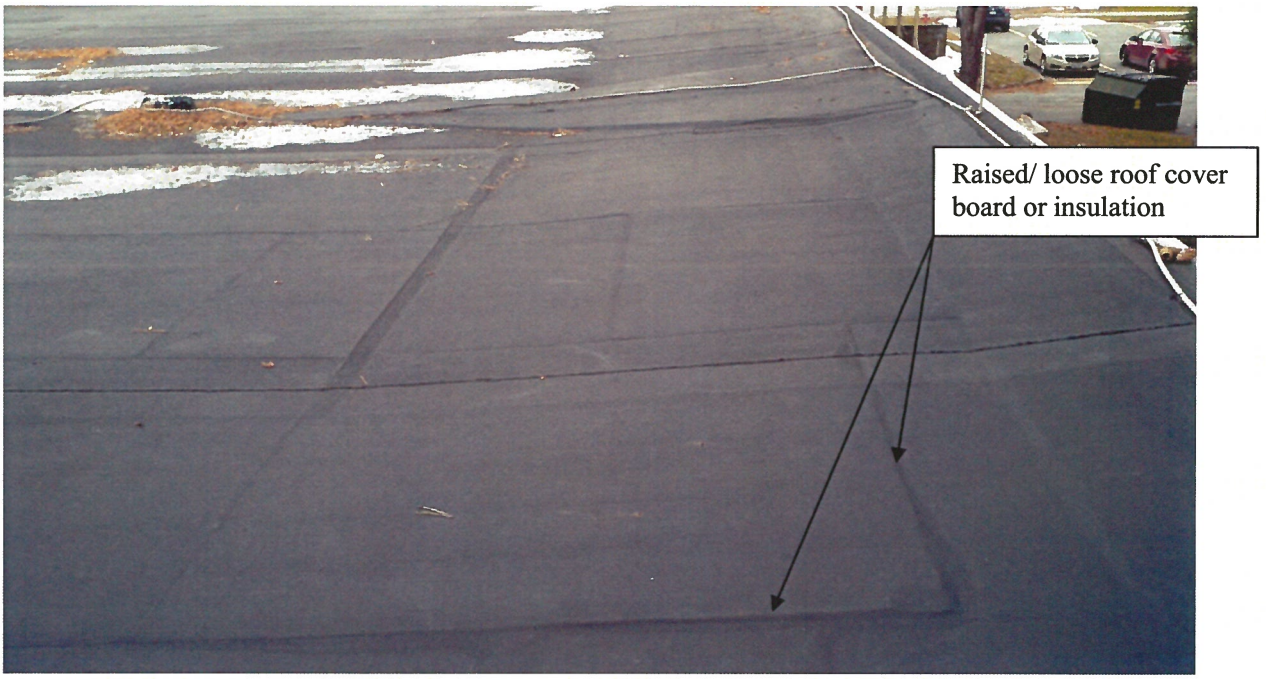
Moisture at the Bottom of Basement Wall (Southwest Room)

Deterioration of Roof joint Sealants

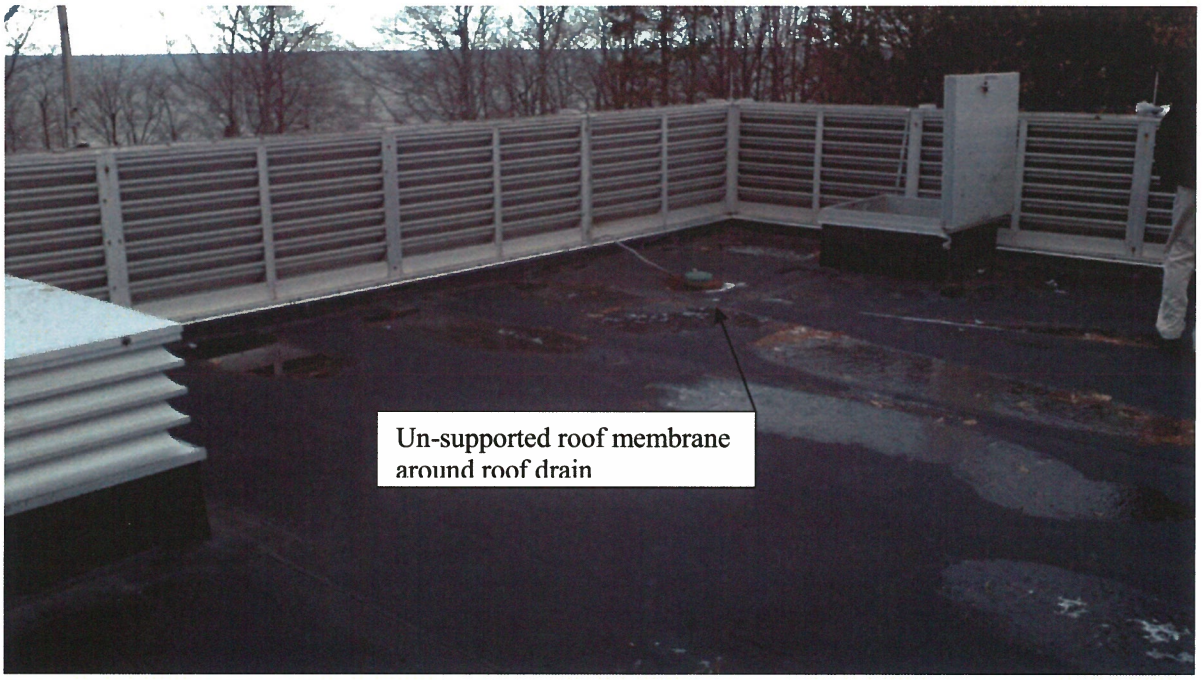


Roof from Southwest Corner Looking North

Leaf Debris at Roof Drain



Roof from Northwest Corner looking South



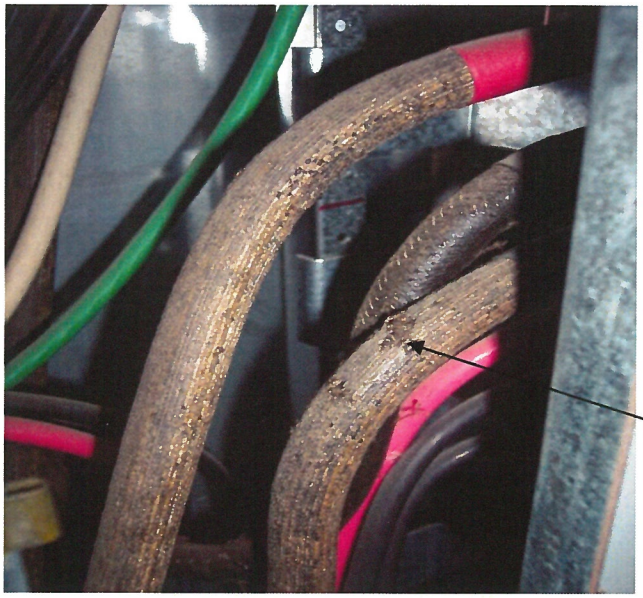
Penthouse Roof

Water Damage at Front Entry Roof Soffit

Typical Flooring

Covers at the bottom of panel causing improper installation of side covers

Main Electrical Panel

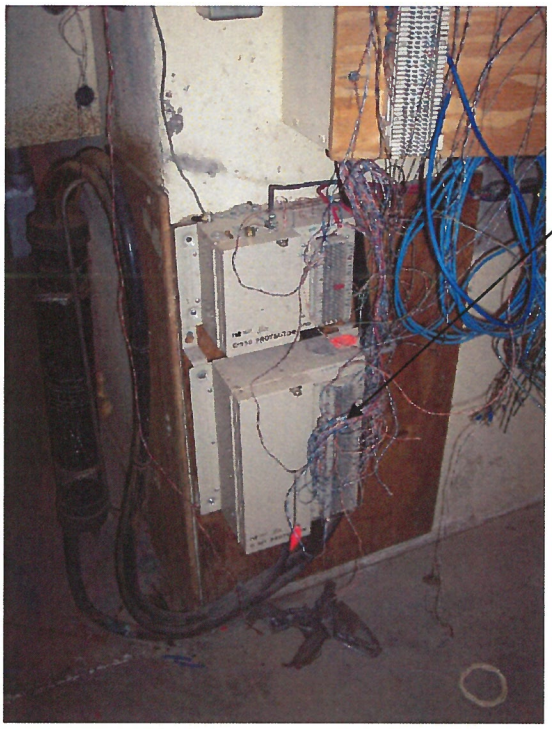


Cloth insulated feeder cables with damage to insulation

Cloth Insulated Wire

Foundation Conduit Penetrations

Emergency Generator



Old Telecommunications

Data Rack UPS

Entry Canopy Fixtures

Deteriorating inefficient H.P.S. light fixtures

Building Site Light

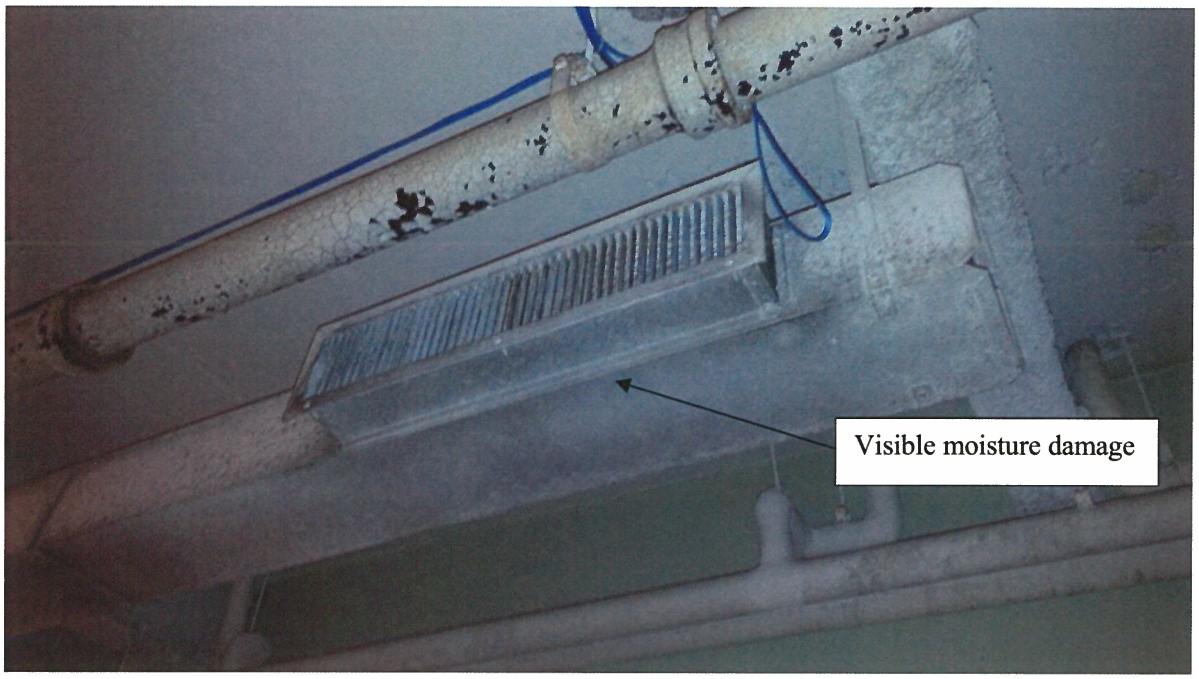
Deteriorating inefficient H.P.S. light fixtures

Louvered door to the emergency generator room is not rated

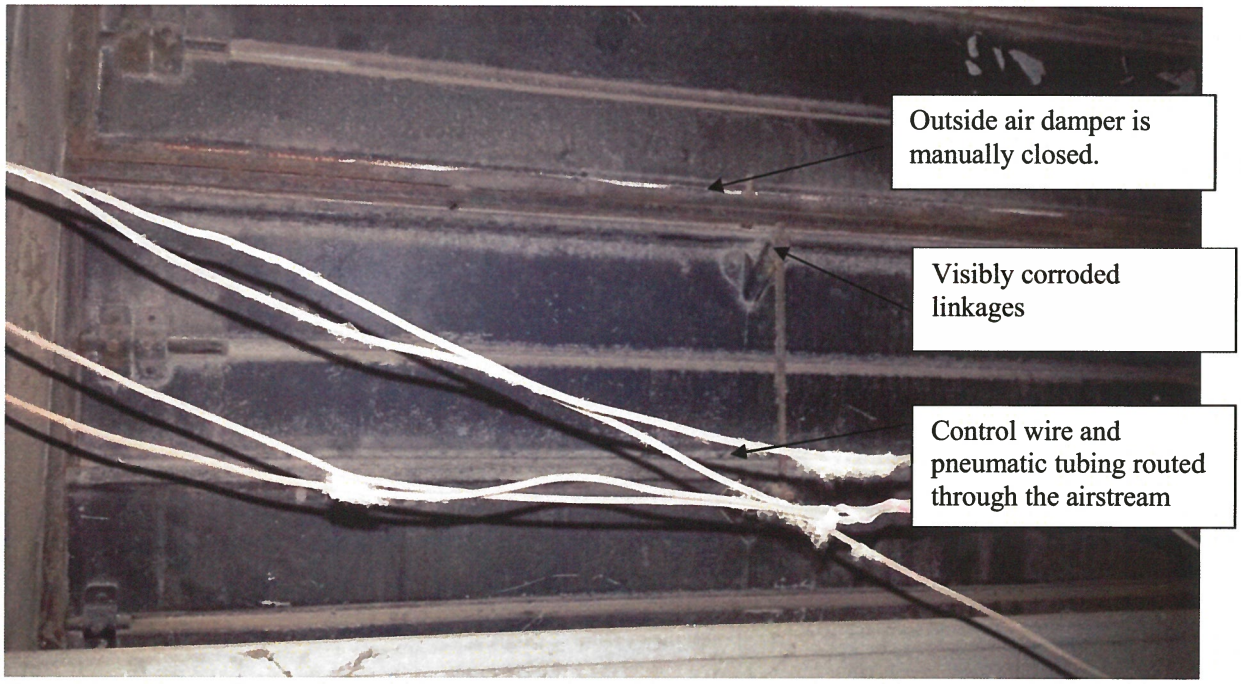
Generator Room Door

Outside air plenum openings are no longer utilized. There are no isolation dampers present and cold air enters the building freely.

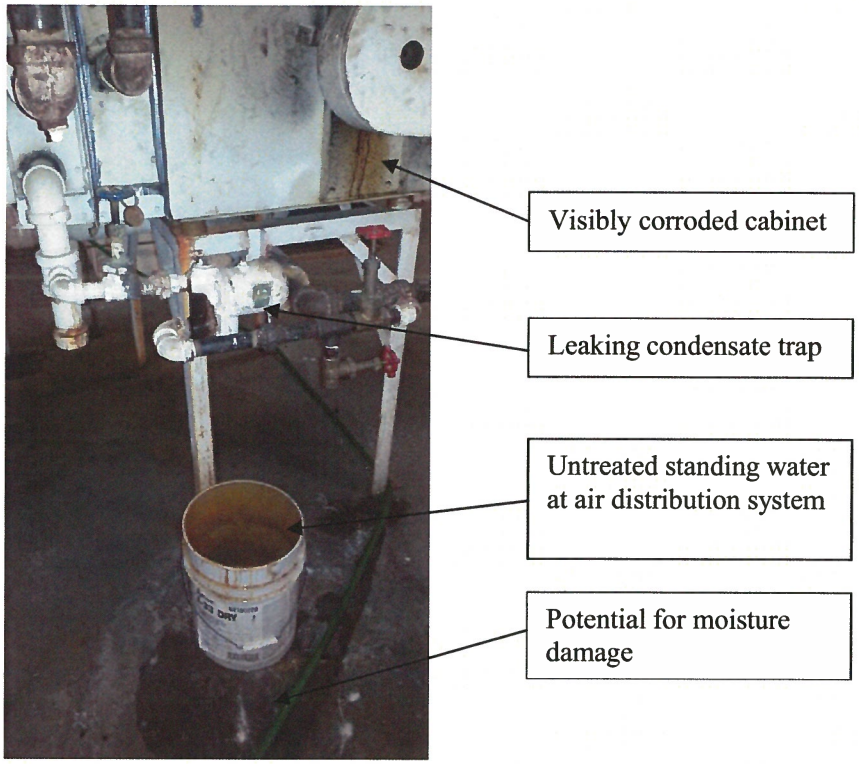
Basement Outside Air Plenum



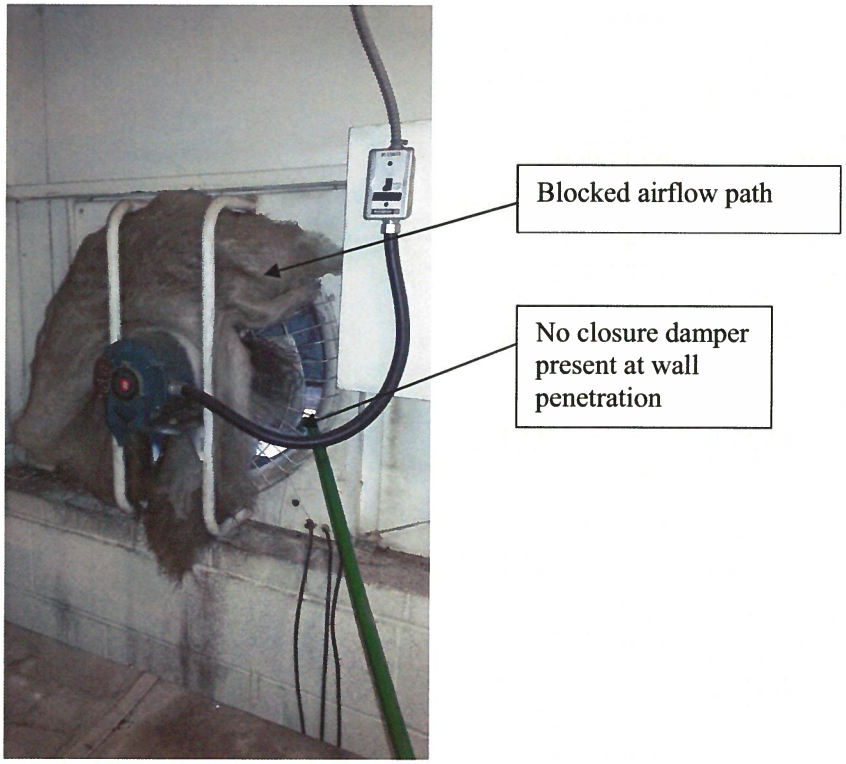
Basement Distribution Duct



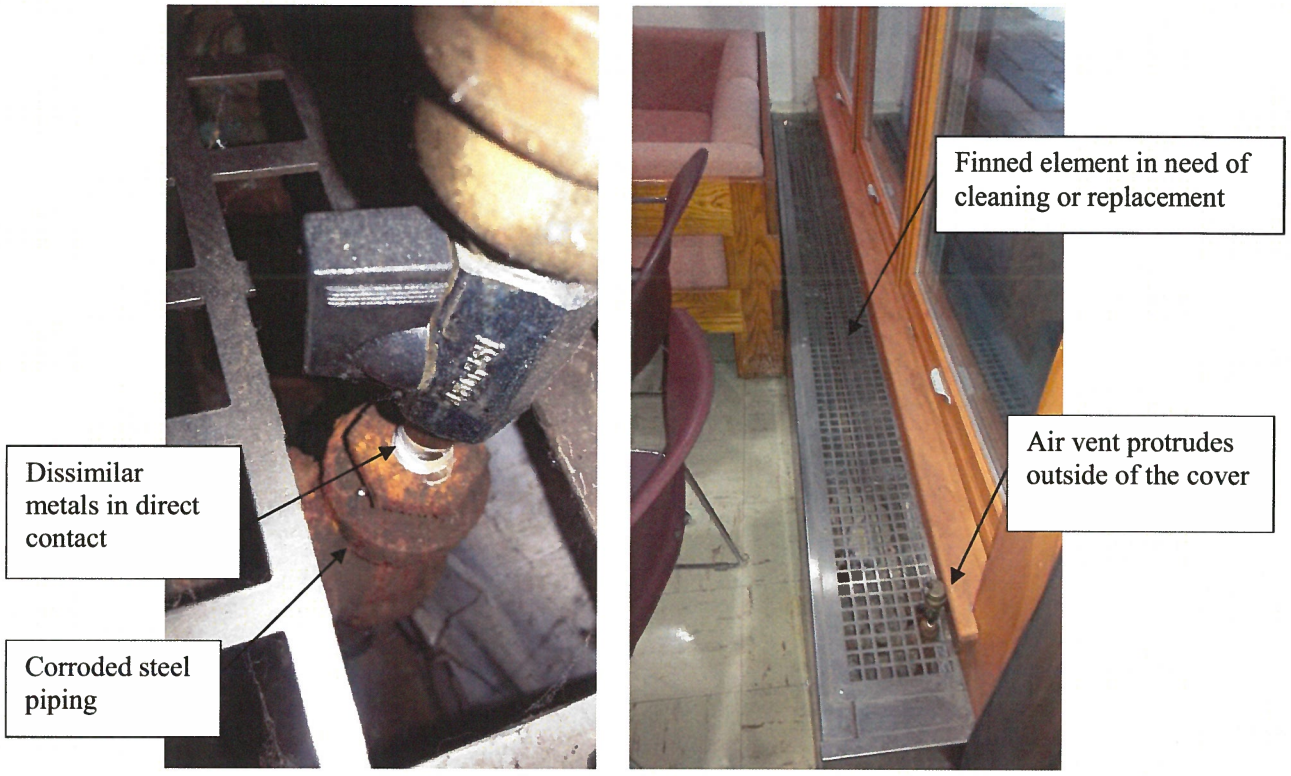
Penthouse Outside Air Duct



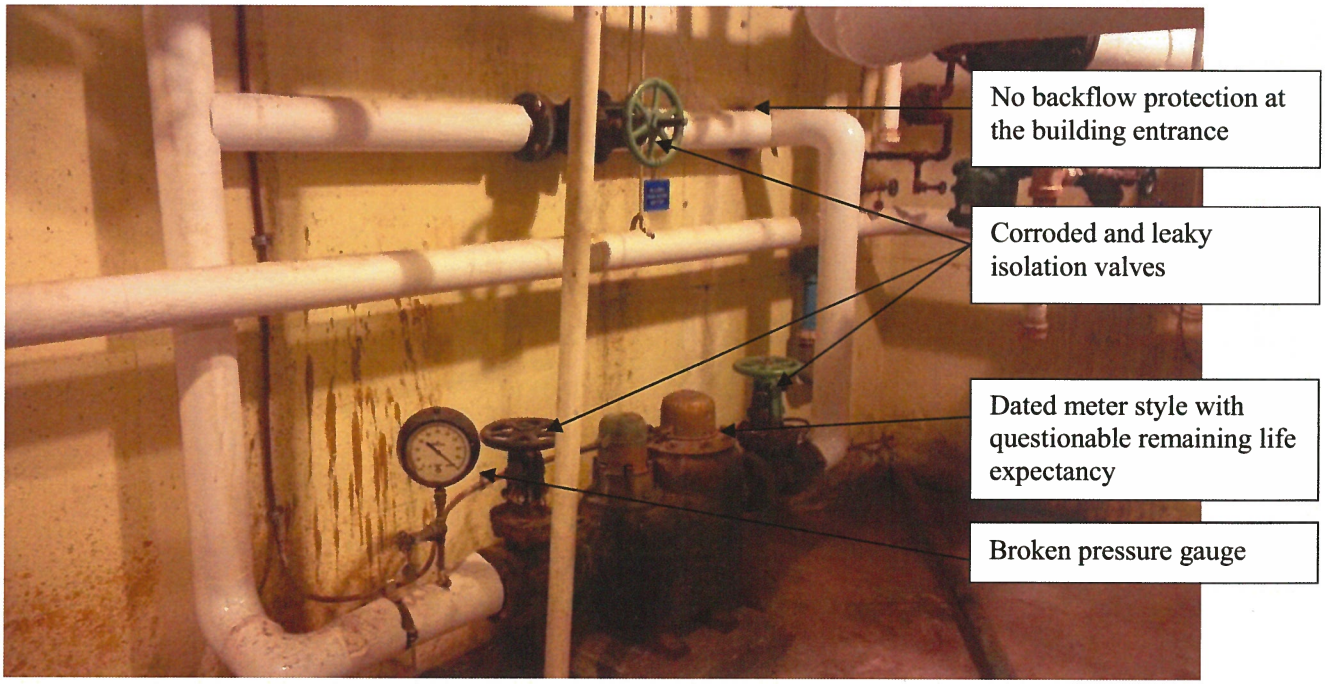
Penthouse Steam Coil



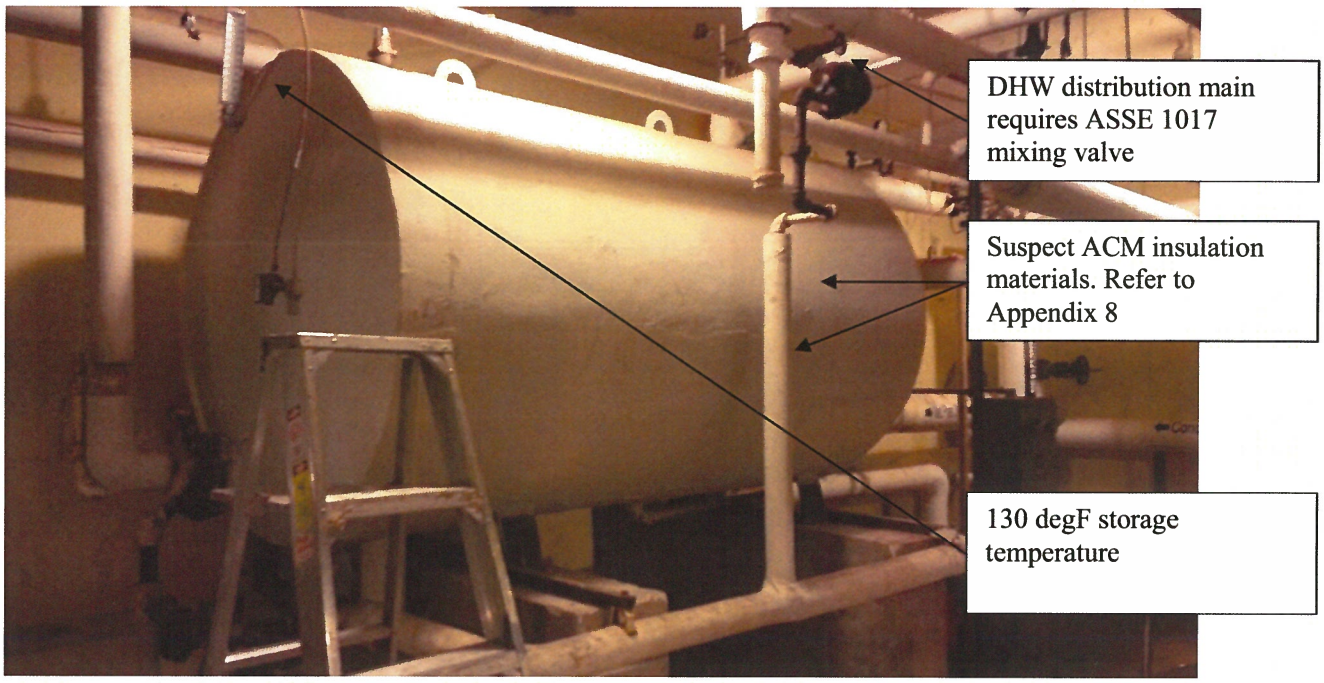
Penthouse Ventilation Fan



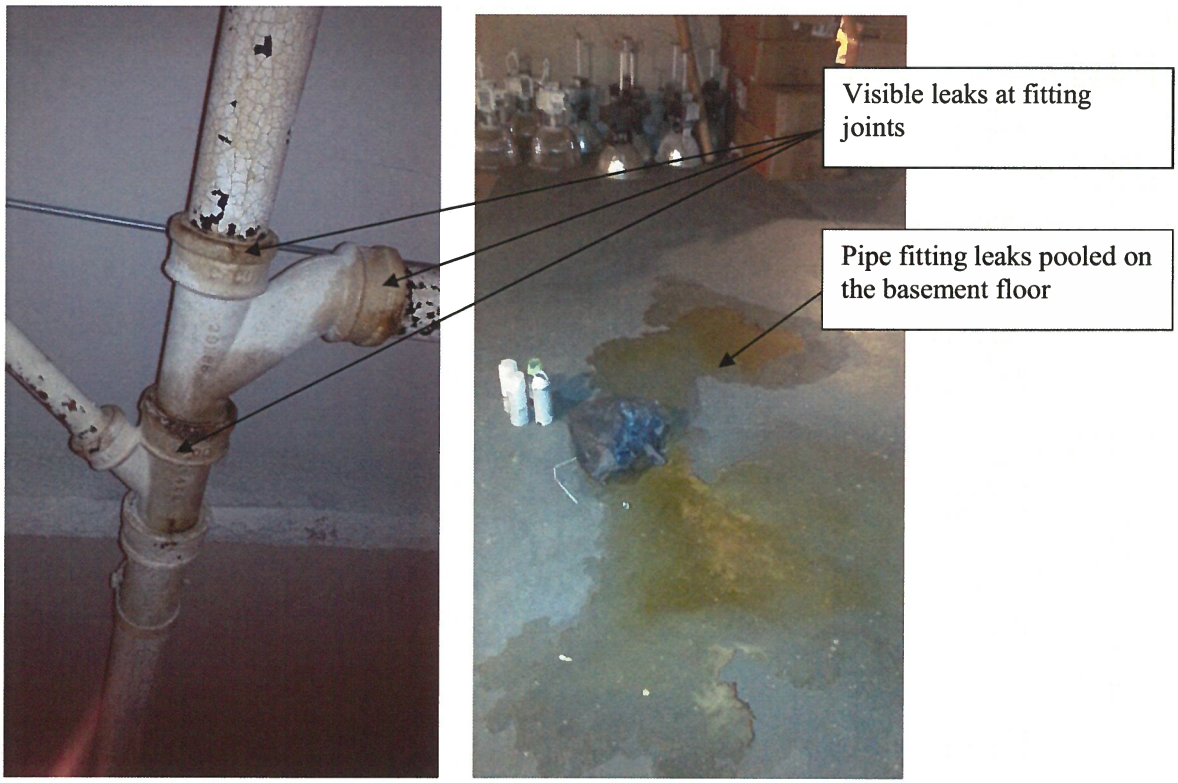
Typical Fin Tube Radiator



Domestic Water Service Entrance



Domestic Hot Water System



Sanitary and Storm Piping

APPENDIX #6

Tier II: Abbreviated Accessibility Survey

	Item	Yes	No	N/A	Comments
A.	**Parking**				
1.	Are there sufficient accessible parking spaces with respect to the total number of reported spaces?	☒	☐	☐	26 to 50 spaces require (2) handicap spaces (conforms)
2.	Are accessible spaces marked with the International Symbol of Accessibility? Are there signs reading "Van Accessible" at van spaces?	☒	☐	☐	Signage exists; appears to be an adequate width access.
3.	Do curbs on the accessible route have depressed, ramped curb cuts at drives, paths and drop-offs?	☒	☐	☐	Yes; max. ½" vertical must be confirmed. Steep sloping sidewalk may require handrail.
4.	Does signage exist directing you to accessible parking and an accessible building entrance?	☐	☒	☐	May be helpful to identify front entry as accessible entrance.
C.	**Entrances/Exits**				
1.	Is the main accessible entrance doorway at least 32 in. wide?	☒	☐	☐	Not dimensioned, but appeared to meet minimum width.
D.	**Paths of Travel**				
1.	Is the main path of travel free of obstruction and wide enough for a wheelchair (at least 36 in. wide)?	☒	☐	☐	Not dimensioned, but appeared to meet minimum width.
2.	Does a visual scan of the main path of travel reveal any obstacles (phones, fountains, etc.) that protrude more than 4 inches in to walkways or corridors?	☐	☒	☐	
3.	Are there audible and visual fire alarm devices in the toilet rooms?	☐	☒	☐	
4.	Are corridor access doors wheelchair-accessible (at least 32 in. wide)?	☒	☐	☐	

APPENDIX #7 – COMPLETED QUESTIONAIRES

QPK DESIGN LLP
ARCHITECTURE ENGINEERING SITE & PLANNING

PROPERTY CONDITION QUESTIONARE

Oswego State University of New York Mary Walker Health Center
Rudolf Road, SUNY Oswego Campus
Oswego, New York

QPK Project Number: 213222.00

Date: December 17, 2013

Thank you for your time in completing this questionnaire. Your responses will help provide a more complete picture of the current building condition.

INSTRUCTIONS: As soon as practicable, please complete the following questions to the best of your ability, knowledge and experience, scan and e-mail to:

William Renihan, R.A
QPK Design LLP
460 South Salina Street
Syracuse, NY 13201-0029
wrenihan@qpkdesign.com
Fax #: 315-472-7800

Parking and Paved Areas:

When were the last repairs to the parking lot completed? _____
When was the last time the parking area was sealed? _____
Are there any site drainage issues? (standing water, flooding) YES___ NO___

Additional comments: _____

Foundation:

Have there been any drainage or leaking issues at the foundation? YES ✓ NO___
Have there been any foundation repairs performed? YES___ NO ✓
Have you noticed any new cracks or existing cracks getting larger? YES ✓ NO___

Additional comments: In the past two years have developed cracks in the floor and water was coming up through during heavy rains

Exterior Walls:

Have there been any leaking issues at the exterior walls? YES___ NO___
Have there been any repairs performed (re-pointing)? YES___ NO___
Has the brick ever been cleaned/ washed? YES___ NO___

Additional comments: _____

460 South Salina Street P.O. Box 29 Syracuse NY 13201-0029 Tel 315.472.7606 Fax 315.472.7800
www.qpkdesign.com

Exterior Windows:

Do any of the windows "stick"? YES___ NO___
Do any of the windows leak? YES___ NO___
Is there condensation evident in any of the insulated glazing? YES___ NO___
Do any of the windows have broken or cracked glazing? YES___ NO___
Are any of the windows excessively "drafty"? YES___ NO___

Additional comments: _____

Exterior Doors:

Do any of the doors "stick" in the frame or drag at the floor? YES___ NO___
Do any of the doors leak? YES___ NO___
Is there condensation evident in any of the insulated glazing? YES___ NO___
Do any of the doors have broken or cracked glazing? YES___ NO___
Are any of the doors excessively drafty? YES___ NO___
Is the door hardware broken or require frequent repair? YES___ NO___

Additional comments: _____

Roofing:

Have there been any roof leaks? (Identify locations below) YES___ NO___
Is the current roof under warranty? (Identify years remaining below) YES___ NO___
Have there been any recent repairs performed? YES___ NO___

Additional comments: _____

Electrical:

Does the current system deliver at peak periods? YES ✓ NO___
Have there been an excessive number of circuit breaker trips? YES ✓ NO___

Additional comments: GENERATOR IS UNDERSIZED. ALSO EQUIPTS WITH STATION, WIRING IN BLDG. IS OLD CLOTH TYPE. BREAKERS FOR OFFICES AREA IS AMP AND TRIP OPTION

HVAC System:

Does the HVAC system function properly? YES ✓ NO___
Have there been any HVAC system failures in the past 10 years? YES ✓ NO___
Are there any repairs that are needed but not yet completed? YES___ NO ✓

Additional comments: HEATING SYSTEM WORKS O.K. VERY LITTLE AIR CONDITIONING.

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Plumbing:

Does the plumbing function appropriately? YES ✓ NO___
Have there been any leaks or failures in the past 10 years? YES ✓ NO___
Are there any repairs that are needed but not yet completed? YES___ NO ✓

Additional comments: just normal maintenance issues

Disclosure:

Are there any concerns or major replacement/ repair items that you have knowledge of that have not been asked or requested for in this questionnaire? Is there anything else that you'd like to report or comment on that would provide information regarding this property?

YES ✓ (please explain below) NO___
Two years ago we added a floor drain and a sump pit because the floor in the basement would heave up in the middle due to the hydraulic pressure. And it would flood downstairs we added the pump it has been works The permits states no longer leaks properly

This information was prepared and provided by:

_____ _____
Printed name and signature Date

Plumber - Dennis Kowalski 12/23/13

QPK DESIGN LLP

QPK DESIGN LLP

PROPERTY CONDITION QUESTIONARE

QPK DESIGN LLP
ARCHITECTURE
ENGINEERING
SITE & PLANNING

Oswego State University of New York Mary Walker Health Center
Rudolf Road, SUNY Oswego Campus
Oswego, New York

QPK Project Number: 213222.00

Date: December 17, 2013

Thank you for your time in completing this questionnaire. Your responses will help provide a more complete picture of the current building condition.

INSTRUCTIONS: As soon as practicable, please complete the following questions to the best of your ability, knowledge and experience; scan and e-mail to:

William Renihan, R A
QPK Design LLP
450 South Salina Street
Syracuse, NY 13201-0029
wrenihan@qpkdesign.com
Fax #: 315-472-7800

Parking and Paved Areas:

When were the last repairs to the parking lot completed? _____
When was the last time the parking area was sealed? _____
Are there any site drainage issues? (standing water, flooding) YES___ NO___

Additional comments: Some drain basins & grates in poor condition
Hard surfaces in need of replacement:
West patio/loading dock area, North patio, Main entrance and Sidewalks adjacent to the building

Foundation:

Have there been any drainage or leaking issues at the foundation? YES[X] NO___
Have there been any foundation repairs performed? YES___ NO[X]
Have you noticed any new cracks or existing cracks getting larger? YES___ NO[X]

Additional comments: 2011- Snaked out perimeter drain
2012-Added sump pit in basement south center
Counter flashing at grade is deteriorated

Exterior Walls:

Have there been any leaking issues at the exterior walls? YES___ NO[X]
Have there been any repairs performed (re-pointing)? YES___ NO[X]
Has the brick ever been cleaned/ washed? YES___ NO[X]

Additional comments: Brick at grade is missing or deteriorated
Vertical cracks in several areas (most at outside corners)
West retaining wall is deteriorated

Exterior Windows:

Do any of the windows "stick"? YES___ NO___
Do any of the windows leak? YES___ NO___
Is there condensation evident in any of the insulated glazing? YES___ NO___
Do any of the windows have broken or cracked glazing? YES___ NO___
Are any of the windows excessively "drafty"? YES___ NO___

Additional comments: _____

Exterior Doors:

Do any of the doors "stick" in the frame or drag at the floor? YES[X] NO
Do any of the doors leak? YES___ NO[X]
Is there condensation evident in any of the insulated glazing? YES___ NO[X]
Do any of the doors have broken or cracked glazing? YES___ NO[X]
Are any of the doors excessively drafty? YES[X] NO
Is the door hardware broken or require frequent repair? YES___ NO[X]

Additional comments: Exterior doors in need of replacement:
North door
Basement entrances (east & west)
Loading dock doors

Roofing:

Have there been any roof leaks? (Identify locations below) YES___ NO[X]
Is the current roof under warranty? (Identify years remaining below) YES___ NO[X]
Have there been any recent repairs performed? YES[X] NO___

Additional comments: Minor patching of EPDM during annual inspections
Issues with excessive debris from nearby pine trees, clogging roof drains

Electrical:

Does the current system deliver at peak periods? YES___ NO___
Have there been an excessive number of circuit breaker trips? YES___ NO___

Additional comments: _____

HVAC System:

Does the HVAC system function properly? YES___ NO___
Have there been any HVAC system failures in the past 10 years? YES___ NO___
Are there any repairs that are needed but not yet completed? YES___ NO___

Additional comments: Occupants request screen doors because there is not enough ventilation in the summer

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Plumbing:

Does the plumbing function appropriately? YES___ NO___
Have there been any leaks or failures in the past 10 years? YES___ NO___
Are there any repairs that are needed but not yet completed? YES___ NO___

Additional comments: Occupants report that the water is not drinkable

Disclosure:

Are there any concerns or major replacement/ repair items that you have knowledge of that have not been asked or requested for in this questionnaire? Is there anything else that you'd like to report or comment on that would provide information regarding this property?

YES___ (please explain below) NO___

_____
_____
_____
_____
_____

This information was prepared and provided by:

_____ _____
Printed name and signature Date

QPK DESIGN LLP

RAVI ENGINEERING & LAND SURVEYING, P.C.

APPENDIX #8

TECHNICAL MEMORANDUM

TO: William Renihan, R.A.
QPK Design
450 S. Salina Street
Syracuse, NY 13201

FROM: Megan Garbach
Ravi Engineering & Land Surveying, P.C.

DATE: January 21, 2014

PROJECT: Property and Building Condition Assessment Report
Mary Walker Health Center
SUNY Oswego, Oswego, New York

SUBJECT: Asbestos and Hazardous Materials Building Assessment

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INTRODUCTION

The Mary Walker Health Center is a single-story masonry, concrete and steel frame structure, approximately 15,200 square feet in area with a flat roof, penthouse and basement. Exterior foundations are cast in place concrete. The purpose of the Property Condition Assessment is to determine the general condition of the building components identified and reasonably predict repairs or replacement of specific building components. Ravi Engineering & Land Surveying, P.C. (RE&LS), as a sub-consultant to QPK Design performed an Asbestos and Hazardous Materials Building Assessment to identify suspect asbestos and hazardous containing materials that may be impacted by future renovation projects. This assessment included a brief visual inspection conducted on August 21, 2013, a review of past sampling events, a review of available building record drawings and development of recommendations for asbestos and hazardous materials sampling based on the visual inspection and review of the above mentioned records.

VISUAL INSPECTION-ASBESTOS AND HAZARDOUS MATERIALS

A brief visual inspection was conducted on August 21, 2013 which included a cursory review of the building interior and exterior. Various suspect asbestos and hazardous containing materials are present throughout the building interior and exterior.

PREVIOUS SAMPLE REVIEW-ASBESTOS MATERIALS

Available records of past sampling events were reviewed. Bulk samples have been collected of the following materials: mortar, ceiling tiles, plaster wall and ceiling topcoat and substrate, carpet mastic, tan 9''x9'' floor tile and mastic, structural fireproofing, fire door insulation, boiler breeching and duct insulation. (Note: analysis of roofing bulk samples was conducted in June 1990. The results of these samples are not applicable as they do not pertain to the current roofing system which was installed in 1993).

The following materials were determined to be asbestos containing based on past sample results: plaster wall substrate, tan 9''x9'' floor tile, floor tile mastic, structural fire proofing, fire door insulation and boiler breeching.

RECORD DRAWING REVIEW-ASBESTOS MATERIALS

Record drawings titled, "Infirmary Building Project No. SUCF-1007," developed by Lorimer Rich and Associates, dated December 23, 1963 were reviewed. The following identifies information obtained from various drawings that reference a suspect or known asbestos containing materials and/or identifies information about the location and application of such materials:

Drawing A102 Cellar Plan:

- Asbestos Caulking (at concrete seams in cellar)
- Materials identified in 'Abbreviation' table: Vinyl Asbestos Tile (VAT), plaster (PL), Keene cement (K. Cem.), vermiculite plaster (ver. pl.), hard white plaster on vermiculite (H.W.P.)
- Membrane Waterproofing present in Fan Room
- Metallic Waterproofing: present on floor and walls within various rooms within the basement

Drawing A103 First Floor Plan:

- According to the room finish schedule vermiculite plaster is used as a ceiling application, not a wall application

Drawing A106 Typical Wall Sections:

- Damproofing on foundation walls (sections 1, 2 and 4)
- 2'' asbestos cement surfaced insulation associated with Fan Room

Drawing A107 Entrance Details:

- Batt Insulation associated with Telephone Booth

Drawing A112 Window and Miscellaneous Details:

- Fabric flashing under exterior window sill

Record drawing titled, "SUCF Project No. 10207 Replace Roof, Infirmary State University College at Oswego, developed by Sargent Webster Crenshaw & Foley Architects, Engineers, Planners, Sheet No. A-1 and A-2 dated April 7, 1993 was reviewed. The following suspect asbestos containing materials were identified:

- Flashing, lap sealant, 2 ply vapor barrier, mastic associated with wood decking at canopy edge and tapered insulation

RECOMMENDATIONS-ASBESTOS AND HAZARDOUS MATERIALS

It is recommended that a complete room-by-room investigation be completed for the building interior and exterior to determine the type and quantity of asbestos and hazardous materials present within each space. In addition, during the room-by-room investigation, it is recommended that a light inventory be conducted to verify the type and number of light fixtures present which may include fluorescent tubes, PCB ballasted fixtures, etc.

Based on the visual inspection conducted on August 21, 2013, review of past sampling reports and review of building record drawings, Table 1: Recommended Asbestos Sampling has been developed and is included in Attachment A. As indicated on the table, it is recommended that a total of one hundred and eighty-seven (187) samples be collected and analyzed for asbestos content determination.

The analysis shall proceed as follows:

- Initially, testing of all samples using the Polarized Light Microscopy (PLM) method of gravimetric reduction, acid digestions, and point counting analysis shall be utilized for the determination of asbestos content.
- Per ELAP requirements, a second test of each non-friable, organically bound material (NOB) sample that is PLM-inconclusive (1% or less asbestos concentration), will be

analyzed using Transmission Electron Microscopy (TEM). For estimating purposes, it is assumed that eighty-four (84) NOB samples will require TEM testing as part of the ELAP NOB analysis.

Although there is no approved method for analyzing vermiculite, it is recommended that vermiculite within building materials be assumed to contain asbestos. Therefore, it is assumed that all vermiculite plaster ceilings within the building are asbestos containing.

Based on the record drawing review, the existing 9''x9'' floor tile is Vinyl Asbestos Tile (VAT), there are two additional types of 9''x9'' floor tiles present within the building that were not previously sampled (tan/peach and green). Since these tiles are asbestos containing, additional sampling of 9''x9'' floor tile is not recommended.

Based on the brief visual inspection conducted on August 21, 2013, the following hazardous materials sampling is recommended: twelve (12) caulk samples be collected for PCB content determination, six (6) generator oil samples be collected for PCB content determination, ten (10) representative paint samples be collected for lead content determination, five (5) ceramic wall tiles for lead content determination, one (1) sink trap debris for mercury content determination and two (2) wipe samples of incinerator debris for RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver) content determination.

ATTACHMENT A

Anticipated Asbestos Bulk Sample Summary Table

Asbestos and Hazardous Materials Building Assessment

Mary Walker Health Center

SUNY Oswego

Project: Mary Walker Health Center Asbestos and Hazardous Materials Building Assessment
Address: SUNY Oswego
Client: QPK Design

Table 1: Recommended Asbestos Sampling

Approximate NUMBER OF SAMPLES based on brief visual inspection conducted on 8/21/13, review of past analytical results and review of record drawings

Material	No. of Samples				
			PLM	NOB	TEM
Surfacing					
Spray on Acoustical Ceiling			3		
TSI					
Duct Insulation			1		
Duct Wrap			6		
Mudded Fittings			6		
Pipe Wrap (fiberglass)			9		
Pipe Wrap (non fiberglass)			12		
Tank Wrap			3		
Miscellanous					
Acoustical Ceiling Tile				2	2
Batt Insulation			2		
Carpet Glue				5	5
Ceramic Floor Tile, Grout, Mud (2 types)			8		
Ceramic Wall Tile, Grout, Mud/Adhesive (2 types)			4	4	4
Cove Molding				4	4
Cove Molding Mastic				4	4
Damproofing				2	2
Door Caulk (Interior)				2	2
Drywall Ceiling			2		
Drywall Ceiling Joint Compound			2		
Drywall Ceiling Tape			2		
Drywall Wall			2		
Drywall Wall Joint Compound			2		
Drywall Wall Tape			2		
Dumbwaiter Door Insulation			2		
Fabric Flashing under exterior window sill				2	2
Flexible Duct Connectors (3 types)			6		
Floor Tile Mastic				2	2
Foundation Flashing (former on brick)				2	2
Foundation Wall Vapor Barrier				2	2
Incinerator Caulk				2	2
Metallic Waterproofing				2	2
Mortar - brick			2		
Mortar - block			2		
Penthouse Seam Caulk (roof 2 types)				4	4
Phone Booth Panels			2		
Window Panel Boards			2		
Wood Panel Glue				2	2
Roof Curb Flashing				2	2
Roof EPDM				2	2
Roof Felt			2		
Roof Tar				2	2
Roof Penetration Flashing				4	4
Roof Perimeter Flashing				2	2
Roof Seam Material				2	2
Sidewalk Seam Caulk				2	2
Sink Insulation				4	4
Slate Window Sills			2		
Soffit Caulk				2	2
Terrazzo			1		
Valve gaskets (3 types)			6		
Wallpaper (vinyl)				1	1
Window Caulk/Glazing (Exterior)				6	6
Window Caulk/Glazing (Interior)				4	4
Misc. PLM (assume 5 materials at 2 samples each)			10		
Misc. TEM (assume 5 materials at 2 samples each)				10	10
		Totals:	103	84	84

(1) AHERA sampling protocols shall be used, 3-5-7 rule for surfacing materials, three samples for TSI, and two samples for miscellaneous materials.