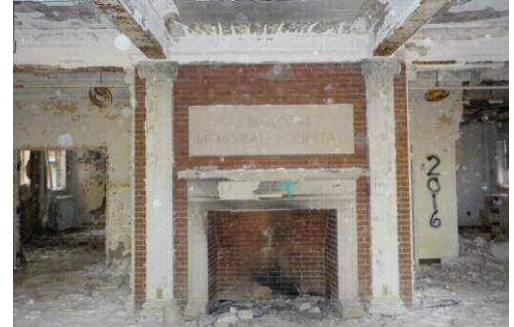




Structural Condition Assessment Report JN Adam Developmental Center

Structural Assessment of Historical Building
JN Adam Memorial Hospital, WNY DDSO
Route 353, Perrysburg, New York 13676
OGS Project SB656



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EXECUTIVE SUMMARY

This structural condition assessment of the JN Adam Developmental Center included Buildings 1 – 5 on the historic hospital campus located in Perrysburg, Cattaraugus County, New York.

The New York State Office of General Services (OGS) commissioned this updated structural condition assessment to support the potential redevelopment of the five original Center buildings. The goal of this study is to evaluate the general condition of Buildings 1 - 5 and identify structural deficiencies that may affect their reuse.

The evaluation considered the overall condition of the buildings, with a focus on identifying existing structural deficiencies and conditions that may develop into future deficiencies, including general recommendations for repair, rehabilitation, demolition or a combination thereof.

Our assessment revealed the Center is in poor-to-fair overall condition. Widespread deterioration of the buildings was observed, including the following typical conditions:

- Exterior: Broken doors and windows, missing parapet coping, missing gutters and flashing, deterioration and spalling of exterior brick veneer, failure of sealant joints, and deterioration of wood porch framing.
- Interior: Significant moisture/water accumulation on exterior building walls and adjacent floor and ceiling construction, delamination of interior wall, floor, and ceiling finishes, deterioration and spalling of exterior brick walls, and deterioration of partition walls.

The primary structure (slabs, beams, columns, bearing walls, etc.) of Buildings 1, 2, and 3 generally appears to be in good condition. There were no apparent signs indicative of global instability or impending structural failure. **However, the following localized structural deficiencies and conditions (listed in descending order of urgency) will need to be addressed as redevelopment planning progresses:**

- Localized collapse of exterior brick masonry walls at the east and west elevations of Building 1 adjacent to the rotunda. Collapse of the east wall has resulted in unsupported roof framing elements.
- Partial collapse of interior wythes of south exterior brick masonry walls at the east and west stairs adjacent to fireplace of Building 1. Collapse has resulted in the possible loss of support for stair framing as well as second and third floors.
- Localized failure of first floor porch framing adjacent to the main entry/stairs at the north elevation of Building 2.
- Collapse of the first and second floor porches (middle-third) at the south elevation of Building 2.
- Localized failure of first floor framing at the west end of the porch at the south elevation of Building 3, including removal/failure of two adjacent columns supporting the second floor. Column loss has resulted in a long section of exterior/perimeter framing without support.
- Removal of parapet coping, flashing, and gutters at Building 1 – 3.

- General deterioration of exterior brick masonry walls due to water infiltration.
- Accumulation of water on the roof at the south end of Building 1.
- Deflection and warping of roof framing (outlookers) at south porch of Building 2.
- Deflection of roof framing along north edge of Building 3.

The primary structure of Buildings 4 and 5 generally appears to be in poor condition. Significant deterioration of exterior brick masonry bearing walls, moderate-to-heavy corrosion of steel beams and columns, and significant water infiltration were observed throughout all floors of each building. **The following localized structural deficiencies and conditions (listed in descending order of urgency) will need to be addressed as redevelopment planning progresses:**

- Partial collapse of exterior wythes of exterior brick masonry walls at the south elevation of Building 4. Collapse has resulted in the possible loss of support for second floor framing.
- Deterioration of concrete slabs at the first floor of Building 4 and Building 5. Concrete at the underside of first floor slabs was easily broken/dislodged when prodded.
- Significant accumulation of moisture due to water infiltration throughout the interior of Buildings 4 and 5.
- Removal of parapet coping and flashings at Building 4 and 5.
- General deterioration of exterior brick masonry walls due to water infiltration.
- Accumulation of water on the roof of Building 5.

Despite the appearance of being in good overall condition, localized repairs and/or reconstruction of Buildings 1 – 3 are likely and should be expected. Exterior masonry walls have sustained a fair amount of damage directly related to continued water infiltration and lack of maintenance. Deterioration of porch framing will likely necessitate large scale reconstruction or demolition.

The degree of deterioration observed at Buildings 4 and 5 may hinder their reuse, making redevelopment of these structures infeasible or cost prohibitive. Large scale reconstruction or demolition of these buildings would be expected.

Based on the observations made during our assessment, it is our opinion that water infiltration resulting from compromised exterior building envelopes and damage caused by vandals is directly attributable to the typical deficiencies, deterioration, and structural failures observed throughout the Center. **If the buildings are left in their current, unprotected condition and measures are not taken to repair damaged areas, enclose and weatherproof the exterior envelope, continued deterioration and localized failures and/or collapse are likely.**

Finally, it is recommended that a detailed structural investigation and testing program be implemented as part of the planning process when considering potential redevelopment options for the Center. The purpose of the detailed investigation would be to determine the extent of deterioration and reconstruction necessary for the intended use. Destructive and non-destructive testing to evaluate material properties and strengths would be an integral component of the investigation and provide information necessary to facilitate design of structural repairs.

INTRODUCTION

This report summarizes the visual structural condition assessment of Buildings 1 – 5 of the J.N. Adam Developmental Center (Center) in the Town of Perrysburg, Cattaraugus County, New York.

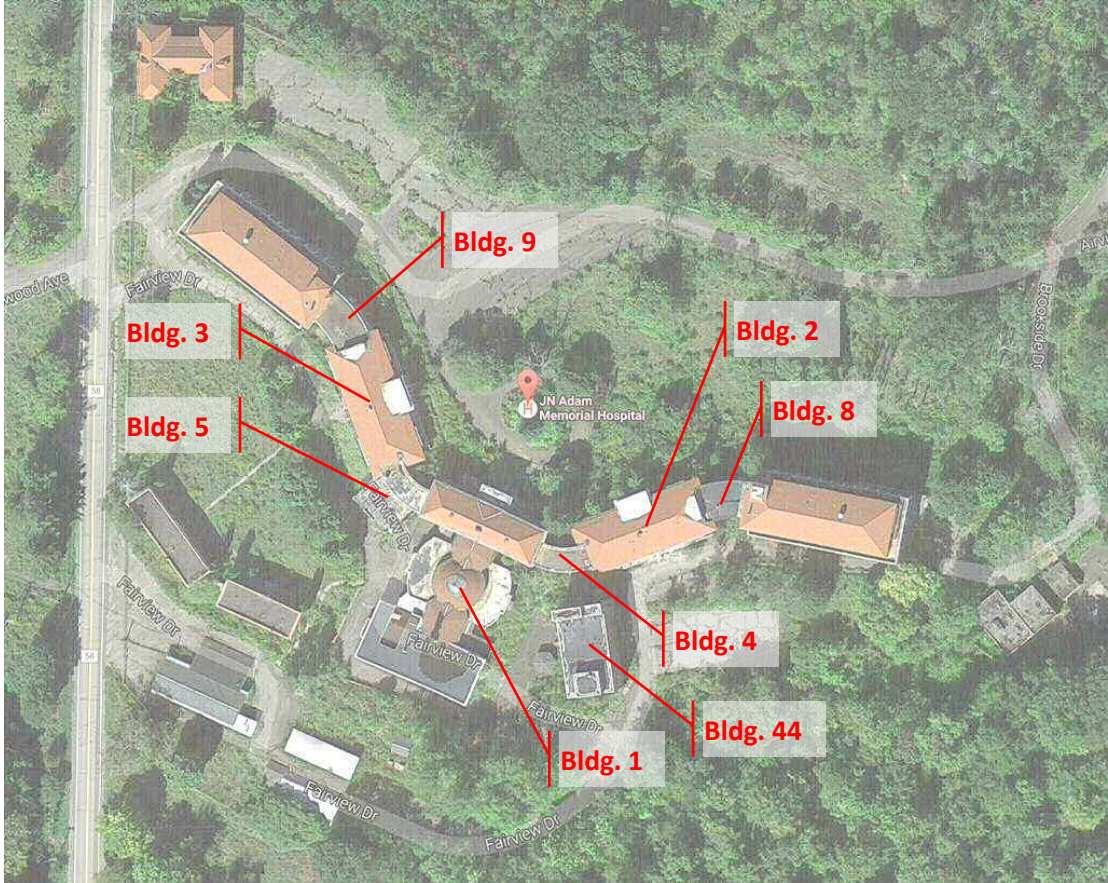


Figure 1 - Aerial Imagery Showing JN Adam Developmental Center

Originally constructed in the early 1900's, and opened by the City of Buffalo in 1912, the former J.N. Adam Memorial Hospital consisted of 5 buildings (Buildings 1 – 5) totaling approximately 120,000 square feet.

The Center operated as a tuberculosis treatment facility through the 1960's before conversion into a developmental center under the New York State Office of Mental Retardation and Developmental Disabilities (OMRDD). Regular operations of the developmental center ceased in the late 1990's, but OMRDD/OPWDD administrative offices remained until 2003, at which time the buildings were completely vacated.

Since that time, the Center has been left vacant, unsecured, and open to the elements resulting in significant deterioration, vandalism, and in some cases localized structural failure(s). Vandals have caused extensive damage, breaking doors and windows,

dismantling walls, and removing roofing materials to retrieve copper gutters, flashing, and piping.

To support the potential redevelopment of the five original Center buildings, the New York State Office of General Services (OGS) has requested this updated structural condition assessment.

Popli Design Group (PDG) was engaged by the OGS to conduct a limited visual assessment of Buildings 1 - 5, evaluate their general condition, and provide general recommendations for repair, rehabilitation, demolition or a combination thereof.

SCOPE

The scope of our investigation was limited to the preliminary visual assessment of Buildings 1 – 5 including interior and exterior building areas and spaces, structural components, non-structural components (limited to partitions, ceilings, cladding, and windows), existing roofing (surface) materials and adjacent parapet construction, and other major building elements that may impact future redevelopment

The assessment did not involve a detailed inspection of every building or review of every structural element. Our investigation was further limited to readily-visible elements without removing finishes, cladding, coverings, and other obstructions to expose concealed conditions.

The following items were outside the scope of our assessment and are not included in this report:

- Destructive and non-destructive materials testing and inspection.
- Hazardous materials sampling, testing and inspection.
- Review of existing conditions for conformance to past or current Building Code requirements.
- Energy modeling and energy code analysis.
- Historical and archeological studies, including preservation and restoration.
- Review of existing building MEP systems, equipment, and utility services to the property.

Included in this report is a summary of our site visits and visual assessments, our opinion regarding the general condition of the buildings, and recommendations for remedial work.

EXISTING BUILDING INFORMATION

Record drawings documenting the building's original design and construction were not available for our use in performing the assessment and preparing this report. However, the following general information was determined based on limited observations made during our site visits.

Building 1 is a steel-framed structure of varying height. The northern portion is a three-story structure with a wood-framed hip roof. At the center of the southern portion of Building 1 is a three-story dome-roof rotunda. Single-story, flat roof structures reside at the east and west with two-story, hip-framed connecting structures to the north and south. The very south end of Building 1 (kitchen area) is primarily a flat-roof two-story structure. A full-height, below-grade basement extends throughout Building 1. A concrete slab-on-grade (first floor) and wood framed porch (second floor) extends the full length of the north elevation.

Buildings 2 and 3 are two-story, steel-framed structures with wood framed, hip roofs. A full-height basement extends throughout each building, varying from below-grade construction at Buildings 4 and 5, to above-grade construction at the east and west ends (Buildings 8 and 9) respectively. Wood-framed porches extend the full length of each building at the north and south elevations.

Buildings 4 and 5 are two-story, steel-framed structures with flat roofs. A full-height, below-grade basement extends throughout each building.

Typical exterior building walls consist of apparent uninsulated, non-composite, multi-wythe brick construction. Walls at flat-roof buildings extend above the roof line to varying heights forming a parapet.

Typical interior partition walls are comprised of varying materials ranging from wood stud sheathed with gypsum sheathing to wire studs with metal lath and plaster and plaster-coated gypsum block.

Typical basement construction consists of an apparent concrete slab-on-grade. Below-grade basement areas are surrounded by concrete walls at the perimeter. Where basement areas are above exterior grade, the walls are of apparent brick-masonry construction.

Typical floor and roof construction consists of apparent one-way concrete slabs with diamond-shaped wire fabric reinforcing, supported by concrete-encased steel beams and steel columns. Where longer clear spans were required, such as the dining room, kitchen and other similar spaces, an apparent one-way clay tile (concrete) joist system was employed.

A defined lateral load-resisting system was not apparent. However, as with most buildings constructed during the early 1900's, frame action between steel beams and columns and prescriptive (historic) floor/roof diaphragm aspect ratios were likely relied on for resistance to lateral wind loads.

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Typical porch construction consists of conventional 2x wood joists supported by steel beams, ornamental columns, and brick masonry piers.

2006 CONDITION ASSESSMENT STUDY

Foit-Albert Associates completed a Conditions Assessment Study of the five original buildings in 2006. The primary focus of that study was environmental hazards (mold, lead, and asbestos) inside the abandoned structures.

However, a limited structural evaluation appended to that study described the main structure of the original buildings as being in (visually) "sound condition." Porches, verandas and other exterior wood-framed elements were noted as being in very poor condition.

Concrete cores obtained from a first floor slab in Building 1 indicated concrete of fair quality but low strength and a "poor air void system."

The structural evaluation concluded with a statement that significant deterioration of such concrete should be expected if subject to continued water infiltration and unheated conditions.

SITE VISITS AND VISUAL ASSESSMENT

Walk-throughs of each building were conducted on October 24, 25, 28 and November 2, 2016 for the purpose of performing the preliminary, visual condition assessments.

The purpose of the assessments was to make general observations relative to the structural condition of the buildings, identify signs of overstress/failure, excessive settlement, movement, deformation, cracking and evidence of ponding and infiltration.

OBSERVATIONS

A summary of general observations made during our site visits is provided below.

Figures indicating the general location of our observations are included in **Appendix A**.

Photographs documenting our observations are included in **Appendix B**.

GENERAL

Exterior observations were made from ground level; roof observations were made with the assistance of a man lift.

Interior observations were limited to readily accessible areas of each floor and full-height basement areas only, as made from the respective floor levels.

BUILDING 1 | EXTERIOR – NORTH ELEVATION

- Moderate-to-heavy vegetation growth throughout north elevation, walks, and stairs.
- The exterior building envelope appeared to be in fair-to-good condition.
- Windows at the basement, first, second and third floors have been broken, allowing water infiltration into the building.
- Gutters have been removed from main roof allowing runoff to fall freely to third floor trim and second floor porch/roof below.
- Sealant at stone trim above third floor windows has failed.
- Moisture, moss growth and discoloration of exterior brick veneer at the third floor; appears concentrated where the upper porch roof abuts the main building.
- Step cracking, mortar joint deterioration, and apparent outward displacement of exterior brick veneer at the upper right corner of the north elevation.
- Paint/coating on trim at the third floor line has failed.
- Several sections of perimeter wood railing at the second floor porch are missing. Deterioration noted at remaining exposed sections.
- Step cracking in mortar joints of exterior brick veneer above first floor window at east elevation (northeast corner).
- Step cracking in mortar joints of exterior brick veneer above first floor window at north elevation (northeast corner).
- Cracking and deterioration of mortar joints at northeast corner (exterior face) of perimeter brick wall at first floor porch.

- Heavy moisture, moss growth, discoloration, and deterioration of exterior brick veneer at the front of the first floor porch adjacent to east and west sides of stairs of main entrance.
- Downspouts at first floor porch have been removed; runoff from second floor porch/roof drains freely down exterior building wall, accumulating on slab.
- Mortar joint deterioration (wash out), algae/moss growth, and efflorescence on exterior brick veneer at first floor porch; concentrated at (former) downspout locations.
- Wood ceiling abutting the exterior building wall at the west side of front porch is wet and sagging; deterioration and green algae growth noted.
- Discoloration and green algae growth across ceiling of first floor porch; concentrated at east at west ends.
- Deterioration of wood soffit at northeast corner of first floor porch.
- Heavy moisture and debris at first floor porch slab; concentrated at (former) downspout locations.
- Deterioration of mortar joints at northeast and northwest corners (inside face) of perimeter brick wall at first floor porch. Heavy moisture and algae/moss growth noted on stone coping at northeast corner.
- Mortar joint deterioration and spalling of stone retaining walls and concrete steps at exterior stairs of main entrance.
- Surface corrosion of pipe handrails at exterior stairs of main entrance.

BUILDING 1 | EXTERIOR – SOUTH ELEVATION

- The exterior building envelope appeared to be in fair condition.
- Windows at the basement, first, second and third floors have been broken, allowing water infiltration into the building.
- Gutters have been removed from main roof allowing runoff to fall freely to third floor trim and roof below.
- Sealant at stone trim above third floor windows has failed.
- Moisture, green algae/moss growth and discoloration of exterior brick veneer at the third floor.
- Cracking and deterioration of mortar joints (wash out) at exterior brick veneer.
- Paint/coating on trim at the third floor line has failed.
- Sealant failure at windows, stone sills and stone trim throughout the south elevation.
- No major deterioration noted at kitchen area.

BUILDING 1 | EXTERIOR – EAST ELEVATION

- Moderate-to-heavy vegetation growth throughout east elevation.
- The exterior building envelope appeared to be in poor-to-fair condition.
- Windows at the basement, first, and second floors have been broken, allowing water infiltration into the building.

- Minor deterioration of mortar joints at southeast portion of east elevation (kitchen). Metal coping in place at parapet.
- Moderate deterioration of mortar joints and spalling of brick veneer throughout center portion of east elevation (rotunda area). Stone coping removed from parapet at lower roof. Gutters and several rows of shingles at eave of upper rotunda roof have been removed. Shingles and flashing at valleys have been removed. Wood board roof deck is exposed.
- Failure of mortar/sealant joints at windows and stone trim.

BUILDING 1 | EXTERIOR – WEST ELEVATION

- The exterior building envelope appeared to be in fair condition.
- Windows at the basement, first, and second floors have been broken, allowing water infiltration into the building.
- Minor deterioration of mortar joints at southeast portion of east elevation (kitchen). Metal coping in place at parapet. Stone coping removed from parapet at lower roof; mortar joint deterioration and apparent outward displacement of remaining parapet.
- Moderate deterioration of mortar joints and spalling of brick veneer throughout center portion of east elevation (rotunda area). Stone coping removed from parapet at lower roof. Gutters and several rows of shingles at eave of upper rotunda roof have been removed. Shingles and flashing at valleys have been removed. Wood board roof deck is exposed.
- Failure of mortar/sealant joints at stone trim.

BUILDING 1 | ROOF

- Gutters and several rows of tile at perimeter of roof have been removed. Wood board roof deck is exposed.
- Roof tiles and flashing at rooftop equipment and penetrations (fans, vents, etc.) have been removed.
- Gutters and several rows of shingles at perimeter of roof have been removed. Wood board roof deck is exposed.
- Shingles and flashing at valleys have been removed.
- Partial collapse/failure of brick veneer south of rotunda at upper wall of west elevation.
- Ponding water at lower and upper roofs at north end of building.
- Partial collapse/failure of brick wall north of rotunda at upper wall of east elevation. Roof framing is unsupported.
- Stone coping and flashing at parapets of lower roofs at the east and west elevations have been removed, allowing water infiltration into the wall and building.

BUILDING 1 | BASEMENT

- Significant moisture at south stair and perimeter walls supporting rotunda above.
- Steel wide-flange shoring posts have been installed throughout area below rotunda floor. Corrosion of shoring members noted.

- Crack in concrete beam at west wall of rotunda.
- Significant moisture throughout area below east side of rotunda; active dripping/leaking water from ceiling.
- Significant moisture throughout area below kitchen; active dripping/leaking water from ceiling. Underside of first floor slab is saturated and deteriorating; exposed reinforcing is corroding.
- Supplemental framing (heavy bolted wide-flange sections) installed at first floor slab below kitchen coolers. Evidence of concrete deterioration and corrosion of exposed slab reinforcing.
- Partial failure of first floor slab below northwest stair.
- Debris scattered throughout northern basement area. Partition walls are deteriorating; paint failure/peeling throughout. Moisture at exterior walls.
- Corrosion noted at exposed steel columns and beams.
- Significant moisture on east and west walls abutting Buildings 4 and 5; dripping water visible on wall surface.

BUILDING 1 | FIRST FLOOR

- Significant deterioration of plaster and supporting wood lath/framing at rotunda dome.
- Significant deterioration of plaster finish at rotunda walls; deterioration/spalling of underlying brick. Evidence of ongoing water infiltration.
- Significant moisture and debris on floor throughout rotunda, cafeteria, kitchen, dining room and adjacent areas. Moss growth on floor in rooms at east and west sides of rotunda.
- Deterioration of roof framing and ceiling at west side of cafeteria. Hole noted in roof above.
- Partition walls are deteriorating; paint failure/peeling throughout.
- Evidence of ongoing /active leaks at exterior walls. Interior plaster wall finish has delaminated. Underlying brick wall is spalling and mortar joints are deteriorating (wash out).
- Significant moisture and active leaking at walls adjacent to south stair. Brick is spalling and mortar joints are deteriorating (wash out). Heavy corrosion noted on metal door frames and exposed steel lintels.

BUILDING 1 | SECOND FLOOR

- Several areas of soft/deteriorated wood flooring.
- Debris scattered throughout. Partition walls are deteriorating; paint failure/peeling throughout.
- Significant moisture on floor, wall and ceiling at east end abutting Building 4; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.

- Significant deterioration/spalling of exterior walls at east and west stairs; accumulation of debris on stairs. Deterioration of interior brick wythe at east stair has compromised support of third floor beam.
- Significant deterioration of floor and walls at south-central portion of building.
- Delamination/spalling of plaster finish at north and south exterior walls and adjacent ceilings; deterioration/spalling of underlying brick. Evidence of ongoing water infiltration.
- Significant moisture on north exterior wall and adjacent ceiling at abutting porch roof; dripping water visible on wall surface.
- Significant moisture on floor, wall and ceiling at west end abutting Building 5; active audible dripping noted. Flooring is buckled and covered in moss.

BUILDING 1 | THIRD FLOOR

- Debris scattered throughout. Partition walls are deteriorating; paint failure/peeling throughout.
- Delamination/spalling of plaster finish at exterior walls and adjacent ceilings; deterioration/spalling of underlying brick. Evidence of ongoing water infiltration.
- Active leak at east side of fireplace; ceiling and floor is wet.

BUILDING 2 | EXTERIOR – NORTH ELEVATION

- Heavy vegetation growth throughout front of building.
- The exterior building envelope appeared to be in fair-to-good condition. First and second floor porches appeared to be in fair condition.
- Windows at the basement, first, and second floors have been broken, allowing water infiltration into the building.
- Gutters have been removed from main roof allowing runoff to fall freely to second floor porch/roof below.
- Deterioration of mortar joints (wash out), efflorescence, and green algae growth at brick column, west side of main entry/stairs at basement level. Cracking of concrete wall adjacent to base of column.
- Deterioration of mortar joints (wash out), efflorescence, and green algae growth at brick column, east side of main entry/stairs at basement level. Cracking of stone and concrete at base of column.
- Deterioration of perimeter wood trim and railings at first and second floor porches. Coating system (paint) is failing. Green algae growth noted throughout; concentrated along bottom portion of railings and adjacent to main entry/stairs.
- Heavy moisture at main stairs leading to first floor porch. Wood treads/risers are very soft. Green algae growth noted throughout.
- Minor cracking at northeast corner of exterior concrete porch slab at basement level.
- Significant deterioration and apparent localized failure of wood framing and trim at base of first floor porch columns at east and west sides of main entry/stairs. Apparent inward rotation of west column base.

- Areas of first floor porch framing appear saturated. Evidence of previous water damage and ongoing infiltration/leaking.
- Light corrosion of exposed steel framing below first floor porch.
- Cracking and spalling of perimeter concrete wall at southeast corner, west end, and middle portion of exterior concrete porch, basement level.
- Cracking and settlement of exterior concrete porch slab (eastern portion) at basement level.

BUILDING 2 | EXTERIOR – SOUTH ELEVATION

- The exterior building envelope appeared to be in fair-to-good condition. First and second floor porches appeared to be in fair condition.
- Windows at the basement, first and second floors have been broken, allowing water infiltration into the building.
- Gutters have been removed from main roof allowing runoff to fall freely to second floor porch/roof below.
- Apparent vertical deflection and rotation of outlookers at roof of second floor porch.
- Deterioration of perimeter wood trim and railings at first and second floor porches. Coating system (paint) is failing. Green algae growth noted throughout.
- Middle-third of first and second floor porches has collapsed.
- Apparent deflection of wood framing and rotation of column at southeast corner of first floor porch.
- Areas of first floor porch framing appear damp. Evidence of previous water damage and ongoing infiltration/leaking.
- Light corrosion of exposed steel framing below first floor porch.
- Cracking and settlement of exterior concrete porch slab (eastern portion) at basement level.

BUILDING 2 | ROOF

- Gutters at north and south eaves have been removed.
- Areas of broken tiles scattered throughout roof; ridge tiles at eastern half of roof are missing.
- Roof tiles and flashing at rooftop equipment and penetrations (fans, vents, etc.) have been removed.
- Partial collapse/failure of brick parapet/wall at east end of building.
- Several large areas of broken or missing/removed tiles at west (hip) end of roof.
- Roof tiles and flashing at abutting Building 4 have been removed; wood board roof deck is exposed. Apparent gap noted at northern half of junction.
- Several rows of tiles removed along eave of roof at west end of north side.
- Roofing over main entry appears weathered and worn; useful life likely exceeded.

BUILDING 2 | BASEMENT

- Debris scattered throughout. Partition walls are deteriorating; paint failure/peeling throughout.

- Significant moisture and debris on floor at west wall abutting Building 4.
- Significant moisture on west wall and ceiling abutting Building 4; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.
- Moisture on ceiling in room at south side of corridor; delamination of ceiling tiles.
- Wall and ceiling at abutting Building 8 are damp.

BUILDING 2 | FIRST FLOOR

- Debris scattered throughout. Partition walls are deteriorating; paint failure/peeling throughout.
- Significant moisture on floor, west wall and ceiling abutting Building 4; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.
- Wall and ceiling at abutting Building 8 are damp.

BUILDING 2 | SECOND FLOOR

- Debris scattered throughout. Partition walls are deteriorating; paint failure/peeling throughout.
- Significant moisture on floor, west wall and ceiling abutting Building 4; plaster finish delaminated and spalling of underlying brick.
- Significant moisture on floor, east wall and ceiling abutting Building 8; dripping water visible on wall and ceiling. Interior plaster wall and ceiling finishes have delaminated. Underlying brick wall is spalling and mortar joints are deteriorating (wash out).
- Cracking and apparent sagging of concrete ceiling/floor slab at southeast room.
- Deterioration of wood soffit/roof framing at east end of porch.

BUILDING 3 | EXTERIOR – NORTH ELEVATION

- Heavy vegetation growth throughout front of building.
- The exterior building envelope and brick veneer appeared to be in fair-to-good condition.
- Windows at the basement, first, second and third floors have been broken, allowing water infiltration into the building.
- Gutters have been removed from main roof allowing runoff to fall freely to second floor porch/roof below.
- First and second floor porches appeared to be in poor condition. Columns at east end of first floor have been removed; deflection of second floor framing noted. Fire damage at first floor framing adjacent to removed columns. Perimeter wood trim and railings are deteriorating. Coating system (paint) is failing. Green algae growth noted throughout.
- Deterioration of mortar joints and green algae growth at brick piers below fire damaged area of first floor porch.
- Main porch columns and perimeter of upper roof are highly weathered; coating system (paint) has failed.

- Areas of first floor porch framing appear damp. Evidence of previous water damage and ongoing infiltration/leaking.
- Cracking and settlement of exterior concrete porch slab at basement level

BUILDING 3 | EXTERIOR – SOUTH ELEVATION

- The exterior building envelope and brick veneer appeared to be in fair-to-good condition.
- Windows at the basement, first, second and third floors have been broken, allowing water infiltration into the building.
- Gutters have been removed from main roof allowing runoff to fall freely to second floor porch/roof below.
- First and second floor porches appeared to be in poor condition. Perimeter wood trim and railings are deteriorating. Coating system (paint) is failing. Green algae growth noted throughout; concentrated along bottom portion of railings and east and west ends.
- Wood stair leading to first floor porch has collapsed. Apparent deflection/warping noted at adjacent columns and soffit framing.
- Areas of first and second floor porch framing appear damp. Evidence of previous water damage and ongoing infiltration/leaking.
- Cracking and settlement of exterior concrete porch slab at basement level.

BUILDING 3 | ROOF

- Gutters at north and south eaves have been removed.
- Deterioration of brick parapet/wall at west end of building. Apparent out-of-plane deflection noted. Roof tiles and flashing at abutting Building 9 have been removed.
- Apparent roof deflection/sagging along northern portion of roof as evidenced by a break in pitch approximately 10 tiles from eave.
- Roof tiles and flashing at abutting Building 5 have been removed; wood board roof deck is exposed.
- Roofing over main entry appears weathered and worn; has likely exceeded its useful life. Wood trim is highly weathered.

BUILDING 3 | BASEMENT

- Debris scattered throughout. Partition walls are deteriorating; paint failure/peeling throughout.
- Wall and ceiling at abutting Building 9 are damp; failure of plaster finish.
- Significant moisture and debris on floor at east wall abutting Building 5.
- Significant moisture on east wall and ceiling abutting Building 5; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.

BUILDING 3 | FIRST FLOOR

- Debris scattered throughout. Partition walls are deteriorating; paint failure/peeling throughout.

- North exterior wall near center of building appears damp; paint failure and spalling/delamination of plaster finish.
- Significant moisture on floor, east wall and ceiling abutting Building 5; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.
- West wall and ceiling at abutting Building 9 are damp; interior plaster finish has delaminated.
- Areas of exposed second floor framing at south porch appear damp. Evidence of water damage and ongoing infiltration/leaking. Deflection/warping of outer wood soffit construction noted.

BUILDING 3 | SECOND FLOOR

- Debris scattered throughout. Partition walls are deteriorating; paint failure/peeling throughout.
- Significant moisture on floor, east wall and ceiling abutting Building 5; dripping water visible on wall and ceiling. Ponding water on floor at southeast room. Interior plaster wall and ceiling finishes have delaminated. Underlying brick wall is spalling and mortar joints are deteriorating (wash out).
- Moisture on floor and ceiling at room on north side of corridor near center of building; dripping water visible on ceiling.
- Significant moisture on ceiling and north exterior wall at room on north side of corridor near center of building.
- Significant moisture on floor, west wall and ceiling abutting Building 9; dripping water visible on wall and ceiling. Interior plaster wall and ceiling finishes have delaminated. Underlying brick wall is spalling and mortar joints are deteriorating (wash out).
- Apparent sagging of concrete ceiling/floor slab at northwest room; corrosion noted on exposed slab reinforcement.
- Spalling of concrete at underside of ceiling/floor slab at southwest room.

BUILDING 4 | EXTERIOR

- The exterior building envelope appeared to be in poor overall condition.
- Moderate-to-heavy vegetation growth at the north and south elevations.
- Windows at the basement, first, and second floors of the north and south elevations have been broken, allowing water infiltration into the building.
- Stone coping and flashing along the top of parapets at the north and south exterior walls have been removed, allowing water infiltration into the wall and building.
- Sealant failure at windows and remaining sections of stone sills and stone trim throughout the north and south elevations.
- A continuous band of brick veneer and stone trim above the second floor windows along the parapet of the south elevation have failed and fallen from the building, leaving interior wythes exposed. Deterioration of interior brick wythes and mortar joints (wash out) was observed.

- A large area of brick veneer at the west side of the south elevation has failed and fallen from the building, leaving interior wythes exposed. Deterioration of interior brick wythes and mortar joints (wash out) was observed.
- Mortar joints adjacent to the failed veneer have washed out and are showing signs of continued deterioration and failure.
- An apparent second floor beam at the south elevation has been left exposed as a result of the failed veneer leaving it supported only by the interior brick wythe.
- Stone sills at second floor windows of the south elevation are in danger of failing due to loss of supporting brick veneer below.
- Stone trim at the second floor line of the south elevation has failed and fallen from the building.
- Steel lintels over first and second floor windows of the south elevation have been left exposed as a result of veneer failure and are corroding.
- Deterioration of mortar joints (wash out) and efflorescence at exterior brick veneer along the north elevation.
- Heavy saturation of exterior brick veneer was observed at the east and west ends of the building adjacent to Buildings 2 and 1.
- Spalling of stone trim above the windows of the second floor at the north elevation.
- Second floor patio at the north elevation is deteriorating. Perimeter flashing has been removed. Corrosion of steel framing and spalling of the concrete slab and cementitious coating was observed.

BUILDING 4 | ROOF

- Stone coping and flashing along the top of parapets at the north exterior wall has been removed, allowing water infiltration into the wall and building. Roofing membrane is torn and separating from back of parapet; sections folded onto roof.
- Brick parapet and stone coping at the south exterior wall has been removed/collapsed, allowing water infiltration into the wall and building. Roofing membrane is folded onto roof.
- Roofing and flashing at juncture with Building 2 (east end) has been removed; underlying roof construction is exposed, allowing water infiltration inside the building.
- Accumulation of broken tiles from roofs of adjacent Buildings 1 and 2.

BUILDING 4 | BASEMENT

- Significant moisture and debris on floor; concentrated at east and west walls adjacent to Buildings 2 and 1. Partition walls are heavily deteriorated.
- Significant moisture at north and south exterior walls. Interior plaster finish has delaminated and mortar joints of underlying brick are deteriorating (wash out).
- Significant moisture at east and west walls adjacent to Buildings 2 and 1; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.
- Underside of first floor slab is damp throughout, increasing to wet conditions adjacent to exterior building walls.

- Plaster finish at underside of first floor slab has delaminated and concrete cover over mesh slab reinforcing has been lost; exposed reinforcing is corroding. Concrete is easily broken when prodded.
- Noticeable sag of the first floor slab adjacent to south exterior wall at the southwest portion of the building.
- Steel beams at first floor are corroding; encasement has delaminated and several sections have fallen off.
- Significant moisture at corridor/north brick wall adjacent to Building 44. Plaster finish has delaminated from south wall and adjacent partitions.

BUILDING 4 | FIRST FLOOR

- Significant moisture and debris on floor; concentrated at east and west ends adjacent to Buildings 2 and 1. Partition walls are heavily deteriorated.
- Significant moisture at north and south exterior walls. Interior plaster finish has delaminated and mortar joints of underlying brick are deteriorating (wash out).
- Significant moisture at east and west ends adjacent to Buildings 2 and 1; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.
- Underside of second floor slab is damp throughout, increasing to wet conditions adjacent to exterior building walls.
- Ceiling tiles at underside of second floor slab has delaminated.
- Steel beams at second floor are corroding; encasement has delaminated and several sections have fallen off.
- Flooring at southeast portion of the building adjacent to Building 44 significantly deteriorated.
- Apparent collapse of ceiling at connecting link between Buildings 4 and 44.

BUILDING 4 | SECOND FLOOR

- Significant moisture and debris on floor; concentrated at east and west ends adjacent to Buildings 2 and 1.
- Deterioration and isolated buckling of flooring. Partition walls are deteriorated.
- Significant moisture at north and south exterior walls. Interior plaster finish has delaminated and mortar joints of underlying brick are deteriorating (wash out).
- Significant moisture at east and west walls adjacent to Buildings 2 and 1; dripping water noted at northwest corner of building.
- Ceiling adjacent to exterior building walls is wet.
- Broken roofing tiles, stone trim and debris at patio.

BUILDING 5 | EXTERIOR

- The exterior building envelope appeared to be in fair overall condition.
- Heavy vegetation growth was observed at the north elevation.
- Stone coping and flashing along the top of parapets at the north and south exterior walls have been removed, allowing water infiltration into the wall and building.

- Windows at the basement, first and second floor windows of the north and south elevations have been broken, allowing water infiltration into the building.
- Sealant failure at windows, stone sills, and stone trim was observed throughout the north and south elevations.
- Second floor patio at the north elevation appeared to be in good condition. Significant deterioration was not noted.
- Deterioration of mortar joints (wash out) and efflorescence at exterior brick veneer along the north elevation.
- Heavy saturation of exterior brick veneer at the east and west ends of the north elevation adjacent to Buildings 1 and 3.
- Several open mortar joints and step cracking at the east and west ends of the north elevation.
- A continuous band of brick veneer and stone trim above the second floor windows along the parapet of the south elevation have failed and fallen from the building.

BUILDING 5 | ROOF

- Stone coping and flashing along the top of parapets at the north and south exterior walls have been removed, allowing water infiltration into the wall and building.
- Roofing and flashing at juncture with Building 3 (west end) has been removed; underlying roof construction is exposed, allowing water infiltration inside the building.
- Roofing membrane is torn and separating from back of parapet; sections folded onto roof.
- Accumulation of stone coping from parapets and broken tiles from roofs of adjacent Buildings 1 and 3.
- Ponding water along northern half of roof.

BUILDING 5 | BASEMENT

- Significant moisture and debris on floor; concentrated at east and west walls adjacent to Buildings 1 and 3. Partition walls are heavily deteriorated.
- Significant moisture at north and south exterior walls. Interior plaster finish has delaminated and mortar joints of underlying brick are deteriorating (wash out).
- Significant moisture at east and west walls adjacent to Buildings 1 and 3; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.
- Underside of first floor slab is damp throughout, increasing to wet conditions adjacent to exterior building walls.
- Plaster finish at underside of first floor slab has delaminated and concrete cover over mesh slab reinforcing has been lost; exposed reinforcement is corroding. Concrete is easily broken when prodded.
- Steel beams at first floor are corroding; encasement has delaminated and several sections have fallen off.
- Heavy corrosion of multi-beam steel header at wall opening at north wall.

- Noticeable sag and apparent delamination of concrete at the first floor slab adjacent to stairway near middle of the building.
- Significant moisture at underside of first floor slab at northwest portion of the building; dripping water visible on slab surface.

BUILDING 5 | FIRST FLOOR

- Significant moisture and debris on floor; concentrated at east and west walls adjacent to Buildings 1 and 3. Partition walls are heavily deteriorated.
- Significant moisture at north and south exterior walls. Interior plaster finish has delaminated and mortar joints of underlying brick are deteriorating (wash out).
- Significant moisture at east and west walls adjacent to Buildings 1 and 3; dripping water visible on wall surface. Heavy corrosion noted on metal door frames and exposed steel lintels.
- Underside of second floor slab is damp throughout, increasing to wet conditions adjacent to exterior building walls.
- Ceiling tiles at underside of second floor slab have delaminated.
- Steel beams at second floor are corroding; encasement has delaminated and several sections have fallen off.
- Apparent inward deflection of north exterior wall over window at west end of the building.
- Significant moisture and dripping water on east exterior wall and ceiling (roof) at southeast corner of building.

BUILDING 5 | SECOND FLOOR

- Significant moisture and debris on floor; concentrated at east and west walls adjacent to Buildings 1 and 3.
- Deterioration and buckling of flooring throughout; moss growth at northwest corner of building. Partition walls are heavily deteriorated.
- Significant moisture at north and south exterior walls. Interior plaster finish has delaminated and mortar joints of underlying brick are deteriorating (wash out).
- Significant moisture at east and west walls adjacent to Buildings 1 and 3; dripping water noted at northwest corner of building.
- Ceiling is damp throughout, increasing to wet conditions adjacent to exterior building walls.

CONCLUSION AND RECOMMENDATIONS

Our limited investigation and condition assessment revealed the Center is in poor-to-fair overall condition.

Typical exterior deficiencies primarily consisted of compromised building envelopes, broken doors and windows, missing parapet coping, missing gutters and flashing, deterioration and spalling of exterior brick veneer, failure of sealant joints, and deterioration of wood porch framing.

Typical interior deficiencies primarily consisted of significant moisture/water accumulation on exterior building walls and adjacent floor and ceiling construction, delamination of interior wall, floor, and ceiling finishes, deterioration and spalling of exterior brick walls, and deterioration of partition walls.

The primary structure (slabs, beams, columns, bearing walls, etc.) of Buildings 1, 2, and 3 generally appears to be in good condition. There were no apparent signs indicative of global instability or impending structural failure. However, several deficiencies were observed at architectural elements throughout each building as noted in preceding sections of this report and as summarized above. The following localized structural deficiencies and conditions (listed in descending order of urgency) will need to be addressed as redevelopment planning progresses:

- Localized collapse of exterior brick masonry walls at the east and west elevations of Building 1 adjacent to the rotunda. Collapse of the east wall has resulted in unsupported roof framing elements.
- Partial collapse of interior wythes of south exterior brick masonry walls at the east and west stairs adjacent to fireplace of Building 1. Collapse has resulted in the possible loss of support for stair framing as well as second and third floors.
- Localized failure of first floor porch framing adjacent to the main entry/stairs at the north elevation of Building 2.
- Collapse of the first and second floor porches (middle-third) at the south elevation of Building 2.
- Localized failure of first floor framing at the west end of the porch at the south elevation of Building 3, including removal/failure of two adjacent columns supporting the second floor. Column loss has resulted in a long section of exterior/perimeter framing without support.
- Removal of parapet coping, flashing, and gutters at Building 1 – 3.
- General deterioration of exterior brick masonry walls due to water infiltration.
- Accumulation of water on the roof at the south end of Building 1.
- Deflection and warping of roof framing (outlookers) at south porch of Building 2.
- Deflection of roof framing along north edge of Building 3.

The primary structure of Buildings 4 and 5 generally appears to be in poor condition. Significant deterioration of exterior brick masonry bearing walls, moderate-to-heavy corrosion of steel beams and columns, and significant water infiltration were observed throughout all floors of each building. In addition, several deficiencies were observed at

architectural elements throughout each building as noted in preceding sections of this report and as summarized above. The following localized structural deficiencies and conditions (listed in descending order of urgency) will need to be addressed as redevelopment planning progresses:

- Partial collapse of exterior wythes of exterior brick masonry walls at the south elevation of Building 4. Collapse has resulted in the possible loss of support for second floor framing.
- Deterioration of concrete slabs at the first floor of Building 4 and Building 5. Concrete at the underside of first floor slabs was easily broken/dislodged when prodded.
- Significant accumulation of moisture due to water infiltration throughout the interior of Buildings 4 and 5.
- Removal of parapet coping and flashings at Building 4 and 5.
- General deterioration of exterior brick masonry walls due to water infiltration.
- Accumulation of water on the roof of Building 5.

Despite the appearance of being in good overall condition, localized repairs and/or reconstruction of Buildings 1 – 3 are likely and should be expected. Exterior masonry walls have sustained a fair amount of damage directly related to continued water infiltration and lack of maintenance. Deterioration of porch framing will likely necessitate large scale reconstruction or demolition.

The degree of deterioration observed at Buildings 4 and 5 may hinder their reuse, making redevelopment of these structures infeasible or cost prohibitive. Large scale reconstruction or demolition of these buildings would be expected.

Based on the observations made during our assessment, it is our opinion that water infiltration resulting from compromised exterior building envelopes and damage caused by vandals is directly attributable to the typical deficiencies, deterioration, and structural failures observed throughout the Center. If the buildings are left in their current, unprotected condition and measures are not taken to repair damaged areas, enclose and weatherproof the exterior envelope, continued deterioration and localized failures and/or collapse are likely.

Finally, it is recommended that a detailed structural investigation and testing program be implemented as part of the planning process when considering potential redevelopment options for the Center. The purpose of the detailed investigation would be to determine the extent of deterioration and reconstruction necessary for the intended use. Destructive and non-destructive testing to evaluate material properties and strengths would be an integral component of the investigation and provide information necessary to facilitate design of structural repairs.

Structural Assessment of Historical Building
JN Adam Memorial Hospital, WNY DDSO
Perrysburg, New York
OGS Project No. SB656

This report was prepared to assist with the planning of the proposed redevelopment of Buildings 1 – 5 on the JN Adam Developmental Center complex located in Perrysburg, New York. It has been prepared for the exclusive use of the New York State Office of General Services and other concerned/involved agencies, for specific application to the referenced site/buildings and this project only.

Recommendations included herein were prepared based on our understanding of the proposed project, observations made during our limited visual condition assessments performed from October 24, 2016 through November 2, 2016, and our general knowledge of typical construction practices for similar structures built during the same time period. No warranties, expressed or implied, are made by the conclusions, opinions, recommendations, or services provided.

Our condition assessment was limited to readily visible and accessible elements and conditions. Concealed conditions that become exposed during future investigations and construction may necessitate changes to the recommendations made herein. Therefore, we request that our office be notified if actual field conditions differ from that stated or assumed in this report. Similarly, we request that PDG be informed of any changes to the planned project, discovery of additional historic project records (drawings, reports, etc.), and changes to observed conditions as documented herein, so that it may be determined if revisions to the recommendations are necessary.

If you have any questions or wish to discuss the information presented this report, please do not hesitate to contact our office.

Sincerely,

POPLI DESIGN GROUP

Jeffrey M. Fick, P.E.
Director, Structural and Civil/Site Engineering