Board of Property Maintenance Appeals — February 11, 2021
Board Meeting — Agenda — 5:30 PM

ZOOM TELECONFERENCE

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Meeting ID: 827 3217 4277 Passcode: 694624
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If you want to provide input to the Board, you will need to be sworn in by stating the following: My name is _____. My address is _____. I affirm that my testimony is truthful, to the best of my knowledge and ability, so help me God or under penalty of perjury.

SWEARING IN OF NEW MEMBERS

CALL TO ORDER

MINUTES APPROVAL

- Board of Property Maintenance Appeals - Board Meeting - Feb 28, 2019 5:30 PM

301 N. MULBERRY STREET

- Notice of Appeal
- American Structurepoint Assessment
- Korda/Nemeth Engineering Building Report
- Updated Site Plan

ADJOURN

City of Mount Vernon
40 Public Square, Mount Vernon, OH 43050
Phone: 740-393-9400 Fax: 740-397-6595
E-mail: codeofficer@mountvernonohio.org

Mount Vernon
www.mountvernonohio.org

Notice of Appeal Form

Request for Hearing

Referenced Property: 301 N. Mulberry Street, Mount Vernon, Ohio

Date of Notice, Order, or Action Being Appealed: March 1, 2019

The undersigned hereby requests a hearing before the Property Maintenance Board of Appeals for the City of Mount Vernon to review the notice, order, or action of the Property Maintenance Code Enforcement Officer in reference to the above property. I believe the Notice of Violation dated March 1, 2019 to be incorrect for the following reasons;

1. The property owner has complied with the order and, therefore, no further relief is necessary.
   This notice is being filed as suggested by the City Attorney.
2. The building is fit for human habitation.
3. Significant demolition has occurred and the order should be modified.

This form must be received by the office of the Safety Service Director within thirty (30) days of the date of service of the Notice of Violation pursuant to Section 1303.05(B). The notice of appeal shall be accompanied by the $100.00 administrative fee required by Section 1303.06(C).

I am the Attorney for the Owner of said property.
(Owner, Occupant, Lien Holder, etc.)

David Watkins, Plank Law Firm, LPA
(Print Name)

David Watk-
(Signature)

411 East Town Street, Flr 2
(Mailing Address)

Columbus, Ohio 43215

614-947-8600
(Phone Number)

Mail or hand deliver to Safety Service Director, 40 Public Square, Mount Vernon, Ohio 43050

AMERICAN STRUCTUREPOINT INC.

February 8, 2021

Mr. Brian Ball, PE
City of Mount Vernon
40 Public Square
Mount Vernon, Ohio 43050

Re: 301 North Mulberry Street Structural Condition Assessment
301 North Mulberry Street
Mount Vernon, Ohio, 43050

Project No. 202003088

Dear Mr. Ball:

At your request, Mr. Donald L. Gillie, PE, SE, and Mr. Andrew C. Appelbaum, PE, of American Structurepoint, Inc., performed an investigation at the above-referenced property on November 17, 2020, and have prepared this summary report. The purpose of the investigation was to visually assess the overall structural condition of the property, identify any observed structural deficiencies or potential hazards to public safety, recommend conceptual repairs where applicable, and recommend whether demolition may be warranted based on the structural condition.

You were present during the investigation, along with Mr. Greg Bemiller, representing the City of Mount Vernon. A representative for the current property owner was also present during the investigation. All above-indicated individuals accessed the high roof over the three-story portion of the building with us. We did not access the lower roofs over the gymnasium and boiler room. Weather conditions were partly cloudy and approximately 37 degrees Fahrenheit during the investigation, and the roof was dry.

1 BACKGROUND

1.1 Property History – Public Records

According to public records:

1.1.1 The subject property was constructed in 1939 as an addition to an existing educational building.

1.1.2 The subject property functioned as a school building between 1939 and 1998.

1.1.3 The Board of Education for the Mount Vernon City Schools sold the property in 1998, after which its use as a school building ceased.

1.1.4 Since 1998, the property has had five different owners, (including the current owner) and has been functionally abandoned.

1.1.5 301 Mulberry LLC, the current owner, purchased the property in January 2020.

1.2 Property History - Correspondence

From correspondence with the City of Mount Vernon and conversation with the building owner's representative it is our understanding that:

1.2.1 A previous owner replaced the roof and many of the second and third-floor windows approximately ten years ago.

1.2.2 Small fires have been periodically set inside the building by trespassers.

1.2.3 The building previously had a west wing, constructed in 1924, that was recently demolished due to advanced deterioration, including collapsed portions of the roof. A shared wall at the interface between the 1924 building and the remaining 1939 structure was left standing.

1.2.4 The City of Mount Vernon is concerned with the structural integrity of the building as a potential hazard to public safety.

1.3 Drawing Review

We reviewed some structural and architectural drawings that you provided for the building, dated 1939 by Vernon Redding and Associates. The drawings show:

1.3.1 Ribbed one-way reinforced concrete floor and roof slabs with two-inch thick topping slab poured integral with tees (concrete joists) spaced at 25 inches center-to-center with leave-in-place metal tile formwork.

1.3.2 North-south direction reinforced concrete beams supporting slabs at the central corridors.

1.3.3 Reinforced concrete columns along the central corridors supporting the reinforced concrete beams.

1.3.4 Brick masonry bearing walls at the building perimeter, typically with reinforced concrete lintels over door and window openings.

1.3.5 Steel lintels or brick arches over some window and door openings.

1.3.6 Steel beams and columns supporting the gymnasium roof.

1.3.7 A built-up steel-plate transfer girder in the gymnasium supporting the northern half of the western third-story brick masonry exterior bearing wall.

1.3.8 Reinforced concrete spread footing foundations beneath the concrete and steel columns at the building interior.

1.3.9 Reinforced concrete strip footing foundations beneath the perimeter brick masonry bearing walls.

2 OBSERVATIONS

2.1 Overview

For reference purposes in this report, we will assume the front of the building faces North Mulberry Street to the east. The following observations were made regarding the subject property.

2.2 Exterior

2.2.1 The three-story building was conventionally constructed with multi-wythe load bearing brick masonry exterior walls. (Photos 1 through 6).

2.2.2 The flat roof was covered with adhered rubber roofing membrane, which was not original to the building and appeared to be in overall good condition (Photos 7 through 10). Membrane was observed to be unsealed from the top of a parapet at one location (Photo 11).

2.2.3 The gymnasium had a flat roof with two levels (high and low, Photo 12) covered with adhered rubber roofing membrane that was not original to the building and appeared to be in overall fair to good condition (Photos 12 through 14). Dirt was present near the west edge of the high roof, and dirt and debris were present on the low roof, apparently from demolition of the adjacent west wing (Photo 12). It was not clear if debris from the nearby demolition work had compromised the adjacent membrane on the lower gymnasium roof.

2.2.4 The flat boiler room roof consisted of built-up roofing that appeared older than the other roofs and appeared to be in overall poor condition (Photos 15 and 16). Debris apparently from demolition of the adjacent west wing (Photo 15) and vegetation growth (Photo 16) were observed.

2.2.5 Deterioration of mortar joints and cracks through brick masonry were observed on the smoke stack located at the west (rear) of the building (Photos 17 through 19). Mortar was almost entirely missing from some joints (Photos 20 and 21).

2.2.6 Old spalls with dirt buildup were observed at the corners of several limestone parapet copings (Photo 22). Horizontal and "stair-step" cracking along mortar joints in the masonry was observed at several locations on exterior faces of parapets (Photos 23 and 24).

2.2.7 Exteriors of the brick masonry bearing walls appeared in overall fair to good condition. Horizontal and "stair-step" cracking along mortar joints in the masonry was observed near building corners and some openings (Photos 25 and 26). Vertical cracks through brick masonry were observed near the base of the west wall near locations where the wall jogs in plan (Photos 27 through 29). Most cracks were hairline and extended through only a few courses of brick, with the exception of a larger crack at the southernmost jog that measured approximately 1/8 inch-wide and approximately 3 feet long.

2.2.8 Horizontal cracking and missing or degraded mortar joints were observed in the courses of brick directly above most window openings, where there is only a single wythe of brick in front of concrete slabs / lintels (Photos 30 and 31).

2.2.9 Window openings were previously infilled, boarded over, or replaced. Some replacement windows were broken (Photo 32).

2.2.10 An old alarm bell was observed to be suspended from the south parapet by an electrical cable (Photo 33). The parapet was cracked, and missing mortar or sealant was observed at the joints between coping pieces. Just below the parapet coping, "stair-step" cracks with missing or degraded mortar were observed.

2.2.11 Exterior stairs at the east and north entrances appeared in overall poor condition, exhibiting the following.

a) Stone veneer on the stairs by the east entrance exhibited missing mortar and several stone blocks had come loose or had fallen out completely (Photos 34 and 35).
b) The underlying brick structure at the stairs by the east entrance was missing mortar and several bricks were cracked or spalled (Photos 36 and 37).
c) No finished walking surface was present at the top of the stairs by the north entrance, and vegetation growth was observed (Photo 38).
d) The stairs by the north entrance lacked handrails along their northern edge (Photo 38).

2.3 Interior – Floors and Roof

2.3.1 A new roof overbuild consisting of adhered roofing membrane on plywood and wood framing was previously installed on top of the previously existing roof. The underside of the new roof was observed through previously existing openings in the original roof. Suspect microbial growth was observed on some of the wood framing, characteristic of prolonged elevated moisture content resulting from lack of conditioned air (HVAC) within the building for many years (Photo 39).

2.3.2 Structural members appeared in overall fair to good condition at all three floors of the building (first floor, second floor, and third floor) (Photo 40).

2.3.3 Non-structural steel tile formwork at the underside of roof and floor slabs exhibited surface corrosion (rust) throughout the building (Photos 40 through 43). No locations were observed where corrosion had caused steel tile formwork to fall from the ceilings.

2.3.4 A construction anomaly was observed at several locations scattered throughout the building, where steel tile formwork had separated at lapped edges and allowed wet concrete to ooze through during construction (Photos 40 through 42).

2.3.5 Plaster ceiling finish on ribbed metal lathe had been previously removed from between joists in most locations. Plaster and ribbed lathe remained in place along the bottom of most joists, with corrosion apparent on all exposed lathe (Photo 43).

2.3.6 Some reinforced concrete beams exhibited small sections of surface honeycombing (rough patches with voids and exposed aggregate in otherwise smooth concrete surfaces) characteristic of poured concrete that did not fully consolidate during construction (Photo 44).

2.3.7 A chunk of concrete was observed to be missing from the corner of one roof beam (Photo 45).

2.3.8 Exposed, corroded longitudinal steel reinforcing bars were observed at the underside of some reinforced concrete joists, and lintels, characteristic of poor consolidation of the concrete (Photos 46 through 50).

2.3.9 One spall characteristic of corroded steel reinforcement was observed on a concrete beam (Photo 51).

2.3.10 Several piping penetrations were observed in one double-width reinforced concrete joist supporting the third floor (Photo 52).

2.4 Interior – Walls and Columns

2.4.1 Interior surfaces of the brick masonry bearing walls appeared in overall good condition at all three floors of the building. No cracked, displaced, missing, or broken sections of masonry were observed on the interior surfaces of the structural bearing walls (Photos 53 and 54).

2.4.2 Reinforced concrete columns appeared in overall fair to good condition at all three floors of the building. Some columns exhibited small sections of surface honeycombing characteristic of poured concrete that did not fully consolidate during construction (Photo 55). Chunks of concrete were observed to be missing from the corners of some columns (Photos 56 and 57).

2.5 Interior - Gymnasium

2.5.1 Steel beams supporting the gymnasium roof appeared in overall fair condition, exhibiting some surface corrosion (Photos 58 through 59). Beams did not appear warped or twisted, and connections did not appear to be missing any bolts.

2.5.2 The large built-up steel plate girder at the west side of the gymnasium was mostly obscured from view by architectural finishes, consisting of ceramic tile covered in plaster. The bottom flange was encased in reinforced concrete, and appeared in good condition (Photos 59 through 61).

2.5.3 Surface corrosion (rust) was observed on the bottom flange of the large steel beam at the west end of the gymnasium roof. (Photos 62 and 63).

2.5.4 Cracking was observed in clay tile finish on the west wall nearby the south column supporting the large steel beam at the west side of the gymnasium (Photos 64 through 66).

2.6 Interior – Boiler Room

2.6.1 Soffits at the underside of the boiler room roof slab did not have metal tile formwork, unlike roof and floor slabs throughout the rest of the building (Photo 67).

2.6.2 Cracks and water staining characteristic of long-term water infiltration were observed on the roof slab (Photos 68 and 69). White powdery deposits (efflorescence) characteristic of prolonged water infiltration were observed on the below-grade boiler room walls (Photo 70). Mineral deposits from dripping water were observed at the underside of the roof slab in the room adjacent to the boiler room (Photo 71).

2.6.3 An active water leak was observed at cracks on a below-grade boiler room wall (Photo 72).

3 CONCLUSIONS AND RECOMMENDATIONS

Based on our observations, experience, and professional judgment, we are of the opinion:

3.1 General Structural Condition

3.1.1 The building was in overall fair to good structural condition for a building its age and is not in danger of collapse in its current state.

3.1.2 A lack of conditioned air (HVAC) within the building over the past two plus decades has sped up observed distress of the structural systems from water infiltration, freeze/thaw cycles, and lack of mechanically forced air movement (inadequate ventilation).

3.1.3 Significant structural deterioration was limited to localized portions of the building, and can be remedied with repairs, as described below.

3.1.4 Potential life-safety issues were limited to a few hazards (listed below). Risk to the public could be mitigated in the short-term by controlling access to the property (i.e. installation of additional fencing) or installing netting below the hazards to catch falling debris. Hazards from falling debris could be mitigated in the long-term by implementing the repairs described below.

3.2 Exterior

3.2.1 Cracks and mortar joint deterioration on the smokestack were due to water infiltration and freeze/thaw cycles. Loose bricks are a potential safety hazard, but the smokestack did not appear to be in danger of imminent collapse. Recommended repairs would be removing and resetting loose bricks and tuck pointing cracked mortar.

3.2.2 Previous spalls were observed at the corners of some limestone parapet coping. Cracks in the coping were observed that suggest additional sections of stone may spall off in the future as a result of continued moisture infiltration and subsequent freeze/thaw cycles. No sign of embedded metals in the parapet coping was observed, which indicates the cracks and spalls are due to freeze-thaw cycles gradually widening small, naturally occurring cracks in the stone. It is not clear whether steel dowels connect the coping pieces to the masonry walls. Gaps in between coping stone joints with missing mortar or sealant have allowed further coping deterioration in addition to observed brick masonry distress below. The adhered roof membrane was applied over the top of the coping, which should slow further deterioration by lessening

water intrusion. Water can still enter cracks from the exterior face, however, and future freeze-thaw cycles could result in additional spalls, (a potential safety hazard).

Recommended repairs to the parapet coping would be:

a) Removing and resetting cracked sections of stone likely to spall.
b) Grouting and sealing any cracks with missing or degraded mortar at joints.

3.2.3 The parapets are not essential to the integrity of the structure, but unsealed roofing membrane and cracks in the masonry can allow further water infiltration into the walls below, leading to additional structural deterioration in the future.

Recommended repairs to the parapets would be:

a) Re-sealing or patching sections of unsealed roofing membrane.
b) Tuck-pointing where cracks have occurred.
c) Removing and resetting any shifted bricks

3.2.4 Stair-step cracks in the masonry bearing walls are common for masonry structures and suggest some differential settlement of the foundation, or differential movements between girder beams and their supporting columns have occurred. The amount of shifting/movement appeared small and has not affected the ability of the walls to support the structure. Recommended repairs would be tuck-pointing where cracks have occurred.

3.2.5 Cracking above windows is indicative of water infiltration, which can be exacerbated by freeze/thaw cycles and steel lintel beam corrosion. Recommended repairs would be scraping off any loose scale or rust from exposed steel lintels, painting any exposed steel with rust-inhibitive coating, and tuck-pointing any masonry joints with missing or degraded mortar.

3.2.6 The old alarm bell hanging from the south parapet was only suspended by an electrical cable and is a potential safety hazard; its removal is recommended.

3.2.7 We recommend removal of dirt and debris from the low gymnasium roof and inspecting the roof membrane for any punctures or tears. Water testing the roof for water tightness can be performed if there is still a question of membrane integrity.

3.2.8 The exterior stairs at the east and north entrances appeared in poor condition and their repair or replacement is recommended. The underlying brick structure exhibited deterioration from water infiltration and freeze/thaw cycles and would likely continue to deteriorate in the future. Additionally, the following two safety hazards were observed.

a) Several large stone blocks on the east stairs were loose and are a safety hazard. In the short term, this hazard can be mitigated by removing or reattaching the offending stones, and any other stones that would become unstable following their removal.
b) The north stairs lacked a handrail along their outer edge, which is a safety hazard. In the short term, this hazard can be mitigated by controlling access to the stairs (e.g. by installing additional fencing).

3.2.9 The boiler room roofing appeared in poor condition, exhibiting signs it is at or past its expected service life, and its replacement is recommended.

3.3 Interior – Floors and Roof

3.3.1 Suspect microbial growth observed on the underside of the wood roof framing installed approximately ten years ago to support the roof membrane indicates a long-term presence of excess moisture. Prolonged moist/wet conditions can weaken wood structural members and potentially result in wood rot. However, no signs of current deterioration were observed on the roof, and the only consequence of deterioration would be compromised waterproofing, since the original roof structure would still be intact. It is unclear how (or if) the space between new and original roofs is ventilated, and moisture issues would be expected to worsen once the building is heated. For any future changes to building occupancy/function, a licensed design professional should review ventilation requirements for compliance with current building codes.

3.3.2 The floor and roof slabs were constructed using an antiquated method called the "metal tile floor system", which used corrugated metal formwork to shape soffits between reinforced concrete joists (shown in Exhibit A). This method of construction was a precursor to similar modern methods using removable steel pan formwork. The metal tile formwork was not intended to contribute to the strength of the concrete joists and slab, despite being left in place. All observed metal tile formwork exhibited surface corrosion from environmental exposure, as commonly occurs for this structural system. Although no sections of metal tile were observed to have corroded to the point where they crumbled and fell from the soffit, this could potentially occur in the future. Metal tile formwork, if left exposed, should be inspected periodically for any loose or degraded pieces.

3.3.3 The construction anomaly noted in Observation 2.3.4 does not adversely affect the strength of the floor and roof slabs.

3.3.4 Exposed longitudinal steel reinforcing bars (rebar) at the undersides of joists and lintels was due to poured concrete not fully consolidating during construction. The load-carrying capability of structural members are locally compromised where bars are exposed, as the reinforcement must be bonded to and surrounded by concrete in order for them to perform as intended. Overall, exposed rebar was observed at scattered locations throughout the building, occurring at a small minority of joists. However, most joists retained plaster finish that would have obscured any signs of poor consolidation or exposed rebar, and it is anticipated these conditions may be present at some additional locations. The floor and roof slabs did not exhibit signs of distress, suggesting that hidden exposed rebar is not a widespread issue, and that the structural integrity of the slabs is adequate for the building's current unfinished and unoccupied condition.

A licensed design professional should evaluate the slabs for any future changes to building occupancy/function, as it is likely some repairs would be needed at the locations where longitudinal reinforcement is exposed. A possible repair would involve chipping out additional concrete around exposed rebar, cleaning the steel until it is free from rust, verifying a net section loss beyond acceptable limits has not occurred, applying anti-corrosion coating, and patching the spall with new structural bonding agents. These repairs could be made locally where rebar is exposed, and would not necessitate significant demolition or replacement of entire structural members.

3.3.5 The spall on a concrete beam noted in Observation 2.3.9 occurred due to corrosion (rusting) of the internal steel reinforcing bars (rebar). When steel rusts, the corrosion products expand to as

much as ten times the volume of the parent metal, and thereby create an internal expansion force. As corrosion progresses, the expansion force can eventually exceed the (relatively low) tensile strength of the concrete, causing it to crack. Cracking propagates outwards from the rebar to the surface, eventually resulting in detachment of sections of concrete in a process called spalling. Possible repair for this spall would be the same as indicated above for exposed rebar on joists.

3.3.6 Honeycombing at the surface of some beams indicates the wet concrete did not fully consolidate before curing (hardening) at the honeycombed locations. These defects have been present for the entire life of the building, and are not due to deterioration occurring after its original construction. Extensive honeycombing can indicate reduced concrete strength in structural members where it occurs. However, the affected beams showed no signs of distress that would indicate inadequate strength to support the required loads in the building's current state.

3.3.7 The piping penetrations noted in Observation 2.3.10 significantly reduce the beam's effective cross section. Without further evaluation, it is unclear if the beam's original design intent was compromised by the piping penetrations.

3.4 Interior – Walls and Columns

3.4.1 Honeycombing on columns is not a sign of structural deterioration, with the same conclusions as discussed above for honeycombing observed on reinforced concrete beams.

3.5 Interior - Gymnasium

3.5.1 The steel built-up plate girder at the east side of the gymnasium roof supports the western third-floor masonry bearing wall along approximately half its length, (in addition to over half of the high gymnasium roof). This vertical structural discontinuity is a critical element of the structure's vertical load path. Although we did not observe anything to indicate advanced deterioration or distress of the steel girder, further investigation may be warranted, due to its importance to the structure.

3.5.2 Some rust was observed at the underside of the large steel beam located at the west side of the gymnasium roof. Light surface corrosion (rusting) of steel beams is normal, and their strength is not affected unless extensive corrosion resulting in net section loss has occurred. Clay tile architectural finish on the beam prevented direct observation of the steel condition or extent of corrosion. Extensively corroded steel can expand up to ten times its original volume, which would likely crack the architectural finishes on the beams. The overall good condition of the tiles suggests it is unlikely the steel beam has corroded enough to experience net section loss, and therefore the strength of the beam is likely unaffected.

3.5.3 Cracking in glazed tile finish on the west gymnasium wall indicates some settlement and/or shifting of the steel columns relative to the beam have occurred. It is likely some of the cracking observed is from deflection or flexure of the steel beam span relative to the rigidity of the column.

3.6 Interior – Boiler Room

3.6.1 The underside of the boiler room roof slab appeared in overall fair condition, with signs of long-term water infiltration and associated cracking, staining, and moisture.

3.6.2 The active leak through the subgrade masonry wall and efflorescence on the boiler room walls indicate water infiltration has been an ongoing issue. Further evaluation would be necessary to determine the extent of necessary repairs to below-grade walls.

3.6.3 Based on the extensive signs of long-term water infiltration and deteriorated/cracked locations on the concrete roof slab, the boiler room roof is at or near the end of its expected service life, and should be replaced.

Please note that this report was based on a visual investigation of the property. We shall not be responsible for the investigation of, or failure to investigate, items concealed by other building components, nor for the investigation of any items outside of the specified scope of services. The recommendations included in this report are general. Any repairs recommended should be completed by a qualified contractor with the assistance of a licensed design professional if necessary. All repairs should comply with the current governing building code. If additional information is discovered that could affect the conclusions and/or recommendations of this report, it should be forwarded to our office for review and comment. American Structurepoint reserves the right to amend and/or modify this report if any new and/or significant data that could affect this investigation become available.

If you have any questions, or require further assistance, please feel free to contact us at your convenience at (216) 302-3694.

Very truly yours,
American Structurepoint, Inc.

Andrew Appelbaum, PE
Project Engineer
Investigative Services

Technically Reviewed By:

Andrew C. Clemens, PE, SE
Project Development Director
Investigative Services

STATE OF OHIO ANDREW C. CLEMENS 68705 REGISTERED PROFESSIONAL ENGINEER

February 8, 2021

ACA:ACC:slg

Enclosures

PHOTOGRAPHS

Photo 1: East (front) elevation of the building.

Photo 2: East (front) elevation of the building.

Photo 3: North (side) elevation of the building.

Photo 4: West (rear) elevation of the building.

Photo 5: West (rear) elevation of the building.

Photo 6: South (side) elevation of the building.

Photo 7: Overall view of roof, looking north.

Photo 8: Overall view of roof, looking northwest.

Photo 9: Overall view of roof, looking southwest.

Photo 10: Overall view of roof, looking southeast.

Photo 11: Unsealed roofing membrane.

Photo 12: Overall view of high and low gymnasium roofs, looking north. Note dirt and debris apparently from demolition of adjacent structure (arrows).

Photo 13: Overall view of high gymnasium roof, looking southwest.

Photo 14: Overall view of high gymnasium roof, looking southwest.

Photo 15: Overall view of boiler room roof, looking west. Note debris apparently from demolition of adjacent structure (arrows).

Photo 16: Overall view of boiler room roof, looking north. Note vegetation growth (arrow).

Photo 17: Overall view of smokestack, looking southwest.

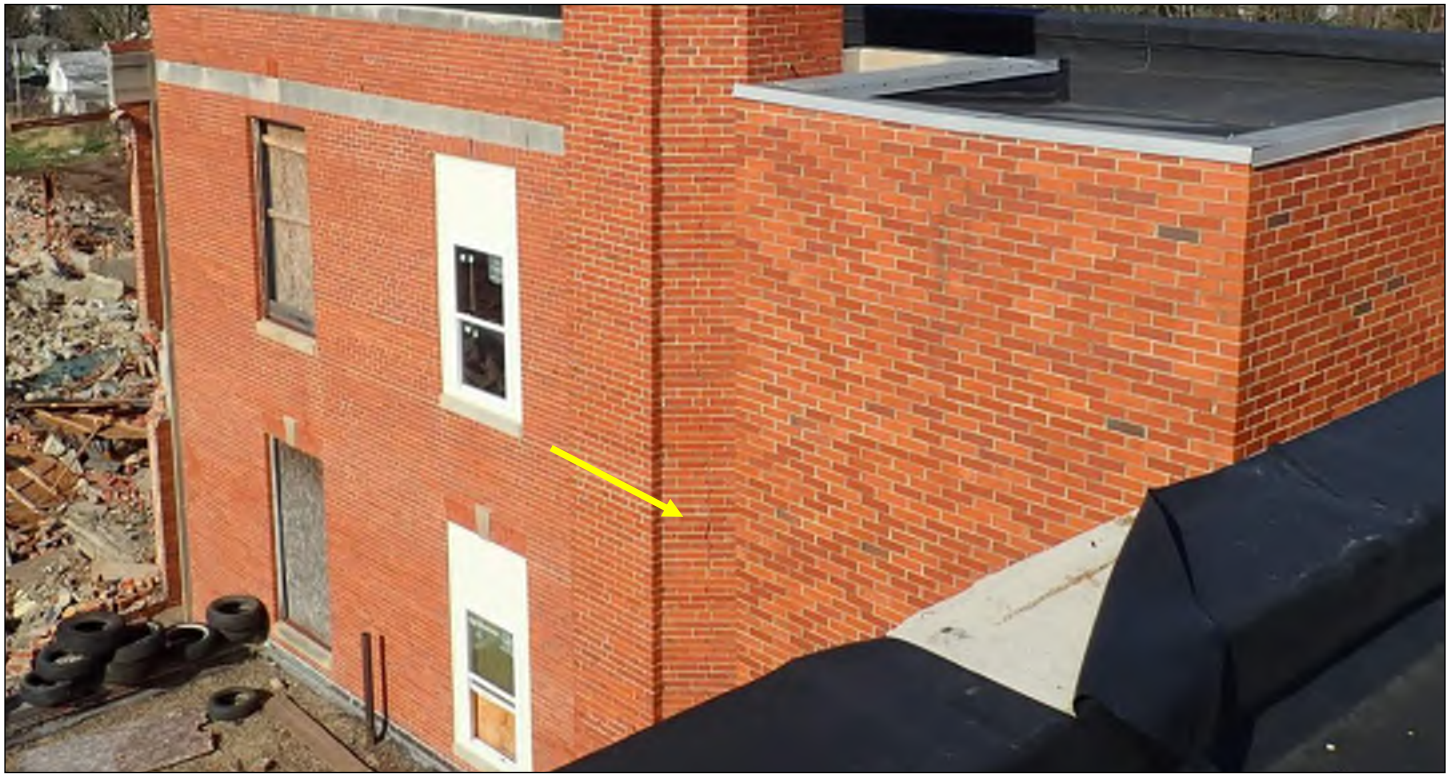


Photo 18: Vertical crack in smokestack brick (arrow).

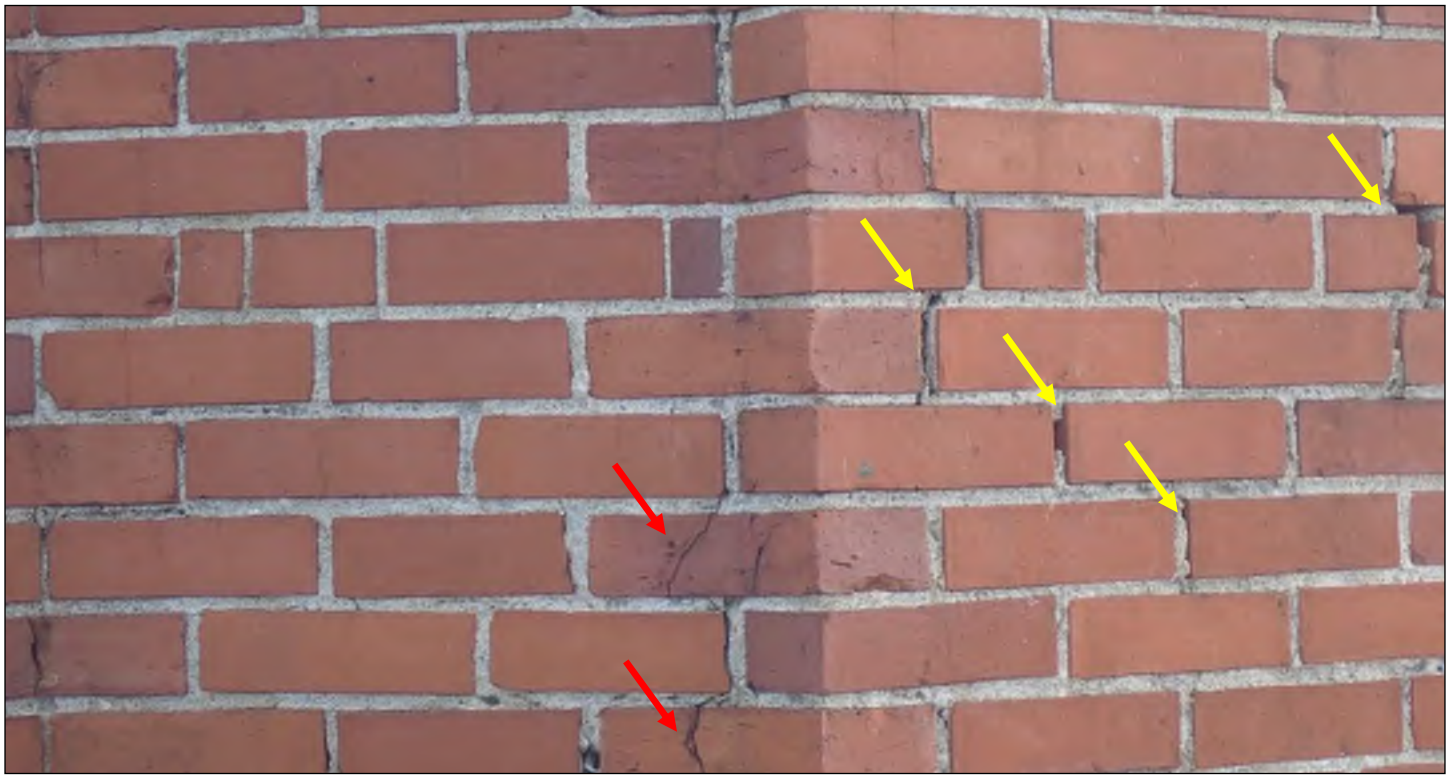


Photo 19: Close-up view of cracks in smokestack brick (red arrows) and mortar joint deterioration (yellow arrows).

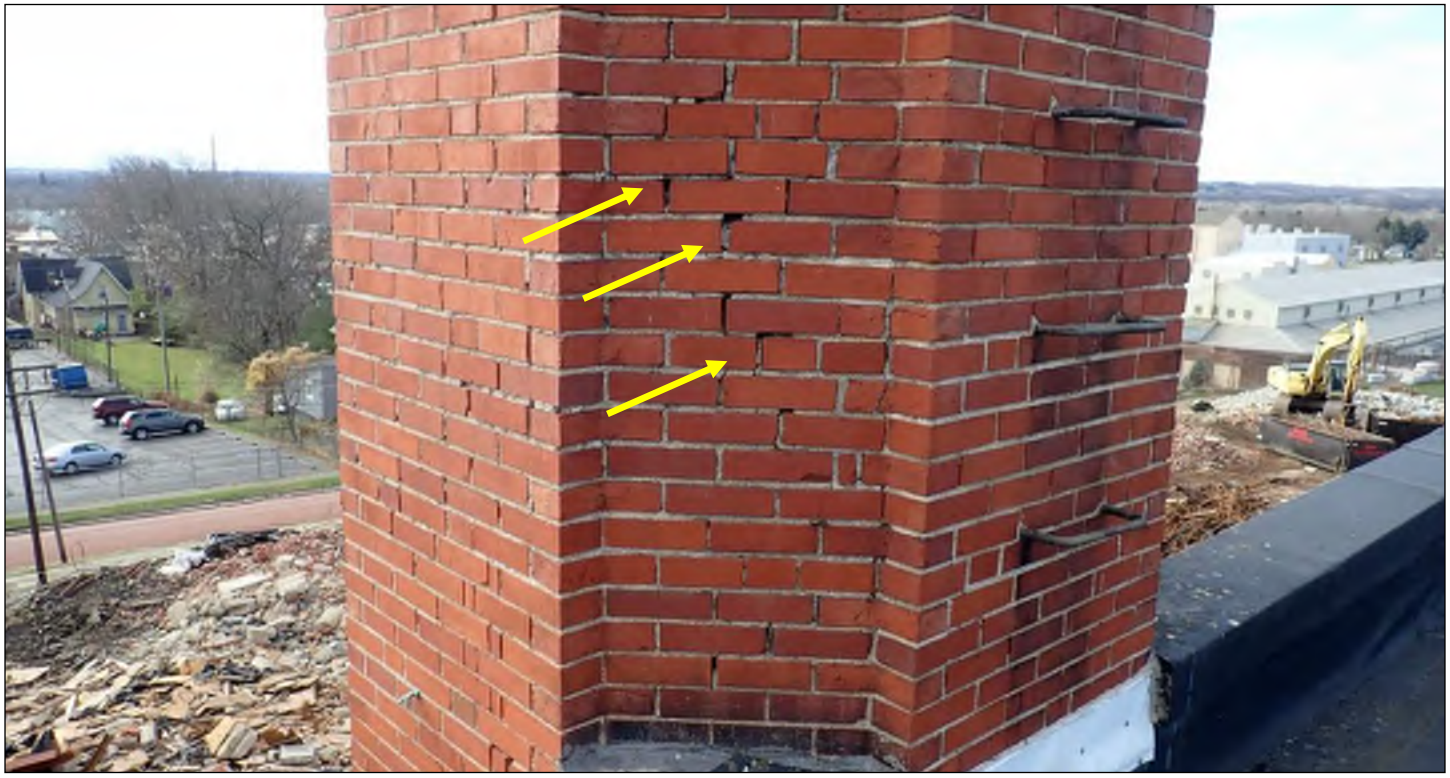


Photo 20: Close-up view of deteriorated mortar joints on smoke stack.

Photo 21: Mortar joint deterioration near smokestack crown.

Photo 22: Old spalls on parapet, with dirt buildup on surface.

Photo 23: Cracking near parapet corner.

Photo 24: “Stair-step” cracking along parapet mortar joints.

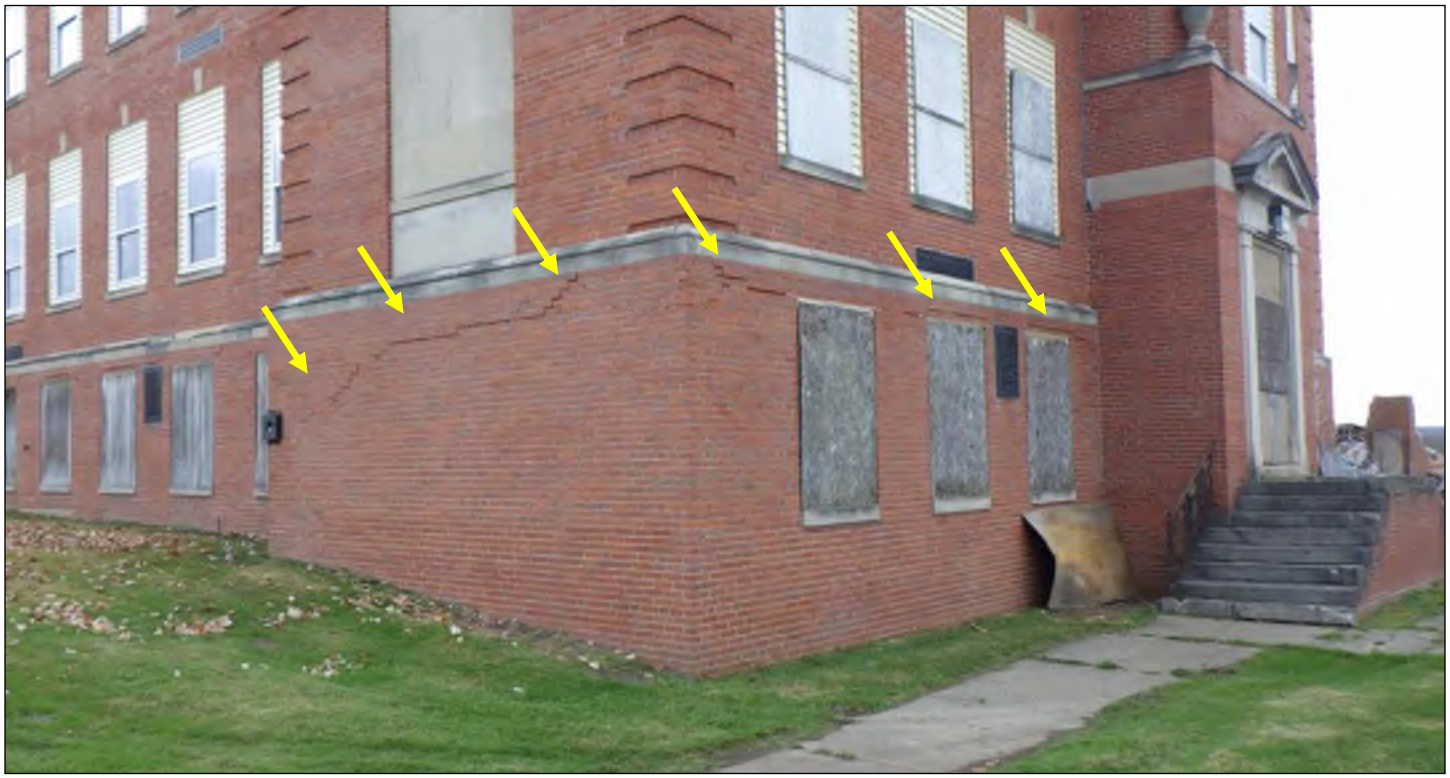


Photo 25: Horizontal and “stair-step” cracking along mortar joints near northeast corner.

Photo 26: Crack propagating from corner of window opening.

Photo 27: Vertical crack near base of brick masonry bearing wall.

Photo 28: Vertical crack near base of brick masonry bearing wall.

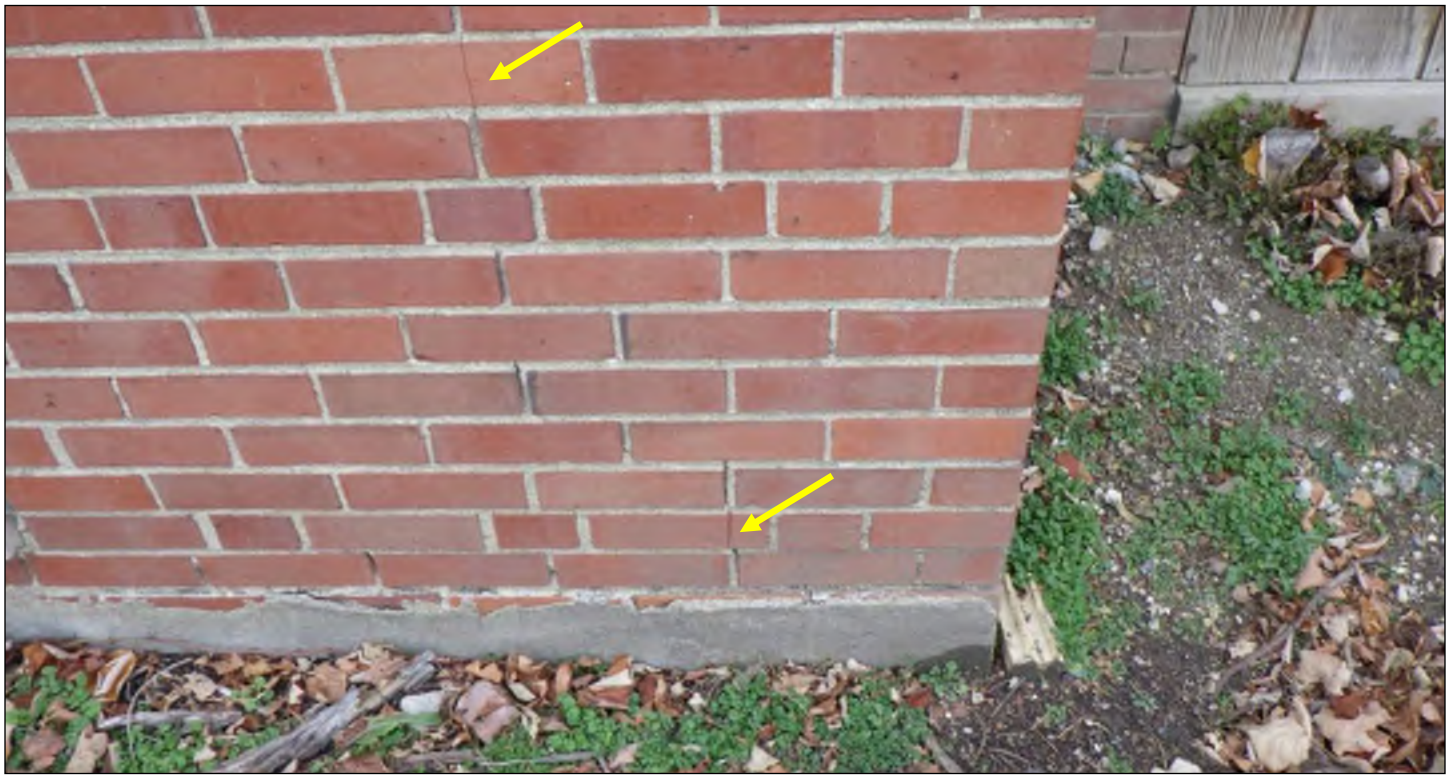


Photo 29: Hairline vertical cracking through brick masonry near base of wall.

Photo 30: Horizontal cracking and missing or degraded mortar in brick above window openings.

Photo 31: Horizontal cracking and missing or degraded mortar in brick above window openings.

Photo 32: Broken window.

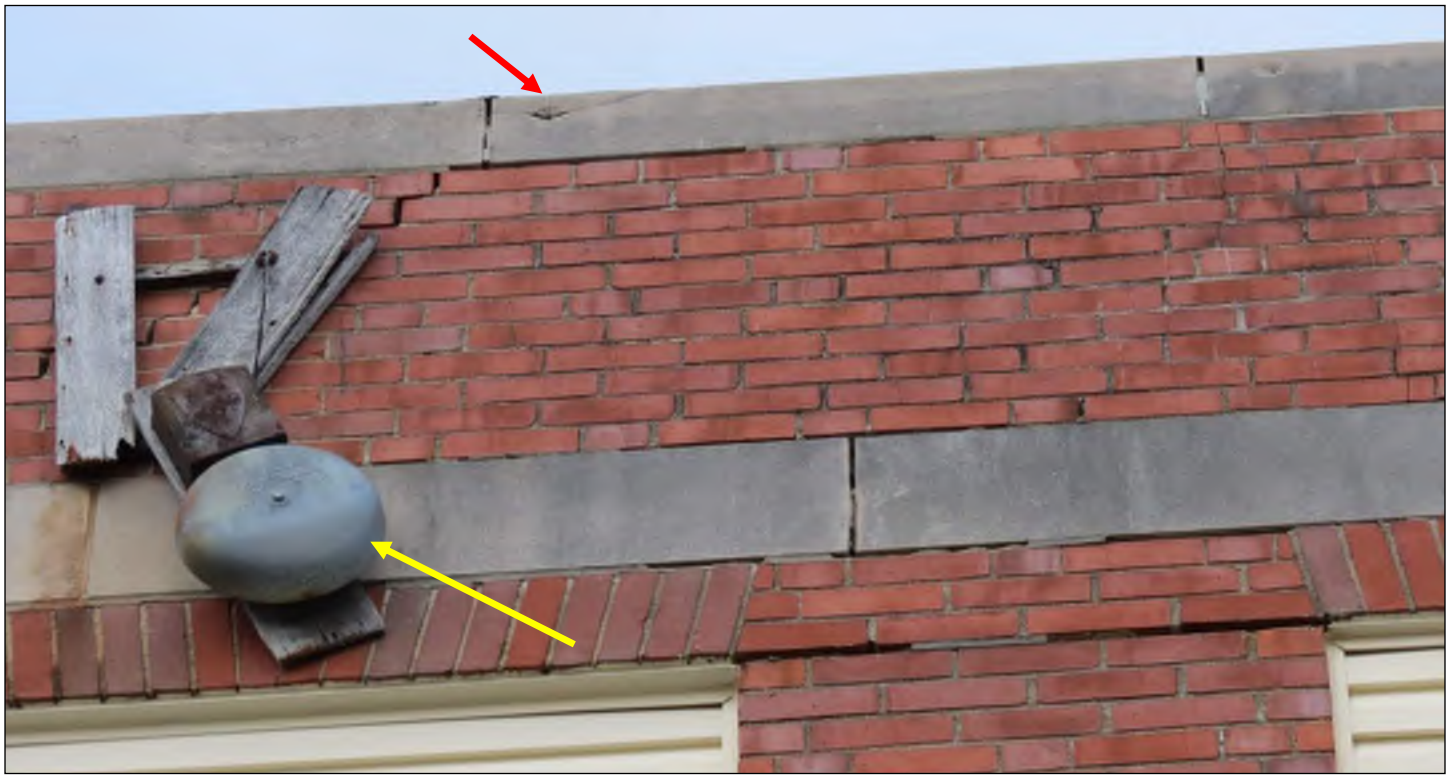


Photo 33: Cracks in parapet coping (red arrow). Note the missing or degraded mortar above and below the limestone band and brick above the windows. Old alarm bell suspended by electrical cable (yellow arrow).

Photo 34: Missing stone block from exterior stairs by east entrance.

Photo 35: Loose stone blocks at stairs by east entrance.

Photo 36: Bricks with missing mortar at exterior stairs by east entrance.

Photo 37: Cracked/spalled bricks at exterior stairs by east entrance.

Photo 38: Exterior stairs by north entrance. Note the lack of finished walking surface and handrails.

Photo 39: Underside of previous roof addition. Note suspect microbial growth (arrows).

Photo 40: Overall view of reinforced concrete columns, beams, and roof joists with leave-in-place metal tile formwork. Note section of ceiling retaining plaster finish (red arrow) and construction anomalies (yellow arrows).

Photo 41: Overall view of reinforced concrete joists with leave-in-place metal tile formwork. Note construction anomalies (arrows).

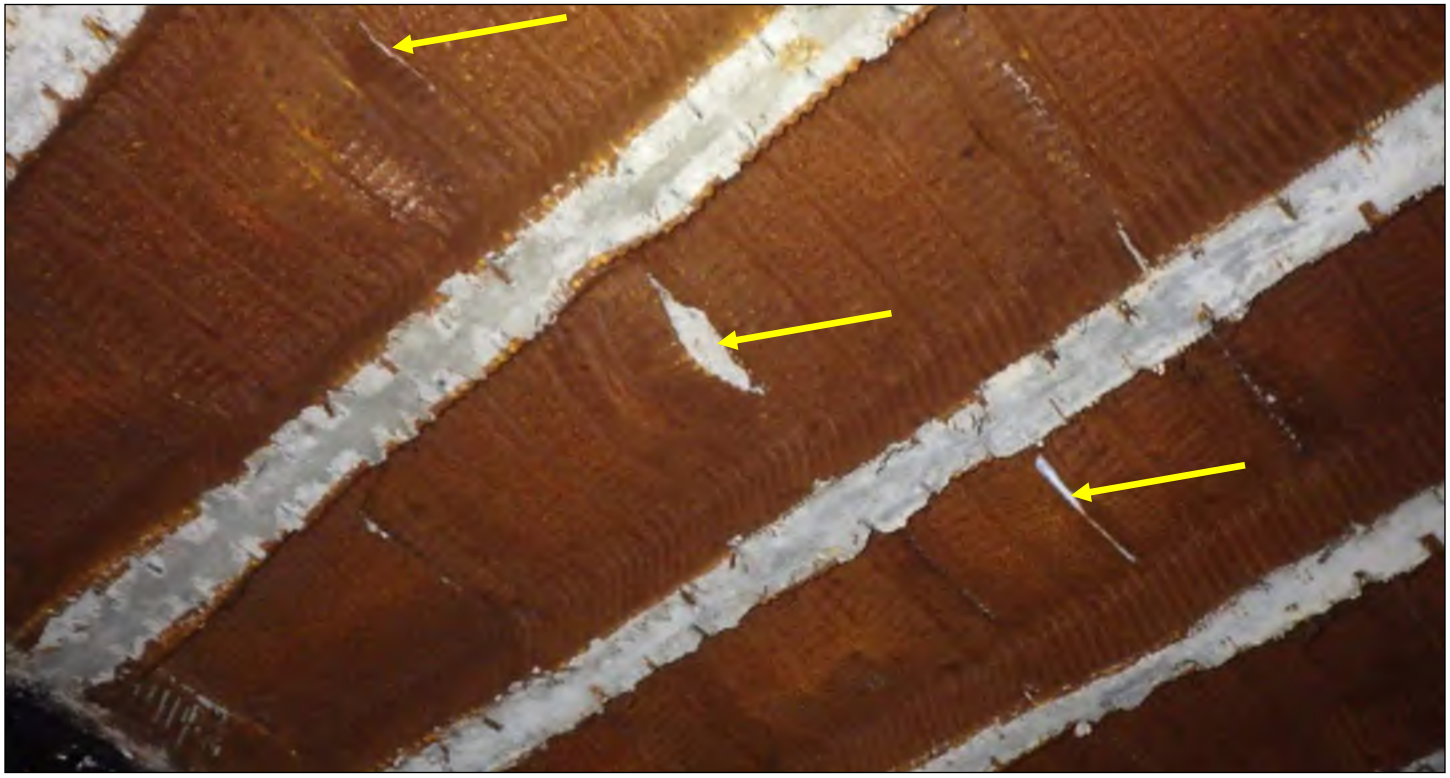


Photo 42: Close-up view of construction anomalies (arrows).

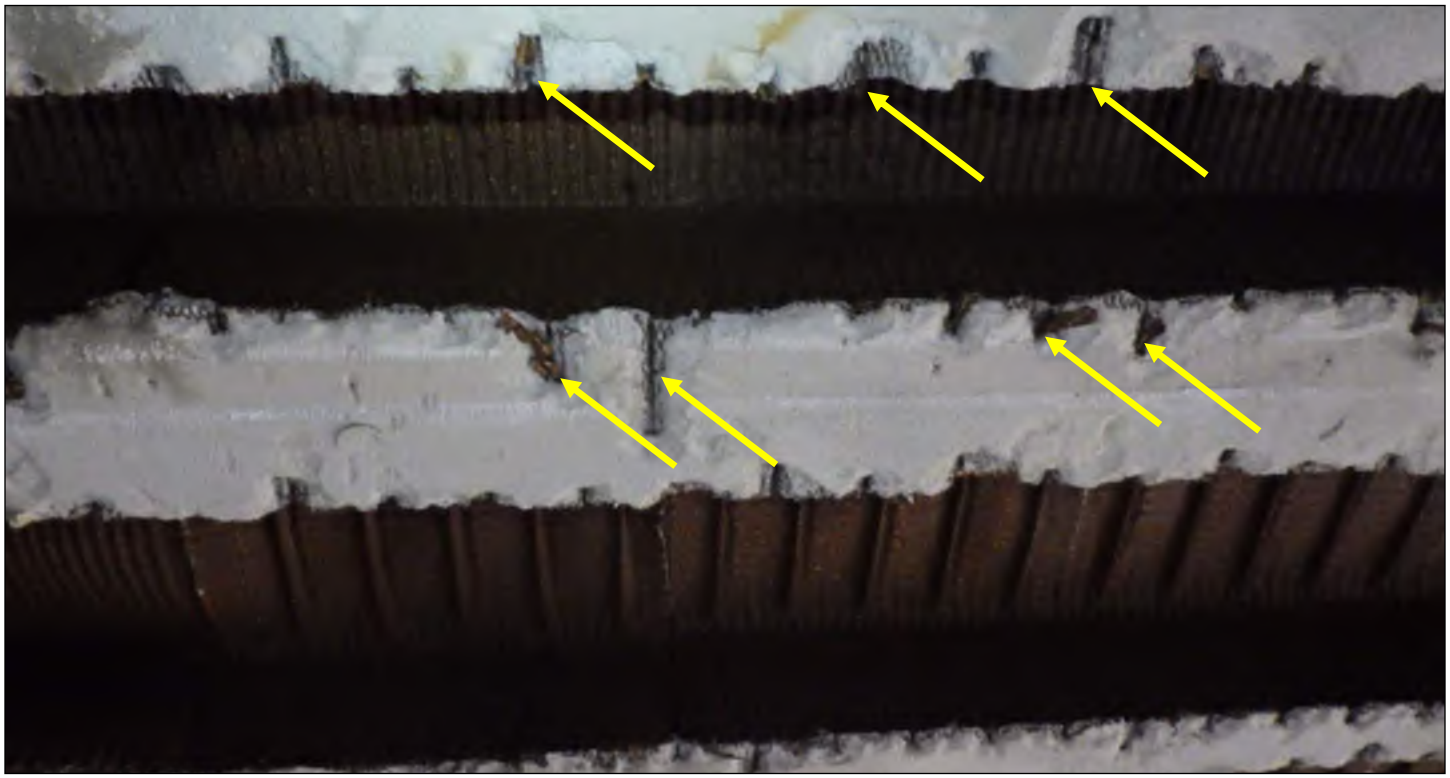


Photo 43: Plaster at the underside of concrete joists. Note rusty ribbed lathe (arrows).

Photo 44: Honeycombing on a reinforced concrete beam (arrows).

Photo 45: Large missing section of concrete from corner of a beam.

Photo 46: Exposed corroded internal steel reinforcement at a joist (arrow).

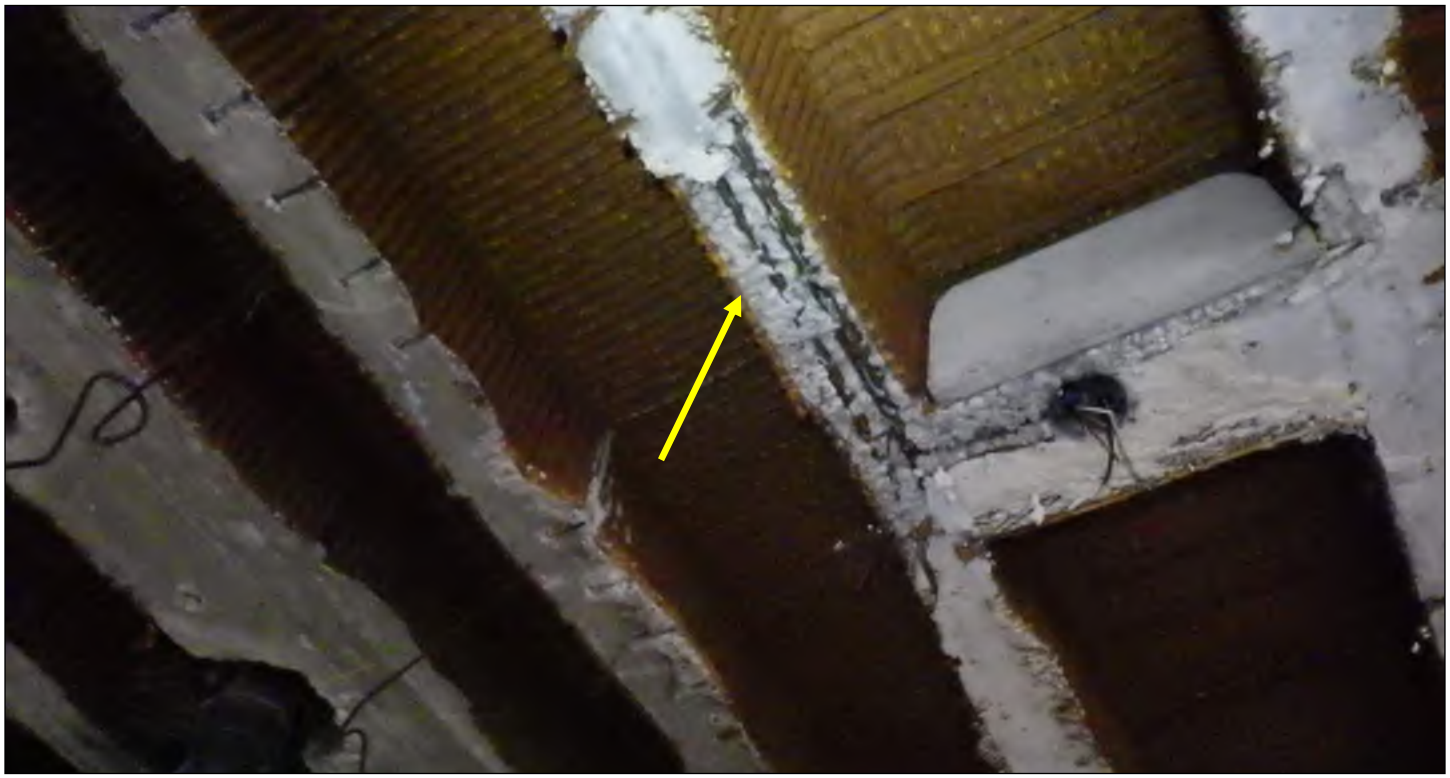


Photo 47: Exposed corroded internal steel reinforcement at a joist (arrow).

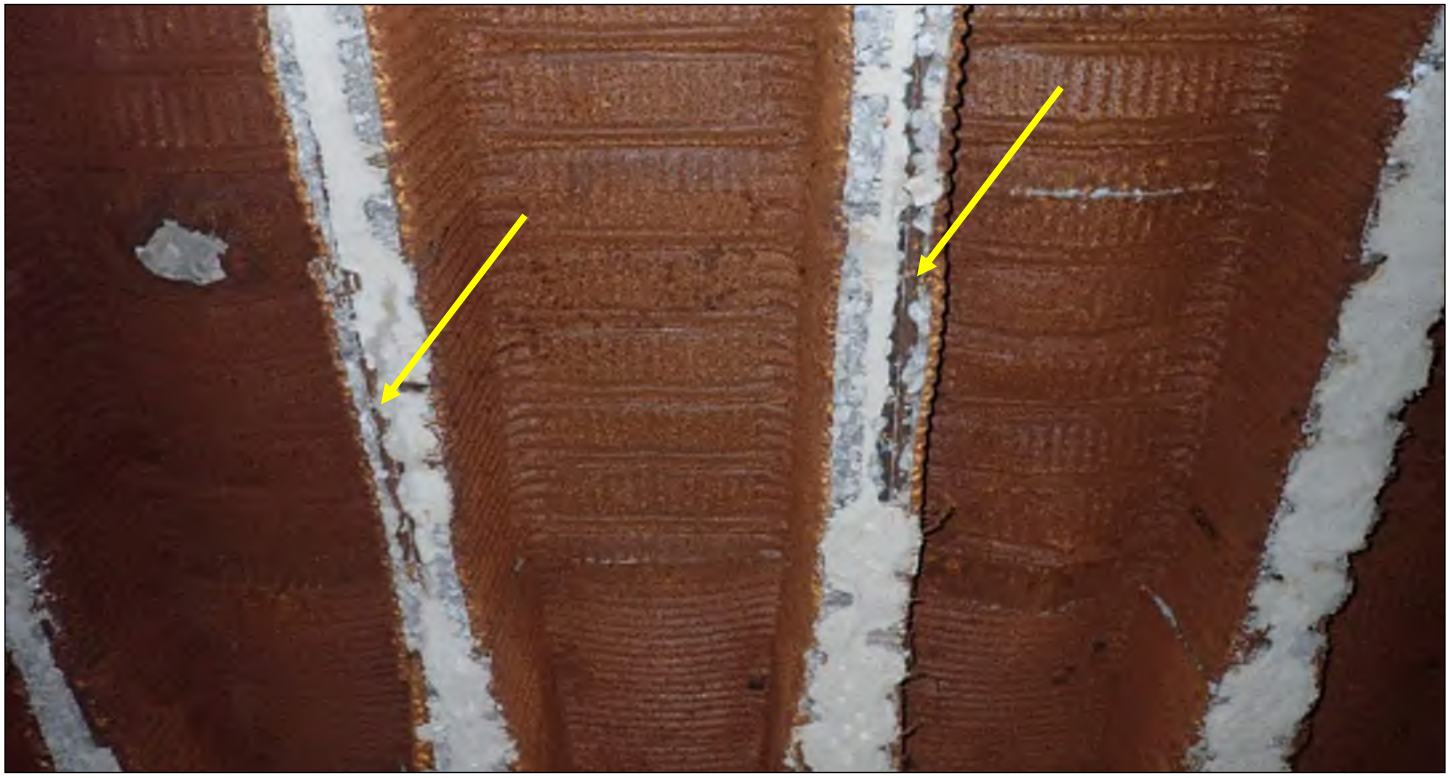


Photo 48: Exposed corroded internal steel reinforcement at joists (arrows).

Photo 49: Exposed corroded internal steel reinforcement at a lintel (arrow).

Photo 50: Close-up view of exposed corroded reinforcement at a lintel.

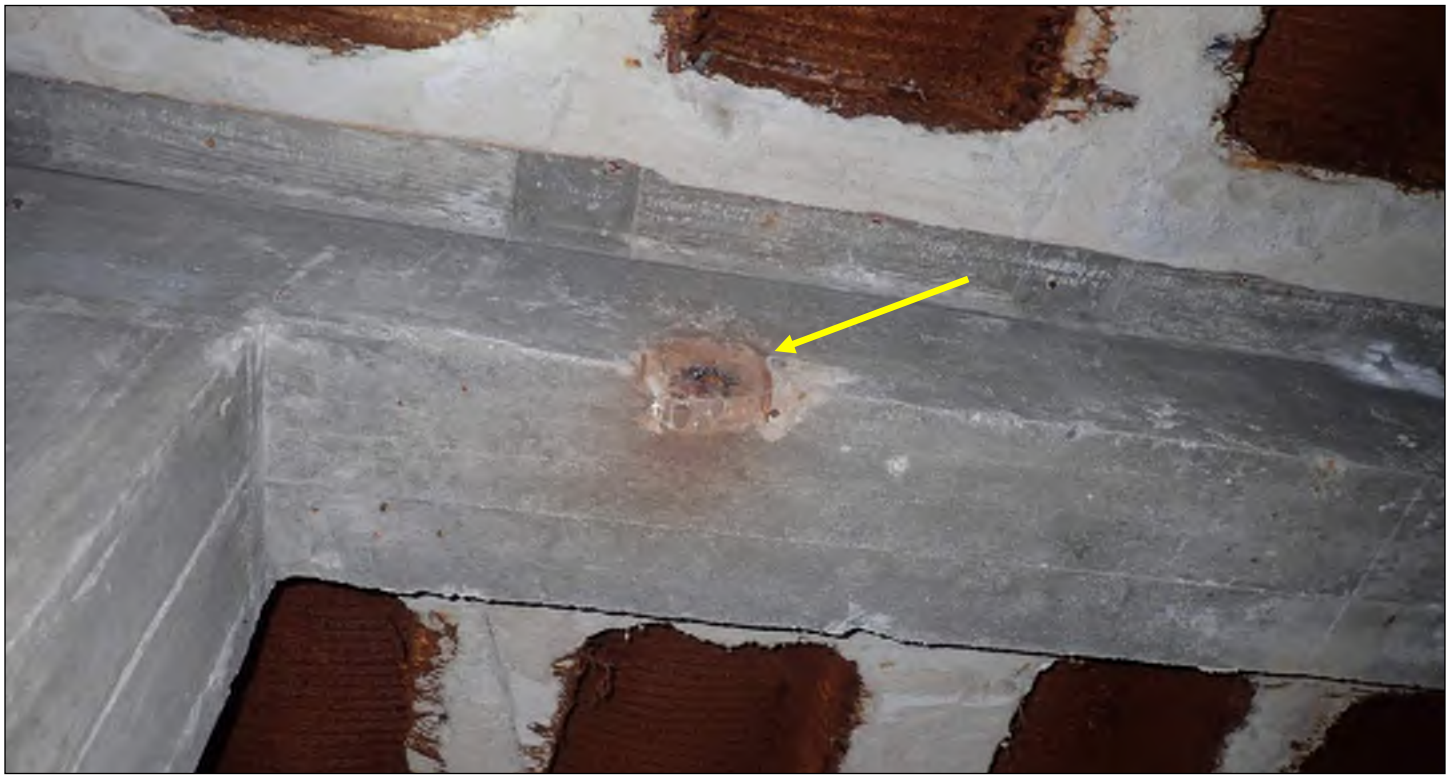


Photo 51: Spalled concrete and exposed corroded internal steel reinforcement at beam (arrow).

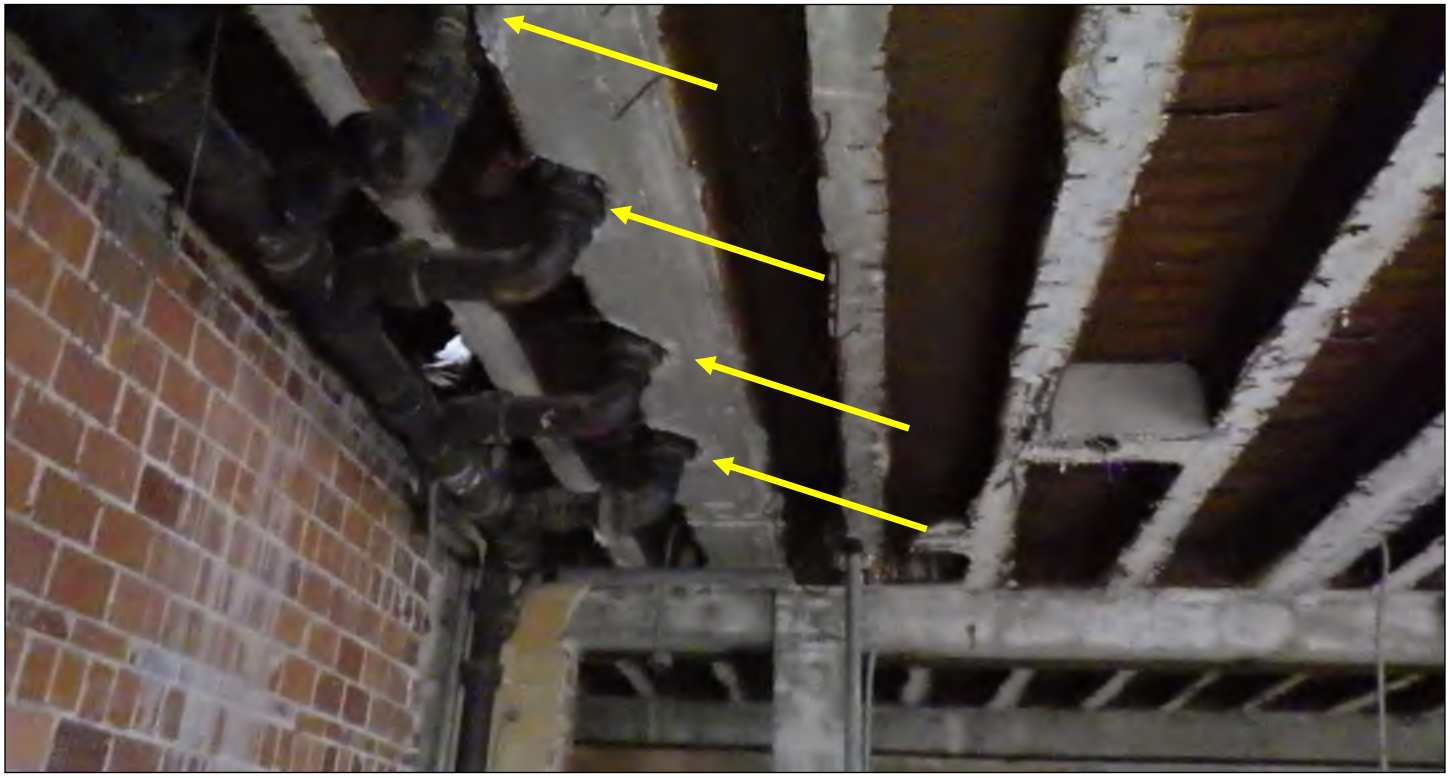


Photo 52: Piping penetrations in a double-width concrete joist (arrows).

Photo 53: Brick masonry bearing wall interior .

Photo 54: Brick masonry bearing wall interior.

Photo 55: Honeycombing on a reinforced concrete column (arrow).

Photo 56: Missing chunk of concrete from the corner of a column (arrow).

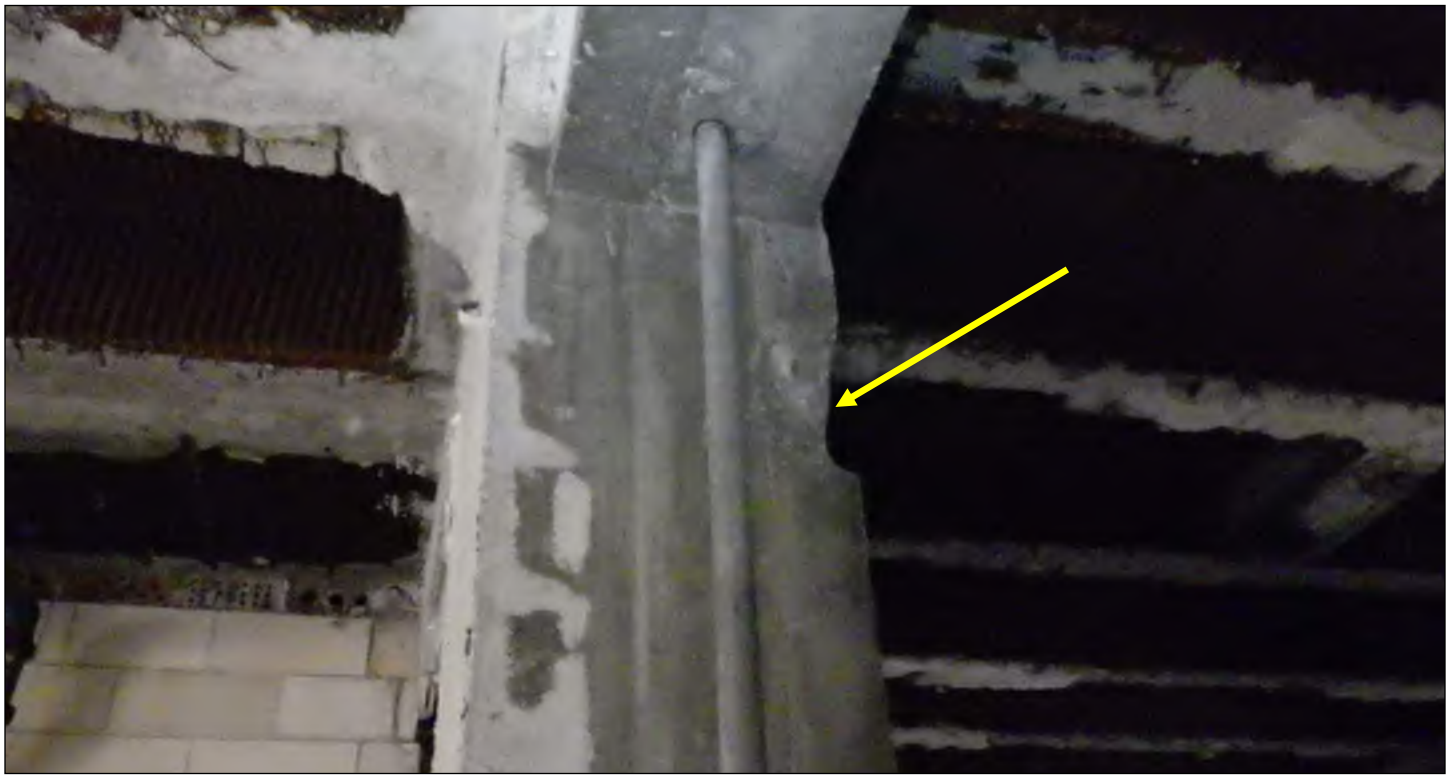


Photo 57: Missing chunk of concrete from the corner of a column (arrow).

Photo 58: Overall view of steel beams supporting the gymnasium roof, looking south.

Photo 59: Overall view of steel beams supporting the gymnasium roof, looking north. Note the steel plate girder at the east side of the roof (arrow).

Photo 60: Steel plate girder (obscured from view by finishes) (arrow).

Photo 61: Close-up view of concrete-encased bottom flange of built-up steel plate girder.

Photo 62: Approximate location of large steel beam at west side of gymnasium (boxed).

Photo 63: Corrosion (rust) at the underside of large steel beam at west side of gymnasium roof.

Photo 64: Cracking in clay tile finish on west gymnasium wall (arrows). Note approximate locations of obscured beam and column (dashed lines).

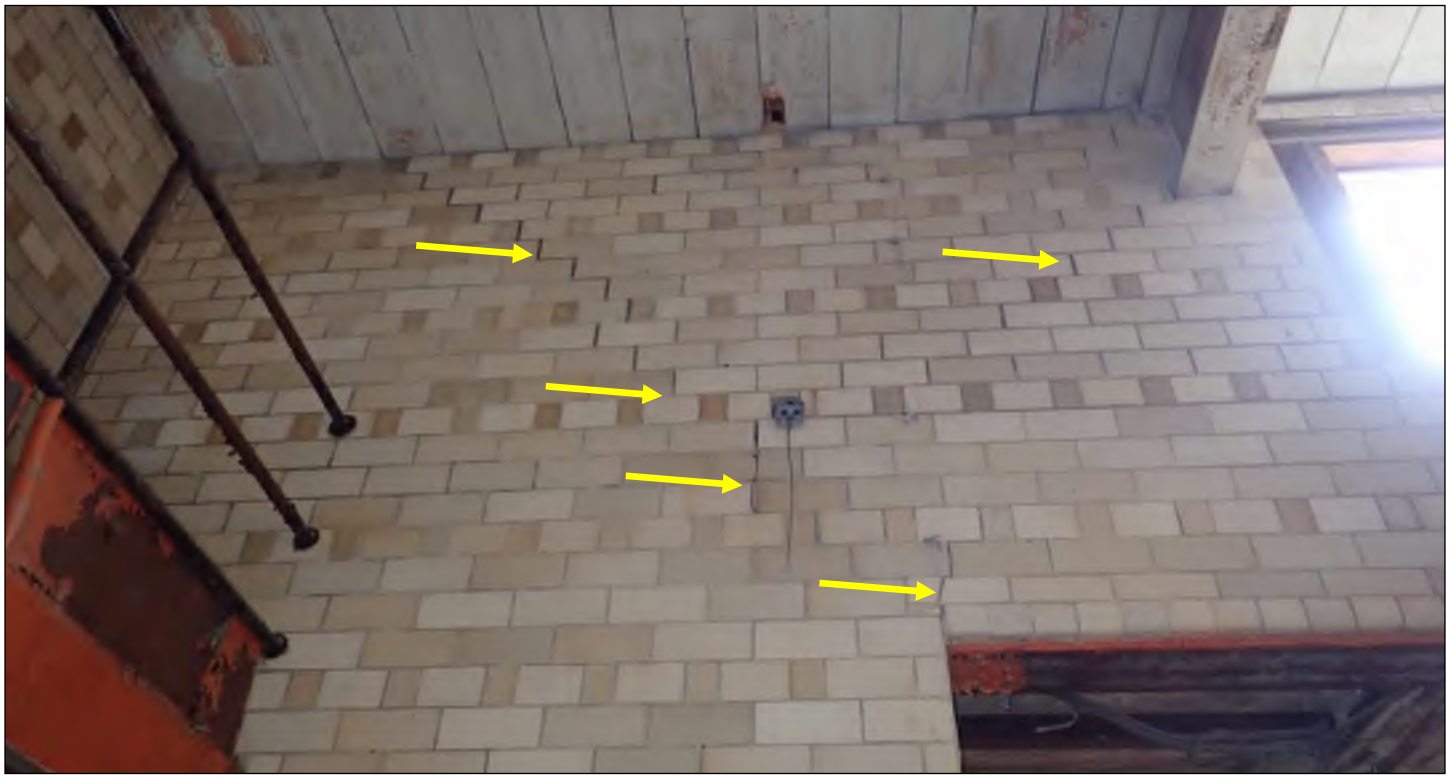


Photo 65: Close-up view of cracking in clay tile finish on west gymnasium wall.

Photo 66: Close-up view of cracking in clay tile finish on west gymnasium wall.

Photo 67: Underside of boiler room roof slab. Note the lack of metal tile formwork.

Photo 68: Cracking and water staining at the underside of the boiler room roof slab.

Photo 69: Cracking and water staining at the underside of the boiler room roof slab.

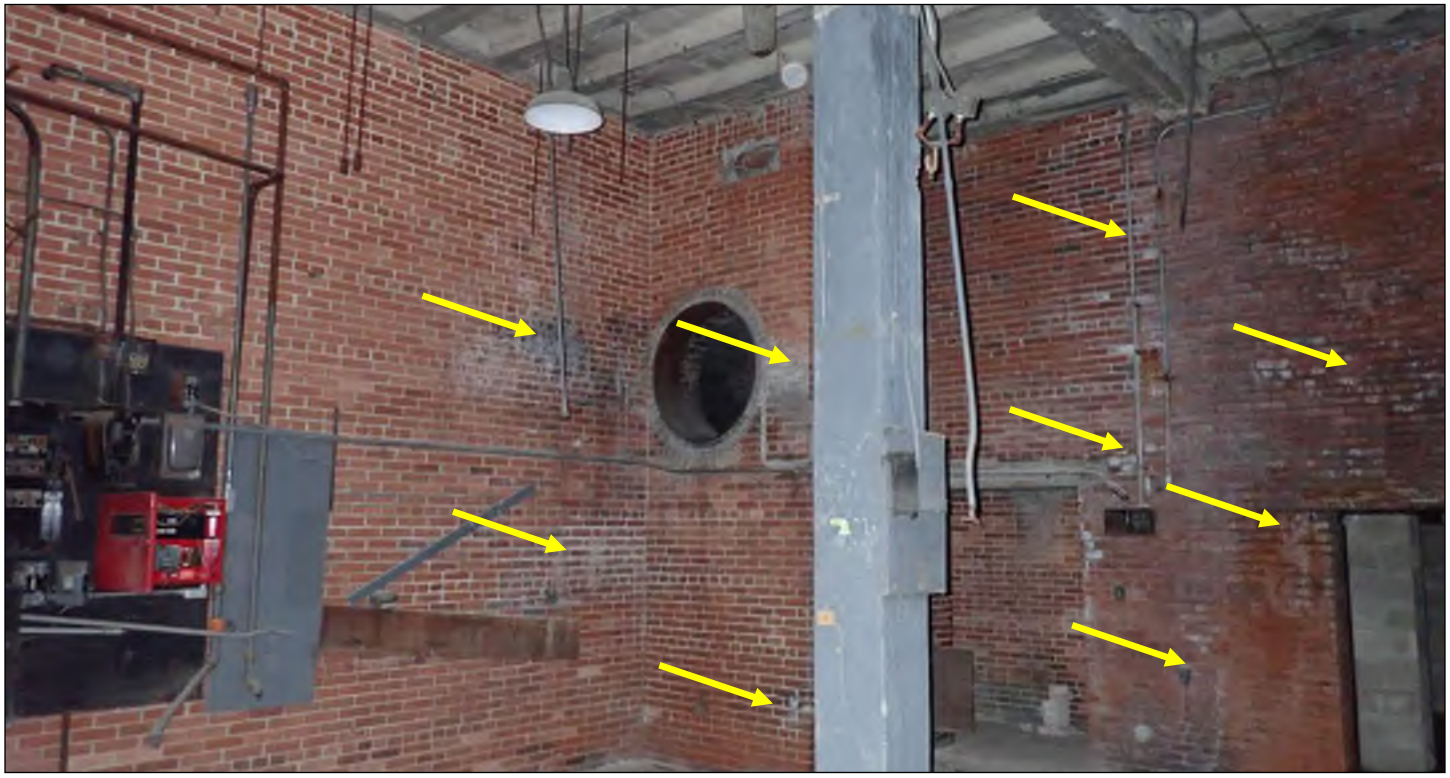


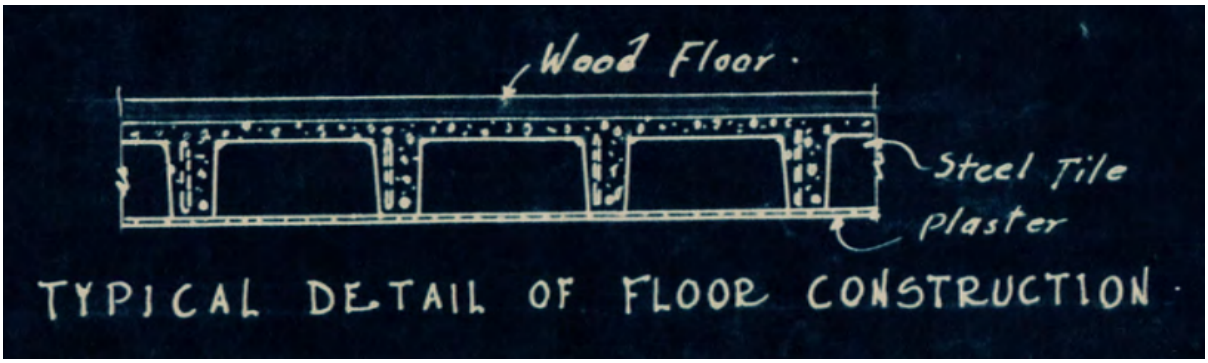
Photo 70: Efflorescence on below-grade boiler room walls (arrows).

Photo 71: Mineral deposits from water infiltration.

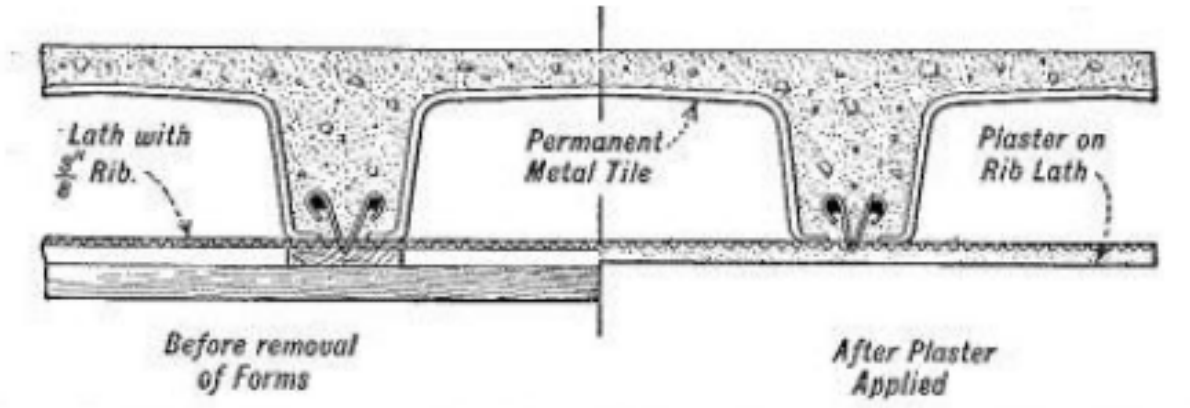
Photo 72: Active water leak at crack in below-grade boiler room wall.

EXHIBIT A

EXHIBIT A



Floor section shown on 1939 drawings by Vernon Redding & Associates.

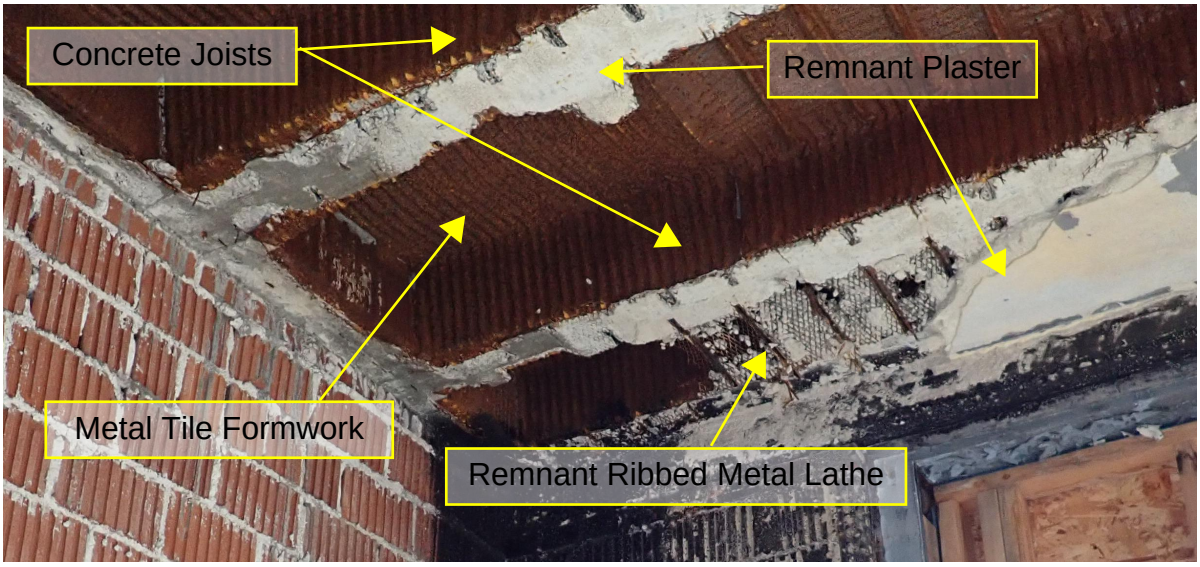


Typical metal tile floor system construction sequence.

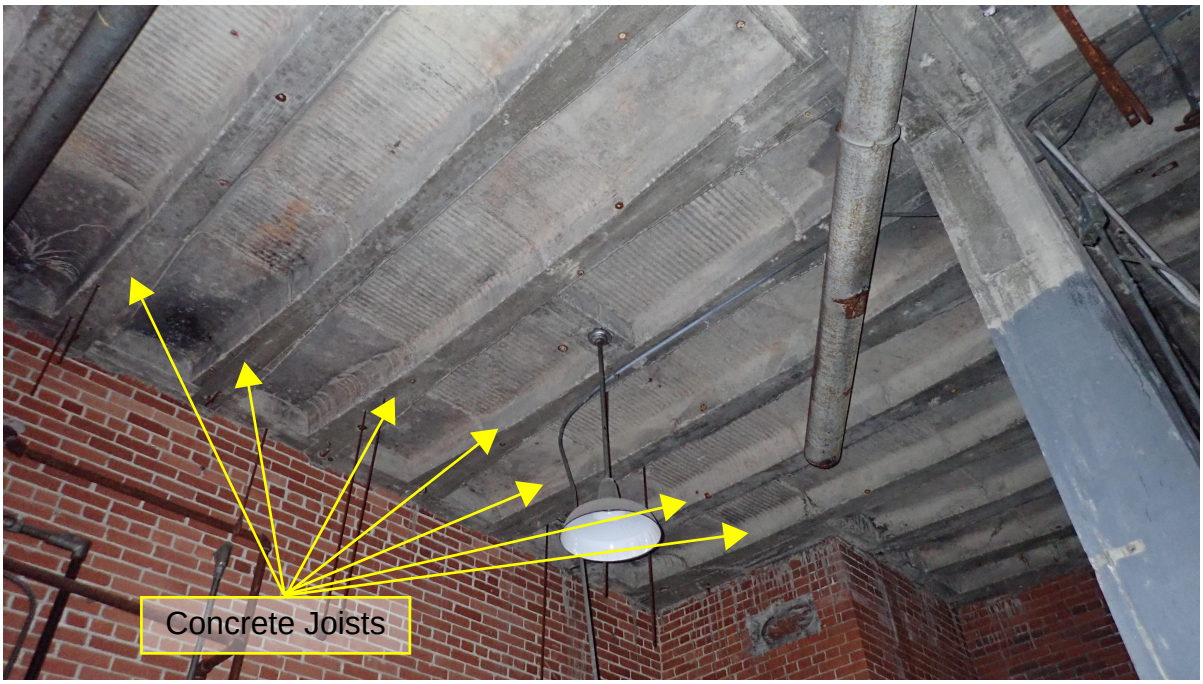
(Image obtained from *Antiquated Structural Systems Series Dictionary*, by Matthew Stuart, available at *https://www.structuremag.org/?p=8161*.)

(Image attributed to *Building Construction and Superindendence*, by Frank Eugene Kidder.)

EXHIBIT A



Underside of slab, showing metal tile formwork and remnant plaster on metal lathe (typical condition throughout the building).



Underside of slab without metal tile formwork (either previously removed or never put in place) (condition in the boiler room).

KORDA

February 17, 2020

Mr. Joel Mazza
579 High Street
PO Box 536
Worthington, OH 43085

RE: Mt. Vernon Middle School
301 North Mulberry
Korda File: 2020-1088

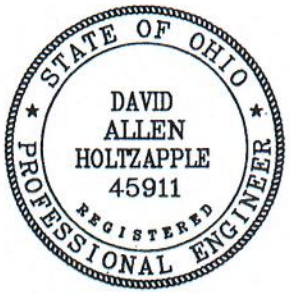
Dear Mr. Mazza:

At your request, I made a visual structural inspection of the existing Mt. Vernon Middle School at 301 North Mulberry, Mount Vernon, Ohio, on Tuesday, February 11, 2020. The purpose of this inspection was to determine if there are any major structural issues that would affect the renovation of this building for use as residential housing. Note that the numbers in parenthesis refer to the attached photographs.

The building in question is a three-story concrete framed structure with exterior load bearing masonry wall. The lowest level is slab on grade roughly 4 feet below exterior grade (#3). The shape of the building is basically an "H" oriented in the north south direction with an "L" projecting out to the west (#1). It is my understanding that you intend to demolish the western portion of the building starting from where the horizontal leg of the H meets the western vertical. This will keep the original 1939 portion of the building plus a corridor that runs along the south side of the original gymnasium. You also intend to keep the gym which is a one-story clear span structure (#8). Both the floor and roof structures of the building are reinforced concrete pan joists that span in the east west direction from the exterior walls to two lines of interior beams and columns (#6, #7). There are some interior clay tile partition walls from the original school building, but many of these walls have been removed. The central corridors are finished with terrazzo tile, while the classrooms have wood flooring above the concrete pan joists (#6).

The structural condition of the building proposed for renovation is very good. I found no evidence of any significant sags, cracks or settlement in the primary structure. While much of the interior finishes, mechanical, and electrical systems are missing or damaged all the main structural elements are sound and stable. The building was very well built and will require no major structural repairs or reinforcements to allow it to be renovated for residential housing. I noted some areas of brick on the exterior that will require some minor repointing (#2, #3, #4, #5, #10, #11), but these areas are very minor and represent less than 5% of the exterior façade. There was deterioration of the stairs in the front of the building (#9) as well as along the North side (#12). There will need to be some work to repair and refurbish these areas, but most of the damage is cosmetic in nature and does not affect the main structure of the building.

In summary, the structure of the building proposed for renovation is in very good condition and will not require any significant repairs or reinforcements as part of the proposed renovation. The concrete structure is more substantial and durable than the structure of most buildings that are currently being built. If you have any questions, please do not hesitate to contact me.

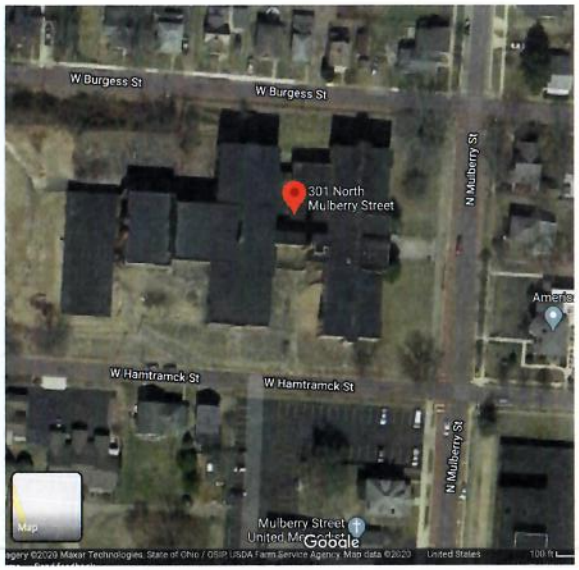


Yours truly,

KORDA/NEMETH ENGINEERING, INC.
Consulting Engineers

David A. Holtzapple, PE, LEED AP

DAH/ce
Enclosures



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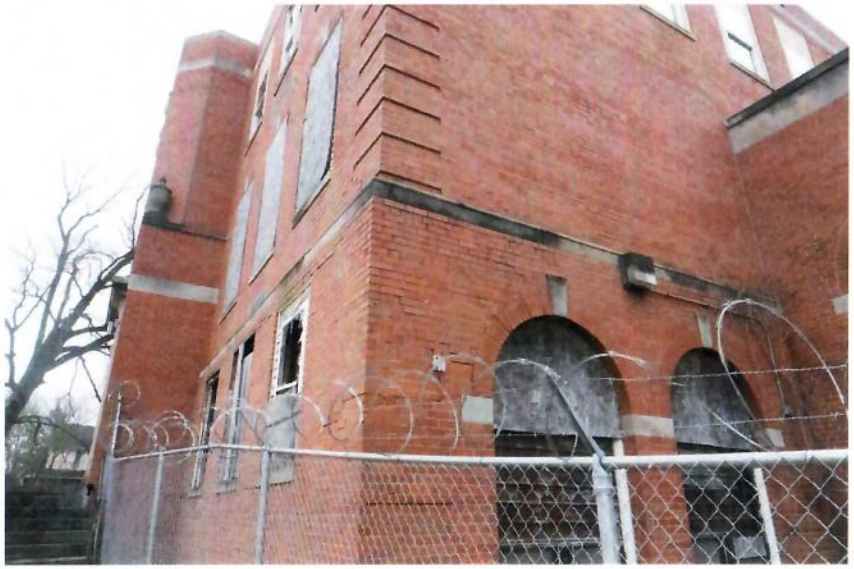

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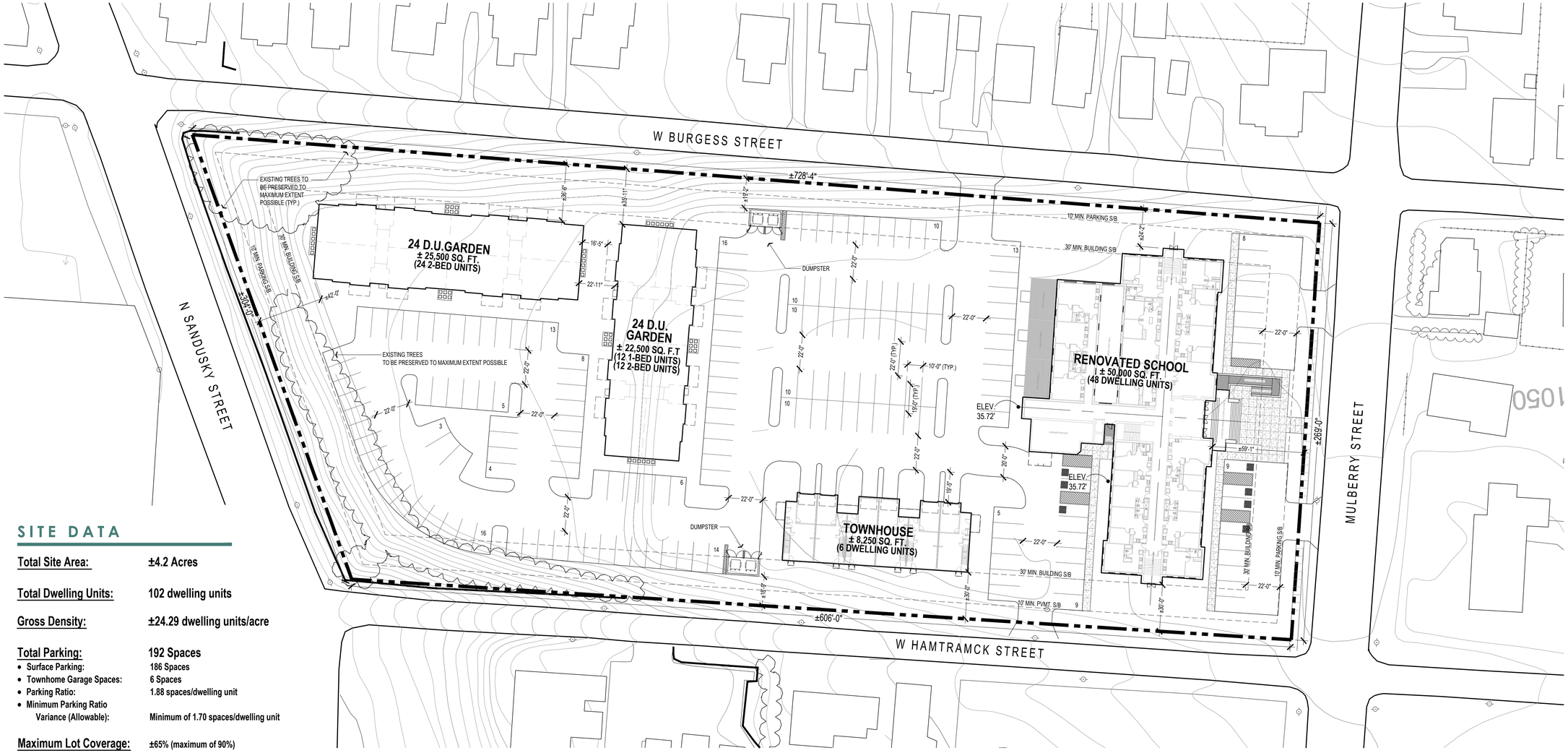
Exhibit "F"
Site Plan



SITE DATA

Total Site Area:	±4.2 Acres
Total Dwelling Units:	102 dwelling units
Gross Density:	±24.29 dwelling units/acre
Total Parking:	192 Spaces
• Surface Parking:	186 Spaces
• Townhome Garage Spaces:	6 Spaces
• Parking Ratio:	1.88 spaces/dwelling unit
• Minimum Parking Ratio Variance (Allowable):	Minimum of 1.70 spaces/dwelling unit
Maximum Lot Coverage: (structures/pavement)	±65% (maximum of 90%)

Building Setbacks:

• Front Yard Setback	30 feet from Right-of-Way
• Side Yard Setback	30 feet from Right-of-Way (due to fronting on a street)
• Rear Yard Setback	30 feet from Right-of-Way (due to fronting on a street)

Parking Setbacks:

• Front Setback	10 feet from Right-of-Way
• Side Setback	10 feet from Right-of-Way
• Rear Setback	10 feet from Right-of-Way

Parking Standards:

• Parking Space Dimensions:	10 feet by 19 feet
• Drive Aisles:	20 Feet
• Parking Aisles:	22 Feet

Existing School (Renovation) - 48 Units:

- 50,000 square feet (allowable 8,000 square feet)
- 48-50 feet in height (allowable 30 feet)

Townhomes:

- 8,250 square feet (allowable by variance, 36,000 square feet)
- 35 feet in height (allowable by variance, 36 feet)

24-Unit Garden Unit Building:

- 25,500 square feet (allowable by variance, 44,000 square feet)
- 45 feet in height (allowable by variance, 50 feet)

24-Unit Garden Unit Building:

- 22,500 square feet (allowable by variance, 44,000 square feet)
- 45 feet in height (allowable by variance, 50 feet)

301 N Mulberry - Development Plan

Mt. Vernon, OH 12.21.2020

0 30 90 N

Mazza Consulting | G2 PLANNING + DESIGN