

VACANT HISTORIC SCHOOL BUILDINGS DISPOSITION PLAN

City of Detroit RFP# 19BW2717

Building Envelope and Structural Assessment Report

New Middle School/AFPA East

Basic Property Information: COD 3-New-17142 Rowe

Short Name:	New, Fine Arts East School, Our Lady of Good Counsel
Address:	17142 Rowe Street, Detroit, Michigan 48205
Year Built:	1935
Additions Built:	1938, 1948
Outbuildings:	None
Year Vacated:	2006
Building Footprint:	195 feet x 235 feet
Square Footage:	53,041 sq. ft.
Number of Stories:	2
Building Height:	27 ft.



Current Ownership:	City of Detroit	Structural Framing System:	<ul style="list-style-type: none"> ▪ Cast-in-Place Concrete ▪ Precast Concrete ▪ Brick Masonry ▪ CMU ▪ Structural Steel
City Council District:	3	Exterior Wall System:	<ul style="list-style-type: none"> ▪ Brick ▪ Limestone
SNF District:	NA	Window System(s):	<ul style="list-style-type: none"> ▪ Steel ▪ Glass Block
		Roofing System(s):	<ul style="list-style-type: none"> ▪ Scuppers ▪ Stone Ballast



Assessment Summary

Assessment Date: June 09, 2020

WJE Inspector(s): Cheryl Early; Sarah Rush

Report Date: November 20, 2020

Building Risk Index: 65.62

Cost Estimate

Base Rehabilitation Cost Estimate: \$1,854,500

Preparation for Rehabilitation Work: \$900,000

**Mechanical, Electrical, Plumbing,
Fire Protection (\$80/sq ft):** \$4,243,280

Sub-Total \$6,997,780

Contingency (25%): \$1,749,445

Sub-Total \$8,747,225

Overhead and Profit (15-18%): \$1,312,083

Sub-Total \$10,059,308

Escalation (6% for 2 years) \$603,558

Sub-Total \$10,662,867

**Architectural and Engineering
Design Services (20%):** \$2,132,573

TOTAL COST ESTIMATE: \$12,795,440

ASSESSMENT METHODS

Visual Survey

As requested, Wiss, Janney, Elstner Associates, Inc. (WJE) performed a visual review of the building envelope and structure to assess the viability of the building for reuse. WJE was joined by Mr. Andrew Wald of Interboro Partners and Ms. Jennifer Ross and Mr. Garrick Landsberg of City of Detroit Planning and Development Department. During the time on site, Mr. Wald gathered information pertinent to the general building site and layout of the buildings, and Ms. Ross and Mr. Landsberg assessed the condition of the historic fabric of the buildings.

WJE performed a visual review of the building facades from grade and the south courtyard, using binoculars as needed. Roof levels and the north courtyard were inaccessible due to a lack of access. On the interior, WJE performed a walkthrough of accessible areas of each floor of the building, including the basement. The interior finishes are in a state of deterioration, exposing the structural framing systems in several locations. Up-close examination of building elements and destructive inspection openings involving the removal of building finishes to review underlying conditions were generally not performed.

WJE's observations were documented with tablets and digital photography. WJE has shared our field data with Interboro Partners; City of Detroit Planning and Development representatives; and A.M. Higley Company, the cost estimator for this project. Each observed condition is documented in the field data and assessed as discussed under "Risk Characterization" below. A summary of the conditions observed is provided in the "Building Overview" section below.

Limitations of Assessment

Limited to four hours on site, WJE visually assessed the exposed portions of the building envelope and structure. Recognizing the limitations on visually detecting distress from afar and the limitations on detecting concealed internal distress, the assessment may not include all current conditions. As such, completion of this assessment is not an indication, certification, or representation that all deterioration or hazards have been observed or recorded, including underlying deterioration not evident from the building exterior or interior. Additionally, the conditions of the building elements discussed herein are exposed to further damage and deterioration due to the existing condition and unoccupied status of the property, and as such, WJE cannot state the conditions discussed herein will remain unaltered and as observed during the visual survey. However, we have performed these assessments in accordance with the requirements of applicable regulations and the applicable standard of care for architects or structural engineers performing such services.

WJE identified structural or building envelope issues that have significant impact on the viability of future reuse of the property. Items posing little risk such as regular maintenance items are not included in the assessment. The assessment was limited to within the walls of the building; on-grade walkways, access roads, parking lots, landscaping, play structures, or other site features were excluded from this assessment. The assessment, remediation, and identification of hazardous materials (e.g., asbestos, lead, etc.) or other environmental issues were also excluded. Based on WJE's past experience with building rehabilitation projects, WJE has assumed existing mechanical, electrical, plumbing, interior finishes, and other building

systems are anticipated be removed and replaced with future reuse of the building, and as such, were not included in WJE's assessment.

Document Review

WJE performed a cursory review of documentation provided by Interboro Partners to gain familiarity of the property. The documentation provided included:

- Floor Plans (included with this report)
- Environmental Reports

Other documents, such as original construction drawings, specifications, or maintenance records, were not made available for our review.

Risk Characterization

WJE has categorized each significant area of distress, damage, or deterioration observed with a systematic methodology to provide an objective, quantitative characterization of its relative condition and associated risk, or its Condition Risk Index (CRI). The CRI is based on the primary building system affected by the condition and the condition's severity, prevalence, and the associated consequence of failure. A higher CRI score indicates that observed conditions embody relatively higher risk than conditions with a lower CRI. The CRI is the product of each of the rankings below multiplied and normalized to meet a maximum score of 100 per condition.

Specifically, the CRI assigns a numerical value to the following:

- System (Structural, Roofing, Facade, Other)
Conditions affecting the structure are assigned a higher rating than those affecting the facade or roofing systems. Other includes items such as non-load bearing partition walls and exterior steps, and are assigned a lower rating.
- Building Performance Impact (Minor, Moderate, Advanced, Critical, Imminently Hazardous)
This parameter addresses the severity of the impact of the observed condition on the performance of the affected building system. Imminently Hazardous is assigned the highest rating. For example, a crack in a concrete slab may be a minor distress, but a damaged prominent skylight is considered advanced distress. Imminently hazardous conditions are discussed immediately with Interboro Partners and the City of Detroit representatives.
- Size/Distribution (Isolated/Infrequent/Frequent/Widespread/Pervasive)
In short, this parameter rates how large and/or frequent a condition is with respect to the entire affected building system/component. Pervasive is assigned the highest rating. Examples include: an isolated step crack in a masonry wall versus pervasive corrosion of metal floor decking throughout a building.
- Consequence of Failure (Low, Moderate, High)
This parameter allows inspectors to exercise judgment regarding general risk to the public, considering the unoccupied status of the buildings. High is assigned a higher priority, and, for example, might be assigned to a condition whose failure would result in potential harm within the

public right of way. Conditions rated with a high consequence of failure are discussed immediately with Interboro Partners and the City of Detroit representatives.

The CRI for each observed condition is summed to calculate a total Building Risk Index (BRI), as provided in this report. The reported BRI is therefore a numerical expression of the relative risk present at one property, as compared to other properties in the scope of this assessment.

Both the CRI and the BRI are expressions of WJE's professional opinion of the relative significance of an observed condition to other building conditions, and the collective relative risk of the structural and building enclosure elements of this property. Neither the CRI nor the BRI are an expression of actual risk or probability of occurrence of any event. The CRI for each condition is tabulated in WJE's electronic field notes. The BRI provides a numerical tool for the project team and the property owners to compare and make decisions about this property and the other properties included in this overall effort, in context with the cost estimate, market analysis and community input. Both the CRI and BRI are intended only for this assessment project. The numerical values do not have substantive meaning beyond the context of the Vacant Historic School Buildings Disposition Plan project.

Recommendations

Recommendations developed in the assessment are conceptual and are intended for budgetary and planning considerations. Recommendations are provided within the narrative below, and in the field data provided. It is not the intent or purpose of this report or the field data to direct a contractor to bid, or otherwise implement, the recommendations. Significant additional investigation by various professional disciplines is necessary to develop appropriate scopes of repair and rehabilitation efforts to enable the re-use of any facility included in this assessment.

Cost Estimating

The rehabilitation costs are opinions of probable construction cost and have been developed with the assistance of A.M. Higley Company, a contractor familiar with rehabilitation of historic buildings. The costs have been developed for evaluating the relative cost of repair of distressed conditions as well as establishment of order-of-magnitude repair budgets. They are based on national construction cost data, adjusted based on the local construction market, and our experience with similar past projects.

Understanding the rehabilitation cost may vary depending on type of future occupancy, this assessment assumes the building will be rehabilitated to a weathertight and "grey box" condition with unfinished walls, flooring and ceilings; no mechanical, electrical, plumbing or other building systems installed. The costs assume the rehabilitation work would occur in 2022 and are not inflated should the work occur in future years.

In addition to this "grey box" base rehabilitation cost, an allowance, based on percentage of costs and square footage of the building, is delineated for:

- Preparation for Rehabilitation Work
- Mechanical, Electrical, Plumbing, Fire Protection (\$80/sq ft)
- Contingency (25%)
- Overhead and Profit (15-18%)

- Escalation (6% for 2 years)
- Architectural and Engineering Design Services (20%)

The preparation for rehabilitation work item includes mobilization, hazardous material abatement as well as salvaging for potential later duplication or re-installation pertinent historic interior finishes identified by the City. For the purposes of the cost estimating effort, all roofing replacement or repair work is recommended to be performed with like-kind materials; all windows are assumed to be replaced with new commercial window assemblies in lieu of restoration of existing elements, and any exterior doors are to be repaired or replaced in like-kind. Where like-kind materials may no longer be available, WJE will offer alternative materials for the cost estimating purpose. For rehabilitation design and construction efforts, further evaluation of each of these elements is recommended. All work is recommended to be performed as per the Secretary of Interior's Standards for The Treatment of Historic Properties.

The condition-based subdivision of repair recommendations used to develop the base cost estimate is not representative of how a repair program could be implemented to remediate building conditions. Moreover, the costs assume that all repairs would be remediated in the same rehabilitation project. Execution of separate repair projects, or phasing of the rehabilitation project, could result in increases in the total repair cost. Furthermore, the final scope of repair work and the actual repair costs may vary depending on underlying or concealed conditions that were not apparent during our limited assessment.

BUILDING OVERVIEW

Overall

The two-story school was constructed by Our Lady of Good Counsel Parish in 1935. A one-story classroom wing, believed to have been constructed around 1938, was added to the south based on differences between construction materials. This addition created an interior courtyard space between the two structures. A large addition, believed to be constructed in 1948, extends off the east end of the north facade, and houses the auditorium/gymnasium. With the exception of small basement spaces for mechanical equipment, the building is of slab-on-ground construction.

The facade generally consists of clay brick masonry in running bond with header units every six courses and concrete masonry unit (CMU) back-up. Decorative limestone units are present at the building entrances, copings, window sills, horizontal belt courses, and at a few window spandrels and window surrounds. The windows generally consist of glass block infill and putty-glazed, steel-framed windows. The main entrance at the original building is wood-framed, while conventional steel doors or metal-framed doors with transoms are present at the other building entrances. One overhead door is present on the east facade of the north addition. The roof levels were not accessible during our assessment, but based on a review of aerial imagery, the roofing assembly appears to consist of internally drained, gravel surfaced, built-up roof systems.

The original structure is of structural steel and CMU wall construction. The structural steel frame is encased in masonry or concrete throughout. The interior finishes of the original building were primarily intact prohibiting identification of the second-floor structural system. The roof structures of both the original building and the south addition are of open web steel joists with metal roof decking. The roof of the north addition is of structural steel with precast concrete plank roof deck. The roof over the single-story kitchen space at the southwest corner of the north addition is of assembled masonry block prestressed plank construction commonly referred to locally as Dox Plank. The walls of the south and north additions are also of CMU construction with primarily slab-on-ground construction.

Overall, the building is in serviceable condition with a majority of the interior finishes intact, though significant distress was observed within the south addition where failure of the roofing is causing damage to the roof structure and interior. The roof deck of the south addition is recommended to be replaced due to the extent and severity of corrosion on the underside of the deck. Roofs over the original building and north addition require localized repair at the building perimeter and drains to mitigate further distress from water infiltration within the building interior and masonry facade. The original steel-framed windows may be restored if desired, though replacement may be a more economical option in the long term considering the extent of distress observed. Localized masonry repairs are required near the window lintels, parapets, and on the interior near areas of failed roof drains.

Facade

A majority of the observed brick and limestone distress is due to expansive corrosion and displacement of steel window lintels. Brick units are cracked and displaced outward in several locations, particularly at the top of walls near building corners and near the roof level, and also adjacent to corroded lintels. Repairs should include rebuilding displaced masonry with appropriate expansion joints, repointing distressed

mortar joints, and repair or replacement of the distressed steel lintels with installation of a properly detailed through-wall flashing. Several limestone header units are cracked and displaced downwards due to the extent of lintel distress located above the headers. The cracked stone units will require replacement in conjunction with the above noted recommended lintel repairs. Isolated limestone units are also cracked or displaced due to corroded steel anchors, and some limestone coping units are missing or displaced on the lower roof levels due to vandals. These units should be replaced in-kind or repaired as needed. Vertical cracks are present within the brick masonry cladding on the north addition, which mirrors cracks visible within the building interior surfaces and correlate with steel beam bearings. These joints should be repointed with replacement of isolated cracked units in conjunction with the structural repairs below. Failed mortar and sealant materials at expansion joints within the south addition are fully compressed and displaced over the height of the joint. These joints, including those containing mortar, should be removed of all materials over the depth of joint and widened such that new sealant and backer materials can be installed at the exterior surfaces.

The original single-pane, putty-glazed, steel-framed windows are generally intact (present), but are significantly distressed including isolated, missing, or displaced components and hardware, cracked glass, failed paint and surface corrosion, and failed putty and perimeter sealant. Significant costs for restoration and subsequent maintenance are anticipated, thus, replacement may be a viable, economic option depending on the future building use. Isolated glass block units are cracked and require replacement. The original wood doors contain localized water staining and decay near the threshold and additional minor damage, such as cracked glass, but may be restored. The remaining metal doors are generally damaged and require replacement. The overhead door within the north addition is missing and requires replacement or infill.

Roofing

The roof levels were not be accessed during WJE's assessment; however, indications of roofing deterioration and localized water infiltration were visible from grade and the building interior. Above the two-story original building and north addition, localized water infiltration was observed near roof drains and the building perimeter. Vegetative growth was visible from grade, though the remaining interior ceiling finishes within the field of the roof were dry. Maintenance-type repairs are anticipated to extend the service life of the existing roof assemblies in these regions. Evidence of significant water penetration and subsequent structural damage is present within the one-story south wing, and a portion of the roofing appears to be missing based on a review of aerial photographs. The sheet metal roof fascia is also missing over the west building entrance of this wing, which exposes the edge of the roofing to water infiltration. This south roof assembly is recommended for removal and replacement.

The roof hatch at the east end of the second floor is currently missing, exposing the interior of the building to the elements in this area. Replace the roof hatch or, at minimum, provide temporary cover until full repairs can be made to mitigate the water infiltration.

Structure

The structure, overall, is in good condition. Finishes are damaged in some locations and fully intact in others. The undamaged condition of the finishes of the original building prevented identification of the second-floor structural system.

The corroded metal deck of the south addition roof may be able to be spot repaired once the roof deck is fully available for assessment; however, replacement of the deck in its entirety may be warranted, and is recommended to be budgeted for, considering the distress observed on the roofing above. The supporting structural steel elements, including the open web steel joists and steel lintels, are recommended to be cleaned of corrosion and recoated with a rust inhibitive paint.

At an exterior wall of the teacher's lounge at the second-floor level, the interior face shell of the CMU is friable to the touch and unsound, seemingly from water damage. The source of the water causing the deterioration may be related to water penetration occurring at distress observed on the exterior facade near the chimney stack. The approximate four-foot length of the wall is recommended to be cleaned and further assessed for potential repair or rebuilt with coordinated facade repairs in this area.

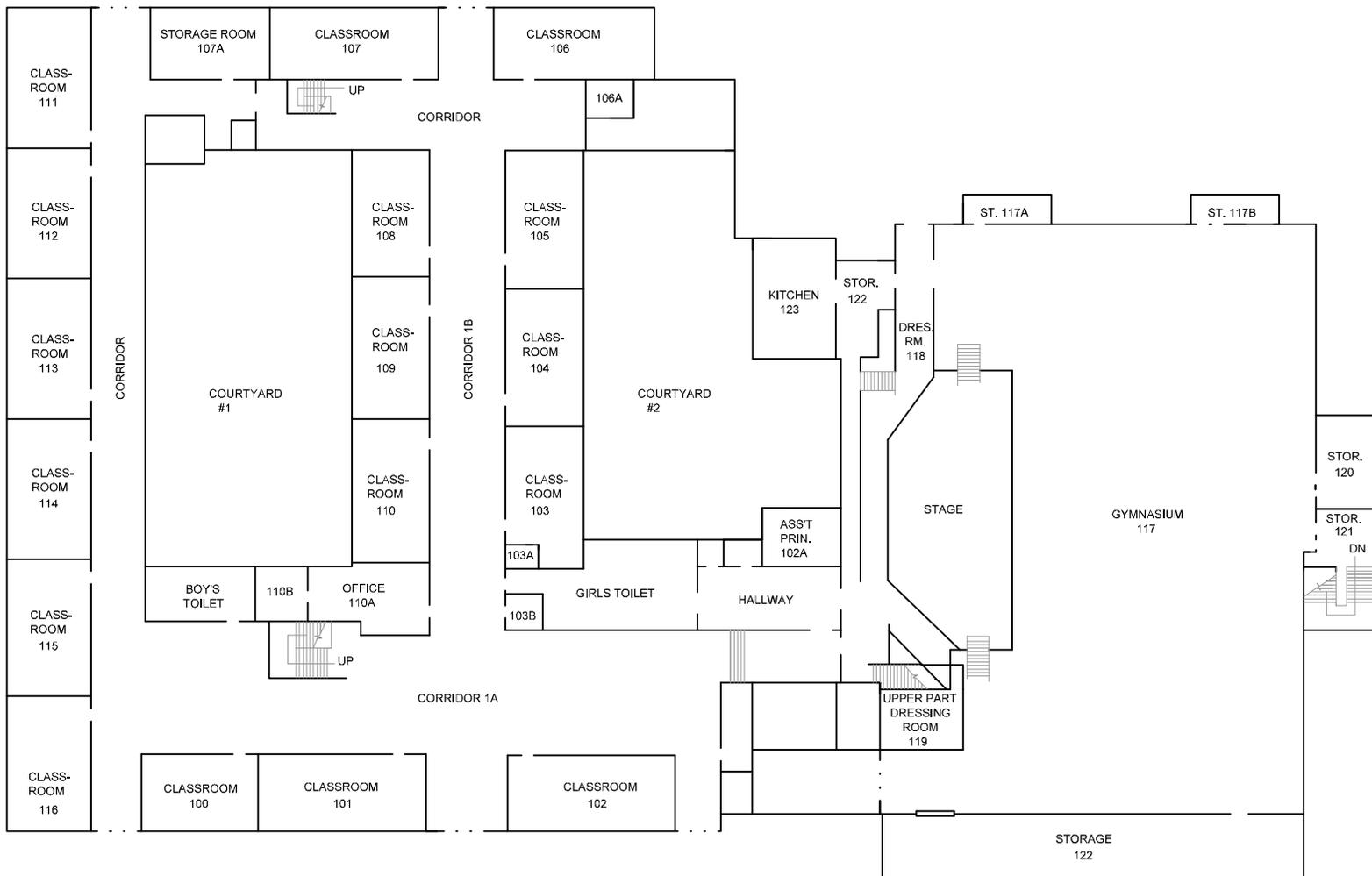
Additionally, the exterior masonry walls in the gymnasium/auditorium space are cracked below the dropped beam bearings in both stepped and vertical patterns. Considering the masonry is similarly cracked in the corresponding locations on the exterior, creation of inspection openings near the beam bearings is recommended to assess the condition of the structural steel members embedded or encased in the masonry. The precast concrete lintels over the windows in the gymnasium are cracked lengthwise on the underside indicating potential corrosion of the embedded steel reinforcement. Partial depth concrete repairs are recommended for these lintels after the water infiltration into the wall assembly is addressed with the envelope repairs.

Miscellaneous

Many of the CMU walls are cracked at exterior wall corners, near beam bearings, and mid-length of the interior walls. Repairs had been attempted at some of the crack locations. Further investigation is recommended to determine the cause of the distress, but it is suspected to be related to the water infiltration occurring and thermal or volumetric changes in the wall materials. Cracking within select walls, such as stairwell and interior classroom walls, may be related to the relative stiffness of the walls within the structural building frame system. Repointing of the cracked mortar joints and replacement of cracked units is recommended. These cracks may recur after rehabilitation and remain an ongoing maintenance item unless the underlying cause of the cracking is further assessed and mitigated.

Some localized masonry infill areas and partition walls are damaged from vandalism during the removal of plumbing and heating elements. Repair of these partition walls is recommended as appropriate for potential new use of the spaces.

Several inaccuracies were found of the line drawing floor plans provided; a detailed survey to verify the layout of the basement, first and second floor levels is recommended.

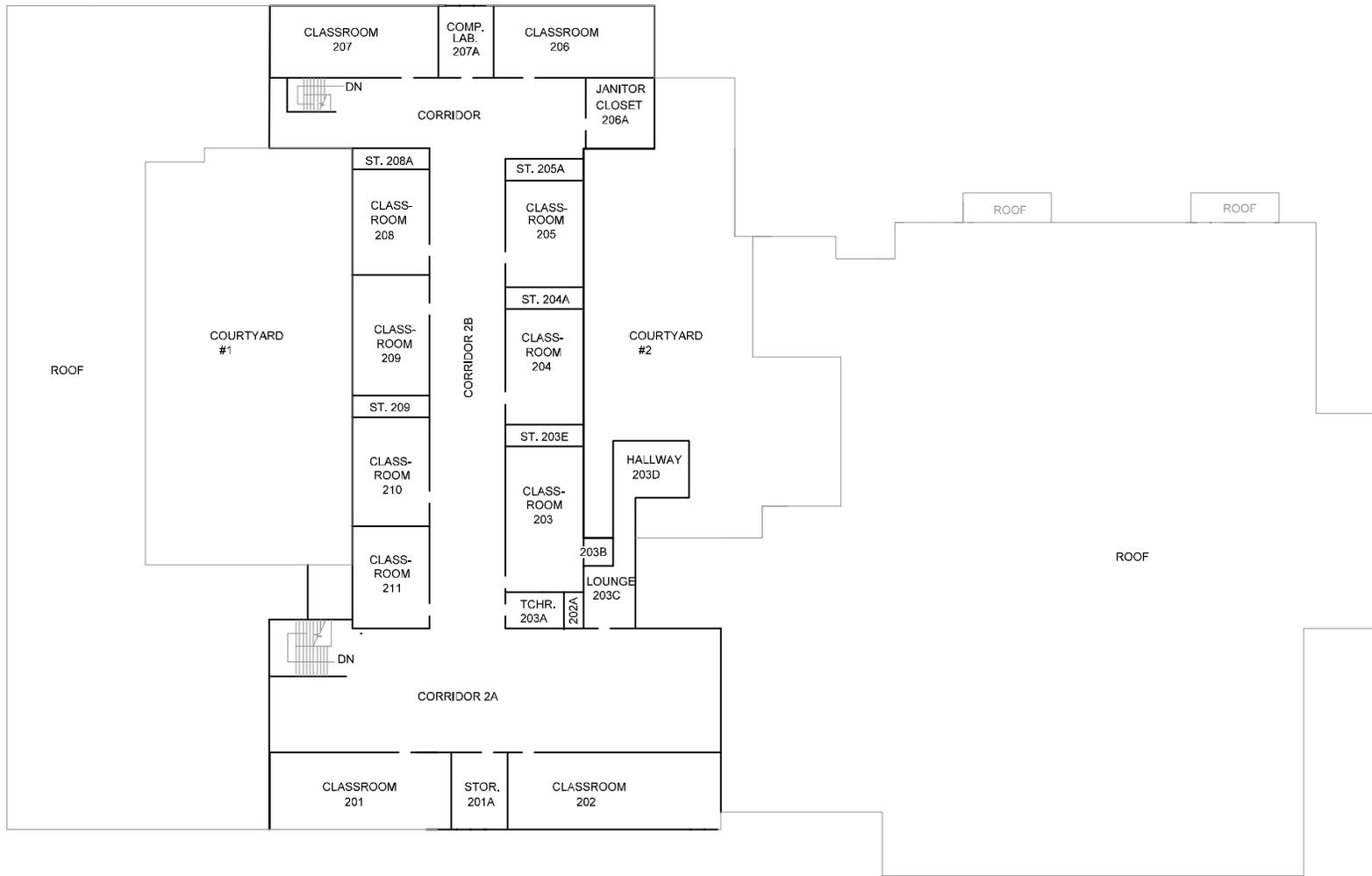


FIRST FLOOR



SCHOOL CODE : 13

FINE ARTS EAST ELEM./MIDDLE (a.k.a. New Middle School)



SECOND FLOOR



FINE ARTS EAST ELEM./MIDDLE (a.k.a. New Middle School)