[Excerpted from: Design West Facility
Observation Report dated August 20, 2023]

Washington Elementary

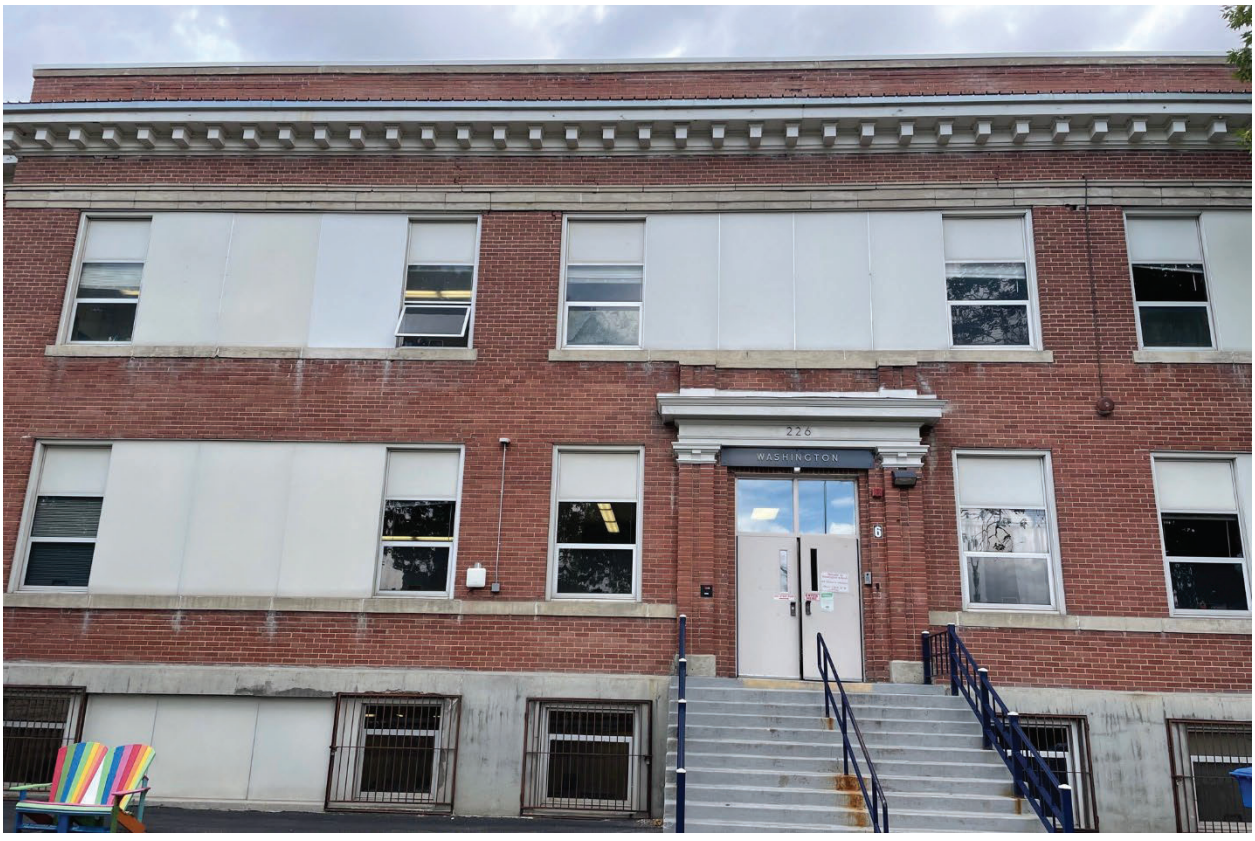
General Conditions

Washington Elementary is a three-story school that was built 1920. It is approximately 27,000 square feet off classroom, gymnasium administrative and auxiliary spaces. The facility has undergone two additions to the original 1920 school building. A classroom addition was added in the 50's and a small gymnasium kitchen nook was added in the 70's.

Despite the age of the building, it is very well cared for and has obviously benefited over the years from a staff that takes pride in the school and takes quality care in maintaining it.

The classrooms seem to be adequate to present teaching needs. Most of the classrooms have several computers but suffer from a lack of adequate outlets. Upgrades over the years have provided additional power and monitoring systems using surface mounted raceways which can limit use options and create a chaotic environment.

The school as presently configured is not Ada accessible. The various levels in the school, the access to the school from the exterior, the restroom facilities and general access paths are not ADA compliant which can result in costly lawsuits.



[Excerpted from: Design West Facility
Observation Report dated August 20, 2023]

Observed conditions

Multi-purpose Room

The gymnasium addition is quite small, however, given the number of students attending the neighborhood school it may be adequate. As with the majority of the school, it is clean and well maintained. The gymnasium does not have an accessible means of approach from the interior of the school.

The gymnasium has no daylighting creating a less desirable learning space.

The Gymnasium is potentially a loud environment due to the lack of soft surfaces. The walls and the floor are all hard noise reflective surfaces. Additional sound absorptive materials could be added to the wall surfaces to reduce noise levels.

There is no impact protection on the Gymnasium walls.

Kitchen

The kitchen is a small prep kitchen that is probably adequate to the needs of the school. Several plumbing upgrades have been provided over the years including a new grease trap. The age of the infrastructure serving the small kitchen will continue to be problematic given the age of the school.

Administration

The administration is small and includes one reception area with capacity for one possible two. The only other administration area is the principal's office. The administration area has good visual control of the main hallway but does not have any control of the main entry to the school presenting a major security risk.

Restrooms

The restrooms and clean and very well maintained. The restrooms have obviously been upgraded over the years but due to space constraints of the original construction none of the restrooms are fully ADA compliant.

Media Center

The Media Center is small and has limited if any support spaces of gathering spaces that can be used for classes or small groups. The space is well maintained but as with spaces in the school the casework is old and probably requires constant upkeep and repair.

[Excerpted from: Design West Facility
Observation Report dated August 20, 2023]

Building Envelope

Most of the classrooms are located along a single main corridor providing daylight. The window sizes were typically reduced during the energy crises in the 80's and so the views and amount of daylighting are severely limited.

The age of the building results in a great deal of atmospheric exchange from outside to inside affecting the efficiency of the mechanical systems and increasing the energy demands of the same.

Doors

The exterior doors and hardware are old and require upgrade in several places. The door hardware is not ADA compliant in many locations.

Windows

The facility windows are largely single-pane and due to age probably leak a large amount of air between the inside and outside short circuiting the efforts of the mechanical system.

Roofing

The roofing system is a flat single-ply membrane that if maintained and replaced when needed will serve well. Connection of the membrane to the perimeter wall needs to be checked regularly for expansion leaks and deteriorated flashings.

Access

The building exterior is not ADA compliant, the height of the main floor above the surrounding grade would require a very lengthy access ramp to improve the access from the exterior. Once inside the building there is no elevator connecting the three levels of the facility.

Interior

The interior finishes are in good condition considering the age of the facility. The bathrooms have been upgraded over the years but are not ADA compliant. There is limited visual control from inside the facility to the exterior playground area.

Due to the age of the facility, it is likely that there may be ceiling, wall of floor tiles that include some level of asbestos. If the district does not have an asbestos survey for the school one would be required to identify potential asbestos products.

The school does not have vestibules at the building entrances to reduce the inside-outside air exchange within the facility to reduce energy costs.

The design includes dead-end corridors which can be dangerous in the event of an evacuation emergency.

[Excerpted from: Design West Facility
Observation Report dated August 20, 2023]

Support Spaces

The Teachers' Lounge and Work Rooms are extremely small and potential inadequate to the needs of the staff.

There is limited storage space for the school.

Sustainability

The exterior wall systems are not furred out with insulation and would not meet design guidelines of current energy code requirements. The doors and windows are both insulated glass and non-insulated glass which would not meet current energy code requirements.

Most of the exterior building envelope would need to be furred out or otherwise insulated to comply with the current energy code with doors and windows that do not meet code being replace. This work would create a substantial cost savings for the district but due to the age of the building would not be 100% effective and would further reduce the size of the existing small classrooms.

Code Compliance and ADA compliance

Most of the entrances appear to be non-accessible. The main entrance to the school does not have an accessible ramp. Due to the height of the entrance a ramp would take up a large portion of the school's front yard. Many of the exit paths of the school interior are non-ADA compliant due to door swing clearances and other issues. These issues are not easily resolved due to the present configuration of the building.

The door hardware is mixed as some of the hardware is compliant while others are not.

Security

The building has been upgraded to include card access control for the school. Entry visual control is not available due to the location of the Administration Area away from the Main Entry to the school.

A camera link between the office and the entrance with a securable vestibule could be added to the main entry to increase safety. This is not as effective as direct visual control obviously but does represent an improvement in safety.

See structural, Mechanical/plumbing and electrical for additional observations.

[Excerpted from: Design West Facility Observation Report dated August 20, 2023]

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August 11, 2023

WASHINGTON ELEMENTARY SCHOOL
MECHANICAL EVALUATION

The school has a steam boiler. Steam and condensate pipes loop the basement perimeter walls. The steam piping has risers that rise up in the classrooms to the 1st and 2nd levels. The steam feeds the classroom fan coils and wall radiator throughout the school. The school also has a 15-ton rooftop unit on the roof for air conditioning the 2nd level classrooms. Two years ago, individual mini splits were added in classrooms in the basement and 1st level to help air condition the rooms. There is a fresh air fan in the basement with a steam heating coil. This fan just blows air into a plenum with vertical and horizontal chases that supplies air to each classroom. There are no balancing dampers to control the fresh air in each classroom.

The domestic water pipes are galvanized. As the galvanized piping has failed, copper or PEX piping has been installed to fix the leaking. The building Automated Logic Controls are not able to keep the building temperature comfortable year-round because of the building lacking insulation and vapor barrier to stop infiltration.

All the above HVAC systems are not able to heat and cool the classrooms to a comfortable climate for student learning. Steam heating is hard to control. Steam boilers were a great heating system 76 years ago, but today current school classrooms need an environment that is conducive to learning. The HVAC systems are failing to provide this healthy environment due to the building envelope. For this reason, the building HVAC system needs to be totally demo'd and a new HVAC system designed and sized for the building's existing envelope.

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[Excerpted from: Design West Facility Observation Report dated August 20, 2023]

ARW ENGINEERS
structural consultants

Aug 8, 2023

Pocatello-Chubbuck School District 25
3115 Pole Line Rd
Pocatello, ID 83201

Re: Washington Elementary Structural Evaluation
226 S. 10th Ave, Pocatello, ID
#23913.a

ARW Engineers has completed a limited on-site visual structural review and an as-built drawing review of the existing Washington Elementary school building located at 226 S. 10th Ave, Pocatello, ID. The visit was completed on Wednesday, August 2nd, 2023, with school district representatives and other members of the architectural and engineering design team present. The purpose of the review was to provide feedback to the school district regarding the current condition of the facility. The on-site review was limited to elements visible without any destructive removal of finish materials that may obscure structural elements. Exterior building elements were visually observed. Where possible framing was reviewed by removing ceiling tiles, but most of the facility had hard ceilings/finishes limiting what could be seen. An analysis to determine the gravity or lateral load carrying capacities of the structural elements was not within the scope of this review and not performed. All observations and items noted in this report are strictly based on limited visual observation and engineering judgement.

Building Description and Structural System

Washington Elementary is a 3-story school originally constructed in 1920. The first and second floors are constructed with tongue and groove (T&G) decking spanning over 2x16 joists as well as cast-in-place concrete slabs in the corridors. The 2x16 joists are inserted into bearing pockets in the unreinforced masonry walls. The roof is constructed of wood trusses and various wood joists with T&G decking and possibly a plywood sheathing overlay that was installed during a re-roofing project. The trusses or joists span between masonry bearing walls and concrete beams and columns near the center of the building. The perimeter walls of the original building consist of 13" multi-wythe unreinforced masonry including a 4" exterior brick veneer. The walls and columns are supported on concrete foundations and footings. All masonry is considered unreinforced, and all concrete is considered moderately reinforced.

Additions on each end of the original school were constructed in 1947 and match the original construction of the school. A single-story gym addition was later built in 1974 on the far end of the building that is constructed of 8" reinforced masonry walls that support a roof structure of TJL open web joists with plywood sheathing. The addition is supported on concrete foundations and footings.

Observations and Evaluation of Building

Limited visual observations indicated that the structural gravity systems are performing adequately but signs of deterioration and building age are evident. The majority of the structural elements could not be seen due to architectural finishes, but the following items were noted:

- Exterior brick and mortar are in need of repair, particularly at parapet locations. (It was noted by the school district representatives that an existing chimney had been removed recently because of extensive damage at that location.)
- Some splitting, cracking and separation of wood roof framing members was observed at the roof.

The items noted were visible and observed at the time of the visit. There may be other issues that could not be observed without removal of finish materials.

In addition to the visual observations, ARW Engineers did a limited review of the as-built drawings provided by the owner. Due to the age of the structure the as-builts contained limited information but using what information was provided, and an understanding of construction and design practices of the period, the following items were noted:

- Information was not provided indicating what the design snow load of the original building was, but the 1974 addition indicated 30 psf with no additional loads to account for snow drifting adjacent to the 3-story building. Currently the roof design snow load in Pocatello is 35 psf. The roof framing may be undersized and become overstressed during a significant snow event.
- Exterior masonry walls are unreinforced and likely lack sufficient strength to resist out-of-plane and in-plane forces during a seismic event.
- Exterior masonry walls are not adequately anchored to the floor and roof diaphragms. In a seismic event the roof and floor diaphragms will not be able to transfer seismic forces into the walls and down into the foundation. The walls will also likely separate from the building and collapse during a seismic event.
- Floor and roof diaphragms are likely inadequate to resist lateral forces during a seismic event.
- Interior heavy partition walls likely aren't braced and could be a life safety hazard during a seismic event.

Other building deficiencies are likely present and would be identified in a more detailed analysis and review of the building. If the school district wants a more in-depth understanding of the building deficiencies, an ASCE 41 Tier 1 evaluation would be recommended. Additionally, a deficiency-based Tier 2 analysis could be conducted to determine potential upgrades.

Conclusion and Recommendations

The majority of Wasatch Elementary school is close to 80 years old with the original portion of the school over 100 years old. Evidence of the schools age was seen in some deterioration of the brick-and-mortar construction along with the condition of wood framing members in the roof. A more detailed evaluation of the wood roof framing members is recommended to determine the extent of the conditions noted to see if potential repairs and upgrades are required. It is also recommended this analysis review the snow load capacity of the existing roof framing to determine the roofs ability to resist current snow load requirements. Repair of the exterior masonry is also recommended to limit continuing deterioration and water damage.

The school was also constructed prior to advancements in earthquake design and detailing. Unreinforced masonry buildings such as this school have proven to perform poorly in seismic events with most buildings experiencing extensive damage and partial collapse. Replacing or seismically retrofitting the building would be recommended for the safety of the occupants of the building.

Disclaimer

The information provided in this report is for the intended use of the architect and school district and is not a comprehensive structural review, evaluation, or analysis of the structural systems and elements at the building location indicated above. It should be understood that this review was not exhaustive, and as

additional information becomes available the conclusions and recommendations contained in this report may need to be re-evaluated and amended. Should additional assessment or information be desired, ARW Engineers would be pleased to provide that information. Please contact us if there are any questions.

Sincerely,

Josh Blazzard

Robert Moyle, SE

23913.A_Washington Elementary Report_20230807

[Excerpted from: Design West Facility
Observation Report dated August 20, 2023]

Tendoy Elementary

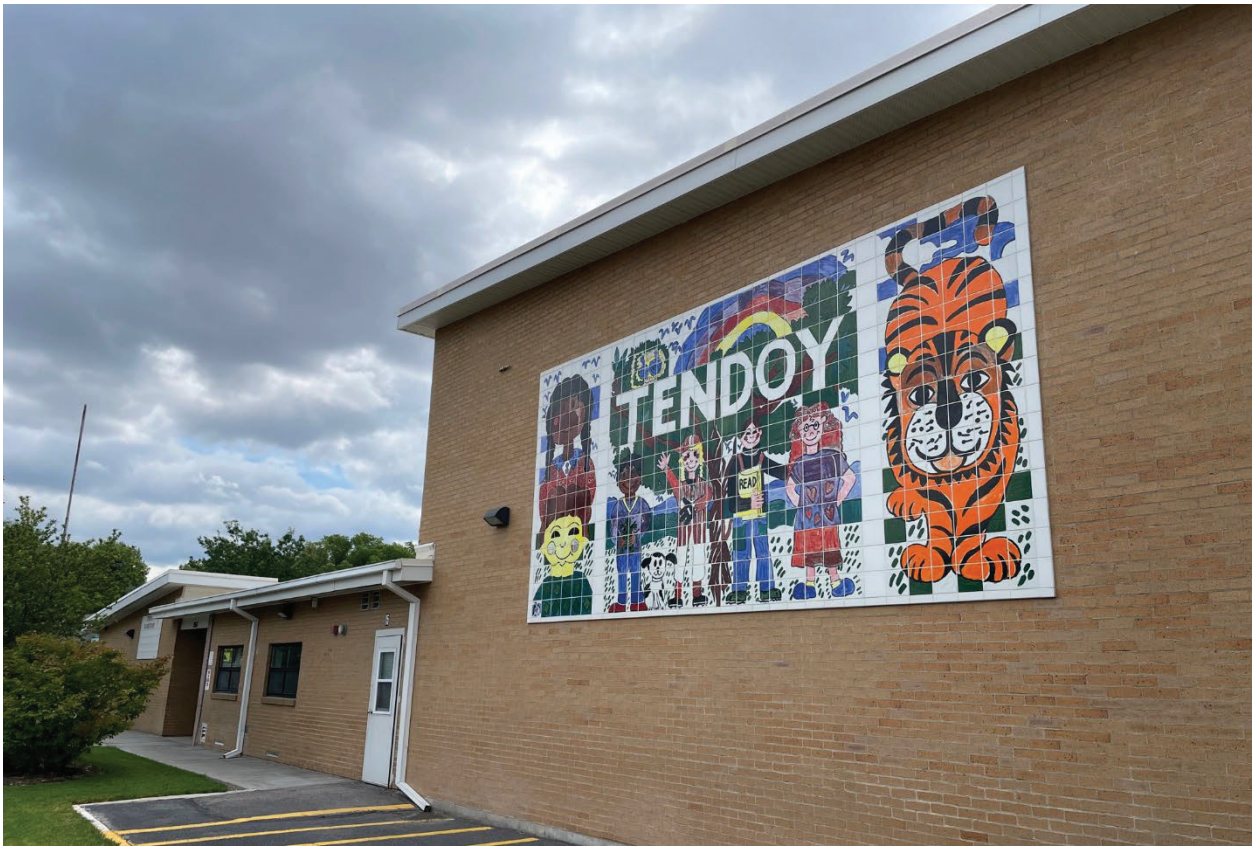
General Conditions

Tendoy Elementary is a one-story school that was built in 1959. It is approximately 22,000 square feet off classroom, gymnasium administrative and auxiliary spaces. The facility has undergone two additions to the original 1959 school building. Classroom/Gymnasium additions were added circa 1988.

Despite the age of the building, it is very well cared for and has obviously benefited over the years from a staff that takes pride in the school and takes quality in maintaining it.

The classrooms seem to be adequate to present teaching needs. Most of the classrooms have several computers but suffer from a lack of adequate outlets. Upgrades over the years have provided additional power and monitoring systems using surface mounted raceways which can limit use options and create a chaotic environment.

Most of the classrooms are located along a single main corridor, as such these classrooms have windows for daylight. The window sizes were typically reduced during the energy crises in the 80’s and so the views and amount of daylighting are limited.



[Excerpted from: Design West Facility
Observation Report dated August 20, 2023]

Observed conditions

Multi-purpose Room

The gymnasium addition is quite small, however given the number of students attending the neighborhood school it may be adequate. As with the majority of the school, it is clean and well maintained.

The gymnasium has no daylighting creating a less desirable learning space.

The Gymnasium is potentially a loud environment due to the lack of soft surfaces. The walls and the floor are all hard noise reflective surfaces. Additional sound absorptive materials could be added to the wall surfaces to reduce noise levels.

There is no impact protection on the gymnasium walls.

Kitchen

The kitchen is a small prep kitchen that is probably adequate to the needs of the school. There is no direct service interface with the Gymnasium which may complicate delivery of the food items to the children. We would be interested in looking at this operationally with the staff.

Administration

The administration is small and includes one reception area with capacity for one possible two. The only other administration area is the principal's office and a counselor's office. The Administration area does not have good visual control of the main entry. The school does have a camera monitored access control at the main entry which if used properly can be a great safety asset.

Restrooms

The restrooms and clean and very well maintained. The restrooms have obviously been upgraded over the years but due to space constraints of the original construction none of the restrooms are fully ADA compliant.

Media Center

The Media Center is small and has limited if any support spaces of gathering spaces that can be used for classes of small groups. The space is well maintained but as with spaces in the school the casework is old and probably requires constant upkeep and repair.

[Excerpted from: Design West Facility
Observation Report dated August 20, 2023]

Building Envelope

The building exterior is well maintained and appears to be in reasonable condition considering the age of the facility.

Doors

The exterior doors and hardware are old and require upgrade in several places. The door hardware is not ADA compliant in some locations.

Windows

The facility windows are largely dual-pane and appear to be well sealed preserving a good separation between inside-outside environments.

Roofing

The roofing system is a sloped single-ply membrane that if maintained and replaced when needed will serve well. The gutter system and flashing system integrated into the roof membranes is in good shape.

There is no evidence of major roof leak issues.

Interior

The interior finishes are in good condition considering the age of the facility. The bathrooms have been upgraded over the years but are not ADA compliant.

The school does have several vestibules at the building entrances reducing the inside-outside air exchange within the facility to reduce energy costs.

Wire glass is found in some of the interior doors. This can be a dangerous material in an impact situation and should be replaced to reduce liability. Wired glass is not safety glass. The wire mesh simply holds the glass in place during a fire. The product is actually quite weak and breaks more easily. It is also more dangerous when broken, causing extensive injuries because of the jagged break patterns and protruding wire.

The majority of the casework in the school is old and requires refurbishing or replacement to reduce maintenance problems.

Technology and power upgrades over the years have resulted in numerous surface mounted raceways to distribute new systems. These are effective but bring with them an aesthetic chaos to the room.

Support Spaces

The Teacher’s Lounge and Work Rooms are extremely small and potentially inadequate to the needs of the staff. There is no designated Teacher Work area other than a corner of the Teacher’s Lounge space.

There is limited storage space for the school.

[Excerpted from: Design West Facility
Observation Report dated August 20, 2023]

The Janitorial spaces are small based on needs.

Sustainability

The exterior wall systems are not furred out with insulation and would likely not meet all of the design guidelines of current energy code requirements. The doors and windows are mostly insulated glass which does help move towards current energy code requirements.

Due to the age of the building the building envelope probably has some energy saving limitations but nothing outstanding was noticed in the observation beyond what would be acceptable in a facility this age.

Code Compliance and ADA compliance

The door hardware in the facility is not fully ADA compliant.

The doors swing into the corridors which can be a safety issue.

Access into the school is ADA compliant in general since the one-story school is built at grade.

There is an interior ramp joining the administration area to the higher classroom wing. It is not obvious if this ramp is ADA compliant or not.

Security

The building has been upgraded to include card access control for the school. Direct Entry control is not available due to the location of the Administration Area separated from the Main Entry to the school.

See structural, Mechanical/plumbing and electrical for additional observations.

[Excerpted from: Design West Facility Observation Report dated August 20, 2023]

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August 11, 2023

TENDOY ELEMENTARY SCHOOL
MECHANICAL EVALUATION

In 2005 the school changed the original HVAC system from steam unit ventilation to a 40-ton VAV AAON rooftop unit with hot water reheat VAV boxes. The AAON rooftop supplies air to all the classrooms. The VAV boxes heating coils have been leaking due to pipe expansion and are being replaced as the heating coils break. Two 5-ton rooftop units serve the multipurpose room. The VAV box hot water coils are fed from the boiler and pumps in the basement. The boiler was just repaired. The building has Automated Logic Controls which control the AAON unit, the two rooftop units, VAV boxes, boiler, and pumps on and off. Fresh air is controlled through the rooftop unit economizer dampers.

The domestic water piping is underground which is a problem for servicing. The VAV system and rooftop units can meet the fresh air code requirement of maximum 1,000 PPM CO^2. The mechanical system for this school is okay. The rooftop units and VAV boxes will need to be replaced as they reach the 20-to-25-year mark.

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A R W ENGINEERS
structural consultants

Aug 8, 2023

Pocatello-Chubbuck School District 25
3115 Pole Line Rd
Pocatello, ID 83201

Re: Tendoy Elementary Structural Evaluation
957 E. Almeda, Pocatello, ID
#23913.a

ARW Engineers has completed a limited on-site visual structural review and an as-built drawing review of the existing Tendoy Elementary school building located at 957 E. Almeda, Pocatello, ID. The visit was completed on Wednesday, August 2nd, 2023, with school district representatives and other members of the architectural and engineering design team present. The purpose of the review was to provide feedback to the school district regarding the current condition of the facility. The on-site review was limited to elements visible without any destructive removal of finish materials that may obscure structural elements. Exterior building elements were visually observed. Where possible framing was reviewed by removing ceiling tiles, but most of the facility had hard ceilings/finishes limiting what could be seen. An analysis to determine the gravity or lateral load carrying capacities of the structural elements was not within the scope of this review and not performed. All observations and items noted in this report are strictly based on limited visual observation and engineering judgement.

Building Description and Structural System

Tendoy Elementary is a 1-story school built in 1959. The roof is constructed of Glulam beams that were visible in the classrooms and wood trusses that were observed in the corridor. Since no existing as-built structural drawings could be provided it is assumed that tongue and groove (T&G) decking was likely used, but plywood sheathing could potentially be used at the corridors above the trusses. It wasn't clear what the bearing wall construction was, but it appears it could be a mixture of 8" block or even stud framing. The walls likely are supported on concrete foundations and footings.

Based on information provided by the school district representatives, the gym and classroom additions were added to the school approximately 35 years ago. The classroom addition seems to be constructed similar to the original building. The gym addition likely has TJL open web wood joists spanning between 8" reinforced block walls with plywood roof sheathing. It is assumed both additions bear on concrete foundation and footings.

Observations and Evaluation of Building

Limited visual observations indicated that the structural gravity systems appear to be performing adequately with the only visible issues being some water damage in the brick veneer at a few locations around the building. The masonry veneer is not part of the structural system of the building and is just an architectural finish, so the damage doesn't impact the capacity of the structural members.

Most of the structural members were not accessible for observation so there may be other unseen issues that could not be observed beyond what was noted above.

Without access to any as-built drawings, ARW Engineers was not able to do a limited review of those documents. It is assumed that the building was constructed according to typical design and detailing practices of that time period which does a fairly adequate job of addressing typical gravity loads on the structure with the exception of snow and snow drift loads that have been updated periodically. Older

building codes also didn't adequately address wind and seismic detailing requirements found in current codes. Based solely on these assumptions the following are likely items of note on this school:

- The current roof design snow loads could be potentially higher than the loads used during the design of the building. Currently the roof design snow load in Pocatello is 35 psf and there is the possibility that older buildings codes could have allowed for a lower design value. The roof framing may be undersized and become overstressed during a significant snow event.
- The building has various locations where changes in roof elevations occur, particularly adjacent to the gym. Snow drift loading could potentially occur at these locations and may not be accounted for.
- The building roof diaphragm may not be adequate to resist lateral forces during a seismic event.
- Roof diaphragm to shear wall connections may not be adequate to resist lateral forces during a seismic event.
- Heavy non-bearing interior partition walls may need bracing and could be a life safety hazard during a seismic event.

Other building deficiencies could be present and would be identified in a more detailed analysis and review of the building. If the school district wants a more in-depth understanding of the building deficiencies, an ASCE 41 Tier 1 evaluation would be recommended. Additionally, a deficiency-based Tier 2 analysis could be conducted to determine potential upgrades.

Conclusion and Recommendations

Based on the limited information provided the existing school is performing adequately under gravity loads, but there is the possibility of issues during a significant snow event if the loads exceed the original design snow loads. An analysis and more in-depth review of the roof framing would be recommended to determine the actual roof capacity to resist current snow loading requirements.

During a seismic event it is anticipated the building may experience moderate damage. Upgrades to the roof diaphragm and installing additional anchorage of the roof to the shear walls would significantly improve the performance of the structure during a seismic event.

Disclaimer

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Sincerely,

Josh Blazzard

Robert Moyle, SE

23913.A_Tendoy Elementary Report_20230807