

## Winn Elementary School Site Summary

<b>Address</b>	3500 Susquehanna Lane Austin, TX 78723
<b>Number of Permanent Campus Facilities</b>	2
<b>Original Year of Construction</b>	1970
<b>Total Campus Building Area (combined)</b>	62,087 SF



### Introduction

John B. Winn Elementary School is located at 3500 Susquehanna Lane in Austin, Texas. John B. Winn Elementary School was established in 1970, and consists of the primary school building along with one additional campus building. These permanent campus buildings include the Main School Building (BLDG-157A), the Stand-Alone Classroom Building (BLDG-157B). The Main School Building is two stories in height and the Stand-Alone Classroom Building is one story in height. The buildings are connected to one another by a covered sidewalk.

## Main School Building – BLDG-157A

Building Purpose	Administrative, Classrooms
Building Area	52,117 SF
Inspection Date	May 18, 2016
Inspection Conditions	May 18 - Overcast with rain
Facility Condition Index	



### System Deficiency Overview

The following table provides a summary of the systems and their respective conditions found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
<b>Exterior</b>	Exterior Walls	<p>The exterior consists of brick masonry walls. There is an aluminum canopy structure located along the southeast elevation of the building. The mechanical penthouses located on the roof level are clad with metal panel.</p> <p>The exterior façade walls appeared to be original construction and in good condition with a few deficiencies noted. Vine and plant growth was observed growing up the brick facade along the east elevation. The concrete slab edges exposed to the exterior of the building are blackened with dirt. The concrete wall at south egress doors is aged and cracked with exposed rebar.</p>	Good
	Exterior Windows	<p>The exterior windows are aluminum frames with single pane glazing. The windows appear to be original construction and in average condition as they are aged beyond useful life. The glazing seals appeared to be cracked and failing at several windows, and small holes from BB gun damage were observed at various locations.</p>	Average
	Exterior Doors	<p>There is a secure main entry located along the west elevation of the building. The remaining exterior doors around the facility are metal. The exterior doors were observed to be in average condition showing signs of wear and use. The metal doors at the rooftop penthouse are corroded and the hardware is bent and damaged.</p>	Average
<b>Roofing</b>	<p>The roof is constructed of built-up asphalt with a granular topping. The roof was estimated to be original construction.</p> <p>The roof was observed to be in average condition. Areas of ponding water were observed. The gravel topping appeared thin or missing in areas leaving the</p>		Average

		asphalt membrane exposed. The membrane and flashing appeared dried and cracked in various areas.	
<b>Interior Construction</b>	Interior Walls	<p>The interior partitions vary throughout the building and consist of stud construction finished with GWB, brick walls, or CMU walls. The classrooms are separated from one another by a series of accordion style or folding panel partition walls. There is a full height folding panel partition separating the gym area from the cafeteria area.</p> <p>The folding panel partitions dividing the classrooms were observed to be aged, deteriorated and in poor condition. The full-height folding partition in the gym appeared to be in good condition showing typical signs of wear.</p> <p>AISD staff indicated that the main building will undergo a partial renovation in the summer of 2016. The funded project includes the complete renovation of the administrative office suite and the library area. A new building will be constructed on the campus housing a counseling center. Another reported and funded project that will occur in the summer of 2016 is the removal of the existing folding panel partitions dividing the classrooms. The folding panel partitions will be replaced with permanent GWB partitions.</p>	Average
	Interior Doors	The majority of the interior doors are wood with metal frames. The interior windows are constructed of hollow metal frames and single pane glazing. The wood interior doors appeared to be in average condition showing signs of wear. Some of the doors were chipped and damaged exposing sharp edges.	Average
	Interior Specialties	System not present.	N/A
<b>Stairs</b>	Exterior Stairs	The exterior stairs located around the exterior of the building are concrete with metal handrails. The stairs were observed to be in good condition.	Good
	Interior Stairs	The interior stairs are concrete with abrasive nosing and wood handrails. The interior stairs were observed to be in good condition.	Good
<b>Interior Finishes</b>	Interior Wall Finishes	<p>The interior wall finishes in the corridor and classroom areas include painted GWB walls finished with wood paneling in some areas. The kitchen is finished with wall tile while the gym is finished with acoustical wall panels over CMU. The restrooms are finished with wall tile.</p> <p>The interior wall finishes were observed to be in average condition. The wall tile in the restrooms appeared aged and chipped in several areas.</p>	Average
	Interior Floor Finishes	The interior floor finish in the corridors and classroom areas is linoleum floor tile. The administrative offices and library area are finished with carpet. The gym is finished with a resilient athletic tile floor over linoleum	Average

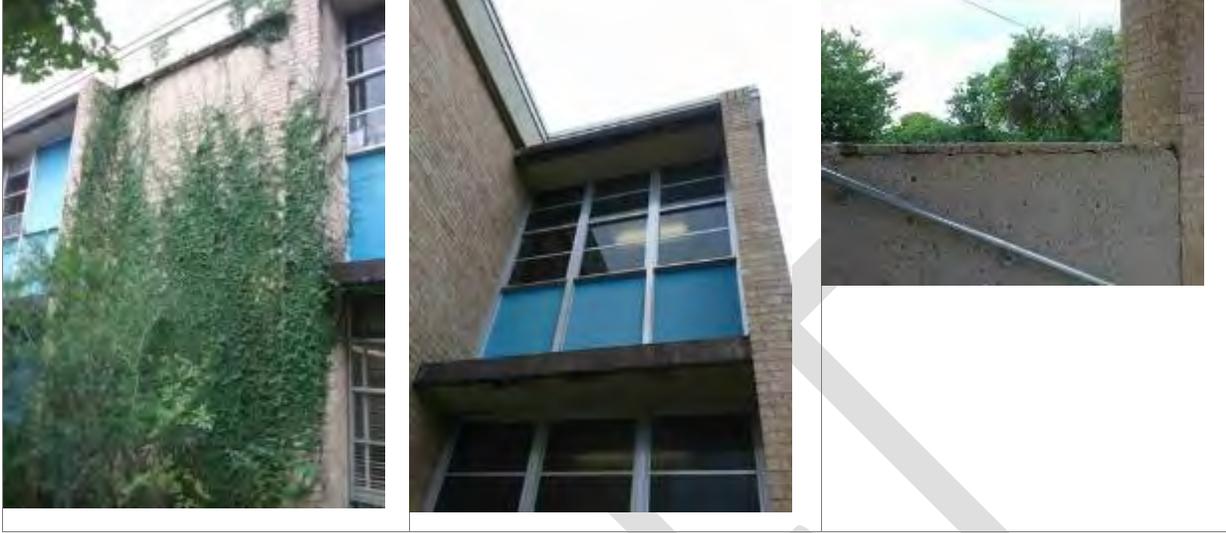
		<p>tile. The restrooms are finished with ceramic tile.</p> <p>The floor finishes were observed to be in average condition. The carpet in the administrative office area was observed to be damaged from water leaking from malfunctioning HVAC equipment. The floor tile in the restrooms appeared to be chipped in various areas.</p>	
	Interior Ceiling Finishes	<p>The interior ceiling finish is predominately ACT in the corridors, classroom areas, administrative area, and kitchen. The gym does not have a finished ceiling and is open to the structure above. The interior finishes appeared to be original and in average condition showing signs of age and wear. The existing ACT system throughout the building was observed to be aged, damaged, stained, or missing in several areas.</p>	Average
<b>Conveying</b>	<p>The staircase in the corridor of the main school utilizes an automatic wheelchair lift. No major deficiencies were observed during inspection.</p>		Average
<b>Plumbing</b>	Plumbing Fixtures	<p>The building has both single-user and multi-user restrooms for students and staff located throughout the facility. Typical restrooms have floor mounted, vitreous china water closets with manual flush valves along with wall hung, vitreous china lavatories with manual faucets or single bowl stainless steel sinks located adjacent to the restroom's entrance. There are wall hung, vitreous china urinals with manual flush valves in dedicated men's restrooms. The building also has multiple janitors' closets with vitreous china utility sinks. Typical classrooms have a single bowl stainless steel sink with a drinking fountain attachment. The facility has a multi-station stainless steel sink directly outside of the cafeteria for hand washing. Water coolers can be found throughout the main corridors of the building, typically near multi-user restrooms. A subset of the water coolers includes a rapid bottle filler combination.</p> <p>There is a commercial kitchen that serves the school's cafeteria in the building. The kitchen has wall mounted vitreous china sinks for personal use and stainless steel kitchen equipment throughout including one, two and three basin dish/prep sinks.</p> <p>Many fixtures appear to be dated and staff has reported issues with poor seals causing minor leaks around the plumbing fixtures. Most of the utility sinks in the janitor closets and some of the water coolers in the corridors are past their expected design life. The janitor utility sinks are also corroded. There is evidence of leaking around many of the water closet basins, particularly water closets missing their flange bolts. The building staff reported issues with clogged pipes and poor water pressure. All pipes should be cleaned and flushed in order to remove buildup.</p>	Average
	Domestic Water	<p>Domestic hot water for the kitchen is provided by two 85</p>	Average

	Distribution	<p>gallon, 390 MBH gas water heaters in the main mechanical room. Smaller electric how water heaters are located throughout the building to provide domestic hot water to specific locations. Domestic hot water is not supplied to classroom plumbing fixtures and other assets throughout the facility.</p> <p>The domestic water system was observed to be in average condition with typical wear and tear associated with general daily use.</p>	
	Other Plumbing	System not present.	N/A
<b>Mechanical/ HVAC</b>	<p>The building's HVAC system is composed of a central hot water and chilled water system in conjunction with eight air handling units. The system uses a 2100 MBH natural gas boiler and two 125 TON rotary liquid chillers with remote condensers. The remote condensers are located on the roof directly above the main mechanical room. The eight air handling units throughout the building range in size, but there was limited nameplate information available for the units. It appears the only spaces not served by the centralized system are the administrative area, the MDFA room, the kitchen, and the cafeteria. These areas are serviced by a combination of split systems, rooftop package units, and evaporative coolers. The building has multiple rooftop exhaust fans ranging in size and condition.</p> <p>The HVAC system is in average condition with assets ranging from good to poor condition. The chillers and their condensing units appear to have been recently replaced and are in good condition, however they use R-22 refrigerant, which is an outdated refrigerant that is being phased out of use. The boiler has exceeded its expected design life and should be replaced in the near future. Both the hot water and chilled water circulation pumps and some associated piping are corroded and show signs of minor leaks. The pumps were manufactured in 1999, but the motors have been replaced. The pumps should be replaced and the surrounding piping should be further inspected to see the extent of the corrosion. A portion of the air handling units appears to have been replaced in the last five years. The remaining air handling units throughout the building are aged and show signs of excessive wear. The two air handling units, AHU 2 and AHU 3, in Boiler Room 1 are in poor condition. AHU 2 makes excessive noises and has extreme vibrations, which may be caused by improper tension, condition, or alignment of the unit's belts. The unit's vibrations are causing the associated piping to rattle intensely. AHU 3's pipes have excessive vibrations and minor leaks, which are causing build up to occur on the pipes and unit. AHU 2 and AHU 3 need to be serviced immediately to prevent further degradation, but all five aged AHUs should be scheduled for replacement. The split systems, rooftop package units and evaporative cooler are in average to poor condition. Both rooftop package units and the administrative area's condensing unit use R-22 refrigerant, which is an outdated refrigerant that is being phased out of use. The condensing unit is also corroded and has damaged coil fins, which may affect its functionality. The piping to the evaporative cooler has corroded all the way through causing the drain pipe to break and disconnect from the unit. It is unclear if the unit is currently operational as the unit's disconnect appears to be in the tripped position. Further inspection of the unit is required, but the unit's piping needs to be replaced at a minimum. The building staff reported heating and cooling issues in the east classroom area of the building. Further investigation is required to determine the proper repair. Exhaust fans should be installed in all restrooms throughout the building. The exhaust fan on the northwest roof is degraded and needs to be replaced. The exhaust fan next to "Admin CU-1" is severely degraded, vibrates</p>		Average

		excessively and is noisy. This exhaust fan needs to be replaced.	
<b>Fire Protection</b>	Fire Alarm	The buildings fire alarm and detection system consists of a fire alarm control panel, pull stations, smoke detectors, strobe lights, and annunciators. No major deficiencies were observed during inspection.	Good
	Fire Protection/ Suppression	The facility has a wet pipe fire sprinkler system serving the janitor closets and dry chemical portable fire extinguishers throughout the rest of the school. The kitchen has a dedicated chemical fire suppression system for the exhaust hoods designed for grease fires. The fire protection system is in good condition. The observed portable fire extinguishers have up-to-date inspection tags and the chemical fire suppression system in the kitchen is in proper working order.	Good
<b>Electrical</b>	Electrical Distribution	<p>The electrical service entrance equipment is located on the exterior of the main school. A metered 3000-amp enclosure supplies power to a 3000-amp switchboard located in an attached enclosure. This switchboard serves both chillers and the 600-amp main panelboard (Panel MTDP) which in turn serves smaller distribution panels throughout the building. The north addition has several distribution panels, which are fed from the main building service.</p> <p>The electrical service is in average condition. Many of the panels including Panel K, Panel D, Panel B, and Panel C, in the main school appear to be original to the building and have exceeded their expected design life. In addition to the dated electrical equipment, a flexible conduit on the exterior of the building had a hanger strap break causing part of the conduit to split apart allowing rain water to pull in the conduit. The conduit should be repaired immediately, before significant water damage occurs.</p>	Average
	Lighting	The interior lighting throughout the main school is predominantly T8 fluorescent fixtures. Most corridors, offices, and classrooms had two foot by four foot lensed troffers. Emergency and exit lighting is located throughout the building. Exterior lighting was metal halide wall mounted fixture. Common issues with the lighting were broken or missing covers and lamps that were either missing or inoperable. The building staff reported that the exterior lighting of the main school was inadequate.	Average
	Communications & Security	The security system consisted of cameras, proximity card readers, keypads, and control panels. The building staff reported the security system does not provide sufficient coverage and additional cameras need to be installed.	Good

### Exterior System Deficiency Examples

#### Exterior Walls



#### Exterior Windows



#### Exterior Doors



**Roofing Deficiency Examples**



**Interior Construction Deficiency Examples**

Interior Walls

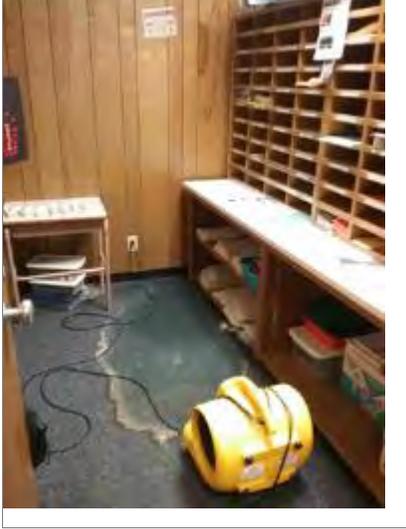


Interior Doors



**Interior Finish Deficiency Examples**

Interior Floor Finishes



Interior Ceiling Finishes



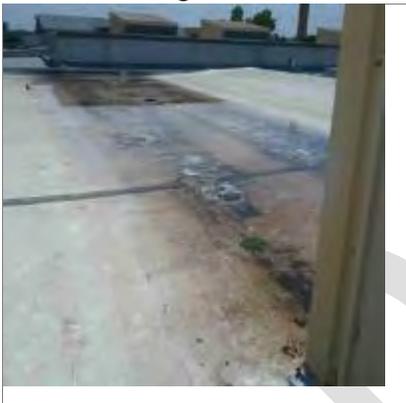
**Plumbing System Deficiency Examples**

Plumbing Fixtures

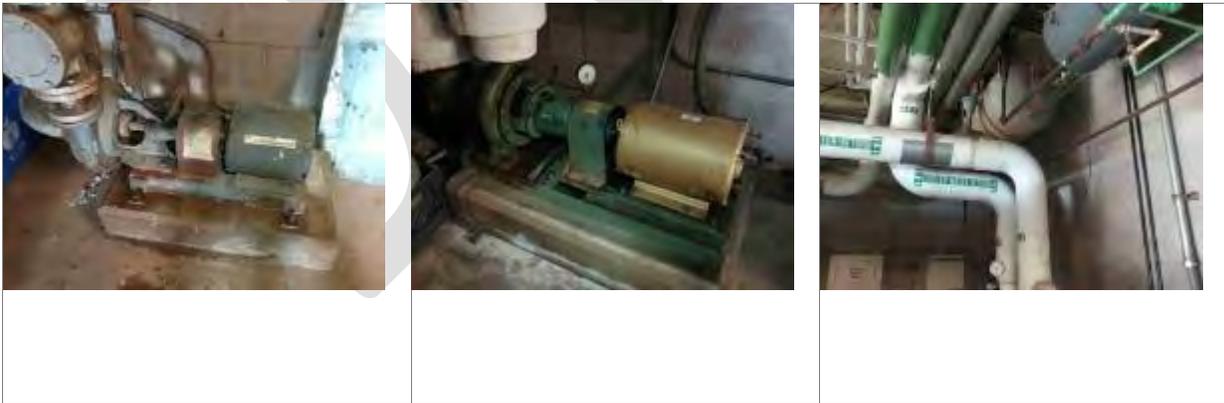




**Other Plumbing**



**Mechanical/HVAC System Deficiency Examples**



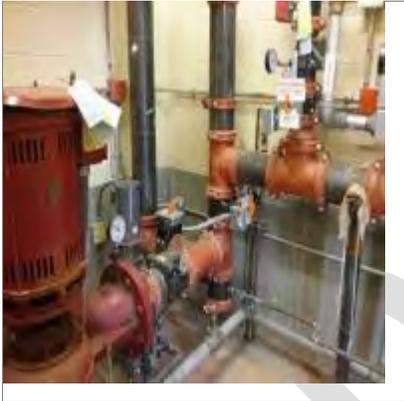


**Fire Protection System Deficiency Examples**

Fire Alarm

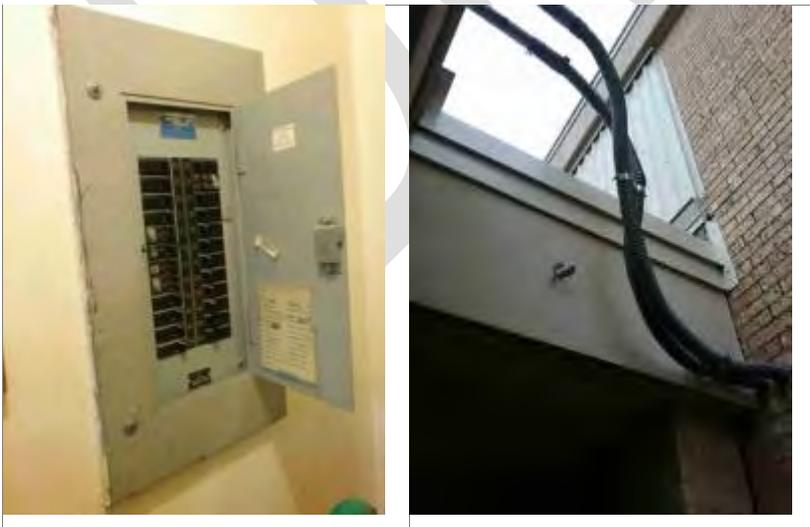


Fire Protection/Suppression



**Electrical System Deficiency Examples**

Electrical Distribution



Lighting



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## Stand-Alone Classroom Building – BLDG-157B

Building Purpose	Classrooms
Building Area	9,970 SF
Inspection Date	May 18, 2016
Inspection Conditions	May 18 - Overcast with rain
Facility Condition Index	



### System Deficiency Overview

The following table provides a summary of the conditions and deficiencies found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Exterior	Exterior Walls	<p>The exterior consists of brick masonry walls. Below the windows, there are two types of decorative panels; painted spandrel panels, and plaster-cement finished infill panels. The building is connected to the Main Building by a concrete ramp and aluminum canopy structure located along the south elevation of the building.</p> <p>The exterior masonry walls appear to be in good condition. The windows were estimated to be original, and observed to be in good condition with the exception of some of the painted spandrel panels and infill panels. The painted spandrel panels located below the window units were observed to be chipped and peeling. The plaster-cement finished infill panels were observed to be cracked and crumbling at the east elevation of the building.</p>	Good
	Exterior Windows	<p>The exterior windows consist of single pane glazing in aluminum framing units. The exterior windows were observed to be in good condition. Some of the glazing lites in the window units were scratched and foggy obscuring the view to the exterior.</p>	Good
	Exterior Doors	<p>There is a secure main entry located along the south elevation of the building. The remaining exterior doors around the facility are metal with metal frames. The exterior doors and frames were observed to be in average condition showing signs of wear and exposure to the elements. The exterior metal door frames were observed to be corroded from moisture exposure.</p>	Average
Roofing	The roof is constructed of built-up asphalt with a granular topping. The roof was		Average

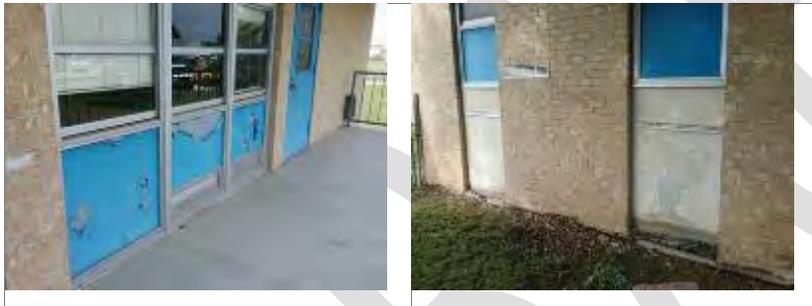
	<p>estimated to be original construction. The roof was not accessed and was observed from the roof of the adjacent Main School Building.</p> <p>The roof surface appeared to be in average condition. The metal coping edge on the perimeter of the roof was weathered and chipped. The downspouts were observed to drain directly onto the sidewalk causing a safety hazard at these areas.</p>		
<b>Interior Construction</b>	Interior Walls	The interior partitions in the building are stud construction finished with GWB. The partitions appeared to be in good condition as there were no deficiencies noted on site.	Good
	Interior Doors	The doors within the building are wood with metal frames. There are transoms located above the door frames. The doors were observed to be in good condition.	Good
	Interior Specialties	System not present.	N/A
<b>Stairs</b>	Exterior Stairs	There is an exterior concrete ramp structure with metal handrail/guardrail system that connects the Main School Building to the Stand-Alone Classroom Building. The ramp structure was observed to be in good condition.	Good
	Interior Stairs	System not present.	N/A
<b>Interior Finishes</b>	Interior Wall Finishes	The interior partitions are finished with plastic laminate or painted GWB in the classrooms. The restrooms are finished with glazed ceramic tile on the walls.  The interior wall finishes were observed to be in good condition with a few minor deficiencies observed on site. The ceramic wall tile in the restrooms in rooms 123 and 125 was missing and broken in certain areas.	Good
	Interior Floor Finishes	The main interior common area of the building is finished with carpet. The classrooms are finished with linoleum floor tile while the restrooms are finished with ceramic tile.  The interior floor finishes were observed to be in good condition with a few minor deficiencies observed on site. The linoleum floor tile near classrooms 125 and 126 was observed to be cracked and broken.	Good
	Interior Ceiling Finishes	The classrooms and the main interior common area of the building are finished with ACT. The restrooms are also finished with ACT.  All of the interior ceiling finishes appeared to be in good condition with a few minor deficiencies noted. The painted tray ceiling trim was observed to be chipped and scratched. Several stained ceiling tiles were observed throughout the building from possible roof leaks or pipe leaks.	Good
<b>Conveying</b>	System not present.		N/A
<b>Plumbing</b>	Plumbing Fixtures	The building has eight single occupancy restrooms	Good

		<p>throughout the classrooms and one single occupancy restroom in the common area. The common area restroom has one wall mounted vitreous china water closet with a manual flush valve along with a wall mounted vitreous china lavatory with manual faucets. Typical classroom restrooms have a wall mounted vitreous china water closet with a manual flush valve and a stainless steel service sink with a drinking fountain attachment. In addition to the drinking fountains in the classrooms, there are four water coolers in the common space. There are also additional stainless steel sinks in the Art classroom along with a utility sink in the janitor's closet.</p> <p>The plumbing fixtures were observed to be in good condition. The only deficiency observed was one inoperable water cooler.</p>	
	Domestic Water Distribution	Domestic hot water for the building is provided by one water heater. The water heater is mounted above the drop ceiling in the janitor's closet and could not be accessed during the time of the survey. There were no reports of deficiencies with the water heater.	Good
	Other Plumbing	System not present.	N/A
<b>Mechanical/ HVAC</b>		<p>The building uses a series of water source heat pumps along and one split system for individual zone temperature controls. The water source heat pumps in each classroom are assumed to be three TON units, but limited nameplate information is available. The facility has exhaust fans in each restroom, the janitor's closet, the art storage room and the art kiln room.</p> <p>The HVAC system is in average condition. Staff did not report any complaints with the building's HVAC system, however the water source heat pumps are aged and approaching the end of their design life. The condensing unit on the exterior of the building is significantly tilted due to a settling concrete pad. The concrete pad and unit should be leveled to ensure optimum efficiency. Some restroom exhaust fans made excessive noise and should be serviced.</p>	Average
<b>Fire Protection</b>	Fire Alarm	The buildings fire alarm and detection system consists of a fire alarm control panel, pull stations, smoke detectors, strobe lights, and annunciators. No major deficiencies were observed during inspection.	Good
	Fire Protection/ Suppression	The building has a wet pipe fire sprinkler system serving the janitor's closet, supply room, and kiln room. Dry chemical portable fire extinguishers are located throughout the rest of the school. The fire protection system was observed to be in good condition. The observed portable fire extinguishers have up-to-date inspection tags.	Good
<b>Electrical</b>	Electrical Distribution	The electrical service for the building falls under the same system as described in the Main School Building electrical overview. The building's electrical service is in good condition.	Good
	Lighting	The interior lighting throughout the building is	Good

		<p>predominantly T8 fluorescent fixtures. Most corridors, offices, and classrooms had two foot by four foot lensed troffers. Emergency and exit lighting is located throughout the building. The exterior lighting was metal halide wall mounted fixtures. Common issues with the lighting were broken or missing covers and lamps that were either missing or inoperable. The building staff reported that the exterior lighting of the building was also inadequate. The exterior lighting should be upgraded by replacing degraded lenses and installing additional fixtures.</p>	
	<p>Communications &amp; Security</p>	<p>The security system consisted of cameras, proximity card readers, keypads, and control panels. No major deficiencies were observed during inspection. The building staff reported the security system does not provide sufficient coverage and additional cameras need to be installed.</p>	<p>Good</p>

**Exterior System Deficiency Examples**

Exterior Walls



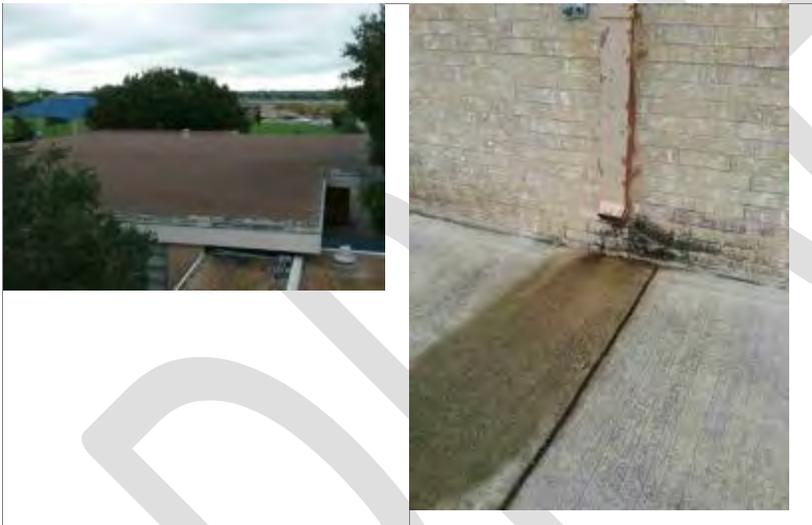
Exterior Windows



Exterior Doors



Roofing Deficiency Examples

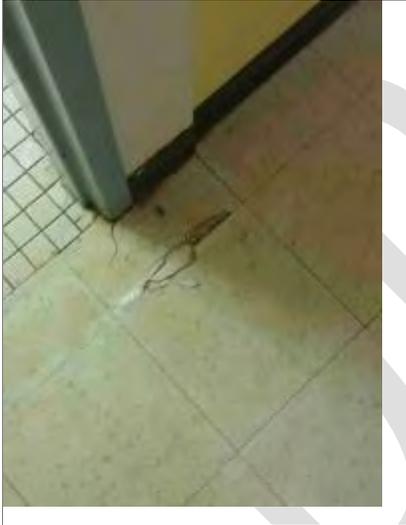


**Interior Finish Deficiency Examples**

Interior Wall Finishes



Interior Floor Finishes



**Interior Ceiling Finishes**



**Plumbing System Deficiency Examples**

**Plumbing Fixtures**



**Mechanical/HVAC System Deficiency Examples**



**Electrical**

**Lighting**



## Winn Elementary School Summary of Recommendations

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This document is based on current conditions observed during fieldwork and provides recommendations for corrective actions by each discipline. The following recommendations provide a summary of the findings.

### **Campus Recommendations**

#### Plumbing

1. Clean and flush all domestic and sanitary waste pipes to remove buildup.

#### Mechanical/HVAC

1. Service all exhaust fans to ensure assets reach expected service life.
2. Plan and track for replacement of all equipment that uses R-22 refrigerant. The refrigerant is being phased out of manufacturing and construction use in the near future, and thus will make all equipment obsolete.

#### Fire Protection

1. Continue annual inspections.
2. Under the next major renovation project, consider installing a fire protection system for the rest of the school campus.

#### Electrical

1. Replace Panel K, Panel D, Panel B, Panel C and all other electrical service equipment that is outdated and has exceeded its expected design life.
2. Repair split electrical conduit on the main building roof.
3. Replace any broken and missing light covers/lenses.
4. Replace any missing or burnt out light bulbs.
5. Install additional security cameras throughout the campus to increase the security system's coverage.
6. Upgrade exterior lighting on all buildings by replacing current lenses and fixtures and/or installing additional fixtures.

### **Main School Building Recommendations**

#### Exterior

1. Remove vine and plant growth from exterior façade wall and monitor area for continued growth. Remove as required.
2. Power wash the exposed concrete slab edges to remove dirt build-up.
3. Patch and repair the exterior concrete wall so that the rebar is not exposed and replace all loose and missing mortar joints around the wall.
4. Replace the aged exterior window system complete with new window units.
5. Replace the deteriorated exterior doors at the penthouse with new steel doors, frame, and hardware.

#### Roofing

1. Replace the existing aged roofing system complete with a new roof system.

#### Interior Construction

1. Replace damaged and chipped wood doors with new wood doors and associated hardware.
2. Replace all folding panel partitions in classrooms with permanent GWB construction complete with electrical and data systems. This project is funded and will occur in the summer of 2016.

### Interior Finishes

1. Replace the entire aged and damaged ACT system within the building.
2. Replace water damaged carpet with new carpet tile in administrative offices. This project is funded and will occur in the summer of 2016.

### Conveying

1. Continue regular maintenance and inspection of the automatic wheelchair lift.

### Plumbing

1. Replace all aged janitor closet utility sinks with new sinks and fixtures.
2. Replace dated water coolers that have exceeded their expected design life.
3. Repair poor seals around plumbing fixtures to prevent further leaking. Ensure all plumbing assets are properly anchored to prevent deterioration of repaired seals.

### Mechanical/HVAC

1. Replace both the chilled water pump and the hot water pump in the main mechanical room due to signs of leaks and corrosion.
2. Replace multiple air handling units throughout the building as many of them are past their expected design life and have other deficiencies such as leaks, excessive noise, or vibrations.
3. Consider replacing the 2100 MBH natural gas boiler located in the main mechanical room due to age and efficiency.
4. Replace administrative area's condensing unit (Admin CU-1) on the roof as the asset is approaching its expected design life and shows signs of deterioration.
5. Repair the evaporative cooler's (MAUA) corroded drainage piping and perform service the asset in order to restore it to working condition.
6. Replace the rooftop exhaust fan on the northwest roof and the rooftop exhaust fan next to "Admin CU-1" condensing unit as these assets are degraded beyond repair.
7. Investigate heating and cooling issue in the east classroom area of the building to remediate problem.
8. Install restroom exhaust fans throughout the main building.

## **Stand-Alone Classroom Building Recommendations**

### Exterior

1. Repaint exterior spandrel panels located at windows.
2. Refinish exterior plaster-cement panels located below windows.
3. Replace corroded hollow metal framing at exterior doors and glazing units.

### Roofing

1. Repaint metal coping edge surrounding roof perimeter of the building.
2. Reroute downspout drainage on the building so that it does not fall directly onto walking surfaces at grade.

### Interior Finishes

1. Replace the cracked and broken linoleum floor tiles with new tiles.
2. Install new ceramic wall tile in restrooms where existing tiles are missing or cracked.
3. Repaint ceiling trim in main common area of the building.
4. Replace any stained or damaged ceiling tiles with new ceiling tiles. Replace ceiling tiles only after source or cause of damage has been determined and addressed.

### Plumbing

1. Repair inoperable water cooler in the building.

## CRAWL SPACE – Winn ES – Main Building (BLDG No. 157A)

Building Purpose	Administrative, Classrooms, Kitchen, Library
Inspection Date	August 5, 2016
Inspection Conditions	80° - Sunny & Dry

### Crawl Space System Deficiency Overview

The following table provides a summary of the systems and their respective conditions found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
<b>Soil, Drainage, Ventilation &amp; Access</b>	Soil Below Building, Site Drainage in Crawl Space	<p>Only crawlspace in Building A was below Kitchen. Soil in crawl space was relatively flat and compacted. Vapor barrier sheeting was present in the entire area, but it was wrinkled/wadded and had been pulled away from the perimeter walls. Soil under the vapor barrier was damp. Soil at the perimeter (which was not covered by the vapor barrier) was dry. There were damp spots/small puddles on top of the vapor barrier. No evidence of mechanical underfloor drainage system in crawl space.</p> <p>Soil deficiencies:</p> <ul style="list-style-type: none"> <li>Evidence of surface water in crawl space – puddles on top of vapor barrier indicate lack of positive drainage.</li> </ul>	Average
	Soil Retainers	N/A – Soil retainers & carton forms were below grade and could not be observed.	N/A
	Areaways/Ventilation	<p>One (1) areaway was present adjacent to building exterior outside of Kitchen. Grate was covered by a stack of approximately 10 wooden pallets. We moved pallets to the side and were able to open the grate.</p> <p>Areaway deficiencies:</p> <ul style="list-style-type: none"> <li>Temporarily covered by wooden pallets and as a result crawl space ventilation is impeded.</li> </ul>	Average
	Access Hatches	N/A – Access to crawlspace was through areaway, no hatches present.	N/A
<b>Exposed Structure</b>	Exposed Columns & Tops of Foundations	N/A – Tops of building piers and footings were below ground and could not be observed.	N/A

	Exposed Faces of Perimeter Walls / Grade Beams	Perimeter of crawlspace was formed with deep concrete grade-supported beams.  Basement wall deficiencies: <ul style="list-style-type: none"> <li>Limited honeycombing with corroded reinforcement</li> </ul>	Average
	Exposed Portions of Suspended Floor Beams Above	One concrete interior suspended floor beam was observed running along length of crawl space.  Beam deficiencies: <ul style="list-style-type: none"> <li>None observed</li> </ul>	Good
	Underside of Suspended Floor Slabs Above	Two-way suspended flat slabs spanned between beams.  Slab deficiencies: <ul style="list-style-type: none"> <li>Spalls</li> <li>Honeycombing</li> <li>Exposed reinforcement with corrosion</li> <li>Condensation / water droplets</li> </ul>	Average
<b>Pipes, Ducts, Equipment &amp; Fireproofing</b>	Suspended Pipes & Hangers	Pipes were suspended from concrete slab above.  Pipe deficiencies: <ul style="list-style-type: none"> <li>Significantly rusted</li> <li>Damage/spalling at hanger connections to slab (pipe hangers appear to have been replaced, but some of old hangers remain)</li> </ul>	Average
	Exposed Ductwork	One (1) small duct penetrating the slab was present in crawl space.  Ductwork deficiencies: <ul style="list-style-type: none"> <li>None observed</li> </ul>	Good
	MEP Equipment	N/A – No MEP equipment present in crawl space.	N/A
	Spray Fireproofing/ Insulation	N/A – No fireproofing or insulation material present in the crawl space.	N/A

### Crawl Space Deficiency Examples

#### Soil, Drainage, Ventilation & Access

 <p>Areaway covered by pallets</p>	 <p>Puddles on top of vapor barrier</p>	
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#### Exposed Structure

 <p>Honeycombing at grade-supported beam</p>	 <p>Honeycombing and rusted slab reinf</p>	 <p>Slab spalling and rusted reinf</p>
 <p>Condensation under slab</p>		

#### Pipes, Ducts, Equipment & Fireproofing

 <p>Spalling at old pipe hanger connections</p>	 <p>Rusted cast iron pipe</p>	
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## CRAWL SPACE – Winn ES – Stand-Alone Classroom Building (BLDG No. 157B)

Building Purpose	Classrooms
Inspection Date	August 12, 2016
Inspection Conditions	100° - Sunny & Dry

### Crawl Space System Deficiency Overview

The following table provides a summary of the systems and their respective conditions found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
<b>Soil, Drainage, Ventilation &amp; Access</b>	Soil Below Building, Site Drainage in Crawl Space	Soil in crawlspace was dry and relatively flat. However, large settlement was found close to the access point. This settlement was not found elsewhere in the investigation.  Soil deficiencies: <ul style="list-style-type: none"> <li>• Large settlement, greater than 2 ft, near the access point to the crawlspace</li> </ul>	Average
	Soil Retainers	Concrete soil retainers were found around the perimeter of the building.  Soil retainers deficiencies: <ul style="list-style-type: none"> <li>• Settlement of soil has resulted in the retainer panels no longer bearing against the perimeter beam. Retainer panels are unlikely to return to proper position if swelling of soils occurs in the future.</li> <li>• One missing panel was observed</li> <li>• Overturned soil retainer was observed</li> </ul>	Poor
	Areaways/Ventilation	No areaways were found for this crawlspace. Ventilation was achieved via small vents that were spaced very far apart. A sign on the inside of the access hatch warned about confined space.  Areaway deficiencies: <ul style="list-style-type: none"> <li>• Crawlspace is classified as a confined space. Ventilation in the crawlspace is inadequate and significantly worsens with distance from the access hatch and vents.</li> </ul>	Poor

	Access Hatches	One access hatch to the crawlspace was on southern side of the building. No deficiencies found.	Excellent
<b>Exposed Structure</b>	Exposed Columns & Tops of Foundations	Exposed tops of drilled shafts and columns were in good condition. No deficiencies found.	Excellent
	Exposed Faces of Perimeter Walls / Grade Beams	Perimeter of crawlspace was formed with deep concrete grade-supported beams. All were in good condition. No deficiencies found.	Excellent
	Exposed Portions of Suspended Floor Beams Above	Floor beams were covered by insulation and were not widely observed. Where beams could be seen they were in good condition. No deficiencies found.	Excellent
	Underside of Suspended Floor Slabs Above	Two-way suspended flat slabs spanned between beams. The underside of the slab was covered by insulation and could not be observed. Where the slab could be seen it was in good condition.  Slab deficiencies: <ul style="list-style-type: none"> <li>• Formwork nails left in place</li> </ul>	Good
<b>Pipes, Ducts, Equipment &amp; Fireproofing</b>	Suspended Pipes & Hangers	Pipes were suspended from concrete slab above.  Pipe deficiencies: <ul style="list-style-type: none"> <li>• Corrosion on pipes and hangers</li> </ul>	Good
	Exposed Ductwork	N/A – No exposed ductwork was present in crawl space.	N/A
	MEP Equipment	N/A – No MEP equipment was present in crawl space.	N/A
	Spray Fireproofing/ Insulation	Insulation had detached from the slab in multiple locations throughout crawlspace.  Insulation deficiencies: <ul style="list-style-type: none"> <li>• Insulation detached from structure in multiple locations</li> </ul>	Average

### Crawl Space Deficiency Examples

#### Soil, Drainage, Ventilation & Access

 <p>Soil settlement evident at interior pier</p>	 <p>Retainer panel no longer bears against perimeter beam due to settlement of soils.</p>	 <p>Missing soil retainer</p>
 <p>Overturned soil retainer from the inside of the crawlspace</p>	 <p>DANGER! CONFINED SPACE ENTRY PERMIT REQUIRED HOT WORK PERMIT REQUIRED</p> <p>Confined space warning sign</p>	

#### Exposed Structure

 <p>Formwork nail left in slab</p>		
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#### Pipes, Ducts, Equipment & Fireproofing

 <p>Minor corrosion at pipe &amp; hangers</p>	 <p>Fallen insulation</p>	
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## Winn ES – Campus Summary of Crawl Space Recommendations

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This document is based on current conditions observed during fieldwork and provides recommendations for corrective actions by each discipline. The following recommendations provide a summary of the findings.

### **Main Building Recommendations**

#### Soil , Drainage, Ventilation & Access

1. Investigate need to provide proper ventilation in crawl space.
2. Investigate need for positive drainage away from building.
3. Remove stacked wooden pallets to provide crawl space ventilation.

#### Exposed Structure

1. Where reinforcing is exposed, remove rust and patch slab and wall concrete.

#### Pipes, Ducts, Equipment & Fireproofing

1. Replace corroded pipe and/or hangers.

### **Stand-Alone Classroom Building Recommendations**

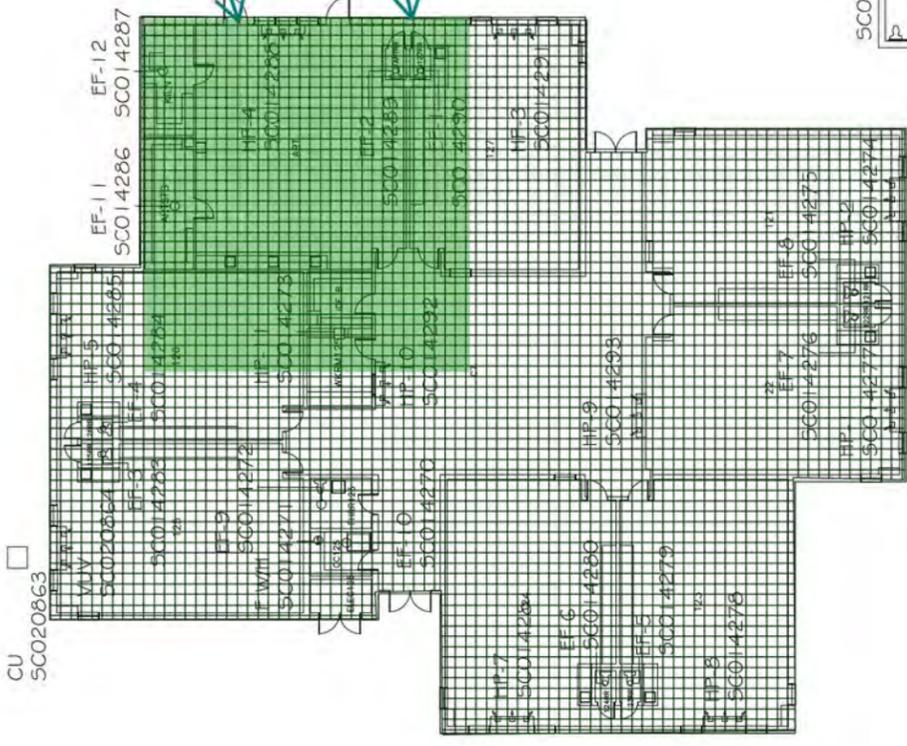
#### Soil, Drainage, Ventilation & Access

1. Investigate need for additional vents in crawlspace for improved ventilation.
2. Add and compact soil around exterior of building where large settlements have occurred. At a minimum, re-grade areas so that daylight is not visible under building.
3. Replace damaged and/or missing soil retaining panels.

#### Pipes, Ducts, Equipment & Fireproofing

1. Replace badly corroded hangers.
2. Replace fallen insulation.

CU  
SCO20863



ACCESS THRU  
SIDEWALL HATCH HERE

**B**

APPROXIMATE LIMITS OF  
CRAWLSPACE  
OBSERVED ON 8/5/2016  
AND 8/12/2016 SITE VISIT

APPROXIMATE LIMITS  
OF CRAWLSPACE PER  
AVAILABLE PLANS AND  
SITE OBSERVATIONS

Deficiencies found in this location:

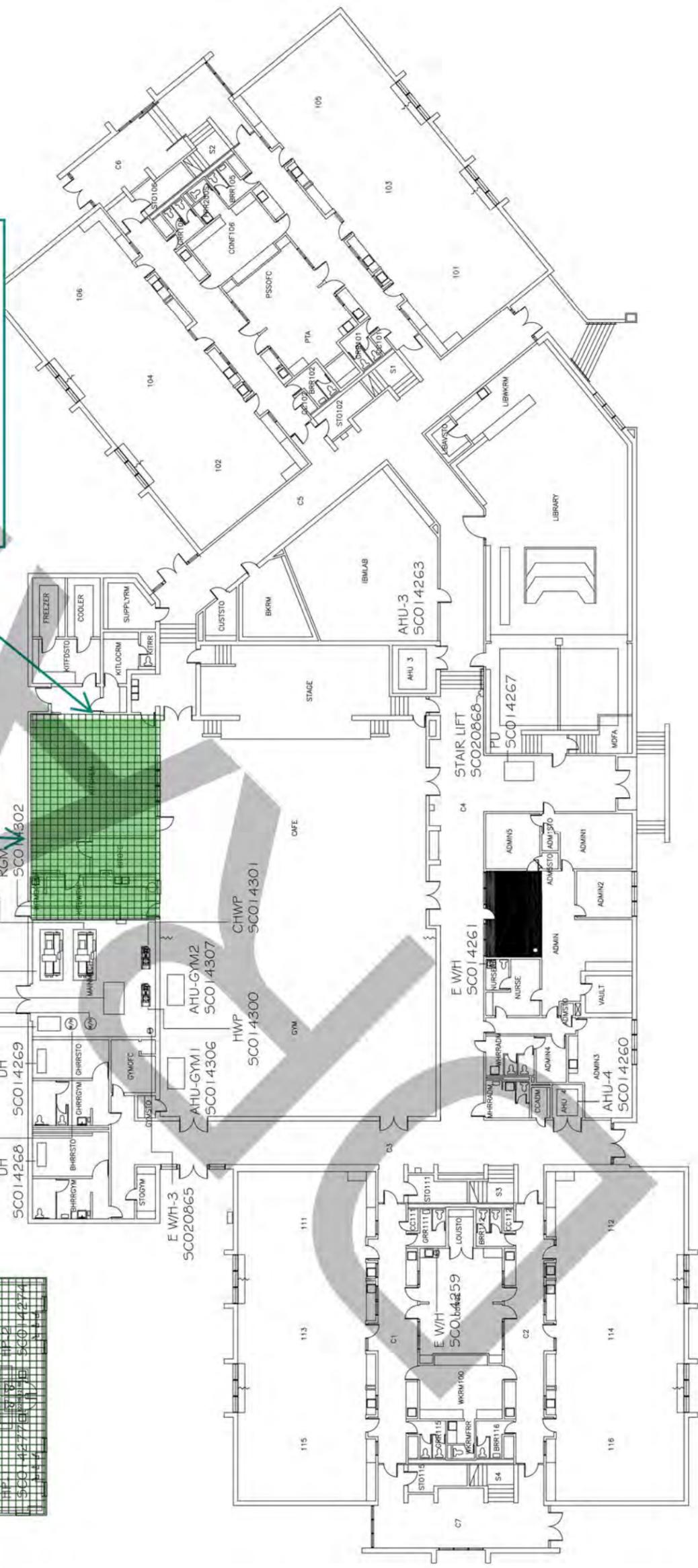
- 1) Large settlement of soil
- 2) Daylight visible under soil retainers
- 3) One missing soil retention panel observed
- 4) One overturned soil retention panel observed
- 5) Little to no ventilation.
- 6) Where slab was visible, formwork nails were seen still in place.
- 7) Minor pipe rusting
- 8) Large areas of crawlspace had detached insulation

Deficiencies found in this location:

- 1) Puddles on top of vapor barrier
- 2) No noticable drainage
- 3) Arealway was covered by wooden pallets
- 4) Limited honeycombing in exterior grade beams
- 5) Spalls, honeycombing, exposed reinforcement, and condensation were found on the underside of above slabs
- 6) Heavily rusted pipes
- 7) Spalling at hanger connections to slabs

ACCESS THRU  
AREAWAY HERE

**A**



AUSTIN I.S.D.  
NORTH



WINN  
ELEMENTARY  
SCHOOL  
3500 Susquehanna Ln.  
Austin, Texas

FLOOR PLAN  
FIRST FLOOR

APPROVALS

DRAWN  
S.P.  
10/19/09

CHECKED  
APPROVED

DWG: 15701  
DRAWING SCALE  
1/16" = 1'-0"

SHEET  
1 OF 2

DRAFT