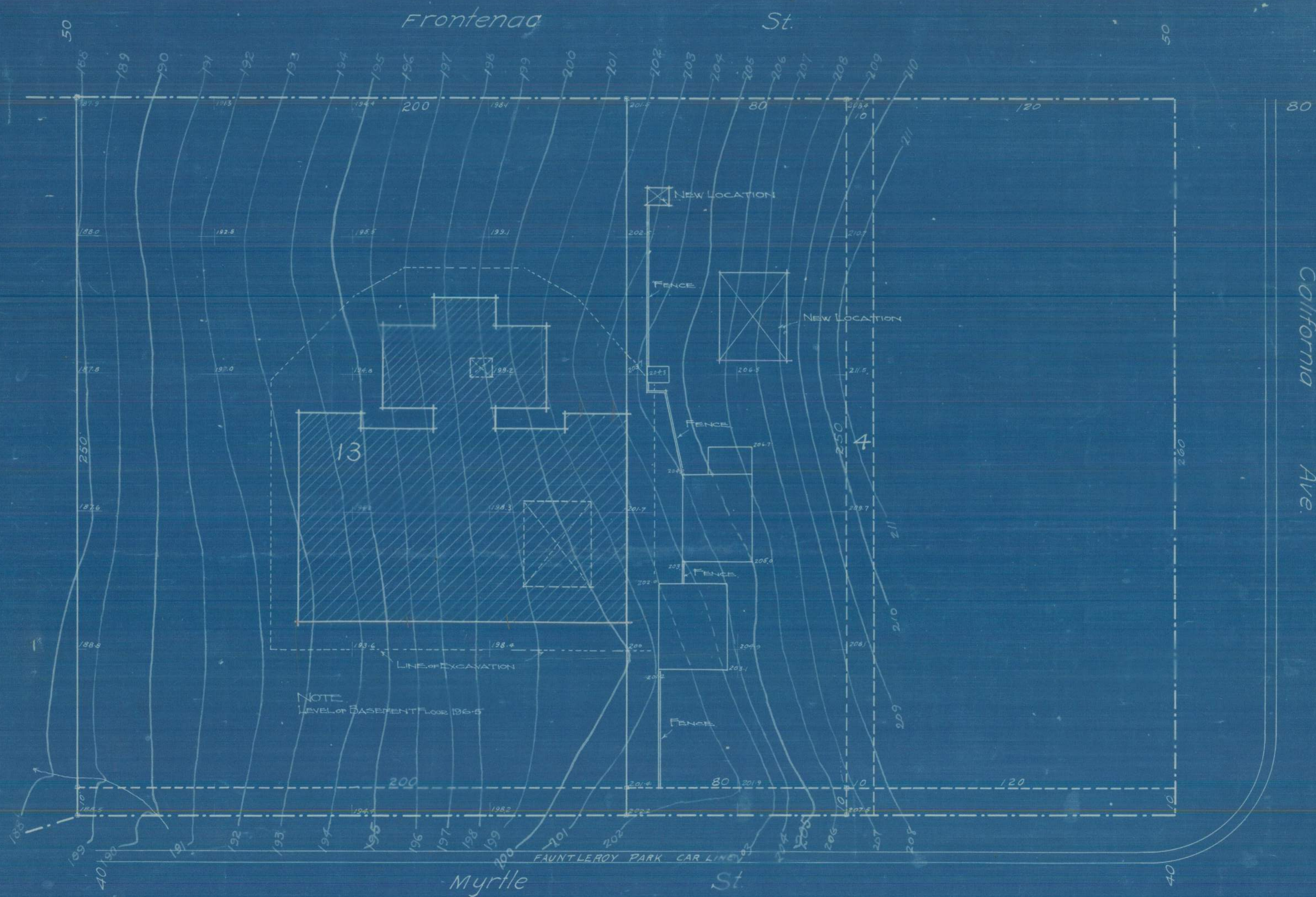




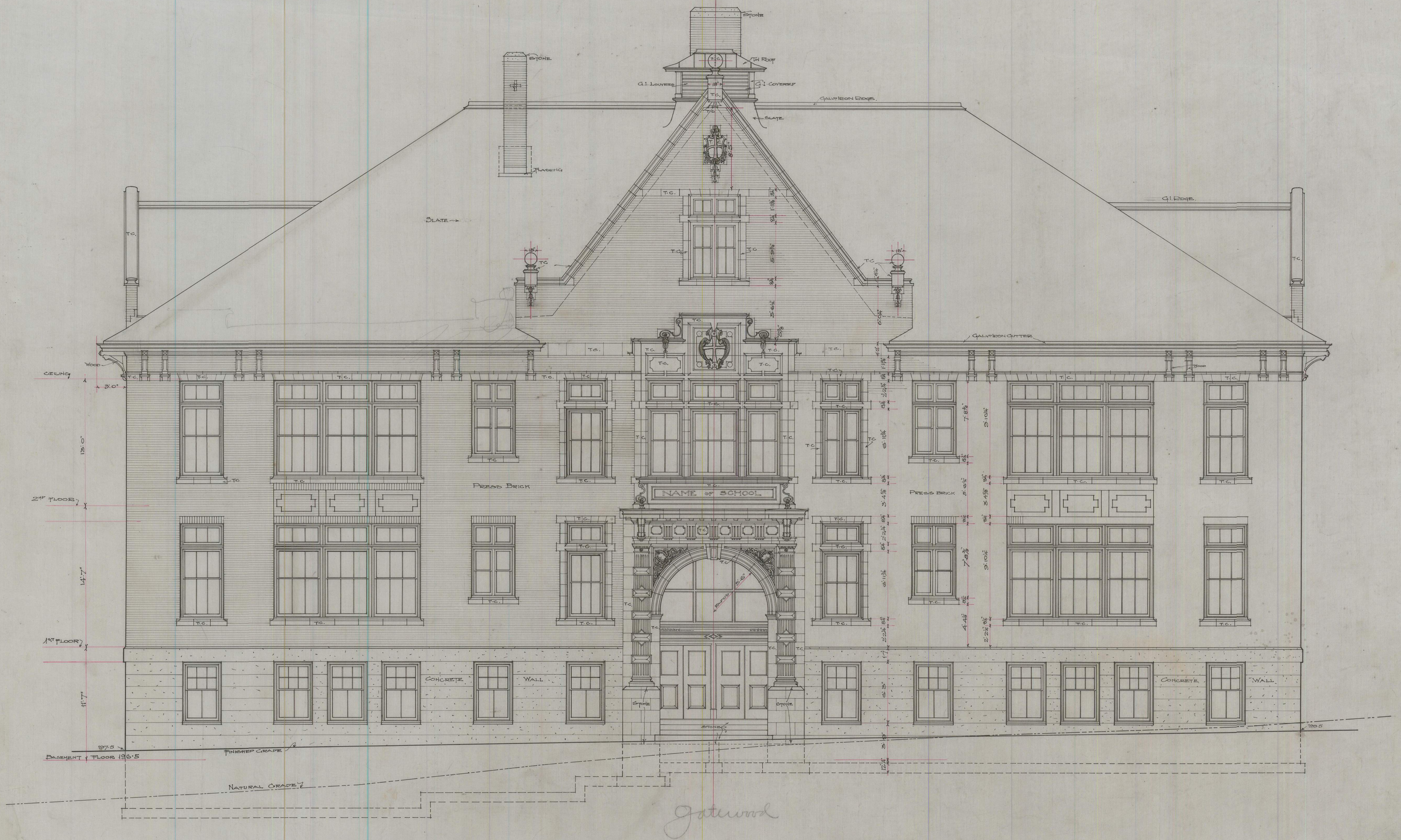
SURVEY OF
LOT 13 AND THE WEST 80 FEET OF LOT 4
LINCOLN BEACH ADDITION
FOR THE BOARD OF EDUCATION, SEATTLE

NOVEMBER 1909

SCALE 1 INCH = 30 FEET

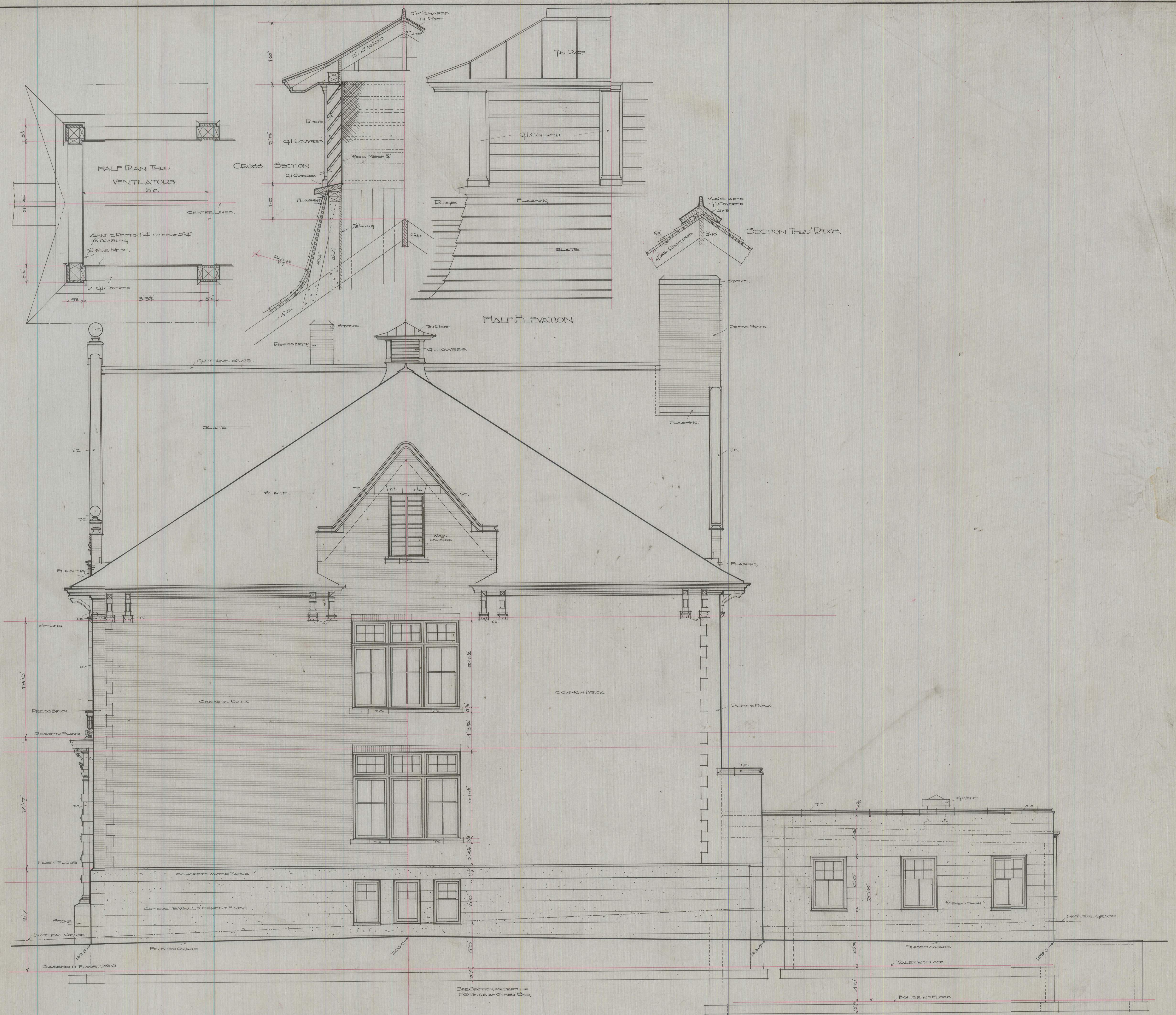
HILL BROS. CE.

225-0001



FRONT ELEVATION		
DRAWN BY <i>SEALED</i>	SEATTLE SCHOOL DISTRICT NO. 1.	SCALE 1/4" = 1' FOOT
CHECKED BY <i>W. H. HARRIS</i>	<i>W. H. HARRIS</i>	SHEET NO. 1
DATE 1-27-10	<i>W. H. HARRIS</i>	

2.25-0006
2

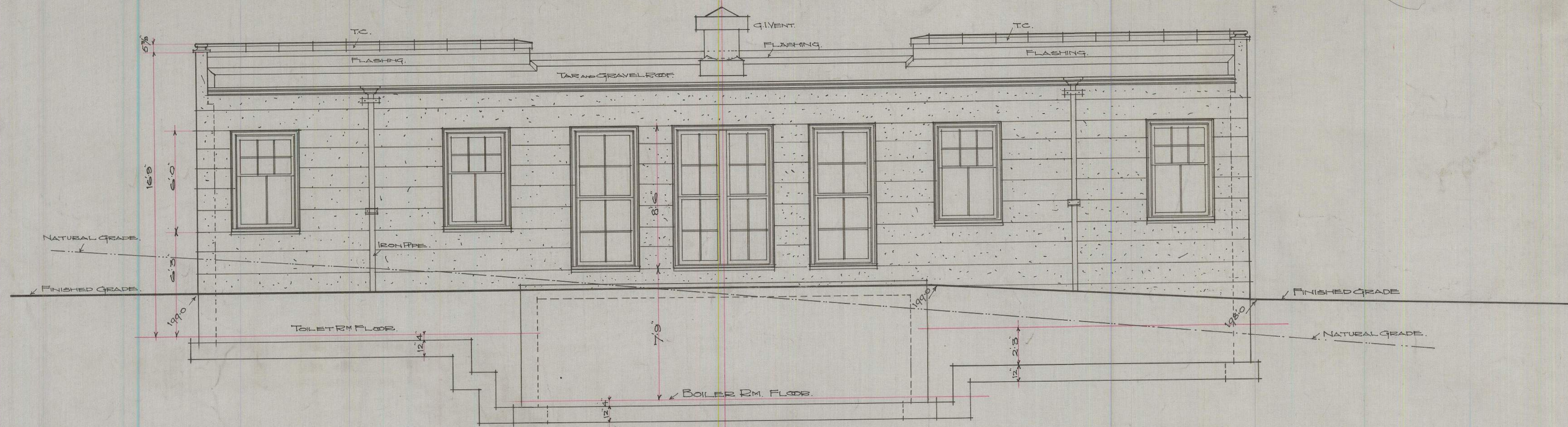


Johnson

225-0005

SIDE ELEVATION		
DRAWN BY 20th June TRACED BY 20th June	SEATTLE SCHOOL DISTRICT N°1	SCALE 1/4" = 1 FOOT
CHECKED BY M. Mayberry DATE 12/31/10	<i>Edgar Wilson</i> Architect	SET N° SHEET N°2

225-0005



REAR ELEVATION OF BOILER AND TOILET ROOMS

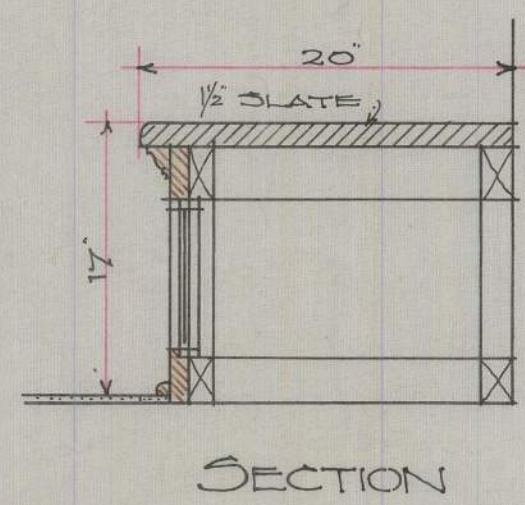
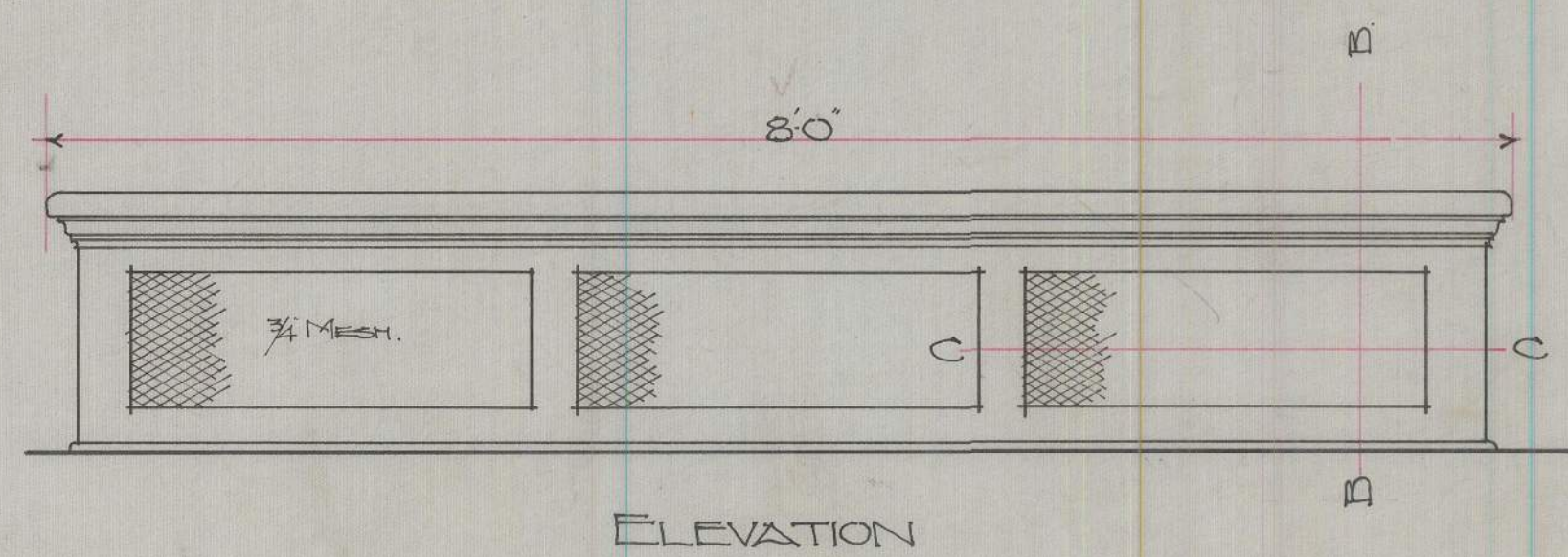


Gatewood

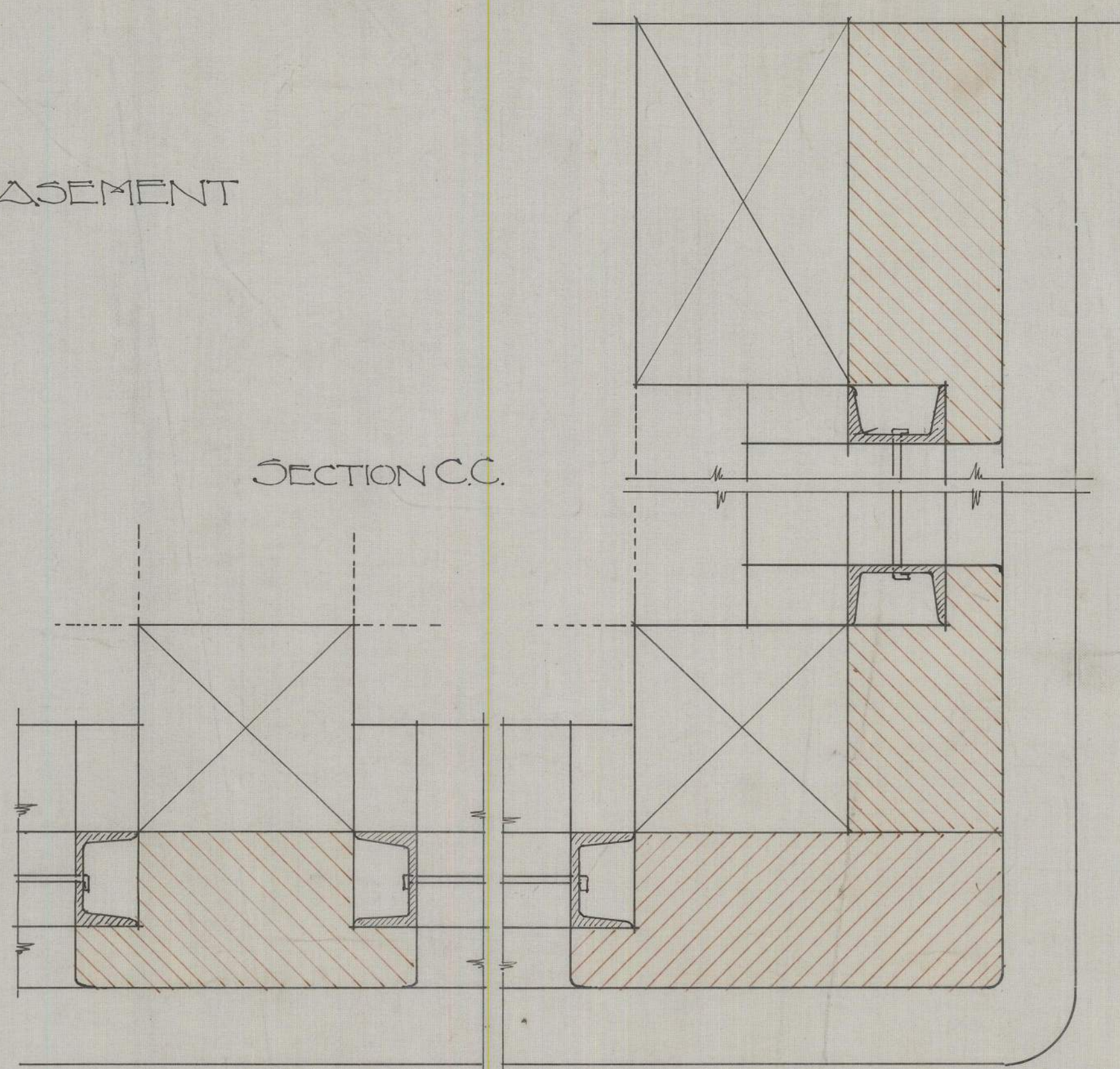
REAR ELEVATION		
DRAWN BY J. M. M. M.	SEATTLE SCHOOL DISTRICT NO 1	SCALE 1/4" = 1' 0"
CHECKED BY J. M. M. M.	Edgar M. M.	SET NO. 1
DATE 12/10	Architect	SHEET NO. 2

225-0004

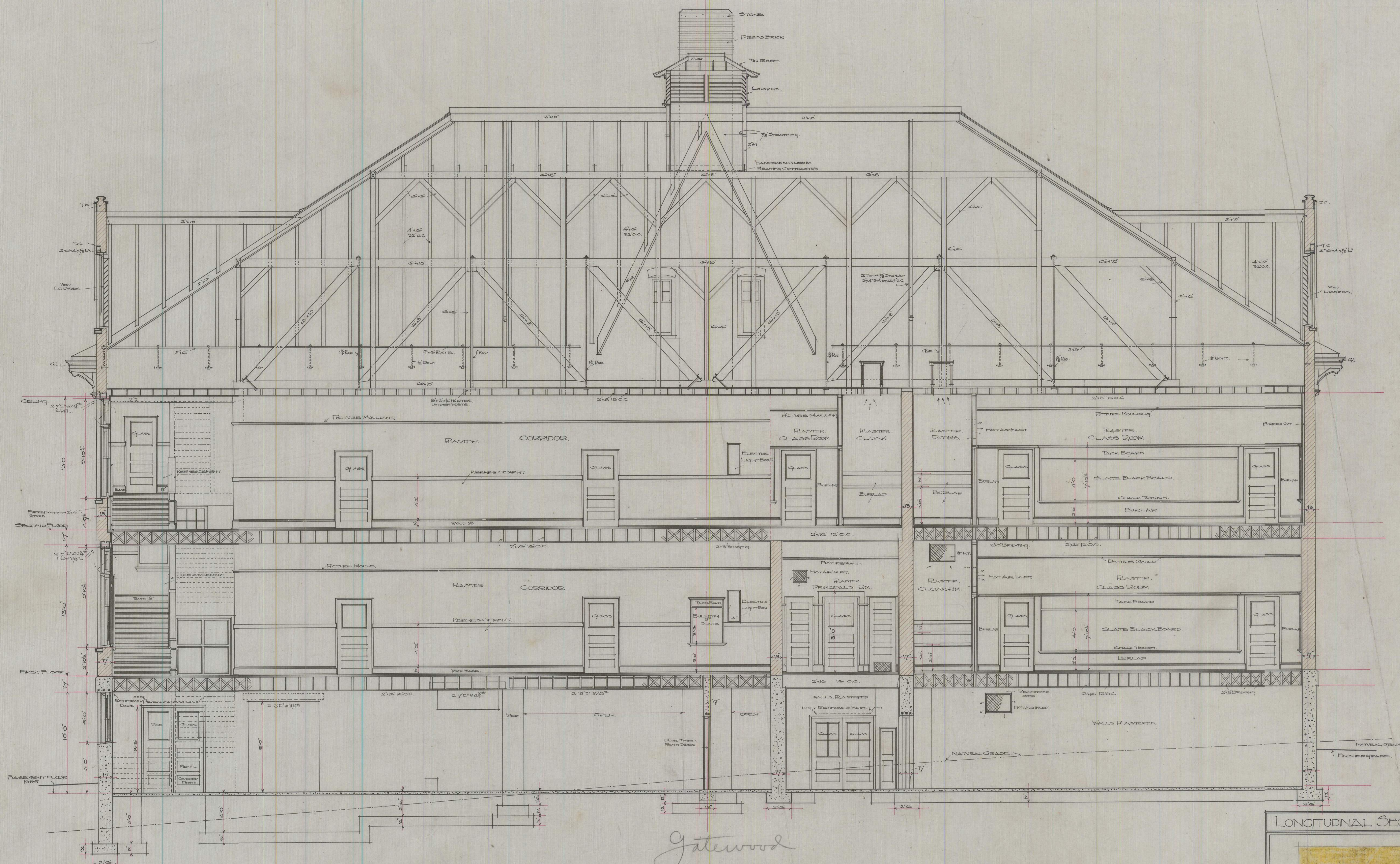
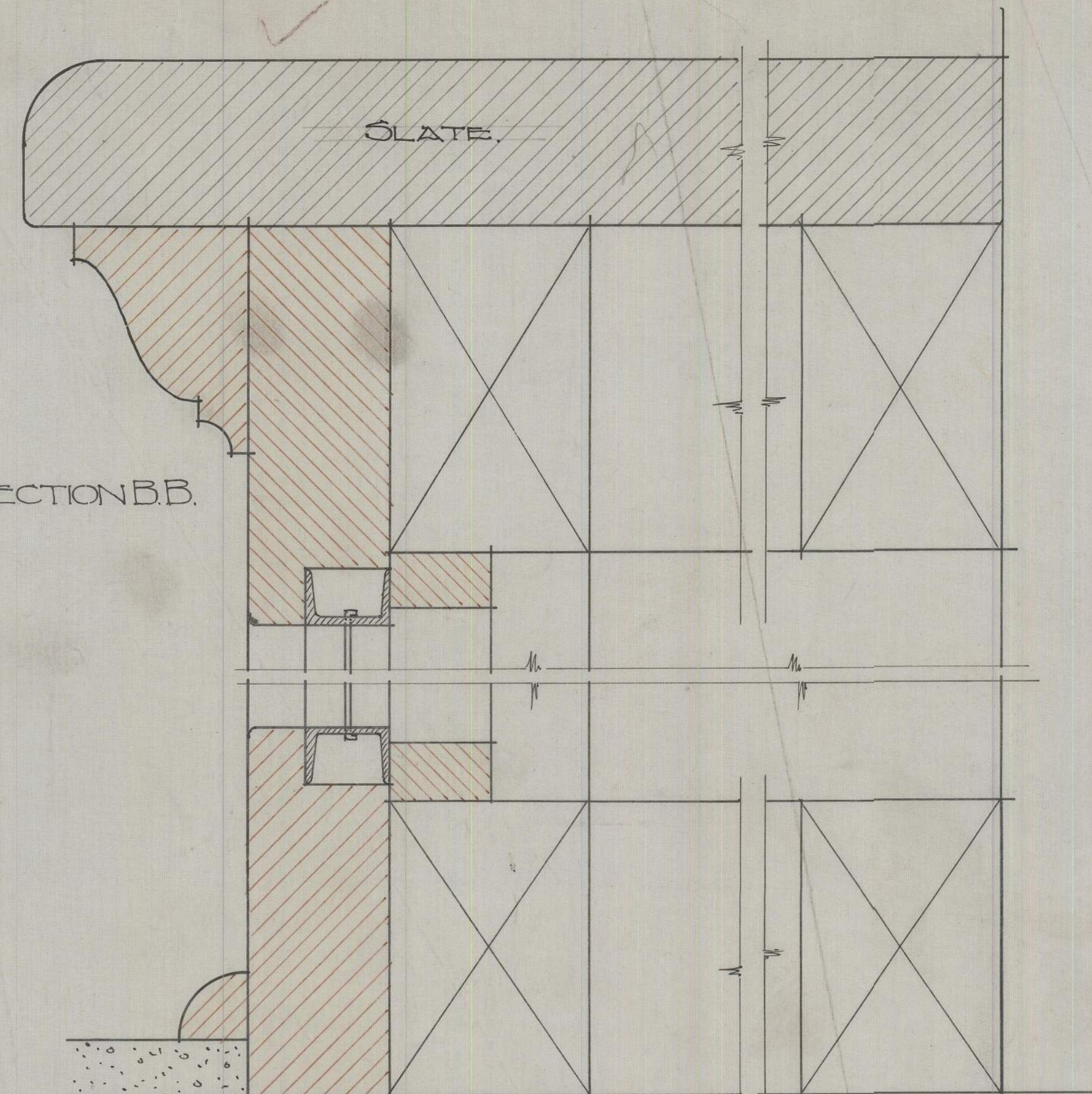
F.S. & 1" DETAIL of FOOTWARMERS in BASEMENT



SECTION CC.



SECTION BB.



LONGITUDINAL SECTION A-B		
DRAWN BY H. H. Lathrop	SEATTLE SCHOOL DISTRICT NO. 1	SCALE 1/4" = 1 FOOT
CHECKED BY W. M. Mearns	Edgar Mearns Architect	SHEET NO. 14
DATE: 1.27.10		

ELEVATION

CAPPING

INTERNAL DOORS IN BK. WALLS 13'6"17"

DOTTED LINES
DENOTE HEAD

F.S. DETAILS

BLACKBOARD FINISH

SECTION

CHALK TROUGH

JAMB

FRAME

BURLAP

BASE

FRAMES FOR SWING DOORS

PICTURE Moulding

STILED

STILES

GLASS

HOOK STRIPS
IN LOCK ROOMS

KEENE'S CEMENT
WAINSCOT & CAP
IN CORRIDORS

CHALK TROUGH

DOTTED LINES DENOTE MouldING UNDER

INDS TURNED OUT OF
THE SOLID

FRAME

STILE

F.S.D. FRAMES IN STUD
PARTITIONS

SECTION

DETAIL OF EAVES
3/4" = 1 FOOT

ELEVATION

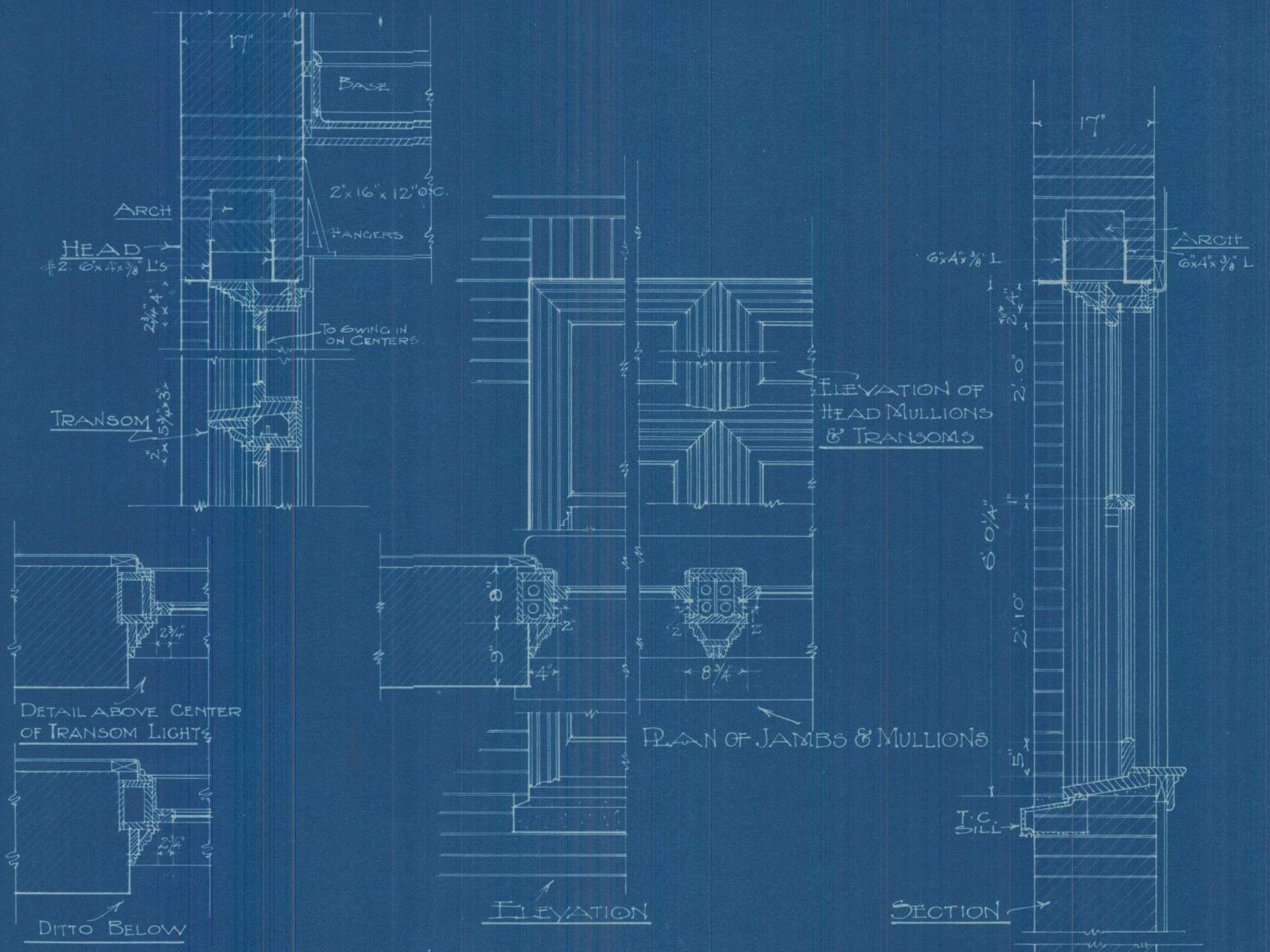
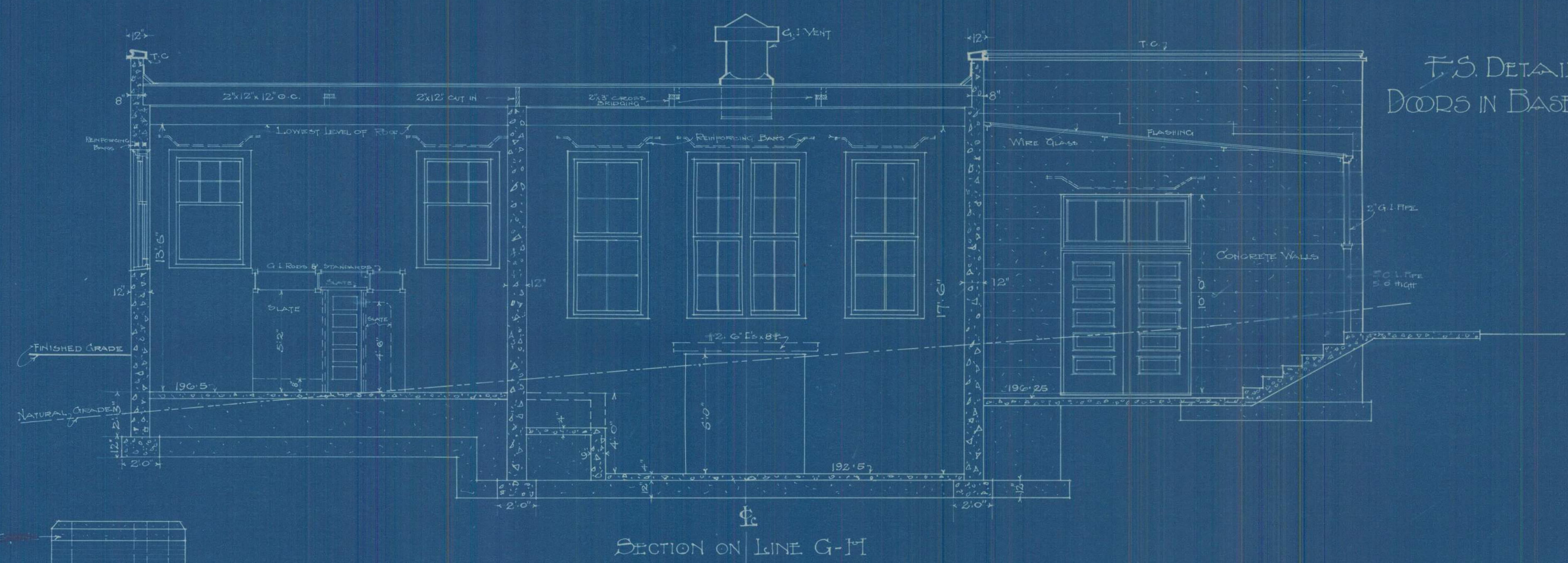
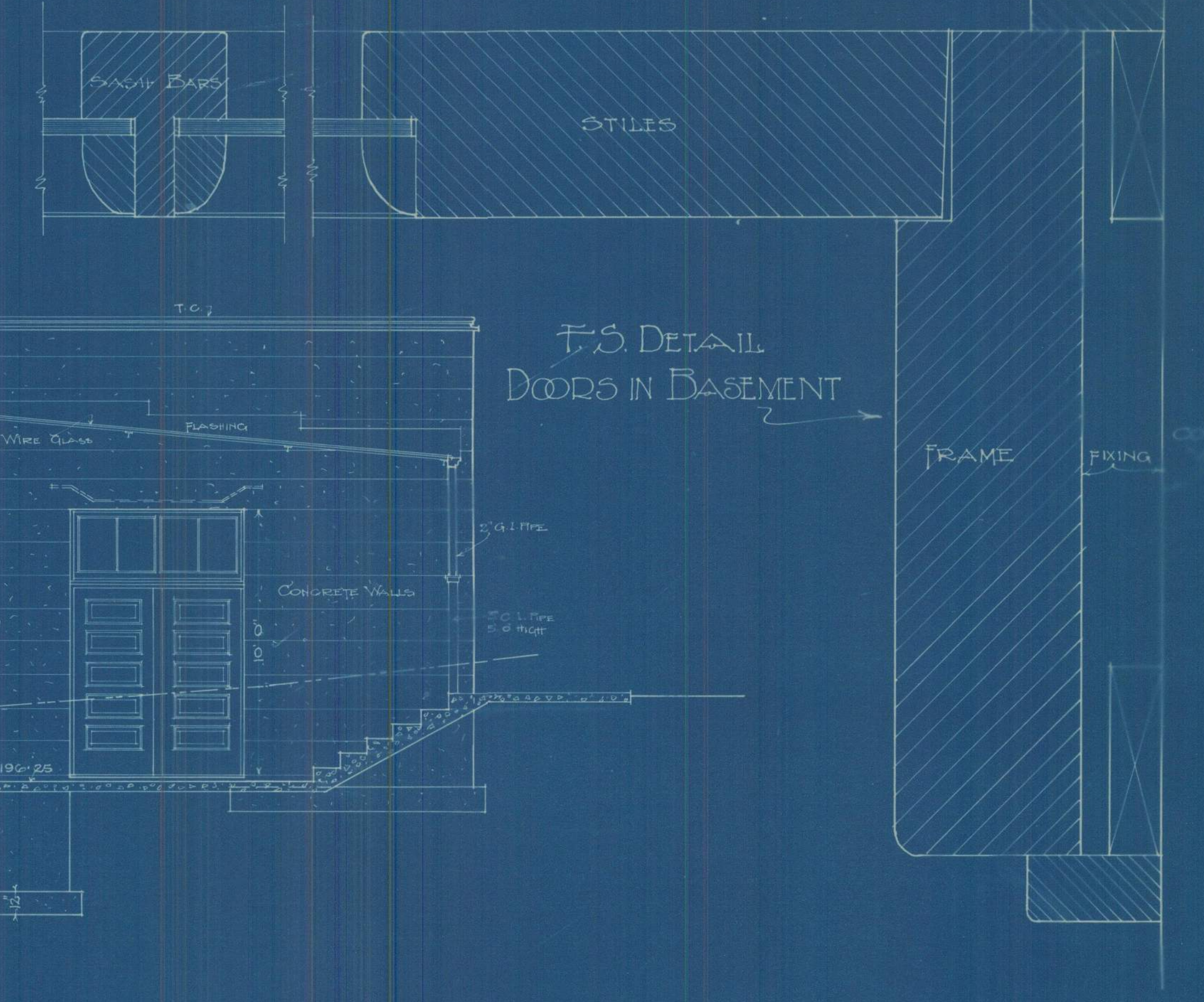
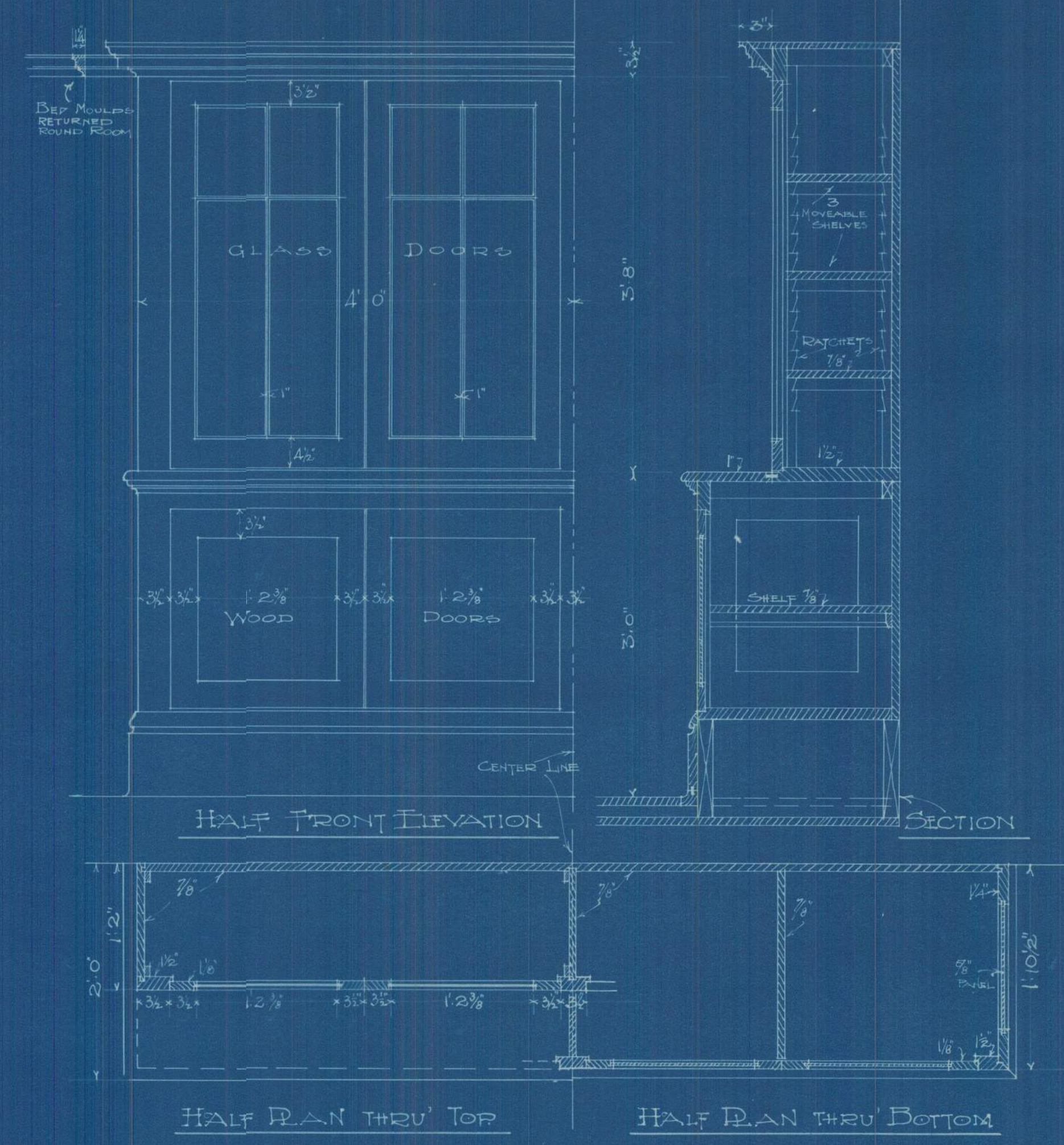
PLAN OF SOFFIT LOOKING UP

SECTION C-D

DRAWN BY J. H. Thompson	SEATTLE SCHOOL DISTRICT NO. 1	SCALE 1/4" = 1 FOOT
CHECKED BY J. H. Thompson	DATE 1-27-10	SHEET NO. 5

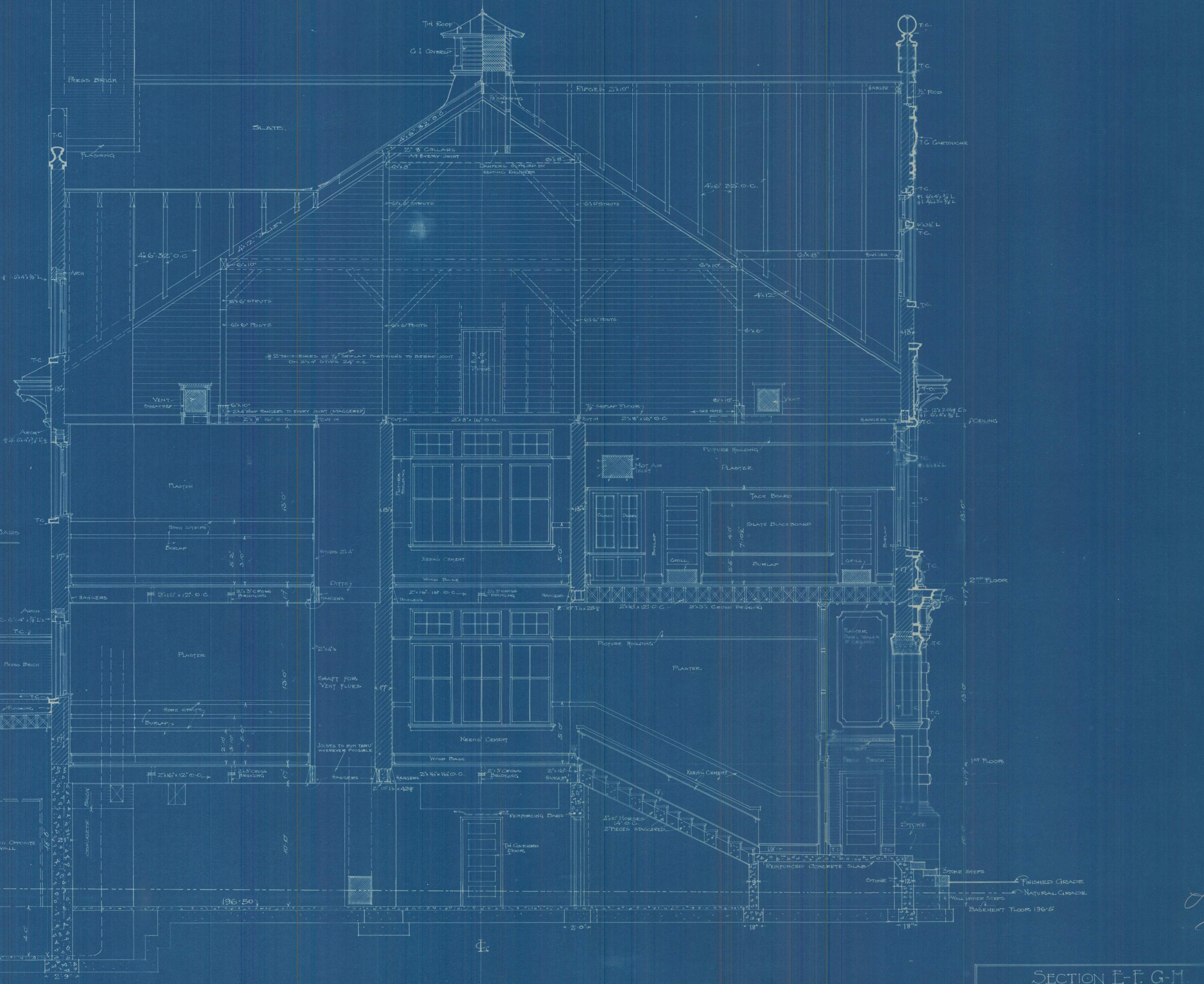
225-000

1. DETAIL CABINET IN PRINCIPALS ROOM.



TYPICAL DETAILS OF WINDOWS
3/4 SCALE

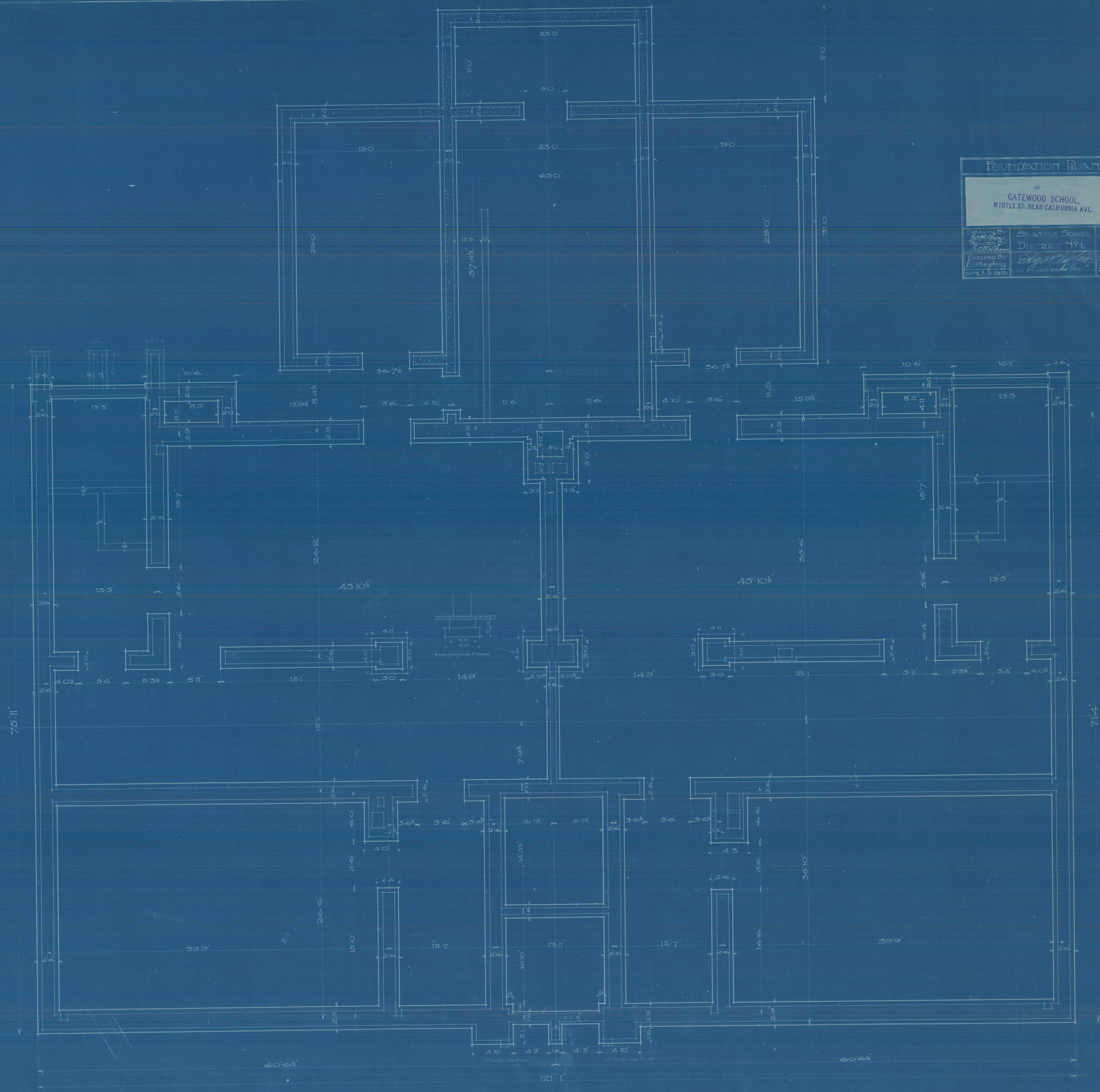
BASEMENT WINDOWS
1/4" SCALE
SAME DETAIL IN 1/4"



SECTION E-F, G-H

GATEWOOD SCHOOL MYRTLE ST. NEAR CALIFORNIA AVE.		
DRAWN BY H. S. Rogers	SEATTLE SCHOOL DISTRICT NO. 1.	SCALE 1/4" = 1'-0"
CHECKED BY M. J. Rogers	DATE 1.27.19	SHEET NO. 1

225-0007



FOUNDATION PLAN		
GATEWOOD SCHOOL, MYRTLE ST. NEAR CALIFORNIA AVE.		
DESIGNED BY <i>W. H. H. H.</i>	SEATTLE SCHOOL DISTRICT NO. 1	SCALE 1/4" = 1'-0"
CHECKED BY <i>W. H. H. H.</i>	DATE JULY 1, 1910	SHEET NO. 7

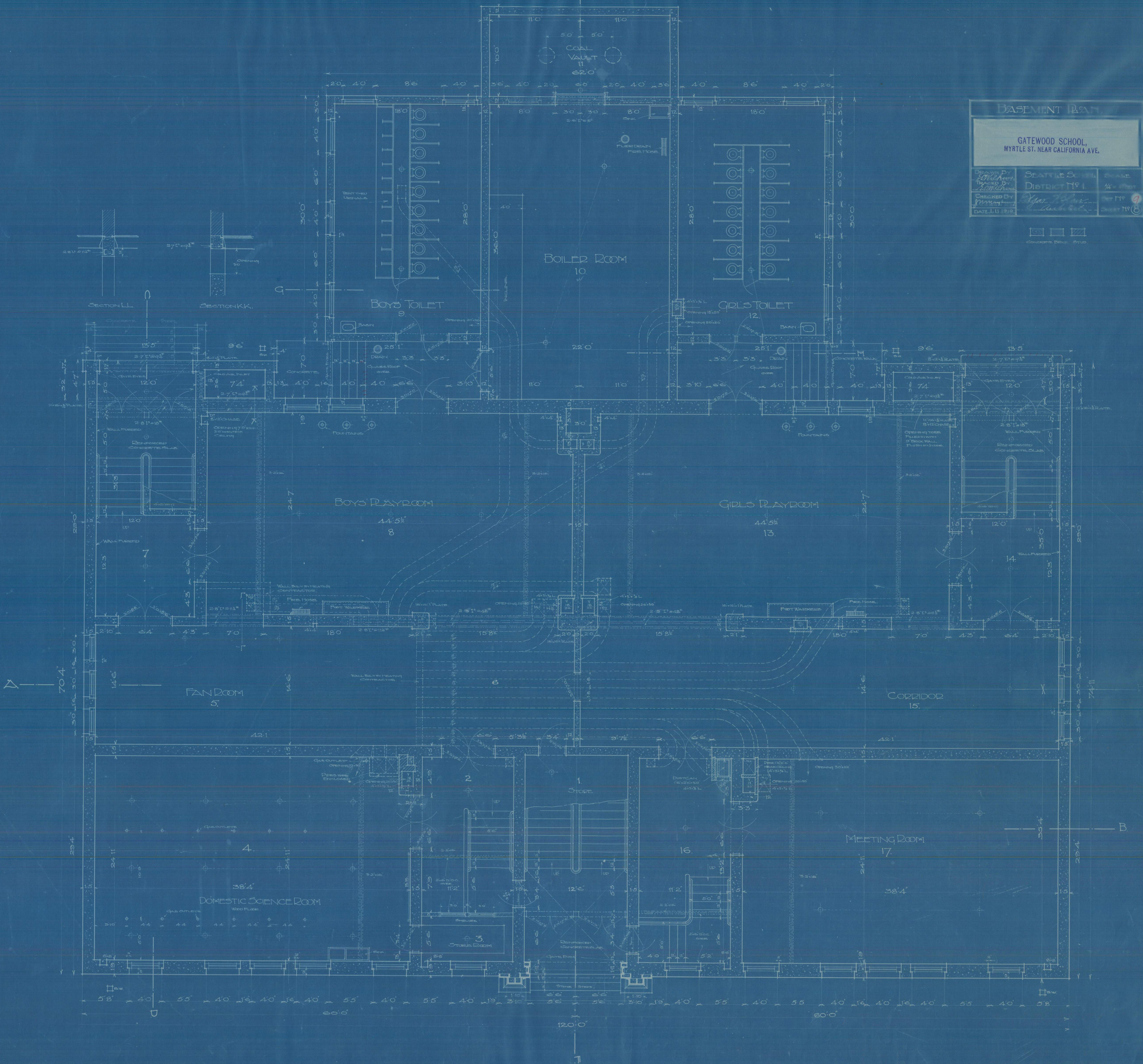
2/19/10

BASMENT PLAN

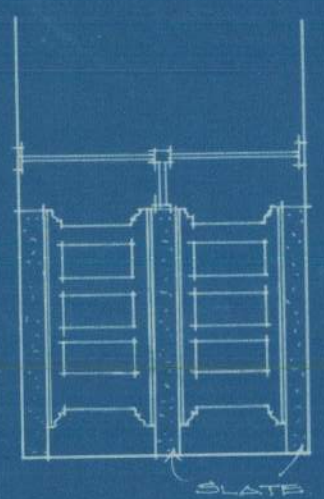
GATEWOOD SCHOOL,
MYRTLE ST. NEAR CALIFORNIA AVE.

Drawn By <i>W. H. H. H.</i>	SEATTLE SCHOOL DISTRICT NO. 1	SCALE 1/4" = 1'-0"
Checked By <i>W. H. H. H.</i>	DATE JULY 11, 1919	SHEET NO. 9

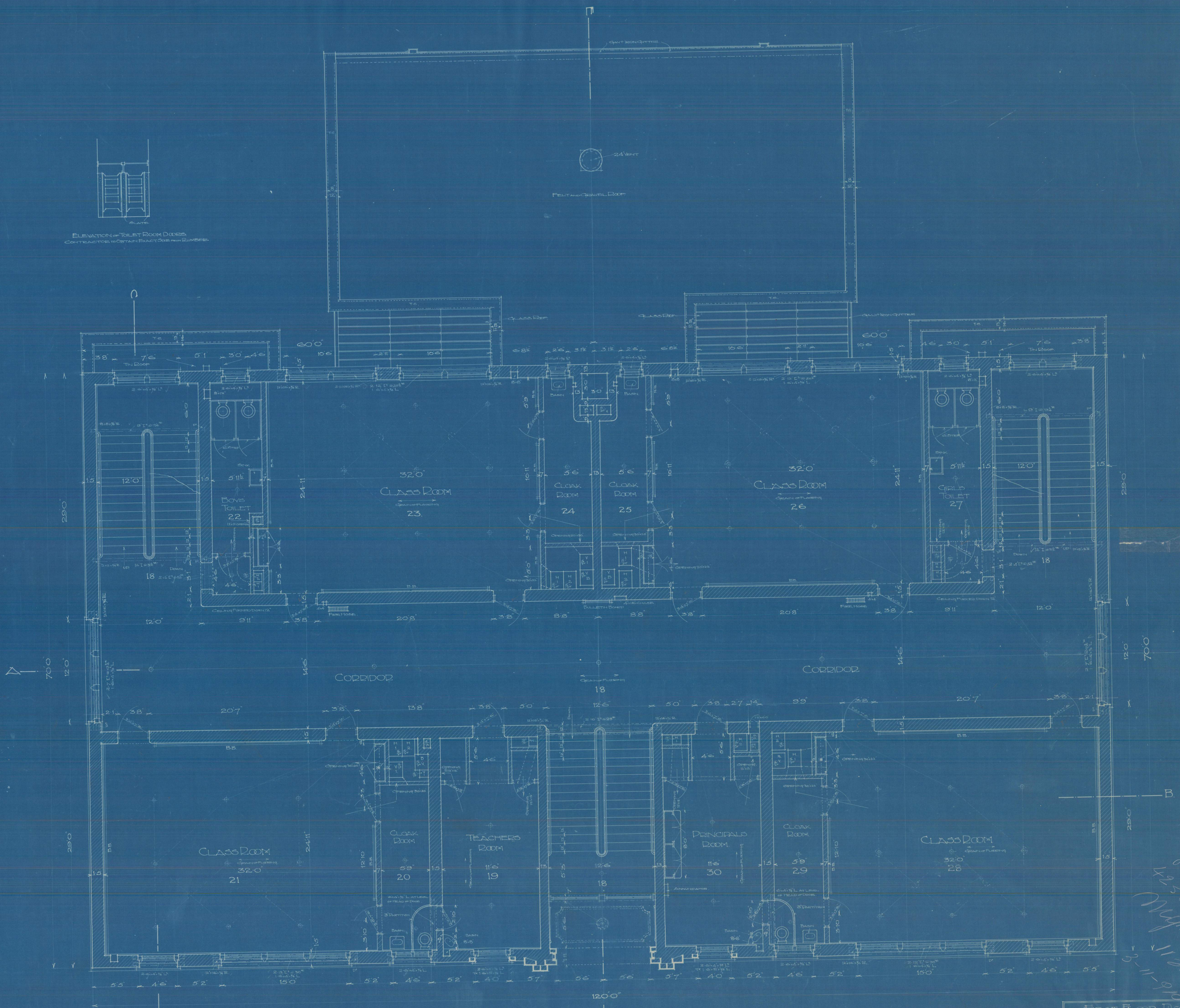
CONCRETE FLOOR 1/2" THICK
CONCRETE WALL 12" THICK



27939



ELEVATION OF TOILET ROOM DOORS
CONTRACTOR TO OBTAIN EXACT SIZES AND FINISHES



FIRST FLOOR PLAN

GATEWOOD SCHOOL,
MYRTLE ST. NEAR CALIFORNIA AVE.

DRAWN BY <i>W. H. H. H.</i>	SEATTLE SCHOOL DISTRICT N ^o 1.	SCALE 1/4" = 1'-0"
CHECKED BY <i>W. H. H. H.</i>	DATE JULY 1916	SHEET N ^o 9

4236-10-10
Myrtle St.
3-11-910

1/8" SCALE DETAIL OF
HEAT DUCT OPENINGS
AND SPREADERS

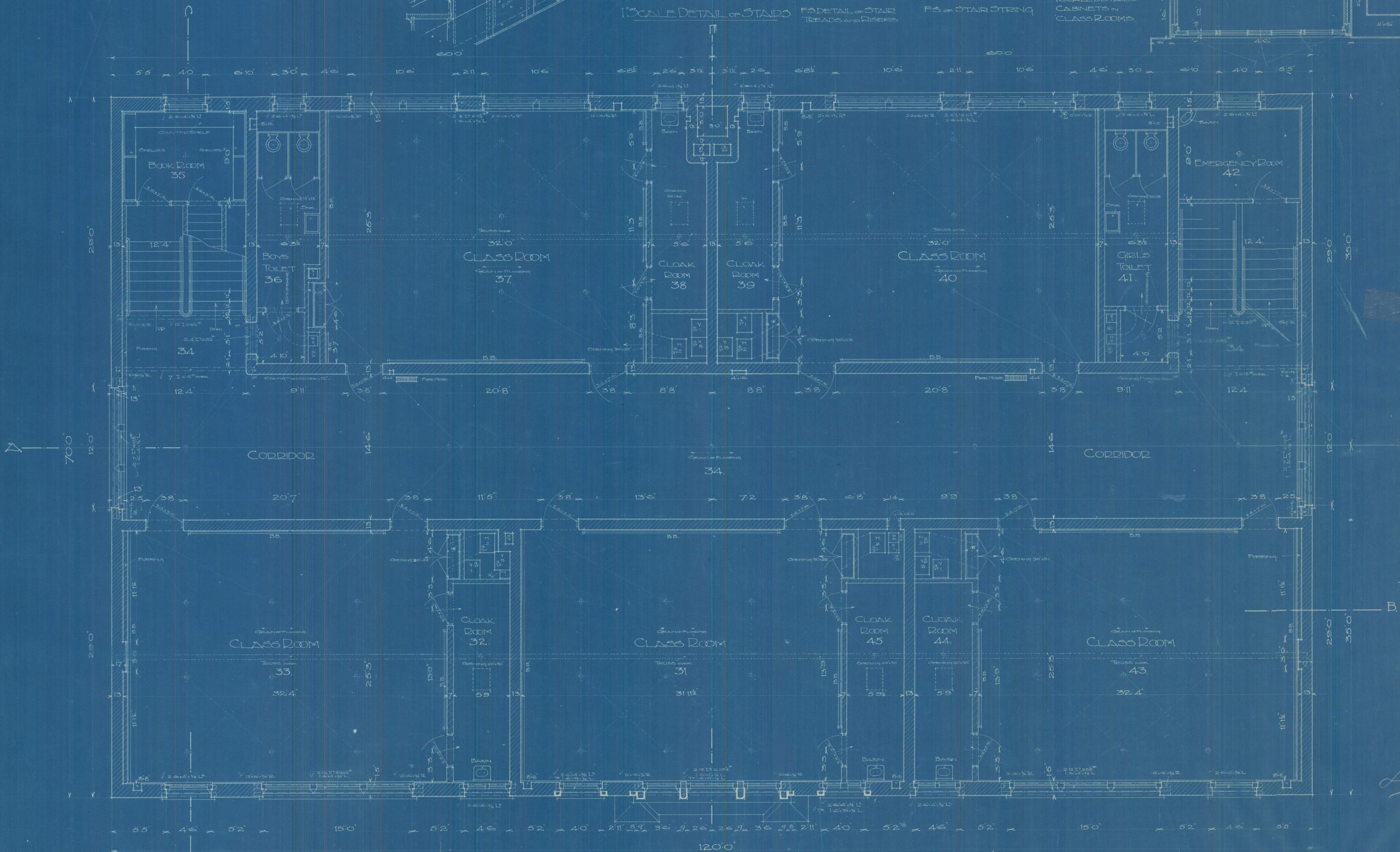
FULL SIZE DETAIL A
VENT DUCT OPENINGS
SAME DETAIL

1/8" SCALE DETAIL OF STAIRS

F.S. DETAIL OF STAIR
TREADS AND RISERS

F.S. OF STAIR STRING

1/8" SCALE DETAIL OF
CABINETS IN
CLASS ROOMS



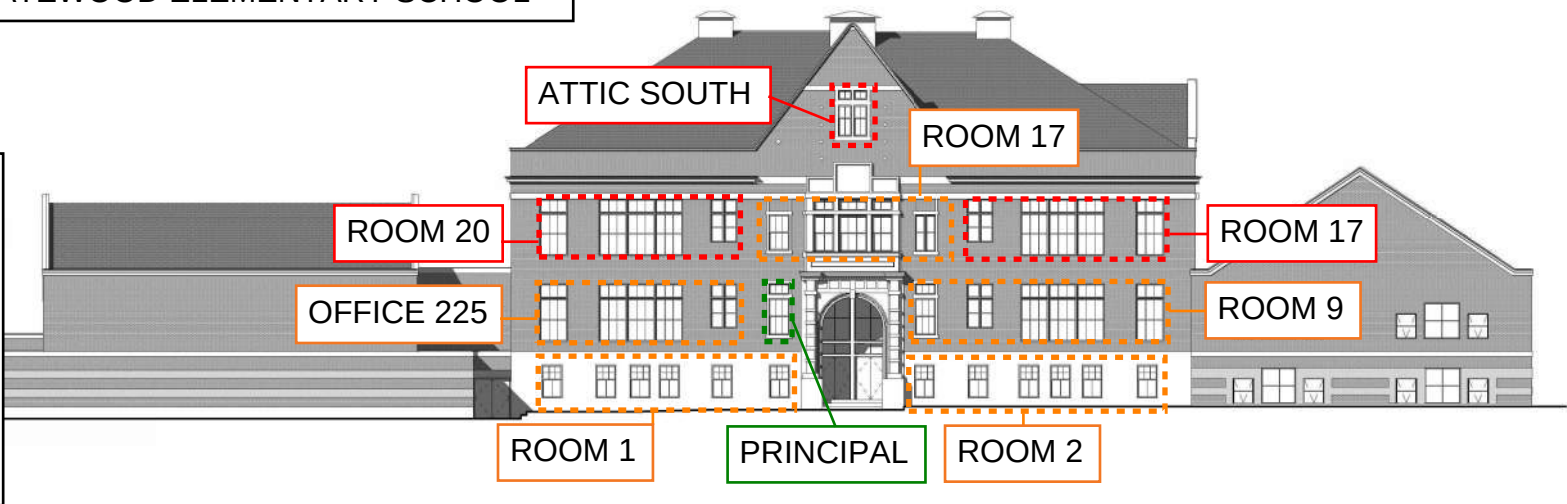
SECOND FLOOR PLAN

GATEWOOD SCHOOL,
MYRTLE ST. NEAR CALIFORNIA AVE.

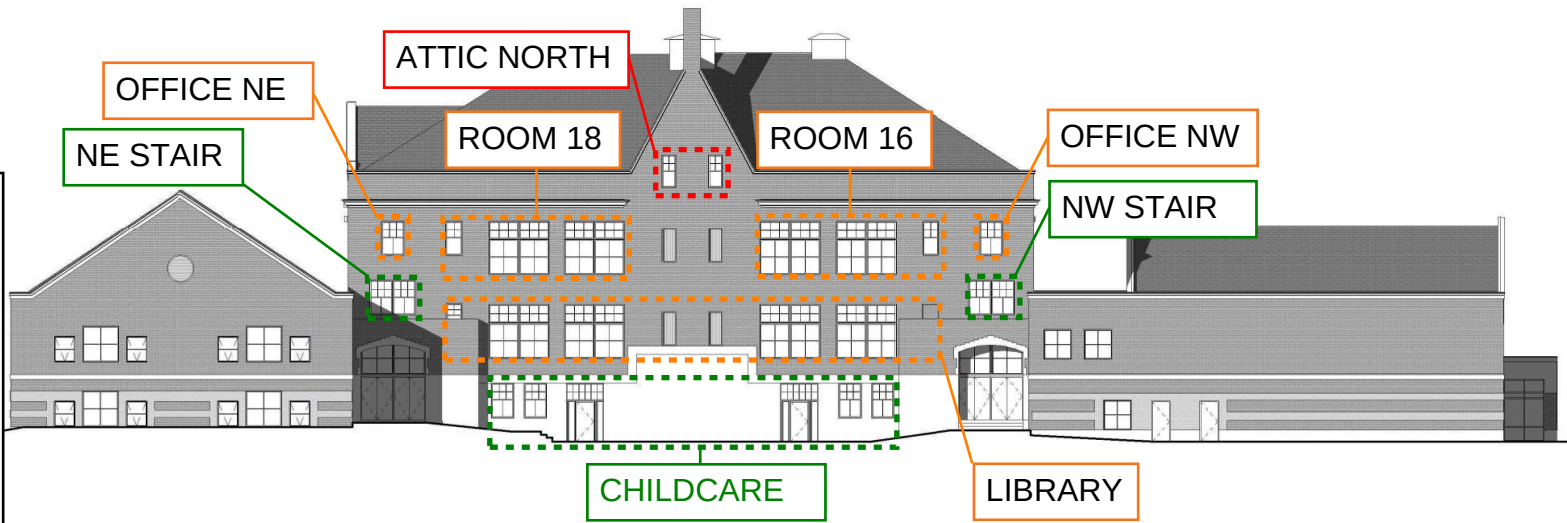
DESIGNED BY J. M. H. H.	DRAWN BY J. M. H. H.	SCALE 1" = 12'
CHECKED BY J. M. H. H.	DATE J. M. H. H.	

APPENDIX-B CONDITION PHOTOS
GATEWOOD ELEMENTARY SCHOOL

SOUTH ELEVATION



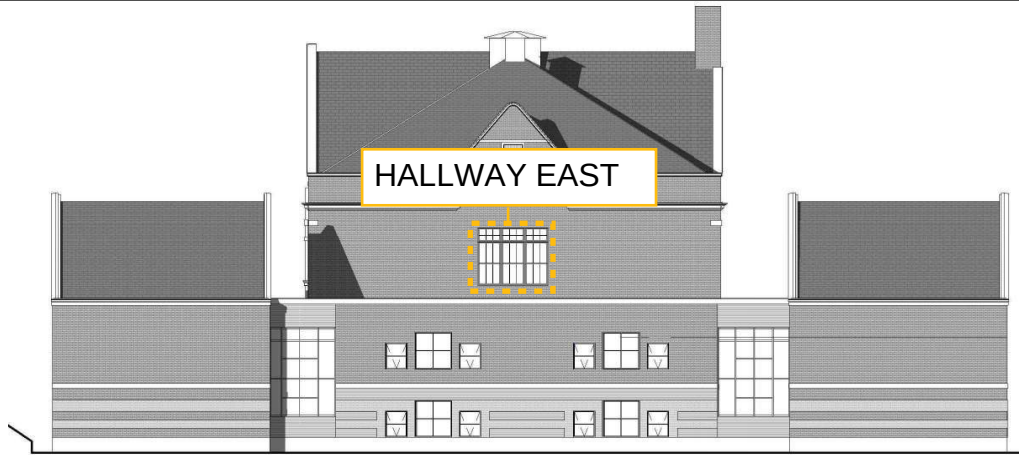
NORTH ELEVATION



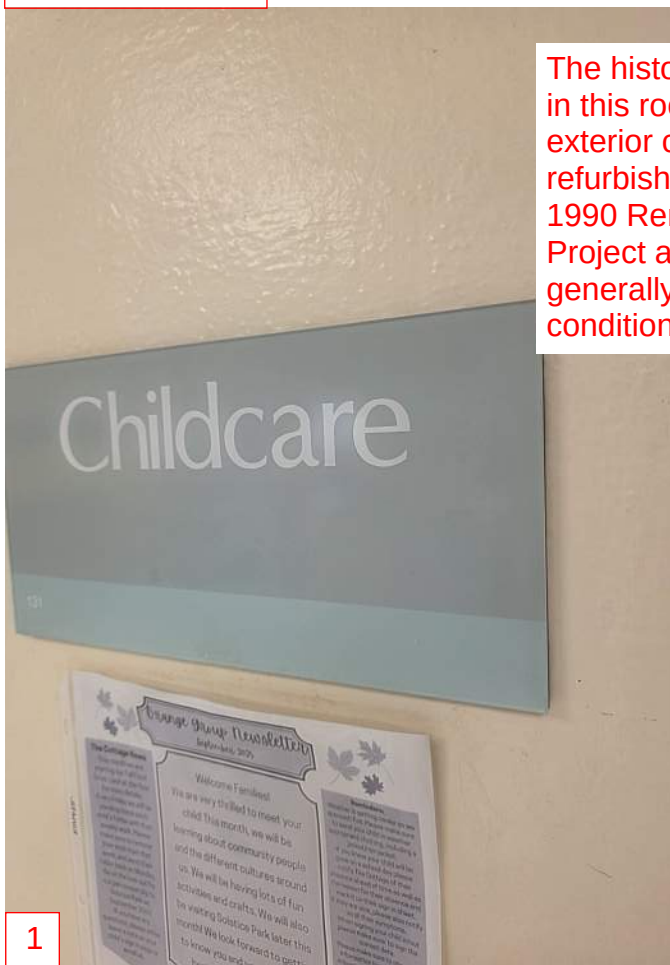
WEST ELEVATION



EAST ELEVATION



Childcare

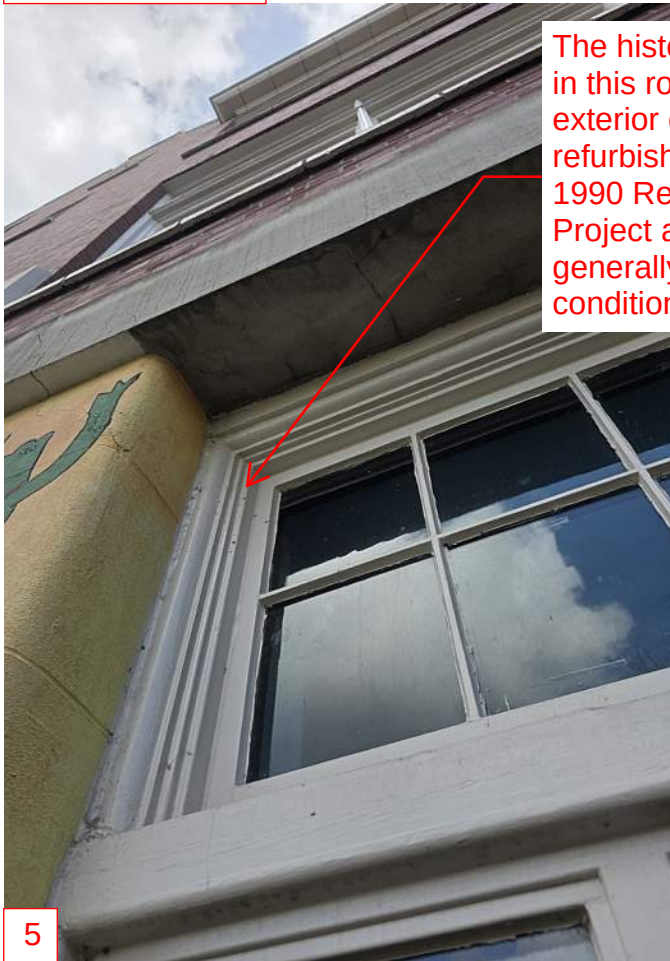


The historic windows in this room and exterior casings were refurbished as part of 1990 Renovation Project and are generally in good condition.

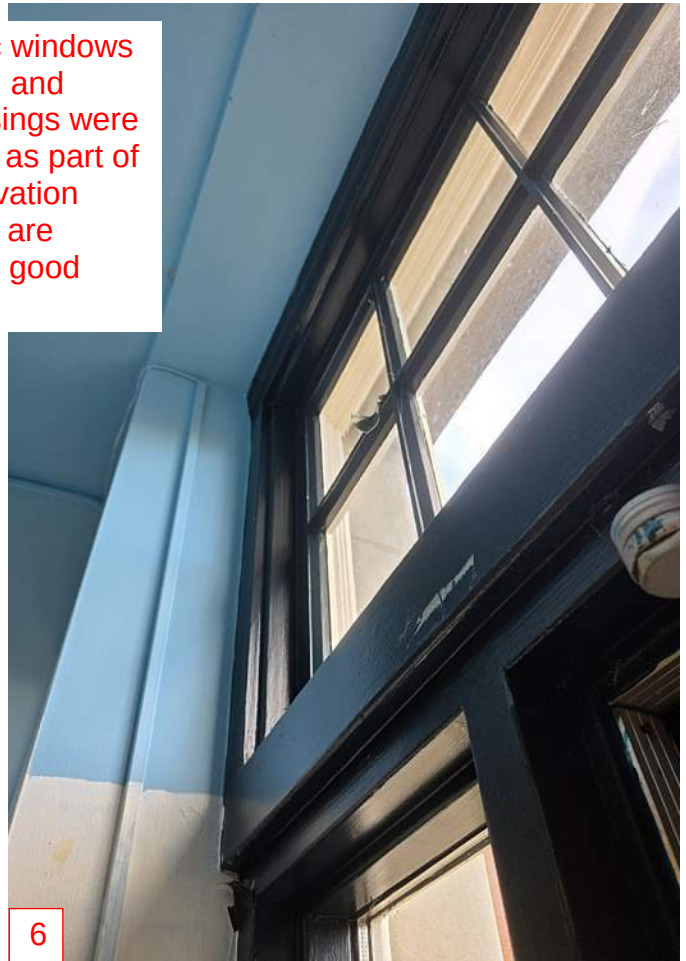


The wood window in this location was installed in 1990.



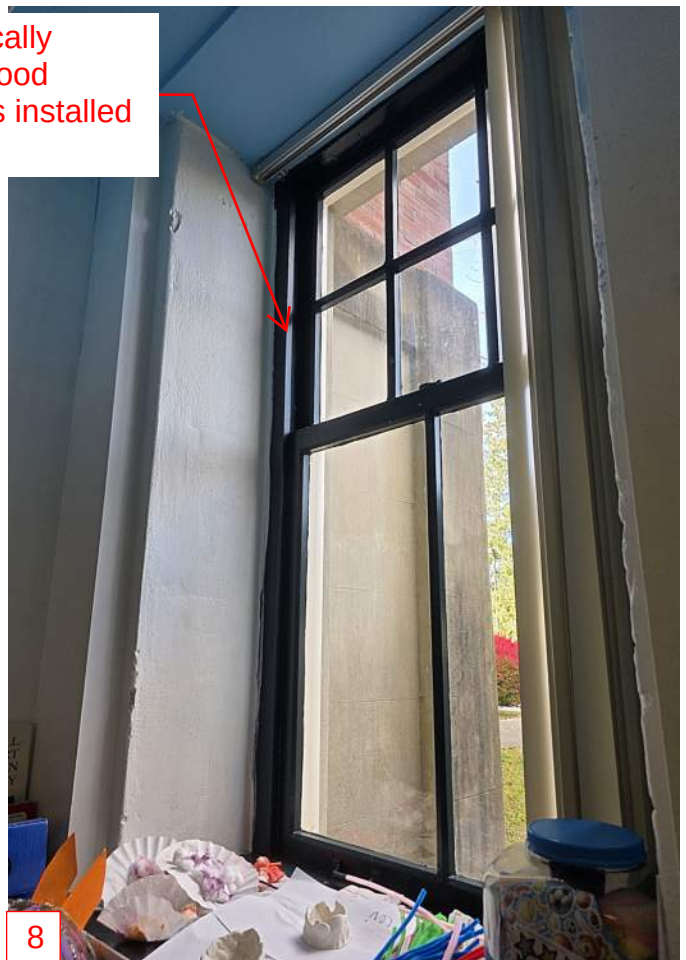


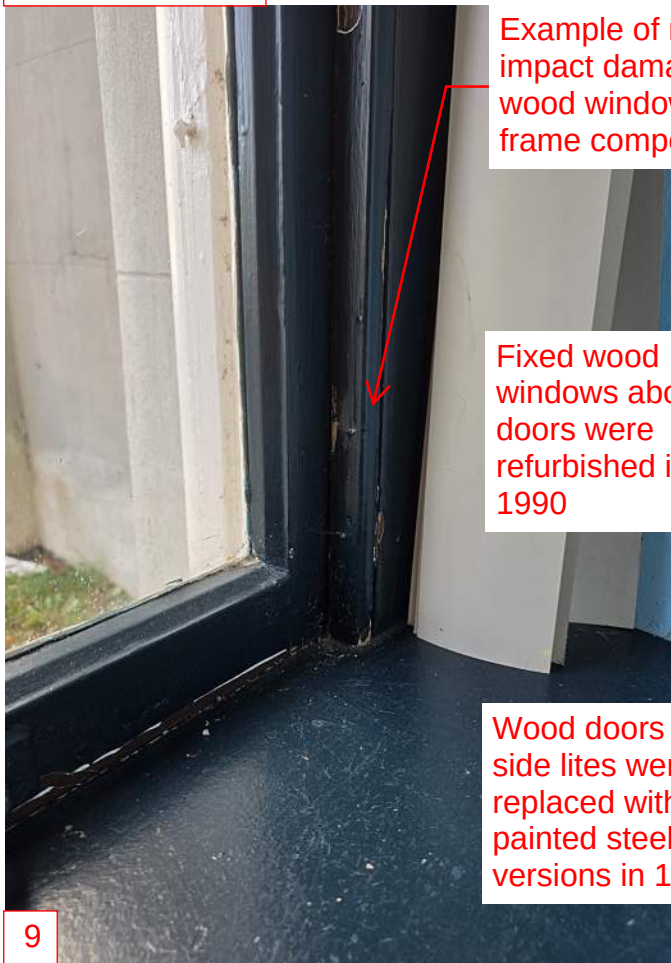
The historic windows in this room and exterior casings were refurbished as part of 1990 Renovation Project and are generally in good condition.



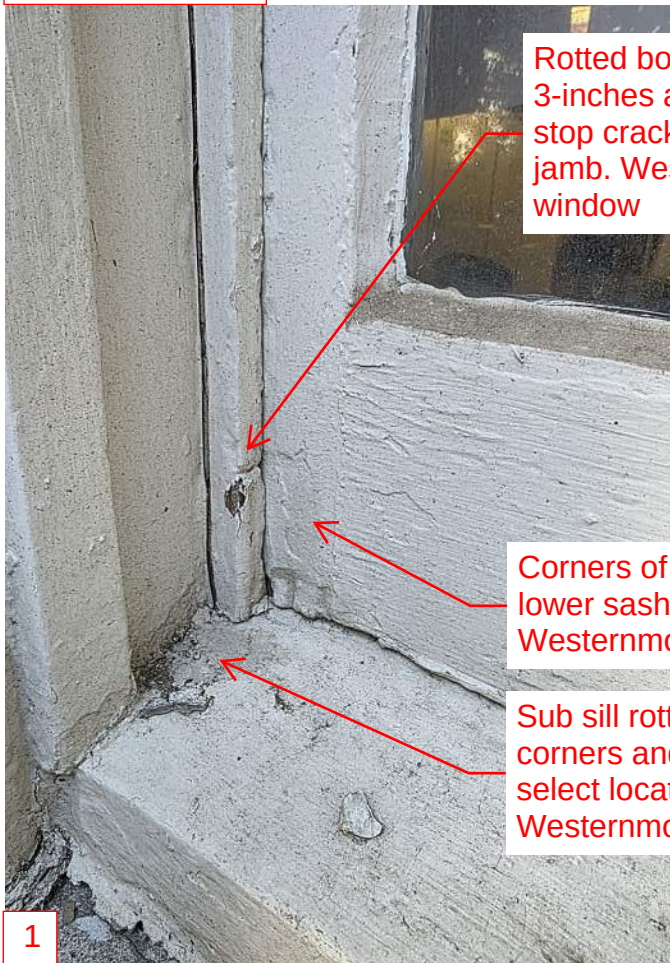
This historically matching wood window was installed in 1990.

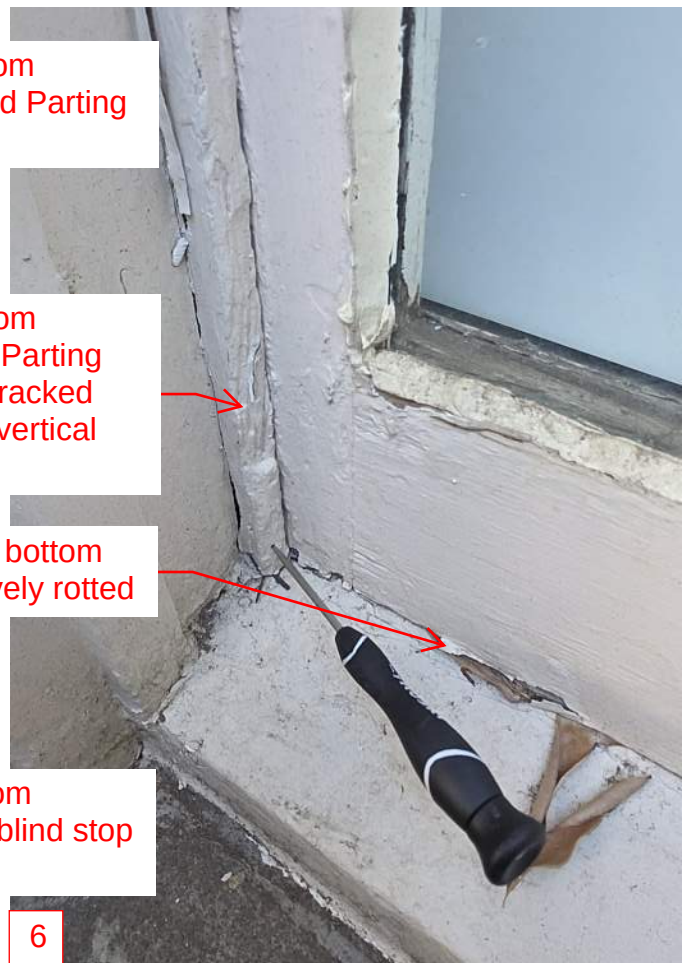
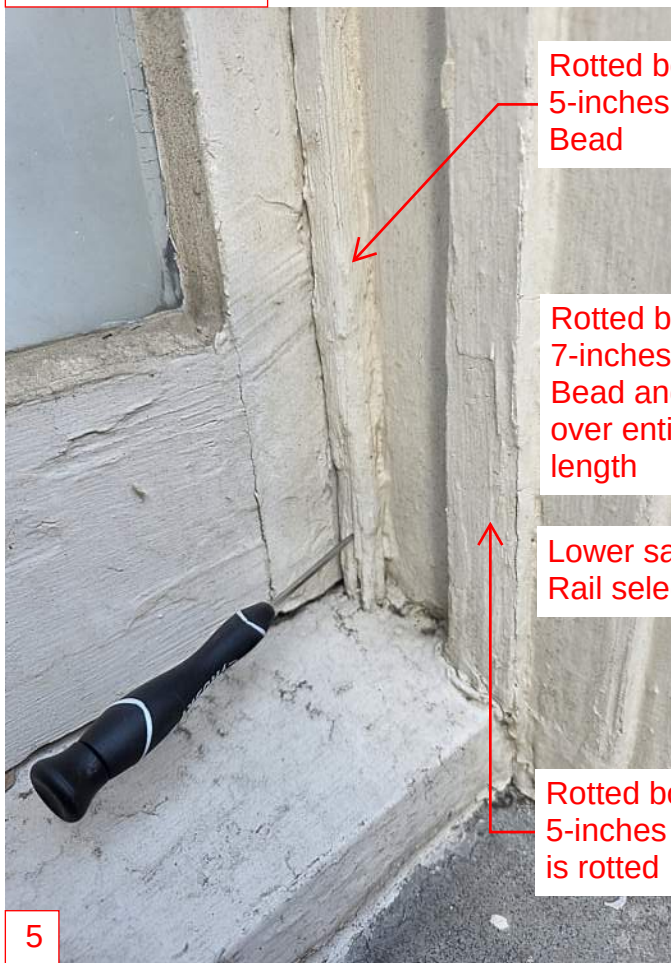
Wood doors and side lites were replaced with painted steel versions in 1990

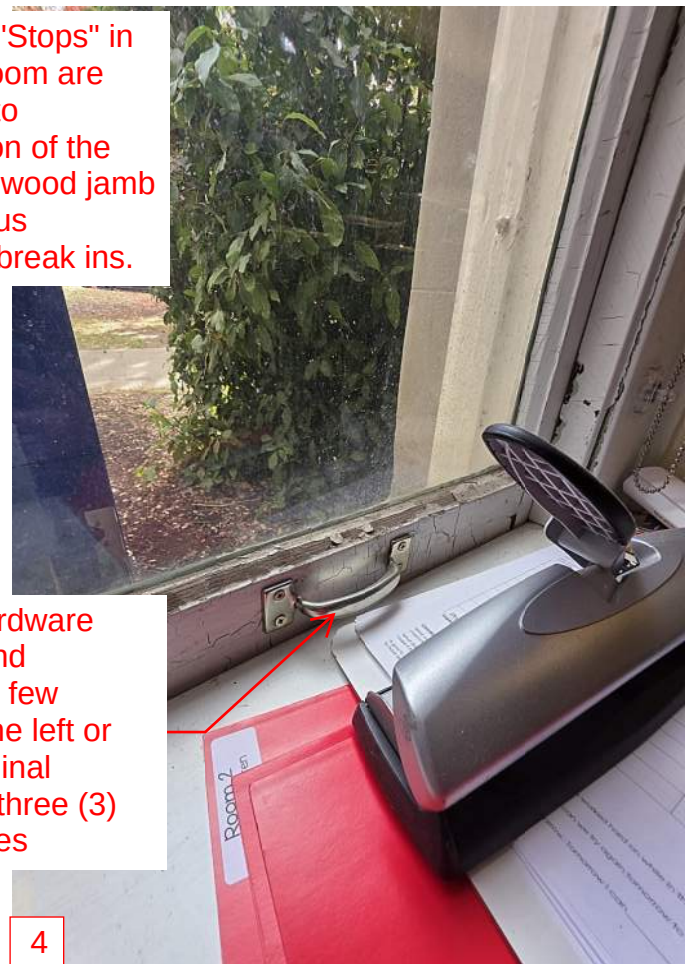
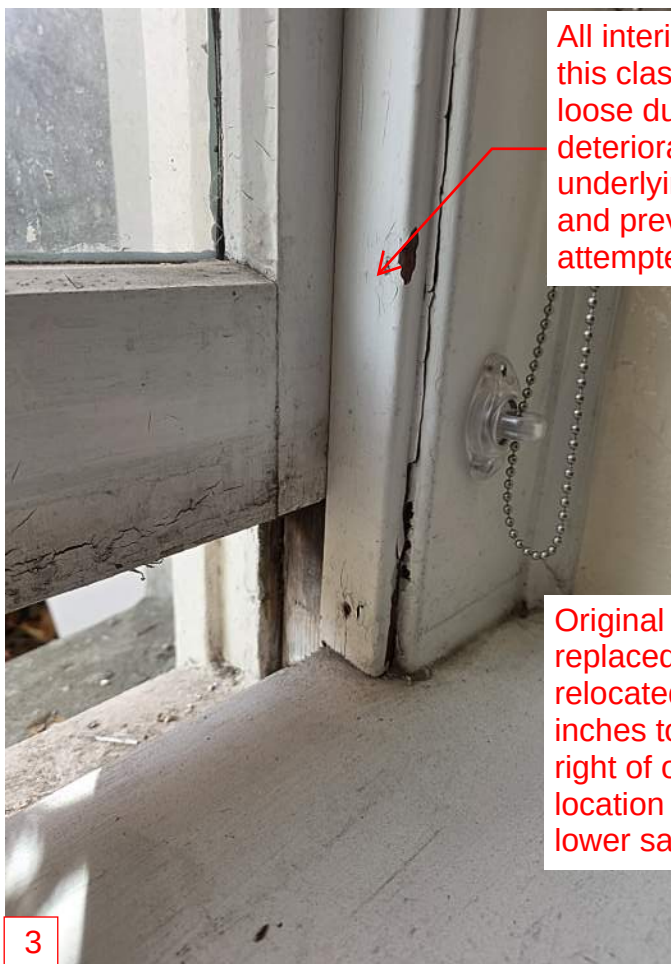
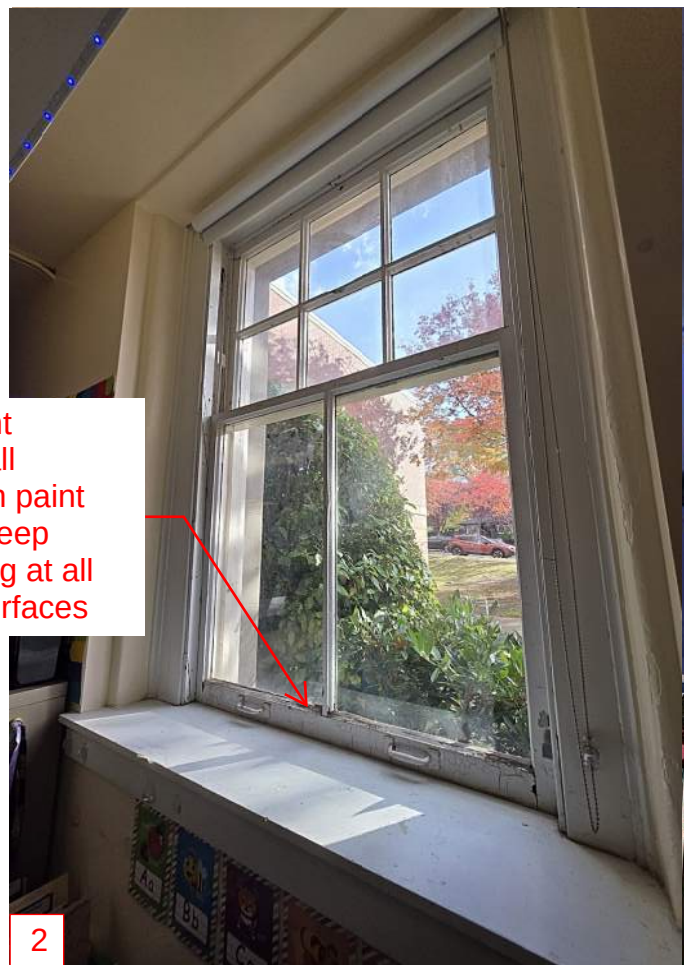


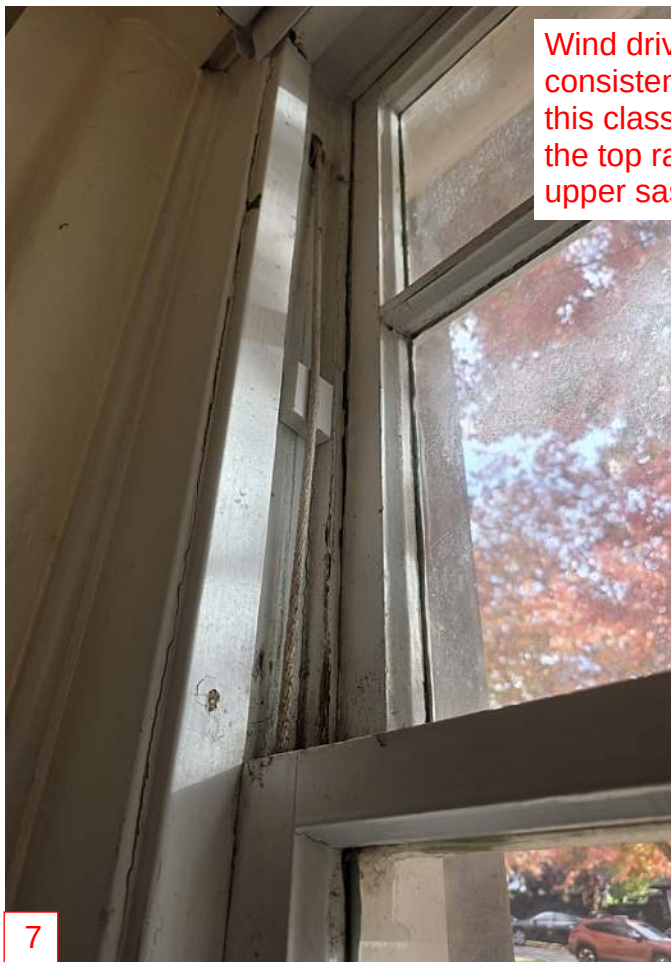
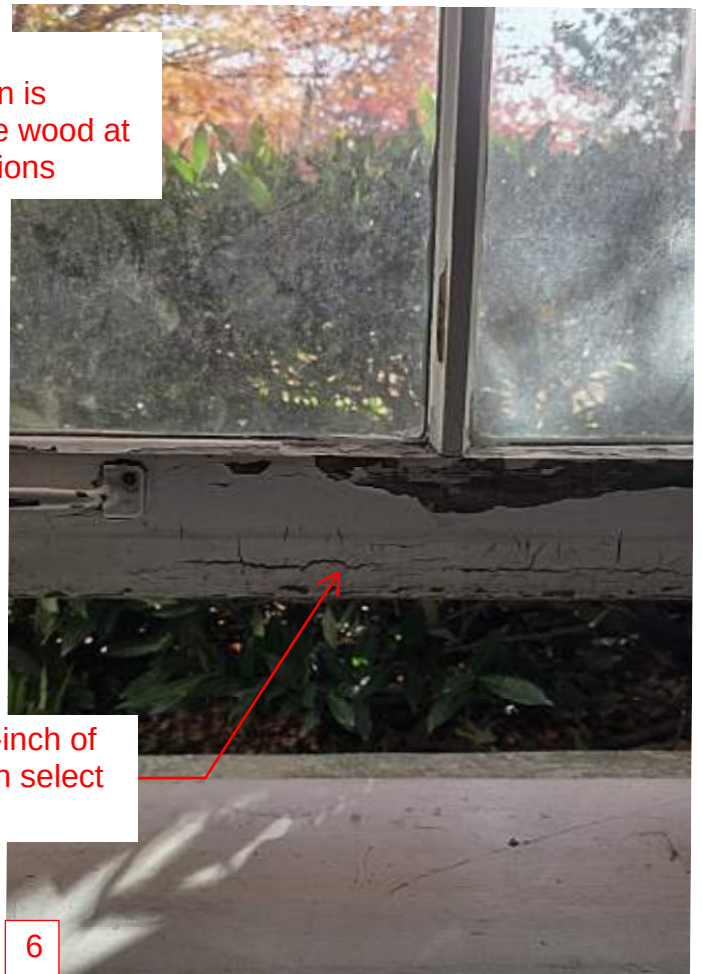


Classroom 1





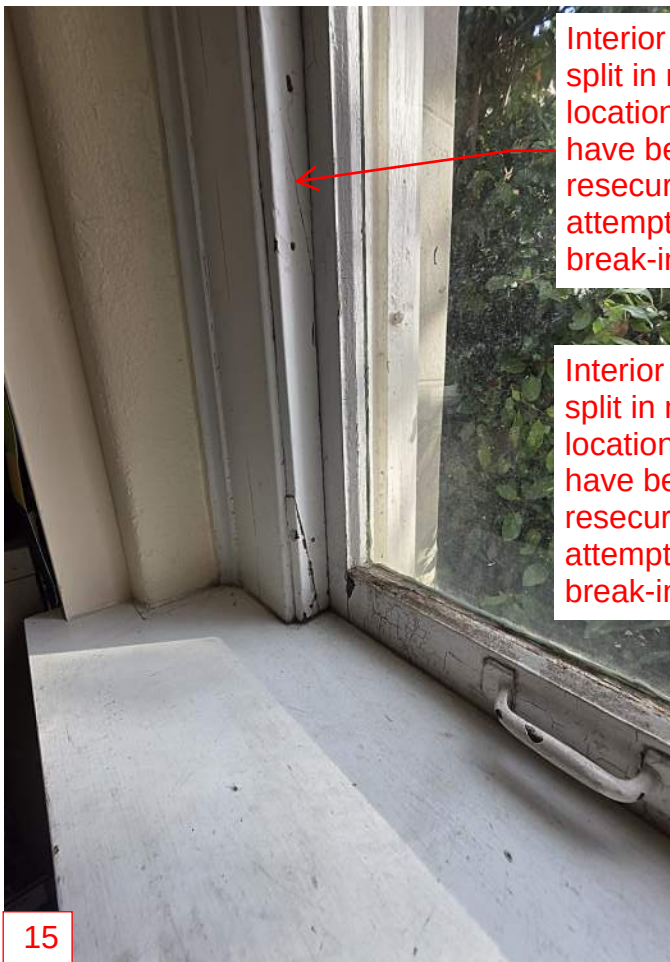






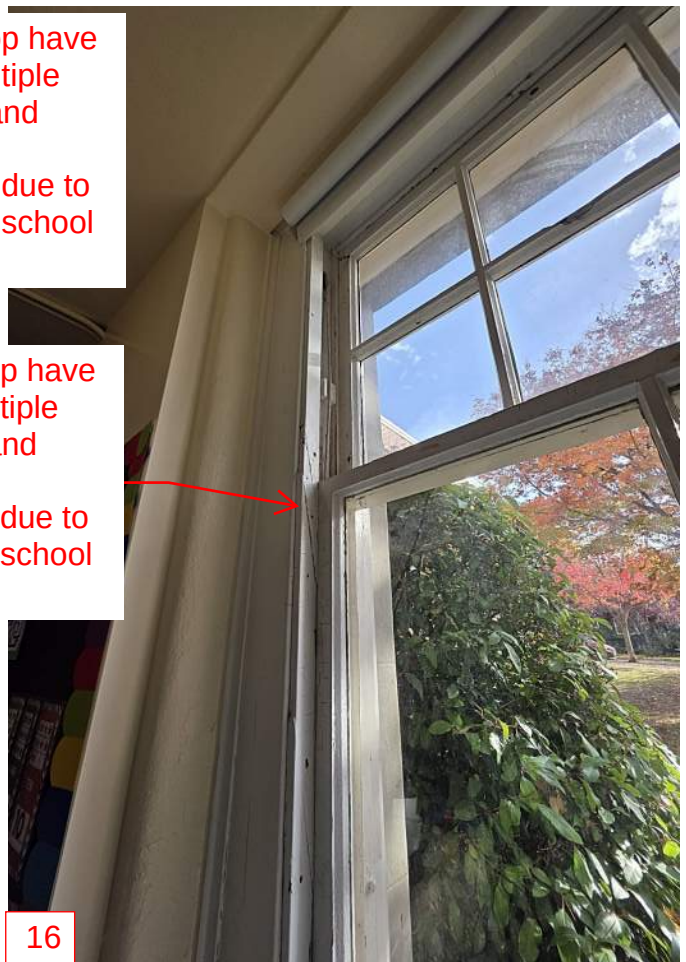


Window stile is cracked and held together with duct tape



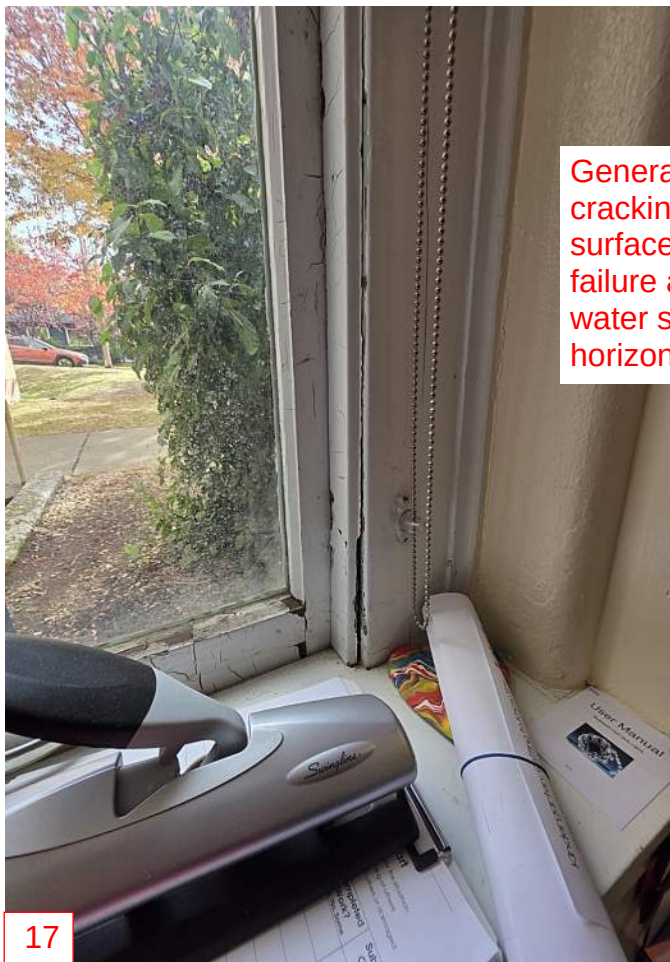
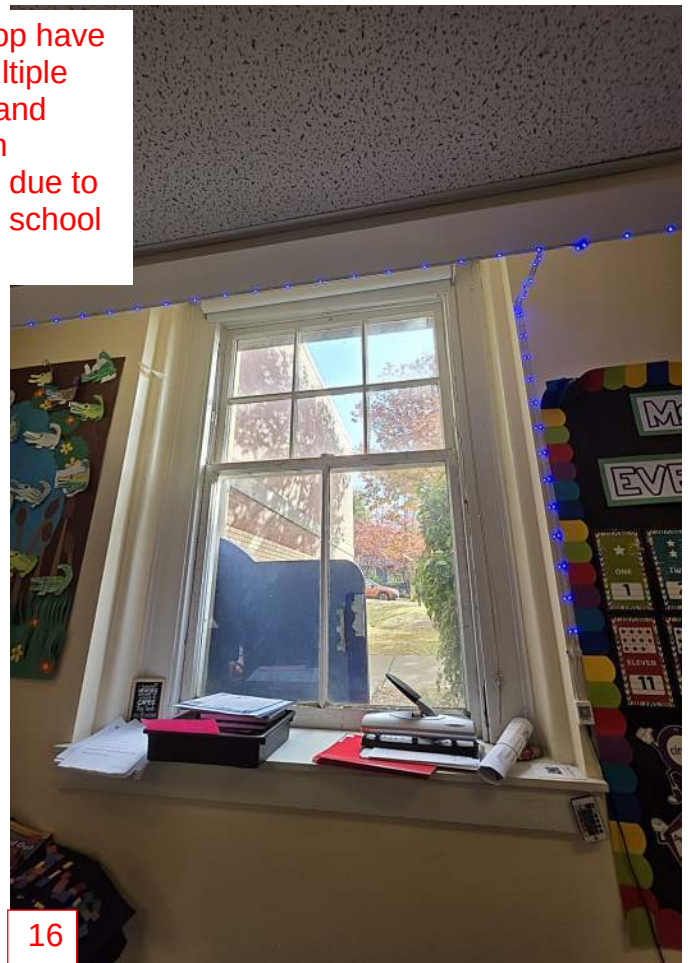
Interior stop have split in multiple locations and have been resecured due to attempted school break-ins

Interior stop have split in multiple locations and have been resecured due to attempted school break-ins

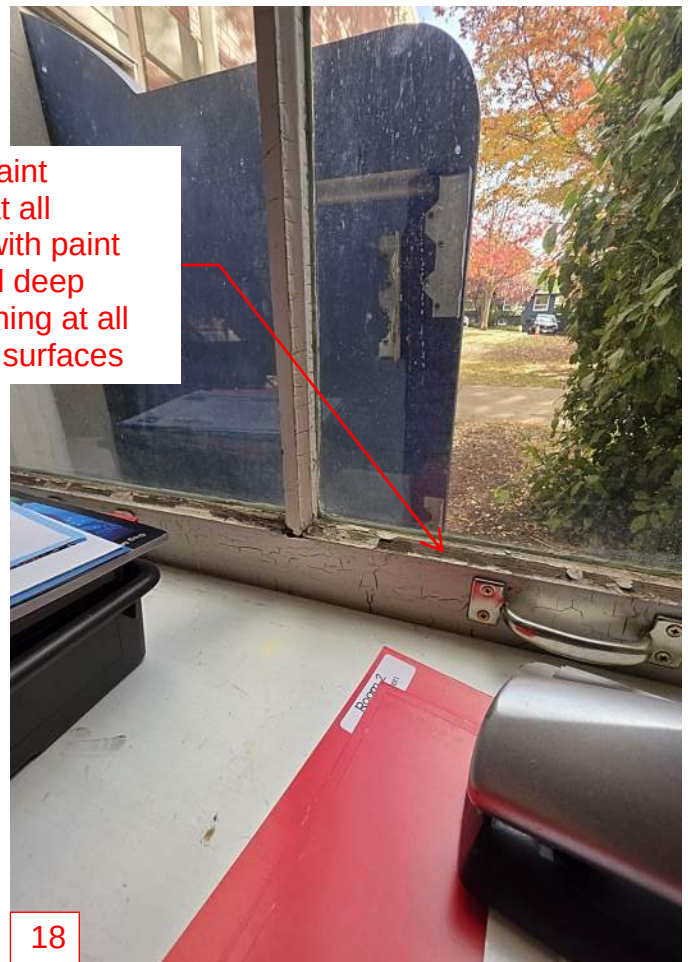


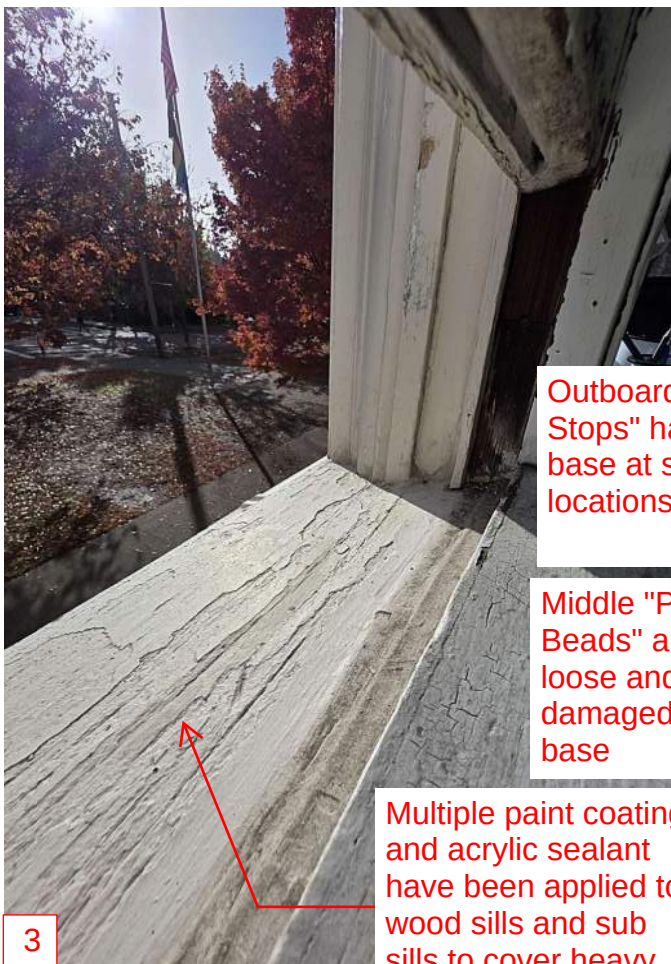


Interior stop have split in multiple locations and have been resecured due to attempted school break-ins



General paint cracking at all surfaces with paint failure and deep water staining at all horizontal surfaces

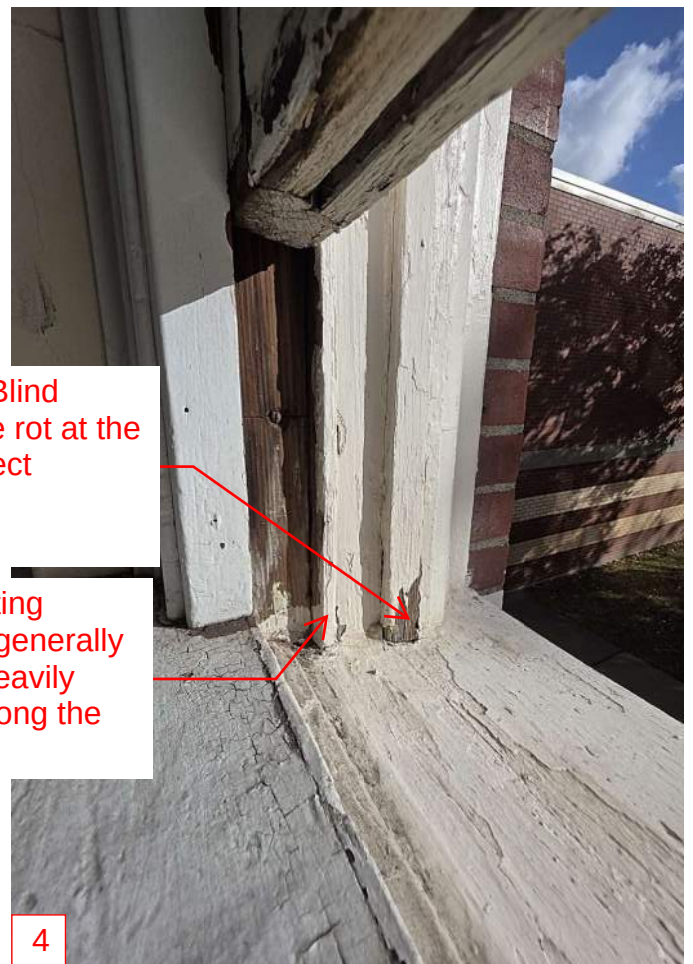


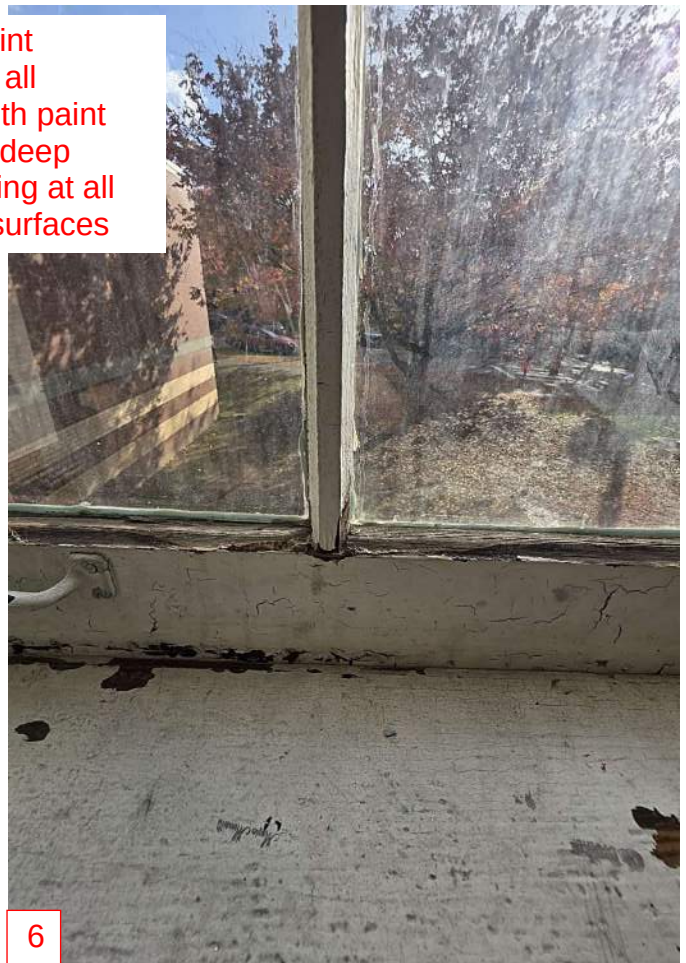


Outboard "Blind Stops" have rot at the base at select locations

Middle "Parting Beads" are generally loose and heavily damaged along the base

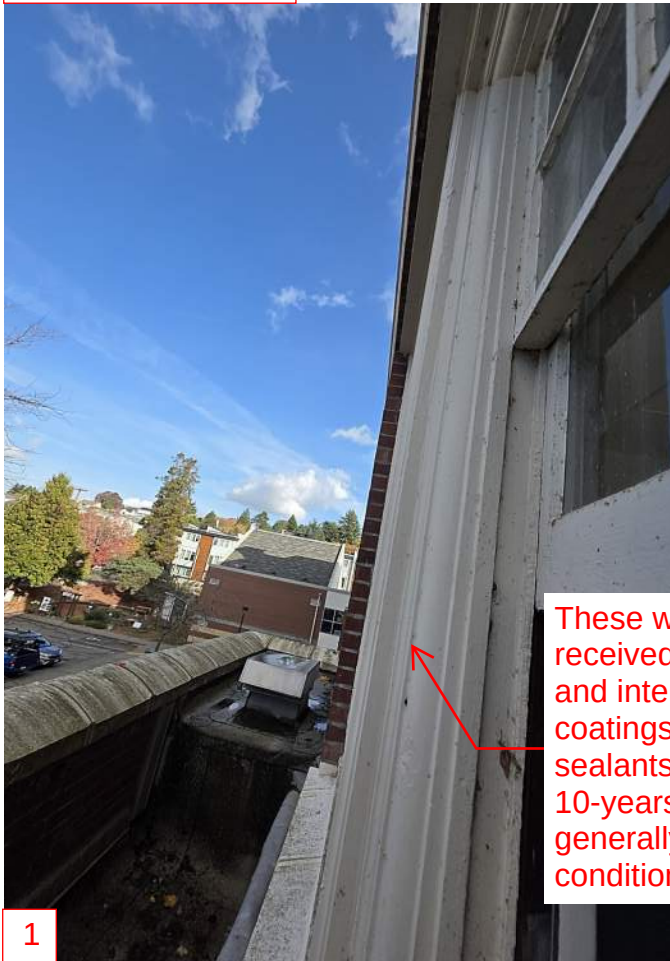
Multiple paint coating and acrylic sealant have been applied to wood sills and sub sills to cover heavy pitting.





Classroom 9





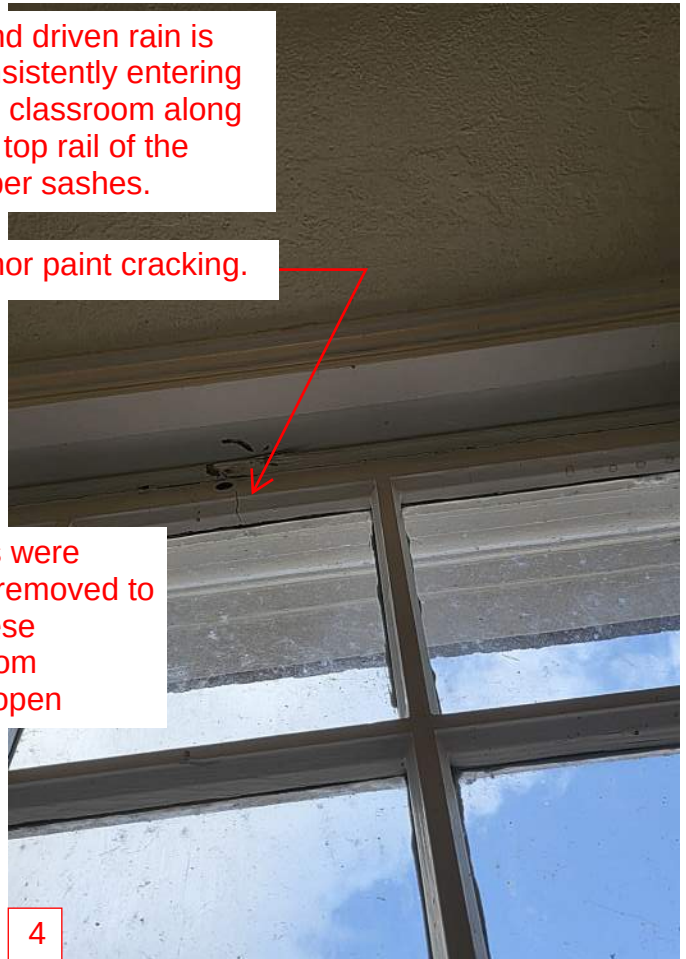
These windows have received new exterior and interior paint coatings and glazing sealants in the last 10-years and are generally in fair condition



Wind driven rain is consistently entering this classroom along the top rail of the upper sashes.

Minor paint cracking.

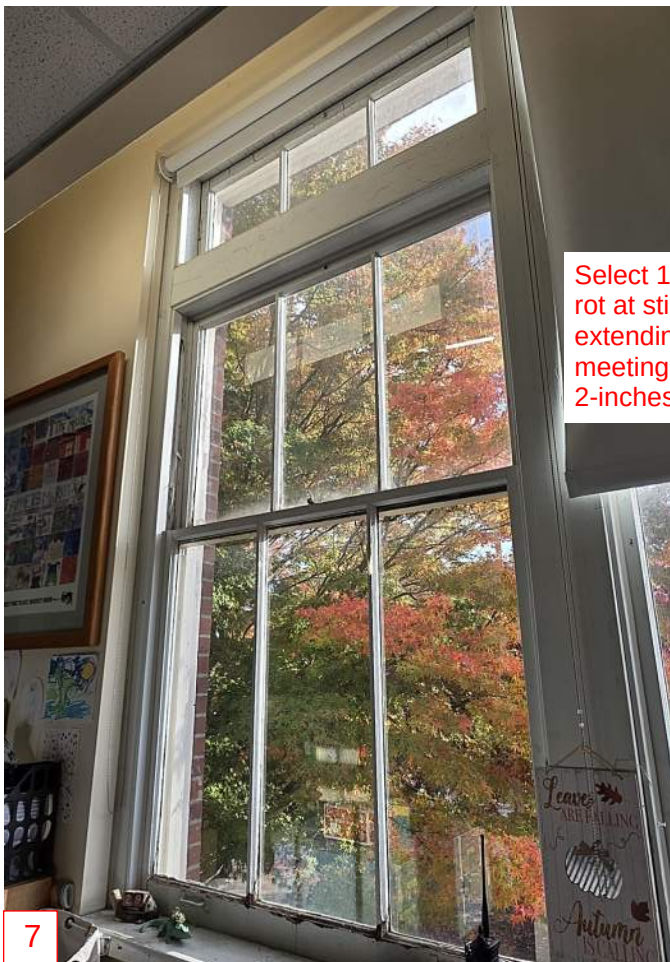
Sash cords were previously removed to prevent these windows from remaining open





Paint coating are in fair condition except in select wear locations such as the underside of the lower sashes bottom rail.

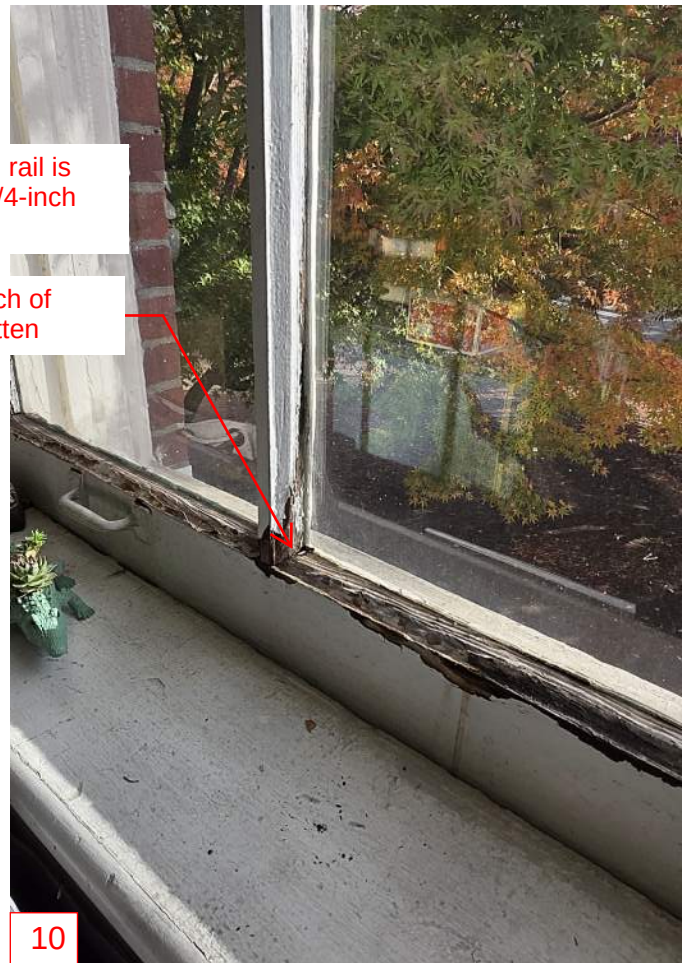






Entire wood rail is rotten to ~1/4-inch deep

Bottom 1-inch of muntin is rotten



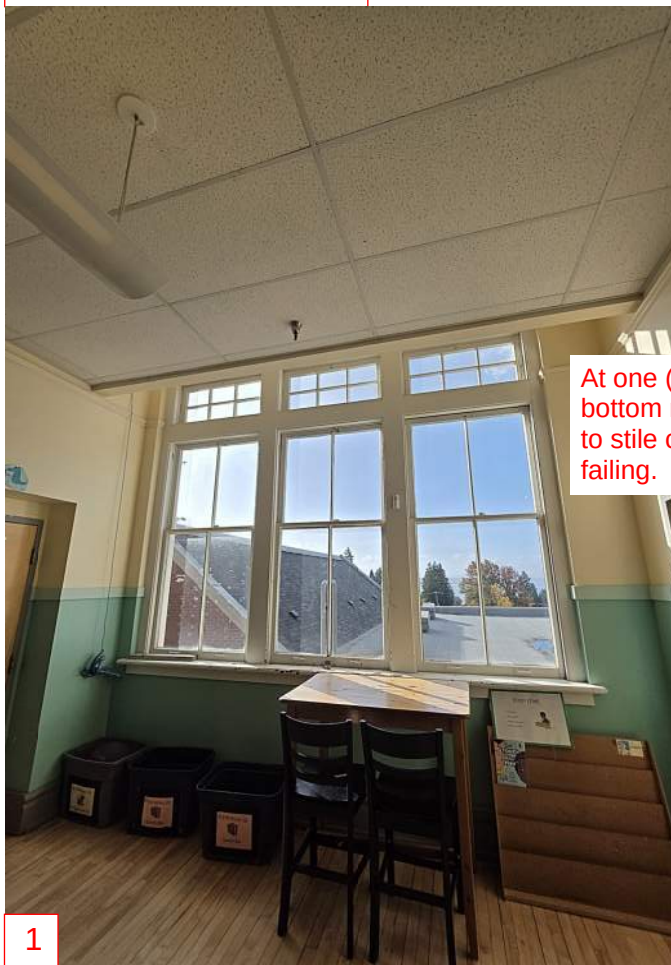
Sash cord repair needed

Select 1/4-inch deep rot at stile to glass extending from meeting rail and up 4-inches



Wood rail is rotten to ~1/2-inch deep

Hallway 3rd Floor West



At one (1) sash, the bottom right wood rail to stile connection is failing.

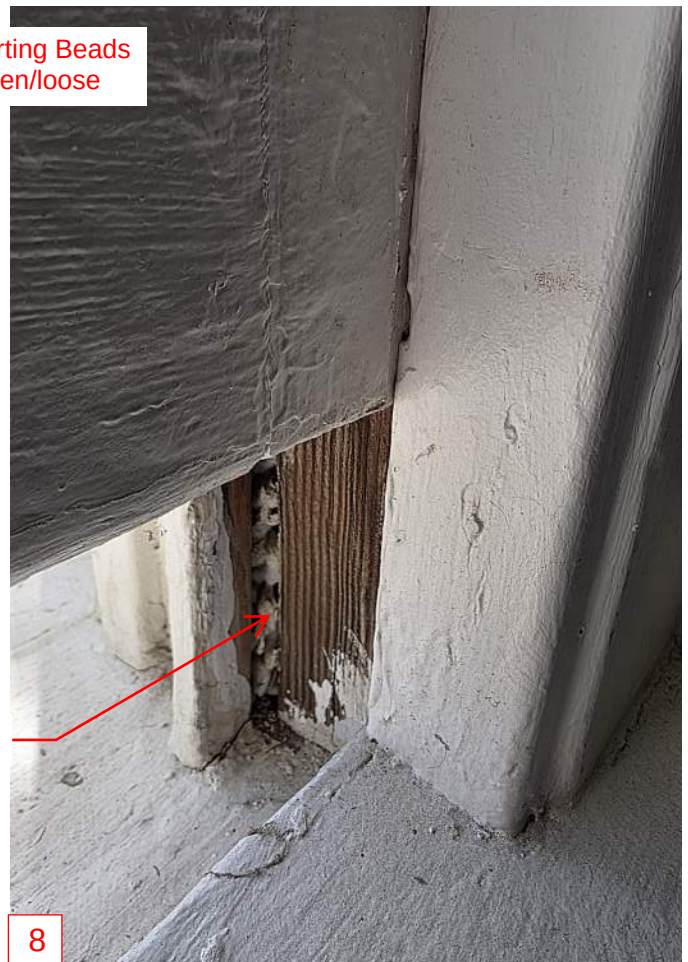
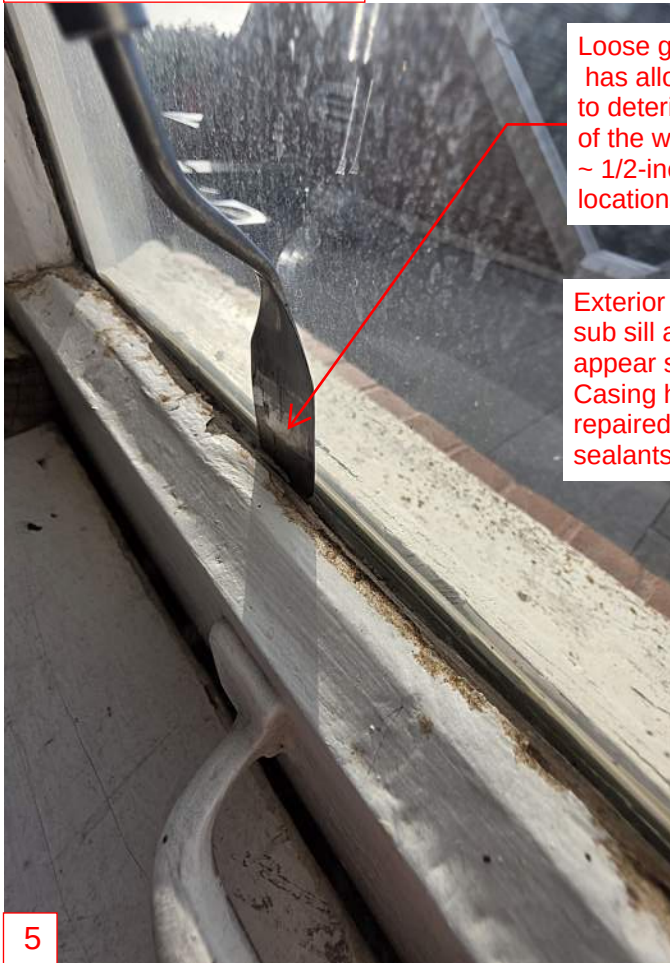


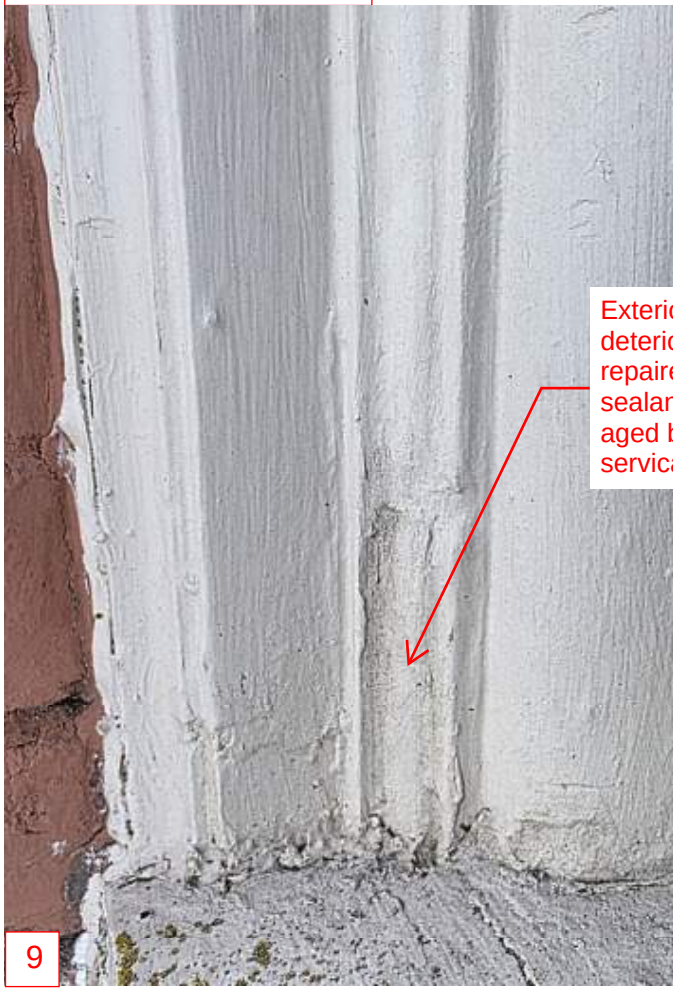
Center window vertical muntin is broken at the base. Glazing is loose.

Loose glazing/sealant has allowed moisture to deteriorate the top of the wood rail. Rot is ~ 1/2-inch deep in locations.

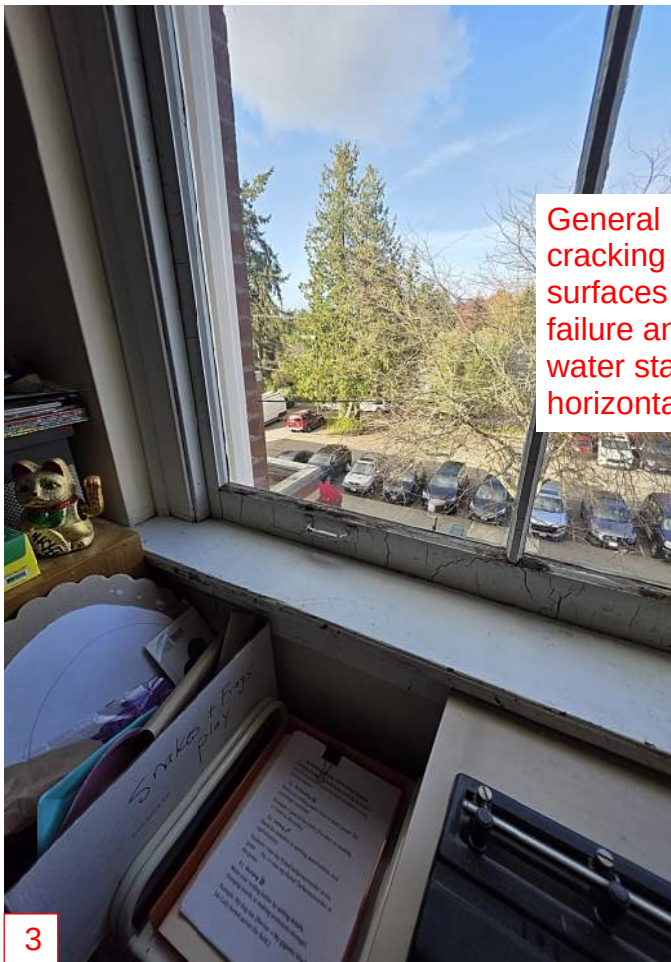
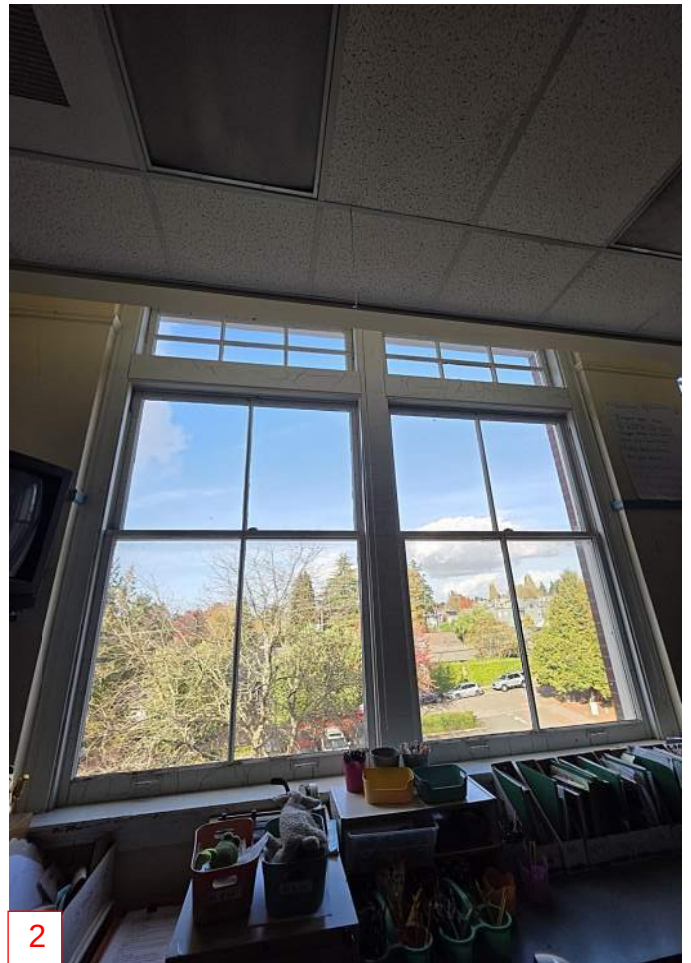


Hallway 3rd Floor West



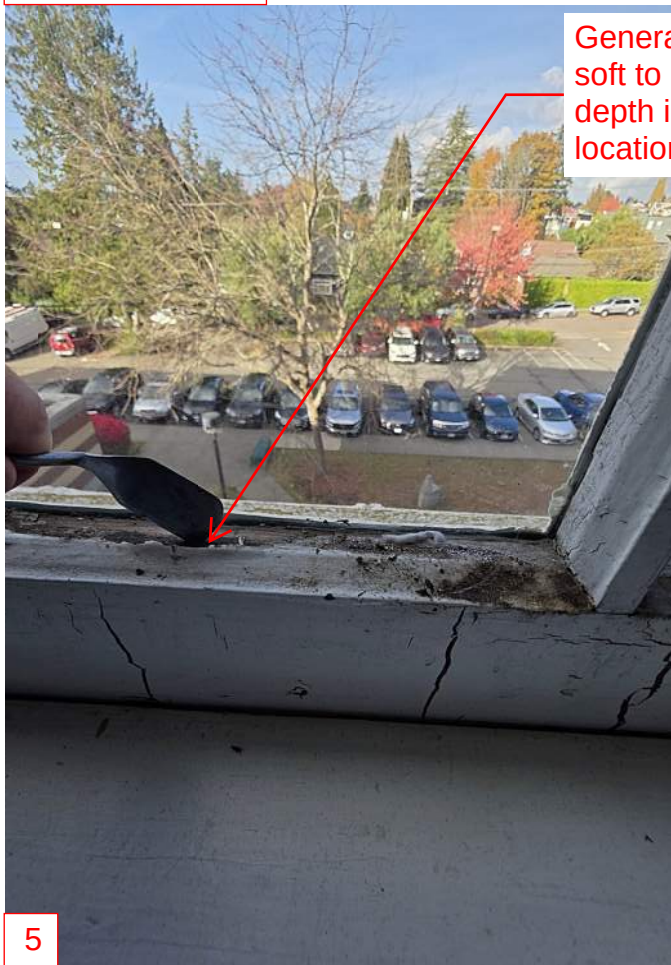


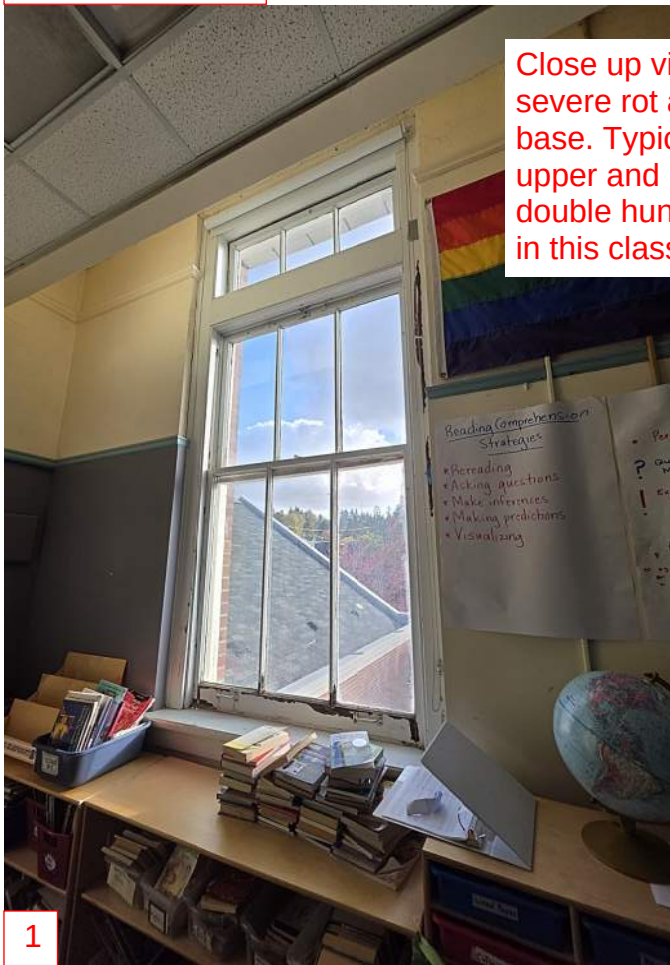
Exterior casing deteriorated and repaired with paintable sealants. Sub sills are aged but appear servicable.



General paint cracking at all surfaces with paint failure and deep water staining at all horizontal surfaces







Close up view of severe rot at muntin base. Typical for all upper and lower double hung sashes in this classroom

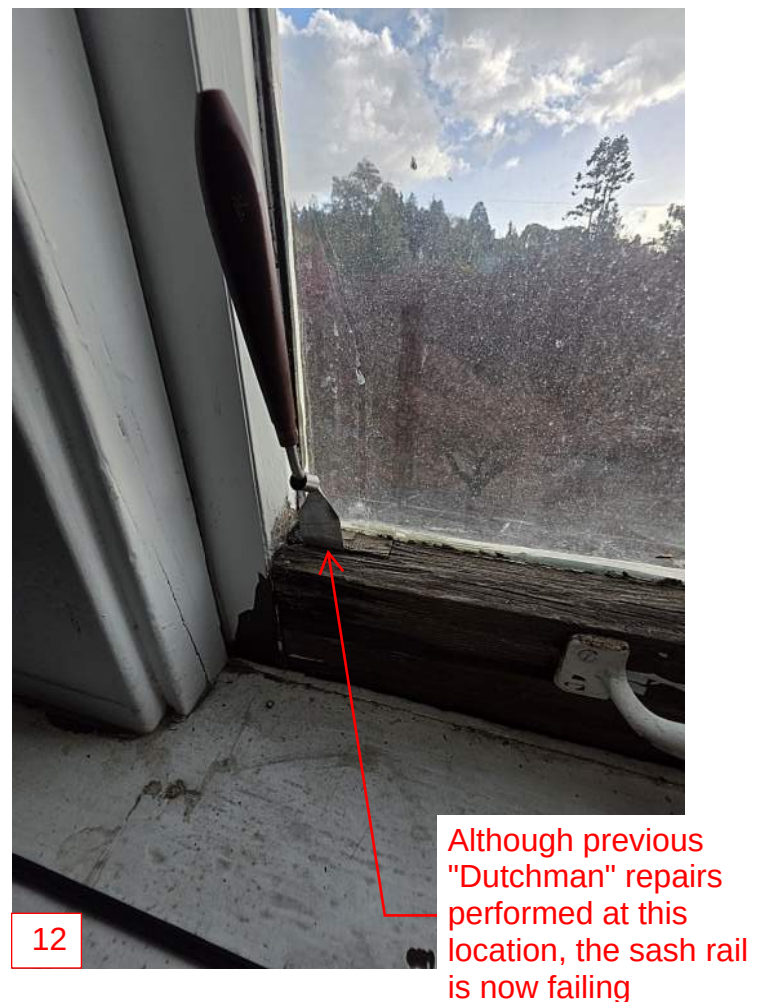
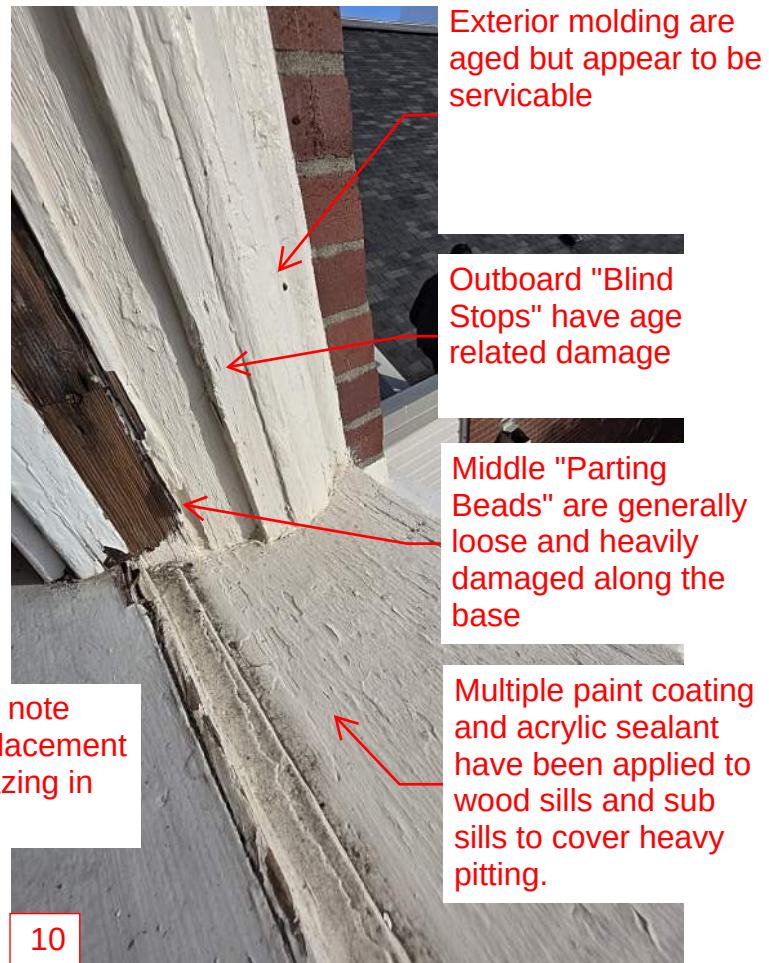


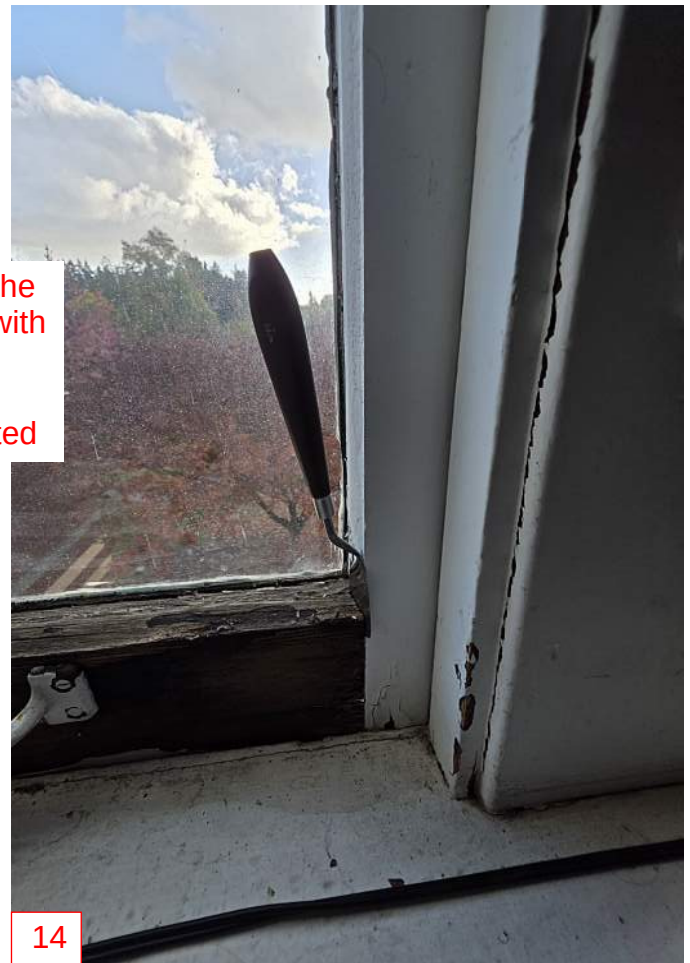
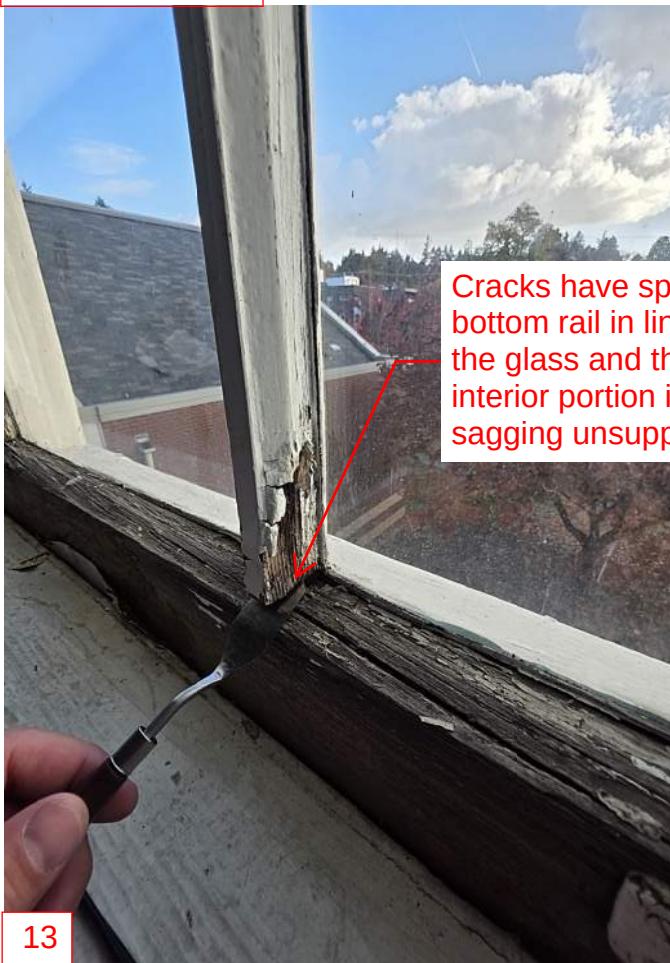
Bottom corner of rail has rotted/split off. This window and many others in this classroom have been made inoperable for safety

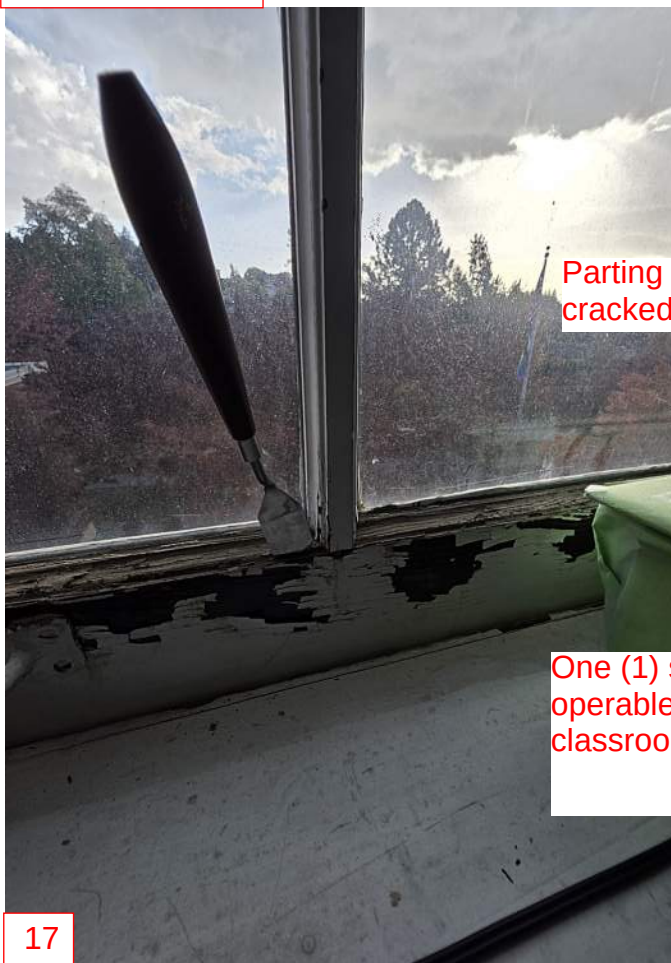


Bottom rails in this room are severely rotted. Probes can be inserted vertically completely through the bottom rail.



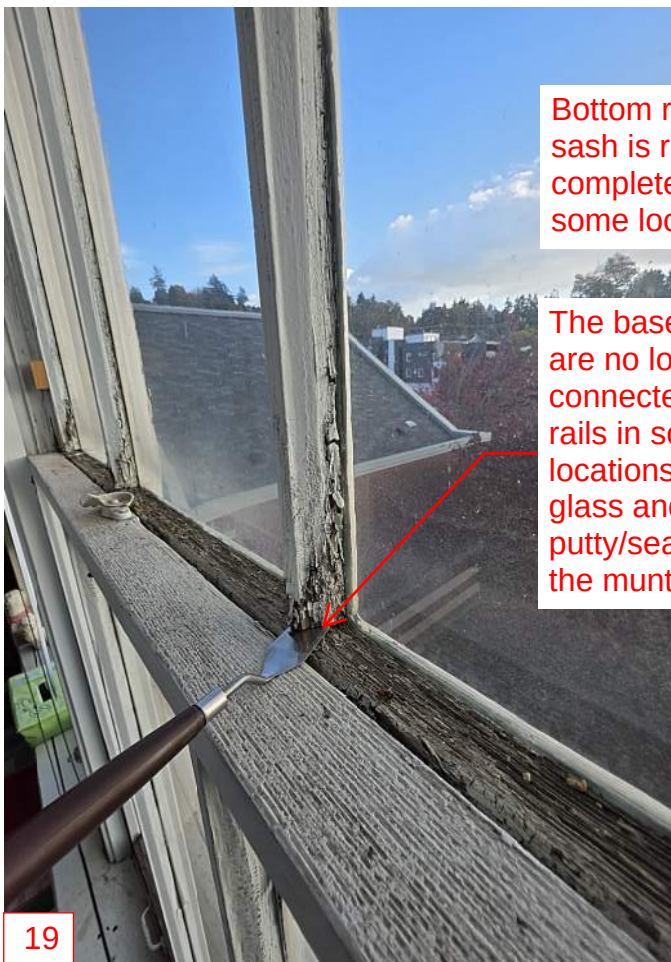
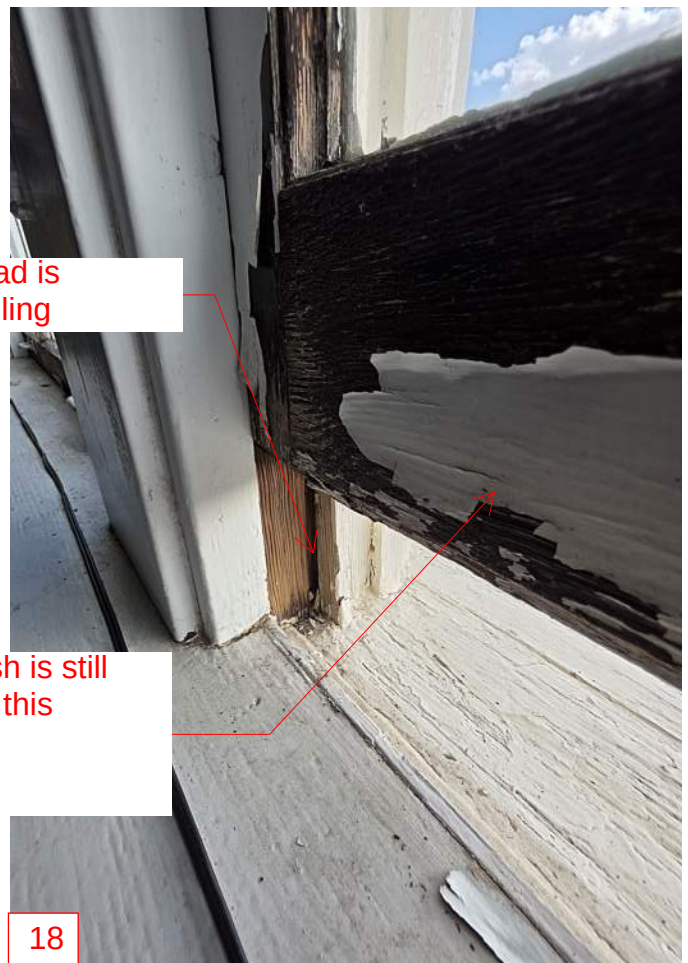






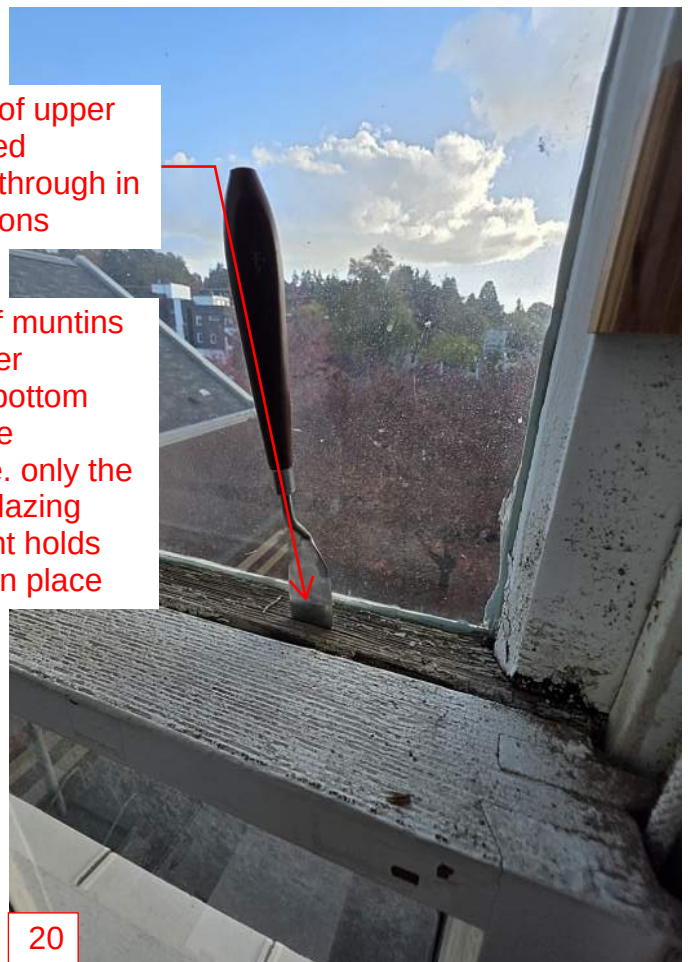
Parting bead is cracked/failing

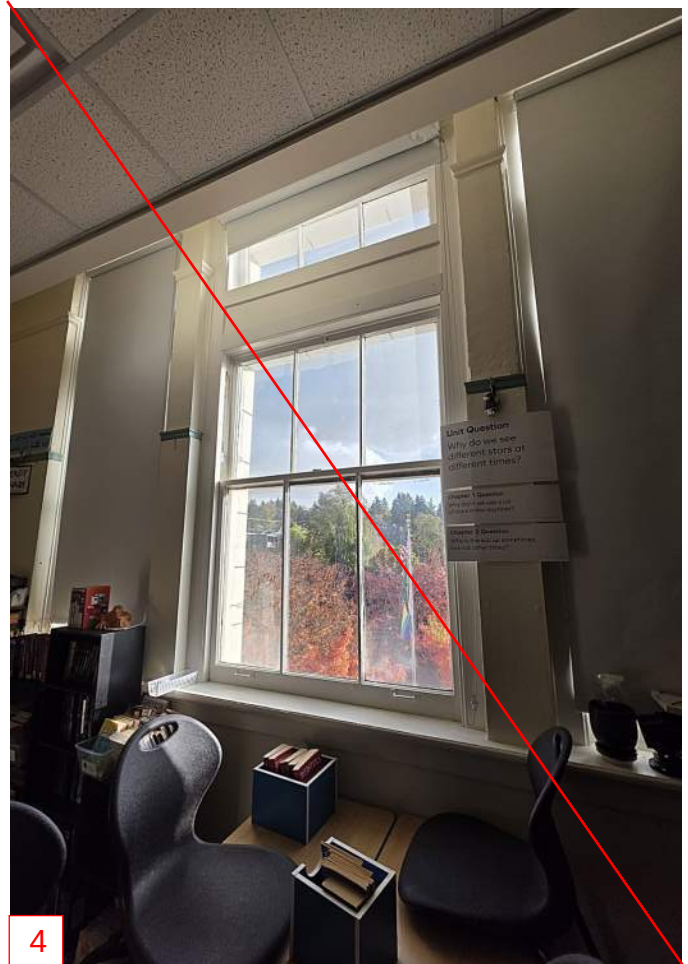
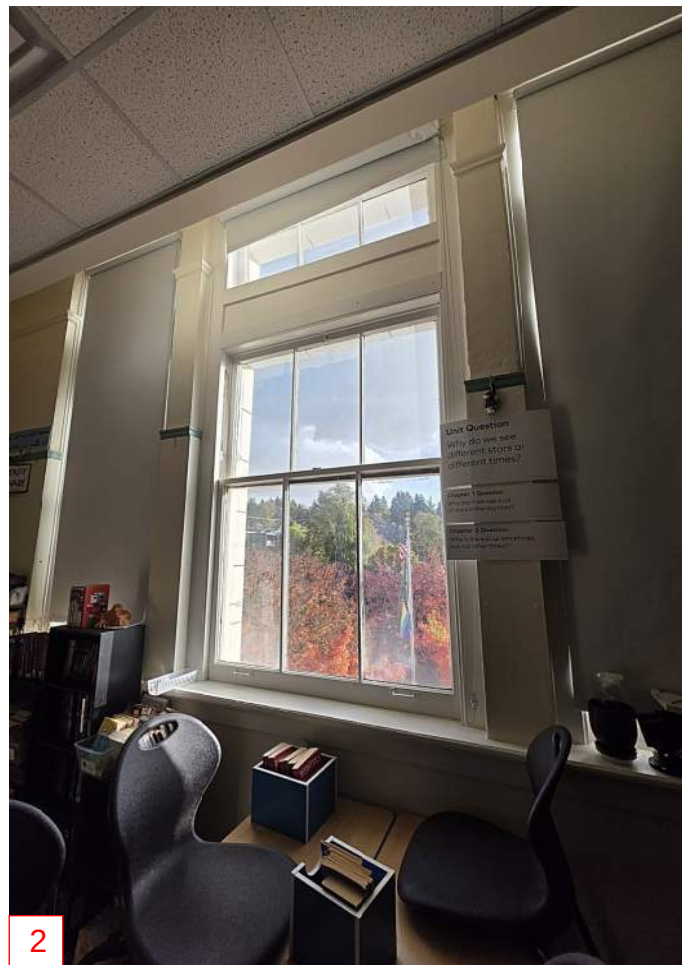
One (1) sash is still operable in this classroom



Bottom rail of upper sash is rotted completely through in some locations

The base of muntins are no longer connected bottom rails in some locations, i.e. only the glass and glazing putty/sealant holds the muntin in place







PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Project drawings and general provisions of the Construction Contract, including General and Supplementary Conditions, Division 01 Specification Sections and bidding requirements, apply to the work of this Section.
- B. Technical publications, standards, and reference documents as outlined in individual Technical Sections and as indicated on Project Drawings.
- C. Current Seattle Building Code, and all other applicable codes and regulations required for the Project.
- D. This Specification shall be read as a whole by all parties concerned. Each Section may contain more or less the complete work of any trade. The Contractor is solely responsible to make clear to the Sub-contractors the extent of their work and coordinate overlapping work.

1.02 SUMMARY

- A. Work in this section includes:
 - 1. Shop fabricated metal clad wood windows.
 - 2. Shop glazing
 - 3. Operable hardware and weather-stripping
- B. Related Sections include the following:
 - 1. Divisions 0 and 1 – All related Sections.
 - 2. **Section 01 11 10 – Summary of Hazardous Materials Work.**
 - 3. Section 02 41 19 – Selective Demolition, for removal and legal disposal of existing building components including existing wood blocking and trim as required to facilitate new window installation.
 - 4. **Section 02 82 00 – Asbestos Abatement, for abatement and legal disposal of Asbestos containing sealants or glazing putty at wood windows scheduled to be removed as part of this Project.**
 - 5. Section 06 10 00 – Rough Carpentry, for shimming, blocking, or replacement of wood substrates as required to install the new Aluminum Clad Wood Windows of this Section
 - 6. Section 07 92 00 – Joint Sealants
 - 7. Section 08 80 00 – Glazing, for glass and site glazing associated with the work of this Section.
 - 8. Section 09 90 00 – Painting, for site coating of wood surfaces.

1.03 BENCHMARK STANDARDS AND REFERENCES

- A. American Society for Testing and Materials (ANSI)
 - 1. ANSI/NWMA I.S.2 – Wood Windows
- B. UL 723 – Standard for Test for Surface Burning Characteristics of Building Materials Current Edition, Including All Revisions
- C. 2021 Seattle Building Code (SBC).
- D. Note: The above referenced documents apply to this Project, and if a conflict may arise between the referenced industry documents, the Project Documents, the Manufacturer's published literature, or current building code, the most conservative shall apply.

1.04 ACTION SUBMITTALS

- A. Submittal Requirements: Submit the following, according to Conditions of the Construction Contract, Division 1 Specification Sections, and as required herein, to the Project Architect for review and potential approval prior to the Pre-Construction Conference.
- B. General: Submit each item in this Article in accordance with Section 01 33 00.
- C. Shop Drawings, indicating fabrication and installation methods, to include dimensions, relation to construction of adjacent work, air and vapor barrier seal to adjacent construction, required anchorage and blocking, accessory items, materials, finishes, and hardware installation details.
- D. Two samples of glazed window frame, corner, mullion joint and operating sash, operating hardware, illustrating quality of joint, color and texture of finish.

1.05 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer
- B. Product Test Reports: For each type of wood window, for tests performed by a qualified testing agency.
- C. Field quality-control reports.
- D. Sample Warranties: For manufacturer's warranties.

1.06 QUALITY ASSURANCE

- A. Contractor and Trade-specific Sub-contractor/Installer shall provide experienced supervisors (i.e. Superintendent and Foreman or Foreperson) and crew personnel to perform the work, whom are trained in the application of the materials and procedures specified in this Section. Foreperson shall have a minimum 5 years' experience with specified system installation, on projects with similar scope.

- B. Sub-contractor shall possess documented experience on at least five (5) successful, similar size and scope projects using the specified system. Provide written listing of at least five (5) such projects.
- C. Crew size shall be adequate to complete the Project per agreed upon project schedule and substantial completion date.
- D. Foreman is required to have a complete set of the Project Manual, Project Drawings, and Product Manufacturer's Installation Instructions easily accessible on-site while work is in progress.
- E. Contractor shall provide documentation from the Manufacturer that Trade-specific Sub-contractor/Installer meets the experience and training requirements for the specified materials and system. Contractor shall maintain on-site supervision continuously to assure on-going quality control during the installation.
- F. The Contractor shall notify the Architect, the Owner's Project Manager, and Manufacturer at least fourteen (14) days prior to commencement of the work.
- G. The General Contractor and Sub-contractors shall be responsible for complete, watertight, and weatherproof building envelope systems and assemblies. The Contractor shall establish and follow best practices for the trade and provide quality-control and quality assurance for the successful completion of the building envelope systems.
- H. On-Site Observation and Testing:
 - 1. The Owner reserves the right to have a Consultant or Monitor perform observation or monitoring of the installation.
 - 2. Such observation shall not relieve the Contractor of responsibility for proper execution and thorough completion of the Work.
 - 3. Any testing that may be deemed necessary will be performed to determine compliance with these Contract Documents.

1.07 **REGULATORY REQUIREMENTS**

- A. Conform to the Seattle Building Code for wind and suction loads.
- B. No Modifications to the Specification, Project Drawings, or substitutions of specified products are allowed without prior approval of the Seattle Department of Neighborhoods Landmarks Preservation Board.

1.08 **WARRANTY**

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace wood windows that fail in materials or workmanship within specified warranty period
 - 1. Warranty Period:
 - a. Window: 20-years from the date of final completion.
 - b. Glazing Units: 20-years from the date of final completion.
 - c. Aluminum-Cladding Finish: 20-years from the date of final completion.

- B. Warranty: Include coverage of insulating glass units and delamination or separation of finish cladding from window member.

PART 2 – PRODUCTS

2.01 SOURCE LIMITATIONS

- A. Obtain wood windows from a single source from a single manufacturer approved by the Seattle Department of Neighborhoods Landmarks Preservation Board for use in replacing the existing wood windows at Gatewood Elementary School

2.02 WINDOW PERFORMANCE REQUIREMENTS

- A. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440
 - 1. Minimum Performance Class: LC
 - 2. Minimum Performance Grade: 25
- B. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of;
 - 1. 0.36 for operable windows.
 - 2. 0.34 for fixed windows.
- C. Solar Heat-Gain Coefficient (SHGC); NFRC 200 maximum whole-window SHGC of:
 - 1. To meet the minimum requirements of the 2021 Seattle Energy Code, pending Landmarks Board Approval
- D. Sound Transmission Class (STC): Rated for not less than 36 OITC when tested for laboratory sound transmission loss in accordance with ASTM E90 and determined by ASTM E413.
- E. Outside-Inside Transmission Class (OITC): Rated for not less than 32 when tested for laboratory sound transmission loss in accordance with ASTM E90 and determined by ASTM E413.

2.03 WOOD WINDOWS

- A. Aluminum-Clad Wood Windows
 - 1. Basis-of-Design Product: Subject to compliance with requirements and Landmarks Preservation Board Approval, provide Kolbe Windows & Doors; Ultra Series or comparable approved product by one of the following:
 - a. Marvin Windows and Doors.
 - b. Loewen Windows.

- B. Operating Types: Provide the following operating types in locations indicated on Drawings.
1. Single hung. (to be determined based on Landmarks Board Approval).
 2. Double hung (to be determined based on Landmarks Board Approval).
 3. Awning: Project Out. (to be determined based on Landmarks Board Approval).
 4. Fixed. (to be determined based on Landmarks Board Approval).
- C. Frames and Sashes: Fine-grained wood lumber complying with AAMA/WDMA/CSA 101/I.S.2/A440; kiln-dried to a moisture content of not more than 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch (0.8 mm) deep by 2 inches (51 mm) wide; water-repellent preservative treated.
1. Exterior Aluminum Surfaces: Aluminum cladding with manufacturer's standard fluoropolymer two-coat system with fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight and complying with AAMA 2605.
 - a. Paint Color: Matching historic wood window color.
 2. Interior Wood Surfaces: Manufacturer's standard factory-applied color finish.
 - a. Wood Species: Alder, Vertical grain fur. (to be determined based on Landmarks Board Approval).
 - b. Paint Color: Matching historic wood window color.
 3. Installation Clips: Provide manufacturer's standard clips of sufficient strength to withstand design pressure indicated.
- D. Insulating-Glass Units: Sealed double pane units, outer pane of clear with specified low-e coating on #2 surface, inner pane of clear glass; argon-filled; pane thickness determined by size and/or wind and suction loads; total unit thickness not less than 1 inch.
1. Glass: ASTM C1036, Type 1, Class 1, q3.
 - a. Tint: Clear.
 - b. Kind: As indicated on the Project Drawings
 - c. Lites: Two (2)
 - d. Filling: Fill space between glass lites with argon.
 2. Low-e Coating:
 - a. Basis of Design: Guardian Glass "ClimaGuard IS 20" on #4 surface.
 - b. Allowable Alternate: PPG Solarban 70 Clear on #2 surface.
- E. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-

resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.

1. Exposed Hardware Color and Finish: **Antique brass. (to be determined based on Landmarks Board Approval).**
2. Sash Locks: Manufacturer's heavy-duty lever handle with cam lock.

F. Projected Window Hardware:

1. Limit Devices: limit devices designed to restrict sash opening for all ground floor level windows.
 - a. Limit clear opening to 4-inches for ventilation; with custodial key release.

G. Hung Window Hardware:

1. Counterbalancing Mechanism: Complying with AAMA 902, concealed, of size and capacity to hold sash stationary at any open position.
2. Locks and Latches: Allow unobstructed movement of the sash across adjacent sash in direction indicated and operated from the inside only. Provide custodial locks.

H. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.

I. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.

1. Exposed Fasteners: Do not use exposed fasteners to greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

J. Grilles (False Muntins): Provide grilles in design to each sash lite per Project Drawings.

1. Type: Exterior and interior, adhered to glass without bars between glass. **(to be determined based on Landmarks Board Approval).**
2. Material: To match adjacent finish of window sash.
3. Design: As indicated on Project Drawings.
4. Bar Width: **1-3/8 inches to match historic bar width.**

5. Interior Bar Profile: **Diamond to match historic profile.**
6. Exterior Aluminum Finish: Aluminum cladding with manufacturer's standard fluoropolymer two-coat system with fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight and complying with AAMA 2605.
7. Exterior Paint Color: Matching historic wood window color.
8. Interior Wood Finish: Manufacturer's standard factory-applied color finish.
 - a. Wood Species: **Alder**, Vertical grain fur. **(to be determined based on Landmarks Board Approval).**
 - b. Paint Color: Matching historic wood window color.

2.04 **FABRICATION**

- A. Fabricate wood windows in sizes indicated. Include a complete system for installing and anchoring windows.
- B. Glaze wood windows in the factory.
- C. Weather strip each operable sash to provide weathertight installation.
- D. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.
- E. Fabricate framing mullions and sash members with mortise and joints. Glue and steel pin joints to hairline fit, weather tight.
- F. Scarf joints permitted if wood matches in color and grain texture.
- G. Form sills and stools in one piece. Slope sills for wash.
- H. Form glass stops of solid wood sloped for wash. Form weather stop flange to perimeter of unit.
- I. Assemble insect screens of rolled rectangular sections with mesh set into frame and secured. Fit frame with four spring loaded pin retainers.
- J. Size window units to allow for tolerances of rough framed openings, clearances, and shim spacing around perimeter of assemblies.
- K. Match and align cladding joints for continuity of line and design.
- L. Provide internal drainage to exterior for moisture entering glazing spaces.

- M. Double weather-strip operable units.

2.05 EXTERIOR ALUMINUM FINISHES

- A. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine: Inspect fenestration rough openings, substrates, framing members, anchorage, and related conditions, with the Installer and the Installer's foreman present, for compliance with requirements for installation tolerances before beginning installation. Verify that rough opening size is correct and will accommodate fenestration unit and all associated flashings and components, and adhere to manufacturer's recommendations. Examine rough opening for: level, plumb, and square watertight rough opening, and without twist.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.
- C. Test: New or existing wood components used in the exterior building envelope assemblies, require a maximum moisture content of 15 percent for all thicknesses when tested with a calibrated Delmhorst BD-2100 moisture meter using the integral 5/16-inch pins.
- D. Modify rough opening per Project details to accommodate associated rough opening flashings, and sealants.
- E. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
- F. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Wash down adjacent masonry or surrounding substrates before erection commences to prevent damage to finish by cleaning materials.
- B. Prior to installation of fenestration system, protect fenestration, wood, concrete, plaster, and gypsum substrates from weather, moisture, and damage. Install water-resistive barrier system and membrane and sheet metal flashings to clean dry substrates.
- C. Prior to installation, remove all adhesive labels and contaminants from frame to ensure full-adhesion of flashing and sealants.

3.03 INSTALLATION, GENERAL

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E2112.
- B. Install fenestration level, plum, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.
- C. Install fenestration to produce proper, easy operation, and leak-free fully water-tight and secure performance.
- D. Rough Opening Flashing: Prior to installation of fenestration, flash fenestration rough openings per Project Drawings for fully leak-free and watertight performance of installed fenestration assembly.
- E. Coordinate installation with rough opening flashings and other components of the work. See Project Drawings for fenestration flashing details prior to fenestration installation.
- F. Do not install fenestration units in rough opening if rough opening flashing is damaged. Correct fenestration rough opening flashing prior to unit installation.
- G. Install fenestration, and components to drain condensation, water penetrating joints, and moisture migrating within fenestration to exterior.
- H. Attach new fenestration per Manufacturer's written recommendations and Structural Engineer Approved Shop Drawings. Do not place fasteners through rough opening flashing at horizontal surface of sills.
- I. Set sill members in bed of sealant or with gaskets, as indicated, to provide weathertight installation.
- J. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials according to ASTM E 2112 Section 5.12 "Dissimilar Materials".
- K. Exterior Sealant Joints: Install properly backed sealant joints at exterior fenestration frame-to-rough opening perimeter joints as shown in Project Drawings. Install weep tubes as required at window sills.
 - 1. Install backer rod between fenestration frame and rough opening flashings. Where sufficient clearance does not exist to install backer rod, install bond breaker tape as specified in Section 07 92 00 – Joint Sealants.
 - 2. Install sealant joints at fenestration perimeter per Section 07 92 00 – Joint Sealants. Ensure joint is continuous and watertight. Allow no air leakage around fenestration.
- L. Interior Perimeter Air Seal: Install continuous sealant joint at interior perimeter of fenestration.

1. Install backer rod between fenestration frame and rough opening flashing.
2. Install continuous air sealant joint that does not allow for air leakage around the fenestration.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 40 00 – Quality Requirements, for independent field testing and inspection requirements, and requirements for monitoring quality of specified product installations.
- B. In-Situ Water Testing: The Owner, through their Building Envelope Consultant, may engage a window water testing agency to perform required water testing of fenestration units. Water testing reports, outlining the results of the tests, will be provided by the testing agency. Testing agency to perform In-Situ Water Penetration testing under Cyclic Pressure According to ASTM E1105.
 1. Test Pressure: Two-thirds times test pressure required to determine compliance with AAMA/WDMA/CSA 101/LS.2/A440 performance grade indicated for four (4) five-minute cycles. Full pressure of 10 psf., for four (4) five-minute cycles. No AAMA deduction in pressure shall be allowed or considered.
 2. Allowable Water Infiltration: No water penetration through the unit.
 3. Testing Extent: Four (4) windows of each operable type as selected by the Architect. Windows are to be tested after perimeter sealants have cured.
- C. Windows will be considered defective if they do not pass tests and inspections.
- D. Contractor shall produce Quality Control Reports at a minimum frequency of bi-weekly after the removal of existing wood windows. Reports shall be provided to the Architect and Owner.

3.05 TOLERANCES

- A. Plumb and level: Plus or minus 1/8-inch from true measurement.
- B. Longitudinal or Diagonal Warp: Plus or minus 1/8-inch from 10-foot straight edge.

3.06 ADJUSTING, CLEANING, AND PROTECTION

- A. Refer to Section 01 74 19 – Construction Waste Management and Disposal, for additional requirements.
- B. Lubricate hardware and moving parts.
- C. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.

1. Adjust hardware for proper alignment, smooth operation, and proper latching without unnecessary force or excessive clearance.
- D. Clean exposed surfaces immediately after installing windows. Remove excess sealant, glazing materials, dirt, and other substances.
1. Keep protective films and coverings in-place until final cleaning.
 2. Remove excess glazing sealant by moderate use of mineral spirits or other solvent acceptable to sealant and window manufacturer.
 3. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.
- E. Protect fenestration surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact fenestration surfaces, remove contaminants immediately according to manufacturer's written instructions.
- F. Remove and replace sashes if glass has been broken, chipped, cracked, abraded, or damaged during construction period.
- G. Remove labels and visible markings.
- H. Replace units when repair is unsatisfactory to the Architect or Owner, or is impractical.
- I. Provide thorough final cleaning at close-out, including window frames, glass, and adjacent surfaces. Clean drainage channels, weep holes, and vents for free-flowing drainage, and complete and proper drainage.

3.07 CONTRACTOR'S GUARANTEE FORM

(See Following Pages)

END OF ALUMINUM-CLAD WOOD WINDOWS