Washington State School Seismic Safety Assessments Project

SEISMIC UPGRADES CONCEPT DESIGN REPORT

Cosmopolis Elementary School – Main Building

Cosmopolis School District 099

June 2019

PREPARED FOR

PREPARED BY

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WASHINGTON STATE SCHOOL SEISMIC SAFETY ASSESSMENTS PROJECT

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Edison Elementary School – Main Building

Centralia School District 401

June 2019

Prepared for:

State of Washington
Department of Natural Resources and Office of Superintendent of Public Instruction

6/6/2019

6/5/2019

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EXECUTIVE SUMMARY

This report documents the findings of a preliminary seismic evaluation of the Cosmopolis Elementary School Main Building in Cosmopolis, Washington. The previous school was completely demolished in the late 1950s to make room for the current school. The main building, constructed in 1960, is the oldest of the four existing buildings. The other three buildings are an auditorium, a gymnasium, and a multipurpose building. The auditorium and gymnasium are independent from and located 75 feet southeast of the main building.

The multipurpose building, located approximately 25 feet southeast of the main building, is lightly connected to the main building by a breezeway and the roof of the covered play area. The term "lightly connected" was chosen because the roofs are connected, but do not appear detailed sufficiently to transfer lateral loads between the two buildings.

The main building is L-shaped, with each leg measuring 278 feet long by 72 feet wide. The total floor area is approximately 35,000 square feet. An administrative office area is located in the south end, and the remaining area is largely divided into classrooms on either side of hallways that run the length of the two legs. In 1975, two classrooms were added at each end of the two legs of the main building, and in 2018, the main building and multipurpose building were being "modernized." The 1975 and 2018 updates did not include seismic upgrades. Some time prior to 2018, the original concrete tile roof and a number of the exterior posts were replaced.

The main building structure is a basic wood-framed structure founded on traditional shallow foundations of continuous and pad footings. The original roof had concrete tiles on shakes, with battens running over wood trusses. The roof was replaced in the 1990s or 2000s. The roof trusses are common trusses that span from the longitudinal exterior walls to the parallel hallway walls, creating a valley that runs over the entire length of the hallways. The exterior and interior hallway walls are bearing lines. Because the exterior walls are largely glazed, it suggests the roof trusses are supported by posts and beams. The walls that are transverse to the longitudinal legs are wood-framed, but it is unclear if they are connected to the trusses to form a complete lateral load path.

There is ambiguity about the lateral load path of this building. It is unclear if the roof was sheathed to form a diaphragm. It does not appear that any of the roof trusses are detailed to transfer shear loads from the roof to the interior transverse walls. There is no load path for transferring shear load to the longitudinal hallway walls, if they are intended to serve as shear walls. Finally, the exterior walls are heavily glazed; unless there are moment frames embedded in the structure, there does not appear to be a well-defined lateral load path at the exterior walls.

BergerABAM performed a Tier 1 screening in accordance with ASCE 41 *Seismic Evaluation and Retrofit of Existing Buildings*. The evaluation included field observations and review of record drawings to verify the existing construction. There were a number of deficiencies identified by the Tier 1 Rapid Screening. First, the lateral load path could not be identified, either from the existing drawings or during the site visit. Second, based on the available length of walls that could serve as shear walls, the structure fails the Tier 1 shear stress check. This

indicates that even if there is a well-detailed lateral system, the existing system elements would likely be overstressed.

This building is also deficient in regard to the openings at the exterior walls. The wood bracing panels do not meet the required aspect ratio, and there does not appear to be any positive ties capable of transferring the seismic forces around these openings.

Because the transverse interior walls do not appear to be sufficiently incorporated into the lateral system, the roof diaphragm aspect ratio appears to exceed that permitted for unblocked diaphragms.

Conceptual seismic upgrade recommendations for structural and nonstructural systems are provided to improve the performance of the building to meet the designated performance criteria of ASCE 41. Sketches for the concept-level seismic upgrades are provided in Appendix B. Structural upgrades would include sheathing the roof and detailing for shear transfer to the exterior, interior hallways, and transverse shear walls. Moment frames or braced frames should be added at the exterior walls to increase the lateral load capacity; this would alleviate the need for strapping around the windows. Finally, the lateral system improvements would need to be positively connected to the foundation.

The recommendations for nonstructural upgrades include upgrading the sprinkler systems to comply with NFPA 13, restraining containers holding hazardous materials (if any), bracing suspended ceilings, providing independent supports for light fixtures, anchoring storage cabinets and shelving to adjacent floors or walls, and providing seismic bracing for mechanical equipment and life safety systems.

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Acronyms

ADA	Americans with Disabilities Act
APA	Engineered Wood Association
ASCE	American Society of Civil Engineers
BPOE	Basic Performance Objective for Existing Buildings
BSE	Basic Safety Earthquake
BU	Built-Up
CMU	Concrete Masonry Unit
CP	Collapse Prevention
DNR	Department of Natural Resources
DCR	Demand-to-Capacity Ratio
EERI	Earthquake Engineering Research Institute
EPAT	EERI Earthquake Performance Assessment Tool
FEMA	Federal Emergency Management Agency
IBC	International Building Code
IEBC	International Existing Building Code
ICOS	Information and Condition of Schools
IO	Immediate Occupancy
LS	Life Safety
MCE	Maximum Considered Earthquake
MEP	Mechanical/Electrical/Plumbing
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
OSPI	Office of the Superintendent of Public Instruction
PBEE	Performance-Based Earthquake Engineering
PR	Position Retention
ROM	Rough Order-of-Magnitude
SSSSC	School Seismic Safety Steering Committee
UBC	Uniform Building Code
USGS	United States Geological Survey
WF	Wide Flange
WGS	Washington Geological Survey

Reference List

Codes and References

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FEMA Earthquake School Hazard Hunt Game and Poster. Prepared by https://www.fema.gov/media-library/assets/documents/90409

Promoting Seismic Safety: Guidance for Advocates. Prepared by https://www.fema.gov/media-library/assets/documents/3229

Drawings

Drawings dated 1959.

1.0 Introduction

1.1 Background

The Washington Geological Survey (WGS), a division of the Department of Natural Resources (DNR), is conducting a seismic assessment of 222 school buildings and 5 fire stations across Washington State to better understand the current level of seismic risk of Washington State's public-school buildings. The two main components of this project are: (1) geologic site characterization, and (2) the seismic assessment of buildings. As a part of the seismic assessments, Tier 1 screening of structural systems and nonstructural assessments were performed in accordance with the American Society of Civil Engineers' (ASCE) Standard 41-17 *Seismic Evaluation and Retrofit of Existing Buildings*. Concept-level seismic upgrades were developed to address the identified deficiencies of a select number of school buildings to evaluate seismic upgrade strategies, feasibilities, and implementation costs.

Fifteen school buildings were selected in consultation with WGS and the School Seismic Safety Steering Committee (SSSSC) to receive concept-level seismic upgrade designs utilizing the ASCE 41 Tier 1 evaluation results. This report documents the concept-level seismic upgrade design for one of those school buildings. The concept-level seismic upgrades will include structural and nonstructural seismic upgrade recommendations, with concept-level sketches and rough order-of-magnitude (ROM) construction costs determined for each building. The fifteen school buildings were selected from the list of schools with the intent of representing a variety of regions, building uses, construction eras, and construction materials.

The overall goal of the project is to provide a better understanding of the current seismic risk of our state's K-12 school buildings and what needs to be done to improve the buildings in accordance with ASCE 41 to meet seismic performance objectives.

The seismic evaluation consists of a Tier 1 screening for the structural systems performed in accordance with ASCE 41-17.

1.2 Scope of Services

The project is being performed in several distinct and overlapping phases of work. The scope of this report is as listed in the following sections.

1.2.1 Information Review

1. Project Research: Reid Middleton and their project team researched available school building records, such as relevant site data and record drawings, in advance of the field investigations. This research included searching school building records and contacting the districts and/or the Office of Superintendent of Public Instruction (OSPI) to obtain building plans, seismic reports, condition reports, property records, or related construction information useful for the project.

2. Site Geologic Data: Site geological data provided by the WGS, including site shear wave velocities, was utilized to determine the project Site Class in accordance with ASCE 41, which is included in the Tier 1 checklists and concept-level seismic upgrades design work.

1.2.2 Field Investigations

1. Field Investigations: Each of the identified buildings was visited to observe the building's age, condition, configuration, and structural systems for the purposes of the ASCE 41 Tier 1 seismic evaluations. This task included confirmation of general information in building records or layout drawings and visual observation of the structural condition of the facilities. Engineer field reports, notes, photographs, and videos of the facilities were prepared and utilized to record and document information gathered in the field investigation work.

2. Limitations Due to Access and Worker Safety: Field observations at each site were typically performed by an individual engineer. Observation efforts were limited to areas and building elements that were readily observable and safely accessible. Observations requiring access to confined spaces, potential hazardous material exposure, access by unsecured ladder, work around energized equipment or mechanical hazards, access to areas requiring Occupational Safety and Health Administration (OSHA) fall-protection, steep or unstable slopes, deteriorated structural assemblies, or other conditions deemed potentially unsafe by the engineer were not performed. Removal of finishes (e.g., gypsum board, lathe and plaster, brick veneer, roofing materials, etc.) for access to concealed conditions or to expose elements that could not otherwise be visually observed and assessed was not performed. Material testing or sampling was not performed. The ASCE checklist items that were not documented due to access limitations are noted.

1.2.3 Seismic Evaluations

1. Preliminary Seismic Evaluations: Preliminary seismic assessments of the structural and nonstructural systems of the school buildings were performed in accordance with ASCE 41-17 Tier 1 Evaluation Procedures.

2. Concept-Level Designs: Further seismic evaluation work was performed to provide concept-level seismic retrofits and/or upgrade designs for the selected school buildings based on the results of the Tier 1 seismic evaluations. The concept-level seismic upgrades design work included narrative descriptions of proposed seismic retrofits and/or upgrade schemes and concept sketches depicting the extent and type of recommended structural upgrades.

3. Cost Estimating: Through the concept-level seismic upgrades design process, ProDims provided opinions of probable construction costs for the concept-level seismic upgrade designs for the selected school buildings. These concept-level seismic upgrade designs and the associated opinions of probable construction costs are intended to be

representative samples that can be extrapolated to estimate the overall capital needs of seismically upgrading Washington State schools.

1.2.4 Reporting and Documentation

1. Project Reports: A preliminary seismic evaluation report on the overall Tier 1 seismic assessment of the schools will be provided to DNR/WGS and OSPI. The Tier 1 seismic evaluation of each building was documented by a standard report format that provides a summary of the structural systems of the building, Tier 1 checklist, building sketches/plans (if available), and site photographs. The reports will summarize the seismic evaluation, with concept-level seismic upgrade sketches and opinions of probable construction costs for seismic upgrades for each school building.

2. Building Photography: Photos and videos were taken of each building during on-site walkthroughs to document the existing building configurations, conditions, and structural systems.

3. Record Drawings: Record drawings and other information that was collected during the evaluation process are available for DNR/WGS, OSPI, and the school districts.

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2.0 Seismic Evaluation Procedures and Criteria

2.1 ASCE 41 Seismic Evaluation and Retrofit Overview

The current standard for seismic evaluation and retrofit (upgrades) of existing buildings is ASCE 41-17. ASCE 41 provides screening and evaluation procedures used to identify potential seismic deficiencies that may require further investigation or hazard mitigation. It presents a three-tiered review process, implemented by first following a series of predefined checklists and "quick check" structural calculations. Each successive tier is designed to perform an increasingly refined evaluation procedure for seismic deficiencies identified in previous tiers in the process. The flow chart in Figure 2.1 illustrates the evaluation process.

TIER 1 – Screening Phase
- Checklists of evaluation statements to quickly identify potential deficiencies
- Requires field investigation and/or review of record drawings
- Analysis limited to "Quick Checks" of global elements
- May proceed to Tier 2, Tier 3, or rehabilitation design if deficiencies are identified

TIER 2 – Evaluation Phase
- "Full Building" or "Deficiency Only" evaluation
- Address all Tier 1 seismic deficiencies
- Analysis more refined than Tier 1, but limited to simplified linear procedures
- Identify buildings not requiring rehabilitation

TIER 3 – Detailed Evaluation Phase
- Component-based evaluation of entire building using reduced ASCE 41 forces
- Advanced analytical procedures available if Tier 1 and/or Tier 2 evaluations are judged to be overly conservative
- Complex analysis procedures may result in construction savings equal to many times their cost

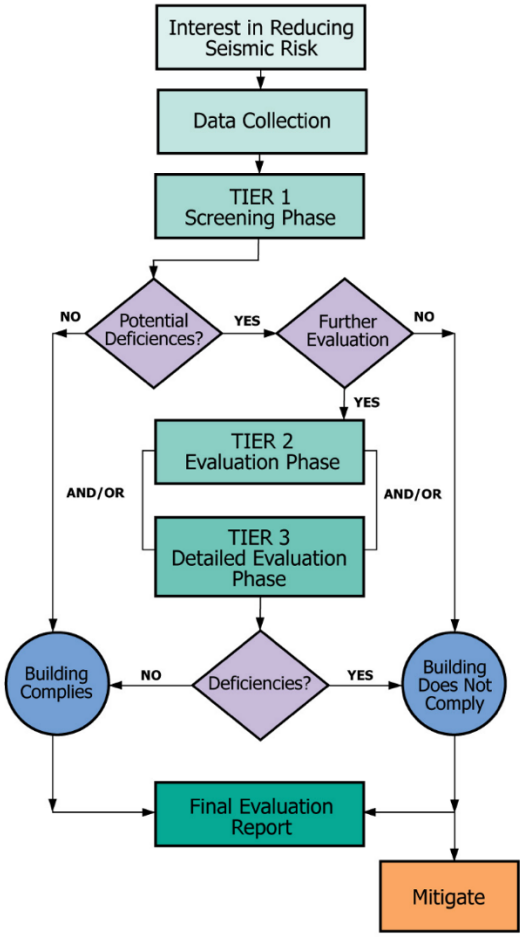

Figure 2-1. Flow Chart and Description of ASCE 41 Seismic Evaluation Procedure.

The Tier 1 checklists in ASCE 41 are specific to each common building type and contain seismic evaluation statements based on observed structural damage in past earthquakes. These checklists screen for potential seismic deficiencies by examining the lateral-force-resisting systems and details of construction that have historically caused poor seismic performance in similar buildings. Tier 1 screenings include basic "Quick Check" analyses for primary components of the lateral system: in this building's case, the roof diaphragm, the shear walls, and connection

between these systems. Tier 1 screenings also include prescriptive checks for proper seismic detailing of connections, diaphragm spans and continuity, and overall system configuration.

Tier 2 evaluations then follow with more-detailed structural and seismic calculations and assessments to either confirm the potential deficiencies identified in the Tier 1 review or demonstrate their adequacy. A Tier 3 evaluation involves an even more detailed analysis and advanced structural and seismic computations to review each structural component's seismic demand and capacity. A Tier 3 evaluation is similar in scope and complexity to the types of analyses often required to design a new building in accordance with the International Building Code (IBC), with a comprehensive analysis aimed at evaluating each component's seismic performance. Generally, Tier 3 evaluations are not practical for typical and regular-type buildings due to the rigorous and complicated calculations and procedures. As indicated in the Scope of Services, this evaluation included a Tier 1 screening of the structural systems.

2.2 Seismic Evaluation and Retrofit Criteria

Performance-Based Earthquake Engineering (PBEE) can be defined as the engineering of a structure to resist different levels of earthquake demand in order to meet the needs and performance objectives of building owners and other stakeholders. ASCE 41 employs a PBEE design methodology that allows building owners, design professionals, and the local building code authorities to establish seismic hazard levels and performance goals for individual buildings.

2.2.1 Cosmopolis Elementary School Seismicity

Seismic hazards for the United States have been quantified by the United States Geological Survey (USGS). The information has been used to create seismic hazard maps, which are currently used in building codes to determine the design-level earthquake magnitudes for building design.

The Level of Seismicity is categorized as Very Low, Low, Moderate, or High based on the probabilistic ground accelerations. Ground accelerations and mass generate inertial (seismic) forces within a building (Force = mass x acceleration). Ground acceleration therefore is the parameter that classifies the level of seismicity. From geographic region to region, as the ground accelerations increase, so does the level of seismicity (from low to high). Where this building is located, the design short-period spectral acceleration, S_{DS}, is 0.969 g, and the design 1-second period spectral acceleration, S_{D1} is 0.696 g. Based on ASCE 41 Table 2-4, the Level of Seismicity for this building is classified as **High**.

The ASCE 41 Basic Performance Objective for Existing Buildings (BPOE) makes use of the Basic Safety Earthquake – 1E (BSE-1E) seismic hazard level and the Basic Safety Earthquake – 2E (BSE-2E). The BSE-1E earthquake is defined by ASCE 41 as the probabilistic ground motion with a 20 percent probability of exceedance in 50 years, or otherwise characterized as a ground motion acceleration with a probabilistic 225-year return period. The BSE-2E earthquake is defined by ASCE 41 as the probabilistic ground motion with a 5 percent probability of exceedance in 50 years, or otherwise characterized as a ground motion acceleration with a

probabilistic 975-year return period. The BSE-2N seismic hazard level is the Maximum Considered Earthquake (MCE) ground motion used in current codes for the design of new buildings and is also used in ASCE 41 to classify the Level of Seismicity for a building. The BSE-2N has a statistical ground motion acceleration with 2 percent probability of exceedance in 50 years, or otherwise characterized as a ground motion acceleration with a probabilistic 2,475-year return period.

Table 2.2.1-1 provides the spectral accelerations for the 225-year, 975-year, and 2,475-year return interval events specific to Cosmopolis Elementary School that are considered in this study.

Table 2.2.1-1 Spectral Acceleration Parameters (Not Site-Modified).

BSE-1E 20%/50 (225-year) Event		BSE-1N 2/3 of 2,475-year Event		BSE-2E 5%/50 (975-year) Event		BSE-2N 2%/50 (2,475-year) Event	
0.2 Seconds	0.804 g	0.2 Seconds	0.873 g	0.2 Seconds	0.906 g	0.2 Seconds	1.309 g
1.0 Seconds	0.52 g	1.0 Seconds	1.113 g	1.0 Seconds	1.139 g	1.0 Seconds	1.67 g

2.2.2 Cosmopolis Elementary School Structural Performance Objective

The school building is an Educational Group E (Risk Category III) structure and has not been identified as a critical structure requiring immediate use following an earthquake. However, Risk Category III buildings are structures that represent a substantial hazard to human life in the event of failure. According to ASCE 41, the BPOE for Risk Category III structures is the Damage Control structural performance level at the BSE-1E seismic hazard level and the Limited Safety structural performance level at the BSE-2E seismic hazard level. The ASCE 41 Tier 1 evaluations were conducted in accordance with ASCE 41 requirements and ASCE 41 seismic performance levels. Concept-level upgrades were developed for the **Life Safety** structural performance level at the **BSE-1N** seismic hazard level in accordance with DNR direction, the project scope of work, and the project legislative language.

At the Life-Safety performance level, the building may sustain damage while still protecting occupants from life-threatening injuries and allowing occupants to exit the building. Structural and nonstructural components may be extensively damaged, but some margin against the onset of partial or total collapse remains. Injuries to occupants or persons in the immediate vicinity may occur during an earthquake; however, the overall risk of life-threatening injury as a result of structural damage is anticipated to be low. Repairs may be required before reoccupying the building, and, in some cases, repairs may be economically unfeasible.

Knowledge Factor

A knowledge factor, *k*, is an ASCE 41 prescribed factor that is used to account for uncertainty in the as-built data considering the selected Performance Objective and data collection processes (availability of existing drawings, visual observation, and level of materials testing). No in-situ testing of building materials was performed; however, some material properties and existing construction information were provided in the existing record drawings. If the concept design is

developed further, additional materials tests and site investigations will be required to substantiate assumptions about the existing framing systems.

ASCE 41 Classified Building Type

Use of ASCE 41 for seismic evaluations requires buildings to be classified from a group of common building types historically defined in previous seismic evaluation standards (ATC-14, FEMA 310, and ASCE 31-03). The school is classified in ASCE 41 Table 3-1 as a W2, "Wood Frame", facility, which means the building floor area is >=5,000 sf, and the roof is composed of wood trusses, posts, and beams. Seismic forces are resisted by flexible diaphragms, which are sheathed with plywood or OSB. Wall openings are framed with post and beam systems.

2.3 Report Limitations

The professional services described in this report were performed based on available record drawing information and limited visual observation of the structure. No other warranty is made as to the professional advice included in this report. This report provides an overview of the seismic evaluation results and does not address programming and planning issues. This report has been prepared for the exclusive use of DNR/WGS and is not intended for use by other parties, as it may not contain sufficient information for purposes of other parties or their uses.

3.0 Building Description & Seismic Evaluation Findings

3.1 Building Overview

3.1.1 Building Description

Original Year Built: 1960
Building Code: Unknown

Number of Stories: 1
Floor Area: 30,456 SF

FEMA Building Type: W2
ASCE 41 Level of Seismicity: High
Site Class: D

The Cosmopolis Elementary main building is a wood-framed, single-story classroom and administration structure built in 1960. The building is an L-shaped structure, with each leg measuring 278 feet long by 72 feet wide (approximately 31,000 square feet in area). Two additional classrooms at each end of the building were added in 1975. In 2018, the building was undergoing a modernization update. It does not appear that seismic considerations were a part of that effort.

3.1.2 Building Use

The main building is used as the primary school building, housing 18 classrooms, the library, and administrative offices.

3.1.3 Structural System

Table 3.1.3-1. Structural System Descriptions.

Structural System	Description
Structural Roof	The roof of the main building is composed of wood trusses, which appear to predate gang nail plates, as the elements are connected with plywood gussets.
Structural Floor(s)	This building is a single-story structure; there are no elevated structural floors.
Foundation	The foundation is a traditional shallow foundation system composed of strip footings under the bearing walls.
Gravity System	The gravity system is composed of wood-framed trusses at the roof, supported by beams and bearing walls at both the exterior and interior corridor walls.
Lateral System	Roof lateral loads are transferred to the exterior shear walls through the wood-framed roof diaphragm.

3.1.4 Structural System Visual Condition

Table 3.1.4-1. Structural System Condition Descriptions.

Structural System	Description
Structural Roof	No visible signs of damage or deterioration.
Structural Floor(s)	This building is a single-story structure.
Foundation	No visible signs of damage or deterioration.
Gravity System	Other than the failure that had recently occurred at the covered play area between the main building and multipurpose building, there were no other visible signs of damage or deterioration.
Lateral System	No visible signs of damage or deterioration.

3.2 Seismic Evaluation Findings

3.2.1 Structural Seismic Deficiencies

The structural seismic deficiencies identified during the Tier 1 evaluation are summarized below. Commentary for each deficiency is provided based on this evaluation.

Table 3.2.1-1. Identified Structural Seismic Deficiencies Based on Tier 1 Checklists.

Deficiency	Description
Load Path	A well-defined load path was not detailed in the existing drawings and could not be determined or visually verified during site visit.
Shear Stress Check	Calculated load exceeds the specified demand. There is no evidence of collectors and connections sufficient to transfer these demands to the existing shear walls.
Openings	Shear wall openings do not have positive ties to adjacent construction capable of transferring the seismic forces around the openings.
Diagonally Sheathed and Unblocked Diaphragms	Roof diaphragms appear to span up to 72 feet between lines of resistance and are not blocked diaphragms.

3.2.2 Structural Checklist Items Marked as "U"nknown

Where building structural component seismic adequacy was unknown due to lack of available information or limited observation, the structural checklist items were marked as "unknown". These items require further investigation if definitive determination of compliance or

noncompliance is desired. The unknown structural checklist items identified during the Tier 1 evaluation are summarized below. Commentary for each unknown item is provided based on the evaluation.

Table 3.2.2-1. Identified Structural Checklist Items Marked as Unknown.

Deficiency	Description
Liquefaction	The liquefaction potential of site soils is unknown at this time given available information. Moderate to high liquefaction potential is identified per ICOS based on state geologic mapping. Requires further investigation by a licensed geotechnical engineer to determine liquefaction potential.
Slope Failure	Requires further investigation by a licensed geotechnical engineer to determine susceptibility to slope failure. The structure appears to be located on a relatively flat site.
Surface Fault Rupture	Requires further investigation by a licensed geotechnical engineer to determine whether site is near locations of expected surface fault ruptures.
Roof Chord Continuity	Items could not be visually verified during site visit.
Diaphragm Reinforcement at Openings	Items could not be visually verified during site visit.

3.2.3 Nonstructural Seismic Deficiencies

The nonstructural seismic deficiencies identified during the Tier 1 evaluation are summarized below. Commentary for each deficiency is provided based on this evaluation. Some nonstructural deficiencies may be able to be mitigated by school district staff. Other nonstructural components that require substantial mitigation may be more appropriately included in a long-term mitigation strategy. Some typical conceptual details for the seismic upgrade of nonstructural components can be found in the FEMA E-74 Excerpts appendix.

Table 3.2.3-1. Identified Nonstructural Seismic Deficiencies based on Tier 1 Checklists.

Deficiency	Description
LSS-3 Emergency Power	Available record drawings do not have information on anchorage or bracing for emergency power equipment and could not be verified during site investigation. Based on age of the building, emergency power equipment is either nonexistent or noncompliant. Evaluation of emergency power equipment may be appropriate to mitigate seismic risk.
PCOA-2 Canopies	The canopy over the play area between the main building and the multipurpose building had gravity connection failures in the main framing

Table 3.2.3-1. Identified Nonstructural Seismic Deficiencies based on Tier 1 Checklists.

Deficiency	Description
	connections just prior to the site visit and were not yet repaired. Apparently the gravity connections were insufficient or nonexistent. If the gravity connectivity is suspect, the lateral connectivity is also likely suspect.
CF-3 Fall-Prone Contents	Heavy schoolroom supplies are stored on top of storage cabinets and do not appear to be secured. Heavy items on upper shelves should be restrained by netting or cabling to avoid falling hazards.

3.2.4 Nonstructural Checklist Items Marked as "U"nknown

Where building nonstructural component seismic adequacy was unknown due to lack of available information or limited observation, the nonstructural checklist items were marked as "unknown". These items require further investigation if definitive determination of compliance or noncompliance is desired. The unknown nonstructural checklist items identified during the Tier 1 evaluation are summarized below. Commentary for each unknown item is provided based on the evaluation.

Some nonstructural deficiencies may be able to be mitigated by school district staff. Other nonstructural components that require substantial mitigation may be more appropriately included in a long-term mitigation strategy. Some typical conceptual details for the seismic upgrade of nonstructural components can be found in the FEMA E-74 Excerpts appendix.

Table 3.2.4-1. Identified Nonstructural Checklist Items Marked as Unknown.

Deficiency	Description
LSS-4 Stair and Smoke Ducts	Item not visually verified during site visit but assumed to be noncompliant due to year of original construction. Further investigation may be appropriate to mitigate seismic risk.
HM-2 Hazardous Material	Unknown whether the building has hazardous materials. Further investigation may be appropriate to mitigate seismic risk.
C-2 Suspended Gypsum Board	Items could not be visually verified during site visit. Further investigation may be appropriate to mitigate seismic risk.
CF-2 Tall Narrow Contents	Modernization construction was going on during the site visit.

4.0 Conclusion and Recommendations

4.1 Seismic-Structural Upgrade Recommendations

This section outlines recommendations of conceptual upgrades that would address the identified deficiencies in the seismic lateral-force-resisting system. The sketches in Appendix B illustrate the concepts introduced here.

This report outlines a single alternative out of many potential options and is based on the Tier 1 Rapid Screening, which is a preliminary evaluation and analysis. Before any retrofit scheme is selected, the final design should be based on more detailed evaluation and analysis. Such an analysis should consider the current and future performance goals of the facility.

4.1.1 Exterior Walls: Steel Moment Frames and CMU Shear Wall

To preserve the current aesthetic of the exterior walls, with their extensive glazing, steel moment frames are recommended. Moment frames will be constructed with steel posts between classrooms with steel beams located over the windows spanning approximately 16 feet. As each classroom is approximately 32 feet long, each moment frame would have two bays.

The exterior wall of the storage room could be retrofitted as a CMU shear wall. This would share loading with the moment frames and help increase the stiffness in the plane of the exterior wall. The increase in stiffness will reduce lateral drift and mitigate damage to windows during a seismic event. In order to complete this retrofit, the existing exterior walls will need to be shored and demolished to make way for the steel moment frames and a CMU shear wall.

4.1.2 Interior Walls: Sheathing Rated for Shear

Currently, all interior walls are composed of timber structural framing and 5/8-inch gypsum board on either side. These interior walls must be sheathed with APA shear-rated sheathing. Once incorporated into the building lateral system, these walls would greatly improve the capacity and reduce the building drift, subsequently reducing the potential damage caused by the drift.

Drag struts and collectors need to be added at certain sections along the interior corridors of the building to connect the shear wall lines and distribute diaphragm loading more evenly along the building's length.

4.1.3 Roof Diaphragm Improvements

The diaphragm system consists of unblocked wooden structural panels that span up to 72 feet in certain locations. The existing roof diaphragm does not have enough strength or stiffness to perform adequately. To remedy these deficiencies, the roof should be sheathed with APA-rated plywood designed to transfer shear to the identified shear walls and moment frames.

The current structural roof system contains wooden trusses. These trusses are connected together with plywood gusset plates. It is recommended that the wooden gusset plates be updated with metal gang nail plates. The intent of this retrofit is to reduce the likelihood of failure at truss joints during a seismic event.

No connections between the roof and wall elements capable of transferring lateral loads could be identified. Any retrofit plan must include allowance for adding positive connections between the roof trusses and walls.

4.2 Nonstructural Upgrade Recommendations

4.2.1 Life-Safety Systems

Life-safety systems are responsible for protecting and evacuating occupants of a building during emergencies or disasters. These systems include, but are not limited to, fire suppression piping, emergency lighting, and stair and smoke ducts. Proper bracing, coupling, and clearances of fire suppression piping not only increase reliability of performance but also help minimize the damage to pipes and sprinkler heads. Based on the age of the building, it is likely that the sprinkler systems in the building do not meet the requirements of current NFPA 13 seismic bracing and flexible coupling.

The recommended seismic mitigation for the life-safety systems are as follows:

- Provide bracing and flexible couplings of risers, feed mains, cross-mains, and branch lines in accordance with NFPA 13.
- Provide 1-inch sprinkler head clearance holes in ceiling finishes.
- Provide seismic bracing or anchor the emergency power system to the structure.

4.2.2 Architectural Considerations

This section addresses existing construction that, while not posing specific hazards during a seismic event, would be affected by the seismic improvements proposed.

For existing building remodel projects, the International Existing Building Code (IEBC) is applicable. The intent of the IEBC is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to safeguard the public health, safety, and welfare insofar as they are affected by the work being done. Elements of the exterior building envelope being affected by the seismic work would also be required to be brought up to the current Washington State Energy Code per Chapter 5, where applicable.

It should also be noted that as a part of any upgrade to existing buildings, the IEBC will require that any altered primary function spaces (classrooms, gyms, entrances, offices) and routes to these spaces, be made accessible to current accessibility standards per the American with Disabilities Act (ADA), unless technically infeasible. This would include, but is not limited to: accessible restrooms, paths of travel, entrances and exits, parking, signage, fire alarm system,

etc. Under no circumstances should the facility be made less accessible. The IEBC does however have exceptions for areas that do not contain a primary function (storage room, utility rooms) and states that costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of Primary Function. As with any major renovation and modernization, an ADA study would be recommended to determine the extent to which an existing facility needs to be improved to be in compliance with the ADA.

Interior Shear Walls

All existing interior walls are composed of timber structural framing and 5/8-inch gypsum board on either side. These interior walls must be sheathed with APA shear-rated sheathing.

Proposed plywood shear wall thickness may differ from existing shear wall thickness, depending on finishes proposed. The interior walls of restrooms and janitor rooms will be removed and replaced, significantly impacting existing finishes.

Built-in cabinets in classrooms will need to be removed and replaced, affecting plumbing fixtures.

Openings in the new CMU shear walls for items such as electrical outlets and switches will need to be coordinated with existing conditions.

Plywood panels with supplemental sill plate to foundation connections will impact existing floor and wall finishes, and ceiling will be affected throughout.

Exterior Shear Walls

The existing wood-framed exterior wall of the storage room can be replaced with a CMU wall to increase lateral resistance. This will require changes to foundations, floor finish, ceilings, and connection to the roof. The new CMU exterior finish should match existing finishes to either side to retain building character. Existing mechanical, electrical, and plumbing systems will need to be replaced at the new wall.

Exterior Walls: Steel Moment Frames

To strengthen existing wood-framed walls, steel moment frames can be added on the exterior in select locations. Moment frames will be constructed with steel posts between classrooms, with steel beams located over the windows spanning approximately 16 feet. As each classroom is approximately 32 feet long, each moment frame would have two bays, at 8 feet on center maximum. The impact on existing finishes will need to be addressed on a case-by-case basis, depending on the location of the proposed work.

Foundation Work

The proposed moment frames to be installed on the exterior will require new foundations. Existing interior gypsum board walls to be converted to plywood-sheathed shear walls may require cutting in foundations where few are now. The existing concrete slab on grade and floor finishes would be removed. After the floor slab is replaced, new flooring must be installed in

affected areas. Care must be taken to integrate new with existing finishes; in some cases, this may require replacing the floor finish throughout the room. Ensure foundation drains, buried utilities, and other items will not be impacted by this work. Landscaping will be affected by the work and should be restored to pre-construction condition after completion of the work.

Drag Struts

Drag struts and collectors need to be added at certain sections along the interior corridors of the building. The impact on corridor widths, travel paths, and ADA requirements must be considered. Floor finishes and ceilings may be impacted by this work as well, unless drag struts and collectors are installed from within the attic.

Ceilings

Although there are multiple access points to the truss spaces throughout the building, removal of the existing plaster and acoustic ceiling tiles may be required to gain direct access to the trusses and underside of the roof deck. Repair plaster ceilings and replace damaged acoustic tiles, to match existing. Fire ratings, if present, must be retained.

Where existing suspended T-bar ceilings would need to be removed to perform the recommended upgrades to the roof trusses and diaphragms, the T-bar suspended grid should be reinstalled with a new seismically braced T-bar system to meet current seismic code standards. Where lighting needs to be removed, the school district should consider updating the light fixtures to lightweight LED fixtures independently supported from the roof structure above.

Roof Diaphragm Improvements

The existing roof diaphragm does not have enough strength or stiffness to perform adequately. The roof should be sheathed with APA-rated plywood designed to transfer shear to the identified shear walls and moment frames. The existing structural roof system consists of wooden trusses, connected together with plywood gusset plates. It is recommended that these wooden gusset plates be updated with metal gang nail plates.

Connections at exterior walls between the foundation and roof structure are also required.

In order to perform the work, portions – if not all – of the existing roofing and roof deck will need to be removed. Protection from the weather must be provided wherever roofing has been removed.

If existing insulation is above the roof deck, it will need to be replaced with additional insulation to meet current energy code requirements (R-38). As mentioned earlier, there are multiple access points to the truss spaces throughout the building; however, there may be instances where the existing ceilings may need to be removed and replaced to allow access to the trusses and the underside of the roof deck, in order to install metal gusset plates, etc.

For work performed above classrooms and restrooms, access to the underside of the roof deck may be easiest through the ceilings in these areas.

Upgrades to Covered Play Area Roof

The current covered play area is not adequately attached to the adjacent main building and multipurpose building. It is recommended that the covered play area be attached to the multipurpose building and detached from the main building using a seismic joint. The purpose of the proposed retrofit is to allow movement of the play area without pounding the main building, while also being able to transfer seismic loads properly into the multipurpose building in order to remain stable.

Contents and Furnishings

The building contains various tall and narrow furniture, such as shelving and storage units, that are freestanding away from any backing walls. This furniture is highly susceptible to toppling if not anchored properly and can become a life-safety hazard or adversely affect post-earthquake operations. The recommended seismic mitigation for tall and narrow furniture is as follows:

- Anchor storage cabinets or shelving units that are more than 6 feet high and have a height-to-depth or height-to-width ratio greater than 3-to-1 to the structure or to each other to prevent toppling during an earthquake.
- Provide bracing or restraint for equipment, stored items, or other contents weighing more than 20 pounds and with a center of mass that is more than 4 feet above the adjacent floor level.

4.3 Opinion of Conceptual Construction Costs

A preliminary opinion of probable construction costs to perform the concept-level seismic upgrade recommendations provided in this report is included in Appendix C. The input for these preliminary probable costs are the Tier 1 checklists and the preliminary concept-level seismic upgrades design recommendations and sketches. These preliminary concept-level design sketches depict a design concept that could be implemented to improve the seismic safety of the building structure. It is important to note that this preliminary seismic upgrades design concept is based on the results of the Tier 1 seismic screening checklists and engineering design judgement and has not been substantiated by detailed structural analyses and calculations. Consequently, the costs presented in this concept-level design report are very preliminary in nature and are only intended to be utilized in their aggregate form with the entire statewide school seismic safety assessments study.

For this preliminary opinion of probable construction costs, an estimate of the current year (2019) construction costs of the probable scope of work was developed. These costs were developed based on the Tier 1 checklist, concept-level seismic upgrade design sketches, and project narratives. Then a -20 percent (low) to +50 percent (high) range variance was used to develop the construction cost estimate range for the concept-level scope of work. The -20 percent to +50 percent range variance guidance is from Table 1 of the AACE International Recommended Practice 56R-08, *Cost Estimate Classification System for Class 5 Estimates*. The variable cost range of a Class 5 estimate is due to the limited design completeness and is defined as 0 percent to 2 percent Project Definition Deliverables.

The estimated structural and nonstructural construction cost to mitigate the deficiencies identified in the Tier 1 checklists of the Cosmopolis Elementary School Main Building ranges between approximately $3.0M and $5.7M (-20 percent/+50 percent). The estimated construction cost to seismically upgrade this building is approximately $3.8M. On a per-square-foot basis, the seismic upgrade construction cost is estimated to be approximately $124 per square foot in 2019 dollars, with a variance range between $100 per square foot and $187 per square foot.

This preliminary opinion of construction cost includes labor, materials, equipment, and general contractor general conditions (mobilization), overhead, and profit. This is based on a public sector design-bid-build project delivery method. Project delivery methods such as negotiated, State of Washington GC/CM, and design-build are not the basis of the construction costs. Owner's project costs not included in the construction cost estimate are building permits, design fees, change order contingencies, escalation at a recommended 4.1 percent* per year to the midpoint of construction (currently unknown), materials testing/inspection, project planning and design schedule delay contingencies, and owner's overall project contingency. Additional owner's project costs would likely include owner's general overhead costs, including project management, financing/bond costs, administration/contract/accounting costs, review of plans, value engineering studies, equipment, fixtures, furnishings and technology, and relocation of the school staff and students during construction. These additional costs are not included in this preliminary concept-level design construction cost estimate.

Costs of all types excluded from the construction costs are site work, construction of replacement facilities, and mitigation of seismic risks for existing facilities and building code changes that occur over time after this report. Future planning budgets should not be set on the basis of the preliminary construction costs estimate based on the concept-level design ideas presented in this report. For budget planning purposes, it is highly recommended that a seismic upgrade budget be determined after the owner defines the scope of work and obtains the services of an A/E design team to study the proposed seismic mitigation strategies and to refine the concept-level seismic upgrades design approach contained in this report.

*-4.1%/year escalation rate for planning purposes should be compounded annually to the midpoint of construction and is sourced from *Engineering News Record (ENR),* November, 2017, the most recent rate representative of the escalation of construction costs throughout the state of Washington.

Table 4.3.1. Seismic Upgrades Opinion of Probable Construction Costs.

Building	FEMA Bldg Type	ASCE 41 Level of Seismicity / Site Class	Structural Performance Objective	Bldg Gross Area	Estimated Seismic Upgrade Cost Range $/SF (Total)	Estimated Seismic Upgrade Cost/SF (Total)
Cosmopolis Elementary, Main Building	W2	High / D	**Structural**			
			Life Safety	30,460 SF	$70 ($2.13M) - $131 ($3.99M)	$87 ($2.66M)
			Nonstructural			
			Life Safety	30,460 SF	$30 ($909K) - $56 ($1.70M)	$37 ($1.14M)
			Total			
				30,460 SF	$100 ($3.03M) - $187 ($5.69M)	$124 ($3.8M)

·W: Wood-Framed; URM: Unreinforced Masonry; RM: Reinforced Masonry; C: Reinforced Concrete; PC: Precast concrete; S: Steel-framed

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Appendix A: Field Investigation Report and Tier 1 Checklists

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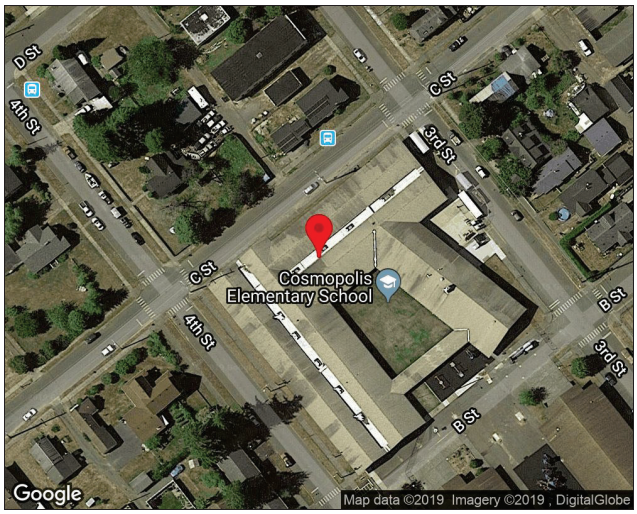
1. Cosmopolis, Cosmopolis Elementary School, Main Building

1.1 Building Description

Building Name:	Main Building
Facility Name:	Cosmopolis Elementary School
District Name:	Cosmopolis
ICOS Latitude:	46.953
ICOS Longitude:	-123.772
ICOS County/District ID:	14099
ICOS Building ID:	17703
ASCE 41 Bldg Type:	W2
Enrollment:	164
Gross Sq. Ft. :	30,456
Year Built:	1960
Number of Stories:	1
$S_{XS\ BSE\text{-}2E}$:	1.105
$S_{X1\ BSE\text{-}2E}$:	0.724
ASCE 41 Level of Seismicity:	High
Site Class:	D
V_{S30}(m/s):	230
Liquefaction Potential:	moderate to high
Tsunami Risk:	Moderate
Structural Drawings Available:	Yes
Evaluating Firm:	BergerABAM/WSP



The Cosmopolis Elementary main building is a wood framed, single story classroom and administration structure built in 1960. The building is an L-shaped structure with each leg 278 feet long by 72 feet wide (approximately 35,000 square feet in area). Two additional classrooms at each end of the building were added in 1975. In 2018 the building was undergoing a modernization update, however it does not appear that seismic considerations are part of this effort.

1.1.1 Building Use

The main building is used as the primary school building as it houses the 18 classrooms, library and administrative offices.

1.1.2 Structural System

Table 1.1-1. Structural System Description of Cosmopolis Elementary School

Structural System	Description
Structural Roof	The roof of the main building is comprised of wood trusses, which appear to predate gang nail plates as the elements are connected with plywood gussets.
Structural Floor(s)	This building is a single story structure and there are no elevated structural floors.
Foundations	The foundation is a traditional shallow foundation system comprised of strip footings under the bearing walls.
Gravity System	The gravity system is comprised of wood framed trusses at the roof, supported by beams and bearing walls at both the exterior and interior corridor walls.
Lateral System	Roof lateral loads are transferred to the exterior shear walls via the wood framed roof diaphragm.

1.1.3 Structural System Visual Condition

Table 1.1-2. Structural System Condition Description of Cosmopolis Elementary School

Structural System	Description
Structural Roof	No visible signs of damage or deterioration.
Structural Floor(s)	This building is a single story structure.
Foundations	No visible signs of damage or deterioration.
Gravity System	Other than the failure that had recently occurred at the covered play area between the main building and multipurpose building, there were no other visible signs of damage or deterioration.
Lateral System	No visible signs of damage or deterioration.

1.2 Seismic Evaluation Findings

1.2.1 Structural Seismic Deficiencies

The structural seismic deficiencies identified during the Tier 1 evaluation are summarized below. Commentary for each deficiency is also provided based on this evaluation.

Table 1-3. Identified Structural Seismic Deficiencies for Cosmopolis Cosmopolis Elementary School Main Building

Deficiency	Description
Load Path	Items could not be visually verified during site visit.
Shear Stress Check	Calculated load exceeds the specified demand. Also there is no evidence of collectors and connections sufficient to transfer these demands to the existing shear walls.
Openings	There are no such positive ties.
Diagonally Sheathed and Unblocked Diaphragms	Roof diaphragms appear to span up to 72 feet between lines of resistance, and they are certainly not blocked diaphragms.

1.2.2 Structural Checklist Items Marked as 'U'nknown

Where building structural component seismic adequacy was unknown due to lack of available information or limited observation, the structural checklist items were marked as “unknown”. These items require further investigation if definitive determination of compliance or noncompliance is desired. The unknown structural checklist items identified during the Tier 1 evaluation are summarized below. Commentary for each unknown item is also provided based on the evaluation.

Table 1-4. Identified Structural Checklist Items Marked as Unknown for Cosmopolis Cosmopolis Elementary School Main Building

Unknown Item	Description
Liquefaction	The liquefaction potential of site soils is unknown at this time given available information. \moderate to high\ liquefaction potential is identified per ICOS based on state geologic mapping. Requires further investigation by a licensed geotechnical engineer to determine liquefaction potential.
Slope Failure	Requires further investigation by a licensed geotechnical engineer to determine susceptibility to slope failure. The structure appears to be located on a relatively flat site.
Surface Fault Rupture	Requires further investigation by a licensed geotechnical engineer to determine whether site is near locations of expected surface fault ruptures.
Roof Chord Continuity	Items could not be visually verified during site visit.
Diaphragm Reinforcement at Openings	Items could not be visually verified during site visit.

1.3.1 Nonstructural Seismic Deficiencies

The nonstructural seismic deficiencies identified during the Tier 1 evaluation are summarized below. Commentary for each deficiency is also provided based on this evaluation. Some nonstructural deficiencies may be able to be mitigated by school district staff. Other nonstructural components that require more substantial mitigation may be more appropriately included in a long-term mitigation strategy. Some typical conceptual details for the seismic upgrade of nonstructural components can be found in the FEMA E-74 Excerpts appendix.

Table 1-5. Identified Nonstructural Seismic Deficiencies for Cosmopolis Cosmopolis Elementary School Main Building

Deficiency	Description
LSS-3 Emergency Power. HR-not required; LS-LMH; PR-LMH.	Available record drawings do not have information on anchorage or bracing for emergency power equipment and could not verify during site investigation. Based on age of the building, emergency power equipment is either nonexistent or noncompliant. Evaluation of emergency power equipment may be appropriate to mitigate seismic risk.
PCOA-2 Canopies. HR-not required; LS-LMH; PR-LMH.	The canopy over the play area between the main building and the multipurpose building had gravity connection failures in the main framing connections just prior to the site visit and were not yet repaired. Apparently the gravity connections were insufficient or nonexistent. If the gravity connectivity is suspect, the lateral connectivity is also likely suspect.
CF-3 Fall-Prone Contents. HR-not required; LS-H; PR-H.	Heavy school room supplies are stored on top of storage cabinets and do not appear to be secured. Heavy items on upper shelves should be restrained by netting or cabling to avoid falling hazards.

1.3.2 Nonstructural Checklist Items Marked as 'U'nknown

Where building nonstructural component seismic adequacy was unknown due to lack of available information or limited observation, the nonstructural checklist items were marked as “unknown”. These items require further investigation if definitive determination of compliance or noncompliance is desired. The unknown nonstructural checklist items identified during the Tier 1 evaluation are summarized below. Commentary for each unknown item is also provided based on the evaluation.

Some nonstructural deficiencies may be able to be mitigated by school district staff. Other nonstructural components that require more substantial mitigation may be more appropriately included in a long-term mitigation strategy. Some typical conceptual details for the seismic upgrade of nonstructural components can be found in the FEMA E-74 Excerpts appendix.

Table 1-6. Identified Nonstructural Checklist Items Marked as Unknown for Cosmopolis Cosmopolis Elementary School Main Building

Unknown Item	Description
LSS-4 Stair and Smoke Ducts. HR-not required; LS-LMH; PR-LMH.	Item not visually verified during site visit, but assumed to be noncompliant due to year of original construction. Further investigation may be appropriate to mitigate seismic risk.
HM-2 Hazardous Material Storage. HR-LMH; LS-LMH; PR-LMH.	Unknown whether the building has hazardous materials. Further investigation may be appropriate to mitigate seismic risk.
C-2 Suspended Gypsum Board. HR-not required; LS-MH; PR-LMH.	Items could not be visually verified during site visit. Further investigation may be appropriate to mitigate seismic risk.
CF-2 Tall Narrow Contents. HR-not required; LS-H; PR-MH.	Modernization construction was going on during the site visit.

Photos:

Figure 1-1. End view of building

Figure 1-2. Typical class room

Figure 1-3. Shelving and fall-prone contents should be braced

Figure 1-4. Typical hallway

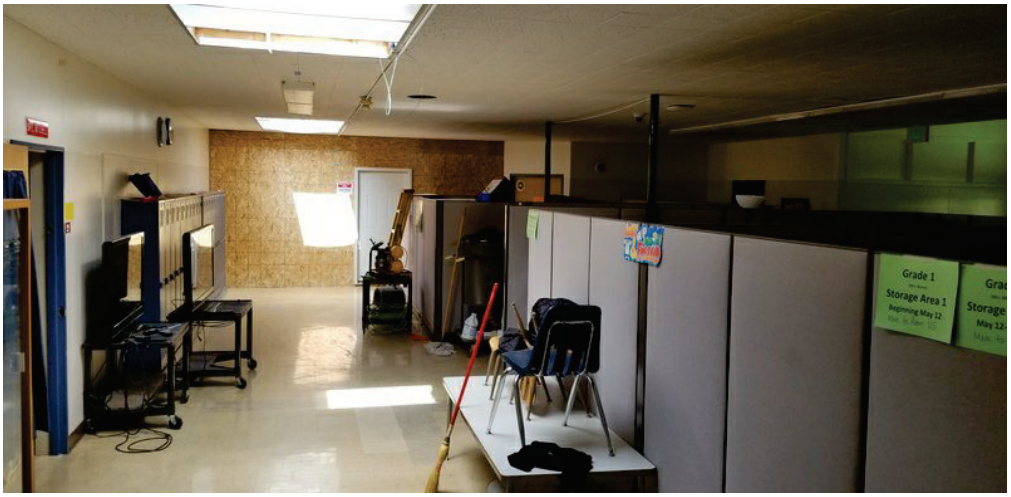


Figure 1-5. Hallway during modernization construction

Figure 1-6. Exterior view at administration office

Figure 1-7. Typical classroom windows

Figure 1-8. Exterior elevation

Figure 1-9. View at end of classroom wing

Figure 1-10. Connection of play area roof to main building

Cosmopolis, Cosmopolis Elementary School, Main Building

17-2 Collapse Prevention Basic Configuration Checklist

Building record drawings have been reviewed, when available, and a non-destructive field investigation has been performed for the subject building. Each of the required checklist items are marked Compliant (C), Noncompliant (NC), Not Applicable (N/A), or Unknown (U). Items marked Compliant indicate conditions that satisfy the performance objective, whereas items marked Noncompliant or Unknown indicate conditions that do not. Certain statements might not apply to the building being evaluated.

Low Seismicity

Building System - General

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
Load Path	The structure contains a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Tier 2: Sec. 5.4.1.1; Commentary: Sec. A.2.1.10)		X			Items could not be visually verified during site visit.
Adjacent Buildings	The clear distance between the building being evaluated and any adjacent building is greater than 0.25% of the height of the shorter building in low seismicity, 0.5% in moderate seismicity, and 1.5% in high seismicity. (Tier 2: Sec. 5.4.1.2; Commentary: Sec. A.2.1.2)	X				The multipurpose building is approximately 60 feet away from the main building, however the covered play area is attached to both buildings, though its connectivity is highly suspect.
Mezzanines	Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Tier 2: Sec. 5.4.1.3; Commentary: Sec. A.2.1.3)			X		

Building System - Building Configuration

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
Weak Story	The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Tier 2: Sec. 5.4.2.1; Commentary: Sec. A.2.2.2)			X		
Soft Story	The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Tier 2: Sec. 5.4.2.2; Commentary: Sec. A.2.2.3)			X		

Vertical Irregularities	All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Tier 2: Sec. 5.4.2.3; Commentary: Sec. A.2.2.4)	X				
Geometry	There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Tier 2: Sec. 5.4.2.4; Commentary: Sec. A.2.2.5)			X		
Mass	There is no change in effective mass of more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Tier 2: Sec. 5.4.2.5; Commentary: Sec. A.2.2.6)			X		
Torsion	The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Tier 2: Sec. 5.4.2.6; Commentary: Sec. A.2.2.7)			X		

Moderate Seismicity (Complete the Following Items in Addition to the Items for Low Seismicity)

Geologic Site Hazards

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
Liquefaction	Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance do not exist in the foundation soils at depths within 50 ft (15.2 m) under the building. (Tier 2: Sec. 5.4.3.1; Commentary: Sec. A.6.1.1)				X	The liquefaction potential of site soils is unknown at this time given available information. Moderate to high liquefaction potential is identified per ICOS based on state geologic mapping. Requires further investigation by a licensed geotechnical engineer to determine liquefaction potential.
Slope Failure	The building site is located away from potential earthquake-induced slope failures or rockfalls so that it is unaffected by such failures or is capable of accommodating any predicted movements without failure. (Tier 2: Sec. 5.4.3.1; Commentary: Sec. A.6.1.2)				X	Requires further investigation by a licensed geotechnical engineer to determine susceptibility to slope failure. The structure appears to be located on a relatively flat site.
Surface Fault Rupture	Surface fault rupture and surface displacement at the building site are not anticipated. (Tier 2: Sec. 5.4.3.1; Commentary: Sec. A.6.1.3)				X	Requires further investigation by a licensed geotechnical engineer to determine whether site is near locations of expected surface fault ruptures.

High Seismicity (Complete the Following Items in Addition to the Items for Low and Moderate Seismicity)

Foundation Configuration

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
Overturning	The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than 0.6Sa. (Tier 2: Sec. 5.4.3.3; Commentary: Sec. A.6.2.1)	X				
Ties Between Foundation Elements	The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Tier 2: Sec. 5.4.3.4; Commentary: Sec. A.6.2.2)			X		The foundations appear to be braced by a concrete slab.

17-6 Collapse Prevention Structural Checklist for Building Type W2

Building record drawings have been reviewed, when available, and a non-destructive field investigation has been performed for the subject building. Each of the required checklist items are marked Compliant (C), Noncompliant (NC), Not Applicable (N/A), or Unknown (U). Items marked Compliant indicate conditions that satisfy the performance objective, whereas items marked Noncompliant or Unknown indicate conditions that do not. Certain statements might not apply to the building being evaluated.

Low and Moderate Seismicity

Seismic-Force-Resisting System

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
Redundancy	The number of lines of shear walls in each principal direction is greater than or equal to 2. (Tier 2: Sec. 5.5.1.1; Commentary: Sec. A.3.2.1.1)	X				
Shear Stress Check	The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the following values: Structural panel sheathing – 1,000 lb/ft; Diagonal sheathing – 700 lb/ft; Straight sheathing – 100 lb/ft; All other conditions – 100 lb/ft. (Tier 2: Sec. 5.5.3.1.1; Commentary: Sec. A.3.2.7.1)		X			Calculated load exceeds the specified demand. Also there is no evidence of collectors and connections sufficient to transfer these demands to the existing shear walls.
Stucco (Exterior Plaster) Shear Walls	Multi-story buildings do not rely on exterior stucco walls as the primary seismic-force-resisting system. (Tier 2: Sec. 5.5.3.6.1; Commentary: Sec. A.3.2.7.2)			X		
Gypsum Wallboard or Plaster Shear Walls	Interior plaster or gypsum wallboard is not used for shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building. (Tier 2: Sec. 5.5.3.6.1; Commentary: Sec. A.3.2.7.3)	X				
Narrow Wood Shear Walls	Narrow wood shear walls with an aspect ratio greater than 2-to-1 are not used to resist seismic forces. (Tier 2: Sec. 5.5.3.6.1; Commentary: Sec. A.3.2.7.4)	X				
Walls Connected Through Floors	Shear walls have an interconnection between stories to transfer overturning and shear forces through the floor. (Tier 2: Sec. 5.5.3.6.2; Commentary: Sec. A.3.2.7.5)			X		
Hillside Site	For structures that are taller on at least one side by more than one-half story because of a sloping site, all shear walls on the downhill slope have an aspect ratio less than 1-to-1. (Tier 2: Sec. 5.5.3.6.3; Commentary: Sec. A.3.2.7.6)			X		
Cripple Walls	Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels. (Tier 2: Sec. 5.5.3.6.4; Commentary: Sec. A.3.2.7.7)			X		

Openings	Walls with openings greater than 80% of the length are braced with wood structural panel shear walls with aspect ratios of not more than 1.5-to-1 or are supported by adjacent construction through positive ties capable of transferring the seismic forces. (Tier 2: Sec. 5.5.3.6.5; Commentary: Sec. A.3.2.7.8)		X			There are no such positive ties.

Connections

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
Wood Posts	There is a positive connection of wood posts to the foundation. (Tier 2: Sec. 5.7.3.3; Commentary: Sec. A.5.3.3)	X				The posts that carry the exterior overhangs at the building courtyard were recently replaced and do possess the noted connections.
Wood Sills	All wood sills are bolted to the foundation. (Tier 2: Sec. 5.7.3.3; Commentary: Sec. A.5.3.4)	X				Details show plates are secured with driven anchors at 5 feet on center.
Girder-Column Connection	There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Tier 2: Sec. 5.7.4.1; Commentary: Sec. A.5.4.1)	X				The posts that carry the exterior overhangs at the building courtyard were recently replaced and do possess the noted connections.

High Seismicity (Complete the Following Items in Addition to the Items for Low & Moderate Seismicity)

Connections

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
Wood Sill Bolts	Sill bolts are spaced at 6 ft (1.8 m) or less with acceptable edge and end distance provided for wood and concrete. (Tier 2: Sec. 5.7.3.3; Commentary: Sec. A.5.3.7)	X				Details show plates are secured with driven anchors at 5 feet on center. It is unclear if these connections are sufficient to resist the estimated shear loads.

Diaphragms

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
Diaphragm Continuity	The diaphragms are not composed of split-level floors and do not have expansion joints. (Tier 2: Sec. 5.6.1.1; Commentary: Sec. A.4.1.1)	X				
Roof Chord Continuity	All chord elements are continuous, regardless of changes in roof elevation. (Tier 2: Sec. 5.6.1.1; Commentary: Sec. A.4.1.3)				X	Items could not be visually verified during site visit.
Diaphragm Reinforcement at Openings	There is reinforcing around all diaphragm openings larger than 50% of the building width in either major plan dimension. (Tier 2: Sec. 5.6.1.5; Commentary: Sec. A.4.1.8)				X	Items could not be visually verified during site visit.

Straight Sheathing	All straight-sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Tier 2: Sec. 5.6.2; Commentary: Sec. A.4.2.1)			X		
Spans	All wood diaphragms with spans greater than 24 ft (7.3 m) consist of wood structural panels or diagonal sheathing. (Tier 2: Sec. 5.6.2; Commentary: Sec. A.4.2.2)	X				
Diagonally Sheathed and Unblocked Diaphragms	All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft (12.2 m) and have aspect ratios less than or equal to 4-to-1. (Tier 2: Sec. 5.6.2; Commentary: Sec. A.4.2.3)		X			Roof diaphragms appear to span up to 72 feet between lines of resistance, and they are certainly not blocked diaphragms.
Other Diaphragms	The diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Tier 2: Sec. 5.6.5; Commentary: Sec. A.4.7.1)	X				

Cosmopolis, Cosmopolis Elementary School, Main Building

17-38 Nonstructural Checklist

Notes:
C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.
Performance Level: HR = Hazards Reduced, LS = Life Safety, and PR = Position Retention.
Level of Seismicity: L = Low, M = Moderate, and H = High

Life Safety Systems

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
LSS-1 Fire Suppression Piping. HR-not required; LS-LMH; PR-LMH.	Fire suppression piping is anchored and braced in accordance with NFPA-13. (Tier 2: Sec. 13.7.4; Commentary: Sec. A.7.13.1)			X		Presence of a fire suppression system could not be visually verified during time of the site visit. Further investigation may be appropriate to mitigate seismic risk.
LSS-2 Flexible Couplings. HR-not required; LS-LMH; PR-LMH.	Fire suppression piping has flexible couplings in accordance with NFPA-13. (Tier 2: Sec. 13.7.4; Commentary: Sec. A.7.13.2)			X		
LSS-3 Emergency Power. HR-not required; LS-LMH; PR-LMH.	Equipment used to power or control Life Safety systems is anchored or braced. (Tier 2: Sec. 13.7.7; Commentary: Sec. A.7.12.1)		X			Available record drawings do not have information on anchorage or bracing for emergency power equipment and could not verify during site investigation. Based on age of the building, emergency power equipment is either nonexistent or noncompliant. Evaluation of emergency power equipment may be appropriate to mitigate seismic risk.
LSS-4 Stair and Smoke Ducts. HR-not required; LS-LMH; PR-LMH.	Stair pressurization and smoke control ducts are braced and have flexible connections at seismic joints. (Tier 2: Sec. 13.7.6; Commentary: Sec. A.7.14.1)				X	Item not visually verified during site visit, but assumed to be noncompliant due to year of original construction. Further investigation may be appropriate to mitigate seismic risk.
LSS-5 Sprinkler Ceiling Clearance. HR-not required; LS-MH; PR-MH.	Penetrations through panelized ceilings for fire suppression devices provide clearances in accordance with NFPA-13. (Tier 2: Sec. 13.7.4; Commentary: Sec. A.7.13.3)			X		

LSS-6 Emergency Lighting. HR-not required; LS-not required; PR-LMH	Emergency and egress lighting equipment is anchored or braced. (Tier 2: Sec. 13.7.9; Commentary: Sec. A.7.3.1)			X		Not required for Life Safety Performance Level

Hazardous Materials

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
HM-1 Hazardous Material Equipment. HR-LMH; LS-LMH; PR-LMH.	Equipment mounted on vibration isolators and containing hazardous material is equipped with restraints or snubbers. (Tier 2: Sec. 13.7.1; Commentary: Sec. A.7.12.2)			X		No equipment containing hazardous materials found during site visit.
HM-2 Hazardous Material Storage. HR-LMH; LS-LMH; PR-LMH.	Breakable containers that hold hazardous material, including gas cylinders, are restrained by latched doors, shelf lips, wires, or other methods. (Tier 2: Sec. 13.8.3; Commentary: Sec. A.7.15.1)				X	Unknown whether the building has hazardous materials. Further investigation may be appropriate to mitigate seismic risk.
HM-3 Hazardous Material Distribution. HR-MH; LS-MH; PR-MH.	Piping or ductwork conveying hazardous materials is braced or otherwise protected from damage that would allow hazardous material release. (Tier 2: Sec. 13.7.3, 13.7.5; Commentary: Sec. A.7.13.4)			X		Did not observe any piping or ductwork conveying hazardous materials.
HM-4 Shutoff Valves. HR-MH; LS-MH; PR-MH.	Piping containing hazardous material, including natural gas, has shutoff valves or other devices to limit spills or leaks. (Tier 2: Sec. 13.7.3, 13.7.5; Commentary: Sec. A.7.13.3)			X		
HM-5 Flexible Couplings. HR-LMH; LS-LMH; PR-LMH.	Hazardous material ductwork and piping, including natural gas piping, have flexible couplings. (Tier 2: Sec. 13.7.3, 13.7.5; Commentary: Sec. A.7.15.4)			X		
HM-6 Piping or Ducts Crossing Seismic Joints. HR-MH; LS-MH; PR-MH.	Piping or ductwork carrying hazardous material that either crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements. (Tier 2: Sec. 13.7.3, 13.7.5, 13.7.6; Commentary: Sec. A.7.13.6)			X		

Partitions

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
P-1 Unreinforced Masonry. HR-LMH; LS-LMH; PR-LMH.	Unreinforced masonry or hollow-clay tile partitions are braced at a spacing of at most 10 ft (3.0 m) in Low or Moderate Seismicity, or at most 6 ft (1.8 m) in High Seismicity. (Tier 2: Sec. 13.6.2; Commentary: Sec. A.7.1.1)			X		
P-2 Heavy Partitions Supported by Ceilings. HR-LMH; LS-LMH; PR-LMH.	The tops of masonry or hollow-clay tile partitions are not laterally supported by an integrated ceiling system. (Tier 2: Sec. 13.6.2; Commentary: Sec. A.7.2.1)			X		

P-3 Drift. HR-not required; LS-MH; PR-MH.	Rigid cementitious partitions are detailed to accommodate the following drift ratios: in steel moment frame, concrete moment frame, and wood frame buildings, 0.02; in other buildings, 0.005. (Tier 2: Sec. 13.6.2; Commentary: Sec. A.7.1.2)			X		
P-4 Light Partitions Supported by Ceilings. HR-not required; LS-not required; PR-MH.	The tops of gypsum board partitions are not laterally supported by an integrated ceiling system. (Tier 2: Sec. 13.6.2; Commentary: Sec. A.7.2.1)			X		
P-5 Structural Separations. HR-not required; LS-not required; PR-MH.	Partitions that cross structural separations have seismic or control joints. (Tier 2: Sec. 13.6.2; Commentary: Sec. A.7.1.3)			X		
P-6 Tops. HR-not required; LS-not required; PR-MH.	The tops of ceiling-high framed or panelized partitions have lateral bracing to the structure at a spacing equal to or less than 6 ft (1.8 m). (Tier 2: Sec. 13.6.2; Commentary: Sec. A.7.1.4)			X		Not required for Life Safety Performance Level

Ceilings

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
C-1 Suspended Lath and Plaster. HR-H; LS-MH; PR-LMH.	Suspended lath and plaster ceilings have attachments that resist seismic forces for every 12 ft2 (1.1 m2) of area. (Tier 2: Sec. 13.6.4; Commentary: Sec. A.7.2.3)			X		
C-2 Suspended Gypsum Board. HR-not required; LS-MH; PR-LMH.	Suspended gypsum board ceilings have attachments that resist seismic forces for every 12 ft2 (1.1 m2) of area. (Tier 2: Sec. 13.6.4; Commentary: Sec. A.7.2.3)				X	Items could not be visually verified during site visit. Further investigation may be appropriate to mitigate seismic risk.
C-3 Integrated Ceilings. HR-not required; LS-not required; PR-MH.	Integrated suspended ceilings with continuous areas greater than 144 ft2 (13.4 m2) and ceilings of smaller areas that are not surrounded by restraining partitions are laterally restrained at a spacing no greater than 12 ft (3.6 m) with members attached to the structure above. Each restraint location has a minimum of four diagonal wires and compression struts, or diagonal members capable of resisting compression. (Tier 2: Sec. 13.6.4; Commentary: Sec. A.7.2.2)			X		
C-4 Edge Clearance. HR-not required; LS-not required; PR-MH.	The free edges of integrated suspended ceilings with continuous areas greater than 144 ft2 (13.4 m2) have clearances from the enclosing wall or partition of at least the following: in Moderate Seismicity, 1/2 in. (13 mm); in High Seismicity, 3/4 in. (19 mm). (Tier 2: Sec. 13.6.4; Commentary: Sec. A.7.2.4)			X		

C-5 Continuity Across Structure Joints. HR-not required; LS-not required; PR-MH.	The ceiling system does not cross any seismic joint and is not attached to multiple independent structures. (Tier 2: Sec. 13.6.4; Commentary: Sec. A.7.2.5)			X		
C-6 Edge Support. HR-not required; LS-not required; PR-H.	The free edges of integrated suspended ceilings with continuous areas greater than 144 ft2 (13.4 m2) are supported by closure angles or channels not less than 2 in. (51 mm) wide. (Tier 2: Sec. 13.6.4 ; Commentary: Sec. A.7.2.6)			X		Not required for Life Safety Performance Level
C-7 Seismic Joints. HR-not required; LS-not required; PR-H.	Acoustical tile or lay-in panel ceilings have seismic separation joints such that each continuous portion of the ceiling is no more than 2,500 ft2 (232.3 m2) and has a ratio of long-to-short dimension no more than 4-to-1. (Tier 2: Sec. 13.6.4; Commentary: Sec. A.7.2.7)			X		

Light Fixtures

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
LF-1 Independent Support. HR-not required; LS-MH; PR-MH.	Light fixtures that weigh more per square foot than the ceiling they penetrate are supported independent of the grid ceiling suspension system by a minimum of two wires at diagonally opposite corners of each fixture. (Tier 2: Sec. 13.6.4, 13.7.9; Commentary: Sec. A.7.3.2)			X		
LF-2 Pendant Supports. HR-not required; LS-not required; PR-H.	Light fixtures on pendant supports are attached at a spacing equal to or less than 6 ft. Unbraced suspended fixtures are free to allow a 360-degree range of motion at an angle not less than 45 degrees from horizontal without contacting adjacent components. Alternatively, if rigidly supported and/or braced, they are free to move with the structure to which they are attached without damaging adjoining components. Additionally, the connection to the structure is capable of accommodating the movement without failure. (Tier 2: Sec. 13.7.9; Commentary: Sec. A.7.3.3)			X		
LF-3 Lens Covers. HR-not required; LS-not required; PR-H.	Lens covers on light fixtures are attached with safety devices. (Tier 2: Sec. 13.7.9; Commentary: Sec. A.7.3.4)			X		Not required for Life Safety Performance Level

Cladding and Glazing

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
CG-1 Cladding Anchors. HR-MH; LS-MH; PR-MH.	Cladding components weighing more than 10 lb/ft2 (0.48 kN/m2) are mechanically anchored to the structure at a spacing equal to or less than the following: for Life Safety in Moderate Seismicity, 6 ft (1.8 m); for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 ft (1.2 m) (Tier 2: Sec. 13.6.1; Commentary: Sec. A.7.4.1)			X		
CG-2 Cladding Isolation. HR-not required; LS-MH; PR-MH.	For steel or concrete moment-frame buildings, panel connections are detailed to accommodate a story drift ratio by the use of rods attached to framing with oversize holes or slotted holes of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02, and the rods have a length-to-diameter ratio of 4.0 or less. (Tier 2: Sec. 13.6.1; Commentary: Sec. A.7.4.3)			X		
CG-3 Multi-Story Panels. HR-MH; LS-MH; PR-MH.	For multi-story panels attached at more than one floor level, panel connections are detailed to accommodate a story drift ratio by the use of rods attached to framing with oversize holes or slotted holes of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02, and the rods have a length-to-diameter ratio of 4.0 or less. (Tier 2: Sec. 13.6.1; Commentary: Sec. A.7.4.4)			X		
CG-4 Threaded Rods. HR-not required; LS-MH; PR-MH.	Threaded rods for panel connections detailed to accommodate drift by bending of the rod have a length-to-diameter ratio greater than 0.06 times the story height in inches for Life Safety in Moderate Seismicity and 0.12 times the story height in inches for Life Safety in High Seismicity and Position Retention in any seismicity. (Tier 2: Sec. 13.6.1; Commentary: Sec. A.7.4.9)			X		
CG-5 Panel Connections. HR-MH; LS-MH; PR-MH.	Cladding panels are anchored out of plane with a minimum number of connections for each wall panel, as follows: for Life Safety in Moderate Seismicity, 2 connections; for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 connections. (Tier 2: Sec. 13.6.1.4; Commentary: Sec. A.7.4.5)			X		

CG-6 Bearing Connections. HR-MH; LS-MH; PR-MH.	Where bearing connections are used, there is a minimum of two bearing connections for each cladding panel. (Tier 2: Sec. 13.6.1.4; Commentary: Sec. A.7.4.6)			X		
CG-7 Inserts. HR-MH; LS-MH; PR-MH.	Where concrete cladding components use inserts, the inserts have positive anchorage or are anchored to reinforcing steel. (Tier 2: Sec. 13.6.1.4; Commentary: Sec. A.7.4.7)			X		
CG-8 Overhead Glazing. HR-not required; LS-MH; PR-MH.	Glazing panes of any size in curtain walls and individual interior or exterior panes more than 16 ft2 (1.5 m2) in area are laminated annealed or laminated heat-strengthened glass and are detailed to remain in the frame when cracked. (Tier 2: Sec. 13.6.1.5; Commentary: Sec. A.7.4.8)			X		

Masonry Veneer

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
M-1 Ties. HR-not required; LS-LMH; PR-LMH.	Masonry veneer is connected to the backup with corrosion-resistant ties. There is a minimum of one tie for every 2-2/3 ft2 (0.25 m2), and the ties have spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 36 in. (914 mm); for Life Safety in High Seismicity and for Position Retention in any seismicity, 24 in. (610 mm). (Tier 2: Sec. 13.6.1.2; Commentary: Sec. A.7.5.1)			X		
M-2 Shelf Angles. HR-not required; LS-LMH; PR-LMH.	Masonry veneer is supported by shelf angles or other elements at each floor above the ground floor. (Tier 2: Sec. 13.6.1.2; Commentary: Sec. A.7.5.2)			X		
M-3 Weakened Planes. HR-not required; LS-LMH; PR-LMH.	Masonry veneer is anchored to the backup adjacent to weakened planes, such as at the locations of flashing. (Tier 2: Sec. 13.6.1.2; Commentary: Sec. A.7.5.3)			X		
M-4 Unreinforced Masonry Backup. HR-LMH; LS-LMH; PR-LMH.	There is no unreinforced masonry backup. (Tier 2: Sec. 13.6.1.1, 13.6.1.2; Commentary: Sec. A.7.7.2)			X		
M-5 Stud Tracks. HR-not required; LS-MH; PR-MH.	For veneer with coldformed steel stud backup, stud tracks are fastened to the structure at a spacing equal to or less than 24 in. (610 mm) on center. (Tier 2: Sec. 13.6.1.1, 13.6.1.2; Commentary: Sec. A.7.6.)			X		
M-6 Anchorage. HR-not required; LS-MH; PR-MH.	For veneer with concrete block or masonry backup, the backup is positively anchored to the structure at a horizontal spacing equal to or less than 4 ft along the floors and roof. (Tier 2: Sec. 13.6.1.1, 13.6.1.2; Commentary: Sec. A.7.7.1)			X		

M-7 Weep Holes. HR-not required; LS-not required; PR-MH.	In veneer anchored to stud walls, the veneer has functioning weep holes and base flashing. (Tier 2: Sec. 13.6.1.2; Commentary: Sec. A.7.5.6)			X		Not required for Life Safety Performance Level
M-8 Openings. HR-not required; LS-not required; PR-MH.	For veneer with cold-formed-steel stud backup, steel studs frame window and door openings. (Tier 2: Sec. 13.6.1.1, 13.6.1.2; Commentary: Sec. A.7.6.2)			X		Not required for Life Safety Performance Level

Parapets, Cornices, Ornamentation, and Appendages

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
PCOA-1 URM Parapets or Cornices. HR-LMH; LS-LMH; PR-LMH.	Laterally unsupported unreinforced masonry parapets or cornices have height-tothickness ratios no greater than the following: for Life Safety in Low or Moderate Seismicity, 2.5; for Life Safety in High Seismicity and for Position Retention in any seismicity, 1.5. (Tier 2: Sec. 13.6.5; Commentary: Sec. A.7.8.1)			X		
PCOA-2 Canopies. HR-not required; LS-LMH; PR-LMH.	Canopies at building exits are anchored to the structure at a spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 10 ft (3.0 m); for Life Safety in High Seismicity and for Position Retention in any seismicity, 6 ft (1.8 m). (Tier 2: Sec. 13.6.6; Commentary: Sec. A.7.8.2)		X			The canopy over the play area between the main building and the multipurpose building had gravity connection failures in the main framing connections just prior to the site visit and were not yet repaired. Apparently the gravity connections were insufficient or nonexistent. If the gravity connectivity is suspect, the lateral connectivity is also likely suspect.
PCOA-3 Concrete Parapets. HR-H; LS-MH; PR-LMH.	Concrete parapets with height-to-thickness ratios greater than 2.5 have vertical reinforcement. (Tier 2: Sec. 13.6.5; Commentary: Sec. A.7.8.3)			X		
PCOA-4 Appendages. HR-MH; LS-MH; PR-LMH.	Cornices, parapets, signs, and other ornamentation or appendages that extend above the highest point of anchorage to the structure or cantilever from components are reinforced and anchored to the structural system at a spacing equal to or less than 6 ft (1.8 m). This evaluation statement item does not apply to parapets or cornices covered by other evaluation statements. (Tier 2: Sec. 13.6.6; Commentary: Sec. A.7.8.4)			X		

Masonry Chimneys

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
MC-1 URM Chimneys. HR-LMH; LS-LMH; PR-LMH.	Unreinforced masonry chimneys extend above the roof surface no more than the following: for Life Safety in Low or Moderate Seismicity, 3 times the least dimension of the chimney; for Life Safety in High Seismicity and for Position Retention in any seismicity, 2 times the least dimension of the chimney. (Tier 2: Sec. 13.6.7; Commentary: Sec. A.7.9.1)			X		
MC-2 Anchorage. HR-LMH; LS-LMH; PR-LMH.	Masonry chimneys are anchored at each floor level, at the topmost ceiling level, and at the roof. (Tier 2: Sec. 13.6.7; Commentary: Sec. A.7.9.2)			X		

Stairs

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
S-1 Stair Enclosures. HR-not required; LS-LMH; PR-LMH.	Hollow-clay tile or unreinforced masonry walls around stair enclosures are restrained out of plane and have height-to-thickness ratios not greater than the following: for Life Safety in Low or Moderate Seismicity, 15-to-1; for Life Safety in High Seismicity and for Position Retention in any seismicity, 12-to-1. (Tier 2: Sec. 13.6.2, 13.6.8; Commentary: Sec. A.7.10.1)			X		
S-2 Stair Details. HR-not required; LS-LMH; PR-LMH.	The connection between the stairs and the structure does not rely on post-installed anchors in concrete or masonry, and the stair details are capable of accommodating the drift calculated using the Quick Check procedure of Section 4.4.3.1 for moment-frame structures or 0.5 in. for all other structures without including any lateral stiffness contribution from the stairs. (Tier 2: Sec. 13.6.8; Commentary: Sec. A.7.10.2)			X		

Contents and Furnishings

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
CF-1 Industrial Storage Racks. HR-LMH; LS-MH; PR-MH.	Industrial storage racks or pallet racks more than 12 ft high meet the requirements of ANSI/RMI MH 16.1 as modified by ASCE 7, Chapter 15. (Tier 2: Sec. 13.8.1; Commentary: Sec. A.7.11.1)			X		
CF-2 Tall Narrow Contents. HR-not required; LS-H; PR-MH.	Contents more than 6 ft (1.8 m) high with a height-to-depth or height-to-width ratio greater than 3-to-1 are anchored to the structure or to each other. (Tier 2: Sec. 13.8.2; Commentary: Sec. A.7.11.2)				X	Modernization construction was going on during the site visit.

CF-3 Fall-Prone Contents. HR-not required; LS-H; PR-H.	Equipment, stored items, or other contents weighing more than 20 lb (9.1 kg) whose center of mass is more than 4 ft (1.2 m) above the adjacent floor level are braced or otherwise restrained. (Tier 2: Sec. 13.8.2; Commentary: Sec. A.7.11.3)		X			Heavy school room supplies are stored on top of storage cabinets and do not appear to be secured. Heavy items on upper shelves should be restrained by netting or cabling to avoid falling hazards.
CF-4 Access Floors. HR-not required; LS-not required; PR-MH.	Access floors more than 9 in. (229 mm) high are braced. (Tier 2: Sec. 13.6.10; Commentary: Sec. A.7.11.4)			X		
CF-5 Equipment on Access Floors. HR-not required; LS-not required; PR-MH.	Equipment and other contents supported by access floor systems are anchored or braced to the structure independent of the access floor. (Tier 2: Sec. 13.7.7 13.6.10; Commentary: Sec. A.7.11.5)			X		
CF-6 Suspended Contents. HR-not required; LS-not required; PR-H.	Items suspended without lateral bracing are free to swing from or move with the structure from which they are suspended without damaging themselves or adjoining components. (Tier 2: Sec. 13.8.2; Commentary: Sec. A.7.11.6)			X		

Mechanical and Electrical Equipment

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
ME-1 Fall-Prone Equipment. HR-not required; LS-H; PR-H.	Equipment weighing more than 20 lb (9.1 kg) whose center of mass is more than 4 ft (1.2 m) above the adjacent floor level, and which is not in-line equipment, is braced. (Tier 2: Sec. 13.7.1 13.7.7; Commentary: Sec. A.7.12.4)			X		
ME-2 In-Line Equipment. HR-not required; LS-H; PR-H.	Equipment installed in line with a duct or piping system, with an operating weight more than 75 lb (34.0 kg), is supported and laterally braced independent of the duct or piping system. (Tier 2: Sec. 13.7.1; Commentary: Sec. A.7.12.5)			X		
ME-3 Tall Narrow Equipment. HR-not required; LS-H; PR-MH.	Equipment more than 6 ft (1.8 m) high with a height-to-depth or height-to-width ratio greater than 3-to-1 is anchored to the floor slab or adjacent structural walls. (Tier 2: Sec. 13.7.1 13.7.7; Commentary: Sec. A.7.12.6)			X		
ME-4 Mechanical Doors. HR-not required; LS-not required; PR-MH.	Mechanically operated doors are detailed to operate at a story drift ratio of 0.01. (Tier 2: Sec. 13.6.9; Commentary: Sec. A.7.12.7)			X		
ME-5 Suspended Equipment. HR-not required; LS-not required; PR-H.	Equipment suspended without lateral bracing is free to swing from or move with the structure from which it is suspended without damaging itself or adjoining components. (Tier 2: Sec. 13.7.1, 13.7.7; Commentary: Sec. A.7.12.8)			X		

ME-6 Vibration Isolators. HR-not required; LS-not required; PR-H.	Equipment mounted on vibration isolators is equipped with horizontal restraints or snubbers and with vertical restraints to resist overturning. (Tier 2: Sec. 13.7.1; Commentary: Sec. A.7.12.9)			X		
ME-7 Heavy Equipment. HR-not required; LS-not required; PR-H.	Floor supported or platform-supported equipment weighing more than 400 lb (181.4 kg) is anchored to the structure. (Tier 2: Sec. 13.7.1, 13.7.7; Commentary: Sec. A.7.12.10)			X		
ME-8 Electrical Equipment. HR-not required; LS-not required; PR-H.	Electrical equipment is laterally braced to the structure. (Tier 2: Sec. 13.7.7; Commentary: Sec. A.7.12.11)			X		
ME-9 Conduit Couplings. HR-not required; LS-not required; PR-H.	Conduit greater than 2.5 in. (64 mm) trade size that is attached to panels, cabinets, or other equipment and is subject to relative seismic displacement has flexible couplings or connections. (Tier 2: Sec. 13.7.8; Commentary: Sec. A.7.12.12)			X		

Piping

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
PP-1 Flexible Couplings. HR-not required; LS-not required; PR-H.	Fluid and gas piping has flexible couplings. (Tier 2: Sec. 13.7.3, 13.7.5; Commentary: Sec. A.7.13.2)			X		
PP-2 Fluid and Gas Piping. HR-not required; LS-not required; PR-H.	Fluid and gas piping is anchored and braced to the structure to limit spills or leaks. (Tier 2: Sec. 13.7.3, 13.7.5; Commentary: Sec. A.7.13.4)			X		
PP-3 C-Clamps. HR-not required; LS-not required; PR-H.	One-sided C-clamps that support piping larger than 2.5 in. (64 mm) in diameter are restrained. (Tier 2: Sec. 13.7.3, 13.7.5; Commentary: Sec. A.7.13.5)			X		Not required for Life Safety Performance Level
PP-4 Piping Crossing Seismic Joints. HR-not required; LS-not required; PR-H.	Piping that crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements. (Tier 2: Sec. 13.7.3, 13.7.5; Commentary: Sec. A.7.13.6)			X		

Ducts

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
D-1 Duct Bracing. HR-not required; LS-not required; PR-H.	Rectangular ductwork larger than 6 ft2 (0.56 m2) in cross-sectional area and round ducts larger than 28 in. (711 mm) in diameter are braced. The maximum spacing of transverse bracing does not exceed 30 ft (9.2 m). The maximum spacing of longitudinal bracing does not exceed 60 ft (18.3 m). (Tier 2: Sec. 13.7.6; Commentary: Sec. A.7.14.2)			X		Not required for Life Safety Performance Level

D-2 Duct Support. HR-not required; LS-not required; PR-H.	Ducts are not supported by piping or electrical conduit. (Tier 2: Sec. 13.7.6; Commentary: Sec. A.7.14.3)			X		Not required for Life Safety Performance Level
D-3 Ducts Crossing Seismic Joints. HR-not required; LS-not required; PR-H.	Ducts that cross seismic joints or isolation planes or are connected to independent structures have couplings or other details to accommodate the relative seismic displacements. (Tier 2: Sec. 13.7.6; Commentary: Sec. A.7.14.4)			X		

Elevators

EVALUATION ITEM	EVALUATION STATEMENT	C	NC	N/A	U	COMMENT
EL-1 Retainer Guards. HR-not required; LS-H; PR-H.	Sheaves and drums have cable retainer guards. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.1)			X		
EL-2 Retainer Plate. HR-not required; LS-H; PR-H.	A retainer plate is present at the top and bottom of both car and counterweight. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.2)			X		
EL-3 Elevator Equipment. HR-not required; LS-not required; PR-H.	Equipment, piping, and other components that are part of the elevator system are anchored. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.3)			X		
EL-4 Seismic Switch. HR-not required; LS-not required; PR-H.	Elevators capable of operating at speeds of 150 ft/min or faster are equipped with seismic switches that meet the requirements of ASME A17.1 or have trigger levels set to 20% of the acceleration of gravity at the base of the structure and 50% of the acceleration of gravity in other locations. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.4)			X		
EL-5 Shaft Walls. HR-not required; LS-not required; PR-H.	Elevator shaft walls are anchored and reinforced to prevent toppling into the shaft during strong shaking. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.5)			X		Not required for Life Safety Performance Level
EL-6 Counterweight Rails. HR-not required; LS-not required; PR-H.	All counterweight rails and divider beams are sized in accordance with ASME A17.1. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.6)			X		
EL-7 Brackets. HR-not required; LS-not required; PR-H.	The brackets that tie the car rails and the counterweight rail to the structure are sized in accordance with ASME A17.1. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.7)			X		Not required for Life Safety Performance Level
EL-8 Spreader Bracket. HR-not required; LS-not required; PR-H.	Spreader brackets are not used to resist seismic forces. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.8)			X		
EL-9 Go-Slow Elevators. HR-not required; LS-not required; PR-H.	The building has a go-slow elevator system. (Tier 2: Sec. 13.7.11; Commentary: Sec. A.7.16.9)			X		

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Appendix B: Concept-Level Seismic Upgrade Figures

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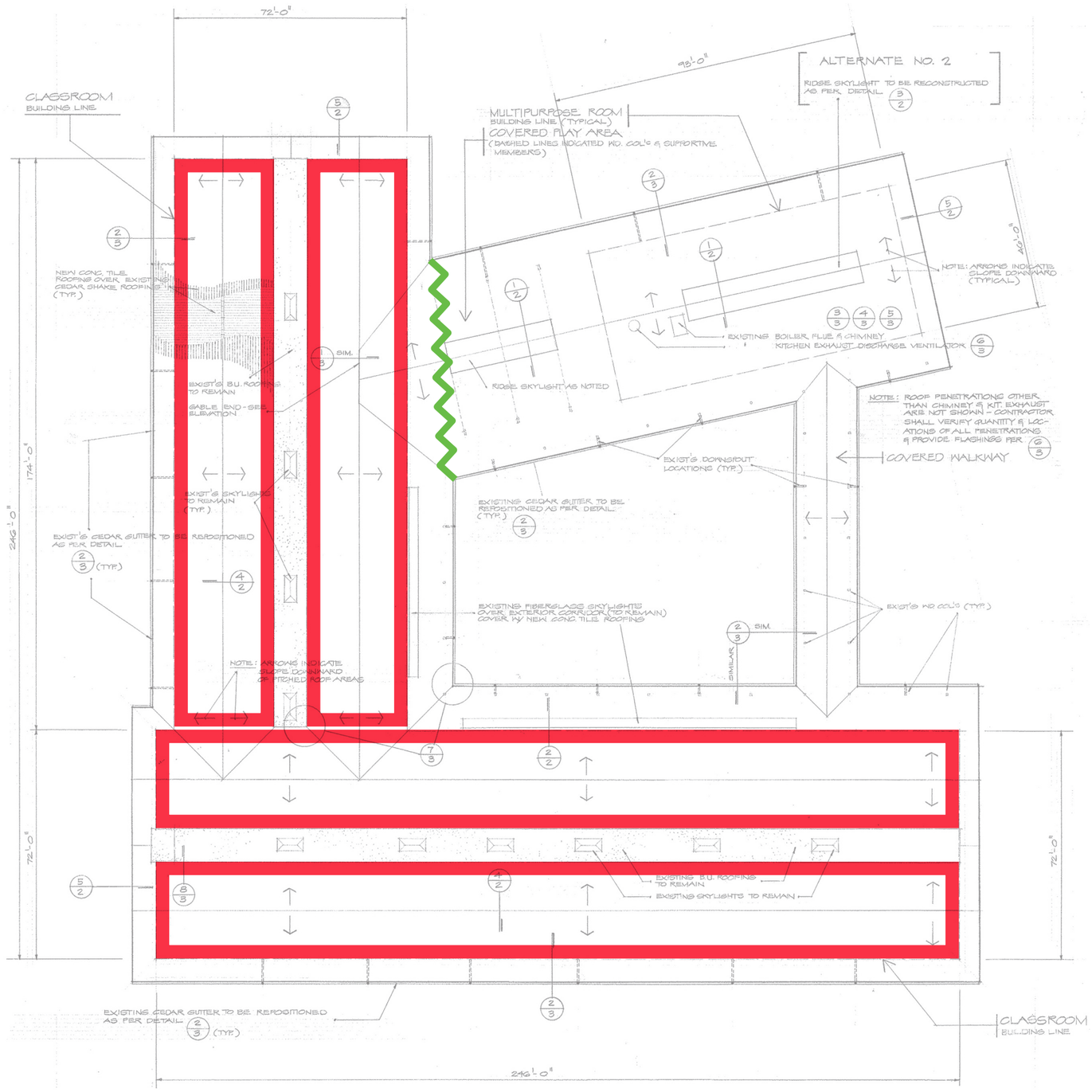
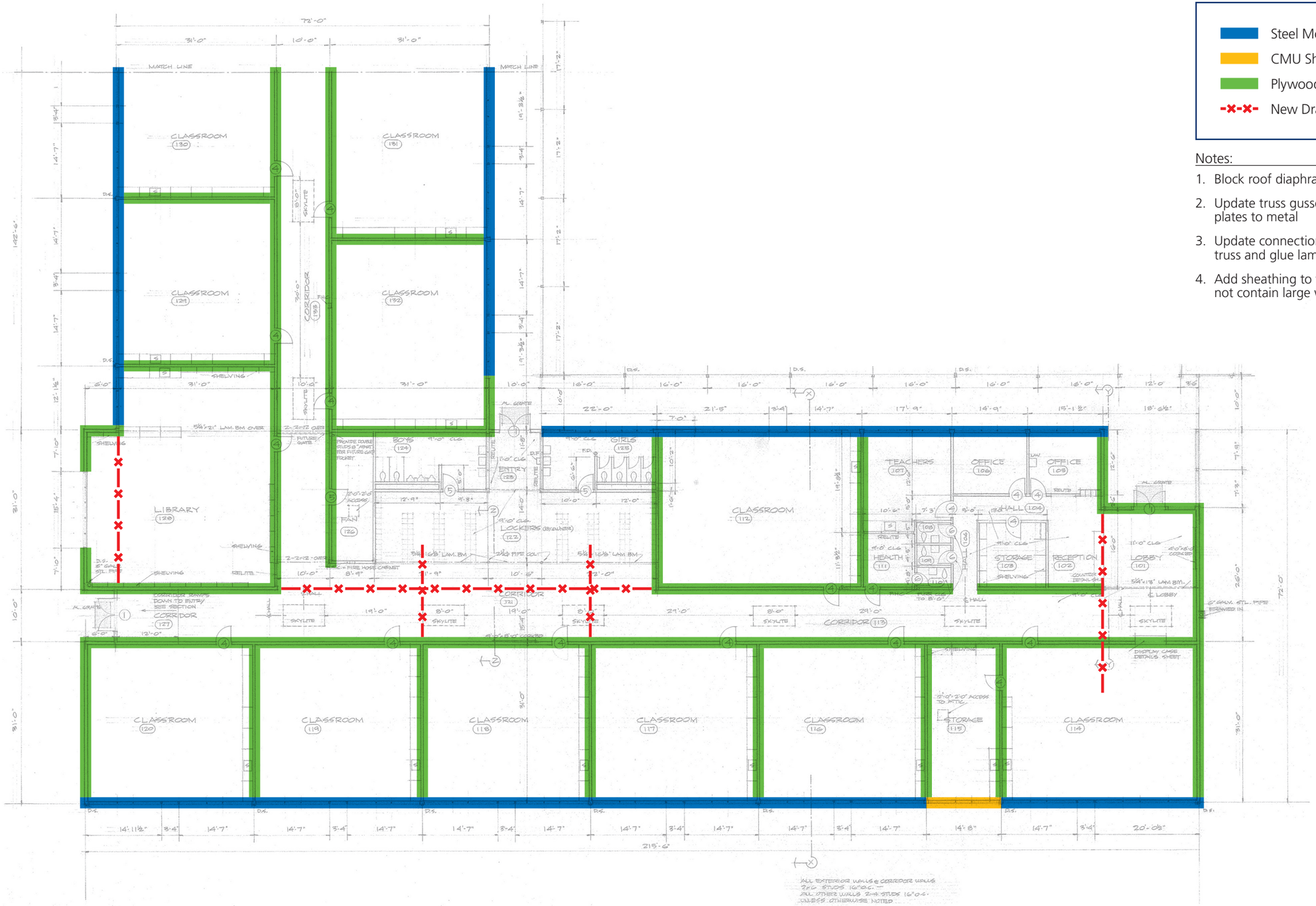


ReidMiddleton BergerABAM

Cosmopolis Elementary School Seismic Upgrades – Main Building
Washington State School Seismic Safety Assessments Project – Cosmopolis School District – June 2019

Figure 1 - Main Floor Strengthening Plan



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Cosmopolis Elementary School Seismic Upgrades – Main Building
Washington State School Seismic Safety Assessments Project – Cosmopolis School District – June 2019

Figure 2 - Roof Strengthening Plan

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Cosmopolis Elementary School Seismic Upgrades – Main Building
Washington State School Seismic Safety Assessments Project – Cosmopolis School District – June 2019

Figure 3 - Roof Strengthening Plan

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Appendix C: Opinion of Probable Construction Costs

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520 Kirkland Way, Suite 301
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Name:	**Wa State School Seismic Safety Assessment**
Second Name:	**Cosmopolis Elementary School**
Location:	**State of Washington**
Design Phase:	**ROM Cost Estimates**
Date of Estimate:	**April 15, 2019**
Date of Revision:	
Month of Cost Basis:	**1Q, 2019**

Cosmopolis Elementary School

Master Estimate Summary

Project Name		Total Estimated Construction Cost
Cosmopolis Elementary School	**Structural Costs**	**$2,660,744**
Cosmopolis Elementary School	**Non-Structural Costs**	**$1,136,553**
TOTAL ESTIMATED CONSTRUCTION COST		**$3,797,296**

Estimate Assumptions:

The ROM Construction Cost estimates are based on the Concept Design Report for the Project.
Construction Escalation is not included. Costs are current as of month of Cost Basis noted Above

Estimate Qualifications:

The ROM estimates are not be relied on solely for proforma development and financial decisions.
Further design work is required to determine construction budgets.
All Buildings Estimated to the 5' foot line for Utilities, All Sitework is estimated to go with any combination of the buildings and alternatives.
The ROM estimates do not include any Hazardous Material Abatement/Disposal.
For Construction Cost Markups they are additive, not cumulative. Percentages are added to the previous subtotal rather than the direct cost subtotal.
Owner Soft Costs are not included in the estimates. Soft costs can include design fees, sales tax, permits, owner's contingency and FF+E.
Estimated labor is based on an 8 hour per day shift 5 days a week. Accelerated schedule work of overtime has not been included.
Estimated labor is based on working on unoccupied facility without phased construction.
Estimate is based on a competitive public bid with at least 3 bona fide submitted and unrescinded general contractor bids.
Estimate is based on a competitive public bid with a minimum 6 week bidding schedule and no significant addendums within 2 weeks of bid opening.
State of Washington General Contractor/ Construction Manager (GC/CM) contracts typically raises construction costs. It is Not Included in this estimate.
Estimated construction cost is for the entire project. This estimate is not intended to be used for other projects.
Please consult the cost estimator for any modifications to this estimate. Unilaterally adding and deleting markups, scope of work, schedule, specifications, plans and bid forms could incorrectly restate the project construction cost.
Construction reserve contingency for change orders is not included in the estimate.
Sole source supply of materials and/ or installers typically results in a 40% to 100% premium on costs over open specifications.

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Structural Costs

Cosmopolis Elementary School

Name: Wa State School Seismic Safety Assessment
Second Name: Cosmopolis Elementary School
Location: Cosmopolis, WA
Design Phase: ROM Cost Estimates
Date of Estimate: April 15, 2019
Date of Revision:
Month of Cost Basis: 4Q, 2018, 1Q, 2019

Areas	sqft
1st Floor	30,456
Total Areas	30,456

Construction Cost Estimate

Subtotal Direct Cost From the Estimate Detail Below			**$**	**2,031,102**
	Percentage of Previous Subtotal	Amount		Running Subtotal
Scope Contingency	10.0%	$ 203,110	$	2,234,212
General Conditions	10.0%	$ 203,110	$	2,437,322
Home Office Overhead	5.0%	$ 101,555	$	2,538,877
Profit	6.0%	$ 121,866	$	2,660,744
Escalation Not Included-Costs in 1Q, 2019 Dollars	0.0%	$ -	$	2,660,744
Washington State Sales Tax	0.0%	$ -	$	2,660,744
Total Markups Applied to the Direct Cost	31.00%			
Markups are multiplied from each subtotal- They are not multiplied from the direct cost				

		$/sqft
TOTAL ESTIMATED CONSTRUCTION COST--	**$ 2,660,744**	**$ 87.36**
-20% TOTAL ESTIMATED CONSTRUCTION COST VARIANCE --	**$ 2,128,595**	**$ 69.89**
+50% TOTAL ESTIMATED CONSTRUCTION COST VARIANCE --	**$ 3,991,115**	**$ 131.05**

Please see the Master Summary for Assumptions and Qualifications for ROM Cost Estimates

Direct Cost of Construction

WBS	Description	Quantity	U of M	Labor	Labor Total	Material	Material Total	Equipment	Equipment Total	Total $/U of M	Direct Cost
1 - Seismic Retrofit											
Foundations											
	Tie Building Interior Shear Wall System to Concrete Foundation with Anchor Bolt System	1,459	lnft	$ 30.72	$ 44,820.48	$ 17.28	$ 25,211.52	$ 2.88	$ 4,201.92	$ 50.88	$ 74,233.92

WBS	Description	Quantity	U of M	Labor	Labor Total	Material	Material Total	Equipment	Equipment Total	Total $/U of M	Direct Cost
	Thickened Slab/Footings For Steel Moment Frames/CMU Shear Wall at Perimeter	1,040	lnft	$ 52.25	$ 54,340.00	$ 42.75	$ 44,460.00	$ 5.70	$ 5,928.00	$ 100.70	$ 104,728.00
Substructure											
	Remove and Reinstall Slab on Grade System with Reinforcing, New Flooring System at Thickened Slab Installation	4,160	sqft	$ 13.20	$ 54,912.00	$ 10.80	$ 44,928.00	$ 1.44	$ 5,990.40	$ 25.44	$ 105,830.40
Superstructure											
	Roof Systems										
	Drag Struts	204	lnft	$ 81.60	$ 16,646.40	$ 38.40	$ 7,833.60	$ 7.20	$ 1,468.80	$ 127.20	$ 25,948.80
	Drag Strut Truss Assembly	0	lnft	$ 153.68	$ -	$ 72.32	$ -	$ 13.56	$ -	$ 239.56	$ -
	Shotcrete Wall Systems - Shotcrete, Formwork, Reinforcing, Screeding at Perimeter of Building	0	cuyd	$ 666.40	$ -	$ 313.60	$ -	$ 58.80	$ -	$ 1,038.80	$ -
	CMU Shear Wall System	173	sqft	$ 14.96	$ 2,588.08	$ 7.04	$ 1,217.92	$ 1.32	$ 228.36	$ 23.32	$ 4,034.36
	Moment Frame - Steel Columns and Beams at inside Face of Exterior Wall	537	lnft	$ 149.60	$ 80,335.20	$ 70.40	$ 37,804.80	$ 13.20	$ 7,088.40	$ 233.20	$ 125,228.40
	Seismic Joint Assembly Between Building and Covered Play Area	46	lnft	$ 149.60	$ 6,881.60	$ 70.40	$ 3,238.40	$ 13.20	$ 607.20	$ 233.20	$ 10,727.20
	Connect Roof Diaphragm to Exterior Wall	867	lnft	$ 42.50	$ 36,847.50	$ 20.00	$ 17,340.00	$ 3.75	$ 3,251.25	$ 66.25	$ 57,438.75
	Connect Roof Diaphragm to Interior Wall	1,459	lnft	$ 42.50	$ 62,007.50	$ 20.00	$ 29,180.00	$ 3.75	$ 5,471.25	$ 66.25	$ 96,658.75
	Add Steel Metal Gang Nail Plates to all Trusses at Roof Structure	30,456	sqft	$ 4.83	$ 147,102.48	$ 2.17	$ 66,089.52	$ 0.42	$ 12,791.52	$ 7.42	$ 225,983.52
	Add Plywood Sheathing/Blocking at Roof Structure	30,456	sqft	$ 2.31	$ 70,277.22	$ 1.24	$ 37,841.58	$ 0.21	$ 6,487.13	$ 3.76	$ 114,605.93
Exterior Closure											
	Exterior Wall System										
	Remove and Reinstall Inside Finish System of Exterior Wall Along with New Detailing of Moment Frames to Accommodate Window Systems	12,480	sqft	$ 10.44	$ 130,291.20	$ 7.56	$ 94,348.80	$ 1.08	$ 13,478.40	$ 19.08	$ 238,118.40
Roofing System											
	Remove Existing Roofing System	30,456	sqft	$ 2.02	$ 61,399.30	$ 0.08	$ 2,558.30	$ 0.13	$ 3,837.46	$ 2.23	$ 67,795.06
	Install New Roofing System - Including Roofing, New Insulation, Coverboard and Flashing and Trim for a Complete System	30,456	sqft	$ 10.02	$ 305,077.75	$ 8.53	$ 259,881.05	$ 1.11	$ 33,897.53	$ 19.66	$ 598,856.33

WBS	Description	Quantity	U of M	Labor	Labor Total	Material	Material Total	Equipment	Equipment Total	Total $/U of M	Direct Cost
Interiors											
Interior Wall/Door/Casework/Specialties Systems											
	Add Plywood Sheathing/Blocking System at Interior Walls to Roof	17,505	sqft	$ 1.89	$ 32,996.93	$ 1.37	$ 23,894.33	$ 0.20	$ 3,413.48	$ 3.45	$ 60,304.73
	Remove and Reinstall New Interior Wall Finish System	17,505	sqft	$ 3.77	$ 65,993.85	$ 2.73	$ 47,788.65	$ 0.39	$ 6,826.95	$ 6.89	$ 120,609.45
Subtotal of the Direct Cost of Construction		**Cosmopolis Elementary School**									**$ 2,031,102**

520 Kirkland Way, Suite 301
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Non-Structural Costs

Cosmopolis Elementary School

Name: Wa State School Seismic Safety Assessment
Second Name: Cosmopolis Elementary School
Location: Cosmopolis, WA
Design Phase: ROM Cost Estimates
Date of Estimate: April 15, 2019
Date of Revision:
Month of Cost Basis: 4Q, 2018, 1Q, 2019

Areas	sqft
Building Area	30,456
Total Areas	30,456

Construction Cost Estimate

Subtotal Direct Cost From the Estimate Detail Below $ 867,597

	Percentage of Previous Subtotal	Amount	Running Subtotal
Scope Contingency	10.0%	$ 86,760	$ 954,357
General Conditions	10.0%	$ 86,760	$ 1,041,117
Home Office Overhead	5.0%	$ 43,380	$ 1,084,497
Profit	6.0%	$ 52,056	$ 1,136,553
Escalation Not Included-Costs in 1Q, 2019 Dollars	0.0%	$ -	$ 1,136,553
Washington State Sales Tax	0.0%	$ -	$ 1,136,553

Total Markups Applied to the Direct Cost 31.00%
Markups are multiplied from each subtotal- They are not multiplied from the direct cost

		$/sqft
TOTAL ESTIMATED CONSTRUCTION COST--→	**$ 1,136,553**	**$ 37.32**
-20% TOTAL ESTIMATED CONSTRUCTION COST VARIANCE --→	**$ 909,242**	**$ 29.85**
+50% TOTAL ESTIMATED CONSTRUCTION COST VARIANCE --→	**$ 1,704,829**	**$ 55.98**

Please see the Master Summary for Assumptions and Qualifications for ROM Cost Estimates

Direct Cost of Construction

WBS	Description	Quantity	U of M	Labor	Labor Total	Material	Material Total	Equipment	Equipment Total	Total $/U of M	Direct Cost
2- Non- Structural Demo/Restoration*											
Interiors and M/E/P/FP systems											
	New Floor Finishes for Installation of Seismic Work - New Footings/Thickened Slab	30,456	sqft	$ 1.40	$ 42,638.40	$ 1.10	$ 33,501.60	$ 0.15	$ 4,568.40	$ 2.65	$ 80,708.40
	New Ceilings and Finishes for Installation of Seismic Work	30,456	sqft	$ 3.03	$ 92,129.40	$ 2.48	$ 75,378.60	$ 0.33	$ 10,050.48	$ 5.83	$ 177,558.48
	Mechanical/Electrical/Fire Protection Systems	30,456	sqft	$ 10.38	$ 316,162.10	$ 8.49	$ 258,678.08	$ 1.13	$ 34,490.41	$ 20.01	$ 609,330.60

*Allows 30 percent of existing nonstructural systems M/E/P/FP require upgrades/replacement.

Subtotal of the Direct Cost of Construction	**Cosmopolis Elementary School**										**$ 867,597**

Appendix D: Earthquake Performance Assessment Tool (EPAT) Worksheet

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Washington Schools Earthquake Performance Assessment Tool (EPAT)
MAIN PAGE

Full District Name	Cosmopolis		
Point of Contact	Cherie Patterson (Superintendent)		
Telephone	360-532-7181		
E-Mail	cpatterson@cosmopolisschool.com		
File Name	Cosmopolis, Cosmopolis Elementary School, Main Building EPAT	**File Date:**	7/5/2018

District	Cosmopolis
Facility Name	Cosmopolis Elementary School
Building Part Name	Main Building

Earthquake Ground Motion (% g)		**Earthquake Hazards**	
20% in 50 year PGA	24.4%	**Site Class**	D
10% in 50 year PGA	35.1%	**Ground Shaking Hazard**	Very High
2% in 50 year PGA	71.0%	**Liquefaction Potential**	Moderate to High
Percentile S_s *Among all WA Campuses*	92%	**Combined Earthquake Hazard Level**	Extremely High

Total Building Part Area (Square Feet)	**Building Evaluated By**	**Input Data by Person(s)**
30,456		

The Earthquake Ground Motion and Earthquake Hazard Hazards data shown above are primarily for use and interpretation by engineers.

Refer to the EPAT User Guide for technical explanations of the Earthquake Ground Motion and the Earthquake Hazards information.

Washington Schools Earthquake Performance Assessment Tool (EPAT)
BUILDING DATA PAGE

Facility Name	Cosmopolis Elementary School
Building Name	Main Building
Building Use	Educational

Data Entry Item	User Entered Values	Default Values	Used for BCA
Seismic Data			
Decimal Latitude	46.952825	46.952825	46.952825
Decimal Longitude	-123.772276	-123.772276	-123.772276
Site Class (Soil/Rock Type)	D	D-E	D
Liquefaction Potential	Moderate to High	Moderate to High	Moderate to High
Geographic Region for Seismic Zones	Coastal	Coastal	Coastal
Building Structural Data			
HAZUS Building Type***	W2	Wood, Commercial & Industrial (>5,000 SF)	W2
Number of Stories (Excluding Basement)***	1		1
Year Built***	1960		1960
Code for Building Design (if known)	UBC	**Use the Drop-Down menus to Select Data Entries for the Bright Green Shaded data cells.**	UBC
Design Code Year (if known)	<1973		<1973
Severe Vertical Irregularity***	No		No
Moderate Vertical Irregularity***	No		No
Plan (Horizontal) Irregularity***	Yes		Yes

*** **Mandatory Data Entry**

Washington Schools Earthquake Performance Assessment Tool (EPAT)
RESULTS SUMMARY

District Name	Cosmopolis	**Existing Building Life Safety Risk & Priority for Retrofit or Replacement**
School Name	Cosmopolis Elementary School	
Building Name	Main Building	Very High

Building Data

HAZUS Building Type	W2	Wood, Commercial & Industrial (>5,000 SF)
Year Built	1960	These parameters determine the capacity of the existing building to withstand earthquake forces.
Building Design Code	<1973 UBC	
Existing Building Code Level	Pre	
Geographic Area	Coastal	
Severe Vertical Irregularity	No	Buildings with irregularities have greater earthquake damage than otherwise similar buildings that are regular.
Moderate Vertical Irregularity	No	
Plan Irregularity	Yes	

Seismic Data

Earthquake Ground Shaking Hazard Level	Very High	Frequency and severity of earthquakes at this site
Percentile S_s Among WA K-12 Campuses	92%	Earthquake ground shaking hazard is higher than 92% of WA campuses.
Site Class (Soil or Rock Type)	D	Stiff Soil
Liquefaction Potential	Moderate to High	Liquefaction increases the risk of major damage to a building
Combined Earthquake Hazard Level	Extremely High	Earthquake ground shaking and liquefaction potential

Severe Earthquake Event (Design Basis Earthquake Ground Motion)[1]

Building State	Building Damage Estimate[2]	Probability Building is not Repairable[3]	Life Safety[4] Risk Level	Most Likely Post-Earthquake Tagging[5]
Existing Building	72%	70%	Very High	Red
Life Safety Retrofit Building	19%	10%	Very Low	Green/Yellow
Current Code Building	15%	7.0%	Very Low	Green

1. 2/3rds of the 2% in 50 year ground motion
2. Percentage of building replacement value.
3. Probability building is in the Extensive or Complete damage states. For existing buildings, the probability that the building is not economically repairable may be higher: some buildings in the Moderate Damage state are also likely to be demolished.
4. Based on probability of Complete Damage State.
5. Most likely post-earthquake damage state per ATC-20.

Source for the Data Entered into the Tool

Building Evaluated By:	
Person(s) Who Entered Data in EPAT:	
User Overrides of Default Parameters:	Building Design Code Year, Latitude, Longitude, Site Class, Liquefaction, Geographic Region

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Appendix E: Cosmopolis Elementary School Record Drawings

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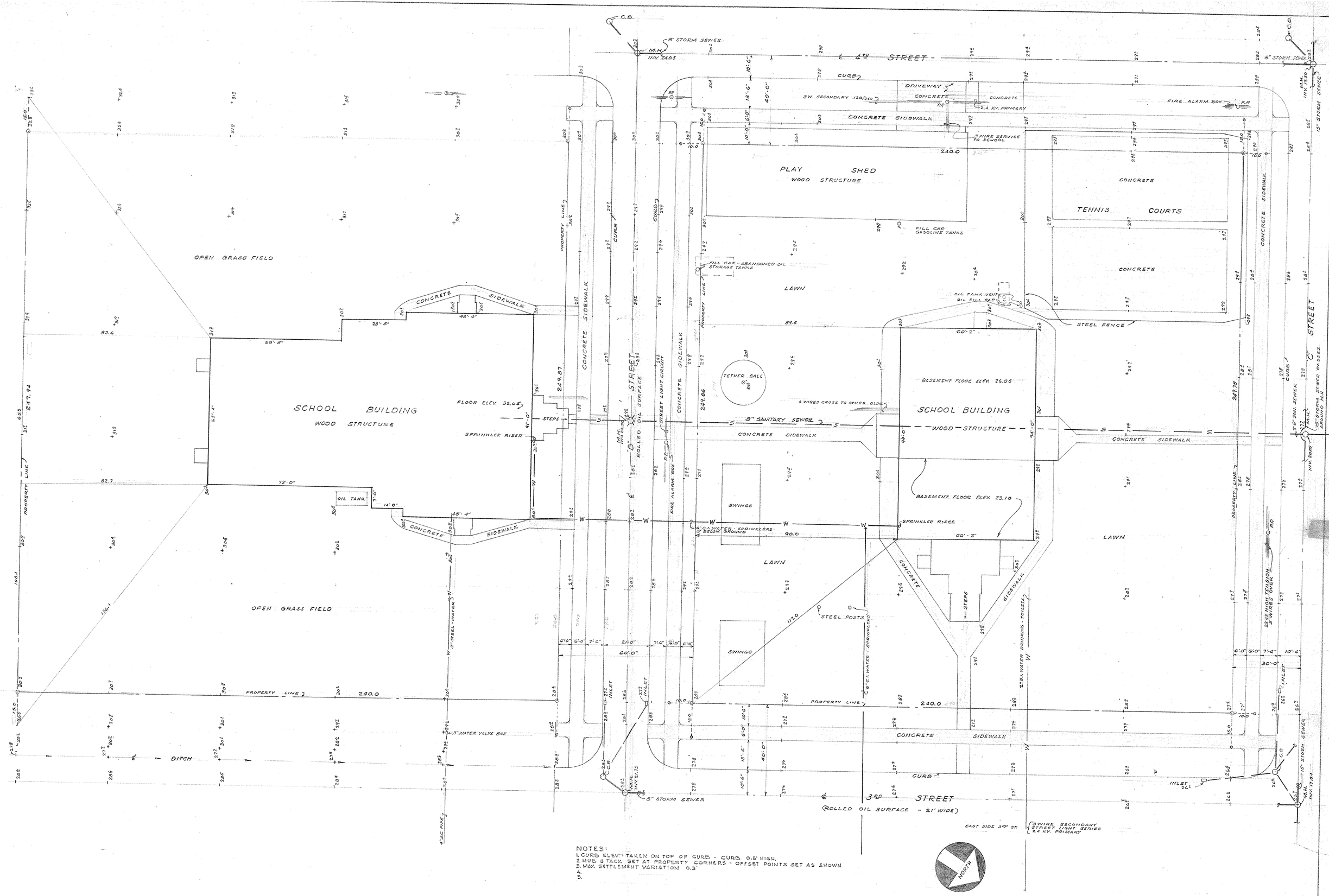


NOTES:
1. CURB ELEV'S TAKEN ON TOP OF CURB - CURB 0.5' HIGH.
2. HUB & TACK SET AT PROPERTY CORNERS - OFFSET POINTS SET AS SHOWN
3. MAX. SETTLEMENT VARIATION 0.3'

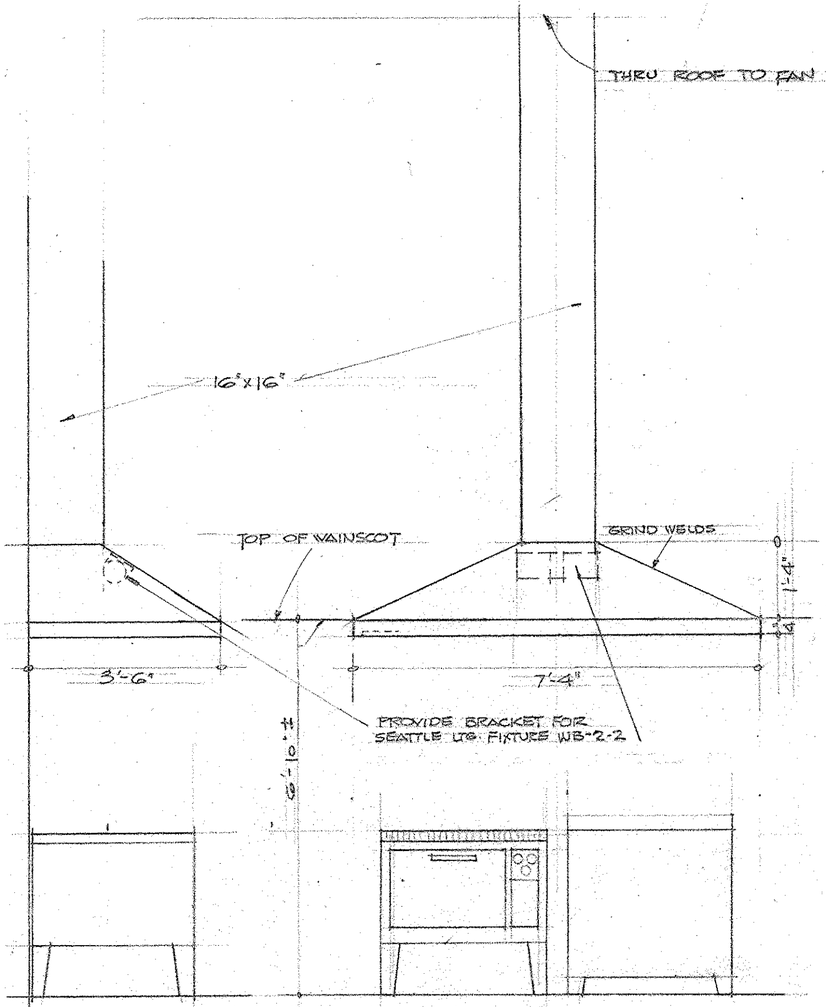
SITE SURVEY

COSMOPOLIS SCHOOL

COSMOPOLIS, WASHINGTON

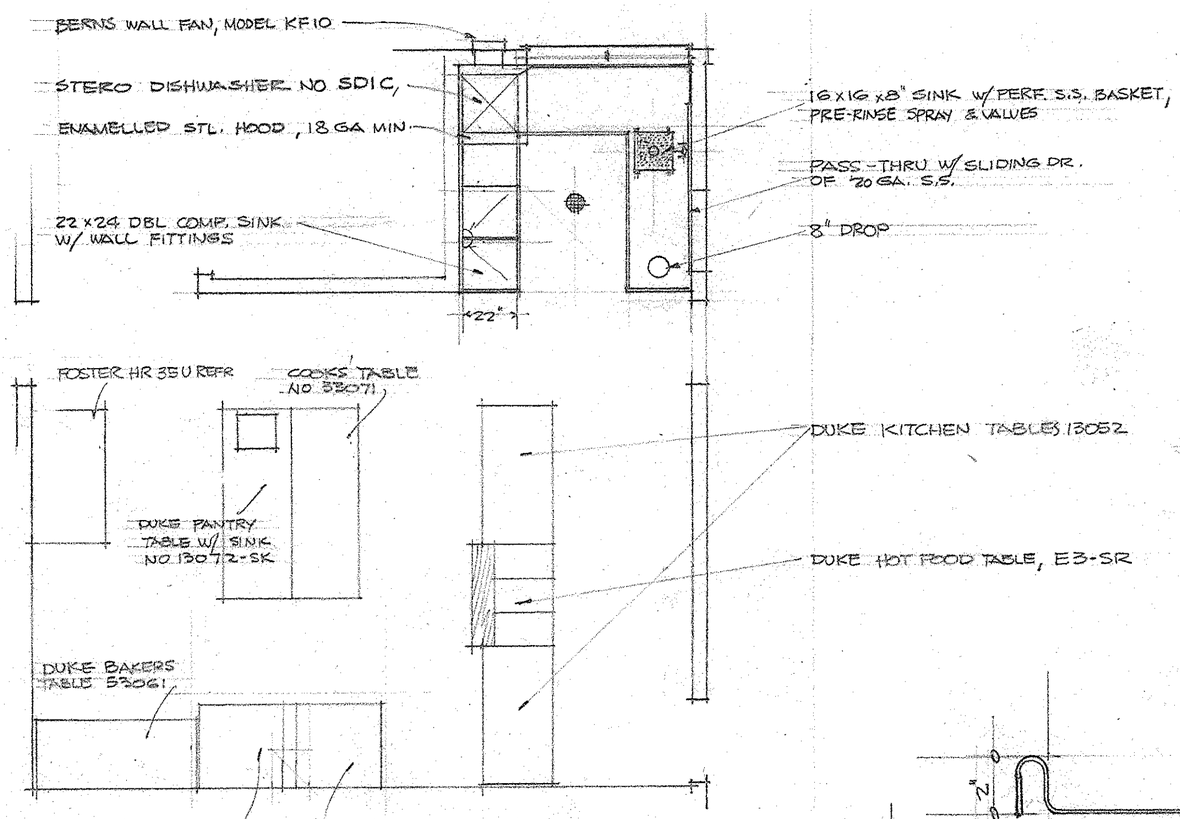
SCALE 1/8" = 1'-0" DECEMBER- 1958

W.E. BERGLUND —— ENGINEERING - SURVEYING

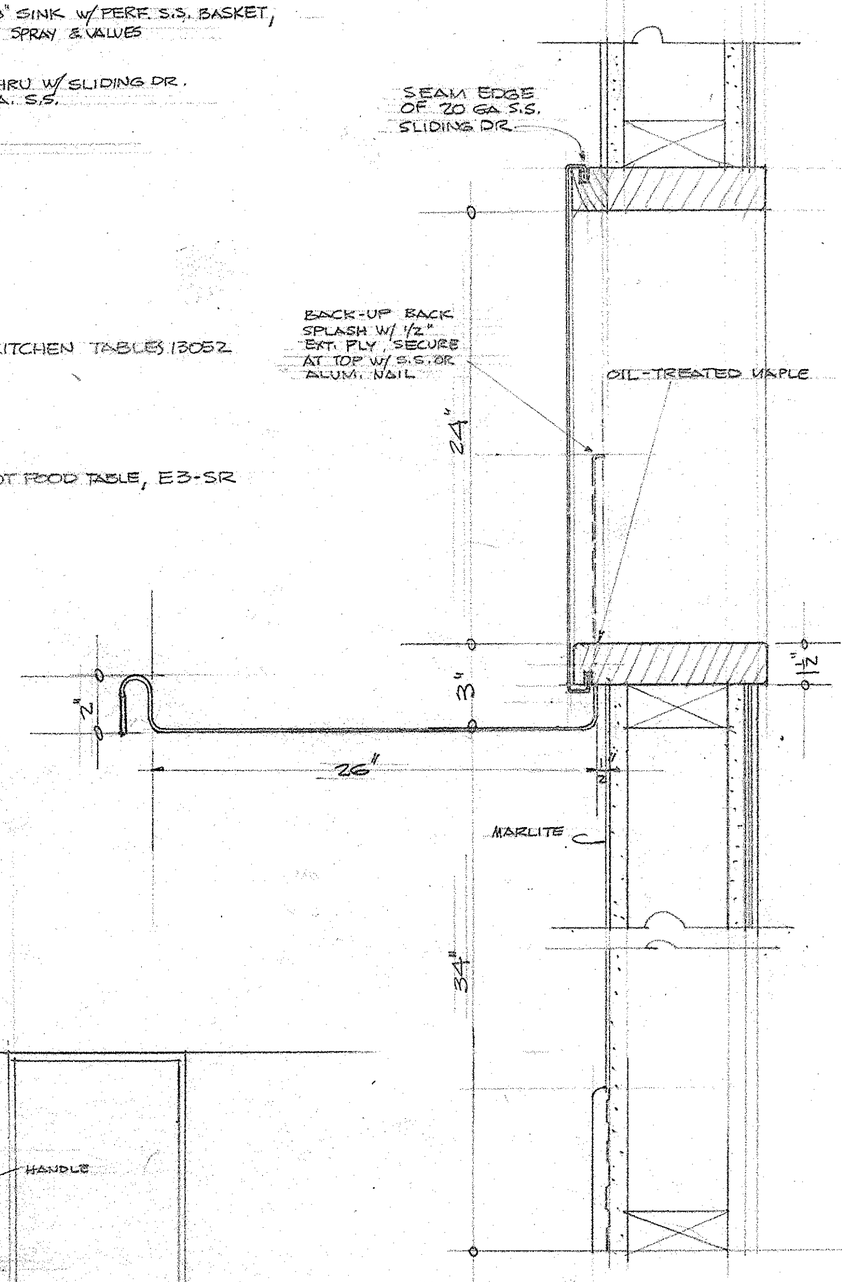


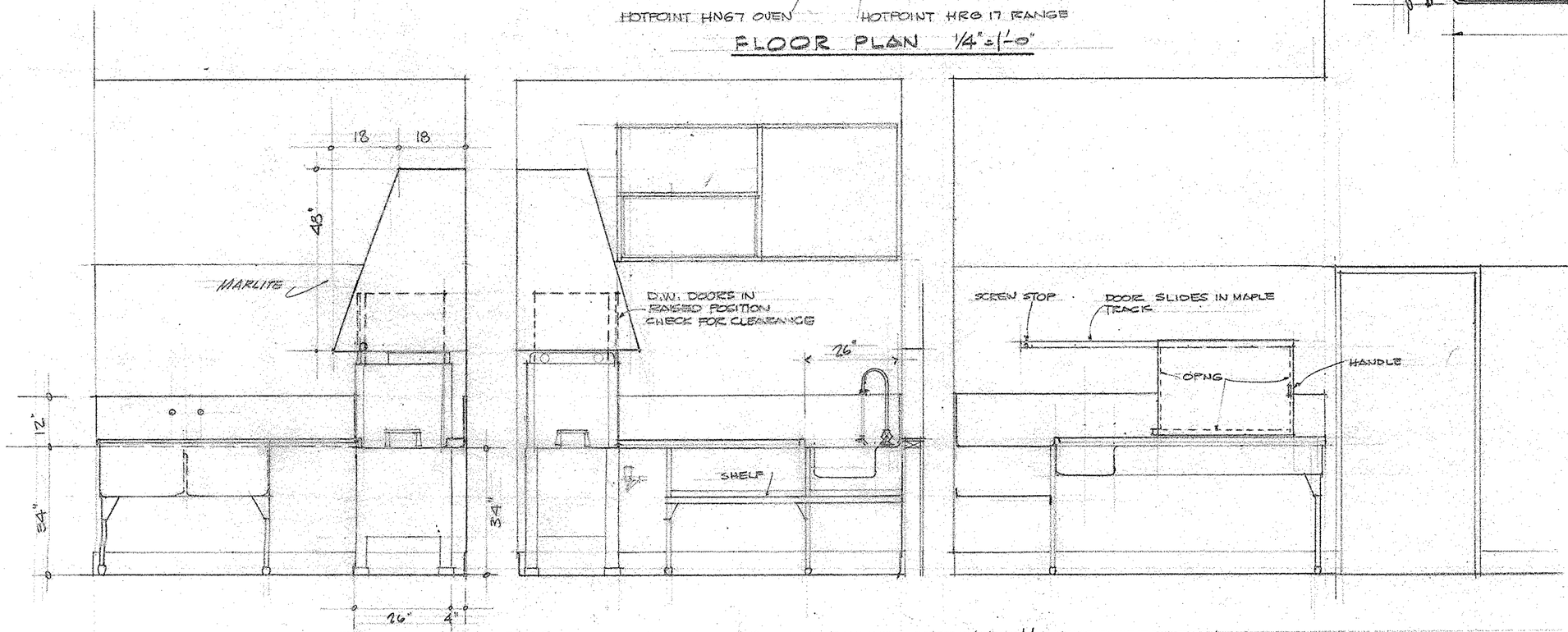
SIDE

RANGE HOOD 1/2"=1'



FLOOR PLAN 1/4"=1'-0"

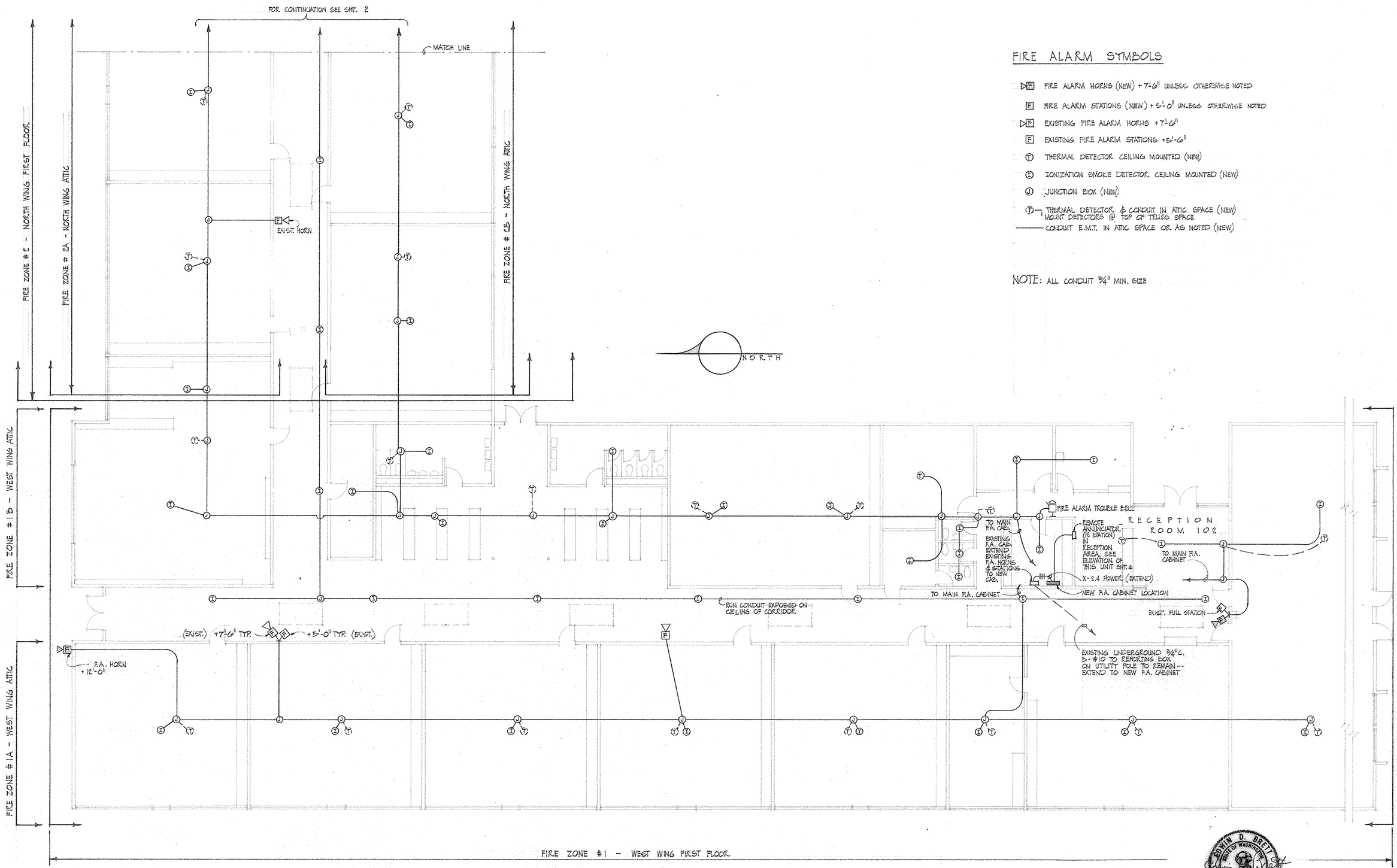




COUNTER ELEVATIONS : DISHWASHING AREA 1/2"=1'-0"

KITCHEN DETAILS
COSMOPOLIS SCHOOL

DEC 15 59



FIRE ALARM SYMBOLS

- FE — FIRE ALARM HORNS (NEW) + 7'-6" UNLESS OTHERWISE NOTED
- F — FIRE ALARM STATIONS (NEW) + 5'-0" UNLESS OTHERWISE NOTED
- FE — EXISTING FIRE ALARM HORNS + 7'-6"
- F — EXISTING FIRE ALARM STATIONS + 5'-6"
- T — THERMAL DETECTOR CEILING MOUNTED (NEW)
- E — IONIZATION SMOKE DETECTOR. CEILING MOUNTED (NEW)
- J — JUNCTION BOX (NEW)
- T — THERMAL DETECTOR & CONDUIT IN ATTIC SPACE (NEW) MOUNT DETECTORS @ TOP OF TRUSS SPACE
- CONDUIT E.M.T. IN ATTIC SPACE OR AS NOTED (NEW)

NOTE: ALL CONDUIT 3/4" MIN. SIZE

MAIN BUILDING —— PARTIAL FLOOR PLAN

1/8" = 1'-0"

EDWIN D. BRETT — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

BOUILLON, CHRISTOFFERSON & SCHAIRER
Consulting Engineers
A WASHINGTON CORPORATION

FIRE ALARM SYSTEM FOR COSMOPOLIS SCHOOL · COSMOPOLIS, WASH.

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

JULY 30, 1970

1 OF 4

MAIN BUILDING ——— PARTIAL FLOOR PLAN

1/8" = 1'-0"

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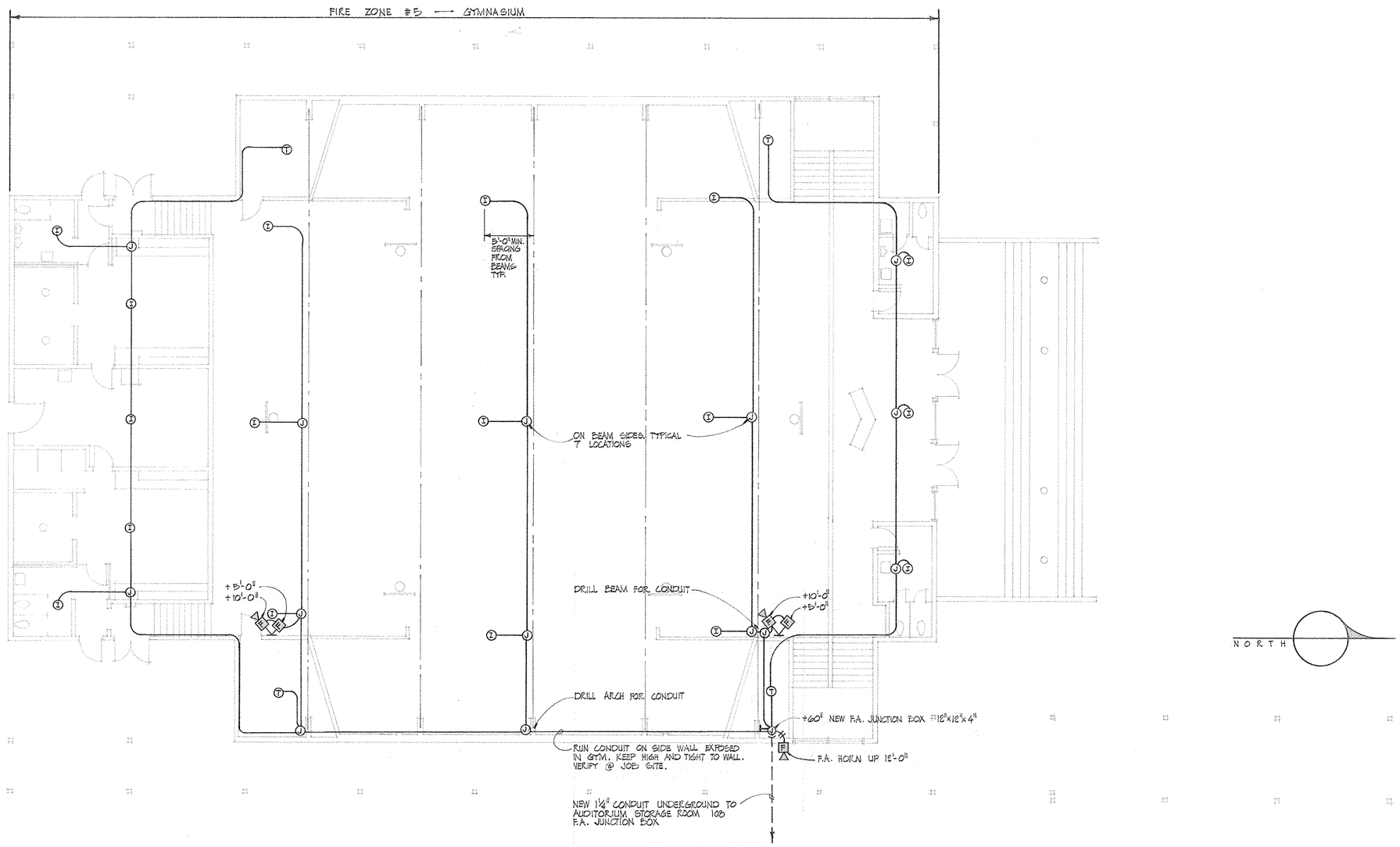
JULY 30, 1976

2
OF 4



GYMNASIUM FLOOR PLAN

1/8" = 1'-0"

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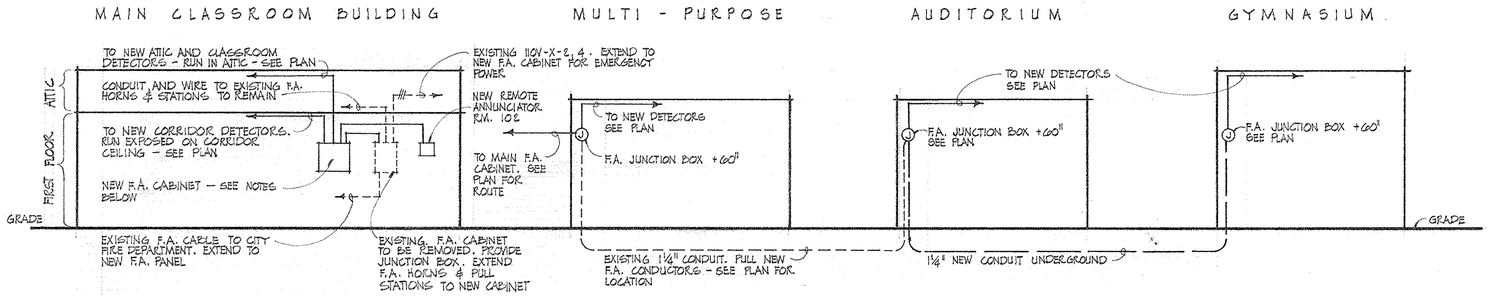
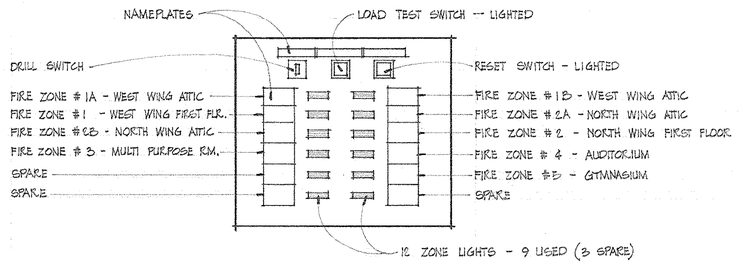
JULY 30, 1976

3
OF 4



FIRE ALARM RISER DIAGRAM

NO SCALE



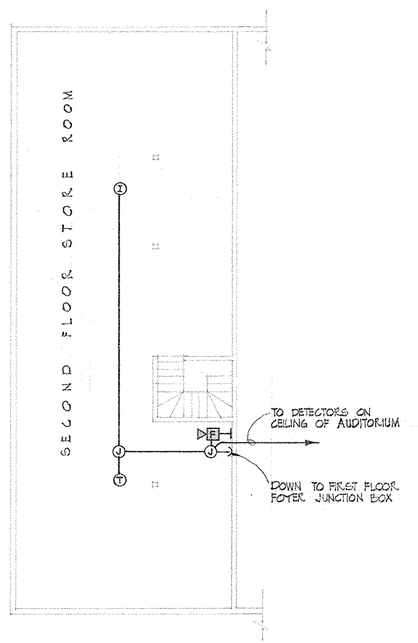
REMOTE ANNUNCIATOR

RECEPTION AREA WALL - ROOM 102 - MOUNTED UP 60" TO ℄

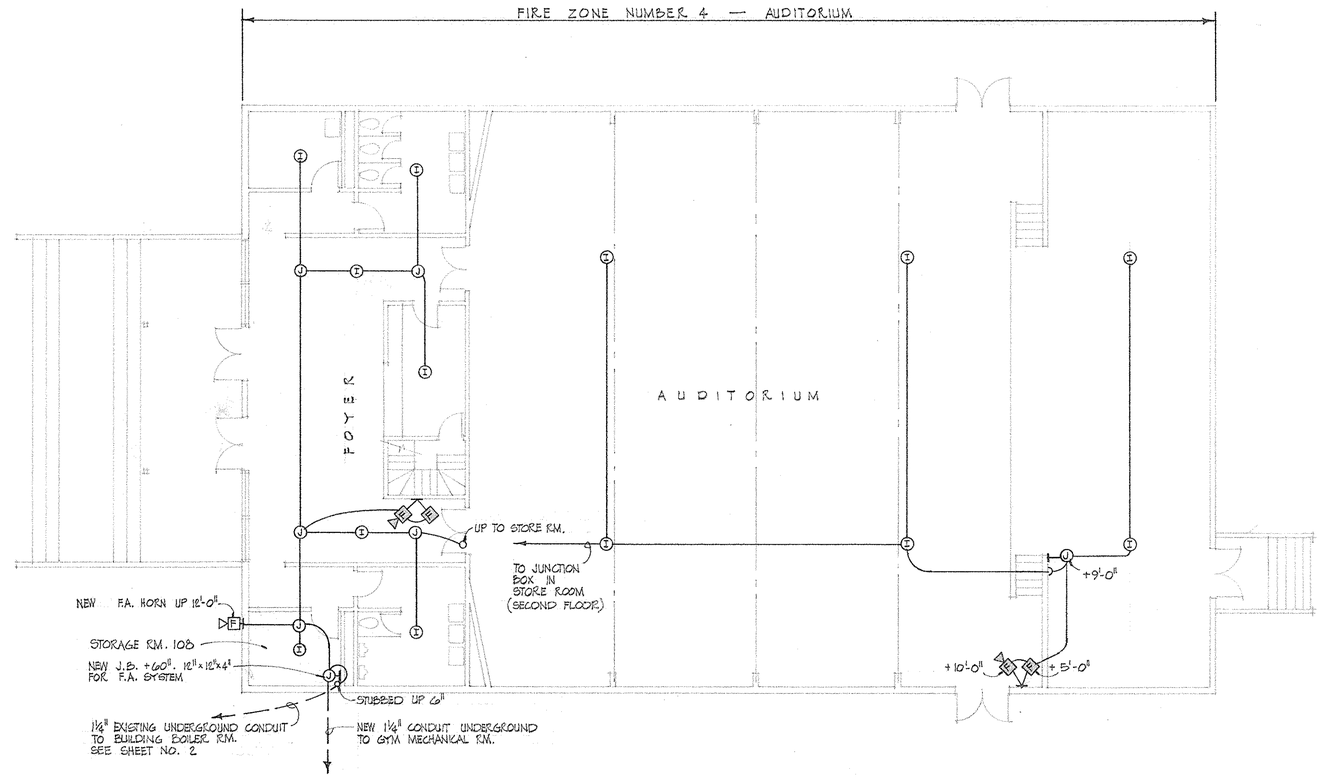
FIRE ALARM CAB. NOTES

MAIN FIRE ALARM CABINET TO CONSIST OF:

1) CONTROL UNIT - 24 VOLT D.C. LOW VOLTAGE INDICATING CIRCUITS. STANDBY BATTERY SUPPLY
2) RESET & DRILL SWITCH (REMOTE)
3) AUXILLARY RELAYS TO ACTUATE SUPPLEMENTARY CONTROL DEVICES & EXIST. F.A. STATIONS & HORNS. 115V A.C.
4) ALARM HORNS (EXTERIOR), HORNS & STATIONS (INTERIOR), THERMAL DETECTORS FIXED 135°, IONIZATION DETECTORS
5) TROUBLE BELL (REMOTE)
6) 12 STATION REMOTE ANNUNCIATOR (REMOTE). SEE PLAN.
7) MASTER REPORTING BOX (INTERIOR) FOR REPORTING TO CITY FIRE DEPT. OVER CITY F.A. LINES LOCATED ON UTILITY POLES. USE EXIST. CABLE @ EXIST. F.A. BOX (INTERIOR).
8) PROVIDE ALL END OF LINE RESISTOR DIODES @ END OF LONGEST RUNS.



SECOND FLOOR



AUDITORIUM FIRST FLOOR PLAN

1/8" = 1'-0"

NORTH

EDWIN D. BRETT STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

BOUILLON, CHRISTOFFERSON & SCHAIRER
Consulting Engineers
A WASHINGTON CORPORATION

FIRE ALARM SYSTEM FOR COSMOPOLIS SCHOOL · COSMOPOLIS, WASH.

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

JULY 30, 1976
4
OF 4

72'-0"

98'-0"

CLASSROOM
BUILDING LINE

MULTIPURPOSE ROOM
BUILDING LINE (TYPICAL)
COVERED PLAY AREA
(DASHED LINES INDICATED KID. COL'S & SUPPORTIVE MEMBERS)

ALTERNATE NO. 2

RIDGE SKYLIGHT TO BE RECONSTRUCTED AS PER DETAIL 3/2

NEW CONC. TILE ROOFING OVER EXISTING CEDAR SHAKE ROOFING (TYP.)

EXIST'G B.U. ROOFING TO REMAIN

1/3 SIM.

GABLE END - SEE ELEVATION

EXIST'G SKYLIGHTS TO REMAIN (TYP.)

EXIST'G CEDAR GUTTER TO BE REPOSITIONED AS PER DETAIL 2/3 (TYP.)

4/2

NOTE: ARROWS INDICATE SLOPE DOWNWARD OF PITCHED ROOF AREAS

7/3

RIDGE SKYLIGHT AS NOTED

EXISTING BOILER FLUE & CHIMNEY
KITCHEN EXHAUST DISCHARGE VENTILATOR 6/3

3/3 4/3 5/3

NOTE: ARROWS INDICATE SLOPE DOWNWARD (TYPICAL)

40'-0"

NOTE: ROOF PENETRATIONS OTHER THAN CHIMNEY & KIT. EXHAUST ARE NOT SHOWN - CONTRACTOR SHALL VERIFY QUANTITY & LOCATIONS OF ALL PENETRATIONS & PROVIDE FLASHINGS PER 6/3

EXIST'G DOWNSPOUT LOCATIONS (TYP.)

COVERED WALKWAY

EXISTING CEDAR GUTTER TO BE REPOSITIONED AS PER DETAIL 2/3 (TYP.)

EXISTING FIBERGLASS SKYLIGHTS OVER EXTERIOR CORRIDOR (TO REMAIN) COVER W/ NEW CONC. TILE ROOFING

2/3 SIM. SIMILAR

EXIST'G KID COL'S (TYP.)

174'-0"

246'-0"

72'-0"

EXISTING B.U. ROOFING TO REMAIN

EXISTING SKYLIGHTS TO REMAIN

8/3

5/2

EXISTING CEDAR GUTTER TO BE REPOSITIONED AS PER DETAIL 2/3 (TYP.)

CLASSROOM
BUILDING LINE

246'-0"

108'-4"

NEW CONC. TILE ROOFING OVER EXISTING CEDAR SHAKE ROOF (SEE DETAILS & SPECIFICATIONS FOR ADD'L INFORMATION)

1/3

4/2

2/3

65'-4"

EXISTING KID COL'S BELOW

LOWER ROOF @ AUDITORIUM ENTRY

EXISTING CEDAR GUTTER & A.B.S. DOWNSPOUT AS NOTED

AUDITORIUM
BUILDING LINE

EXISTING CEDAR GUTTER TO BE REPOSITIONED AS PER DETAIL 2/3 (TYPICAL)

EXISTING A.B.S. DOWNSPOUTS TO BE REFITTED TO CONNECT TO REPOSITIONED GUTTER

ALTERNATE NO. 1

ROOFING PLAN

SCALE: 1/16" = 1'-0"

E
NORTH S
W

EXISTING GYMNASIUM BUILDING
(NOT A PART OF THIS PROJECT)

NEW ROOFING ADDITION
FOR THE
COSMOPOLIS SCHOOL

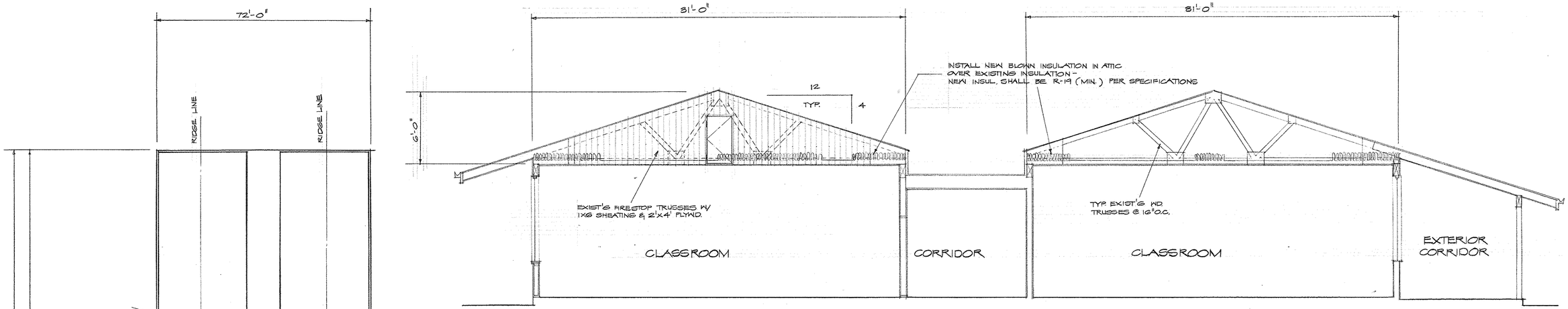
COSMOPOLIS WASHINGTON

STREET & LUNDGREN A.I.A. STATE OF WASHINGTON REGISTERED ARCHITECTS

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

MAR. 1981

1

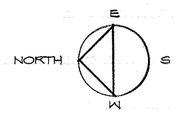


TYPICAL CROSS SECTION A-A

SCALE: 1/4" = 1'-0"

ATTIC PLAN

SCALE: 1/16" = 1'-0"



NEW INSULATION ADDITION
FOR THE
COSMOPOLIS SCHOOL

COSMOPOLIS WASHINGTON

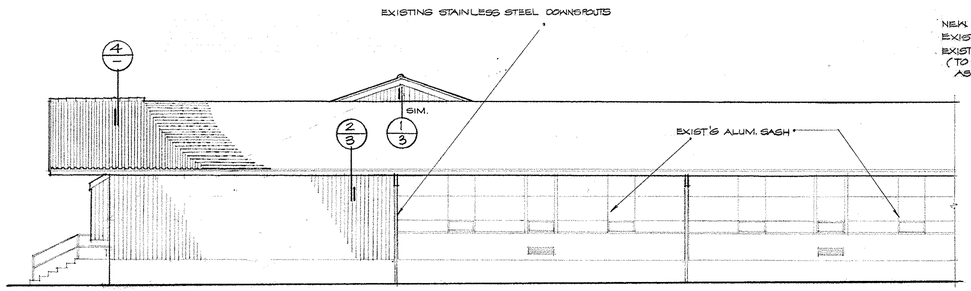
STREET & LUNDGREN A.I.A. STATE OF WASHINGTON REGISTERED ARCHITECTS

STREET AND LUNDGREN A.I.A.

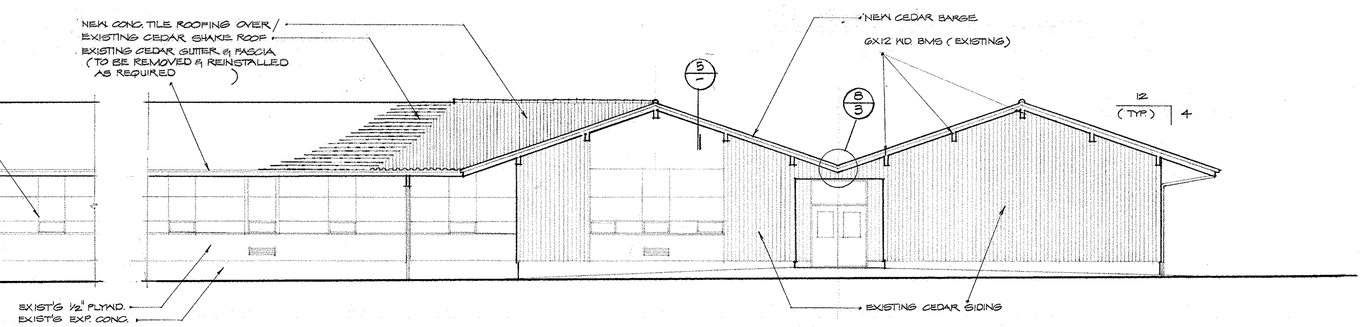
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

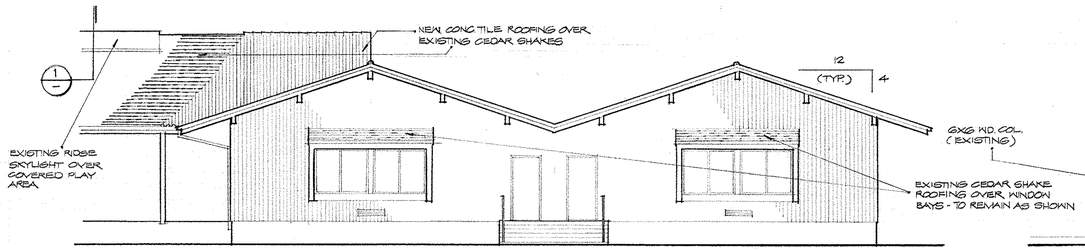
MAR. 1981

1

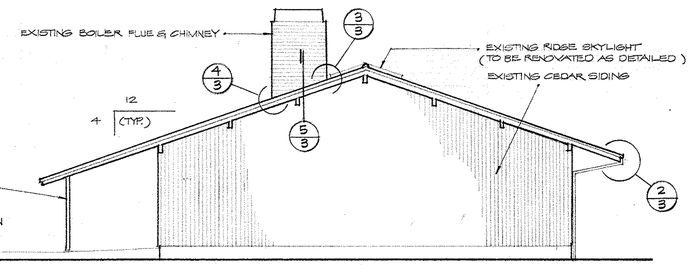


NORTH ELEVATION - CLASSROOMS
SCALE: 1/8" = 1'-0"

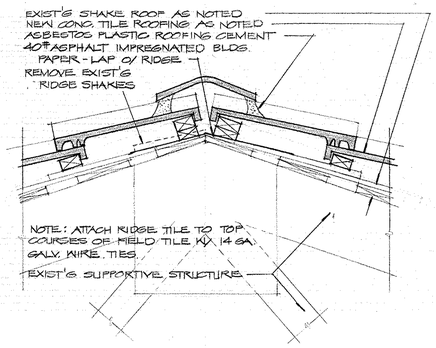


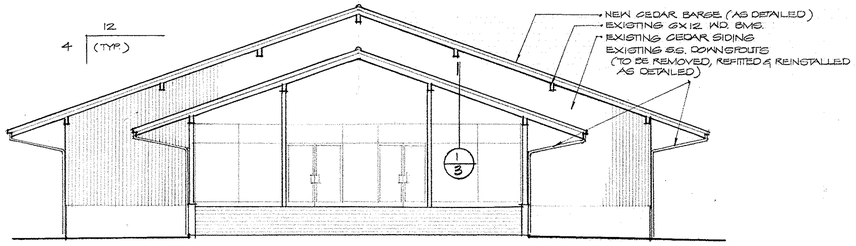


EAST ELEVATION - CLASSROOMS
SCALE: 1/8" = 1'-0"

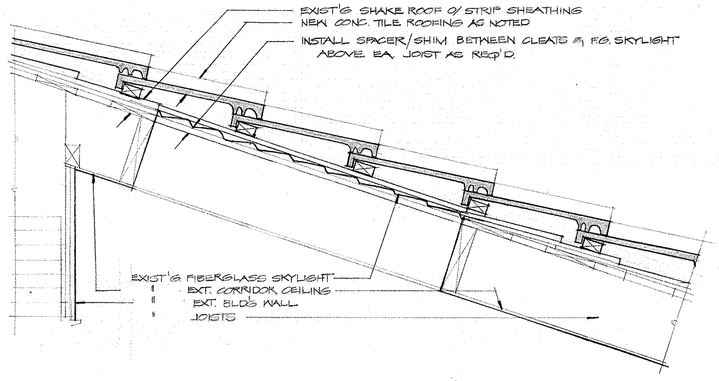


SOUTH ELEVATION - MULTIPURPOSE RM.
SCALE: 1/8" = 1'-0"

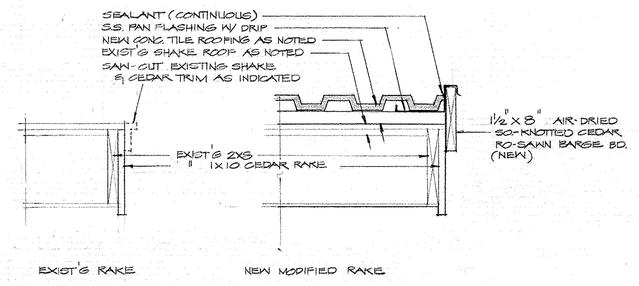




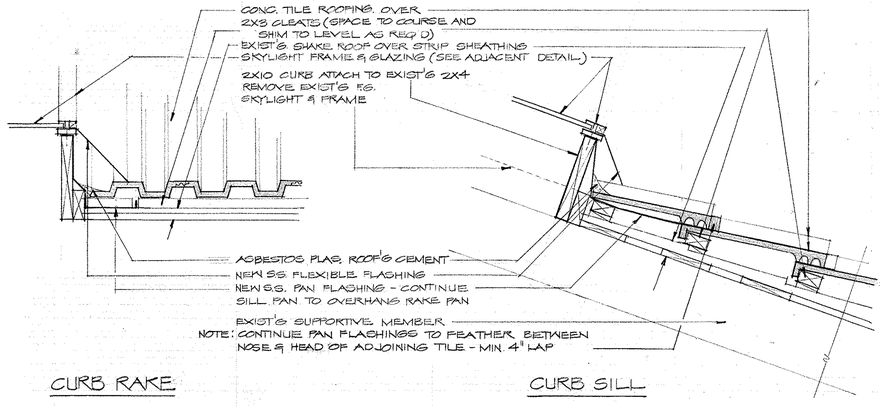
NORTH ELEVATION - AUDITORIUM
SCALE: 1/8" = 1'-0"

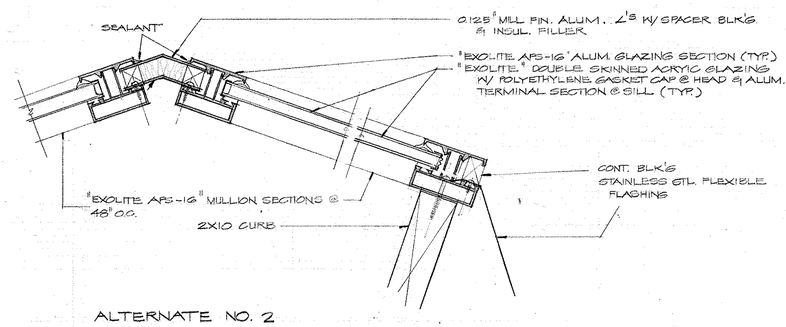


4 TYPICAL RIDGE DETAIL
SCALE: 1 1/2" = 1'-0"



5 TYPICAL BARGE/RAKE DETAIL
SCALE: 1 1/2" = 1'-0"





ALTERNATE NO. 2

1 TYPICAL RIDGE SKYLIGHT @ MULTIPURPOSE/PLAY AREA
SCALE: 1 1/2" = 1'-0"

2 ROOFING @ SKYLIGHT OVER EXTERIOR CORRIDOR
SCALE: 1 1/2" = 1'-0"

3 SKYLIGHT FRAME AND GLAZING
SCALE: 1/3 FULL SIZE

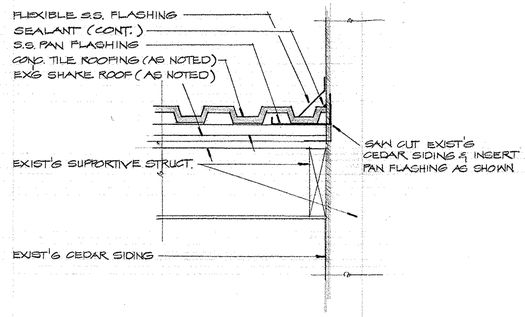
STREET & LUNDGREN A.I.A. STATE OF WASHINGTON REGISTERED ARCHITECTS

NEW ROOFING ADDITION
FOR THE
COSMOPOLIS SCHOOL
COSMOPOLIS WASHINGTON

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

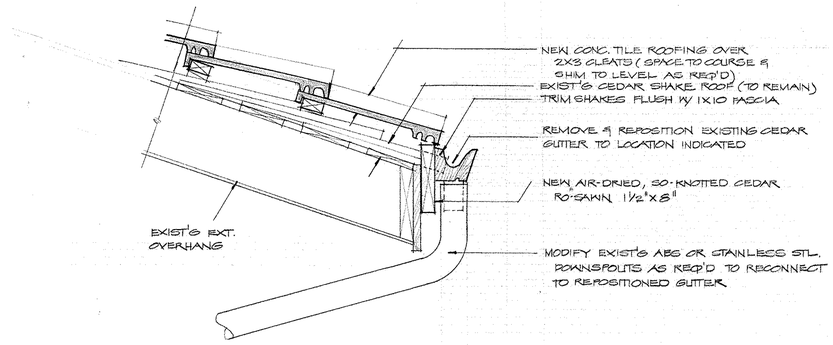
MAR. 1981

2



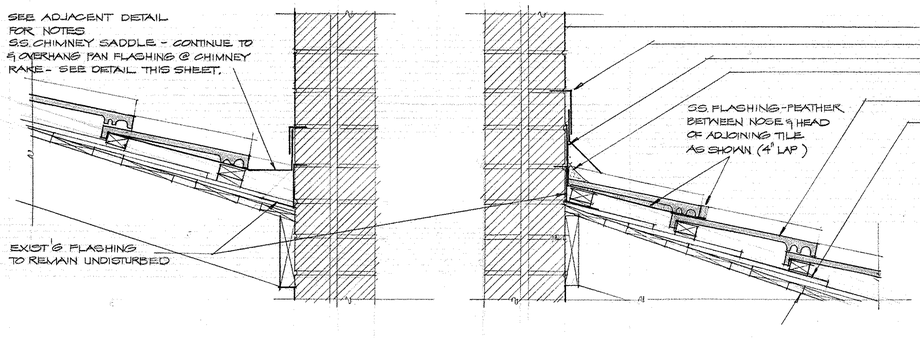
1 FLASHING @ WALL RAKE

SCALE : 1½" = 1'-0"



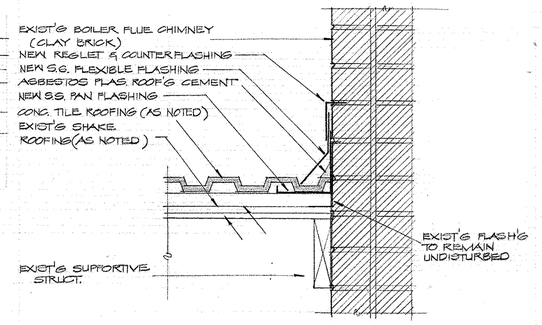
2 TYPICAL FASCIA AND GUTTER DETAIL

SCALE 1½" = 1'-0"



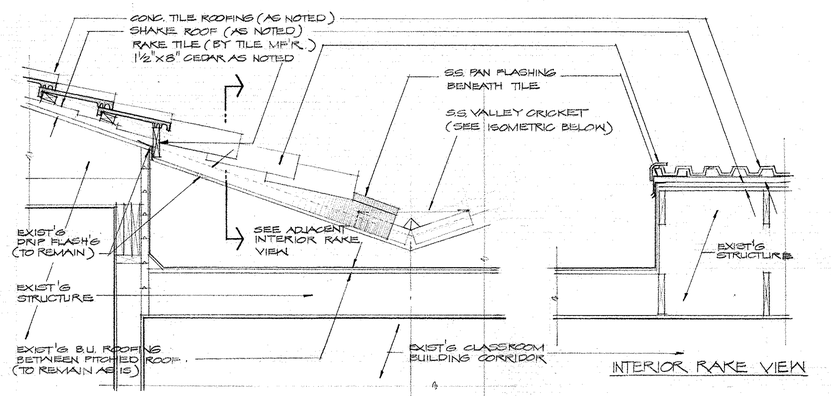
3 FLASHING @ CHIMNEY HEAD

SCALE : 1½" = 1'-0"



4 FLASHING @ CHIMNEY SILL

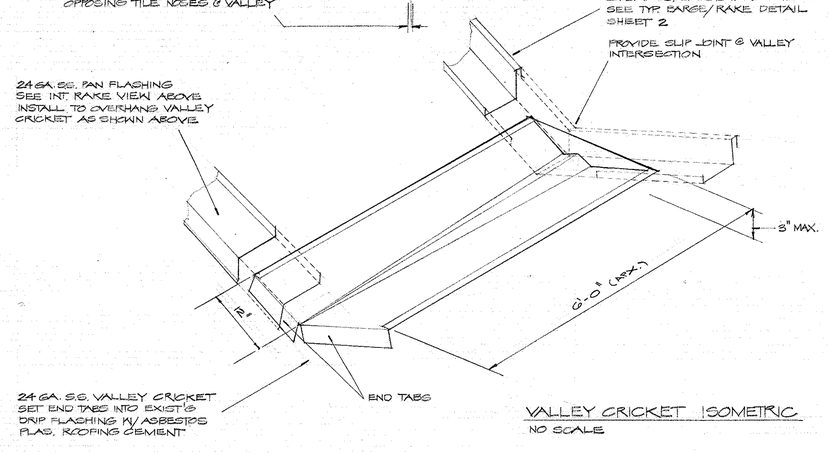
SCALE : 1½" = 1'-0"



INTERIOR RAKE VIEW

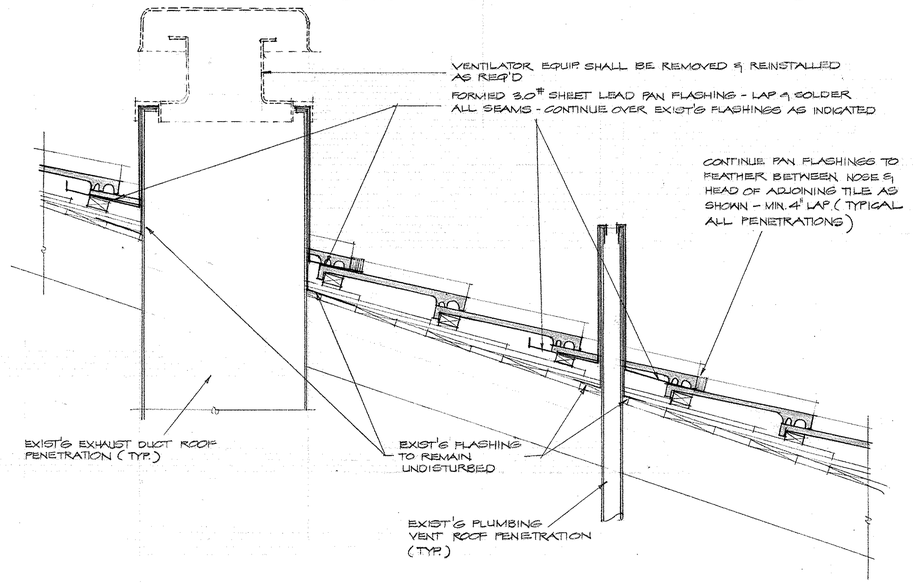
5 FLASHING @ CHIMNEY RAKE

SCALE : 1½" = 1'-0"



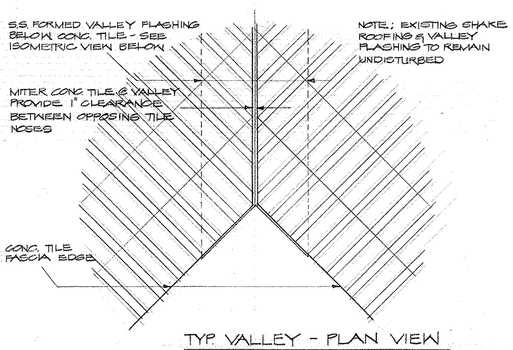
VALLEY CRICKET ISOMETRIC

NO SCALE

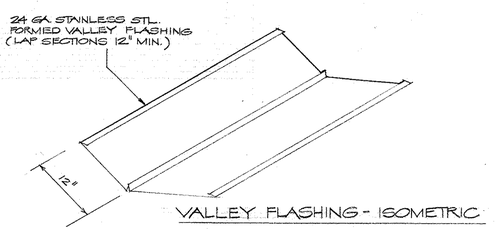


6 TYPICAL MECHANICAL / PLUMBING PENETRATION FLASHING

SCALE : 1½" = 1'-0"



TYP. VALLEY - PLAN VIEW



VALLEY FLASHING - ISOMETRIC

7 TYPICAL VALLEY FLASHING

SCALE : 3/4" = 1'-0"

8 VALLEY FLASHING @ INTERIOR VALLEY INTERSECTION

SCALE : 3/4" = 1'-0"

NEW ROOFING ADDITION
FOR THE
COSMOPOLIS SCHOOL
COSMOPOLIS WASHINGTON

STREET & LUNDGREN A.I.A. STATE OF WASHINGTON REGISTERED ARCHITECTS

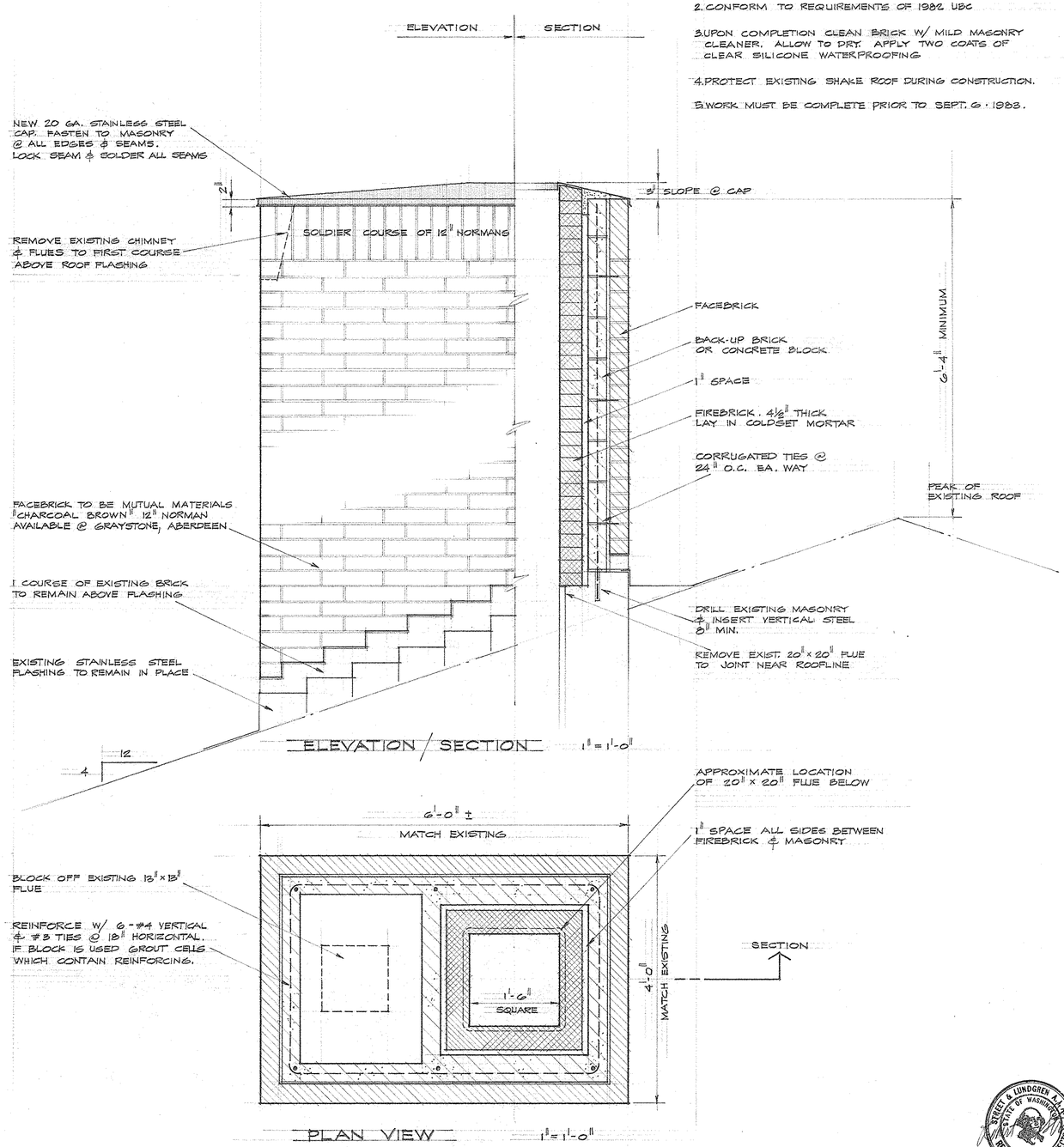
STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

MAR. 1981

3

NOTES

1. TAKE OUT & PAY FOR ALL BUILDING PERMITS & PLAN CHECK FEES. CALL FOR REQUIRED INSPECTIONS.
2. CONFORM TO REQUIREMENTS OF 1982 UBC
3. UPON COMPLETION CLEAN BRICK W/ MILD MASONRY CLEANER. ALLOW TO DRY. APPLY TWO COATS OF CLEAR SILICONE WATERPROOFING
4. PROTECT EXISTING SHAKE ROOF DURING CONSTRUCTION.
5. WORK MUST BE COMPLETE PRIOR TO SEPT. 6 · 1983.



STREET & LUNDGREN A.I.A. STATE OF WASHINGTON REGISTERED ARCHITECTS

AUGUST 24 · 1983

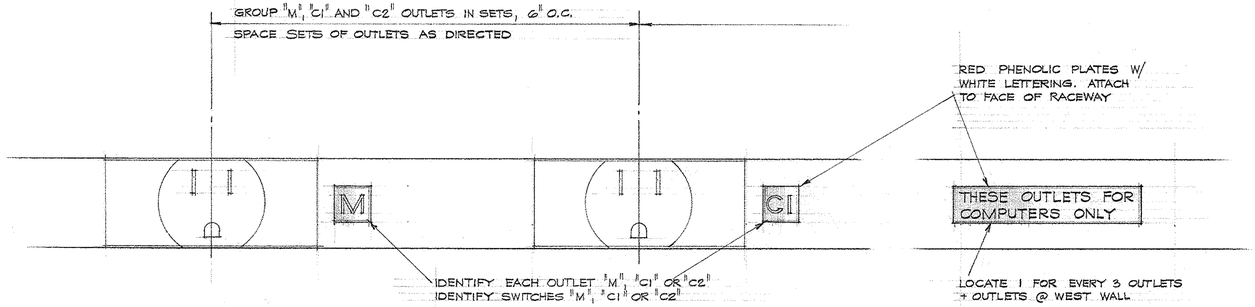
CHIMNEY RESTORATION for COSMOPOLIS SCHOOL

COSMOPOLIS · WASHINGTON

STREET AND LUNDGREN A.I.A.

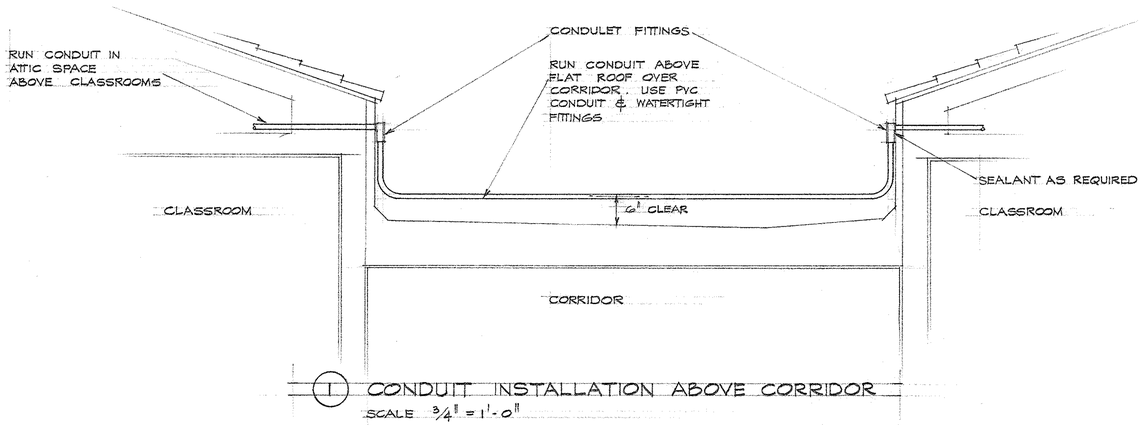
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

1 OF 1



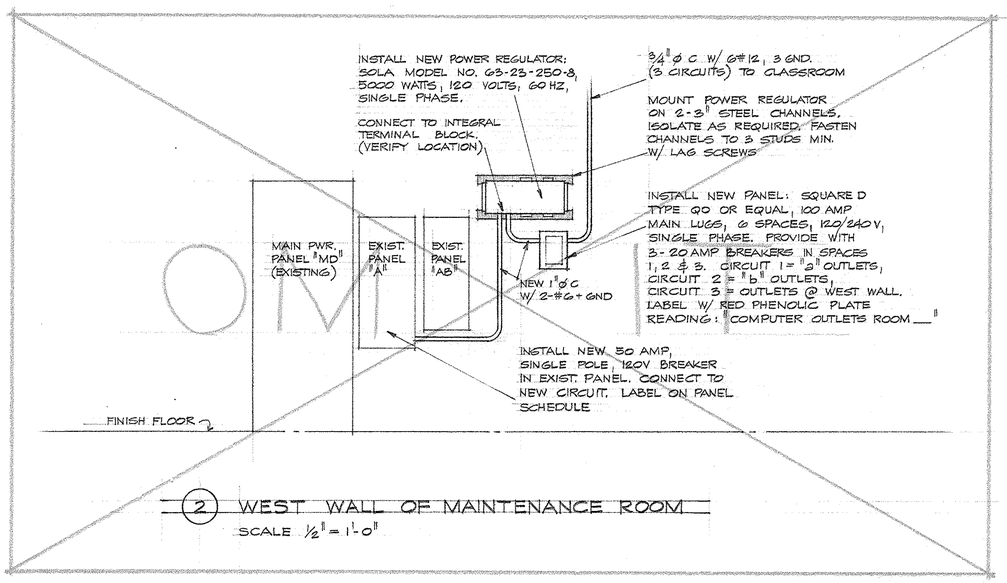
OUTLET MOUNTING & IDENTIFICATION

FULL SCALE



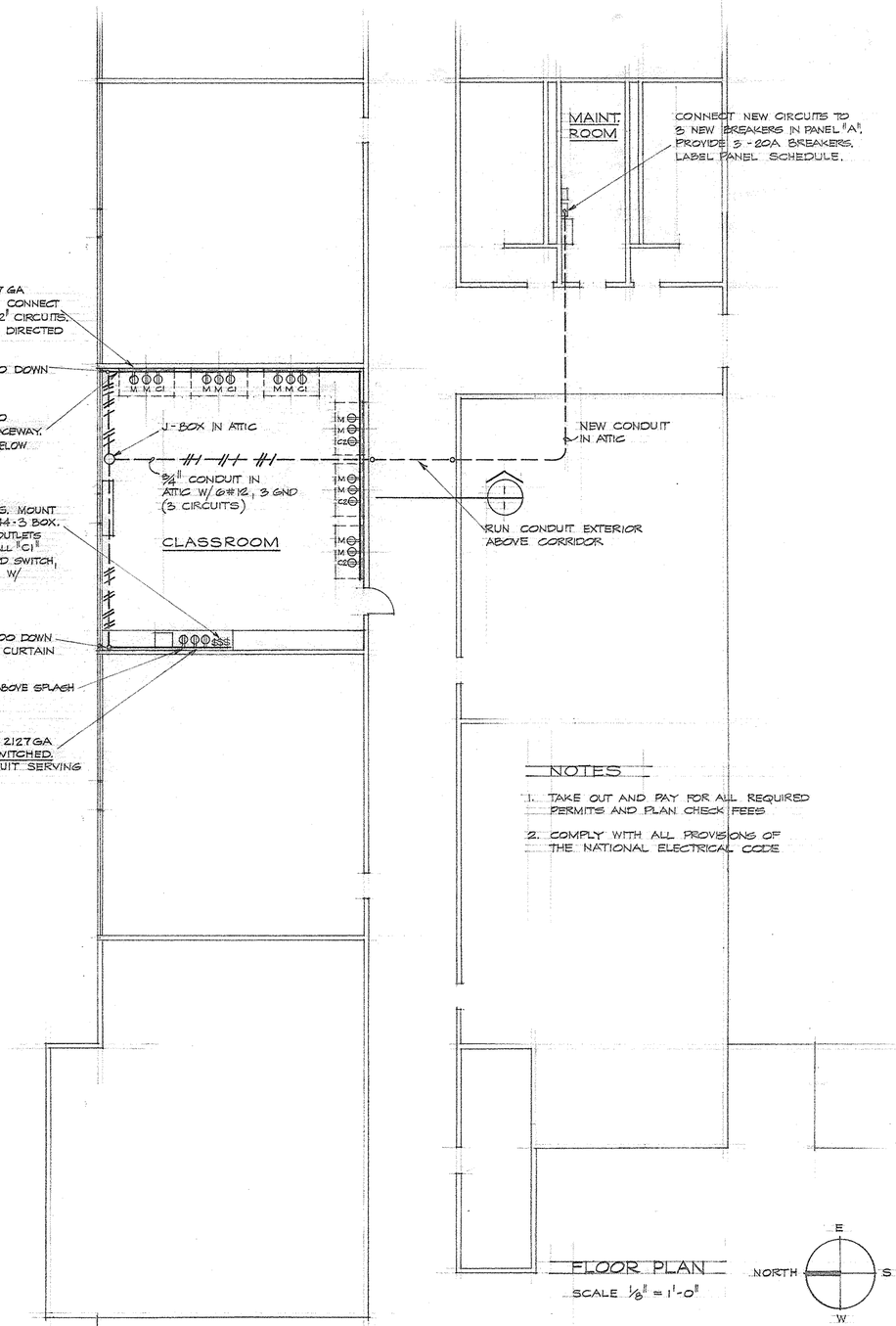
1 CONDUIT INSTALLATION ABOVE CORRIDOR

SCALE 3/4" = 1'-0"



2 WEST WALL OF MAINTENANCE ROOM

SCALE 1/2" = 1'-0"



NOTES

1. TAKE OUT AND PAY FOR ALL REQUIRED PERMITS AND PLAN CHECK FEES
2. COMPLY WITH ALL PROVISIONS OF THE NATIONAL ELECTRICAL CODE

FLOOR PLAN

SCALE 1/8" = 1'-0"

NORTH — E — S — W

COMPUTER ROOM for COSMOPOLIS SCHOOL

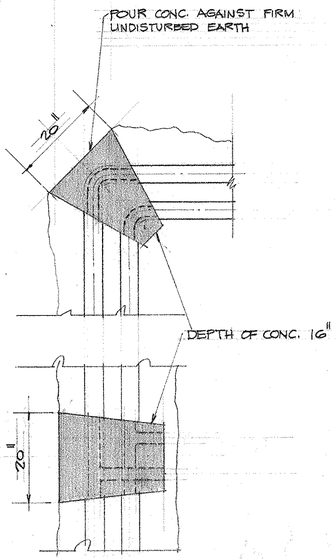
COSMOPOLIS SCHOOL DISTRICT NO. 99, COSMOPOLIS, WASH.

STREET AND LUNDGREN A.I.A.

ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

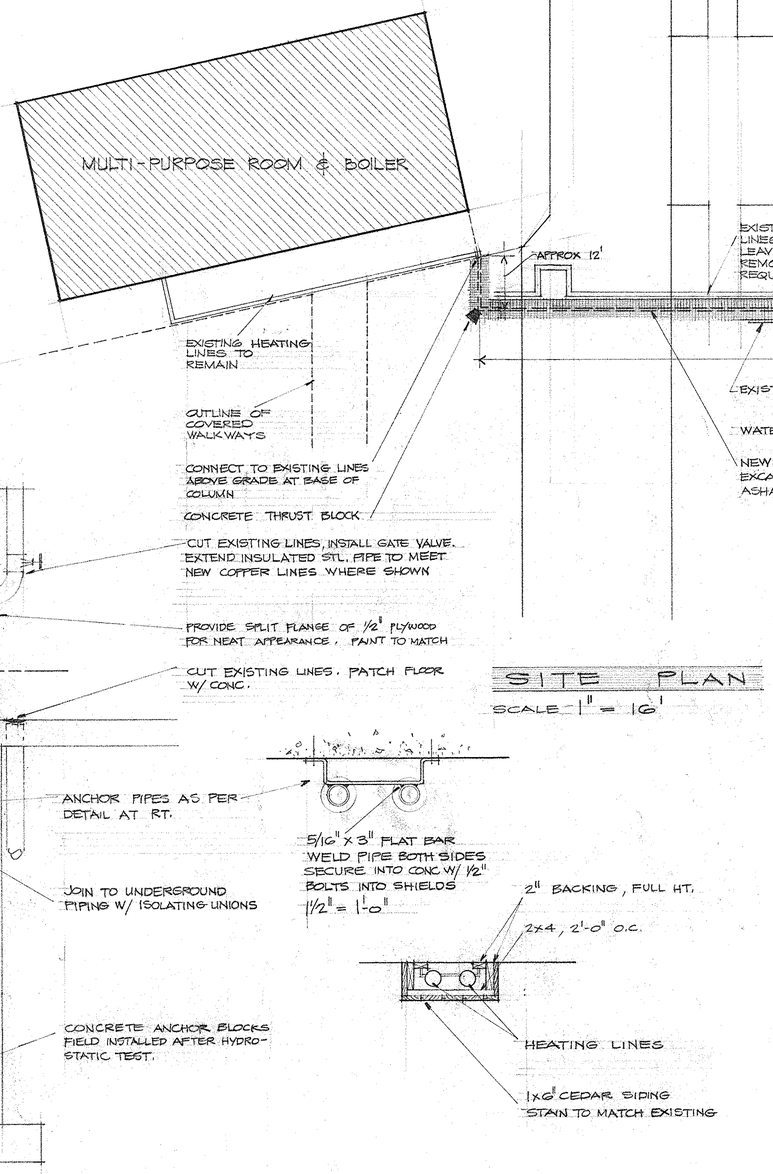
MAY 21, 1985

1 OF 1



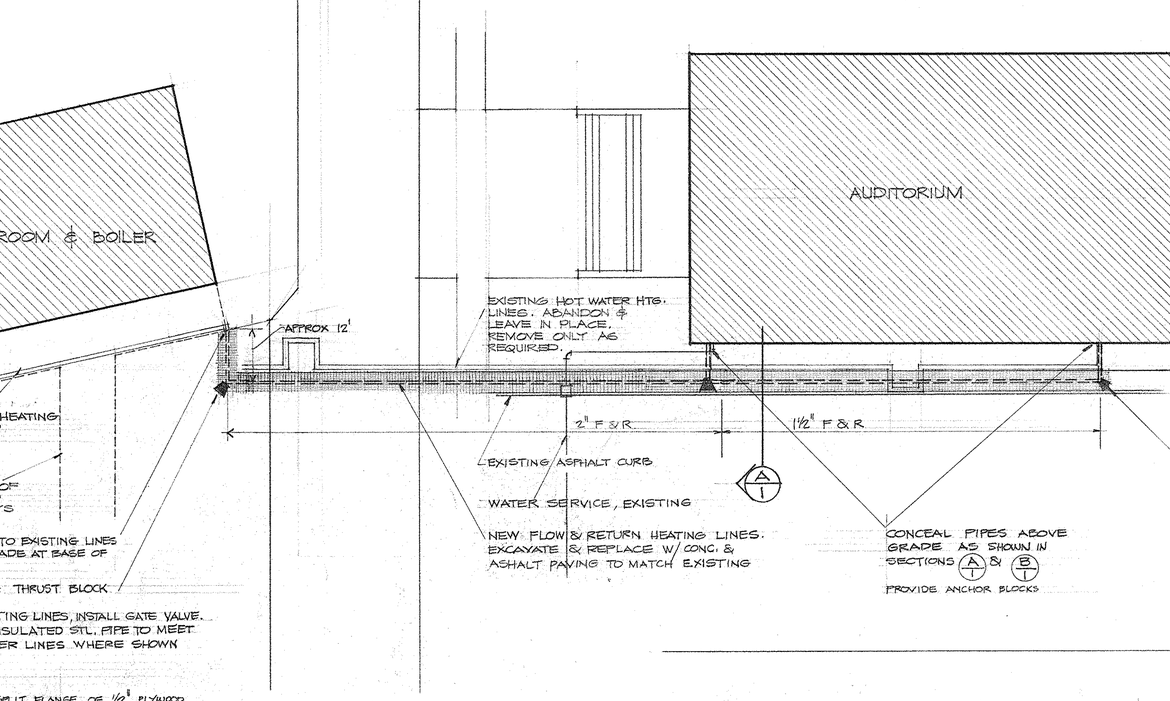
THRUST BLOCKS

SCALE 3/4" = 1'-0"



SECTION "A"

SCALE 3/4" = 1'-0"

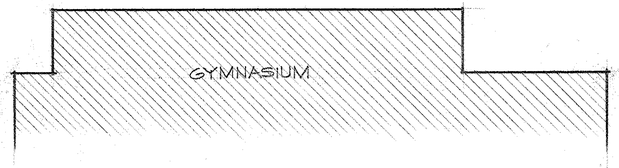


SITE PLAN

SCALE 1" = 16'

SECTION "B"

SCALE 3/4" = 1'-0"



OUTLINE SPECIFICATION

- CONTRACTOR IS TO FAMILIARIZE HIMSELF W/ THE CONDITIONS OF THE WORK BY VISITING THE SITE. HIS BID SHALL INCLUDE ALL COSTS FOR PIPING, EXCAVATION BACKFILLING & RE-PAVING.
- BASE BID SPECIFIES THE NEW PIPE & FITTINGS BE OF COPPER PRESSURE CARRIER TUBING W/ POLYURETHANE FOAM INSULATION & PVC OUTER JACKET, RICWIL OR EQUAL
- ALTERNATE BID SPECIFIES FIBERGLASS REINFORCED PLASTIC W/ POLYURETHANE FOAM INSULATION & PVC OUTER JACKET, RICWIL OR APPROVED EQUAL.
- PIPING SHALL BE COMPLETELY FACTORY FABRICATED, INSULATED & JACKETED. MANUFACTURER OF PIPING SHALL PROVIDE ON-SITE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING THE INSTALLATION OF PIPING.
- PROVIDE HYDROSTATIC TEST OF PIPING PRIOR TO BACKFILLING.
- PROVIDE ANCHORS & THRUST BLOCKS WHERE SHOWN.
- ALTERNATIVE PIPING SYSTEMS EMPLOYING BRAZED CONNECTIONS MUST INCLUDE EXPANSION LOOPS AS A PART OF THE BID. INSULATION, W/ HEAT-SHRUNK SLEEVES MUST BE PROVIDED AT ALL FIELD CONNECTIONS OR FITTINGS. CONTRACTOR SUBMITTING A BID ON AN ALTERNATE PIPING SYSTEM MUST INCLUDE A DRAWING OF THE PIPING SHOWING EXPANSION LOOPS, THRUST BLOCKS & ANCHORS. ALTERNATE SYSTEM MUST MEET ARCHITECTS APPROVAL TO BE CONSIDERED.

NOTE:

CONTRACTOR SHALL TAKE OUT & PAY FOR PERFORMANCE BOND, 100% OF CONTRACT AMOUNT. HIS PROPOSAL SHALL BE SUBMITTED ON THE FORM PROVIDED & SHALL BE ACCOMPANIED W/ CERTIFIED CHECK OR BID BOND EQUAL TO 5% OF HIS BID.

CONTRACTOR SHALL CARRY LIABILITY INSURANCE W/ LIMITS TO $250,000 FOR A SINGLE ACCIDENT W/ A COMPANY SATISFACTORY TO THE OWNER.

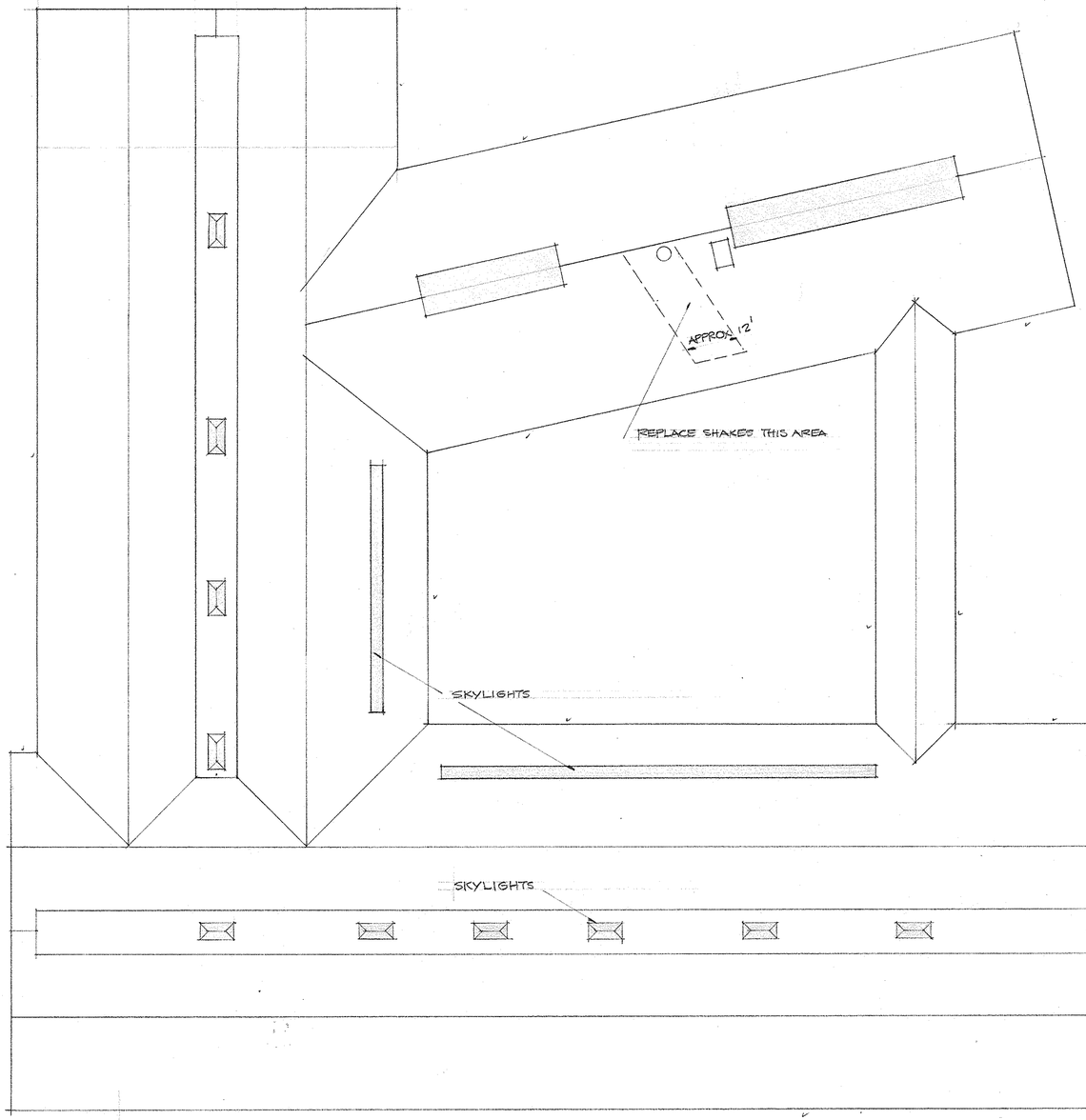
PAYMENT TO THE CONTRACTOR WILL BE IN A LUMP SUM UPON COMPLETION & ACCEPTANCE OF THE PROJECT.

HEATING LINE REPLACEMENT FOR COSMOPOLIS SCHOOL DISTRICT NO. 99

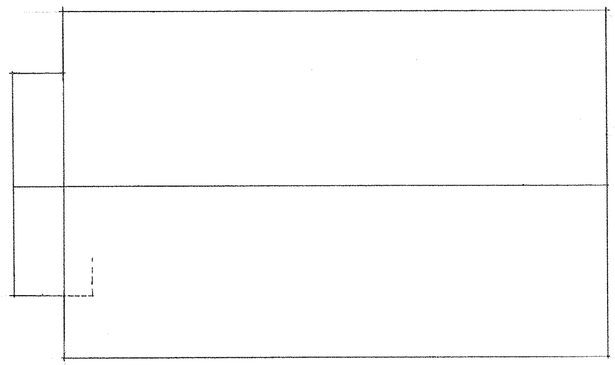
STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

AUG. 1979

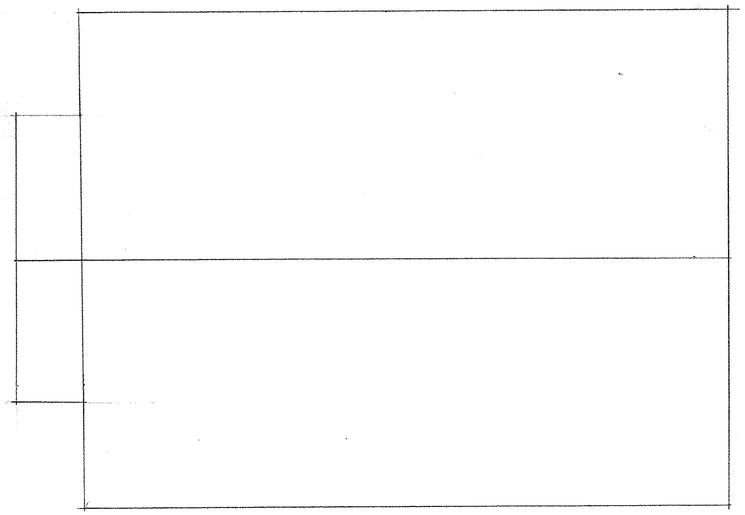
1 OF 1



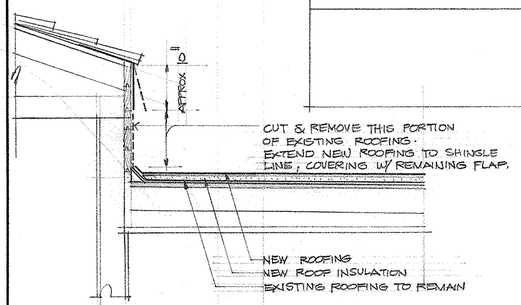
CLASSROOMS



AUDITORIUM



GYMNASIUM



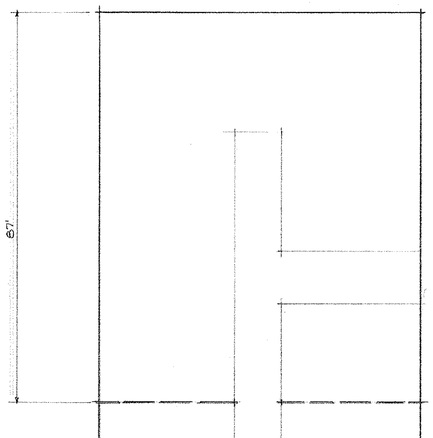
PARTIAL SECTION THROUGH VALLEY
SCALE 3/4" 1'-0"

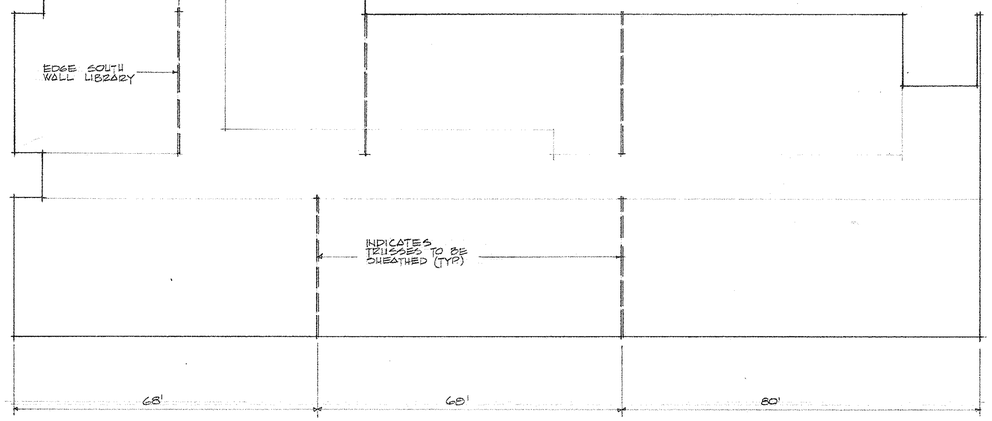
SCALE 1/16" = 1'-0"

ROOF PLAN
COSMOPOLIS SCHOOL BUILDINGS
COSMOPOLIS SCHOOL DISTRICT NO. 99

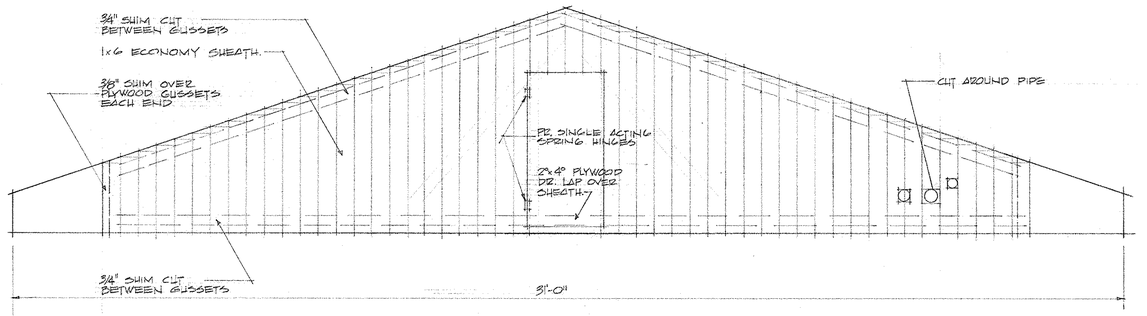
STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

APRIL 28 '70
1
OF 1





PLAN
1/16" = 1'-0"



TRUSS ELEVATION
1/2" = 1'-0"

CEILING FIRE STOPS

COSMOPOLIS SCHOOL
CONSOLIDATED SCHOOL DISTRICT #99
COSMOPOLIS, WASHINGTON

JOB NUMBER

ROBERT F. STREET, ARCHITECT
ROY E. LUNDGREN, ASSOCIATE ARCHITECT
LAFAYETTE BUILDING ABERDEEN, WASHINGTON

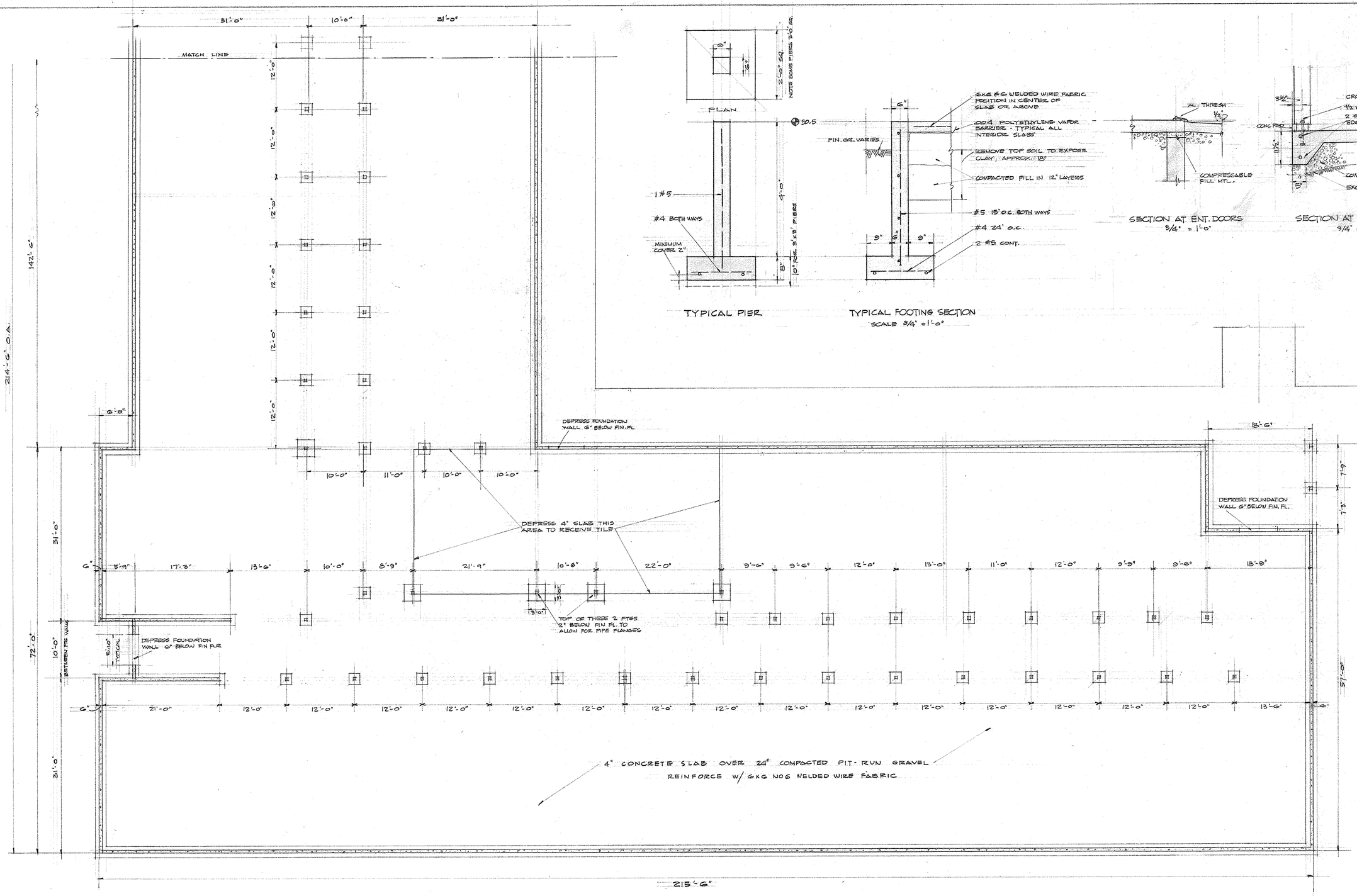
1
OF 1

M.H. INV. 17.09
8" STORM SEWER
15" STORM SEWER
℄ 3RD STREET
EXISTING ROLLED OIL SURFACE
REMOVE CURB
NEW 2½" ASPHALTIC PAVEMENT
NEW CONC. CURBS
PROPERTY CORNER
LAWN
240.0
M.P. ROOM
FIN FLR EL 30.5
MECH. CONTRACTOR TO REMOVE EXISTING 6" C.I. SPRINKLER SUPPLY
8"
6"
5"
4"
EXISTING 6" C.I. WATER TO SPRINKLER SYSTEM
NEW 4" CEMT. LINED C.I. MECH. JOINTS BY M.C.
NEW CURBS
NEW ASPHALTIC PAVEMENT
REMOVE CURB
℄ "B" STREET
M.H. INV. 21.75
8" STORM SEWER
40'-0"
NEW SIDEWALK
3'-0"
6'-0"
PROPERTY CORNER
PROPERTY LINE
AUDITORIUM
SEE SECTION FOR FIN. FLR ELEVATIONS
NEW SIDEWALK & CURB
REMOVE EXIST. SIDEWALK
CONC
NEW SIDE WALK
M.H. INV. 20.05
15" STORM SEWER PASSES AROUND M.H.
92.0'
REPLACE 8" CONC. SEWER W/ 8" C.I. PIPE THIS SECTION BY MECH. CONTRACTOR
SLOPE LAWN AREA TO CENTER CATCH BASIN
D.S. FITTINGS OF CONC. PIPE: CONC OR CRANE-BURG IN SIZES SHOWN SEE DETAIL SHEET 2
8" SANITARY SEWER
24"x 4'-0" T&G CONC CATCH BASIN CUT OUT TO RECEIVE 4" x HEAVY C.I. 45 BEND. C.I. GRATE - GRAYSTONE # G.A. 3.14
EXISTING SCHOOL BUILDING TO REMAIN
241.78
249.36
OUTLINE OF SCHOOL BUILDING TO BE REMOVED
REMOVE OIL STORAGE TANK
SCHOOL
FIN. FLR EL 30.5
REMOVE ABANDONED OIL STORAGE TANK
REMOVE GASOLINE TANK
OUTLINE OF PLAY SHED TO BE REMOVED
10'-0"
15'-0"
240.0
PROPERTY CORNER
LAWN
15" STORM SEWER
℄ "C" STREET
M.H. INV. 19.30
8" STORM SEWER
℄ 4TH STREET
M.H. INV. 24.05
8" STORM SEWER
TOP OF MH COVER REF. BENCH
C.B.
N
S
W

SITE PLAN
SCALE 1/16" = 1'-0"

ROBERT F. STREET
REG. RENEWED TO JUNE 1, 1959
TL. 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

SITE PLAN	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 1



PARTIAL FOUNDATION PLAN

SCALE 1/8" = 1'-0"

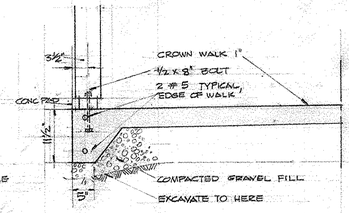
TYPICAL PIER

TYPICAL FOOTING SECTION

SCALE 3/4" = 1'-0"

SECTION AT ENT. DOORS

3/4" = 1'-0"

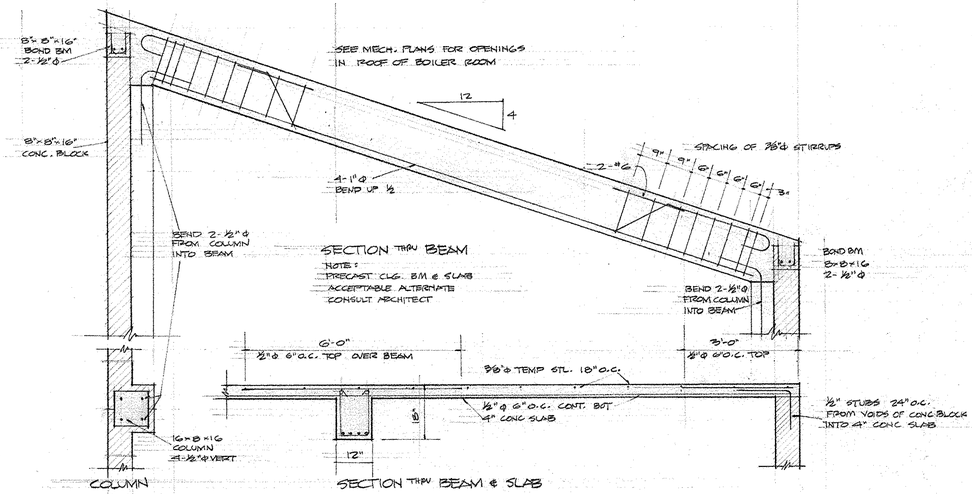


SECTION AT EDGE OF WALK

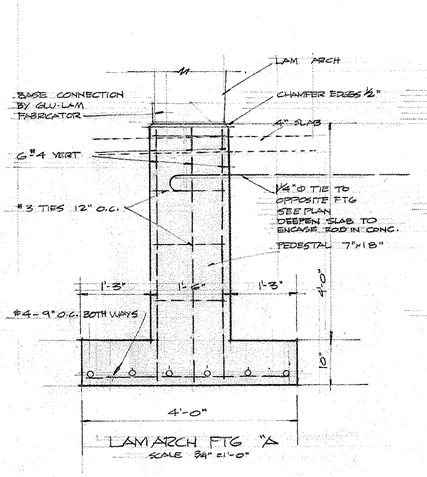
3/4" = 1'-0"

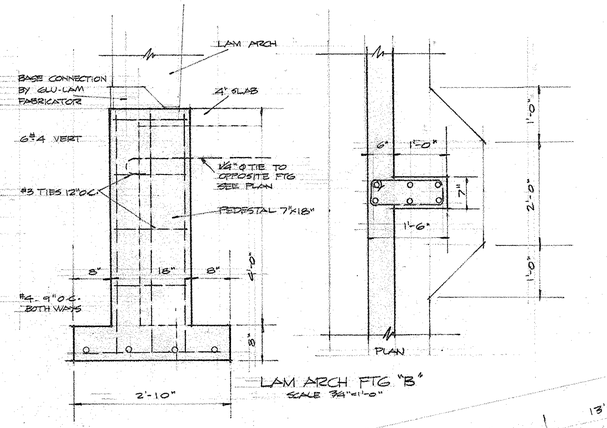
ROBERT F. STREET
REG. RENEWED TO JUNE 4, 1959
Robert F. Street
TL. 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

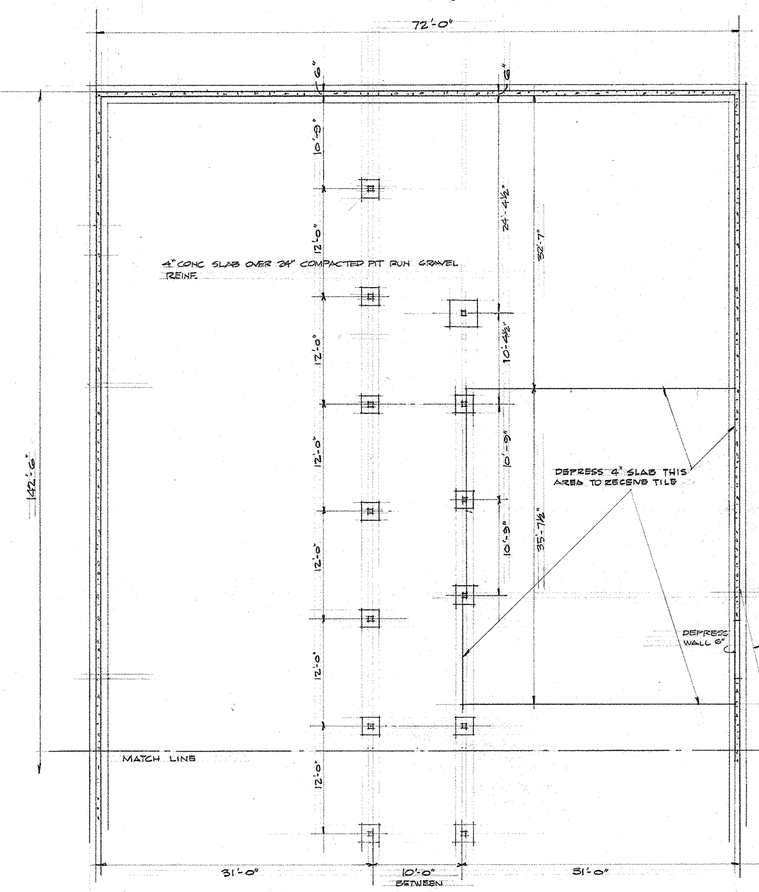
PARTIAL FOUNDATION PLAN	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT # 99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 2

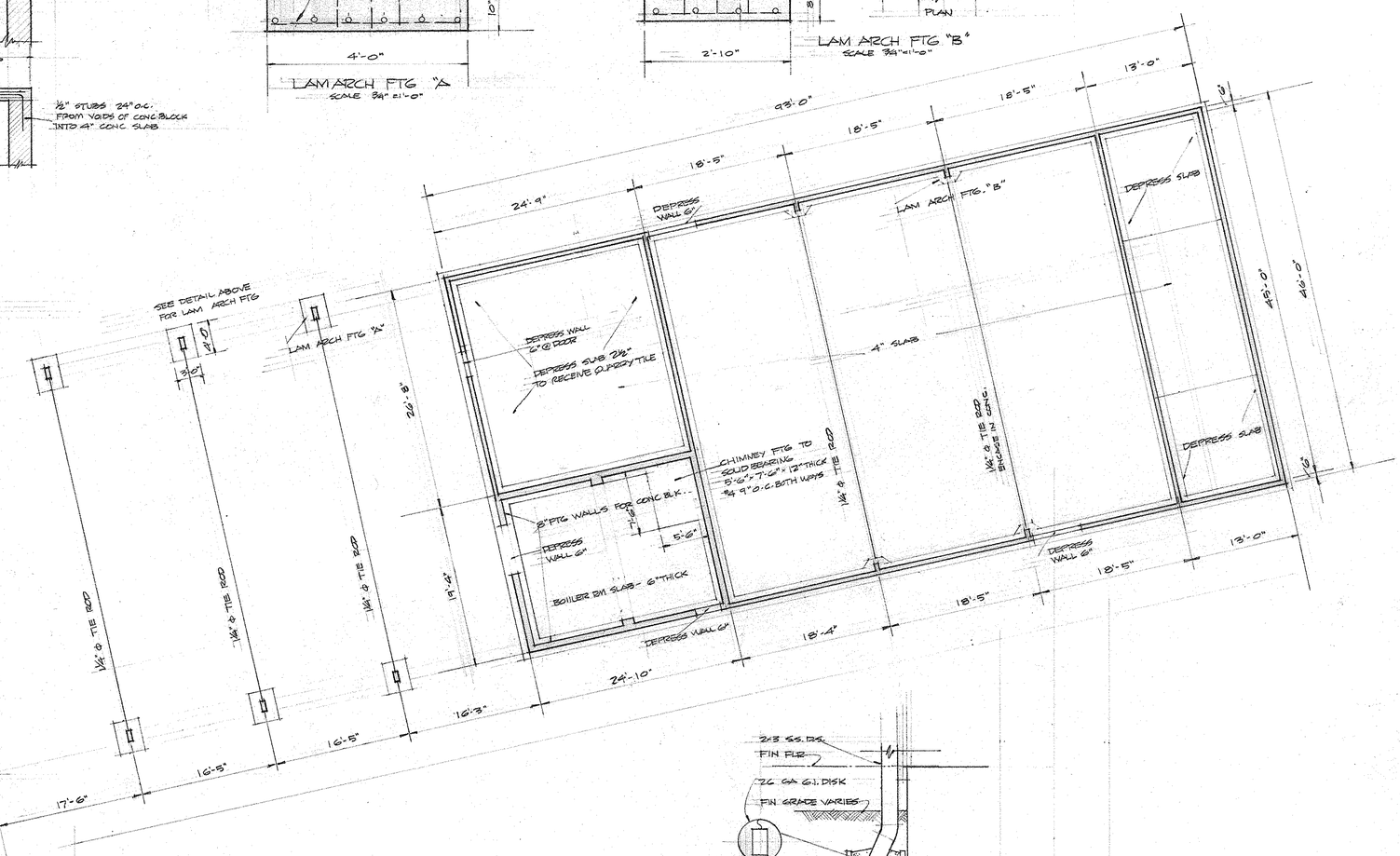


CONCRETE BOILER ROOM ROOF DETAILS
SCALE ½" = 1'-0"









PARTIAL FOUNDATION PLAN
SCALE ⅛" = 1'-0"

D.S. CONNECTION TO DRAIN
SCALE 1½" = 1'-0"

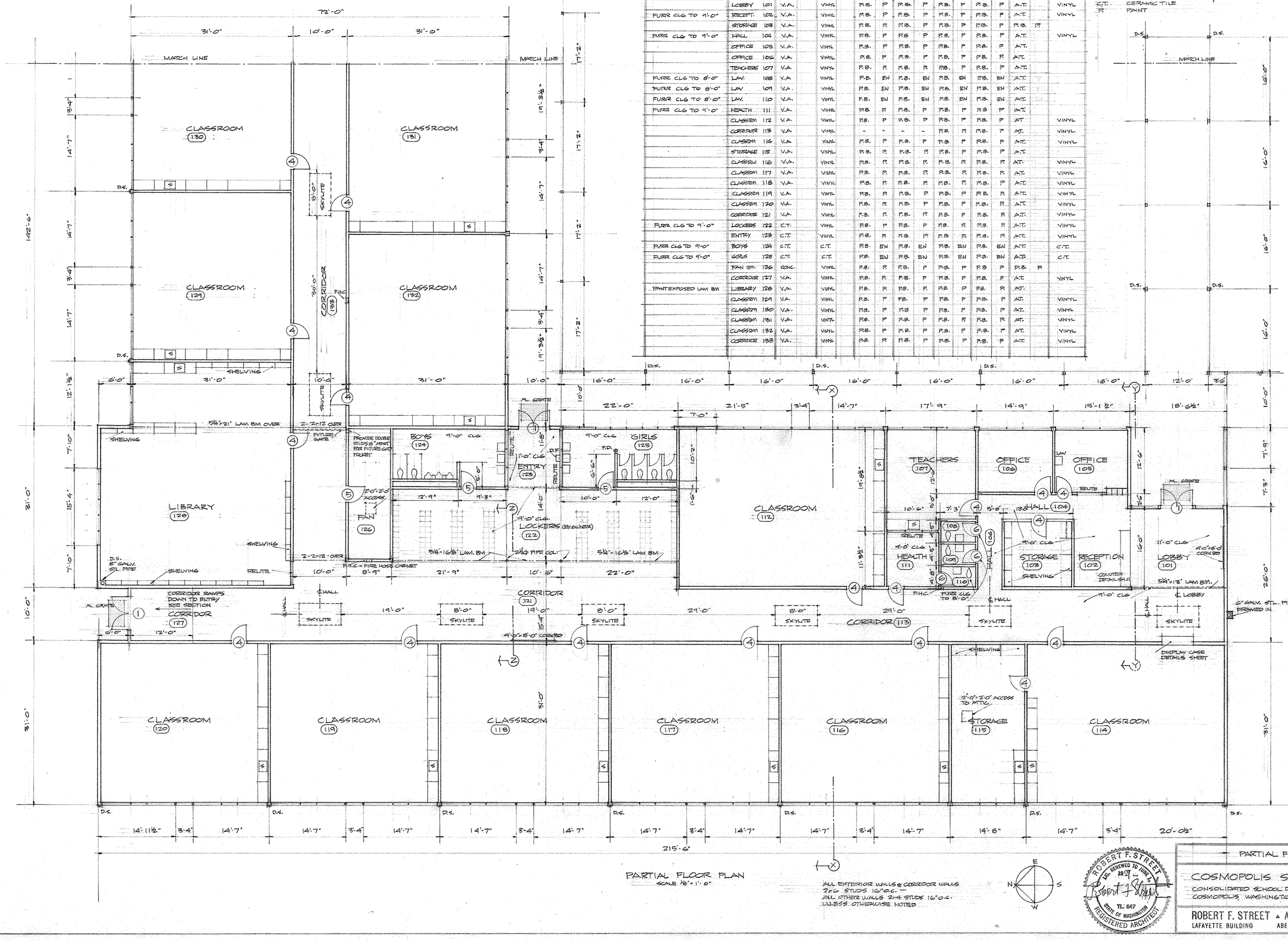
ROBERT F. STREET
LIC. RENEWED TO JUNE 1959
Robert F. Street
TL. 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

PARTIAL FOUNDATION PLAN	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 3

REMARKS	ROOM		FLOOR MTL	FLOOR FIN	BASE MTL	BASE FIN	WALLS NORTH MTL	WALLS NORTH FIN	WALLS SOUTH MTL	WALLS SOUTH FIN	WALLS EAST MTL	WALLS EAST FIN	WALLS WEST MTL	WALLS WEST FIN	CEILING MTL	CEILING FIN	WAINS.
	LOBBY	101	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
FURR CLG TO 9'-0"	RECEPT.	102	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	STORAGE	103	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	P.B.	P	
FURR CLG TO 9'-0"	HALL	104	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	OFFICE	105	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		
	OFFICE	106	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		
	TEACHERS	107	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		
FURR CLG TO 8'-0"	LAV.	108	V.A.		VINYL		P.B.	EN	P.B.	EN	P.B.	EN	P.B.	EN	A.T.		
FURR CLG TO 8'-0"	LAV.	109	V.A.		VINYL		P.B.	EN	P.B.	EN	P.B.	EN	P.B.	EN	A.T.		
FURR CLG TO 8'-0"	LAV.	110	V.A.		VINYL		P.B.	EN	P.B.	EN	P.B.	EN	P.B.	EN	A.T.		
FURR CLG TO 9'-0"	HEALTH	111	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		
	CLASSRM	112	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	AT		VINYL
	CORRIDOR	113	V.A.		VINYL		-	-	-	-	P.B.	P	P.B.	P	AT.		VINYL
	CLASSRM	114	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	STORAGE	115	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		
	CLASSRM	116	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CLASSRM	117	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CLASSRM	118	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CLASSRM	119	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CLASSRM	120	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CORRIDOR	121	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
FURR CLG TO 9'-0"	LOCKERS	122	C.T.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	ENTRY	123	C.T.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
FURR CLG TO 9'-0"	BOYS	124	C.T.		C.T.		P.B.	EN	P.B.	EN	P.B.	EN	P.B.	EN	A.T.		C.T.
FURR CLG TO 9'-0"	GIRLS	125	C.T.		C.T.		P.B.	EN	P.B.	EN	P.B.	EN	P.B.	EN	A.T.		C.T.
	FAN RM.	126	CONC.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	P.B.	P	
	CORRIDOR	127	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
PAINT EXPOSED LAM BM	LIBRARY	128	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		
	CLASSRM	129	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CLASSRM	130	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CLASSRM	131	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CLASSRM	132	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL
	CORRIDOR	133	V.A.		VINYL		P.B.	P	P.B.	P	P.B.	P	P.B.	P	A.T.		VINYL

ABBREVIATIONS

- V.A. VINYL ASBESTOS TILE
- P.B. PLASTER BD. (5/8" SHEETROCK)
- A.T. ACOUSTICAL TILE
- C.T. CERAMIC TILE
- P. PAINT

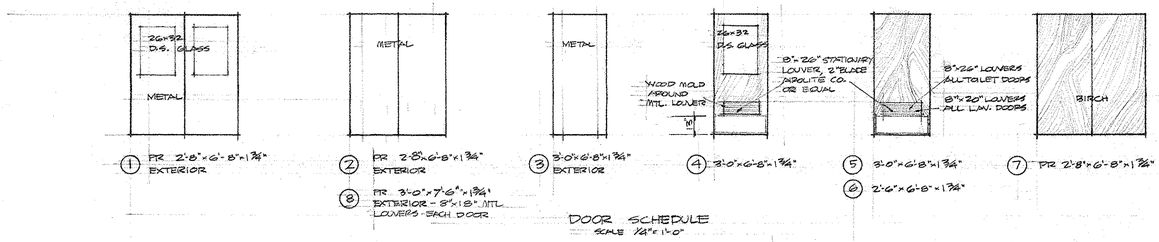


PARTIAL FLOOR PLAN
SCALE ⅛" = 1'-0"

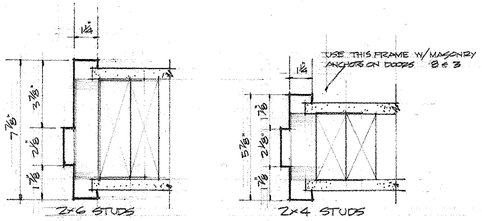
ALL EXTERIOR WALLS & CORRIDOR WALLS 2x6 STUDS 16" O.C. — ALL OTHER WALLS 2x4 STUDS 16" O.C. UNLESS OTHERWISE NOTED

ROBERT F. STREET REG. REVIEWED TO JUNE 30 19 97 — Robert F. Street — REG. 647 STATE OF WASHINGTON REGISTERED ARCHITECT

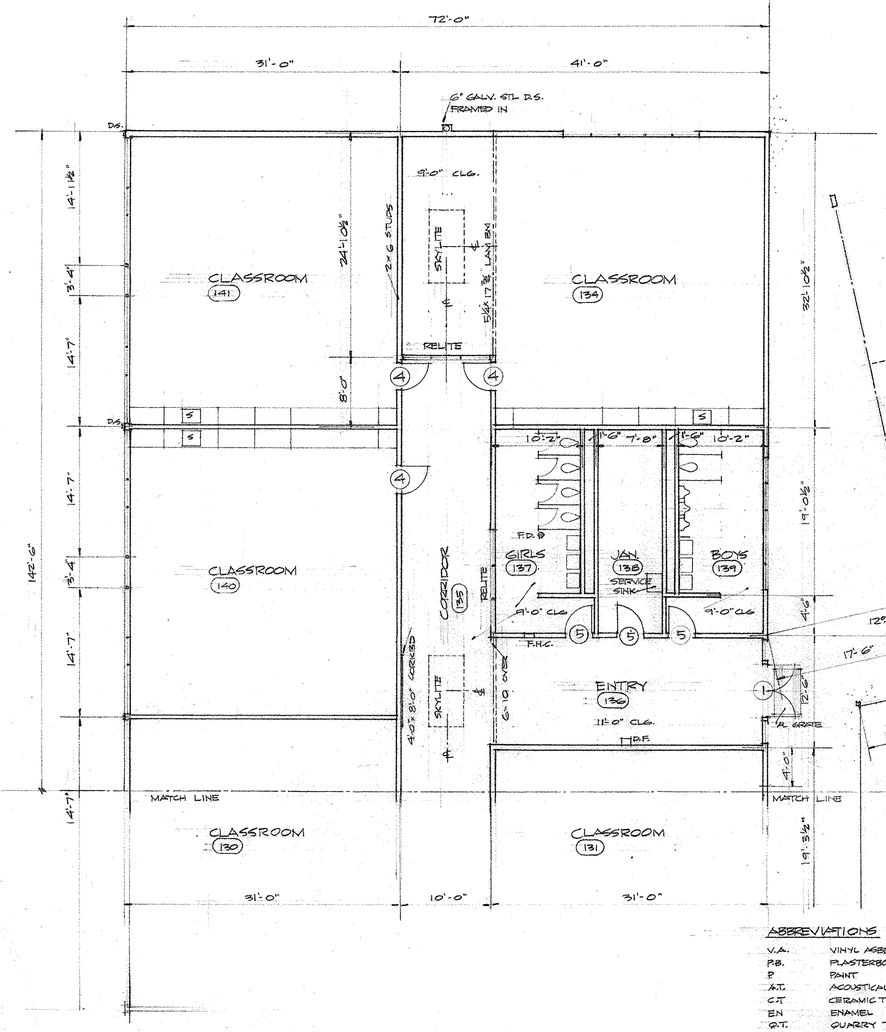
PARTIAL FLOOR PLAN	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/57 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 4



DOOR SCHEDULE
SCALE ¼"=1'-0"



METAL DOOR FRAMES
USE ON ALL DOORS EXCEPT DOORS (1) & (2)
SCALE 3"=1'-0"



PARTIAL FLOOR PLAN
SCALE ⅛"=1'-0"

REMARKS	ROOM	FLOOR MTL	FLOOR FIN	BASE MTL	BASE FIN	WALLS NORTH	WALLS SOUTH	WALLS EAST	WALLS WEST	CEILING MTL	CEILING FIN	WAINS
	CLASSRM. 134	V.A.		VINYL		P.B. P	P.B. P	P.B. P	P.B. P	A.T.		VINYL
	CORRIDOR 135	V.A.		VINYL		P.B. P	P.B. P	P.B. P	— —	A.T.		VINYL
	ENTRY 136	C.T.		VINYL		P.B. P	P.B. P	P.B. P	P.B. P	A.T.		VINYL
FURR CLG TO 9'-0"	GIRLS 137	C.T.		C.T.		P.B EN	P.B EN	P.B. EN	P.B. EN	A.T.		C.T.
2½" CONC. TOPPING ON FLR	JAN 138	CONC		VINYL		P.B. P	P.B. P	P.B P	P.B. P	P.B P		
FURR CLG TO 9'-0"	BOYS 139	C.T.		C.T.		P.B. EN	P.B EN	P.B. EN	P.B. EN	A.T.		C.T.
	CLASSRM. 140	V.A.		VINYL		P.B. P	P.B. P	P.B. P	P.B. P	AT		VINYL
	CLASSRM 141	V.A.		VINYL		P.B P	P.B. P	P.B. P	P.B. P	A.T.		VINYL
	M.P. ROOM 142	V.A.		VINYL		PLY S.V.	PLY S.V.	PLY S.V.	PLY S.V.	P.M.		
FURR CLG TO 11'-0"	GIRLS 143	C.T.		C.T.		P.B. EN	P.B. EN	P.B. EN	P.B. EN	A.T.		C.T.
	STORAGE 144	V.A.		VINYL		P.B. P	P.B. P	P.B. P	P.B. P	OPEN JOIST		
FURR CLG TO 11'-0"	BOYS 145	C.T.		C.T.		P.B. EN	P.B. EN	P.B. EN	P.B. EN	A.T.		C.T.
	KITCHEN 146	Q.T.		Q.T.		P.B. EN	P.B. EN	P.B. EN	CONC. BLOCK P.	P.B.	EN	MARLITE
2½" CONC. TOPPING ON FLR	STORAGE 147	CONC		VINYL		P.B. P	P.B. P	P.B. P	P.B. P	P.B P		
2½" CONC. TOPPING ON FLR	LAV 148	CONC		VINYL		P.B. EN	P.B. EN	P.B. EN	P.B. EN	P.B.	EN	
	DISH WASH 149	Q.T.		Q.T.		P.B. EN	P.B. EN	P.B. EN	— —	P.B.	EN	MARLITE

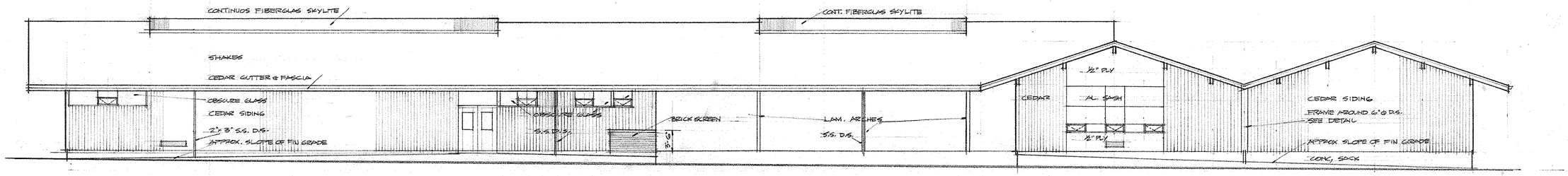
ABBREVIATIONS

V.A.	VINYL ASBESTOS TILE
P.B.	PLASTERBOARD (5/16" SHEETROCK)
P	PAINT
A.T.	ACOUSTICAL TILE
C.T.	CERAMIC TILE
EN	ENAMEL
Q.T.	QUARRY TILE
P.M.	PERFORATED MASONITE
S.V.	STAIN & VARNISH

ALL EXTERIOR WALLS & CORRIDOR WALLS 2x6 STUDS 16" O.C.
ALL OTHER WALLS 2x4 STUDS 16" O.C. UNLESS OTHERWISE NOTED

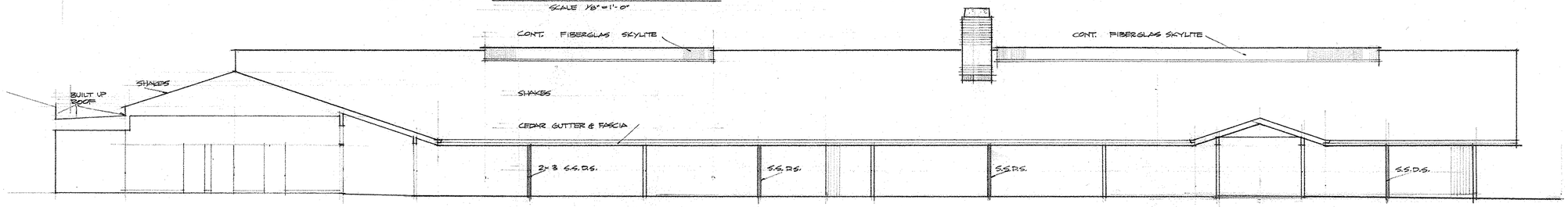
ROBERT F. STREET
LIC. RENEWED TO JUNE 1957
STATE OF WASHINGTON
REGISTERED ARCHITECT

PARTIAL FLOOR PLAN	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 9/27/57 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 5



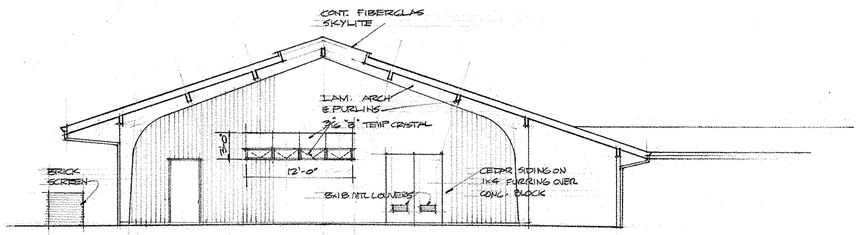
EAST ELEVATION

SCALE ⅛"=1'-0"



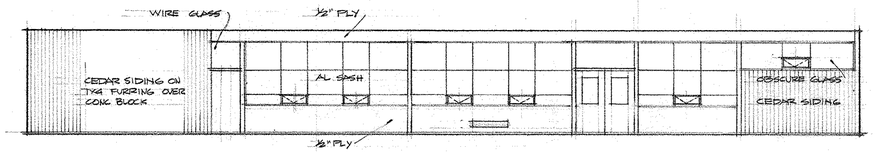
WEST COURT ELEVATION

SCALE ⅛"=1'-0"



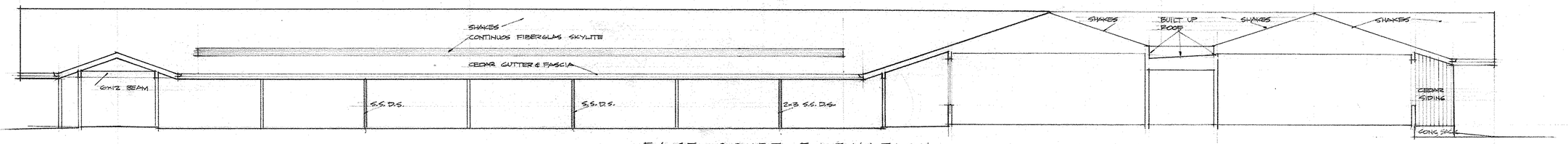
NORTH ELEVATION M.P. ROOM

SCALE ⅛" = 1'-0"



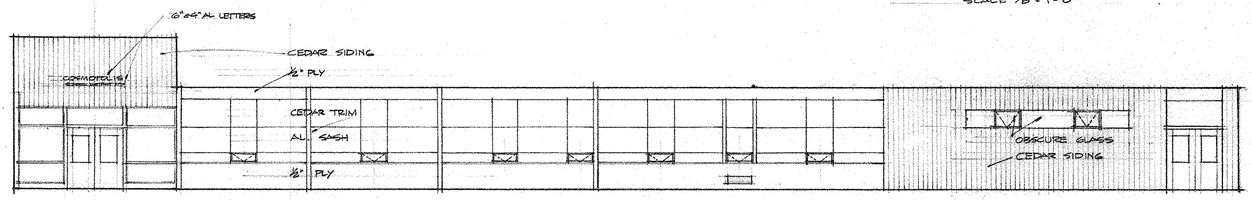
WEST ELEVATION M. P. ROOM

⅛" = 1'-0"



EAST COURT ELEVATION

SCALE ⅛"= 1'-0"

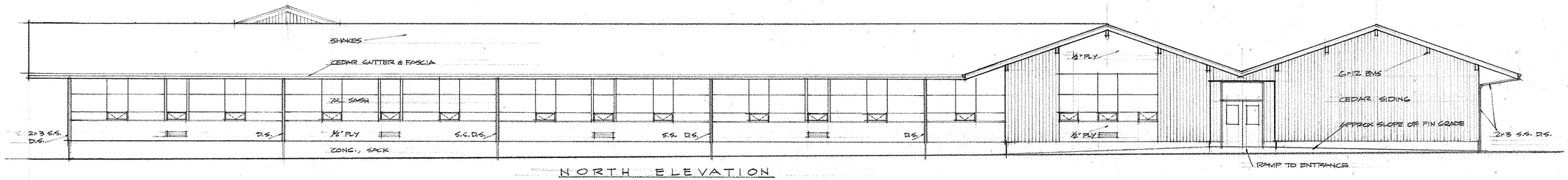


EAST COURT ELEVATION (UNDER COVERED WALK)

SCALE ⅛" = 1'-0"

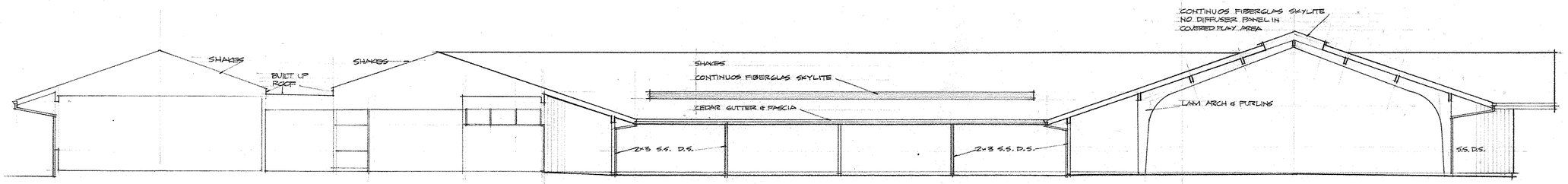
ROBERT F. STREET LIC. RENEWED TO JUNE 19 59 — TL 647 — STATE OF WASHINGTON REGISTERED ARCHITECT

ELEVATIONS	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 6



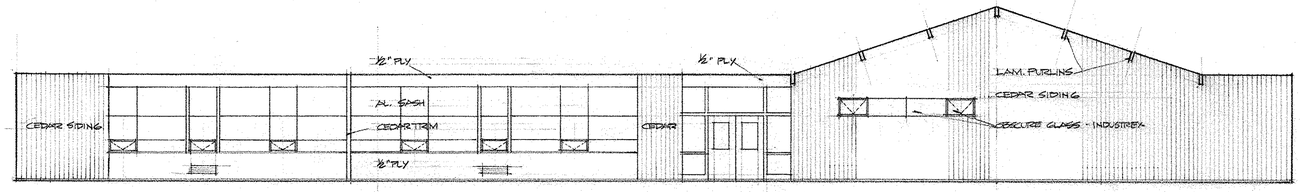
NORTH ELEVATION

SCALE ⅛" = 1'-0"



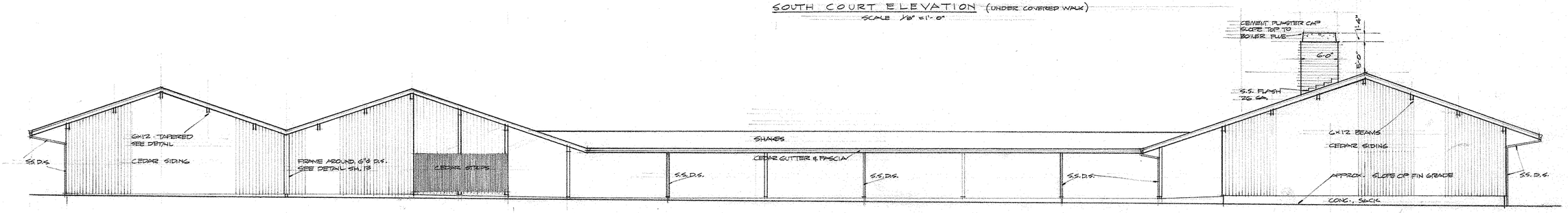
SOUTH COURT ELEVATION

SCALE ⅛" = 1'-0"



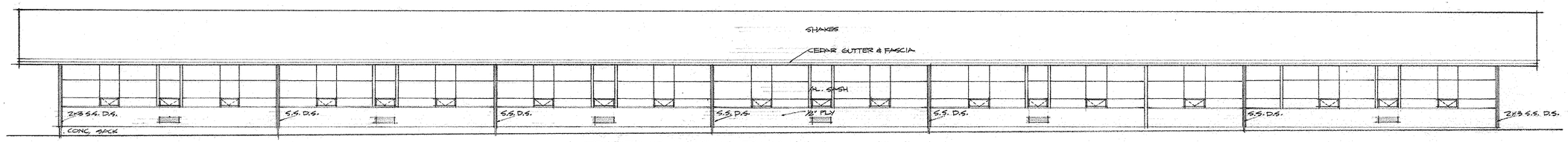
SOUTH COURT ELEVATION (UNDER COVERED WALK)

SCALE ⅛" = 1'-0"



SOUTH ELEVATION

SCALE ⅛" = 1'-0"

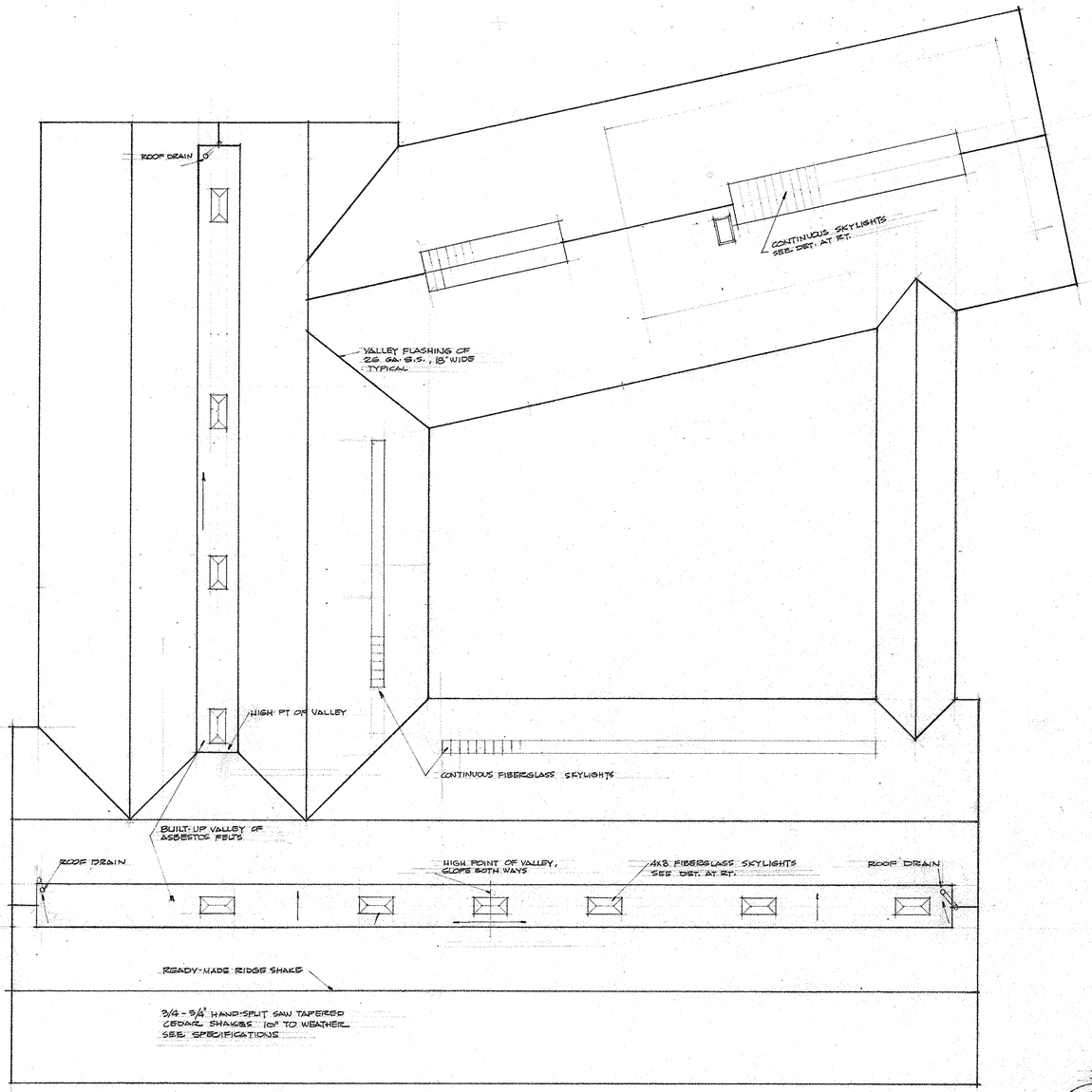


WEST ELEVATION

SCALE ⅛" = 1'-0"

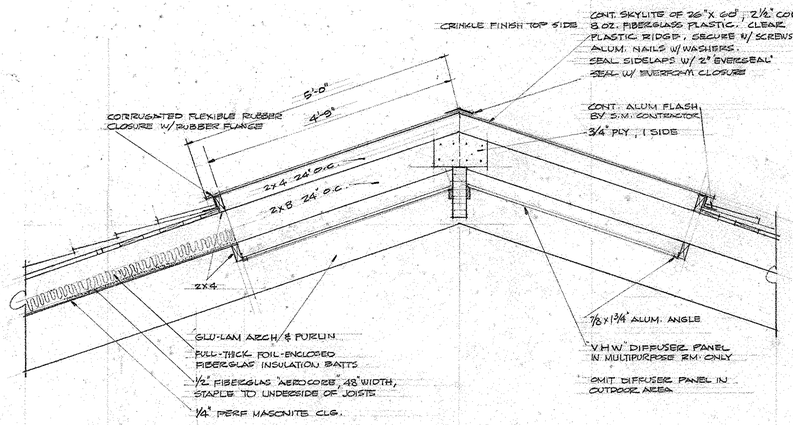
ROBERT F. STREET LIC. RENEWED TO JUNE 4 1959 — TL. 647 — STATE OF WASHINGTON REGISTERED ARCHITECT

ELEVATIONS	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 7



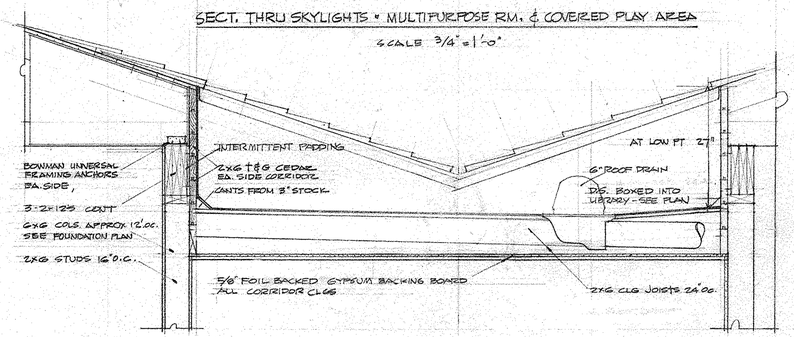
ROOF PLAN

SCALE 1/16" = 1'-0"



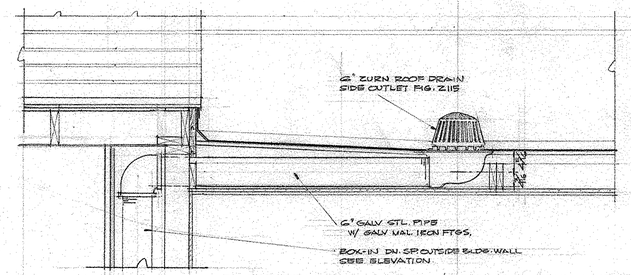
SECT. THRU SKYLIGHTS - MULTIPURPOSE RM. & COVERED PLAY AREA

SCALE 3/4" = 1'-0"



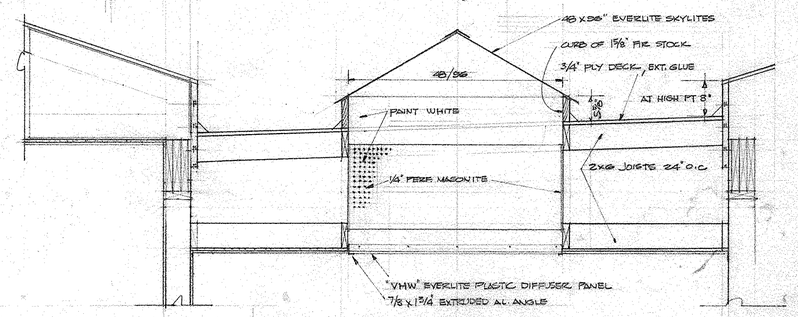
ROOF DRAIN - NORTH END OF CORRIDOR

3/4" = 1'-0"

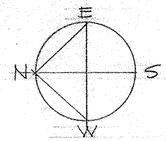


ROOF DRAIN - SOUTH & EAST END OF CORRIDOR

3/4" = 1'-0"

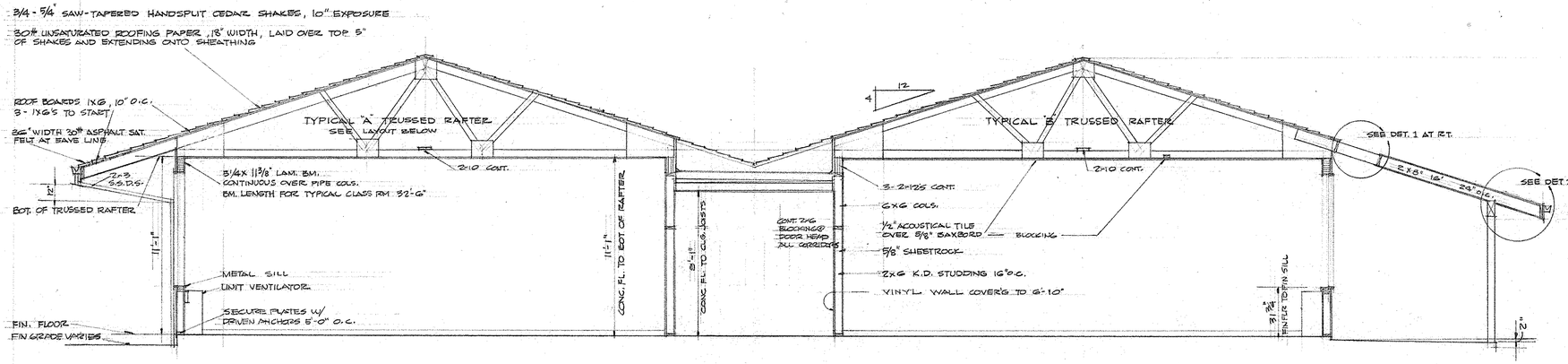


SECTION THRU CORRIDOR SKYLIGHTS 3/4" = 1'-0"



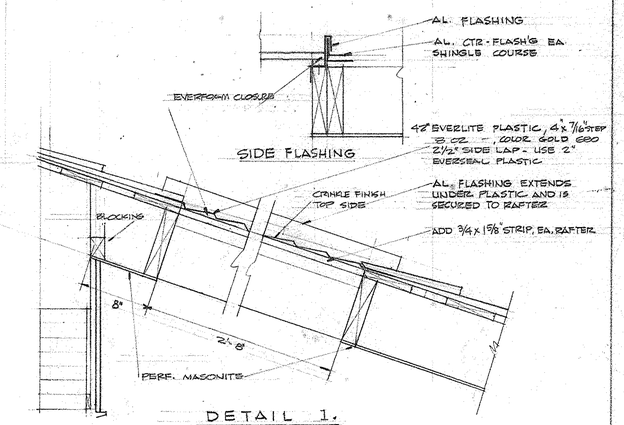
ROBERT F. STREET
REG. RENEWED TO JUNE 4, 19 57
Robert F. Street
REG. 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

ROOF PLAN & DETAILS	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/57 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 8

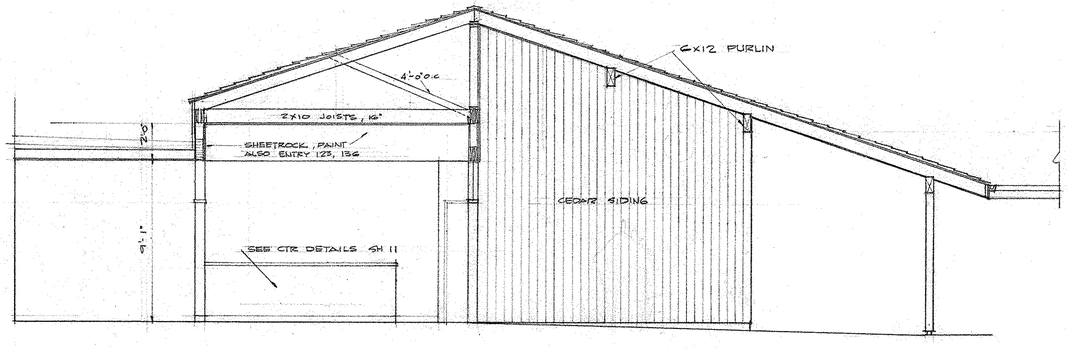


SECTION "X-X"

SCALE 1/4" = 1'-0"

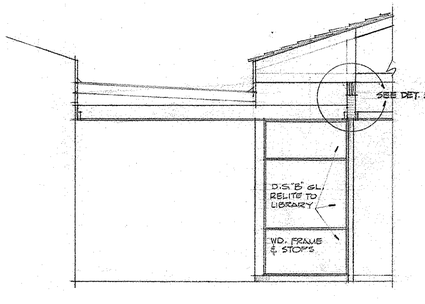


DETAIL 1.



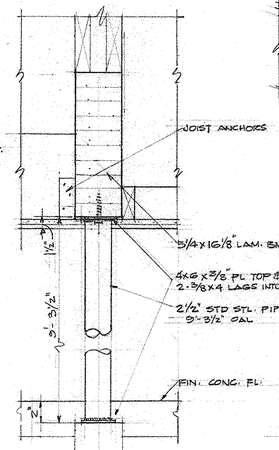
SECTION "Y-Y"

1/4" = 1'-0"



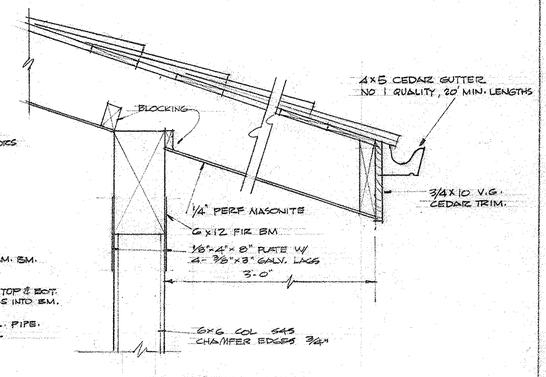
SECTION "Z-Z"

SCALE 1/4" = 1'-0"



DETAIL 3

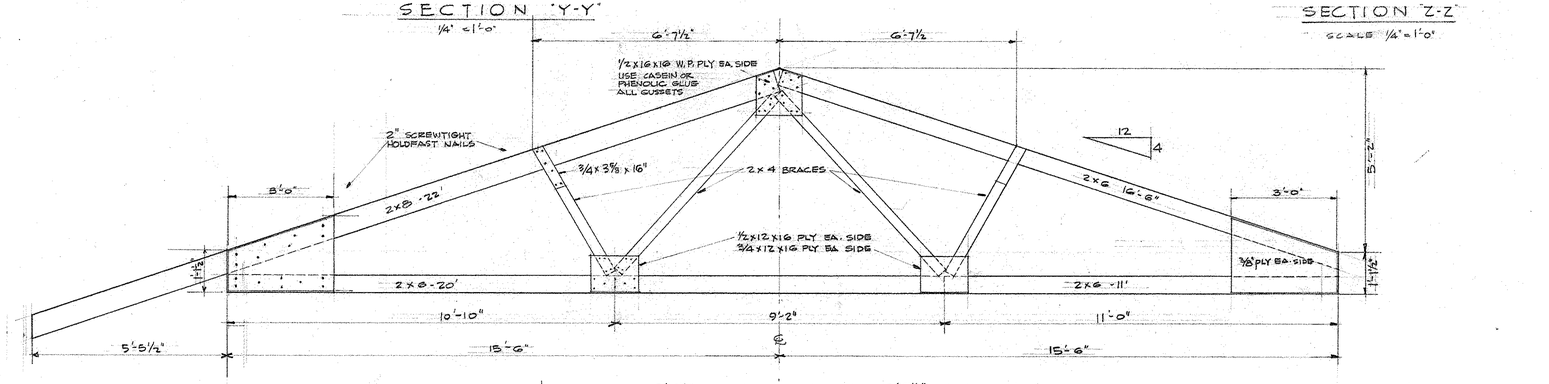
1 1/2" = 1'-0"



DETAIL 2.

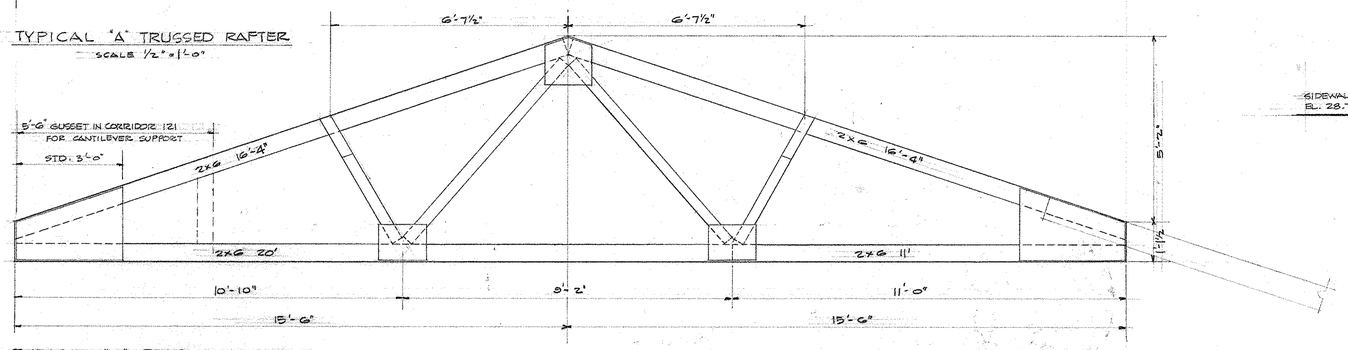
SKYLIGHT DETAILS AT COVERED WALK.

SCALE 1 1/2" = 1'-0"



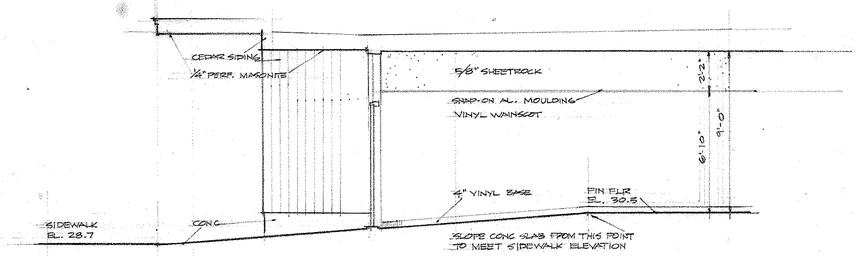
TYPICAL "A" TRUSSED RAFTER

SCALE 1/2" = 1'-0"



TYPICAL "B" TRUSSED RAFTER

SCALE 1/2" = 1'-0"

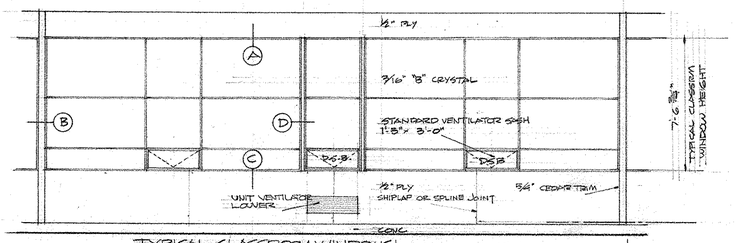


SECTION - CORRIDOR (127)

SCALE 1/2" = 1'-0"

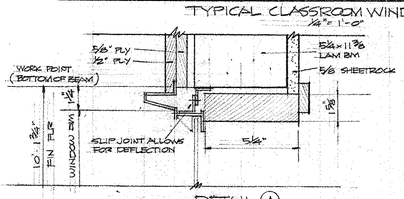
ROBERT F. STREET LIC. RENEWED TO JUNE 1, 1959
Robert F. Street
TL. 647
STATE OF WASHINGTON REGISTERED ARCHITECT

TRUSS DETAILS & SECTIONS	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 9/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 9

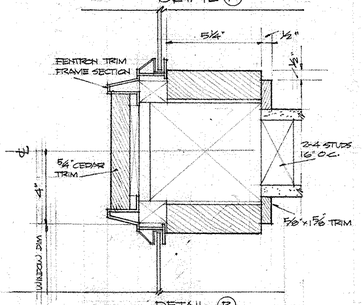


TYPICAL CLASSROOM WINDOWS

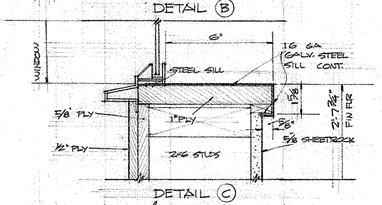
½" = 1'-0"



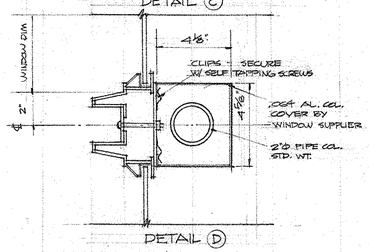
DETAIL (A)



DETAIL (B)



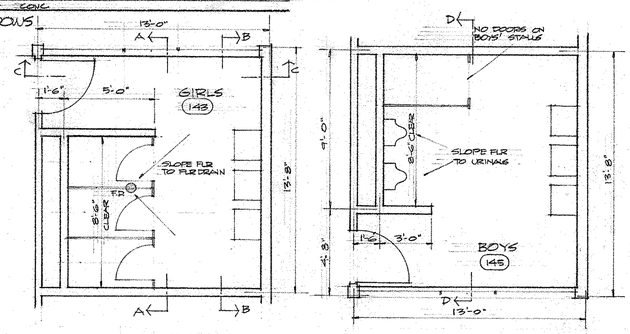
DETAIL (C)

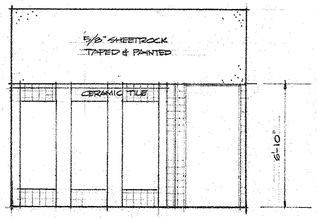


DETAIL (D)

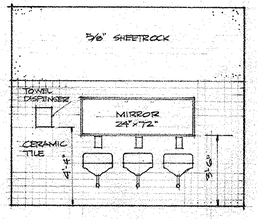
WINDOW DETAILS

SCALE 3" = 1'-0"

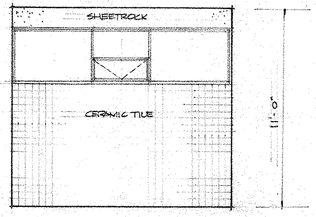




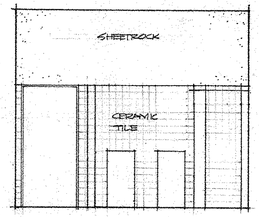
SECTION A-A



SECTION B-B

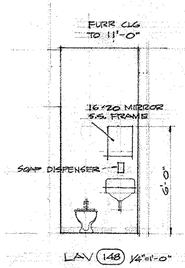


SECTION C-C

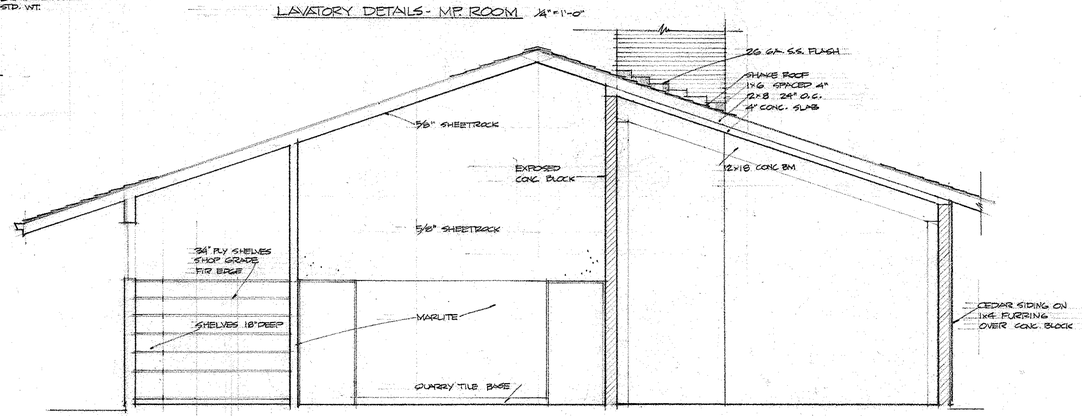


SECTION D-D

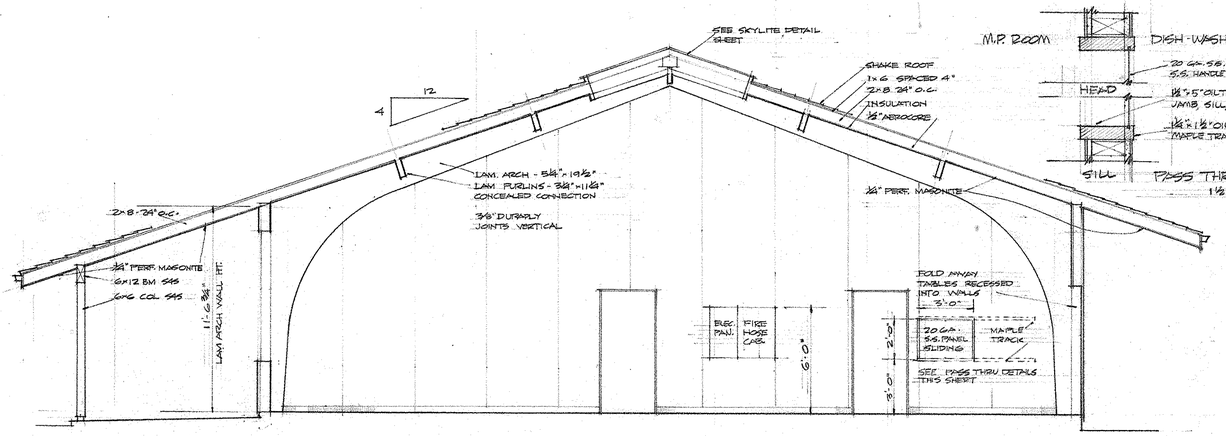
LAVATORY DETAILS - M.P. ROOM ¼" = 1'-0"



LAV (148) ¼" = 1'-0"



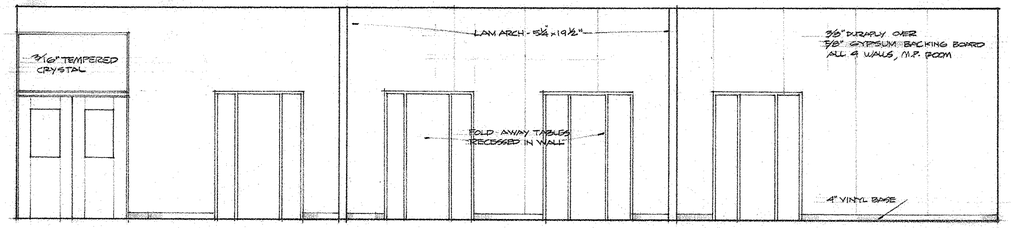
SECTION R-R ¼" = 1'-0"



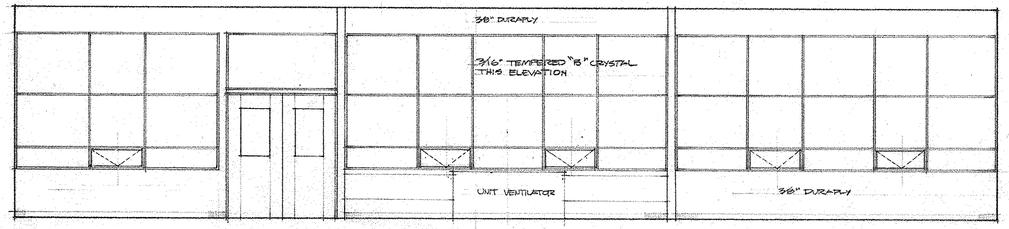
M.P. ROOM - SECTION

PASS THRU DETAILS

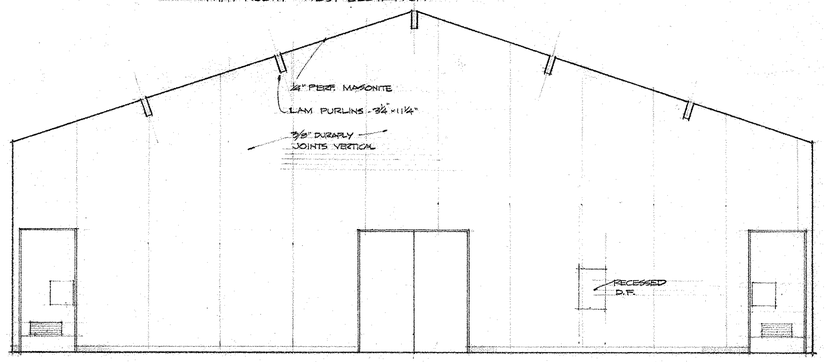
1½" = 1'-0"



M.P. ROOM - EAST ELEVATION



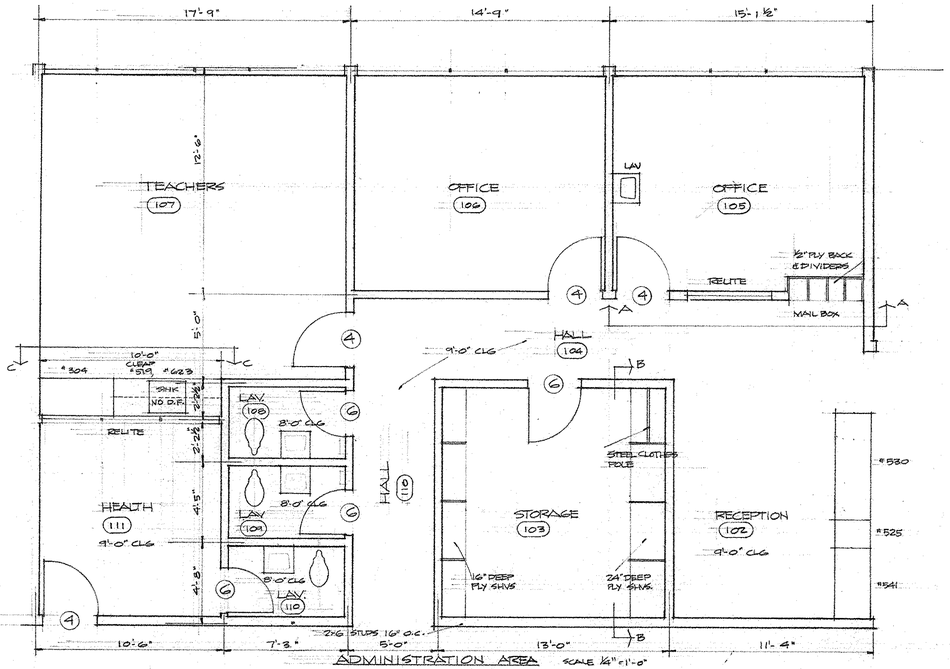
M.P. ROOM - WEST ELEVATION



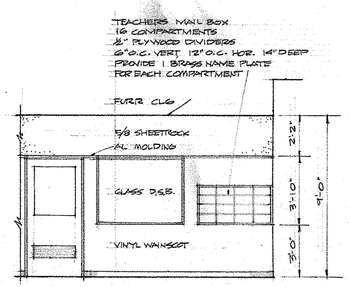
M.P. ROOM NORTH ELEVATION

ROBERT F. STREET
LIC. RENEWED TO JUNE 19 57
TL: 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

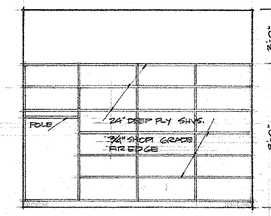
WINDOW DETAILS - M.P.RM. DETAILS	JOB NO. 112
COSMOPOLIS : SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/57 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 10



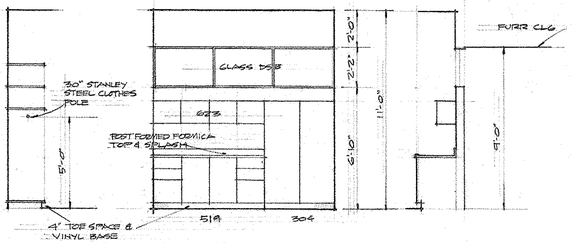
ADMINISTRATION AREA SCALE 1/4"=1'-0"



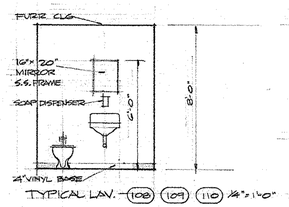
SECTION AA 1/4"=1'-0"



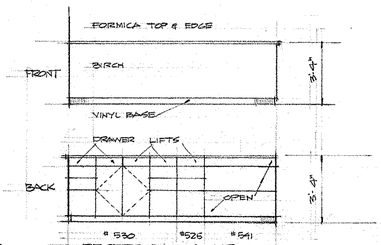
SECTION B-B 1/4"=1'-0"



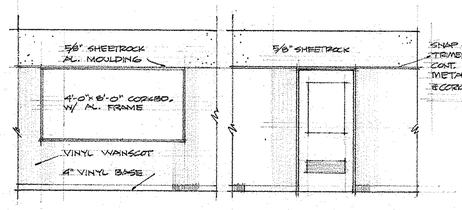
SECTION C-C 1/4"=1'-0"



TYPICAL LAV. (108) (109) (110) 1/4"=1'-0"

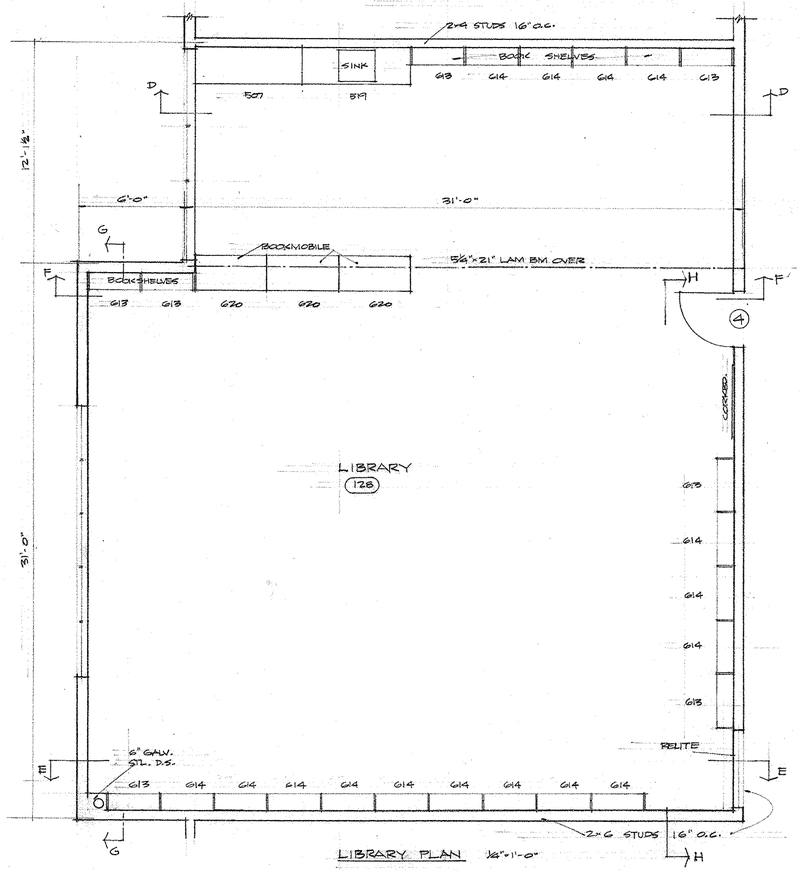


RECEPTION COUNTER 1/4"=1'-0"
EDUCATOR CO. CABINETS SHOWN

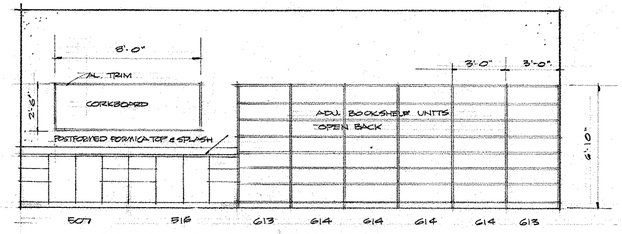


CORKBD. IN CORRIDORS

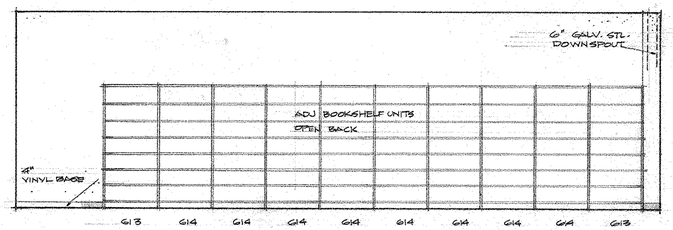
TYPICAL CORRIDOR DOOR



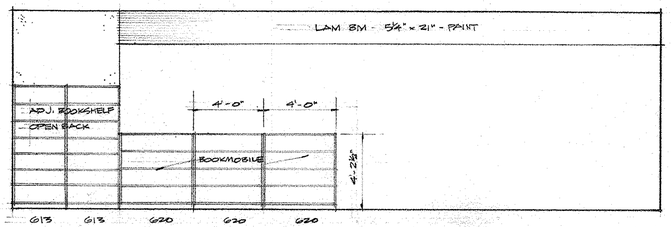
LIBRARY PLAN 1/2"=1'-0"



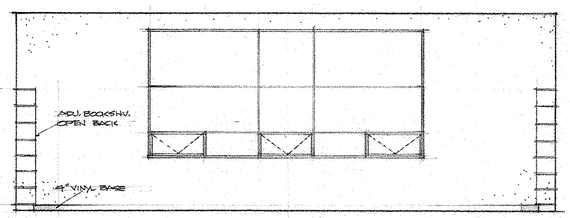
SECTION D-D 1/2"=1'-0"



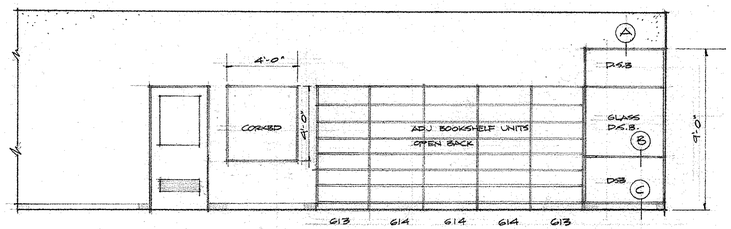
SECTION E-E 1/2"=1'-0"



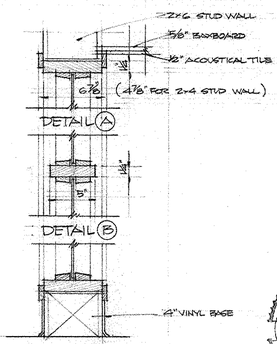
SECTION F-F 1/2"=1'-0"



SECTION G-G 1/2"=1'-0"



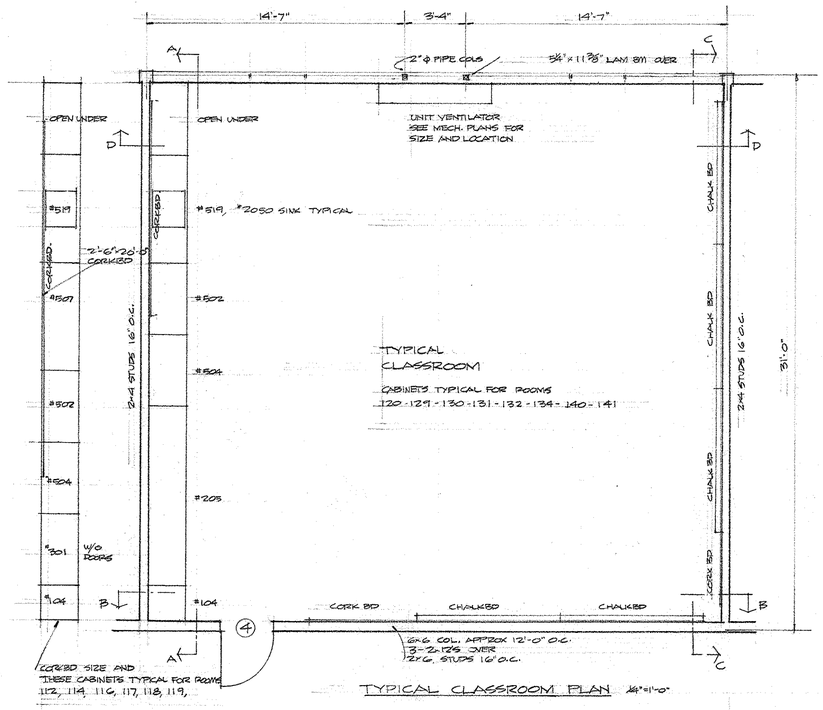
SECTION H-H 1/2"=1'-0"



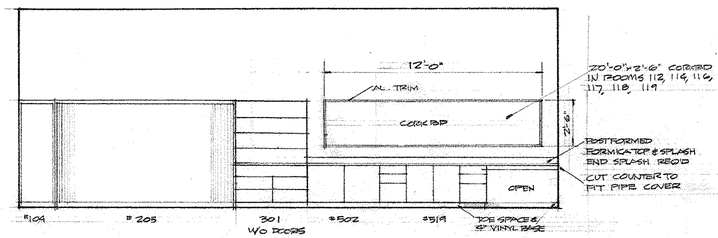
RELITE DETAILS 1 1/2"=1'-0"

ROBERT F. STREET
LIC. RENEWED TO JUNE 19 59
TL 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

LIBRARY & ADMINISTRATION DTLS.	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 11

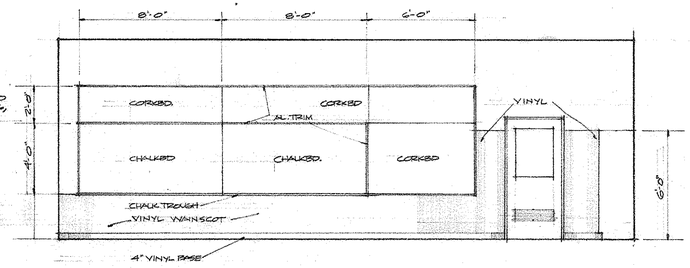


TYPICAL CLASSROOM PLAN ⅛"=1'-0"

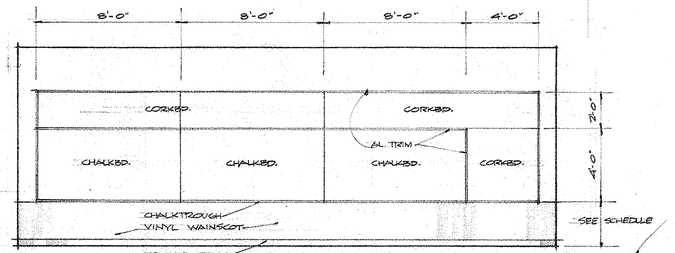


SECTION A-A ¼"=1'-0"

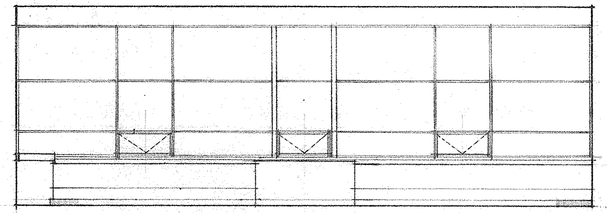
THESE CHALKBD & CORKBD QUANTITIES
TYPICAL FOR ALL CLASSROOMS EXCEPT
ROOMS 114 & 139



SECTION B-B ⅛"=1'-0"



SECTION C-C ¼"=1'-0"

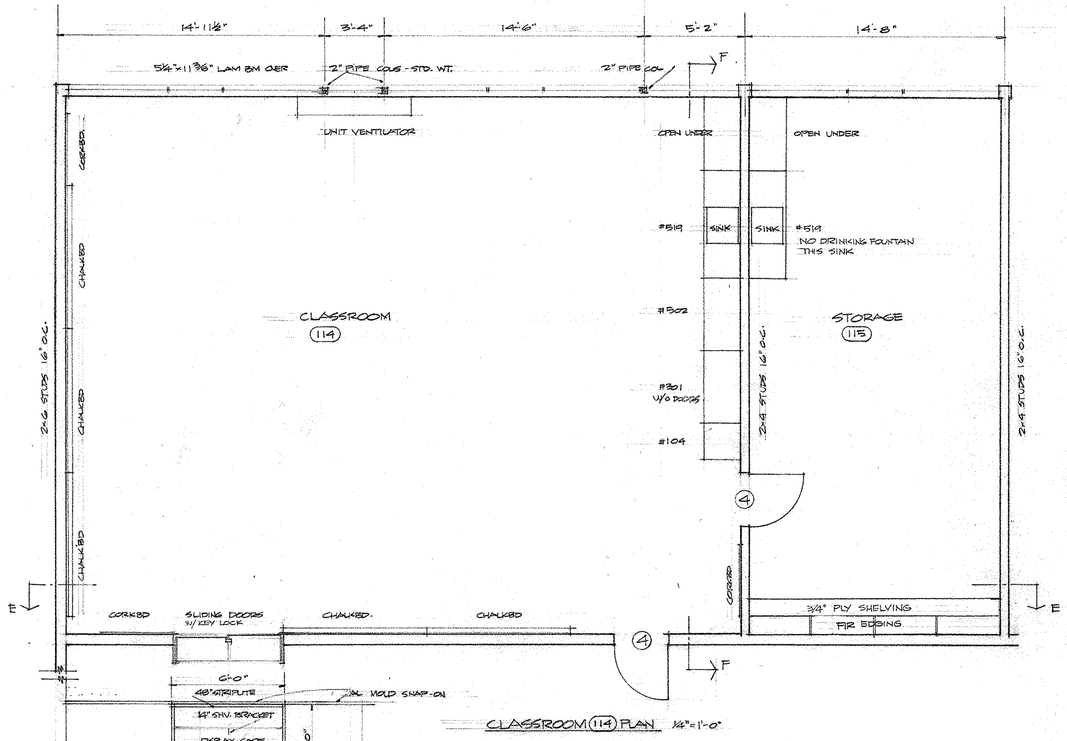


SECTION "D-D" ⅛"=1'-0"

CHALKBD & COUNTER HT. SCHEDULE

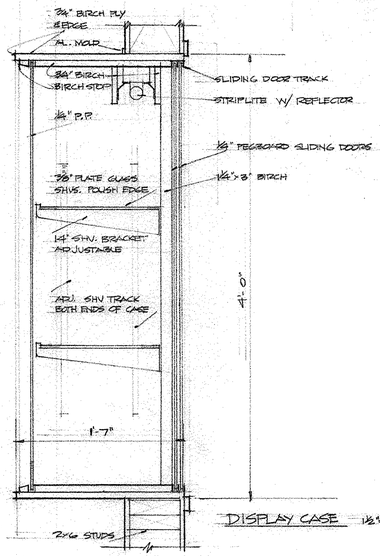
ROOM	RAIL HEIGHT CHALKBOARD	CABINET COUNTER HEIGHT
134-141-140	24"	26"
130-131-132-129	26"	30"
120-119-118-117	28"	34"
116-114-112	32"	*36"

*ALL OTHER COUNTER CABINETS 36" HIGH

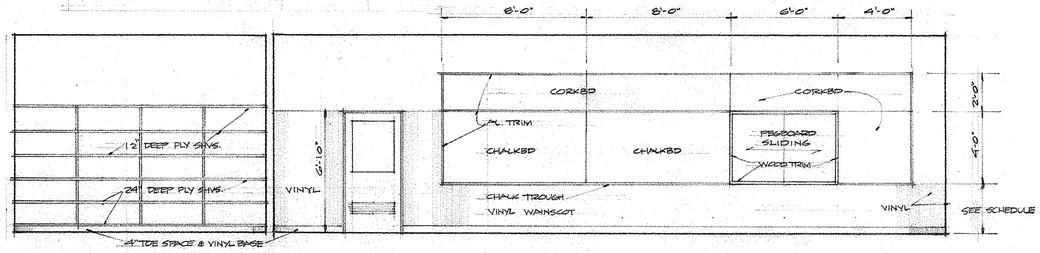


CLASSROOM 114 PLAN ½"=1'-0"

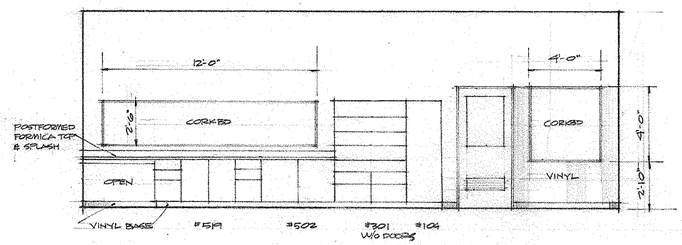
ELEV. DISPLAY CASE ¼"=1'-0"



DISPLAY CASE ½"=1'-0"



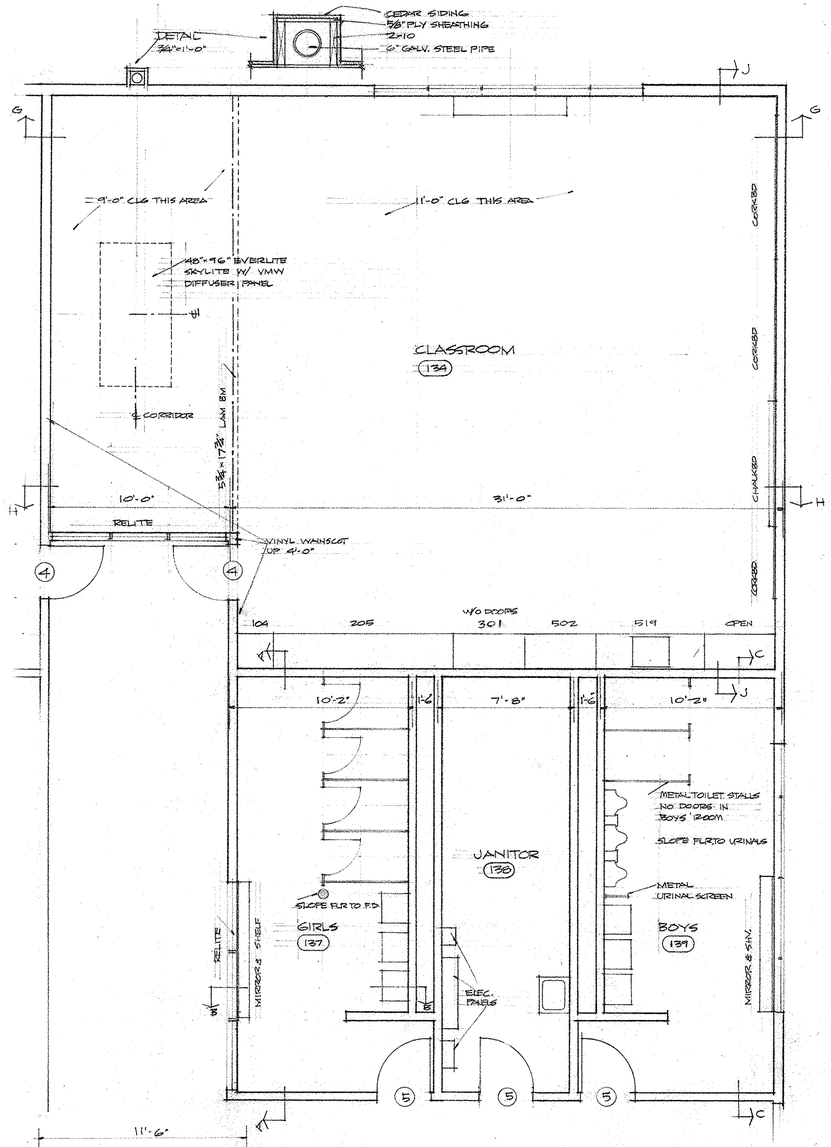
SECTION E-E ⅛"=1'-0"

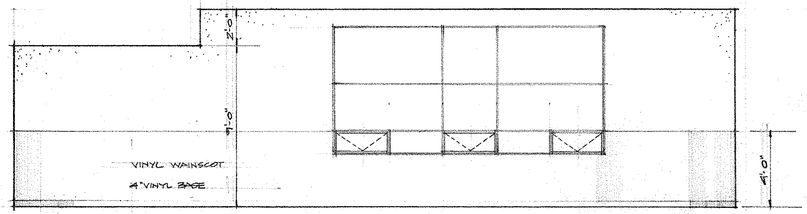


SECTION F-F ⅛"=1'-0"

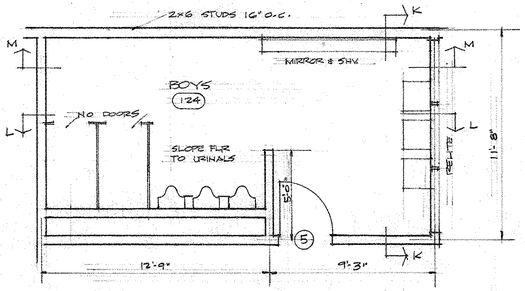
ROBERT F. STREET LIC. RENEWED TO JUNE 1, 1951
TEL 647
STATE OF WASHINGTON REGISTERED ARCHITECT

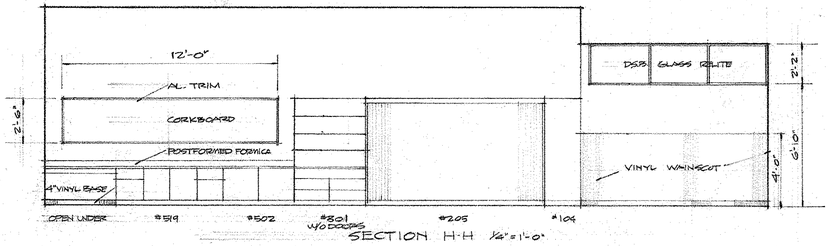
TYPICAL CLASSROOM DETAILS	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99	DATE 4/27/51 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 12



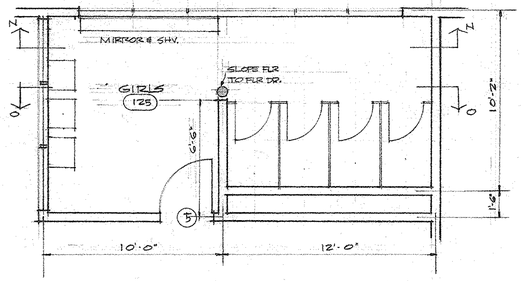


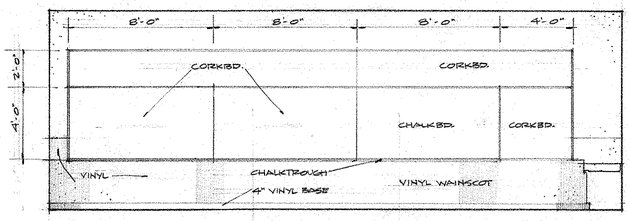
SECTION GG 1/2"=1'-0"



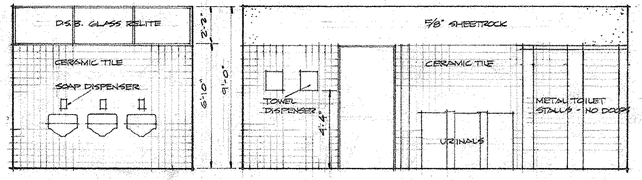


SECTION H-H 1/2"=1'-0"



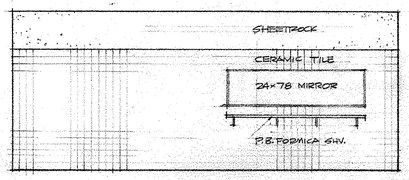


SECTION J-J 1/2"=1'-0"

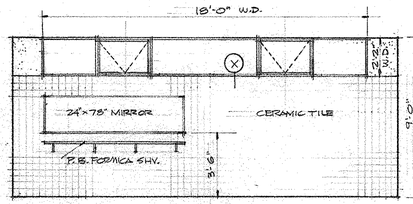


SECTION K-K 1/2"=1'-0"

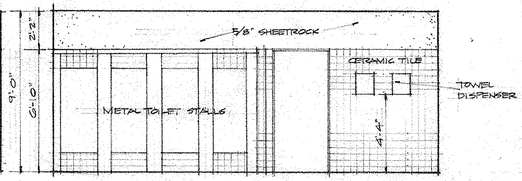
SECTION L-L 1/2"=1'-0"



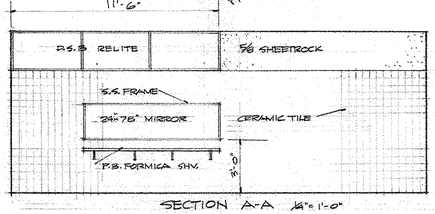
SECTION M-M 1/2"=1'-0"



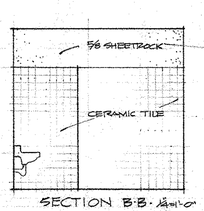
SECTION N-N 1/2"=1'-0"



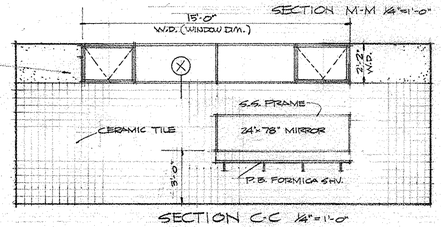
SECTION OO 1/2"=1'-0"



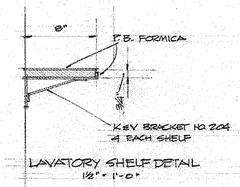
SECTION A-A 1/2"=1'-0"



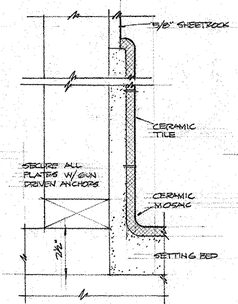
SECTION B-B 1/2"=1'-0"



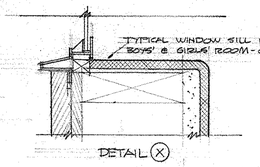
SECTION C-C 1/2"=1'-0"



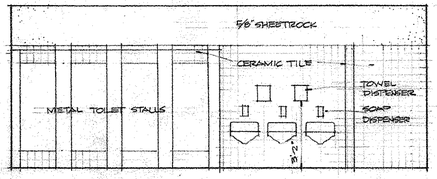
LAVATORY SHELF DETAIL
1/2" = 1'-0"



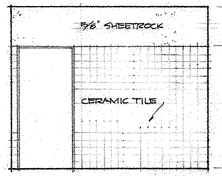
TYPICAL LAVATORY FLOOR & WAINSCOT
3"=1'-0"



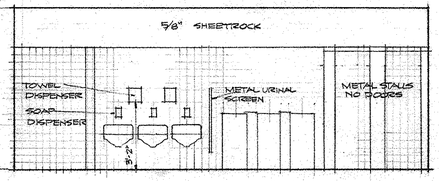
DETAIL X



SECTION D-D 1/4"=1'-0"



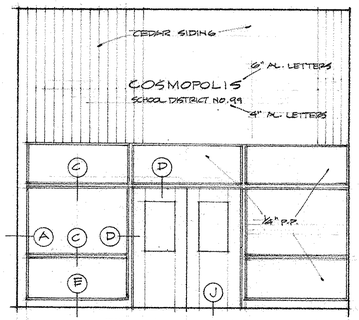
SECTION EE 1/2"=1'-0"

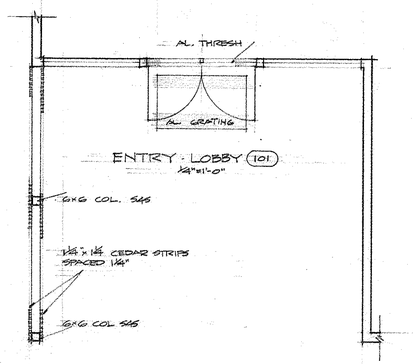


SECTION FF 1/2"=1'-0"

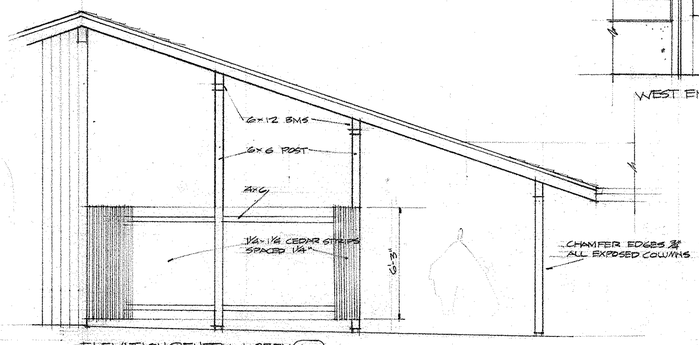
ROBERT F. STREET
LIC. RENEWED TO JUNE 1957
TL: 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

CLASSROOM & LAVATORY DETAILS	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/54 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 13

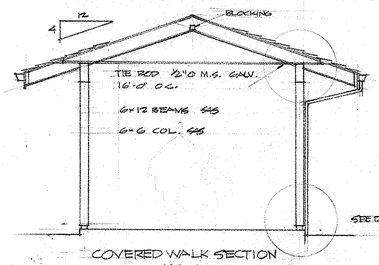




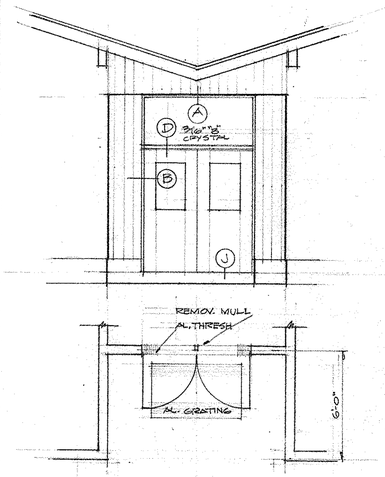
ENTRY - LOBBY (101)
½"=1'-0"



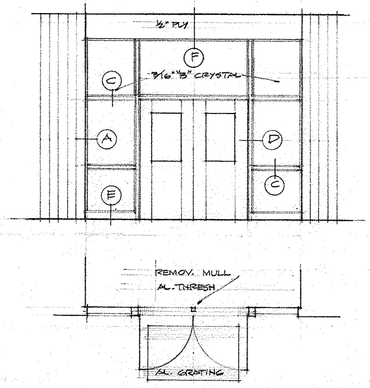
ELEVATION @ ENTRY LOBBY (101)
¼"=1'-0"



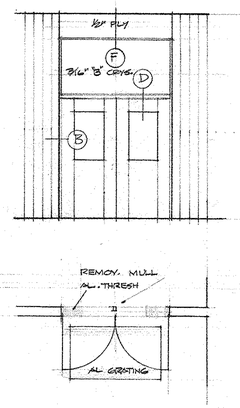
COVERED WALK SECTION
¼"=1'-0"



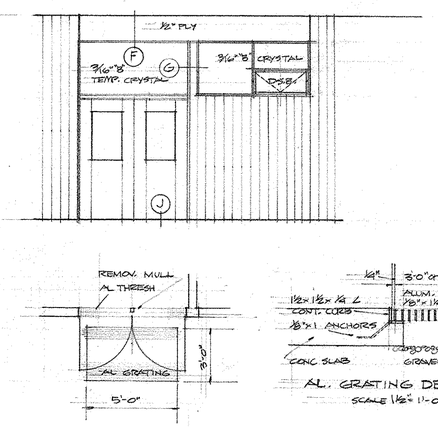
ENTRY (127) ½"=1'-0"



ENTRY (136) ½"=1'-0"

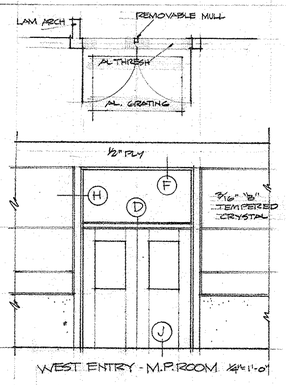


ENTRY (133) ½"=1'-0"

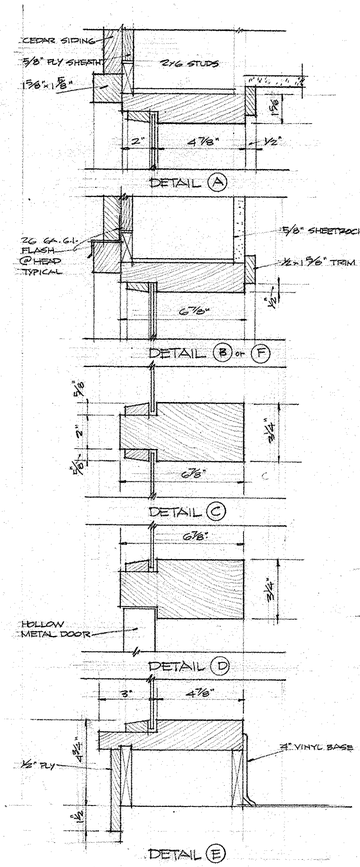


AL. GRATING DETAIL
SCALE 1½"=1'-0"

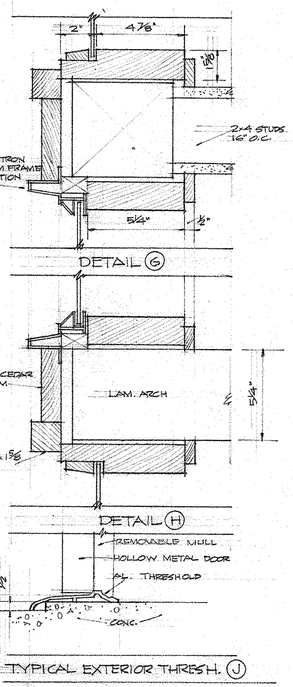
EAST ENTRY M.P. ROOM ½"=1'-0"



WEST ENTRY - M.P. ROOM ¼"=1'-0"

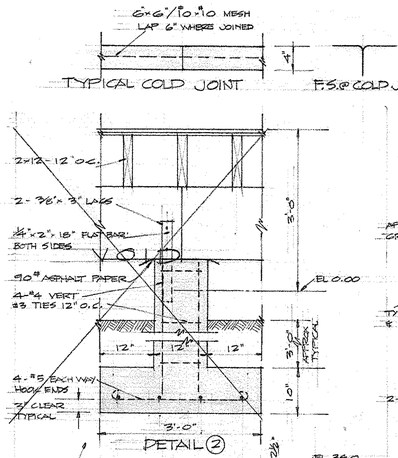


ENTRY DETAILS 3"=1'-0"

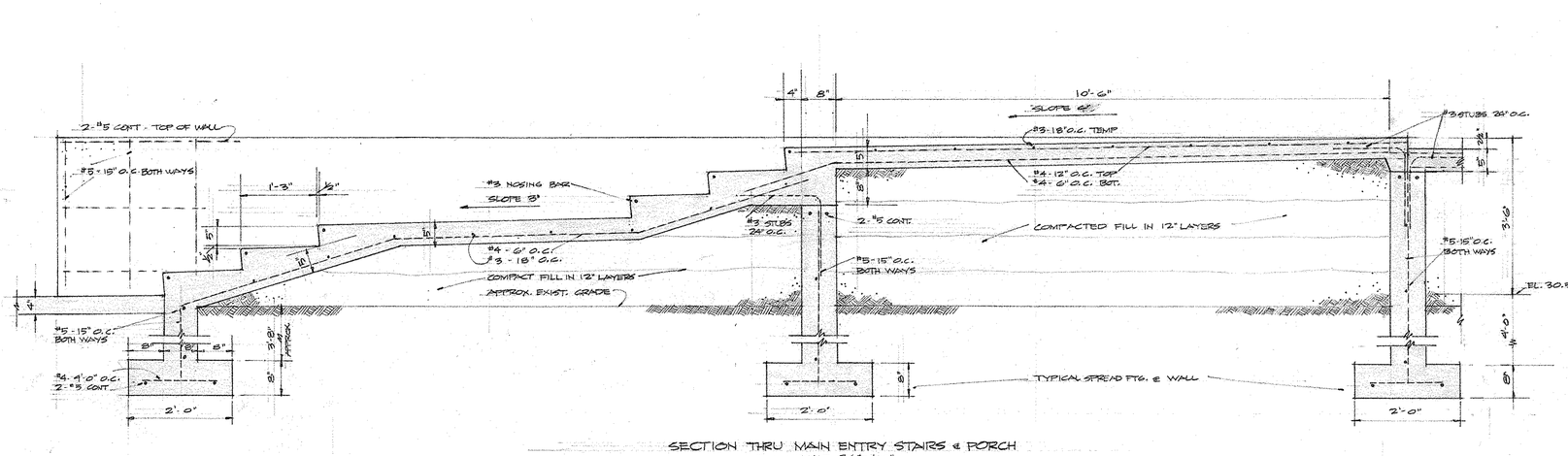


TYPICAL EXTERIOR THRESH. (J)

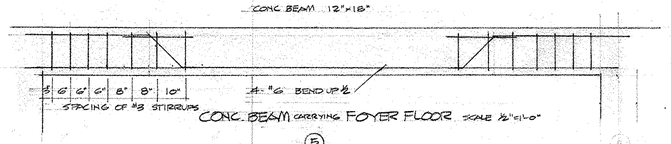
ENTRY & COVERED WALK DETAILS	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4-27-59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 14



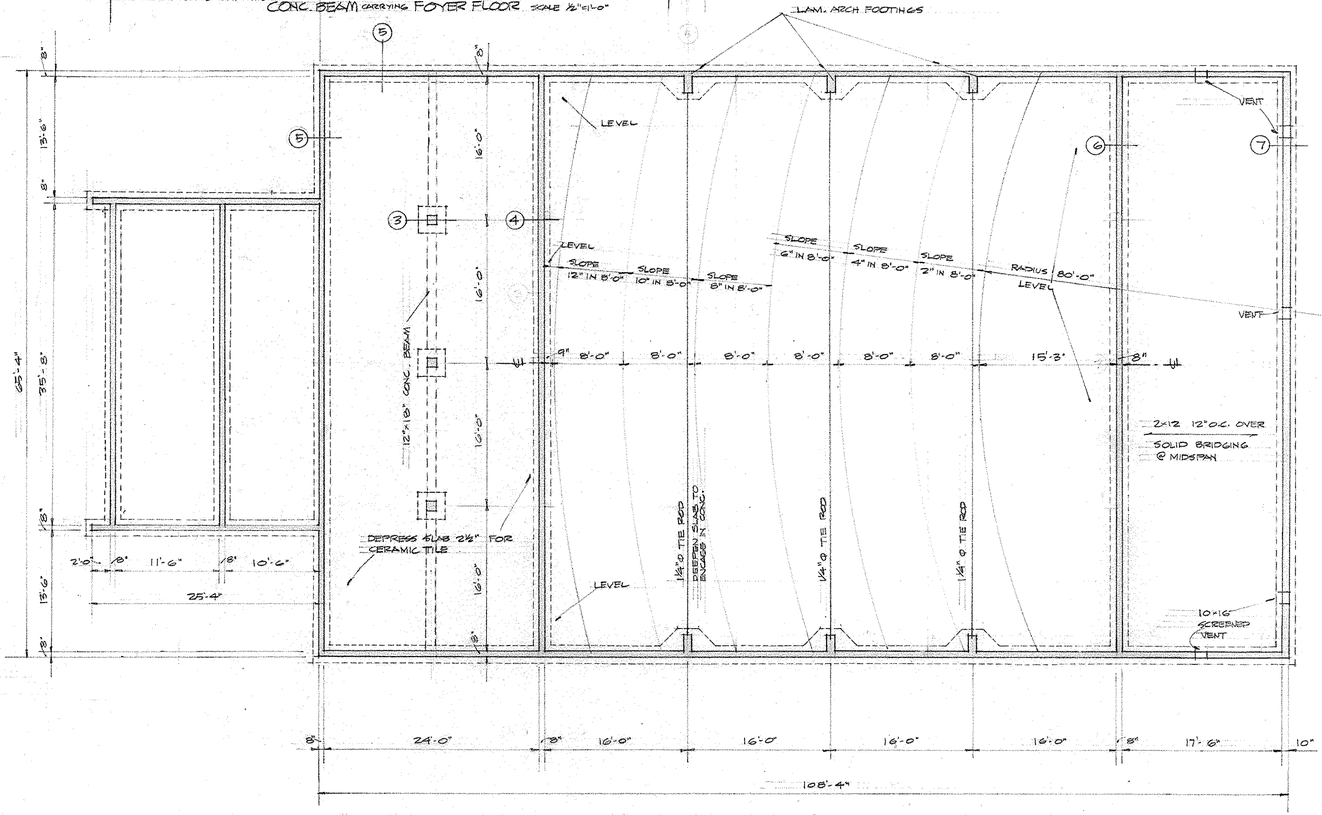
FOUNDATION DETAILS
SCALE 3/8"=1'-0"



SECTION THRU MAIN ENTRY STAIRS & PORCH
SCALE 3/8"=1'-0"



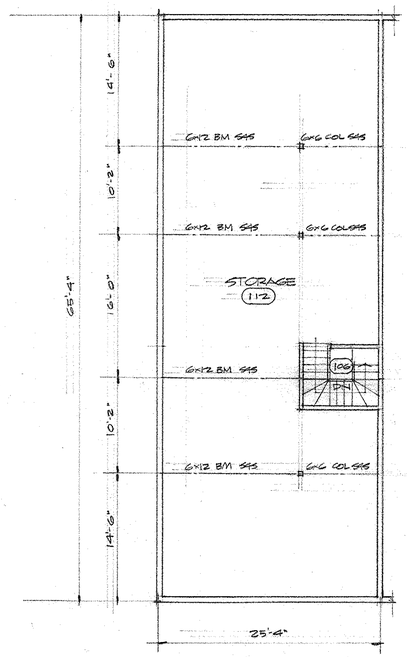
CONC. BEAM CARRYING FOYER FLOOR SCALE 1/2"=1'-0"

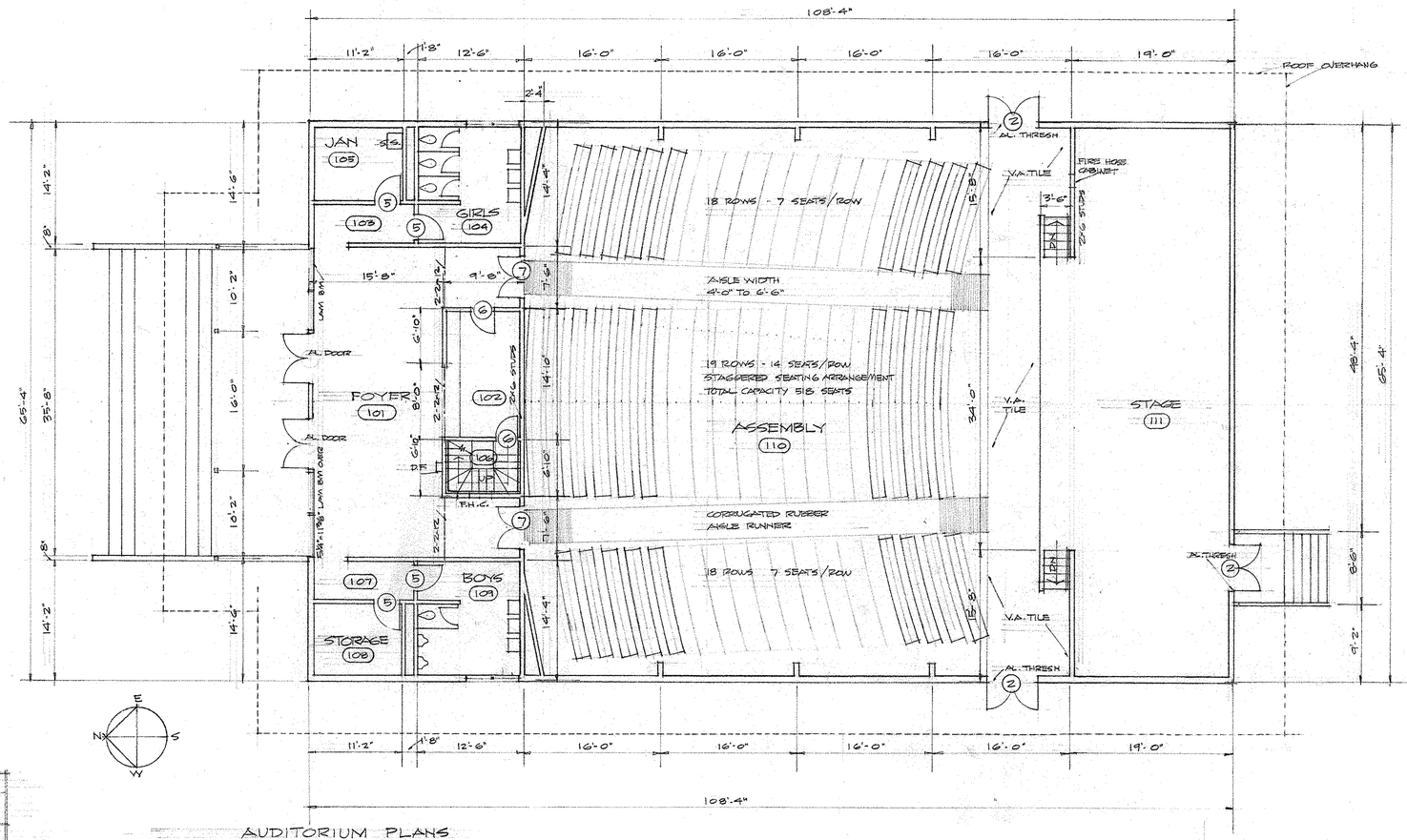


FOUNDATION PLAN
SCALE 1/8"=1'-0"

ROBERT F. STREET
LIC. REGISTERED TO PRACTICE
12 57
Robert F. Street
TL. 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

AUDITORIUM FOUNDATION PLAN	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 15





AUDITORIUM PLANS

SCALE ⅛"=1'-0"

REMARKS	ROOM	FLOOR MTL	FLOOR FIN	BASE MTL	BASE FIN	WALLS NORTH MTL	WALLS NORTH FIN	WALLS SOUTH MTL	WALLS SOUTH FIN	WALLS EAST MTL	WALLS EAST FIN	WALLS WEST MTL	WALLS WEST FIN	CLG MTL	CLG FIN	WAINS. MTL	WAINS. FIN
	FOYER 101	C.T.		VINL.		—	—.	HEM.	S.V.	HEM	S.V.	HEM	S.V.	A.T.			
POUR 2½" CONC. TOPPING	CHECK RM 102	CONC		VINL.		P.B.	P	P.B.	P	P.B.	P.	P.B.	P.	A.T.			
	HALL 103	C.T.		VINL.		HEM	S.V.	HEM	S.V.	HEM	S.V.	HEM	S.V.	A.T.			
	GIRLS 104	C.T.		C.T.		P.B.	EN	P.B.	EN	P.B.	EN	P.B.	EN	A.T.		C.T.	
POUR 2½" CONC TOPPING	JAN 105	CONC		VINL.		P.B.	P	P.B.	P.	P.B.	P.	P.B.	P.	8"ON JOIST			
	STAIRS 106	-		-		P.B.	P	P.B.	P	P.B.	P	P.B.	P.	P.B.	P.		
	HALL 107	C.T.		VINL.		HEM	S.V.	HEM	S.V.	HEM	S.V.	HEM	S.V.	A.T.			
POUR 2½" CONC TOPPING	STORAGE 108	CONC		VINL.		P.B	P	P.B.	P.	P.B.	P	P.B.	P	P.B.	P		
	BOYS 109	C.T.		C.T.		P.B.	EN	P.B.	EN	P.B.	EN	P.B.	EN	A.T.		C.T.	
	ASSEMBLY 110	CONC V.A.		VINYL CONC		FIR	S.V.	FIR	S.V.	FIR	S.V.	FIR	S.V.	A.T.			
PB DIRECTLY WAINSCOT UP 8'-0"	STAGE 111	MAPLE V.		VINL.		P.B.	P.	P.B.	P.	P.B.	P.	P.B.	P	P.B.	P	PLY	S.V.
⅝" PLY FLOOR	STORAGE 112	PLY		-		OPEN JOIST											>

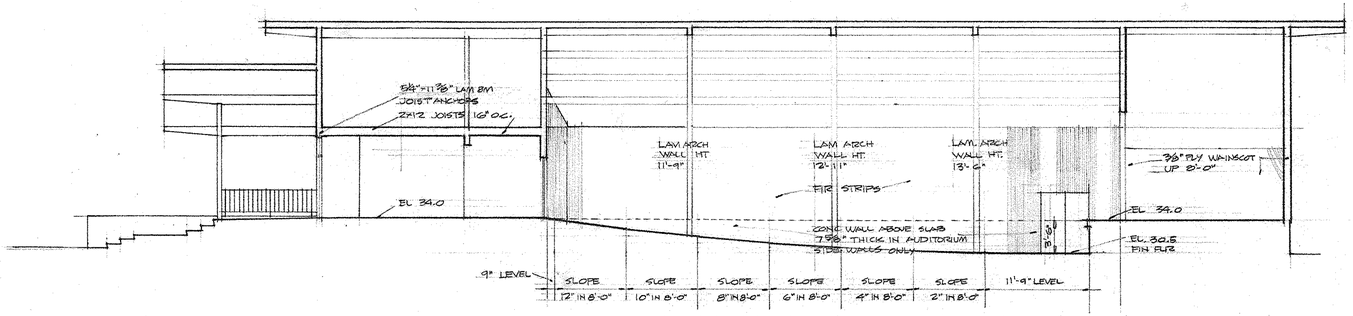
ABBREVIATIONS

HEM.	HEMLOCK -
S.V.	SHELLAC & VARNISH
A.T.	ACOUSTICAL TILE
P.B.	PLASTER BD. (⅝" SHEETROCK)
P.	PAINT
C.T.	CERAMIC TILE
V.T.	VINYL ASBESTOS TILE

ALL EXTERIOR WALLS 2x6 STUDS 16" O.C. ALL OTHER WALLS 2x4 STUDS 16" O.C. UNLESS OTHERWISE NOTED

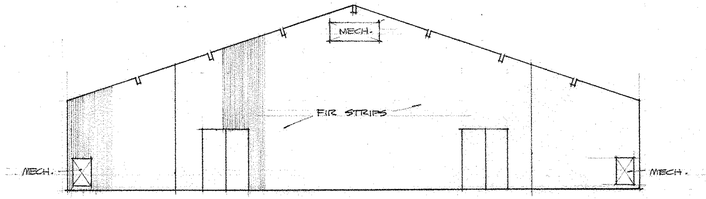
ROBERT F. STREET ARCHITECT LIC. RENEWED TO JUNE 1, 1937 Robert F. Street TL 647 STATE OF WASHINGTON REGISTERED ARCHITECT

AUDITORIUM FLOOR PLAN	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/37 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 16



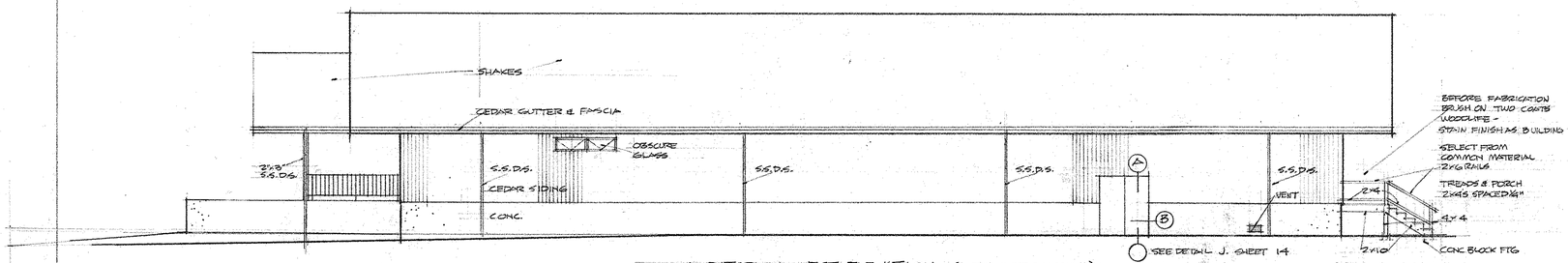
SECTION @ E OF AUDITORIUM

SCALE 1/8" = 1'-0"



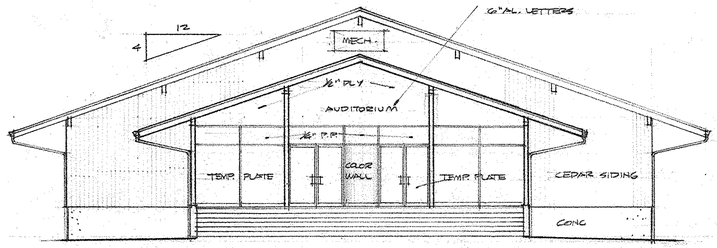
AUDITORIUM - NORTH WALL

SCALE 1/8" = 1'-0"



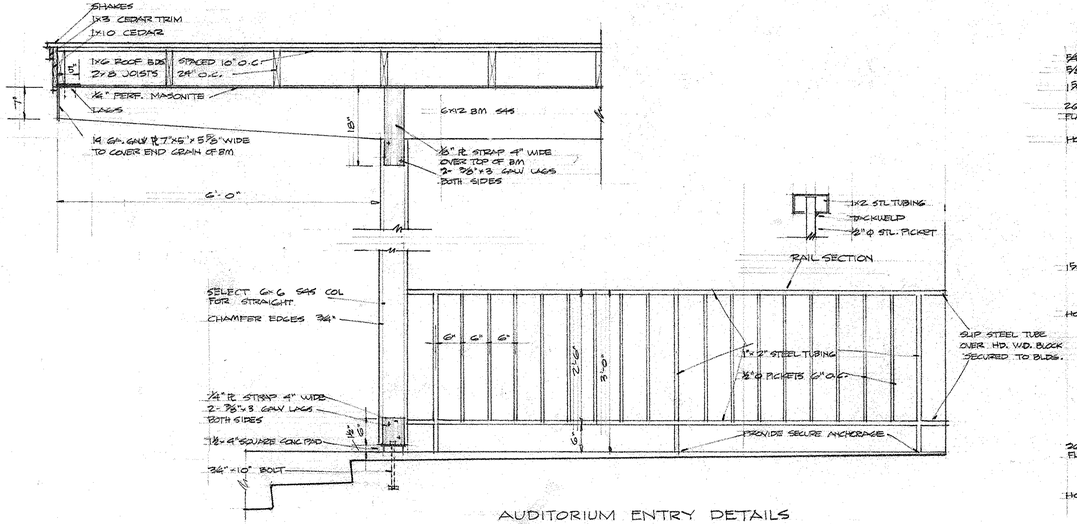
AUDITORIUM - WEST ELEVATION (EAST ELEVATION SIMILAR)

SCALE 1/8" = 1'-0"



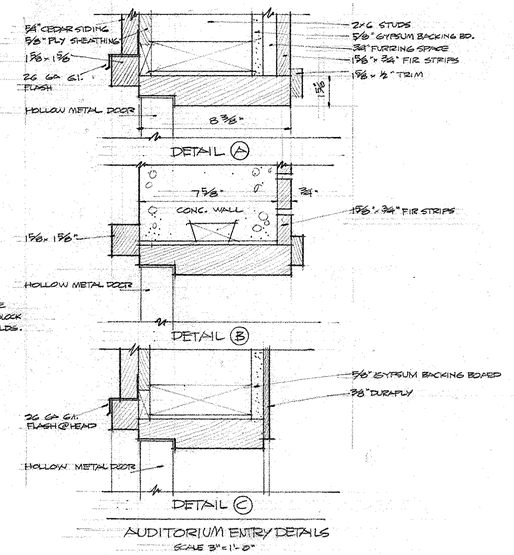
AUDITORIUM - NORTH ELEVATION

SCALE 1/8" = 1'-0"



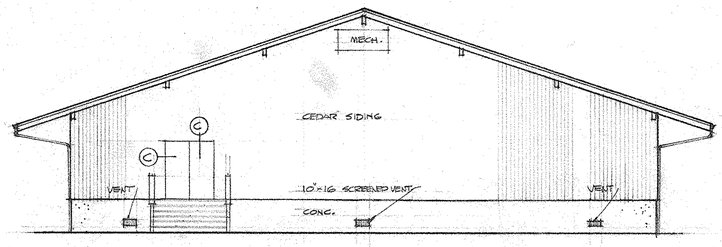
AUDITORIUM ENTRY DETAILS

SCALE 3/4" = 1'-0"



AUDITORIUM ENTRY DETAILS

SCALE 3" = 1'-0"

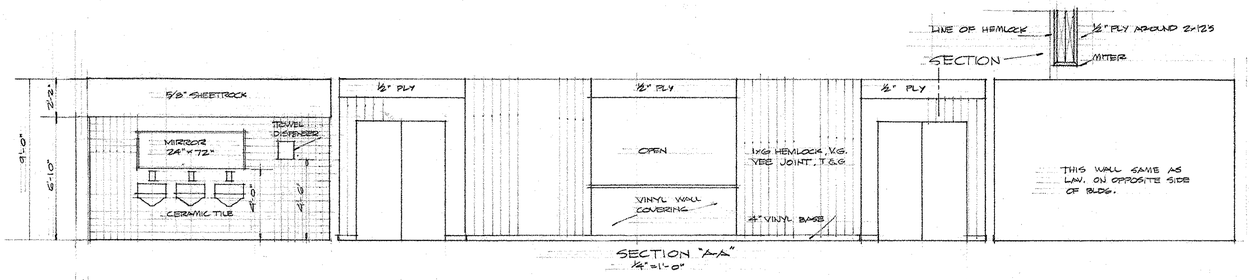


AUDITORIUM - SOUTH ELEVATION

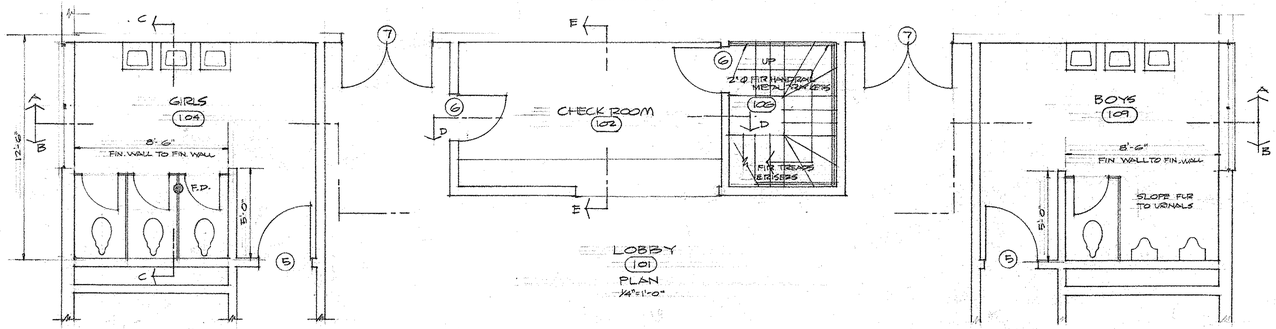
SCALE 1/8" = 1'-0"

ROBERT F. STREET
LIC. RENEWED TO JUNE 1957
Robert F. Street
TL. 647
STATE OF WASHINGTON
REGISTERED ARCHITECT

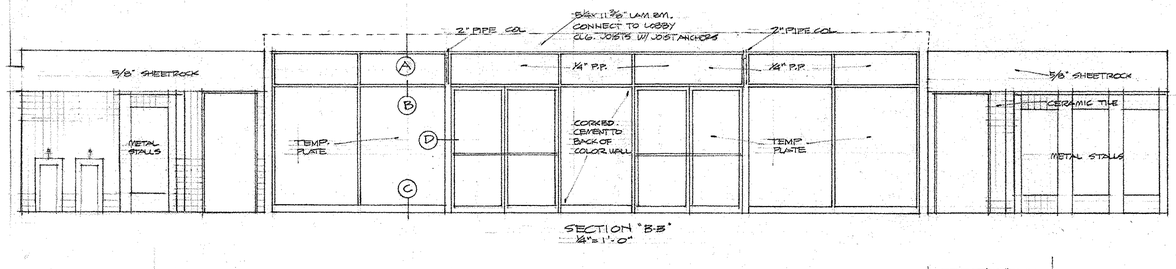
AUDITORIUM ELEVATIONS & DTLS.	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 9/27/57 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 17



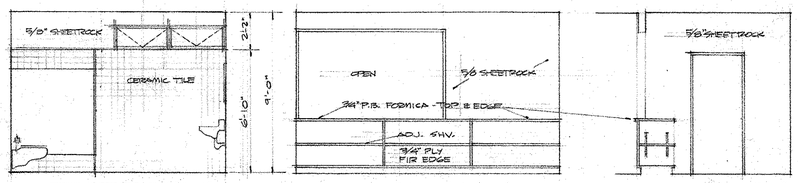
SECTION "A-A"
½"=1'-0"



PLAN
½"=1'-0"



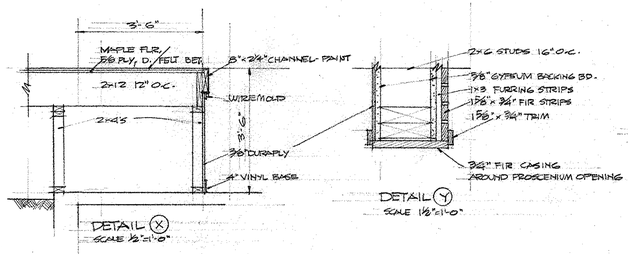
SECTION "B-B"
½"=1'-0"



SECTION "C-C"

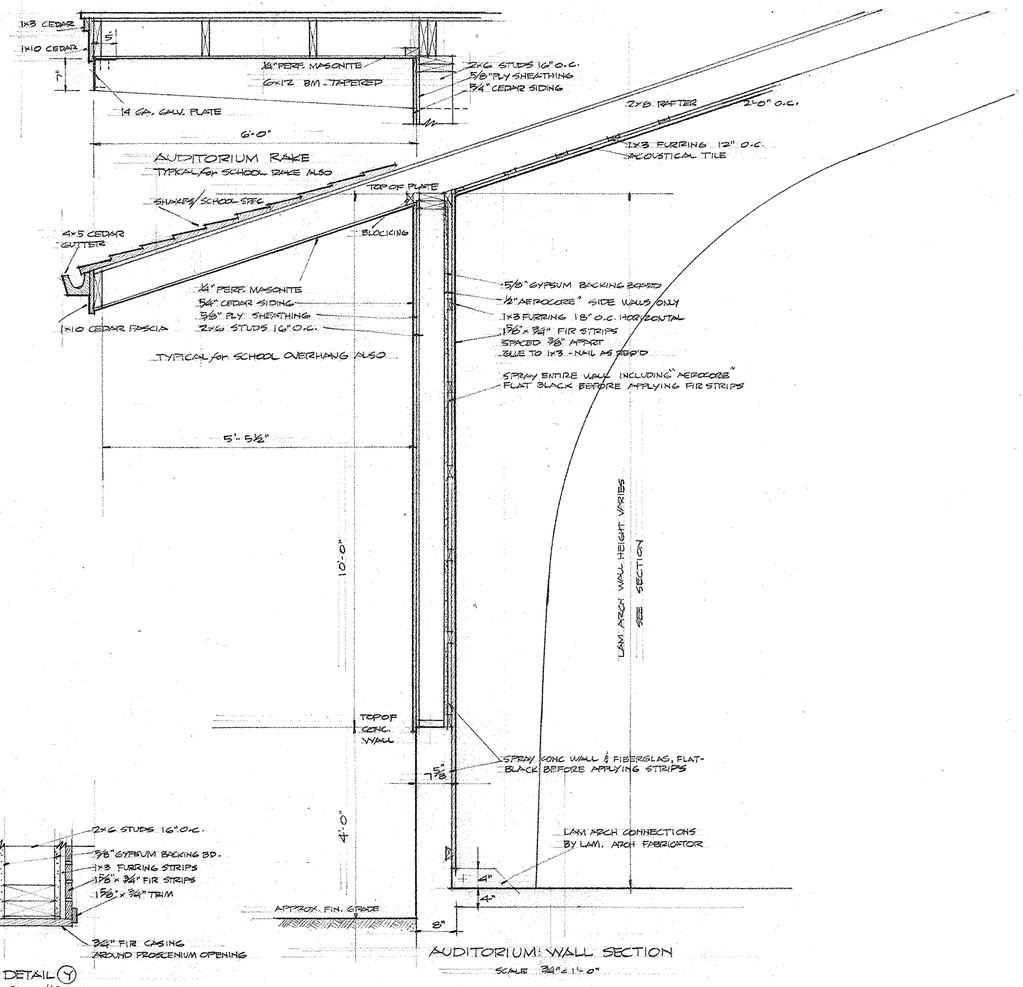
SECTION "D-D"
½"=1'-0"

SECTION "E-E"

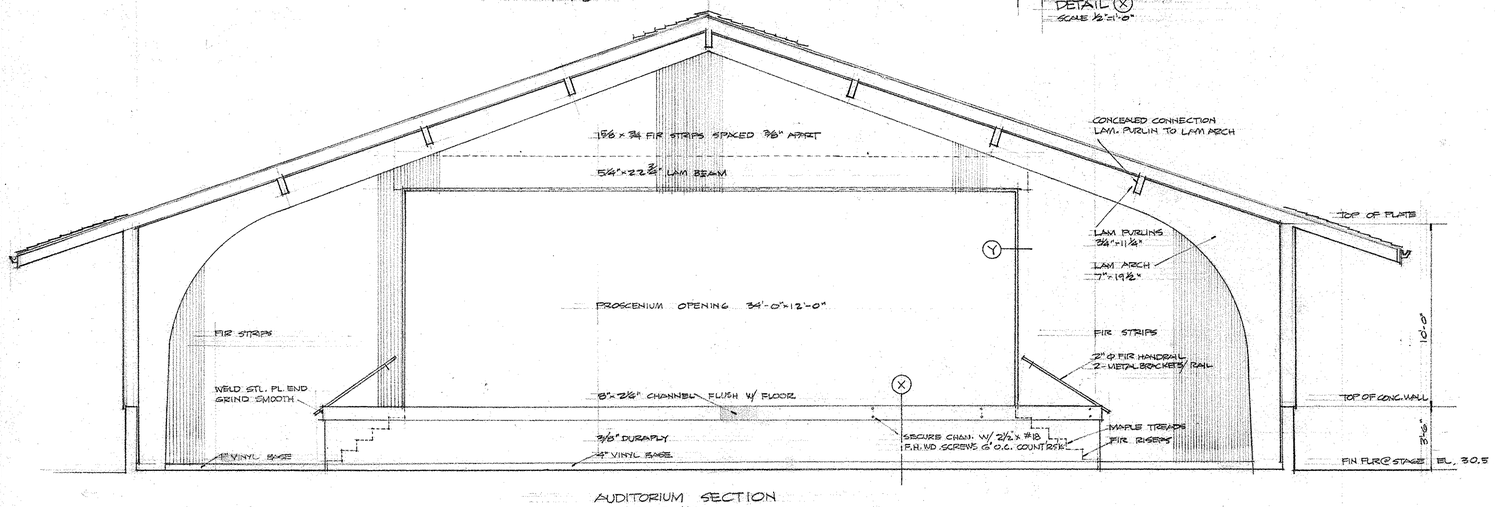


DETAIL (X)
SCALE ½"=1'-0"

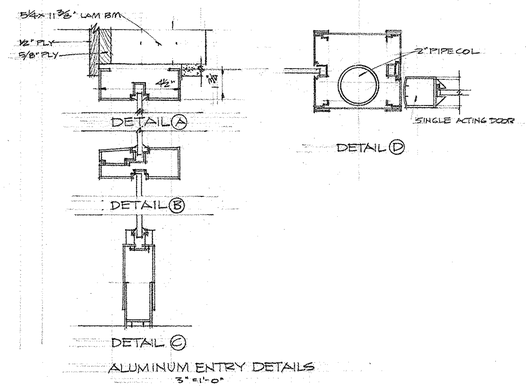
DETAIL (Y)
SCALE 1½"=1'-0"



AUDITORIUM WALL SECTION
SCALE ¾"=1'-0"



AUDITORIUM SECTION
SCALE ¼"=1'-0"



ALUMINUM ENTRY DETAILS
3"=1'-0"

ROBERT F. STREET
LIC. RENEWED TO JUNE 1, 1957
STATE OF WASHINGTON
REGISTERED ARCHITECT
TL 647

AUDITORIUM SECTION & DETAILS	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT 99 COSMOPOLIS, WASHINGTON	DATE 4/21/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET 18

3RD STREET

CONNECT TO EXIST. 4" CITY MAIN APPROX. DIST. SHOWN.

NEW 4" C.I. MECH. JT. WATER SERVICE LINE

NEW VALVE BOX W/ 4" GATE V.

MULTI-PURPOSE BUILD. ROOM.

AUDITORIUM

EXP. LOOP

PIPE ANCHOR

NEW WTR. SERVICE

NEW VALVE BOX.

INSTALL NEW 6"X6"X6" TEE AT THIS POINT. EXIST. 6" C.I. WTR. LINE

NEW 4" FILL BOX

SOUNDING BOX

2" FILL BOX

NEW VALVE BOX W/ 6" GATE VALVE

PROVIDE NEW 6"X6"X4" TEE, CUT INTO EXIST. LINE

INSTALL NEW 6" TEE W/ 6"X2" REDUCER

EXIST. 6" C.I. WTR. LINES

REMOVE THIS SECTION OF EXIST. LINE SEE SPECS.

NEW 4000 GAL. FUEL OIL STOR. TK.

NEW 675 GAL. O.D. STOR. TK.

CONNECT TO EXISTING 8" SANITARY SEWER AS SHOWN

MECH. CONTRACTOR TO ALLOW SPACE FOR 3 - 1¼" ELECTRICAL CONDUITS ADJACENT TO BASE PAD IN 2'-CRETE TRENCH. ALL STREET EXCAVATION BACKFILL, AND PATCHING BY MECHANICAL CONTRACTOR. FOR ELECTRICAL DETAILS, SEE SHEET E-1. MECH. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTORS ON INSTALLATION.

FOR FOUNDATION PLAN THIS BLDG. - SEE SHEET M-4

REPLACE EXIST. 8" C.B. WITH 8" C.I. PIPE APPROX. 60'-0"

INV. 20.65 INV. 21.28 INV. 21.55 INV. 21.76 INV. 22.74 INV. 22.86 INV. 23.82 INV. 24.72

EXIST. M.H. INV. 24.5

EXISTING SCHOOL TO BE REMOVED UPON COMPLETION OF NEW SCHOOL

CLASSROOM & ADMINISTRATION

C STREET

4TH STREET

NOTES:

1. STREET CROSSINGS, INCLUDING ALL EXCAVATION, BACKFILL, CUTTING & PATCHING TO CONFORM IN ALL RESPECTS TO REQUIREMENTS OF CITY OF COSMOPOLIS STREET DEPT.

2. INSTALLATION OF NEW WATER MAINS & CONNECTIONS TO EXISTING MAINS TO MEET REQUIREMENTS OF COSMOPOLIS WATER DEPT.

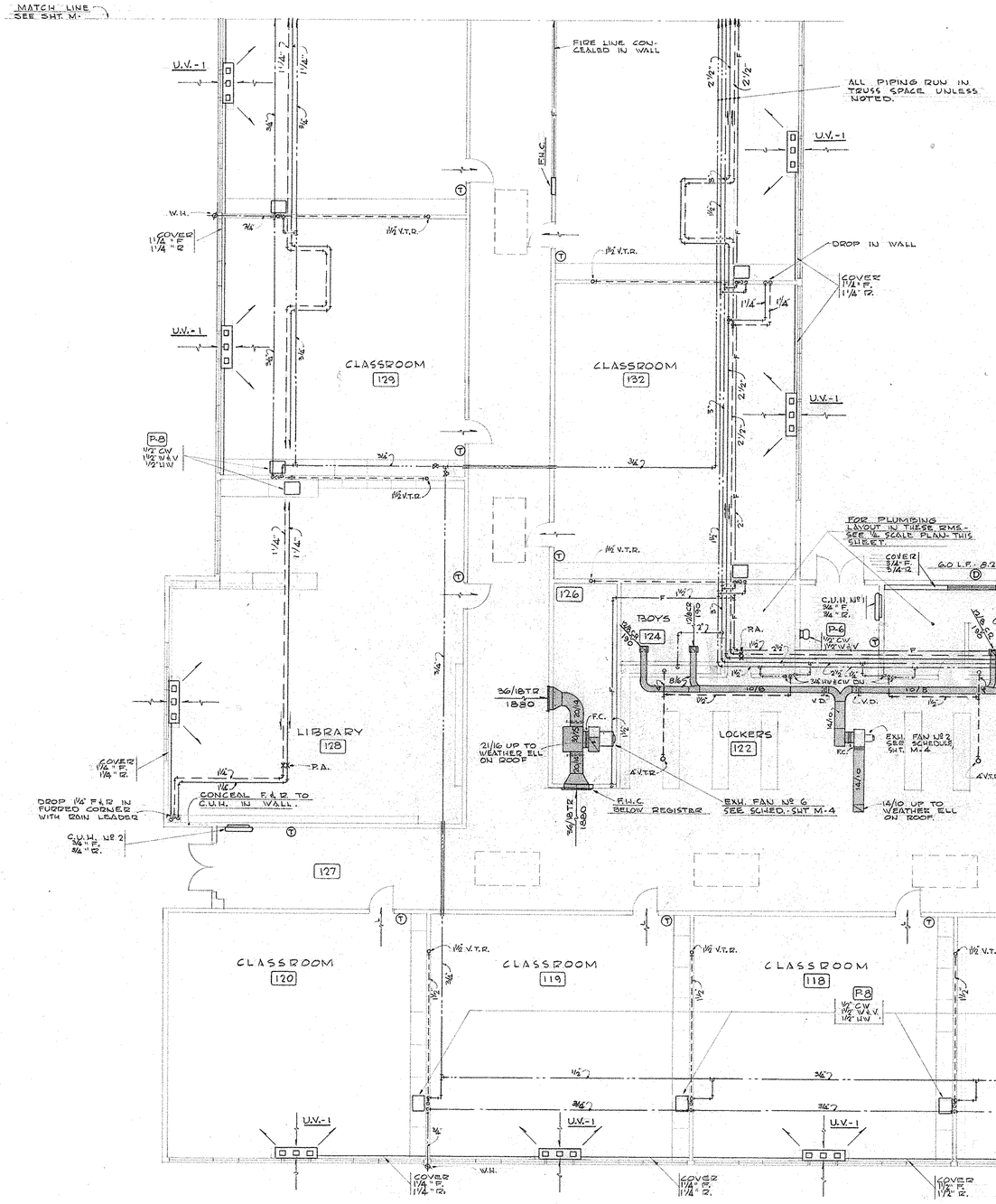
PLOT PLAN

SCALE: 1/16" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 2087 WASHINGTON NOV. 8, 1945 DAVID M. HOPKINS

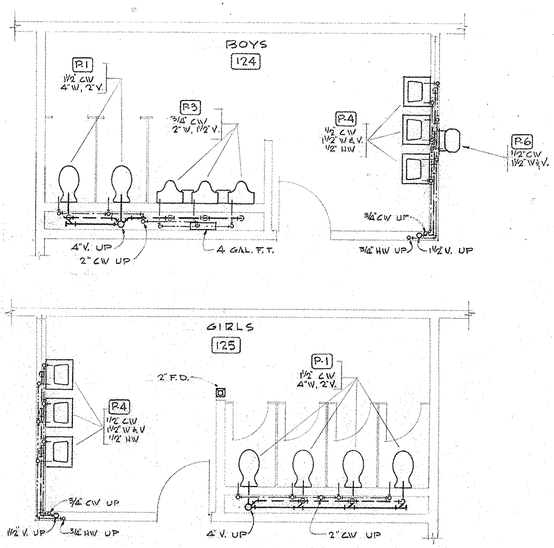
DAVID M. HOPKINS
CONSULTING
MECHANICAL ENGINEER
260 SO. FIFTH
TACOMA, WASH.

MECHANICAL	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT # 99 COSMOPOLIS, WASHINGTON	DATE 4-27-59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET M-1



PARTIAL FLOOR PLAN

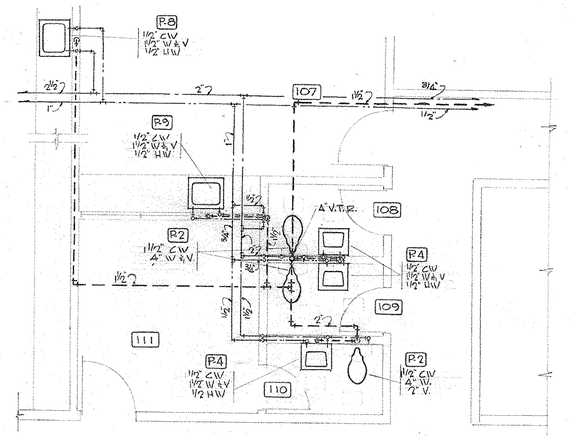
SCALE: 1/8" = 1'-0"



PL'BG. PLAN - RMS. 124 & 125

SCALE: 1/4" = 1'-0"

FOR RISER DIAGRAM OF ABV. RMS- SEE SHT. M-6



PL'BG. PLAN - RMS. 107, 108, 109, 110, 111, & 112

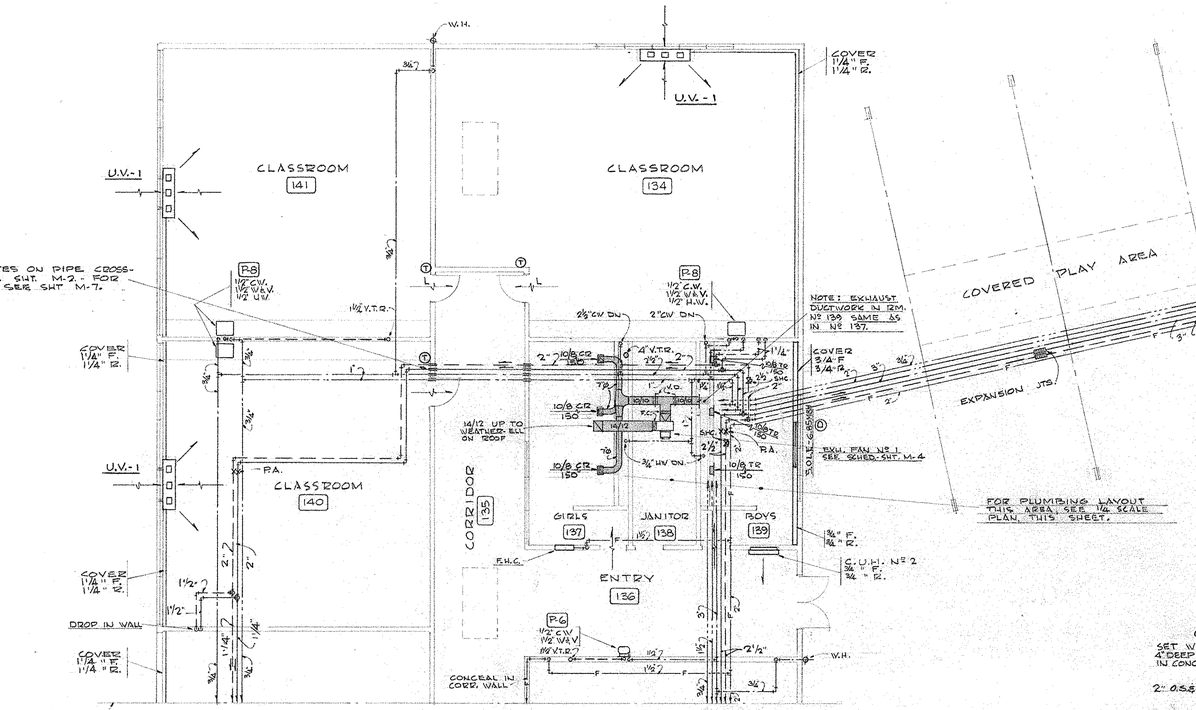
SCALE: 1/4" = 1'-0"

FOR RISER DIAGRAM OF ABV. ROOMS- SEE SHT. M-6

DAVID M. HOPKINS
CONSULTING
MECHANICAL ENGINEER
260 SO. FIFTH
TACOMA, WASH.

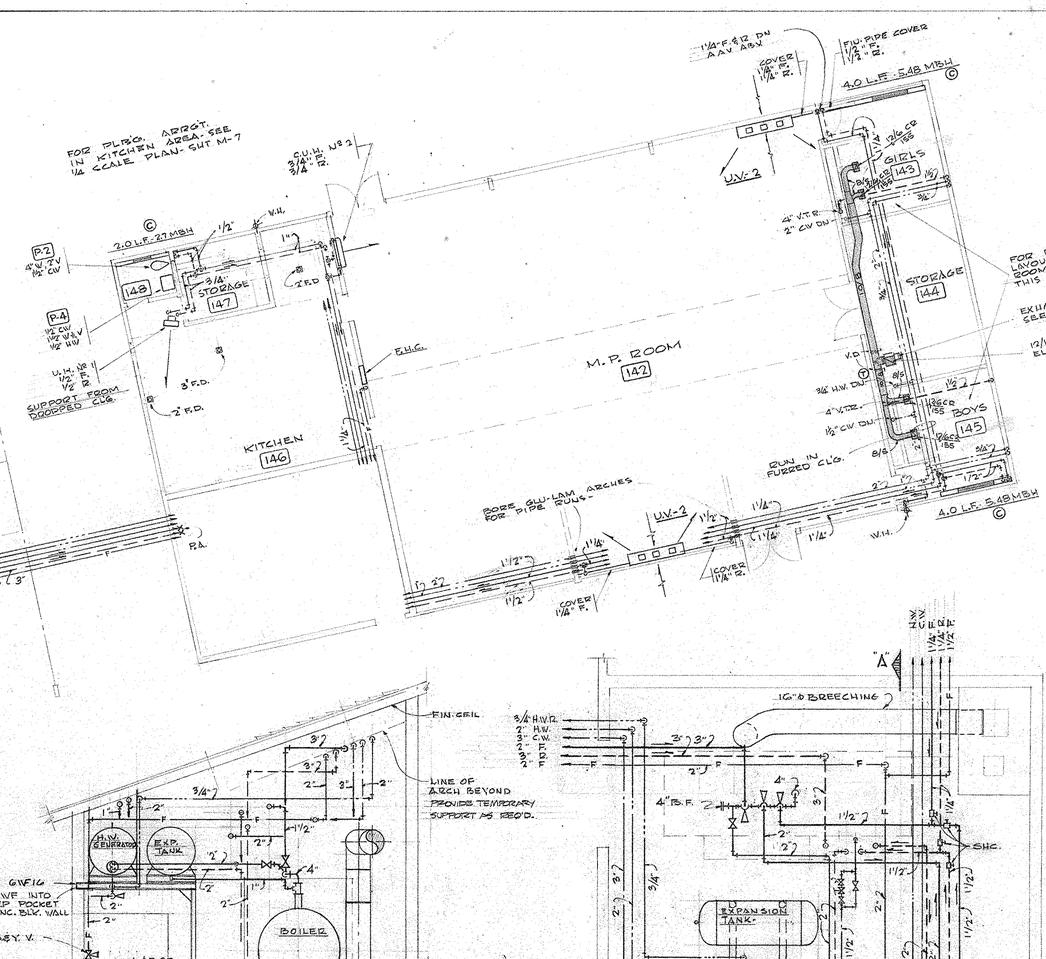
REGISTERED PROFESSIONAL ENGINEER 2087 WASHINGTON DAVID M. HOPKINS

MECHANICAL	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET M-2



PARTIAL FLOOR PLAN

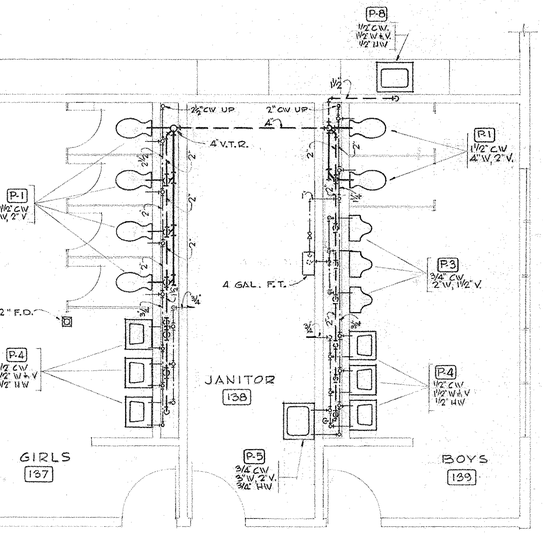
SCALE: 1/8" = 1'-0"



SECTION - A - A

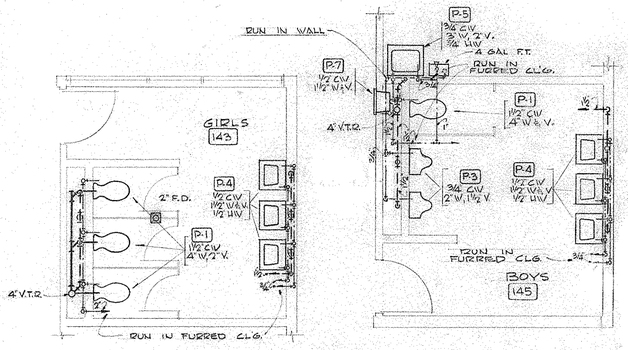
BLR. RM. - UPPER LEVEL PLAN

SCALE: 1/4" = 1'-0"



PLUMBING PLAN - RMS. 137, 138, 139

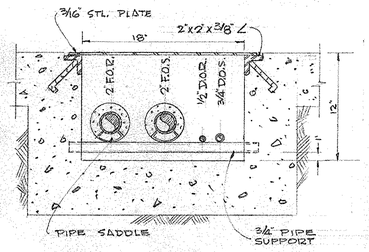
SCALE: 1/4" = 1'-0"



PLUMBING PLAN - RMS. 143 & 145

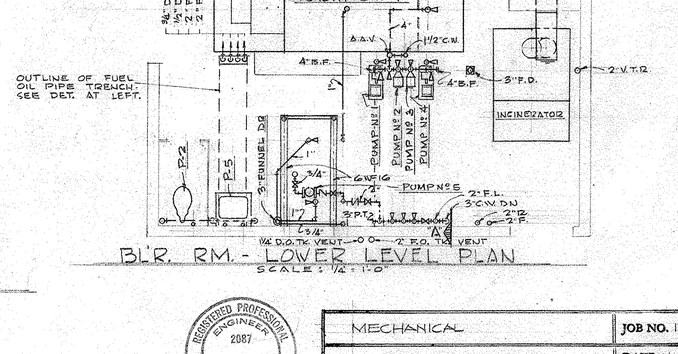
SCALE: 1/4" = 1'-0"

NOTE: FOR RISER DIAGRAMS OF ABOVE RMS - SEE SHT. M-6



OIL PIPING TRENCH DETAIL

SCALE 1½" = 1'-0"



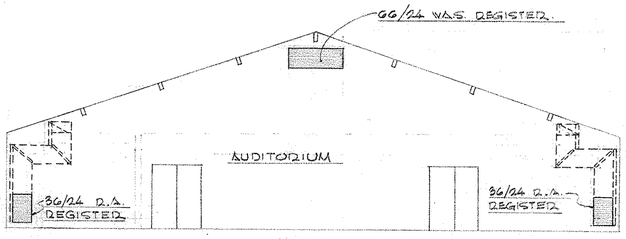
BLR. RM. - LOWER LEVEL PLAN

SCALE: 1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 2087 WASHINGTON NOV. 9, 1945 DAVID M. HOPKINS

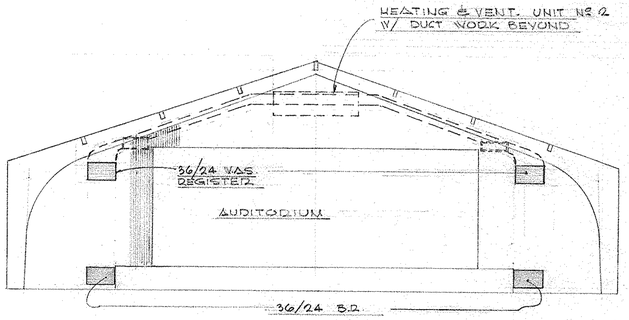
DAVID M. HOPKINS CONSULTING MECHANICAL ENGINEER 260 SO. FIFTH TACOMA, WASH.

MECHANICAL	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET M-3



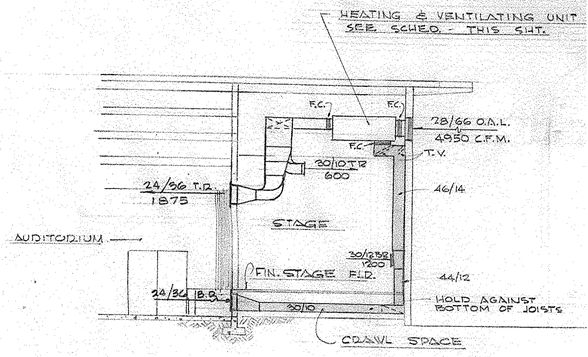
SECTION D-D

SCALE 1/8" = 1'-0"



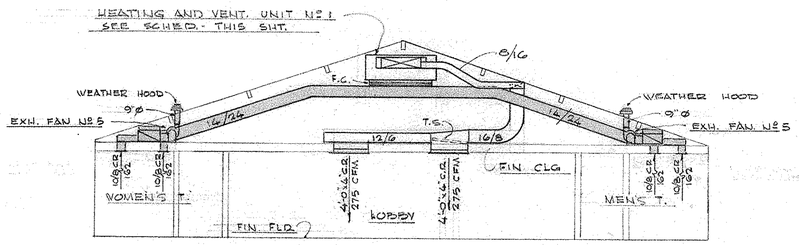
SECTION C-C

SCALE 1/8" = 1'-0"



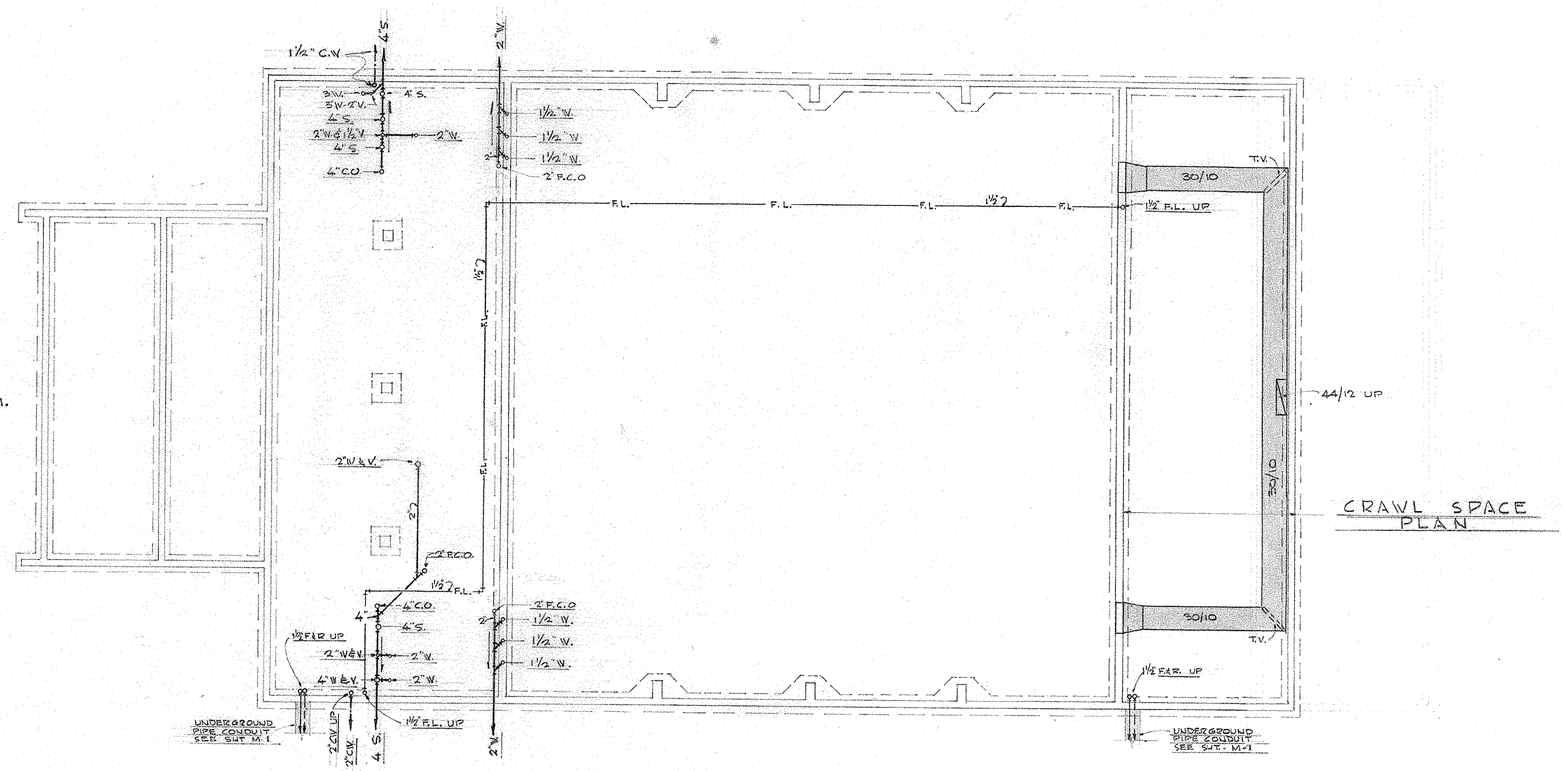
SECTION B-B

SCALE 1/8" = 1'-0"



SECTION F-F

SCALE 1/8" = 1'-0"



FOUNDATION PLAN

SCALE 1/8" = 1'-0"

EXHAUST FAN SCHEDULE

NO.	NO REQD.	TYPE	MIN. WHL. DIA	CFM	S.P.W.G.	RPM	NO SPDS	HP	LOCATION (ABOVE OR IN RM. Nº)
1	1	UTILITY- DIRECT DR.- CENTRIF.-B.I.	12"	900	3/8"	1140	1	1/8	138 - SCHOOL
2	1	" " "	12"	760	1/4"	860	1	1/20	122 - SCHOOL
3	1	" " -F.C.	6"	350	1/4"	1725	1	1/8	104 - SCHOOL
4	1	" " -B.I.	10.5	635	1/4"	1140	1	1/6	144 - M.P. WING
5	2	" " F.C.	6"	440	3/8"	1725	1	1/8	104 & 109 - AUDITORIUM
6	1	UTILITY- BELT DR.- CENTRIF.-B.I.	20"	3760	1/4"	793	1	1/2	126

NOTE:
FOR EXH. FANS Nº 1, 2, 3, 4, & 6 PROVIDE WOOD SUPPORT PLATFORM OF 2x6, SUITABLY HUNG FROM TRUSSES AND/OR ROOF JOISTS. PROVIDE VIBRATION ISOLATORS BETWEEN FAN & PLATFORM.

UNIT VENTILATOR SCHEDULE

TYPE	QTY.	CFM @ 70°F	HP	NO ROWS	TOTAL COIL LOAD	GPM	E.A.T. °F	E.W.T. °F	MAX. WTR. PRESS DROP	PIPE CONN. F.	PIPE CONN. R.	REMARKS
UV-1	15	750	1/8	2	63,400	3.26	46°	230°	0.27'	1¼"	1¼"	
UV-2	2	1000	1/8	2	95,500	4.92	50°	230°	0.71'	1¼"	1¼"	

UNIT HEATER SCHEDULE

SYMBOL	TYPE	NO REQD.	COIL CAPY-BTU/HR	COIL GPM	COIL #F.A.	COIL ROWS	CFM	HP	MAX RPM	SPEEDS	PIPE CONN. F.	PIPE CONN. R.	MTG. HT.-ABV. FLR.	REMARKS
C.U.H.-1		1	13,850	0.79		1	380	1/8	1200	1	3/4"	3/4"	FLR. MTD.	
C.U.H.-2		4	26,500	1.32		2	310	1/8	1050	1	3/4"	3/4"	"	
U.H.-1		1	21,000	2.0		-	500	1/30	1500	1	3/4"	3/4"		

HEATING & VENTILATING UNIT SCHEDULE

SYMBOL	QTY.	LOCATION (ABOVE OR IN-ROOM NO.)	COIL CHARACTERISTICS: FACE AREA ☐	NO ROWS	TOTAL LOAD BTU / HR	E.A.T.	L.A.T.	AIR FRICT. " W.G.	WATER CONDITIONS: MAX. FRICT. FT.	AVER. TEMP.	TEMP DROP	FAN CHARACTERISTICS: CFM	S.P. "W.G.	MAX. O.V.	MAX. RPM	MIN. WHL. DIA.	HP	TYPE & NO.	DRIVE	FILTER: MIN. FACE AREA - ☐		PIPE SIZE: F	R
H&V-1	1	AUDIT.-ABV. 101	7.37	2	226,000	54°	106°	0.16	.04	210°	40°	4275	½"	1300	644	12"	¾	2-FC-DWDI	BELT	11.10		1½"	1½"
H&V-2	1	AUDIT.-ABV. 111	7.37	2	239,000	54°	102°	0.19	.05	210°	40°	4940	3/8"	1500	726	12"	1	2-FC-DWDI	BELT	11.10		1½"	1½"

REGISTERED PROFESSIONAL ENGINEER 2087 WASHINGTON DAVID M. HOPKINS

DAVID M. HOPKINS
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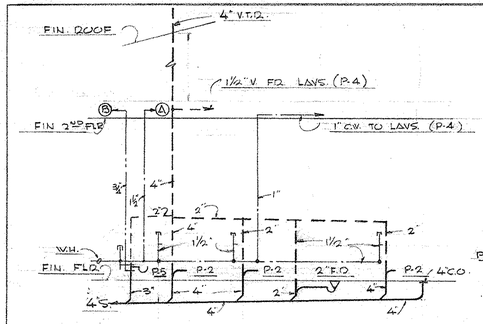
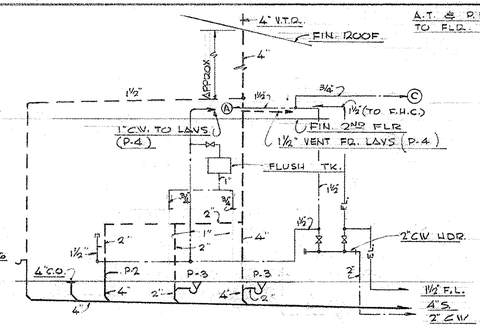
269 SO. DEPOT
TACOMA, WASH.

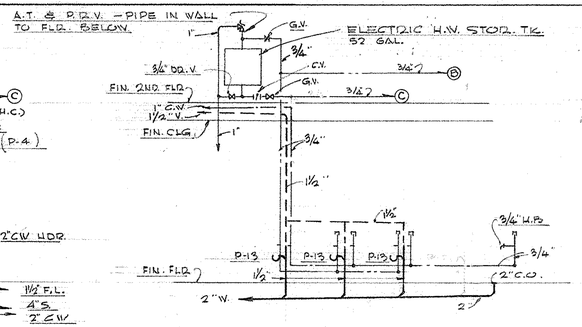
MECHANICAL

COSMOPOLIS SCHOOL
CONSOLIDATED SCHOOL DISTRICT 99
COSMOPOLIS, WASHINGTON

ROBERT F. STREET ▲ ARCHITECT
LAFAYETTE BUILDING ABERDEEN, WASH.







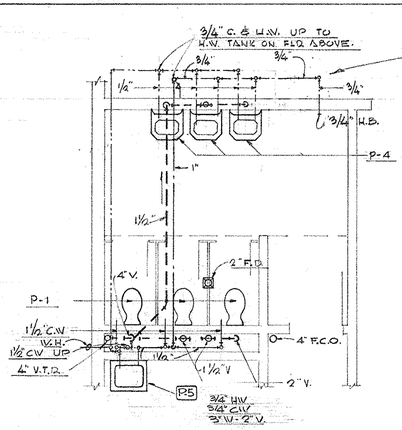
WOMENS #104 MEN #109

PARTIAL PLUMBING RISER DIAGRAM

SCALE - HORIZ. NONE — VERT. 1/4" = 1'-0"

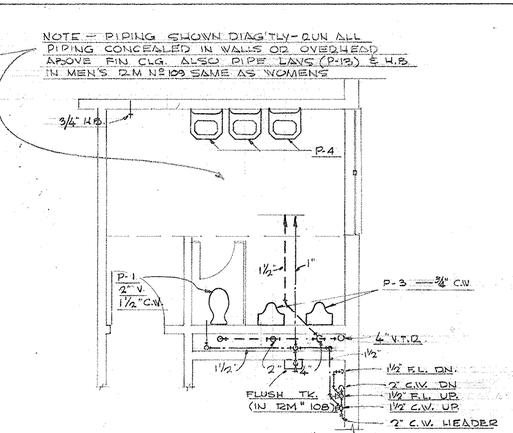
TYPICAL PLUMBING RISER DIAGRAM OF LAV'S (P-4) DMS Nº 104 & 109

SCALE — HORIZ. NONE — VERT. 1/4" = 1'-0"



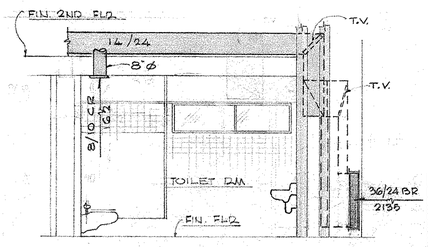
GIRLS #104

SCALE 1/4" = 1'-0"



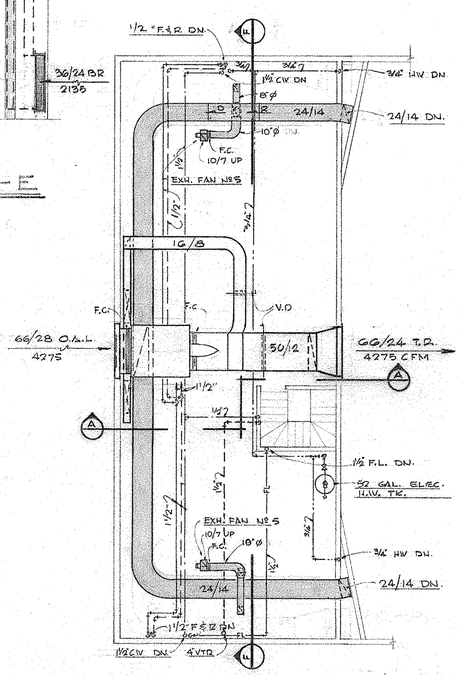
BOYS - #109

SCALE 1/4" = 1'-0"



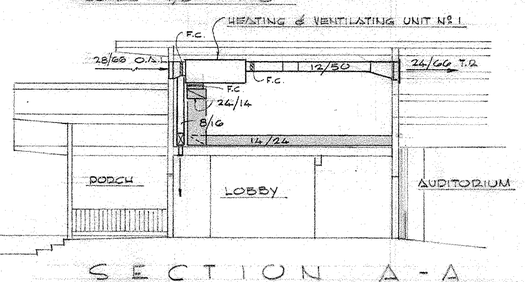
SECTION E-E

SCALE 1/4" = 1'-0"



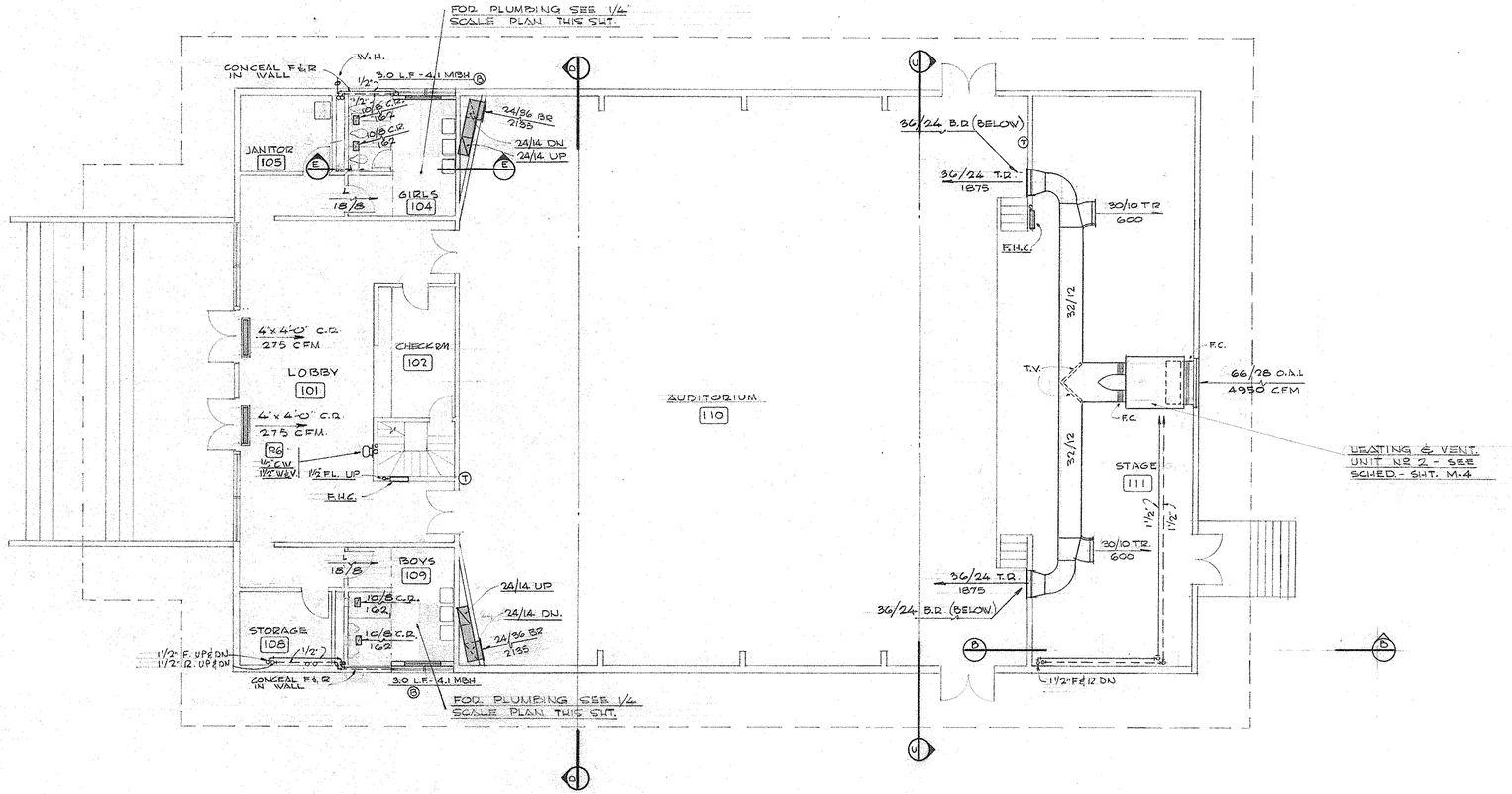
PLAN of FLOOD OVER LOBBY

SCALE 1/8" = 1'-0"



SECTION A-A

SCALE 1/8" = 1'-0"



FLOOR PLAN

SCALE 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 2087 WASHINGTON APPL. 8, 1948 DAVID M. NOPKINS

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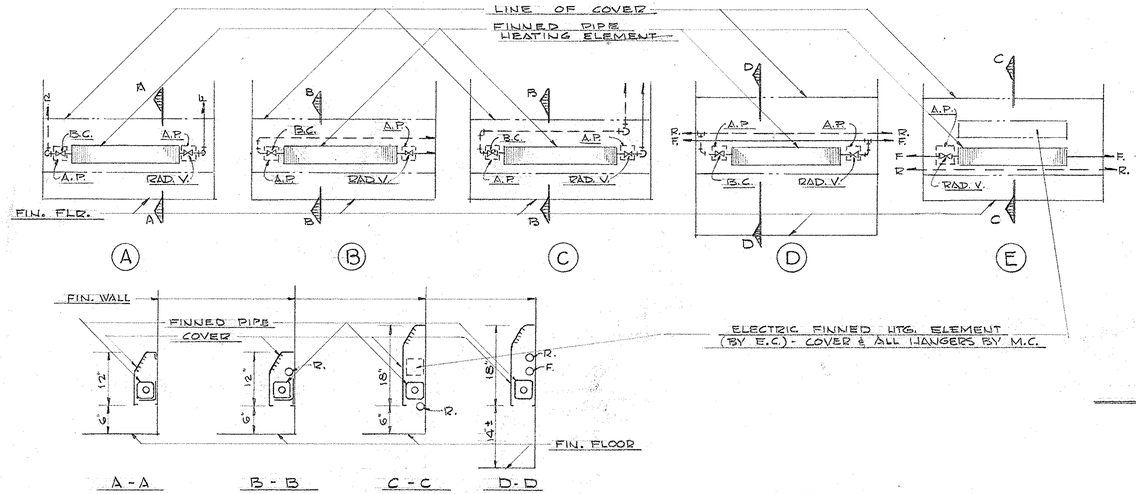
MECHANICAL ENGINEER
260 SO. FIFTH
TACOMA, WASH.

MECHANICAL	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT 99 COSMOPOLIS, WASHINGTON	DATE 9/27/57 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET M-5

PLUMBING FIXTURE SCHEDULE

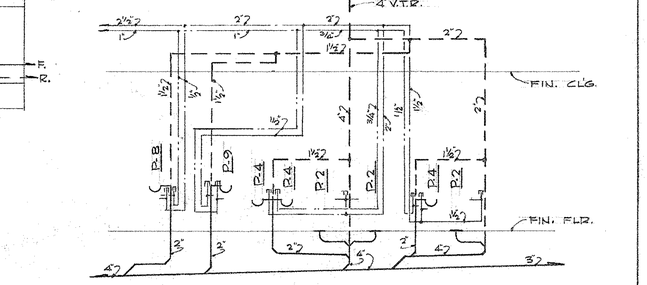
	SYMBOL	FIXTURE	LOCAL PIPING CONNECTIONS WASTE	VENT	CW	HW	REMARKS
	P-1	WATER CLOSET	4"	2"	1½"	—	WALL HUNG - F.V.
	P-2	WATER CLOSET	4"	2"	1½"	—	FLR. MTD. - F.V.
	P-3	URINAL	2"	1½"	¾"	—	STALL- FLUSH TK.
	P-4	LAVATORY	1½"	1½"	½"	½"	
	P-5	SERVICE SINK	3"	2"	¾"	¾"	
	P-6	DRINKING FTN.	1½"	1½"	½"	—	WALL HUNG
	P-7	DRINKING FTN.	1½"	1½"	½"	—	RECESSED
**	P-8	CLASSRM. SINK	1½"	1½"	½"	½"	W/ BUBBLER
**	P-9	CLASSRM. SINK	1½"	1½"	½"	½"	W/O BUBBLER
*	P-101	VEG. SINK	1½"	1½"	½"	½"	
*	P-102	POT SINK	1½"	1½"	½"	½"	2-COMPT.
*	P-103	PRE-RINSE SINK	1½"	1½"	½"	½"	
*	P-104	DISH WASHER	2"	1½"	½"	¾"	

NOTE:
* FIXTURES Nº 101 THROUGH 104 TO BE FURN. & INSTALLED (W/ TRIM) BY OTHERS. MECH. CONTRACTOR TO ROUGH-IN & CONNECT ONLY. UNDER ALT. M-1 - ROUGH-IN & CAP OFF 6" ABOVE FLOOR.
** FIXTURES BY OTHERS - TRAPS, STOPS, ROUGH-IN & CONNECT BY MECH. CONTR.



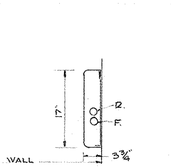
FINNED PIPE RADIATION DETAILS

NO SCALE

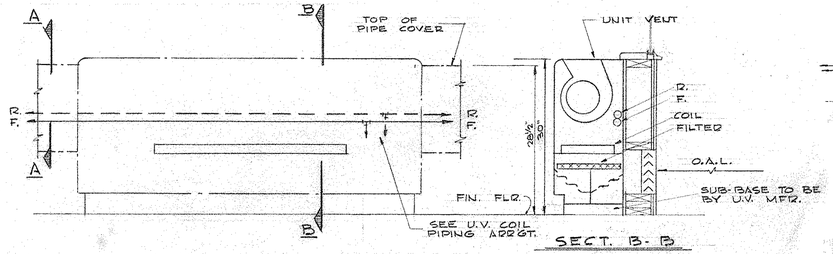


PLBG. RISER DIAGM. - RMS. 107-109

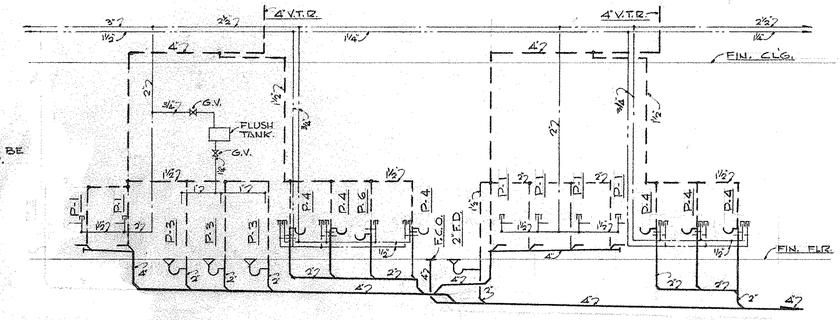
SCALE: HORIZ- NONE - VERTICAL - APPROX 1/4" = 1'-0"



SECTION A-A

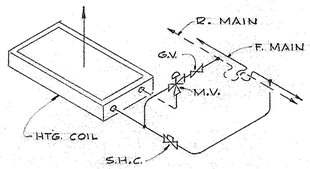


SECT. B-B

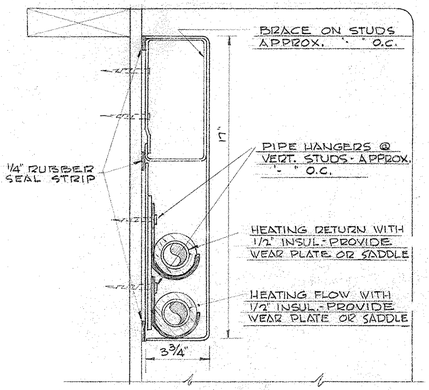


PLUMBING RISER DIAGR'M. - RMS 124 & 125

SCALE: HORIZ- NONE - VERTICAL - APPROX 1/4" = 1'-0"

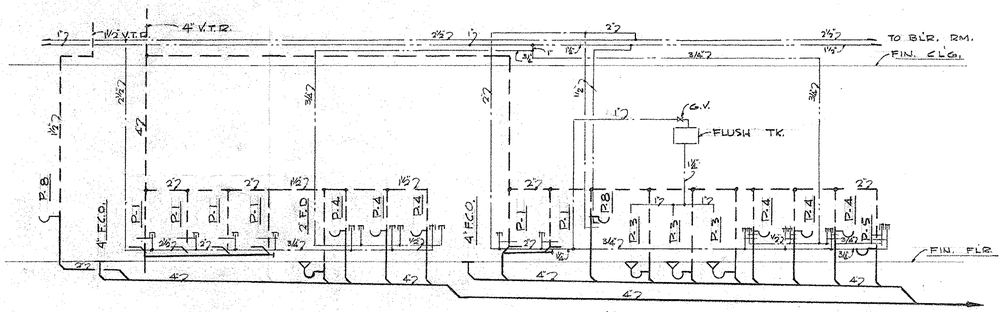


COIL PIPING ARRANGEMENT



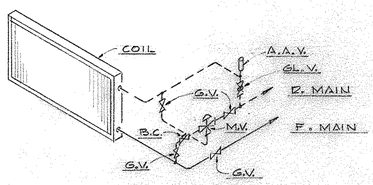
TYPICAL DETAIL - PIPING & PIPE COVER ON EXTERIOR WALLS

UNIT VENTILATOR DETAILS

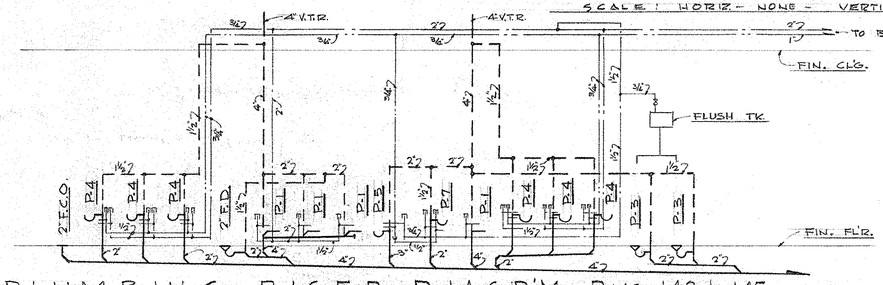


PLUMBING RISER DIAGR'M. - RMS. 137, 138 & 139

SCALE: HORIZ- NONE - VERTICAL - APPROX 1/4" = 1'-0"



TYPICAL COIL PIPING ARRANGEMENT
HEATING & VENTILATING UNIT
NO SCALE.



PLUMBING RISER DIAGR'M. - RMS 143 & 145

SCALE: HORIZ- NONE - VERTICAL: APPROX 1/4" = 1'-0"

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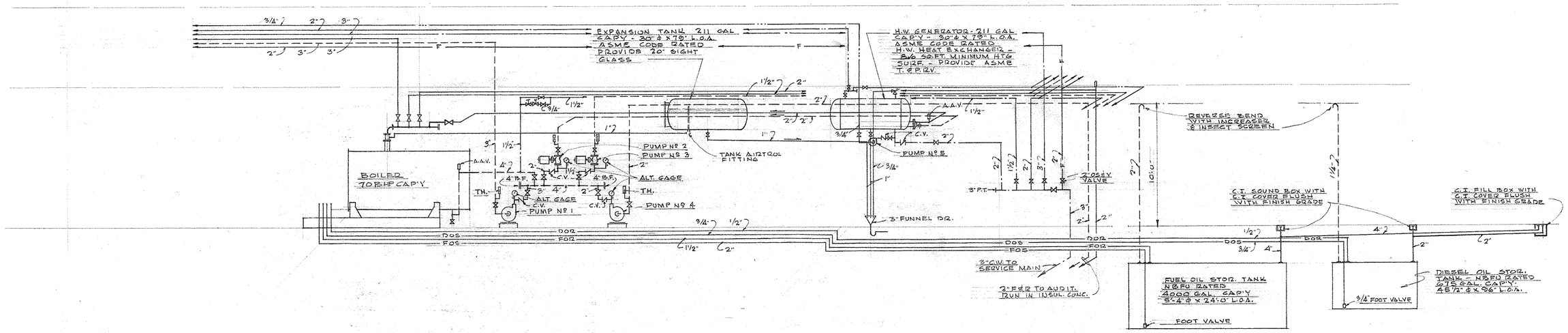
200 SO. FIFTH
TACOMA, WASH.

MECHANICAL	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET M-6

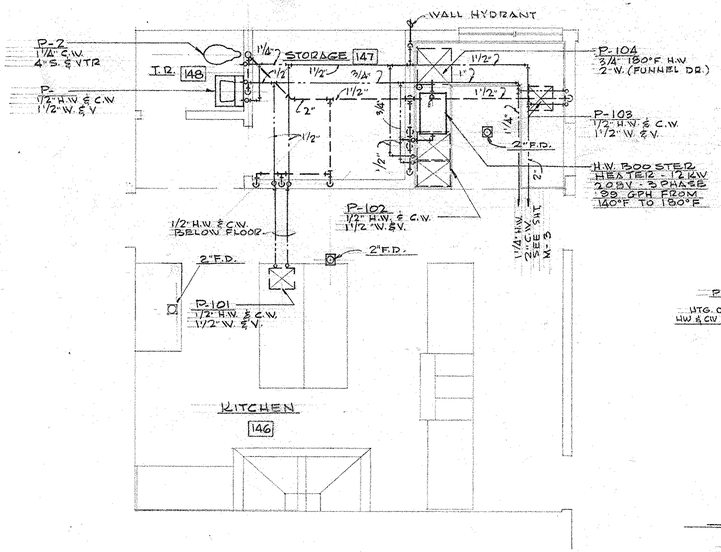


BOILER ROOM PIPING DIAGRAM

VERTICAL SCALE : APPROX. 1/4" = 1'-0" — HORIZONTAL SCALE : NONE

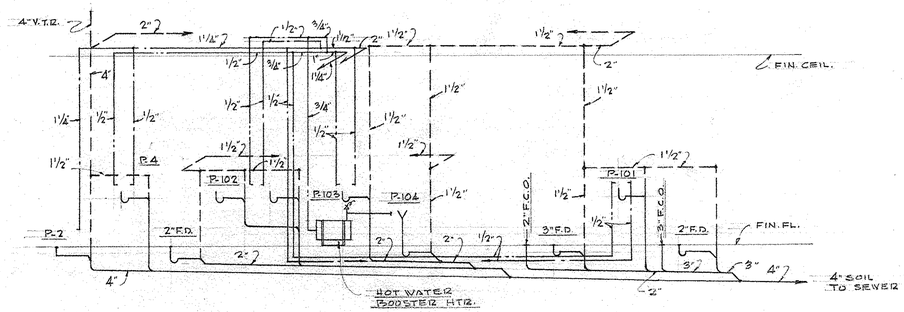
PUMP SCHEDULE

PUMP DESCRIPTION NO.	SERVICE	SIZE	G.P.M.	T.D.H. (FEET)	MOTOR RPM	MOTOR HP	MOTOR VOLTS	MOTOR PHASE
1	SCHOOL WING HTG PUMP	1½"x2"	57.0	30.0	1750	3/4	208	3
2	DOMESTIC H.W. HTG PUMP	2½"	21.0	14.0	1750	1/4	110	1
3	MULTI-PURPOSE WING HTG PUMP	3"	14.0	18.0	1750	1/3	110	1
4	AUDITORIUM HTG PUMP	1"x1¼"	24.0	30.0	1750	1/2	110	1
5	DOM. H.W. RECIRC. PUMP	1"	10.0	11.5	1750	1/6	115	1



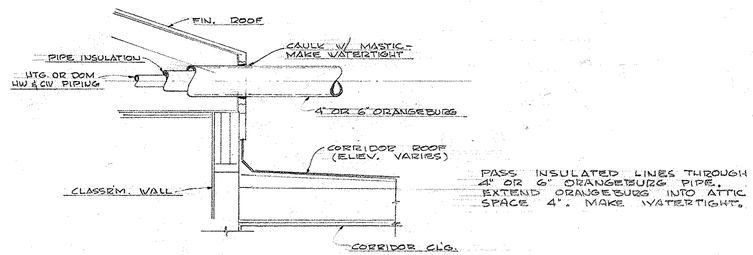
PLAN - KITCHEN AREA

(SHOWING PLUMBING ONLY)
SCALE ¼" = 1'-0"



PLUMBING RISER DIAGRAM

(ROOMS 146 - 147 & 148)
VERT. SCALE : APPROX. ¼" = 1'-0"
HORIZ. SCALE : NONE



PASS INSULATED LINES THROUGH 4" OR 6" ORANGEBURG PIPE. EXTEND ORANGEBURG INTO ATTIC SPACE 4". MAKE WATERTIGHT.

DETAIL - PIPE CROSSING AT CORRIDORS

NO SCALE

REGISTERED PROFESSIONAL ENGINEER 2087 WASHINGTON NOV. 9, 1949 DAVID M. HOPKINS

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260 SO. FIFTH
TACOMA, WASH.

MECHANICAL	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	DATE 4/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET M-7

3RD STREET

"C" STREET

"B" STREET

4TH STREET

EAST CLASSROOMS
(SEE SHEET E-9)

208Y/120 V. 3PH. 4W. UNDERGROUND SECONDARY SERVICE (SEE RISER DIAGRAM) SHT. E-2

UTILITY POLE

VERIFY QUARTER OF POLE FOR SERVICE CONDUIT TERMINATION WITH UTILITY

2-3/4" C. EMPTY IN ATTIC

NOTE
STEPS AND PORCH WILL BE DEMOLISHED, BY THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION OF THE SCHOOL ON MULTI-PURPOSE BLDG.

PORCH

MP BLDG.
(SEE SHT E-9)

BOILER RM.

TRENCHING & BACKFILL BY ELECTRICAL CONTR.

TERM. SPARE C. +6" ABOVE FLOOR - OTHERS IN CABINETS - SEE 1/8" PLAN (SHT. E-9)

MECHANICAL PIPING EXPANSION LOOP

3-CONDUITS { INTERCOM = SIZE AS REQD. (1" MIN.) CLOCK = SIZE AS REQD. (1" MIN.) SPARE = 1 1/4" }

(INSTALL IN MECH. TRENCH, PRIOR TO BACKFILL BY MECH. CONTRACTOR. SEE SECTION A-A)

TRENCHING & BACKFILL BY ELECTRICAL CONTR.

EXIST. CITY CONNECTED F.A. BOX FOR EXISTING SCHOOL

EXISTING SCHOOL TO BE DEMOLISHED UPON COMPLETION OF NEW SCHOOL. MAINTENANCE OF EXIST. UTILITY SERVICES DURING CONSTRUCTION OF NEW SCHOOL BY OTHERS.

WEST CLASSROOMS & ADMINISTRATION
(SEE SHEET E-3)

DN. TO SW.

2-3/4" C. EMPTY IN ATTIC

2-3/4" C. EMP. IN ATTIC (TYPICAL)

TERM. SO ENDS OF COND. ARE ACCESSIBLE FOR FUTURE EXTENSION (TYPICAL)

F.A. - MASTER STATION

3/4" C 3-No.10

FUTURE T.V. ANTENNA SERVICE (BY OTHERS)

AERIAL TELEPHONE SERVICE (BY OTHERS)

TERM. COND. IN W.H. AT F.A. CKT. CROSSARM.

EXIST. CITY CONNECTED F.A. BOX FOR RESIDENTIAL AREA

EXISTING UTILITY POLE (TYPICAL)

SIZE AS REQ'D. TO SUIT FIXTURE STANDARD MOUNTING BASE.

30" MIN

VERIFY EXACT LOCATION WITH ARCHITECT. PROVIDE MIN. 30" DEEP CONCRETE BASE. TOP OF BASE SHALL BE SAME ELEV. AS SIDEWALK.

240/120 V. 1PH 3W. AERIAL SECONDARY SERVICE BY UTILITY - (SEE RISER DIAGRAM) SHT. E-5

AUDITORIUM BLDG.
(SEE SHT. E-5)

TO SW. IN FOYER

STOR. RM.

TERM. SPARE C. +6" ABOVE FLOOR - OTHERS IN CABINETS (SEE 1/8" SCALE PLAN. (SHT. E-5)

TRENCHING & BACKFILL BY ELECTRICAL CONTR.

EXISTING SCHOOL BUILDING

SPECIAL NOTE
CONDUITS NOT PERMITTED OVER OR THRU 'Z-CRETE ENCLOSURE

ELECTRICAL CONDUITS

TRENCHING, BACKFILL (EXCEPT AS NOTED) AND STREET AND SIDEWALK PAVING BY MECH. CONTR.

BY MECH. CONTR. PIPING IN Z-CRETE CONCRETE BASE

SECTION A-A
NO SCALE

PLOT PLAN
SCALE 1/16" = 1'-0"

N

5910 - STARTED 9-APRIL, 59 G.W.S.
DRAWN - G. STEWART
CHECKED EGL WSG 4-21-59

WALTER S. GORDON
Consulting Electrical Engineer
260 SOUTH 9TH STREET
TACOMA 2, WASHINGTON 5910

ELECTRICAL

JOB NO.

COSMOPOLIS SCHOOL
CONSOLIDATED SCHOOL DISTRICT # 99
COSMOPOLIS, WASHINGTON

DATE 4/27/59
REV:

ROBERT F. STREET ▲ ARCHITECT
LAFAYETTE BUILDING ABERDEEN, WASH.

SHEET E-1

MOTOR & EQUIPMENT LIST

No.	EQUIPMENT	HP OR KW	VOLTS	PH.	LOCATION
1	EXHAUST FAN	1/8	115	1	OVER RM. 138
2	EXHAUST FAN	1/20		1	OVER RM. 122
3	EXHAUST FAN	1/8		1	OVER RM. 104
4	EXHAUST FAN	1/6		1	OVER RM. 144
5A&5B	EXHAUST FANS	1/8		1	OVER RMS. 109, 103 AUD.
6	EXHAUST FAN	1/2		1	RM. 126
7A-7N	UNIT VENTILATORS	1/8		1	CL. RMS.
8A&8B	UNIT VENTILATORS	1/8		1	M.P. RM. 142
9	CABINET UNIT HEATER	1/8		1	RM. 123
10A-C	CABINET UNIT HEATERS	1/8		1	RMS. 101, 127, 136
11	CABINET UNIT HEATER	1/8		1	RM. 142
12	HEAT & VENT UNIT	3/4	230	1	OVER RM. 101-AUD.
13	HEAT & VENT UNIT	1	230	1	RM. 111-AUD.
14	BOILER PANEL (PACKAGE UNIT)				BOILER RM.
	-BOILER FAN	2	208	3	
	-OIL PREHEATER	3 KW	208	3	
	-BURNER MOTOR	3/4	208	3	
15	CIRC. PUMP	3/4	208	3	
16	CIRC. PUMP	1/4	115	1	
17	CIRC. PUMP	1/3	115	1	
18	CIRC. PUMP	1/2	115	1	
19	CIRC. PUMP	1/6	115	1	
20	UNIT VENTILATOR	1/8	115	1	LIBRARY RM. 128
21	HOT WATER TANK	5 KW.	230	1	OVER RM. 101 AUD.
22	UNIT HEATER	1/30	115	1	KITCHEN RM. 146
23	AIR COMPR. (TEMP. CONTROL)	1/3	115	1	BOILER RM.

LOAD COMPUTATION

PANEL	KVA	INITIAL AMPERES	ULTIMATE AMPERES	MINIMUM FEEDER SIZE
A	23	64	80	80 A. + 25% = 100 A.
B	24	67	80	80 A. + 25% = 100 A.
C	30	83	104	104 A. + 25% = 130 A.
K	52	145	180	180 A. + 25% = 225 A.
MP	19	} 73	94	94 A. + 25% = 118 A.
P	8			
TOTAL	156	434	538	

SERVICE SPECIFIED :
6-350 MCM RHW IN PARALLEL (2 x 310 A. = 620 A.)
2-No. 3/0 RHW IN PARALLEL (NEUT.) (2 x 200 A. = 400 A.)

REDUCED NEUTRAL COMPUTATION :

PHASE CONDUCT AMPERE RATING =	620 A.
KITCHEN EQUIP & ELECT. HEAT 208 V. LOAD =	-160 A.
	460 A.
	-200 A.
	260 A.

260 A. @ 70% = 180 A
+200 A
= 380 A. NEUTRAL LOAD

NOTE :
SEE SHT. E-5 FOR AUDITORIUM BLDG. LOAD COMPUTATION.

PANEL SCHEDULE

PANEL	MOUNTING	TYPE	BREAKERS	FEEDS
MD	FLOOR FREE-STANDING	TYPE ML 120/208 V. 3PH. 4W. SN 600 A. MAINS - LUGS ONLY WITH CT. SPACE & METER SOCKET	2- 100A-3P 2- 150A-3P 1- 225A-3P 1-225A-3P-SPACE	PANELS "A" & "B" PANELS "C" & "P" "W/"MP" PANEL "K"
A	SURFACE	SQ. D TYPE NQO-4 120/208 V. 3PH. 4W. SN 200 A. MAINS - LUGS ONLY	34 - 20A-1P 8-20A-1P-SPACES	LIGHTS, RECEPT'S & SPARES
B	FLUSH	SAME AS PANEL "A"	SAME	SAME
C	FLUSH	SQ. D TYPE NQO-4 120/208 V. 3PH. 4W. SN. 200 A. MAINS - LUGS ONLY	38 - 20A.-1P 1 20A.-2P 1 30A.-2P	LIGHTS, RECEPT'S. & SPARES ELECTRIC HEAT ELECTRIC HEAT
K	FLUSH	SQ. D TYPE NQO-MLN 120/208 V. 3 PH. 4 W. SN. 225 A MAINS - LUGS ONLY	12 - 20A.-1P 2 - 20A.-2P 1 - 30A- 2P 1 - 40A- 2P 1 - 15A- 3P 1 - 50A- 3P 2-50A-3P-SPACES 1 - 100A-3P 1-100A-3P-SPACE	RECEPT'S, FANS & SPARES FOOD WARMER & SPARE DISHWASHER HEATER OVEN DISHWASHER MOTOR BOOSTER HEATER RANGE
MP	FLUSH	SQ. D TYPE NQO-4 120/208 V. 3PH. 4W. SN 200 A. MAINS - LUGS ONLY	26- 20A-1P 4-20A-1P-SPACE	LIGHTS, RECEPT'S & SPARES
P	SURFACE	SQ. D TYPE NQO-4 120/208 V. 3PH. 4W. SN 200 A. MAINS - DOUBLE LUGS	12- 20A-1P 2- 15 A- 3P 1- 50A- 3P 3-50A-3P-SPACES	MOTORS & SPARES MOTOR No. 15 & SPARE BOILER PANEL
AUD-A	SURFACE	SQ. D TYPE MLN-NQO 120/240 V. 1PH. 3W. SN. 200 A. MAINS - LUGS ONLY	1- 70A-2P 1- 100A-2P 1- 100A-2P 1-70A-2P-SPACE 18- 20A- 1P	PANEL "AUD-D" (DIMMER) PANEL "AUD-B" PHL. "AUD-A" BRANCH CKT. BKRS. LTS., RECEPT'S. & SPARES
AUD-B	FLUSH	SQ. D TYPE NQO-3 120/240 V. 1PH. 3W. SN. 200 A. MAINS, ~ LUGS ONLY	18- 20A- 1P 2- 15A- 2P 1- 30A- 2P 3-50A-2P-SPACES	LTS., RECEPT'S. & SPARES MOTORS 12 & 13 HOT WATER TANK
X	SURFACE	SQ. D TYPE QO12-W/QOC125 & LOCK 120/240 V. 1PH. 3W. SN. 100 A. MAINS ~ LUGS ONLY	1- 50A- 2P 8- 20A- 1P	BRANCH CIRCUIT BKRS. FIRE ALARM & EXIT LTS.
AUD-X	SURFACE	SAME AS PANEL "X"	SAME	

NOTE :
ALL 2 & 3 POLE BREAKERS SHALL HAVE COMMON TRIP.

SYMBOLS

	MOUNTING	MOUNTING HEIGHT
——— CONDUIT CONCEALED IN CEILING OR WALL		
— — — CONDUIT CONCEALED IN FLOOR		
- - - - - - - EXPOSED CONDUIT		
——T—— TELEPHONE CONDUIT (3/4" MIN. SIZE)		
S S_2 S_3 SINGLE-POLE, 2-POLE & 3-WAY SWITCHES	FLUSH	+ 40"
S_{PL} SWITCH WITH PILOT LIGHT	FLUSH	+ 5 FT.
S_{EM} EMERGENCY OIL BURNER SWITCH	FLUSH	+ 5 FT.
P• START-STOP PUSHBUTTON WITH PILOT LIGHT	FLUSH	+ 5 FT
MAGNETIC MOTOR STARTER		
DUPLEX RECEPTACLE (GROUNDING TYPE)	FLUSH *	+ 12"
WP WEATHERPROOF DUPLEX RECEPTACLE (GROUNDING TYPE)	FLUSH *	+ 12"
COMBINATION 120-208 V. DUPLEX RECEPT. (GRD. TYPE)	FLUSH *	+ 12"
FLOOR RECEPTACLE		
JUNCTION BOX WITH COVER		
MICROPHONE OUTLET - WALL OR FLOOR	FLUSH	
PLUG-IN STRIP	SURFACE	SEE DET.
MC MASTER CLOCK	FLUSH	+6' TO TOP
CLOCK	SEMI-FLUSH	AS SHOWN
S SPEAKER	FLUSH	AS SHOWN
S_M SPEAKER WITH ANNUNCIATOR SWITCH	FLUSH	+ 5 FT.
IC INTERCOM CONSOLE	SHELF	PER ARCH.
FA FIRE ALARM DUALARM PANEL	SURFACE	+6' TO TOP
RP FIRE ALARM RESET SUPERVISORY PANEL	FLUSH	+6' TO TOP
MF CODED MASTER FIRE ALARM STATION	SURFACE	+5' TO BOT.
F NON-CODED FIRE ALARM STATION	SURFACE	+5' TO BOT.
AUTOMATIC FIRE DETECTOR	SURFACE	
FIRE ALARM HORN	SURFACE	AS SHOWN
R FAN CUTOUT RELAY	SURFACE	
PROGRAM BELL (6 IN.)	SURFACE	+ 8 FT
WP WEATHERPROOF PROGRAM BELL (10 IN.)	SURFACE	HIGH AS POSS.
TELEPHONE WALL OUTLET	FLUSH *	+ 12"
AUDIO-VISUAL WALL OUTLET	FLUSH *	+ 12"
AUDIO VISUAL FLOOR OUTLET		
2KW. ELECTRIC HEATING ELEMENT (KW. AS NOTED)	SEE PLAN	
T THERMOSTAT FOR USE WITH ELECTRIC ELEMENTS	FLUSH	+ 5 FT.
T LINE VOLTAGE THERMOSTAT FURNISHED BY OTHERS & INSTALLED BY ELECTRICAL CONTRACTOR		
(2) MOTOR OR EQUIPMENT FURNISHED & INSTALLED BY OTHERS & ELECTRIC CONNECTIONS MADE BY ELECTRICAL CONTRACTOR. EQUIP. No. INDICATED		

* HORIZONTAL

FIXTURE & LAMP SCHEDULE

SYMBOL	CATALOG No.		MOUNTING	LAMP ABBREV.
F1	SUNBEAM	No. L1282-48 RS W/No. 1280 TOP REFLECTORS	CEILING	(2)-F40T12/WW/RS
F2	SUNBEAM	No. L1284-48 RS	CEILING	(4)-F40T12/WW/RS
F3	SUNBEAM	No. 2801-48 RS	CEILING	F40T12/WW/RS
F4	SUNBEAM	No. 2801-96 RS (2) TW	CEILING	(2)-F40T12/WW/RS
F5	COLUMBIA	No. FS-140 RS-M3 W/FSR-4 REFL.	DISPLAY CASE	F40T12/WW/RS
F6	COLUMBIA	No. FRP x C-24-440 RS-M5	RECESSED	(4)-F40T12/WW/RS
F7	COLUMBIA	No. FRP x C-44-440 RS-M5	RECESSED	(4)-F40T12/WW/RS
F8	MOE	No. M-354	UNDER CABINET	F20T12/WW
A	ART METAL	No. 3384 SL	CEILING	(3)- 75A
B	BENJAMIN	No 7643	PENDANT	200/IF
B1	BENJAMIN	No. 9643	CEILING	200/IF
B2	BENJAMIN	No. 7644 W/ 1395 WIRE GUARD	PENDANT-6"	300/IF
* H1	HOLOPHANE	No. 415	WALL	150 A
* H2	HOLOPHANE	No. 415 W/ No. 0230 Box	WALL	150 A
* K	KURT VERSEN	No. 5539 W/ 6 FT. STEM	PENDANT	500/IF
L1	LIGHTOLIER	No. 4313	OVER MIRROR	(2)-60A
* M1	MARCO	No. J18-81 SC	RECESSED	150 A
* M2	MARCO	No. J14-291 SC	RECESSED	200/IF
M3	Mc PHILBEN	No. 9-100 W/ PFAFF & KENDALL STANDARD No. PA-93M10/MB1	CONCRETE BASE	200/IF
P1	PRESCOLITE	No. A-22	WALL	150R/SP
P2	PRESCOLITE	No. 700	RECESSED	150R/FL
P3	PRESCOLITE	No. B-44-2	UNDER BEAM	(2)-150R/FL
PC	PORCELAIN LAMPHOLDER WITH PULLCHAIN & RECEPT.		CEILING	150 A
SI	SMOOT HOLMAN	No. SA50F/500	SEMI-RECESS	500/SBIF
S2	SEATTLE LTG. FIXTURE CO.	No. 549-10	WALL - 3FT. BELOW CEILING	100 A
* K1	PERFECLITE	No. PS-842	WALL	(2)- 25 A
K2	PERFECLITE	No. PS-872	CEILING	(2)- 25 A
K3	PERFECLITE	No. PS-872-DA	CEILING	(2)- 25 A
K4	PERFECLITE	No. PS-872-E	CEILING	(2)- 25 A
K5	PERFECLITE	No. PS-832	WALL-RECESSED	(2)- 25 A

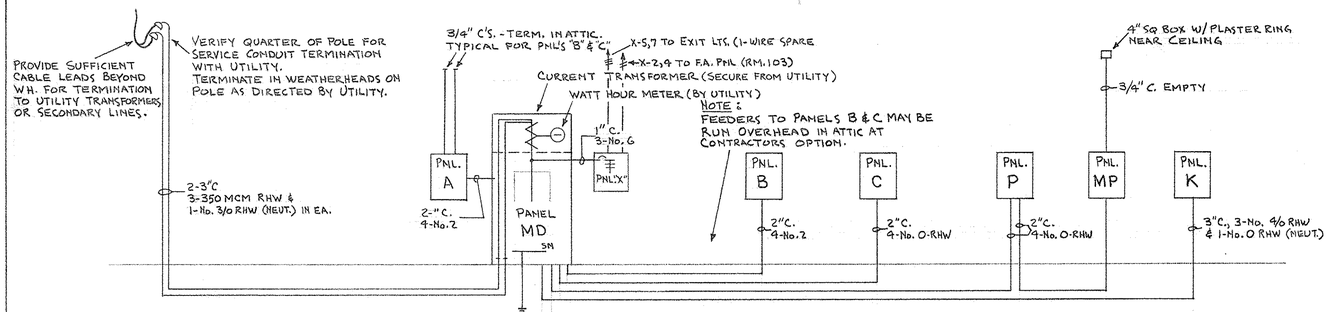
CONTRACTOR SHALL DELIVER THE FOLLOWING TO THE OWNER :
1. ONE SPARE LENS OR DIFFUSER FOR EACH TYPE FIXTURE MARKED *.
2. ONE RITE-O-LITE No. BC-114 LAMP CHANGER WITH TWO No. BX-114 EXTENSION.

GENERAL NOTES

1. KEEP ON THE JOB FOR REFERENCE DURING CONSTRUCTION & A SET OF PLANS & SPECIFICATIONS; APPROVED MATERIAL LIST, COMPLETE WITH CUTS OR PRINTS OF ALL FIXTURES, PANELS & SPECIAL EQUIP.
2. VERIFY EXACT LOCATION OF MECHANICAL & KITCHEN EQUIPMENT BEFORE TERMINATING CONDUIT.
3. VERIFY ALL DIMENSIONS, DOOR SWINGS, ETC., BEFORE PROCEEDING WITH WORK.
4. CIRCUITING SHALL BE INSTALLED EXACTLY AS SHOWN (EXCEPT DEVIATIONS SPECIFICALLY APPROVED IN WRITING BY THE ELECTRICAL ENGINEER) TO FACILITATE OPERATION & MAINTENANCE.
5. NO CONDUIT SHALL BE RUN UNDER BOILER.
6. F.A. CUTOUT RELAYS SHALL BE IN ACCESIBLE LOCAT. & PROVIDED W/H.P. INDICATING WHAT THEY CONTROL.
7. VERIFY EXACT LOCATION OF ALL SPEAKERS, CLOCKS & TELEPHONE OUTLETS WITH ARCHITECT.
8. PAINT THE END OF ALL BREAKERS (WHITE) THAT WILL BE USED FOR SWITCHING IN PANEL.
9. PROVIDE NAMEPLATE FOR PANEL "MD" AS FOLLOWS :

ELECTRICAL ENGINEER	: WALTER S. GORDON - TACOMA
ELECTRICAL CONTRACTOR	: NAME - CITY
MANUFACTURER	: NAME - CITY

10. ALL CEILING MOUNTED FLUORESCENT FIXTURES SHALL BE INSTALLED WITH 1 1/2" SPACERS PER MEC. 4184.



SCHEMATIC ONE LINE RISER DIAGRAM
-SCHOOL-
No SCALE

NOTE :
CABLE SIZES No. 0 AND LARGER SHALL BE NEOPRENE JACKETED. SEE SPECS.

NOTE :
SEE SHT. E-5 FOR AUDITORIUM BLDG. RISER DIAGRAM & LOAD COMPUTATION

ELECTRICAL

WALTER S. GORDON
Consulting Electrical Engineer
260 SOUTH 5TH STREET
TACOMA 2, WASHINGTON 5910

JOB NO. 112
DATE 9/27/59
REV:

COSMOPOLIS SCHOOL
CONSOLIDATED SCHOOL DISTRICT #99
COSMOPOLIS, WASHINGTON

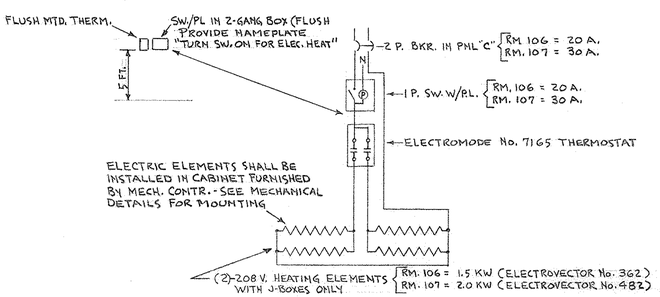
ROBERT F. STREET & ARCHITECT
LAFAYETTE BUILDING ABERDEEN, WASH.

SHEET E-2

5910 DRAWN - G. STEWART 4-21-59
CHECKED - EGL WSS

SEE SHT. E-4

MATCH LINE



ELECTRIC HEATING SCHEMATIC ONE LINE DIAGRAM

FOR RMS. 106 & 107

NO SCALE

NOTES:

1. VERIFY WITH ARCHITECT THE EXACT LOCATION OF ALL EQUIP. SHOWN ABOVE
2. IF REQUIRED PROVIDE TERMINAL CABINET IN RM. 103 FOR WIRING TO I.C. CONSOLE. PROVIDE 3-SPARE SPEAKER CKTS. UP INTO ATTIC.

LIGHTING FIXTURE PLAN FOR THIS ROOM IS TYPICAL FOR ALL CLASSROOMS EXCEPT RMS. 112, 131 & 132

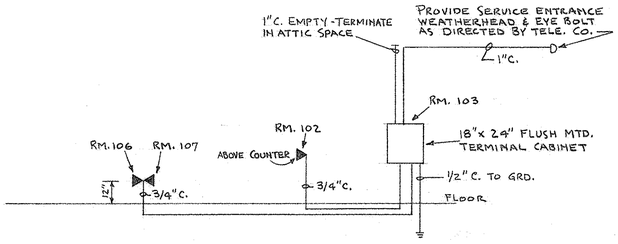
NUMBER OF FIXTURES SHOWN IN THIS ROOM IS TYPICAL FOR CLASSROOMS 112, 131 & 132

MOUNT ABOVE SPLASH BACK-HEIGHT VARIES - VERIFY EXACT LOCATION WITH ARCH. (TYPICAL ALL CLASSROOMS)

TELEPHONE SERVICE ENTRANCE (SEE RISER)

PARTIAL FLOOR PLAN

SCALE 1/8"=1'-0"



SCHEMATIC TELEPHONE CONDUIT RISER DIAGRAM

NO SCALE

5910 - TRACED 3-16-59 G.S.
DRAWN - G. STEWART
CHECKED - EGL WSG 4-21-59

ELECTRICAL

WALTER S. GORDON
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

WALTER S. GORDON
Consulting Electrical Engineer
260 SOUTH 5TH STREET
TACOMA 2, WASHINGTON
5910

JOB NO. 112

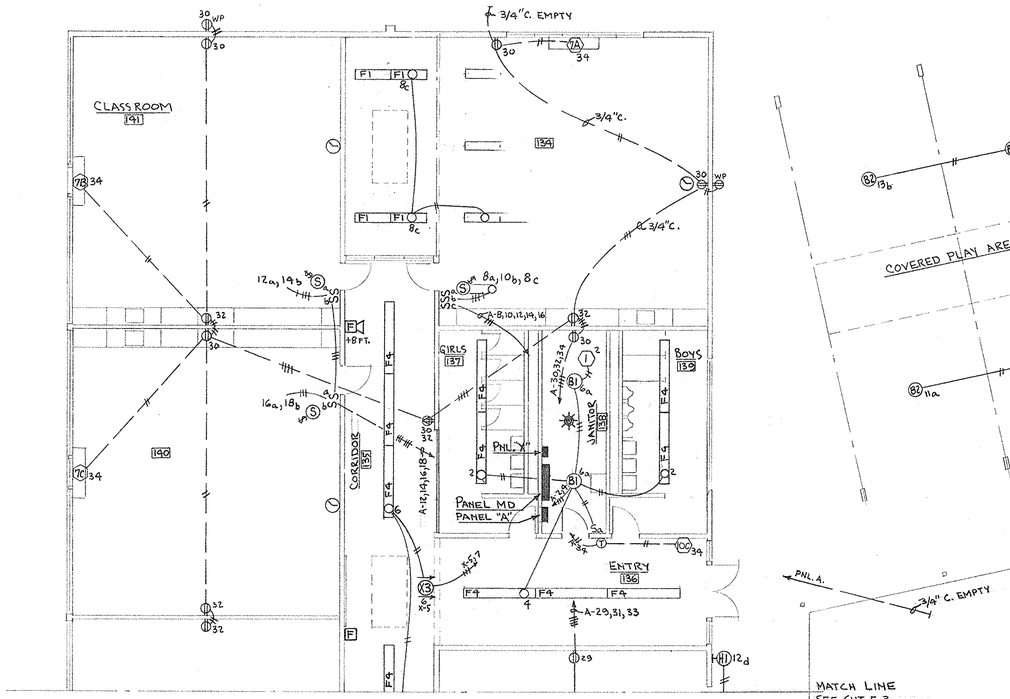
COSMOPOLIS SCHOOL
CONSOLIDATED SCHOOL DISTRICT #99
COSMOPOLIS, WASHINGTON

DATE 4/21/59
REV.

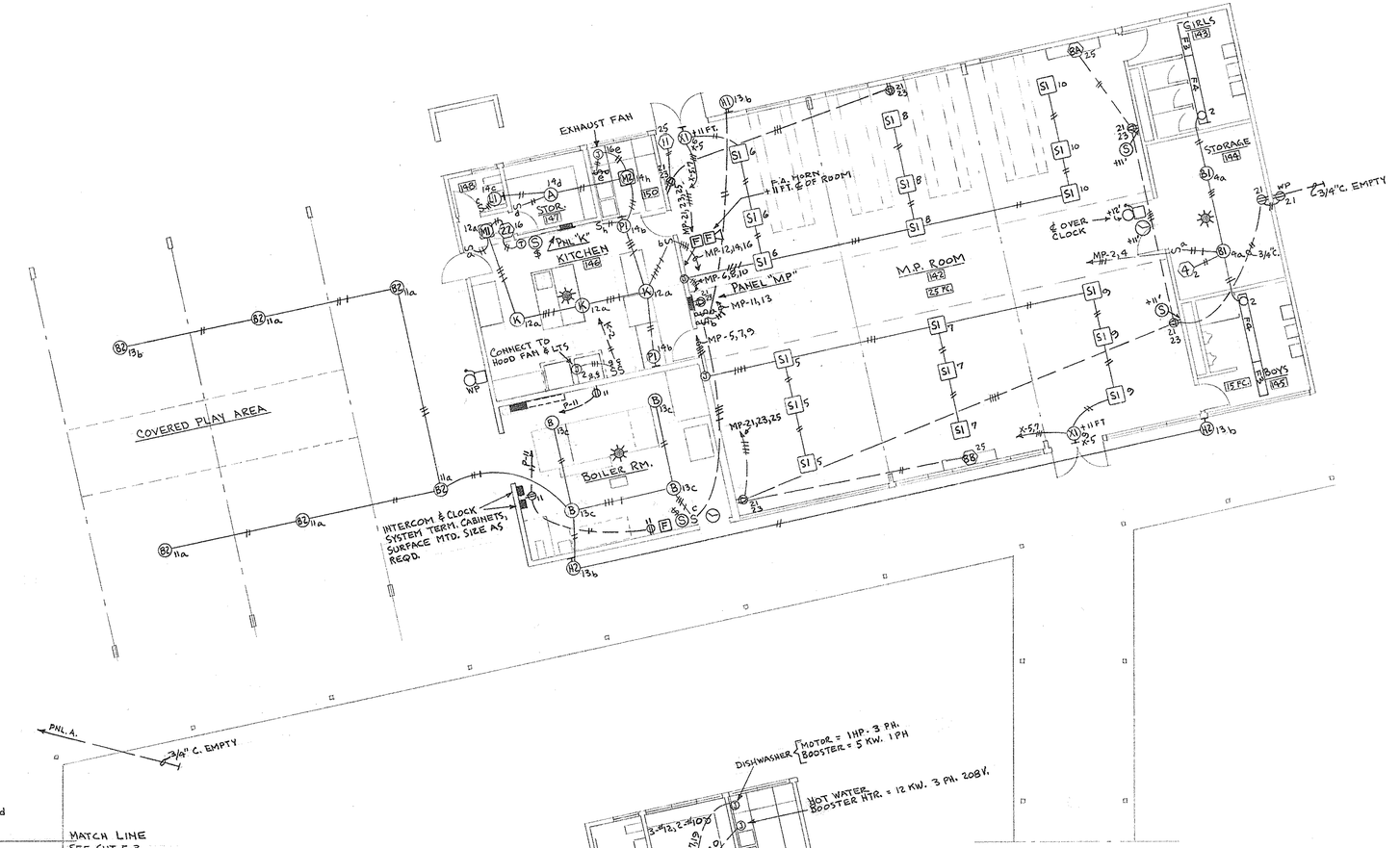
ROBERT F. STREET ▲ ARCHITECT
LAFAYETTE BUILDING ABERDEEN, WASH.

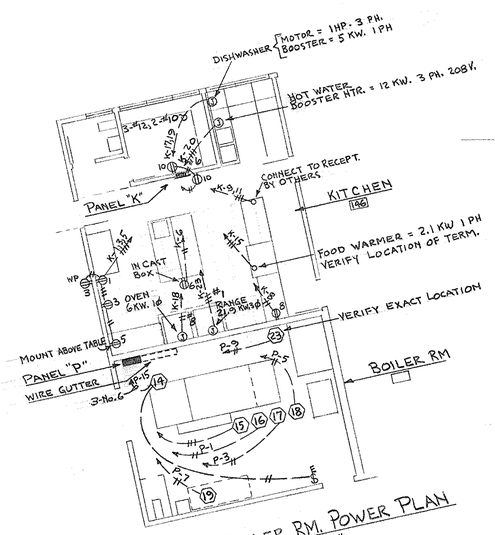
SHEET E-3

NOTE:
SEE SHT. E-3 FOR TYPICAL CLASSROOM LIGHTING FIXTURE PLAN.



PARTIAL FLOOR PLAN
SCALE 1/8"=1'-0"





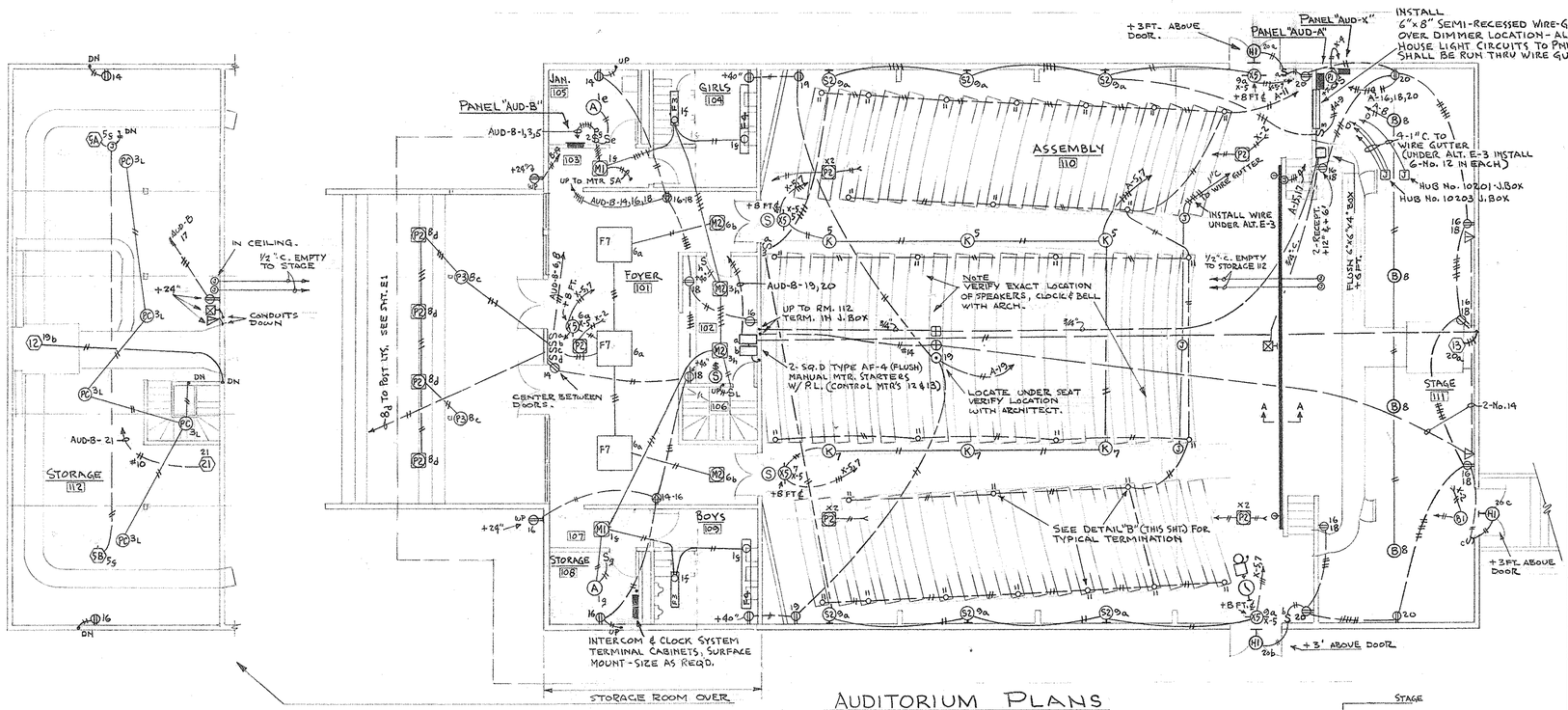
KITCHEN & BOILER RM. POWER PLAN
SCALE 1/8"= 1'-0"

ELECTRICAL

WALTER S. GORDON
Consulting Electrical Engineer
260 SOUTH 5TH STREET
TACOMA 2, WASHINGTON
5910

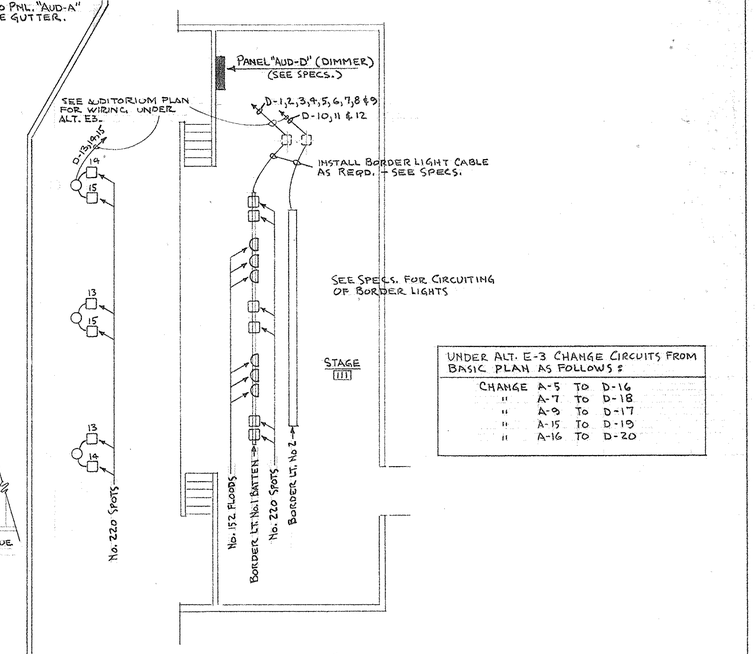
	JOB NO. 112
COSMOPOLIS SCHOOL CONSOLIDATED SCHOOL DISTRICT NO 99 COSMOPOLIS, WASHINGTON	DATE 9/27/59 REV:
ROBERT F. STREET ▲ ARCHITECT LAFAYETTE BUILDING ABERDEEN, WASH.	SHEET E-4

5910 TRACED 3-16-59 GS
DRAWN - G. STEWART
CHECKED - EGL WSG 4-21-59



AUDITORIUM PLANS

SCALE 1/8" = 1'-0"



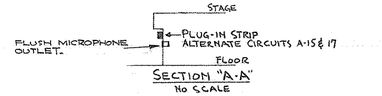
UNDER ALT. E-3 CHANGE CIRCUITS FROM BASIC PLAN AS FOLLOWS:

CHANGE	A-5	TO	D-16
"	A-7	TO	D-18
"	A-9	TO	D-17
"	A-15	TO	D-19
"	A-16	TO	D-20

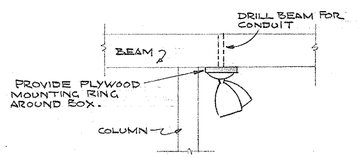
ALTERNATE "E-3" STAGE LIGHTING PLAN

SCALE 1/8" = 1'-0"

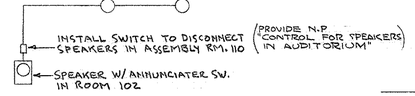
(SEE SPECIFICATIONS)



SECTION "A-A"
No SCALE

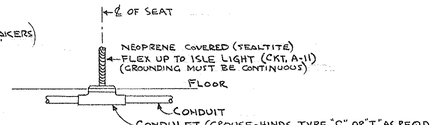


DETAIL OF MOUNTING TYPE P3 FIXTURES



SPEAKER CONTROL DETAIL

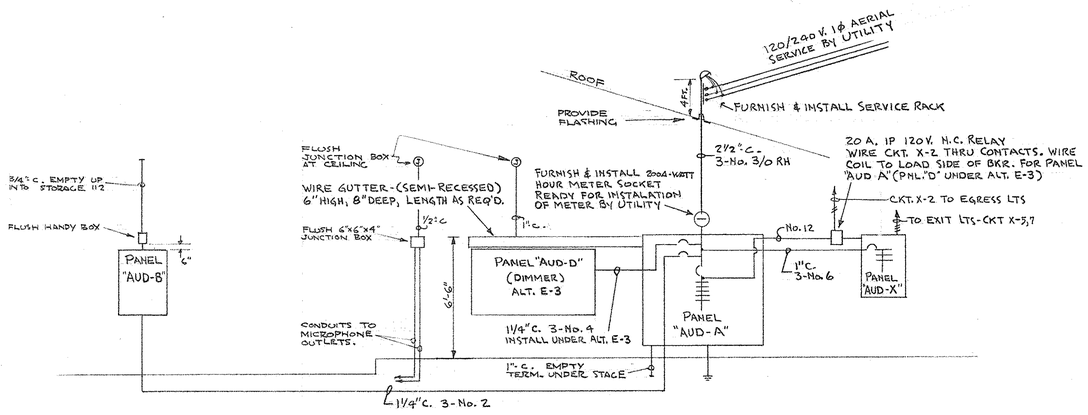
No SCALE



DETAIL "B"

No SCALE

TYPICAL TERMINATION TO ISLE LTS. IN SEATS FURNISHED BY OTHERS. (VERIFY EXACT LOCATION WITH GENERAL CONTR.)



SCHEMATIC ONE LINE RISER DIAGRAM (AUDITORIUM BLDG.)

No SCALE

LOAD COMPUTATION (AUD. BLDG.)

PANEL	KVA	INITIAL AMPERES	ULTIMATE AMPERES	MINIMUM FEEDER SIZE
AUD-A	10	43	54	
AUD-B	15	60	80	80 A. +25% = 100 A.
AUD-D (DIMMER)	10	43	54	54 A. +25% = 68 A.
TOTAL	35	146	188	

SERVICE SPECIFIED:
3-No. 3/0 RH (200 A.)

NOTE:
SEE SHEET E-2 FOR PANEL SCHEDULE, SYMBOL & FIXTURE LISTS, ETC.

ELECTRICAL

WALTER S. GORDON
Consulting Electrical Engineer
260 SOUTH 5TH STREET
TACOMA 2, WASHINGTON 5910

JOB NO. 112

COSMOPOLIS SCHOOL
CONSOLIDATED SCHOOL DISTRICT #99
COSMOPOLIS, WASHINGTON

DATE 4/27/59
REV.:

ROBERT F. STREET & ARCHITECT
LAFAYETTE BUILDING ABERDEEN, WASH.

SHEET E-5

5910 DRAWN - G. STEWART 4-21-59
CHECKED - EGL W.S.G.

℄ THIRD STREET

℄ 'C' STREET

RESEED LAWN AS REQUIRED

NEW ADDITION
CONTINUE EXISTING FLOOR ELEVATION

REMOVE AND REPLACE CONC. WALK AS REQUIRED FOR FOUNDATION CONSTRUCTION, SAW JOINT.

EXISTING MULTI-PURPOSE

EXISTING AUDITORIUM

ALTERNATE
NO. 1
SPECIAL INSTRUCTION

EXISTING SCHOOL
FINISH FLOOR ELEVATION 30.5

NEW ADDITION
CONTINUE EXISTING FLOOR ELEVATION

REMOVE AND REPLACE CONCRETE SIDEWALK SAW JOINTS,

REMOVE EXISTING CONCRETE SIDEWALK

2½" ASPHALTIC CONCRETE SHOWN SHADED

EXISTING GYMNASIUM

ALTERNATE
NO. 2
GYMNASIUM REST ROOMS

RESEED LAWN AS REQUIRED

℄ FOURTH STREET

SITE PLAN
Scale 1/16" = 1'—0"

CALLED NORTH

E S W

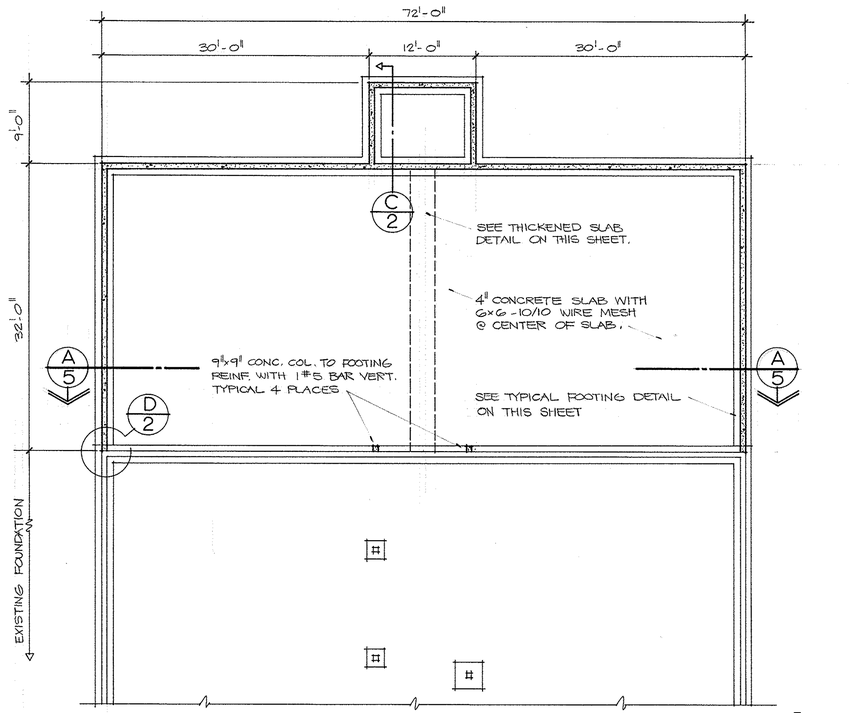
20

CLASSROOM ADDITIONS to the
COSMOPOLIS SCHOOL
COSMOPOLIS, WASHINGTON

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

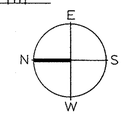
May 1, 1975

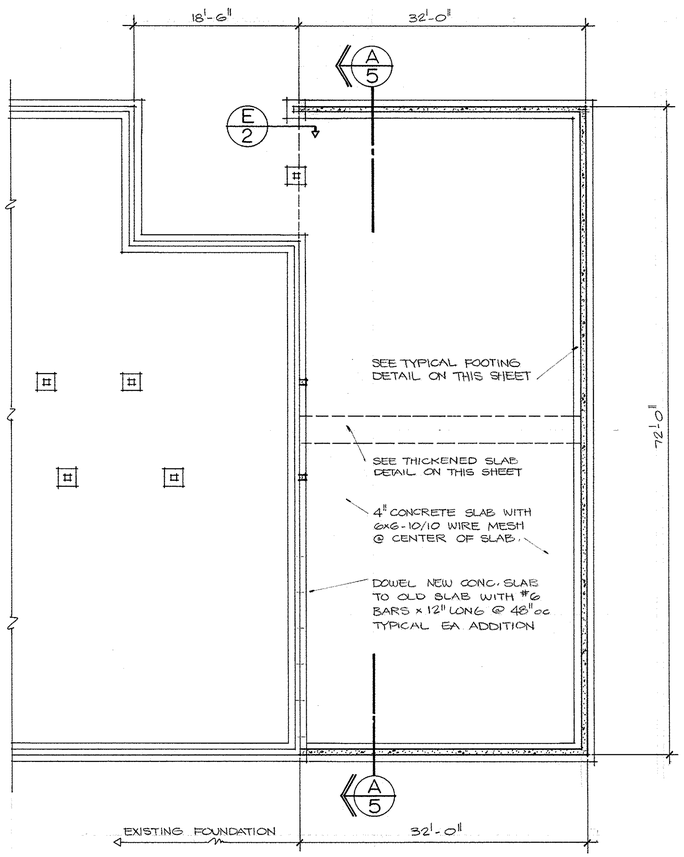
1



FOUNDATION PLAN EAST ADDITION

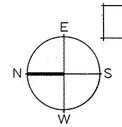
Scale 1/8"=1'—0"

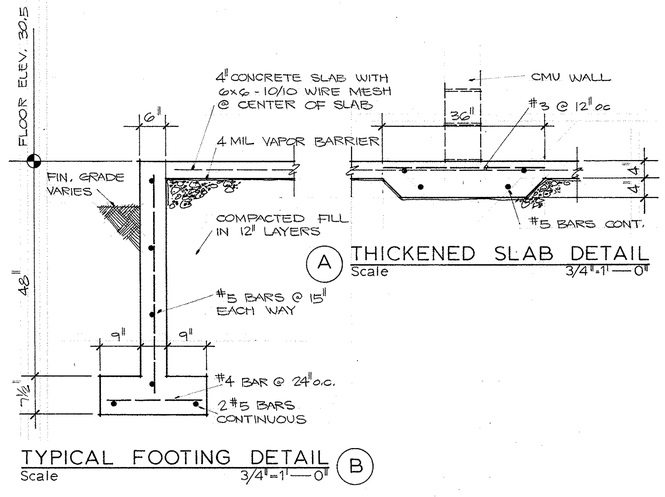




FOUNDATION PLAN SOUTH ADDITION

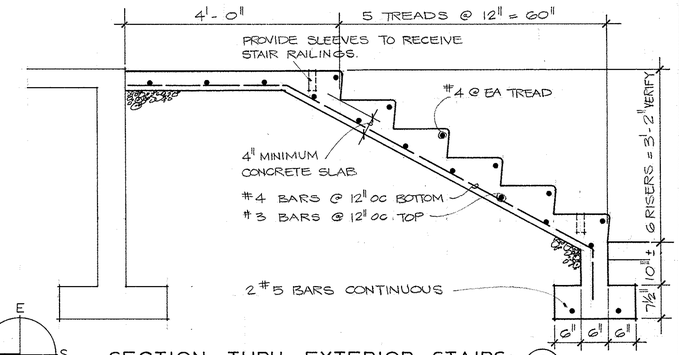
Scale 1/8"=1'—0"





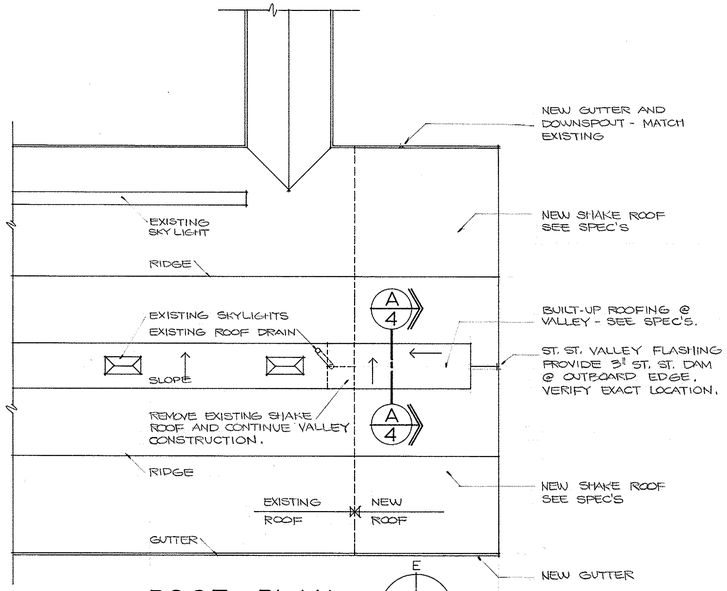
TYPICAL FOOTING DETAIL (B)

Scale 3/4"=1'—0"



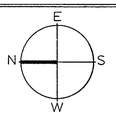
SECTION THRU EXTERIOR STAIRS (C)

Scale 3/4"=1'—0"

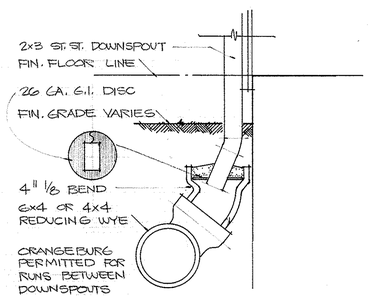


ROOF PLAN

Scale 1/16"=1'—0"

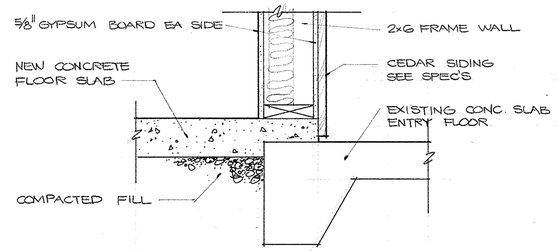


South addition shown above, East addition similar.



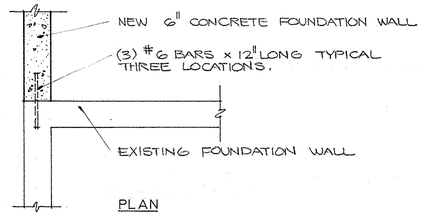
DOWNSPOUT CONNECTION (F)

Scale 1·1/2"=1'—0"



ENTRY FLOOR DETAIL (E)

Scale 1·1/2"=1'—0"



FOUNDATION WALL DETAIL (D)

Scale 3/4"=1'—0"

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CLASSROOM ADDITIONS to the
COSMOPOLIS SCHOOL
COSMOPOLIS, WASHINGTON

STREET AND LUNDGREN A.I.A.

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PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

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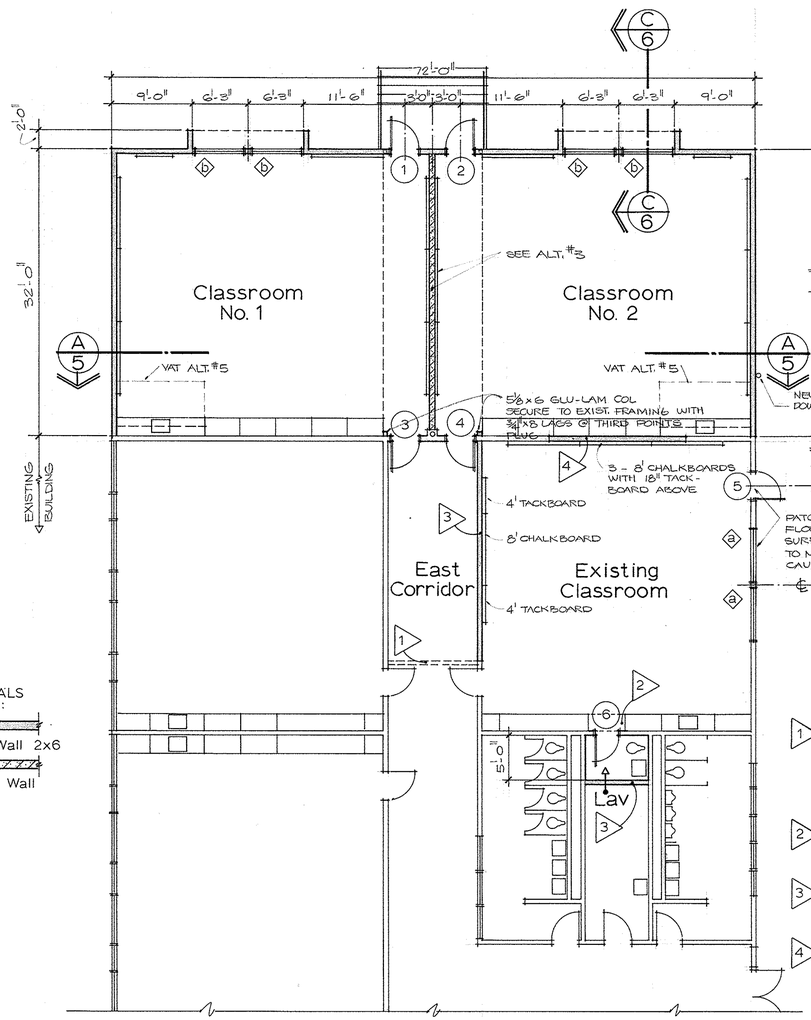
ROOM FINISH SCHEDULE

ROOM	FLOOR mtl	FLOOR fin	BASE mtl	BASE fin	WALLS North mtl	WALLS North fin	WALLS South mtl	WALLS South fin	WALLS East mtl	WALLS East fin	WALLS West mtl	WALLS West fin	CEILING mtl	CEILING fin	CEILING height	REMARKS
Classroom No. 1	VAT	—	R	—	C/G	S/P	G/CMU	P	C/G	S/P	C/G	S/P	A/G	—/P	11'-0"	CABINET DETAILS ON SHEET #5. SEE ALT. #3.
Classroom No. 2	VAT	—	R	—	G/CMU	P	C/G	S/P	C/G	S/P	C/E	S/P	A/G	—/P	"	" " " " " " " " " " " " " " " "
East Corridor	—	—	R	—	E	—	G	P	E	P	—	—	E	—	—	REMOVE EXISTING WAINSCOT/INSTALL NEW VINYL WAINSCOT.
Existing Classroom	E	—	R	—	G	P	E	P	E	P	E	P	E	—	—	PATCH BACK WALLS @ NEW OPENINGS TO MATCH EXISTING.
Lav	CT	—	CT	—	G	EN	G	EN	E	EN	G	EN	G	EN	8'-0"	PROVIDE 48" HIGH CT WAINSCOT.
Classroom No. 3	VAT	—	R	—	C/E	S/P	C/G	S/P	C/G	S/P	G/CMU	P	A/G	—/P	11'-0"	CABINET DETAILS ON SHEET #5. SEE ALT. #3.
Classroom No. 4	VAT	—	R	—	C/E	S/P	C/G	S/P	G/CMU	P	C/G	S/P	A/G	—/P	"	" " " " " " " " " " " " " " " "
South Corridor	E	—	E	—	—	—	E	P	—	—	E	—	E	—	—	REPAIR EXISTING WAINSCOT AS REQUIRED.
Vestibule	E	—	—	—	E	—	CS	S	E	—	E	—	E	P	VARIES	
Special Instruction	E	—	E	—	E	P	E	P	E	P	E	P	E	—	—	SEE ALTERNATE #1 ON SHEET #7.
Boys	E	—	E	—	E	—	E	—	E	—	E	EN	E	—	—	PAINT SECTION OF WALL @ NEW DOOR. ALTERNATE # 2.
Girls	E	—	E	—	E	—	E	—	E	EN	E	—	E	—	—	" " " " " " " " " " " " " " " "



MATERIALS LEGEND:

Frame Wall 2x6

8" CMU Wall

Abbreviations:

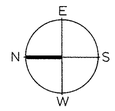
VAT	VINYL ASBESTOS TILE
R	RUBBER
G	GYPSUM BOARD
P	PAINT
CMU	CONCRETE MASONRY UNIT
C	CEDAR PANELING
S	STAIN
E	EXISTING
A	ACOUSTICAL TILE
CT	CERAMIC TILE
EN	ENAMEL
CS	CEDAR SIDING

GENERAL NOTES

1. REMOVE EXISTING PARTITION AND RELITE. PATCH BACK FLOOR TILE, BASE AND WALLS TO MATCH EXISTING. PROVIDE 1x6 FIN. TRIM BOARD @ CEILING FULL WIDTH OF CORRIDOR.
2. REMOVE EXISTING CABINET, OWNER WILL RELOCATE.
3. 2x6 FRAME WALL WITH 5/8" GYP BD ON EA SIDE.
4. REMOVE EXISTING WINDOW, GLASS AND FRAME SHALL REMAIN THE PROPERTY OF THE OWNER. FRAME IN OPENING WITH 2x6 STUDS @ 16" o.c. AND 5/8" GYP BD EA. SIDE.
5. REMOVE, MODIFY AND REPLACE EXISTING BENCH.
6. PROVIDE NEW BENCH TO MATCH EXISTING. PROVIDE 5 C.I. SEATING STANDARDS AS MFG'D BY AMERICAN SEATING, PATTERN # 05683,

FLOOR PLAN EAST ADDITION

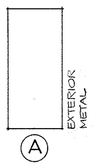
Scale 1/8"=1'—0"

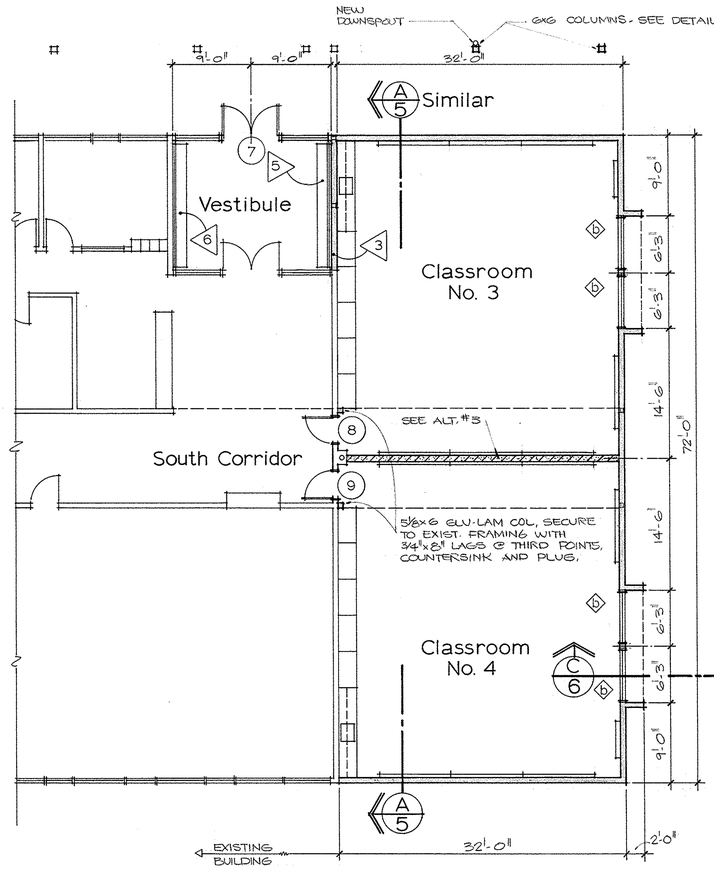


DOOR SCHEDULE

NO.	TYPE	SIZE	FRAME	REMARKS
1	A	3'-0" x 6'-8" x 1¾"	METAL	THRESHOLD REQ'D.
2	A	" x " x "	"	" "
3	B	" x " x "	"	PATCH BACK ADJACENT SURFACES AS REQ'D.
4	B	" x " x "	"	" " " " " " "
5	E	" x " x "	"	THRESHOLD REQ'D.
6	C	" x " x "	"	PATCH BACK ADJACENT SURFACES AS REQ'D.
7	D	" x 7'-0" x "	ALUM	PAIR OF DOORS, THRESHOLD REQ'D.
8	B	" x 6'-8" x "	METAL	PATCH BACK ADJACENT SURFACES AS REQ'D.
9	B	" x " x "	"	" " " " " " " "
10	C	" x " x "	"	" " " " " " " ALT. #1
11	A	" x " x "	"	THRESHOLD REQ'D. ALT. #2
12	A	" x " x "	"	" " " "
13	WIRE	--	--	" "
14	"	--	--	" "

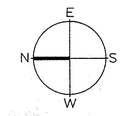
DOOR TYPES

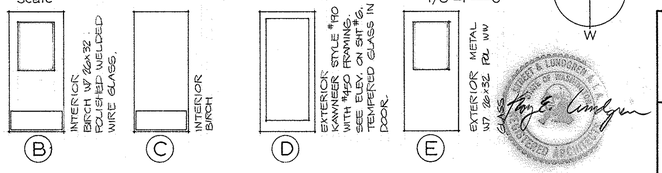


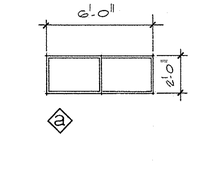


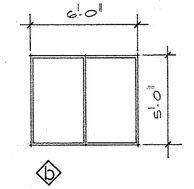
FLOOR PLAN SOUTH ADDITION

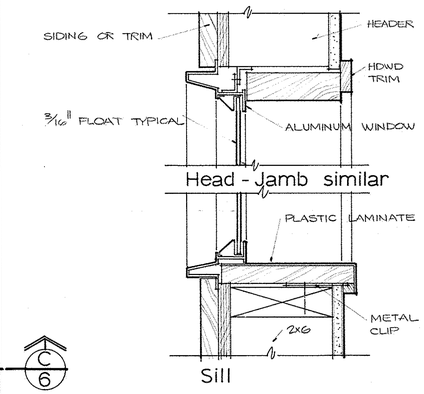
Scale 1/8"=1'—0"











WINDOW DETAILS

Scale 3"=1'—0"

20

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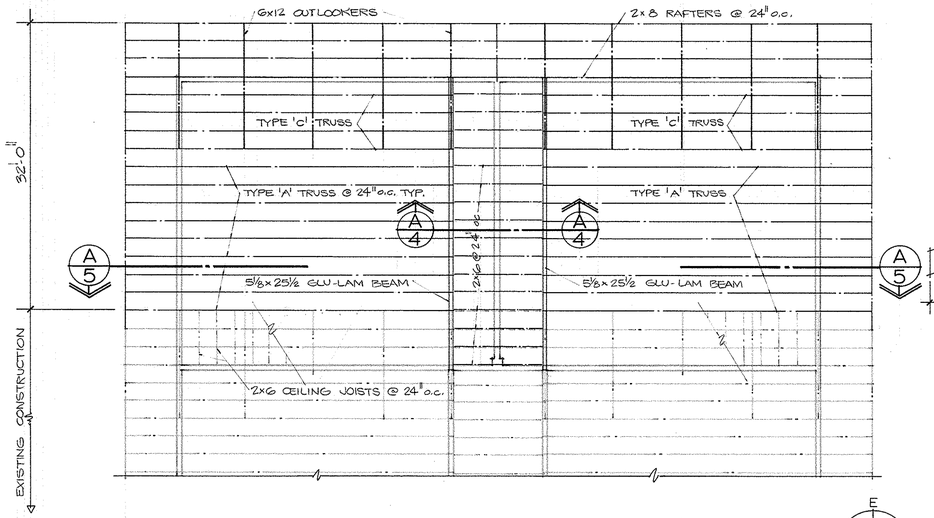
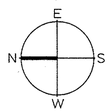
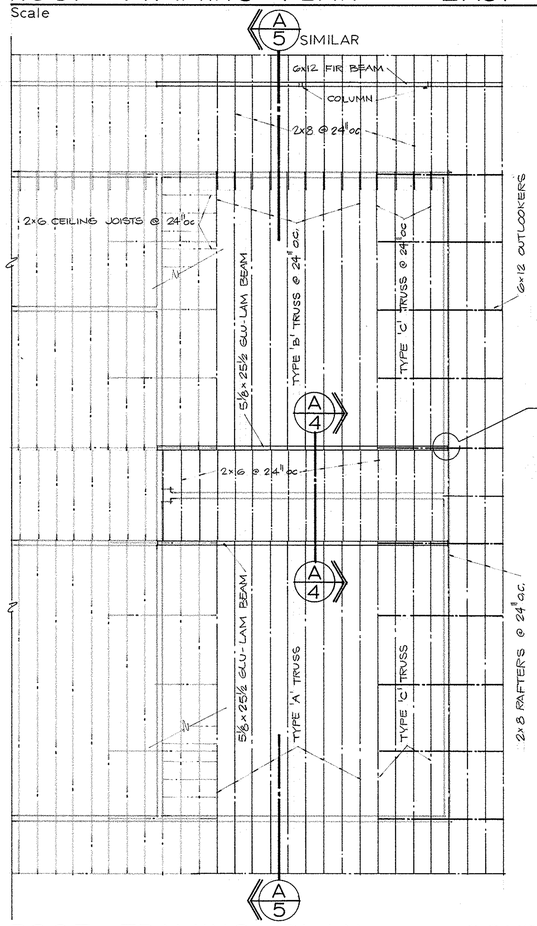


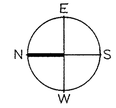
ROOF FRAMING PLAN EAST ADDITION

Scale 1/8"=1'—0"



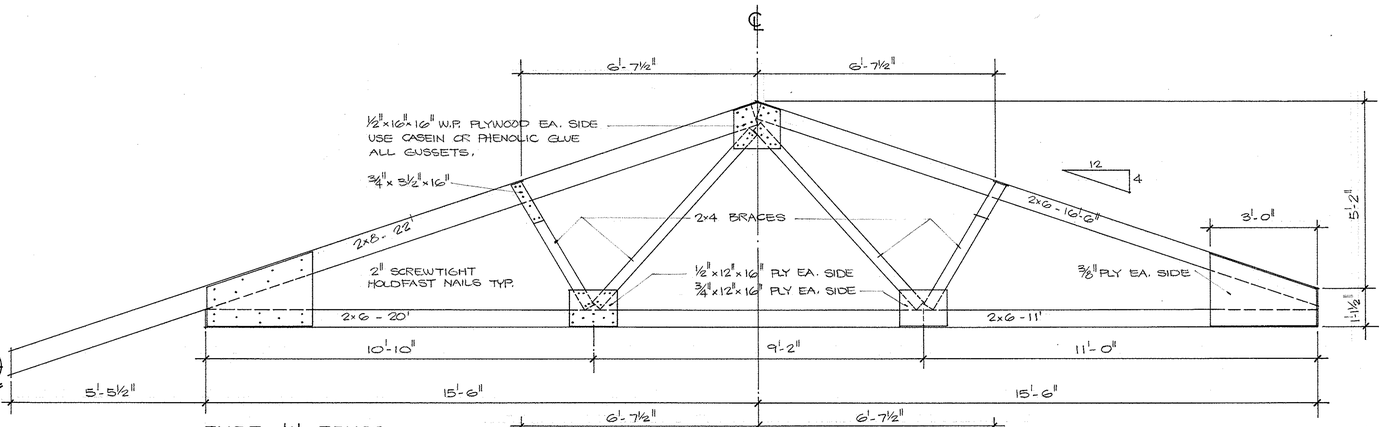


PROVIDE 5⅛x6 GLU-LAM COL AT EA END OF BEAM TYP. & REQ'D. INDUST. GRADE WHERE CONCEALED, ARCH. GRADE WHERE EXPOSED. PROVIDE SIMPSON ACE TWIN POST CAP @ EA BM BRG. AND SIMPSON CB COLUMN BASE @ EA COL BRG.

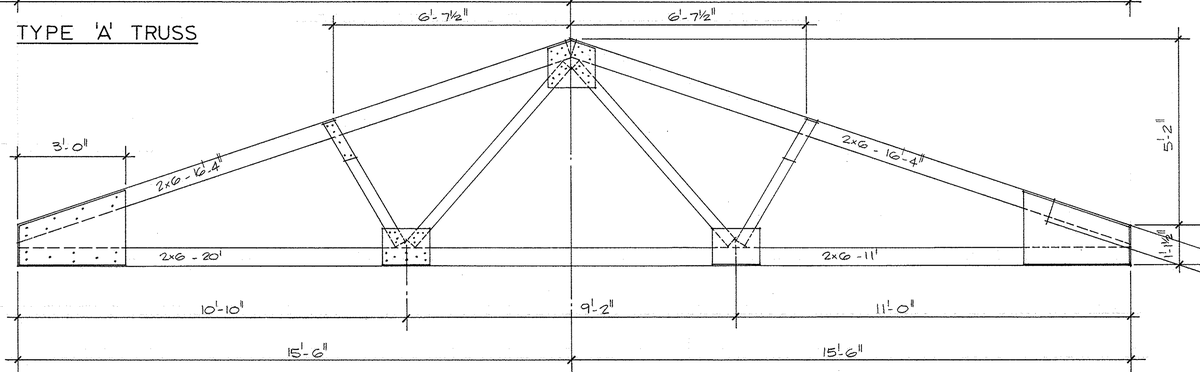


ROOF FRAMING PLAN SOUTH ADDITION

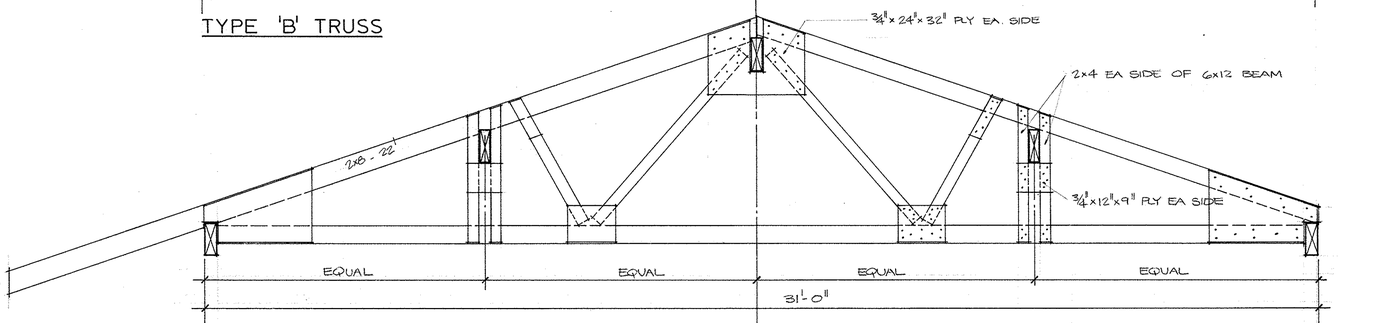
Scale 1/8"=1'—0"



TYPE 'A' TRUSS



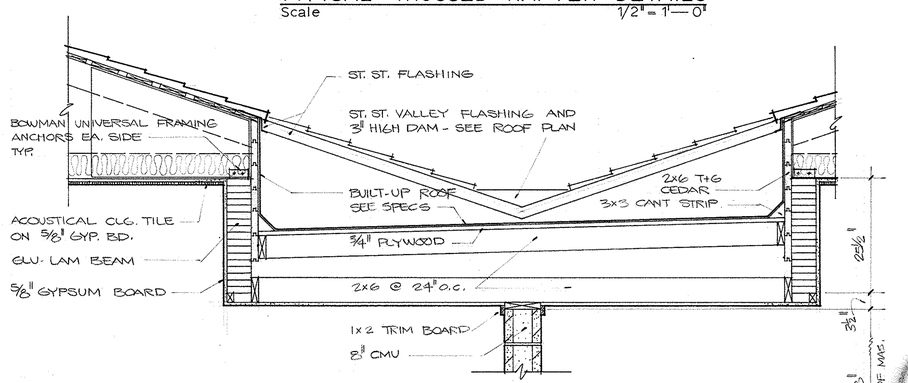
TYPE 'B' TRUSS



TYPE 'C' TRUSS

TYPICAL TRUSSED RAFTER DETAILS

Scale 1/2"=1'—0"



SECTION THRU VALLEY FRAMING at 'A'-'A'

Scale 3/4"=1'—0"

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CLASSROOM ADDITIONS to the
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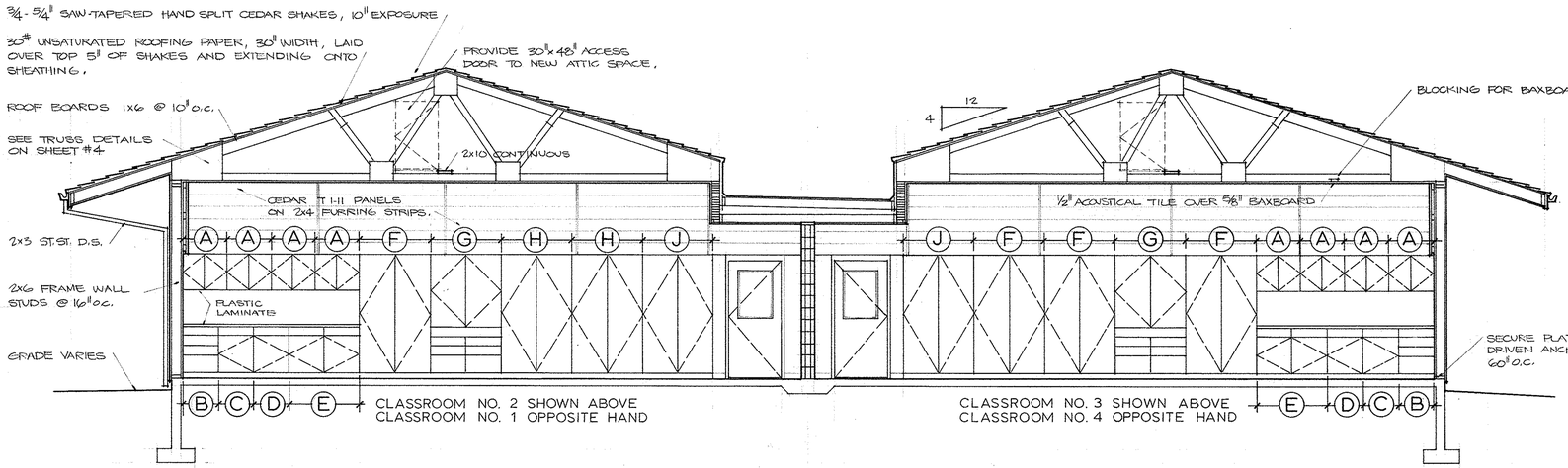
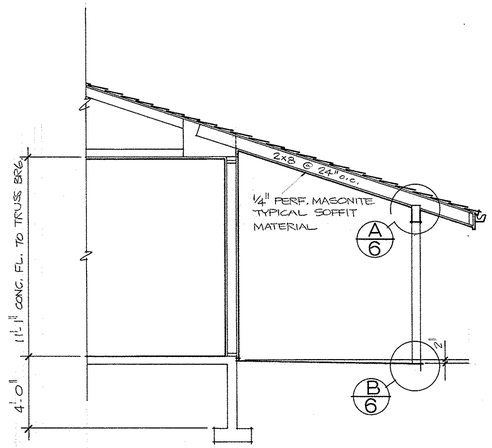


TYPICAL CROSS SECTION at A-A
Scale 1/4"=1'—0"

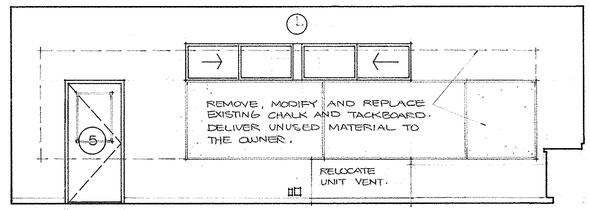


SECTION A-A at SIMILAR
Scale 1/4"=1'—0"

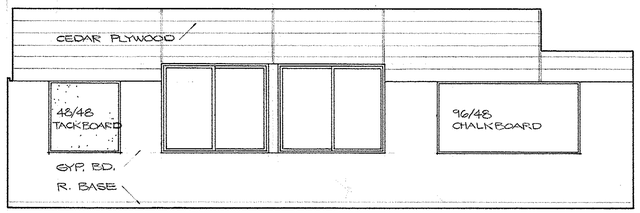
CABINET SCHEDULE

SYM	CAT. NO.	SIZE	CLASSROOM 1	2	3	4	REMARKS
A	6306	30" x 28" x 12"	4	4	4	4	PROVIDE UNDER CABINET LITES.
B	6408	24" x * x 26"	1	1	1	1	
C	6337	" x " x "	1	1	1	1	
D	6333	" x " x "	1	1	1	1	SINK CABINET
E	6707	48" x " x "	1	1	1	1	
F	6103	" x 84" x "	1	1	3	3	
G	6222	" x " x "	1	1	1	1	
H	6123	" x " x "	2	2	0	0	MODIFY CABINET - WARDROBE SHELF @ +48" AND FULL DEPTH SHELF @ +64".
J	6112	" x " x "	1	1	1	1	

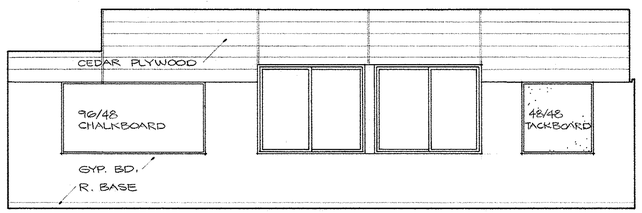
* CLASSROOMS NO. 1 & 2 = 29" AND CLASSROOM NO. 3 & 4 = 36"



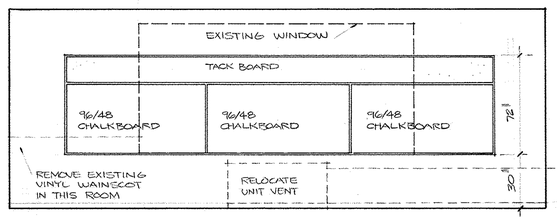
EXISTING CLASSROOM South Wall



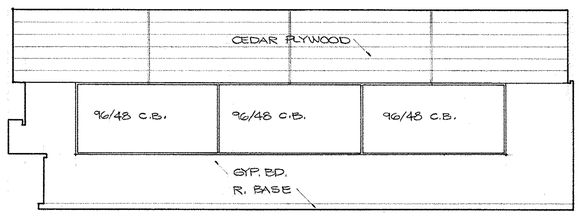
CLASSROOM NO. 1 East Wall
CLASSROOM NO. 3 South Wall



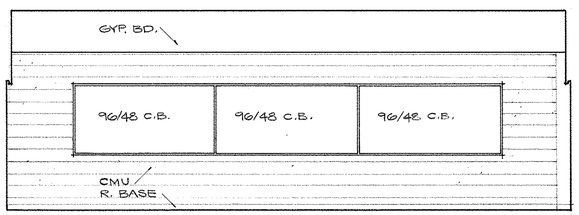
CLASSROOM NO. 2 East Wall
CLASSROOM NO. 4 South Wall



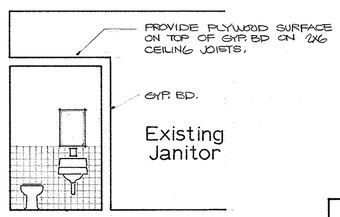
EXISTING CLASSROOM East Wall



CLASSROOM NO. 1 North Wall
CLASSROOM NO. 2 South Wall Opposite Hand
CLASSROOM NO. 3 East Wall
CLASSROOM NO. 4 West Wall Opposite Hand



CLASSROOM NO. 1 South Wall
CLASSROOM NO. 2 North Wall Opposite Hand
CLASSROOM NO. 3 West Wall
CLASSROOM NO. 4 East Wall Opposite Hand
SEE ALTERNATE NO. 3 ON SHEET #7.



LAV South Wall

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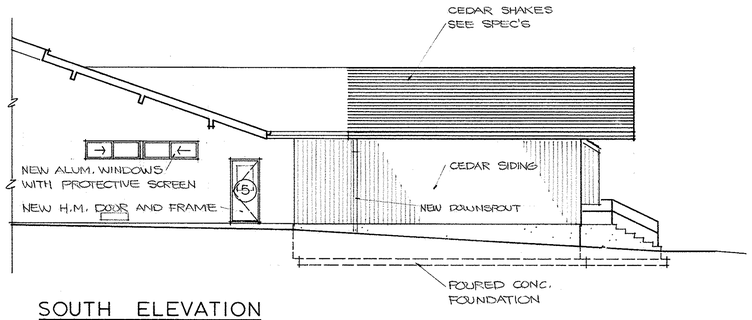
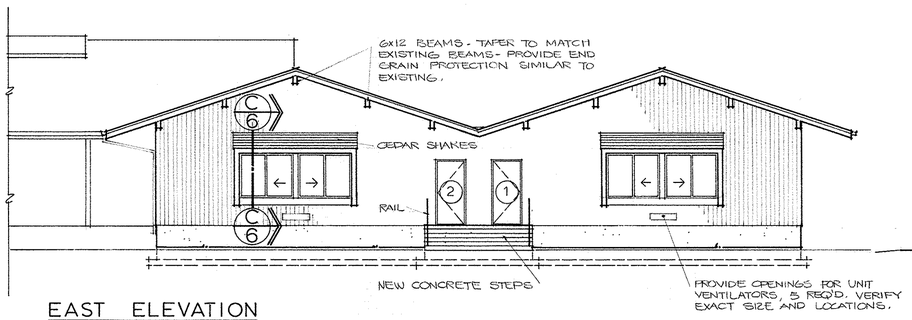
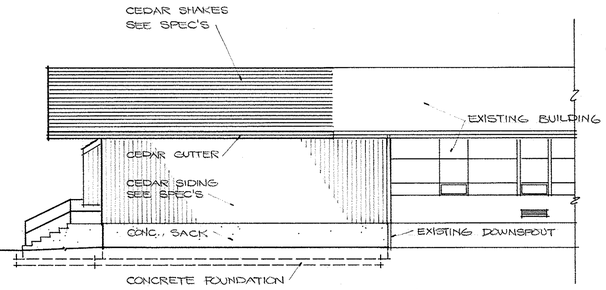


SOUTH ELEVATION



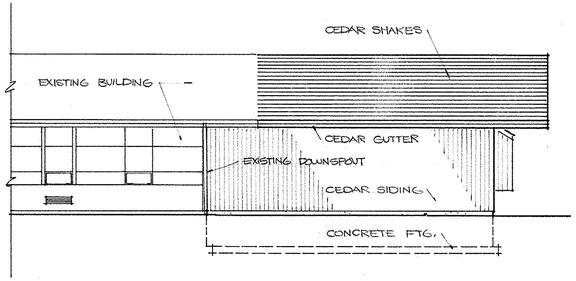
EAST ELEVATION



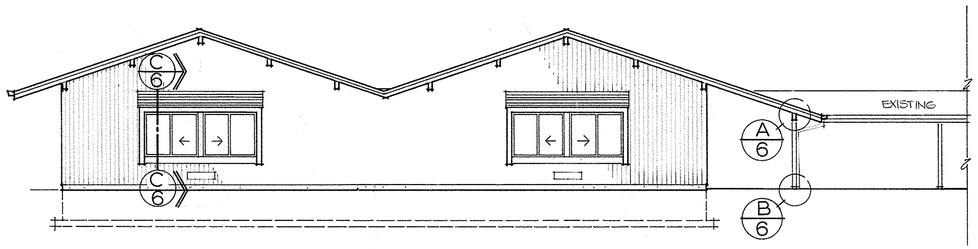
NORTH ELEVATION

EXTERIOR ELEVATIONS EAST ADDITION

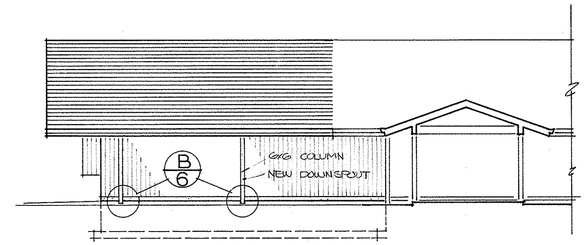
Scale 1/8" = 1' — 0"



WEST ELEVATION



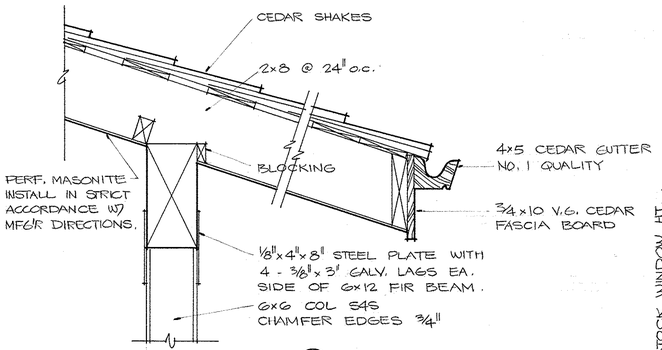
SOUTH ELEVATION



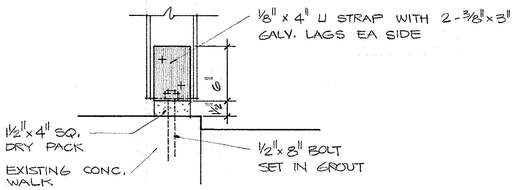
EAST ELEVATION

EXTERIOR ELEVATIONS SOUTH ADDITION

Scale 1/8" = 1' — 0"

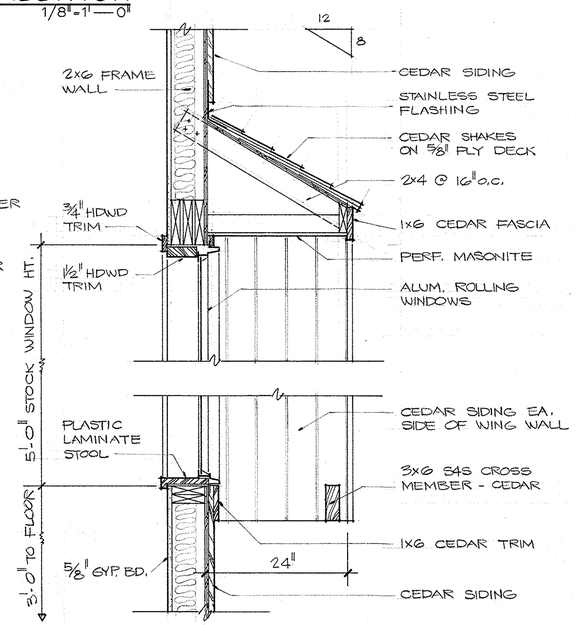


FRAMING DETAIL (A)



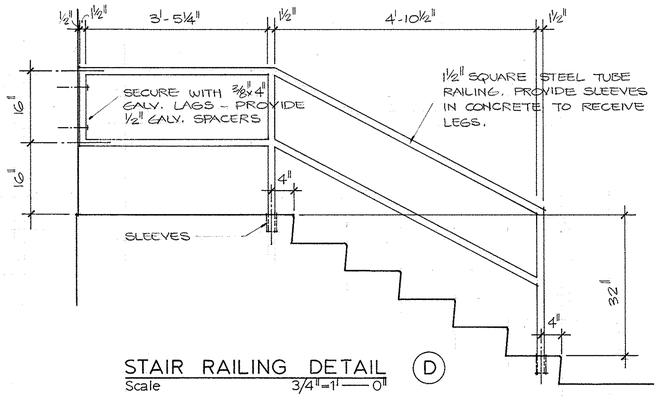
FRAMING DETAIL (B)

Scale 1·1/2" = 1' — 0"



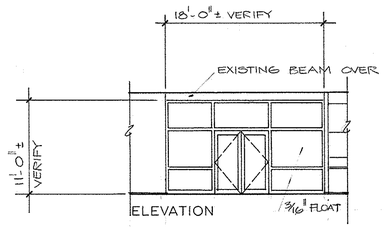
FRAMING SECTION at C-C

Scale 1" = 1' — 0"



STAIR RAILING DETAIL (D)

Scale 3/4" = 1' — 0"



ALUMINUM ENTRANCE

Scale 1/8" = 1' — 0"

20

CLASSROOM ADDITIONS to the
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COSMOPOLIS, WASHINGTON

STREET AND LUNDGREN A.I.A.
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PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

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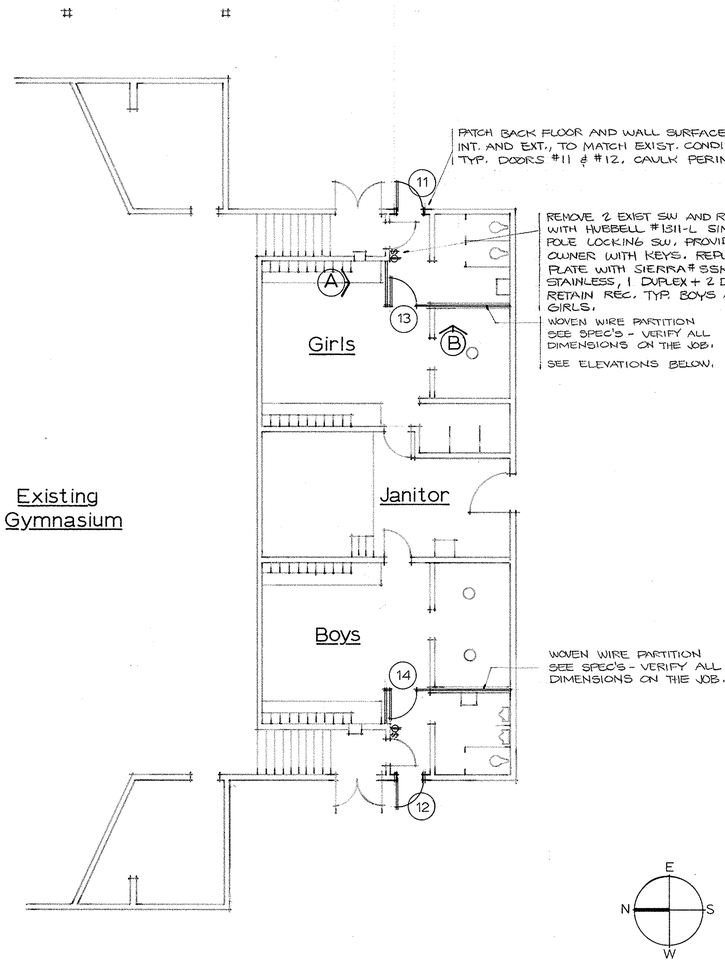
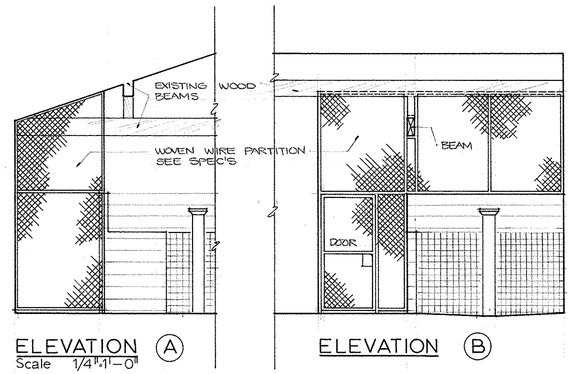


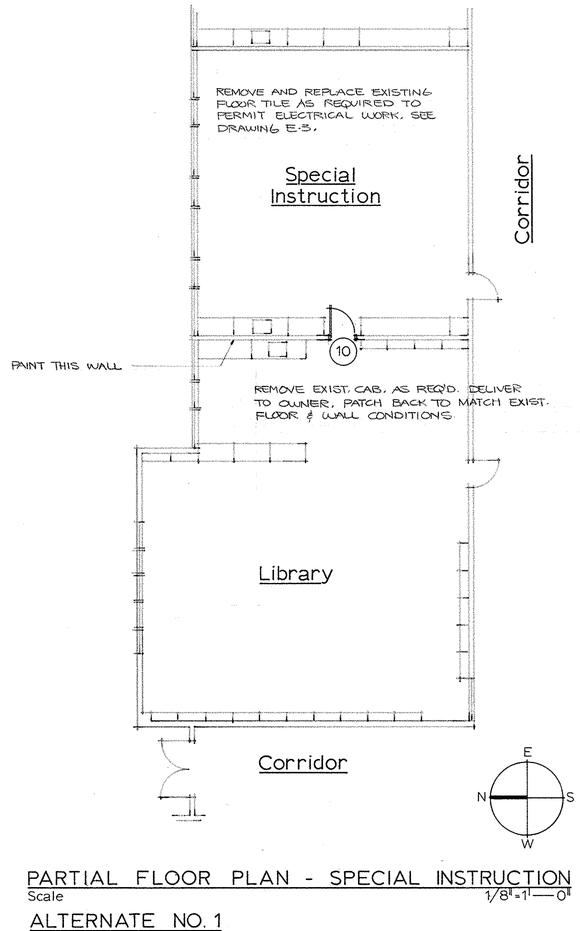
PARTIAL FLOOR PLAN - GYMNASIUM - ALTERNATE NO. 2
Scale 1/8"=1'—0"



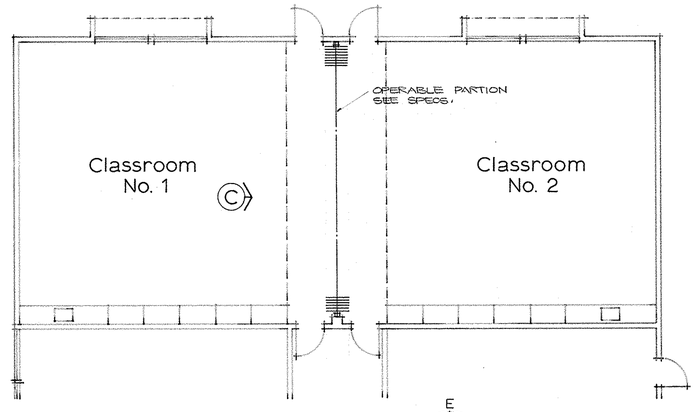
ELEVATION (A) Scale 1/4"=1'—0"

ELEVATION (B)

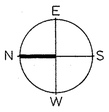
NOTE: GIRL'S LOCKER ROOM SHOWN ABOVE, BOY'S SIMILAR, BUT OPPOSITE HAND.

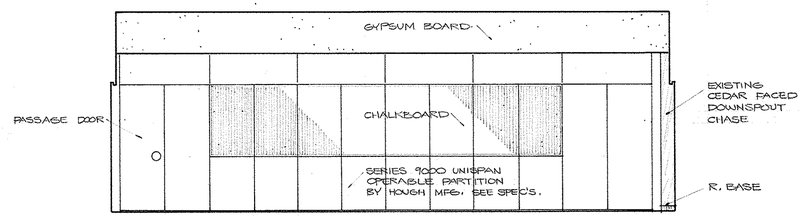


PARTIAL FLOOR PLAN - SPECIAL INSTRUCTION
Scale 1/8"=1'—0"
ALTERNATE NO. 1



FLOOR PLAN - EAST ADDITION
Scale 1/8"=1'—0"
SOUTH ADDITION SIMILAR
ALTERNATE NO. 3





ELEVATION (C) Scale 1/4"=1'—0"

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℄ THIRD STREET

NEW ADDITION

4" c.o. EXTEND TO GRADE

3" c.i.

3" FCO

NEW DOWNSPOUT

2"

2"

4" c.i.

REPLACE EXISTING STORM DRAIN WITH CAST IRON PIPE APPROX. 76'-0"

EXISTING MULTI-PURPOSE

EXISTING AUDITORIUM

℄ 'C' STREET

TIE INTO EXISTING SEWER LINE

I.E. 20.44

I.E. 20.65

EXISTING 8"

EXISTING 2"

THIS SECTION CAST IRON EXISTING

EXISTING 2"

EXISTING 4"

I.E. 21.28

I.E. 21.55

I.E. 21.76

EXISTING 4"

EXISTING 4"

EXISTING CATCH BASIN

I.E. 22.74

I.E. 22.86

EXISTING 4"

EXISTING 4"

TIE INTO EXISTING 8" SEWER

I.E. 23.74

I.E. 23.82

EXISTING MANHOLE

EXISTING 8" SANITARY SEWER

4" C.P.

DOWNSPOUT

2"

NEW ADDITION

3" C.I.

2"

3" F.C.O.

REPLACE EXISTING STORM DRAIN WITH CAST IRON PIPE APPROX. 76'-0"

EXISTING SCHOOL

FINISH FLOOR ELEVATION 30.5'

STORM DRAIN

EXISTING GYMNASIUM

℄ FOURTH STREET

SITE PLAN

Scale 1/16" = 1'—0"

CALLED NORTH

E

S

W

20

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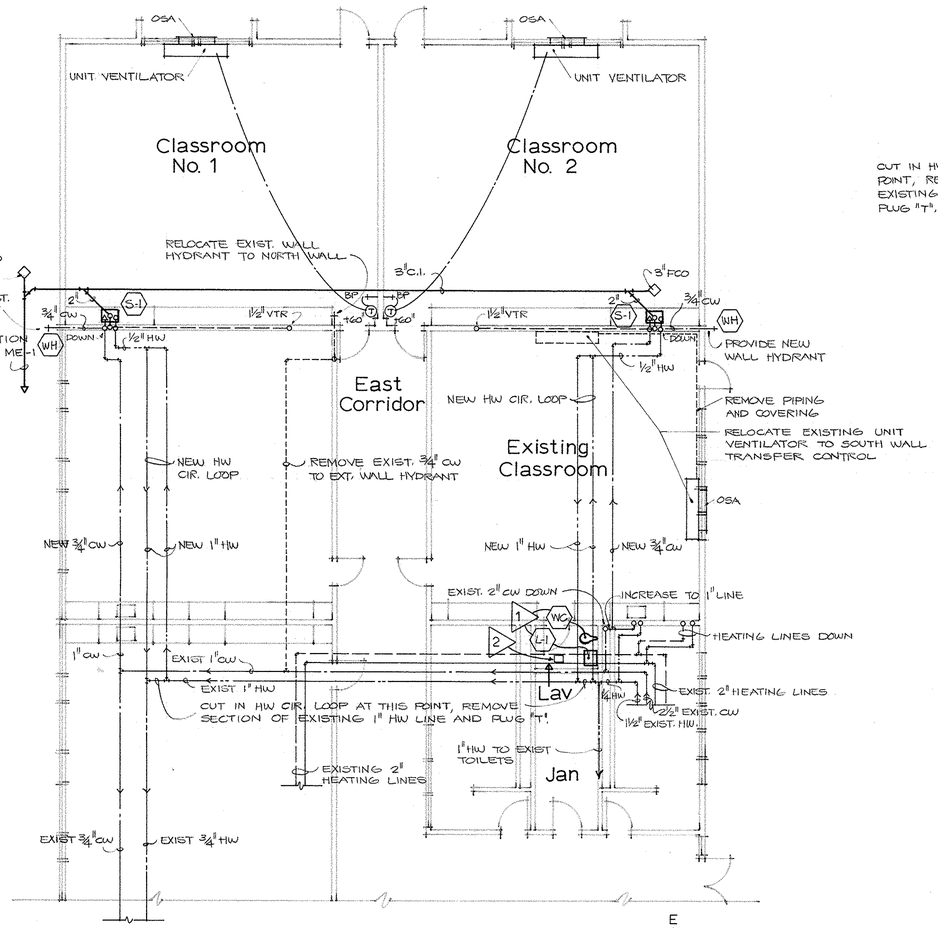
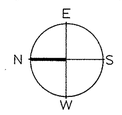
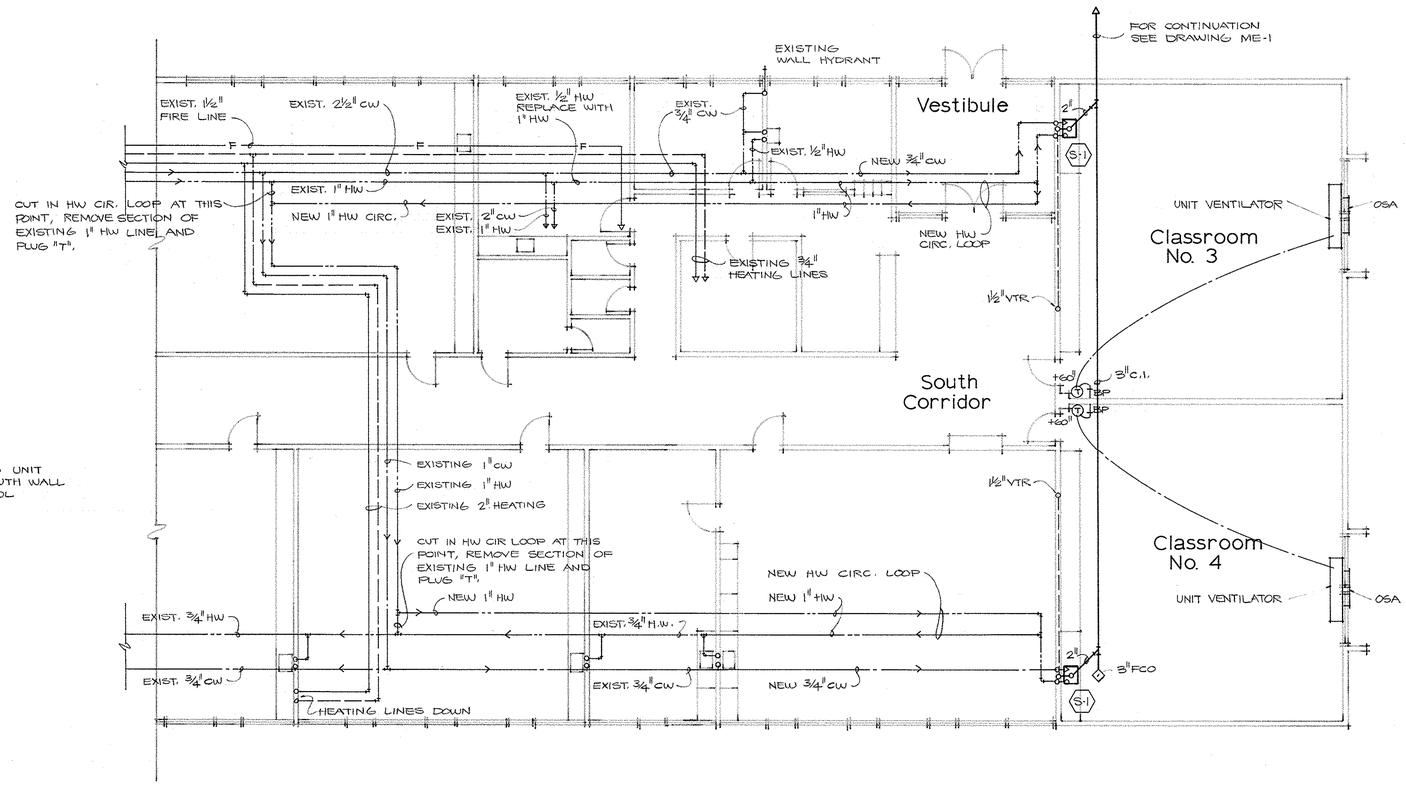
ME1

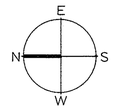


FLOOR PLAN EAST ADDITION
Scale 1/8"=1'—0"





FLOOR PLAN SOUTH ADDITION
Scale 1/8"=1'—0"



MECHANICAL SYMBOLS

- SANITARY SEWER
- STORM DRAIN
- COLD WATER
- HOT WATER
- VENT
- COLD WATER TAP
- HOT WATER TAP
- FCO — FLOOR CLEAN OUT
- WCO — WALL CLEAN OUT
- WC — FIXTURE SYMBOL - SEE SCHEDULE
- GATE VALVE
- GLOBE VALVE
- WALL HYDRANT
- VTR — VENT TO ROOF
- T — THERMOSTAT

MECHANICAL NOTES

1. TIE IN ALL PLUMBING LINES TO EXISTING LINES IN PIPE CHASE.
2. PROVIDE 6"x10" GRILLE AND 5" DIA DUCT FOR EXHAUST. TIE INTO EXISTING TOILET EXHAUST SYSTEM.
3. ALL DOMESTIC WATER PIPING IS IN ATTIC SPACE.

PLUMBING FIXTURE SCHEDULE

SYM	WASTE	TRAP	VENT	CW	HW
WC	4"	3"	2"	1"	—
L-1	2"	1½"	1½"	½"	½"
S-1	2"	1½"	1½"	½"	½"
WH	—	—	—	¾"	—

NOTE: FOR DESCRIPTION OF FIXTURES SEE SPECIFICATIONS.

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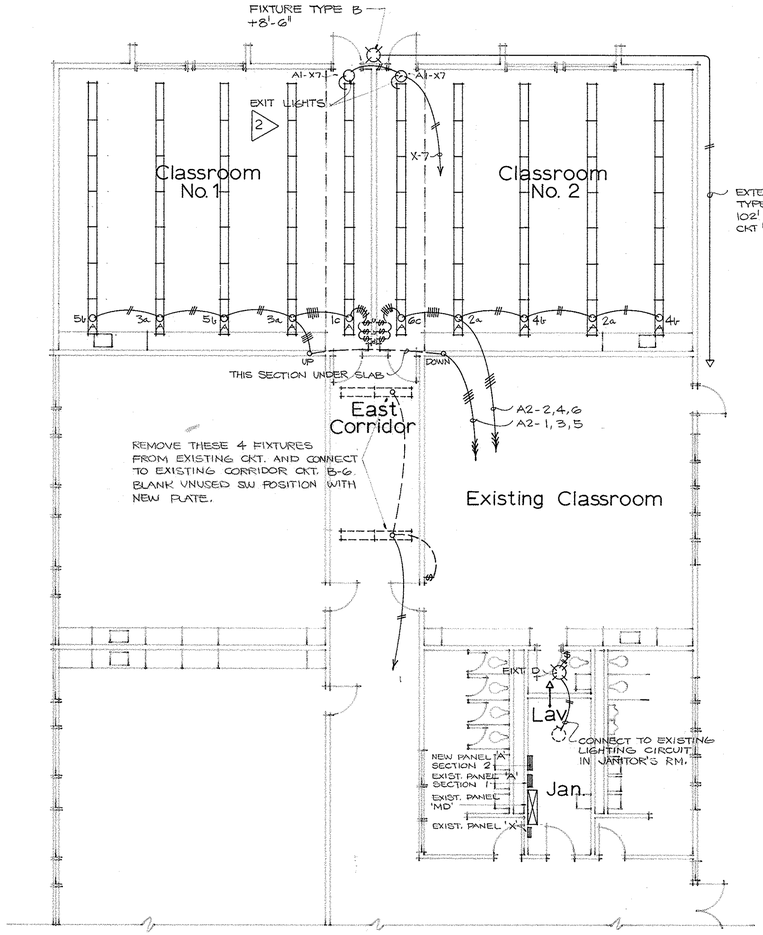
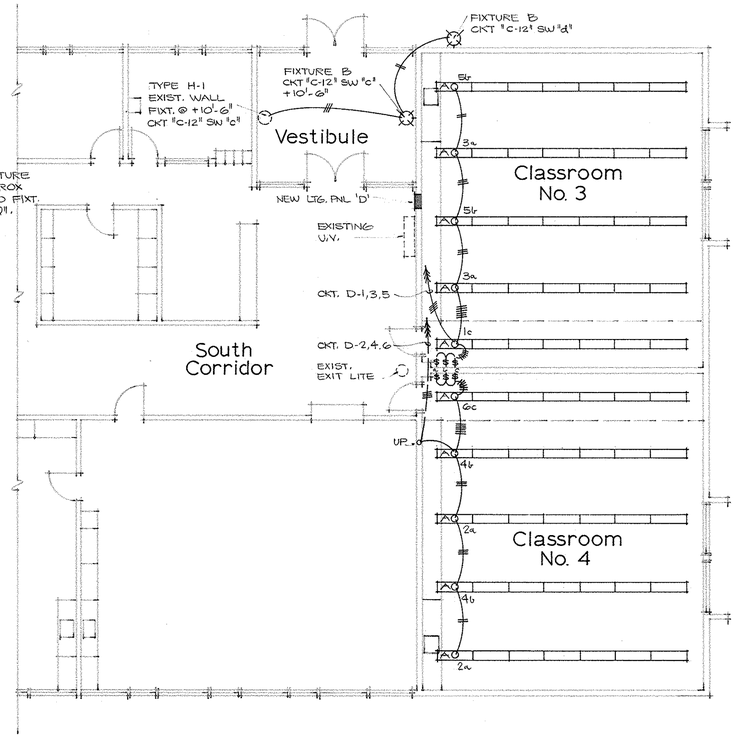


FLOOR PLAN EAST ADDITION
Scale 1/8"=1'—0"



FLOOR PLAN SOUTH ADDITION
Scale 1/8"=1'—0"

Lighting Panel 'D'

SQUARE D CO TYPE NQO CAT.# NQO-304-2
120/208 VOLTS, 3 PHASE, 4 WIRE, 60 HZ
225 AMP MAIN LUGS, 30 CIRCUITS
#PK-18GTA EQUIPMENT GROUND BAR

LOAD	A	P	#	φ	#	P	A	LOAD
LTG RM 3	20	1	1	A	2	1	20	LTG. RM 4
LTG RM 3	20	1	3	B	4	1	20	LTG. RM 4
LTG RM 3	20	1	5	C	6	1	20	LTG. RM 4
REC RM 3	20	1	7	A	8	1	20	REC. RM 4
REC RM 3	20	1	9	B	10	1	20	REC. RM 4
REC RM 3	20	1	11	C	12	1	20	REC. OUTSIDE S
REC OUTSIDE E	20	1	13	A	14			
			15	B	16			
			17	C	18			
			19	A	20			
			21	B	22			
			23	C	24			
HEATING RM 3			25	A	26			HEATING RM 4
	60	3	27	B	28	3	60	
			29	C	30			

TOTAL LOAD: 36KW

Lighting Panel A2 (Section 2)

SQUARE D CO TYPE NQO, CAT.# NQO-304-2
120/208 VOLTS, 3 PHASE, 4 WIRE, 60HZ
225 AMP MAIN LUGS, 30 CIRCUITS
#PK-18GTA EQUIPMENT GROUND BAR

LOAD	A	P	#	φ	#	P	A	LOAD
LTG RM 1	20	1	1	A	2	1	20	LTG RM 2
LTG RM 1	20	1	3	B	4	1	20	LTG RM 2
LTG RM 1	20	1	5	C	6	1	20	LTG RM 2
REC RM 1	20	1	7	A	8	1	20	REC RM 2
REC RM 1	20	1	9	B	10	1	20	REC RM 2
SPARE BKR.	20	1	11	C	12	1	20	REC OUTSIDE E
			13	A	14			
			15	B	16			
			17	C	18			
			19	A	20			
			21	B	22			
			23	C	24			
HEATING RM 1			25	A	26			HEATING RM 2
	60	3	27	B	28	3	60	
			29	C	30			

TOTAL LOAD: 36KW

Existing Lighting Panel 'B'

FRANK ADAM # R-311098, 42 CIRCUITS
120/208 VOLTS, 3 PHASE, 4 WIRE SN
200 AMP MAIN LUGS

* = BKR IN USE
† = SPARE BKR AVAIL.
X = SPARE SPACE AVAIL. PROVIDE BKR. WHERE REQUIRED

	LOAD	A	P	#	φ	#	P	A	LOAD	
†		20	1	1	A	2	1	20	LTG. SP. INSTR. ROW 1,2	†
*				3	B	4	1	20	LTG. SP. INSTR. ROW 3	†
*				5	C	6				*
*				7	A	8				*
*				9	B	10				*
*				11	C	12				*
*				13	A	14				*
†		20	1	15	B	16				*
†		20	1	17	C	18				*
†		20	1	19	A	20				*
†		20	1	21	B	22	1	20		†
*				23	C	24				*
*				25	A	26				*
*				27	B	28				*
*				29	C	30	1	20		†
*				31	A	32				
†		20	1	33	B	34	1	20		†
X	REC SP INSTR WALL	20	1	35	C	36	1	20	REC SP INSTR WALL	X
X	REC SP INSTR WALL	20	1	37	A	38	1	20	REC SP INSTR FLR	X
X	REC SP INSTR WALL	20	1	39	B	40	1	20	REC SP INSTR FLR	X
X				41	C	42				X

EXIST. LOAD: 24 KW
ADDED LOAD: 5KW
TOTAL LOAD: 29 KW

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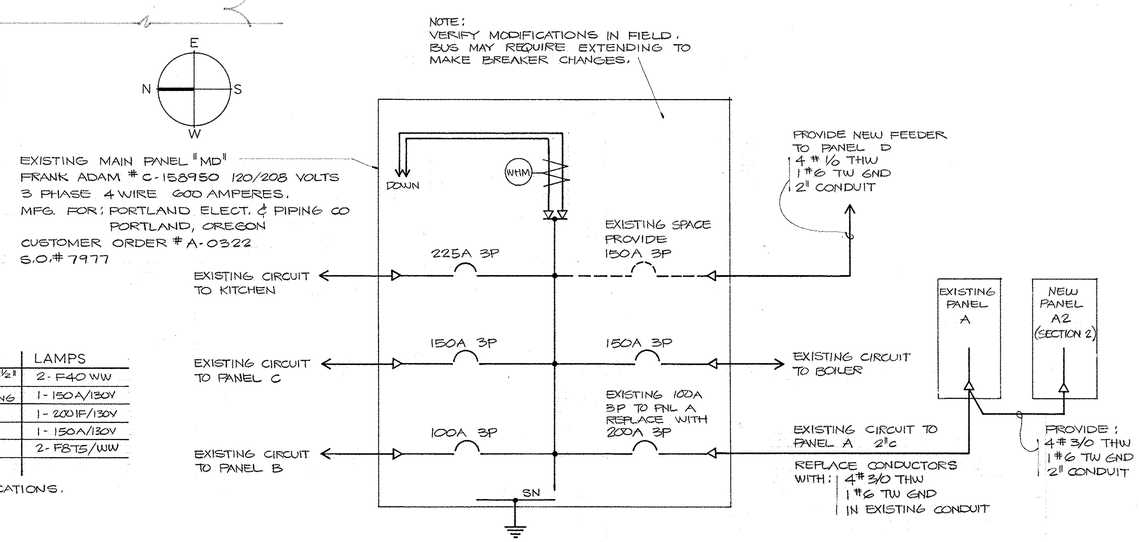
NOTE:
VERIFY MODIFICATIONS IN FIELD. BUS MAY REQUIRE EXTENDING TO MAKE BREAKER CHANGES.



SINGLE LINE POWER DIAGRAM
NO SCALE

LIGHTING FIXTURE SCHEDULE

SYM	DESCRIPTION	MOUNTING	LAMPS
A	GLOBE # QP71 - 3602 - RS	CEILING SPACERS + 1½"	2 - F40 WW
B	HOLOPHANE # 415	WALL MATCH EXISTING	1 - 150A/130V
C	PRESCOLITE/SOLO # 9506	PENDANT	1 - 200IF/130V
D	PRESCOLITE/SOLO # 9517	CEILING	1 - 150A/130V
E	ALKCO CAT # 95 - 213 - S	UNDER CAB	2 - F8T5/WW

NOTE: FOR COMPLETE DESCRIPTION SEE SPECIFICATIONS.

CLASSROOM ADDITIONS to the
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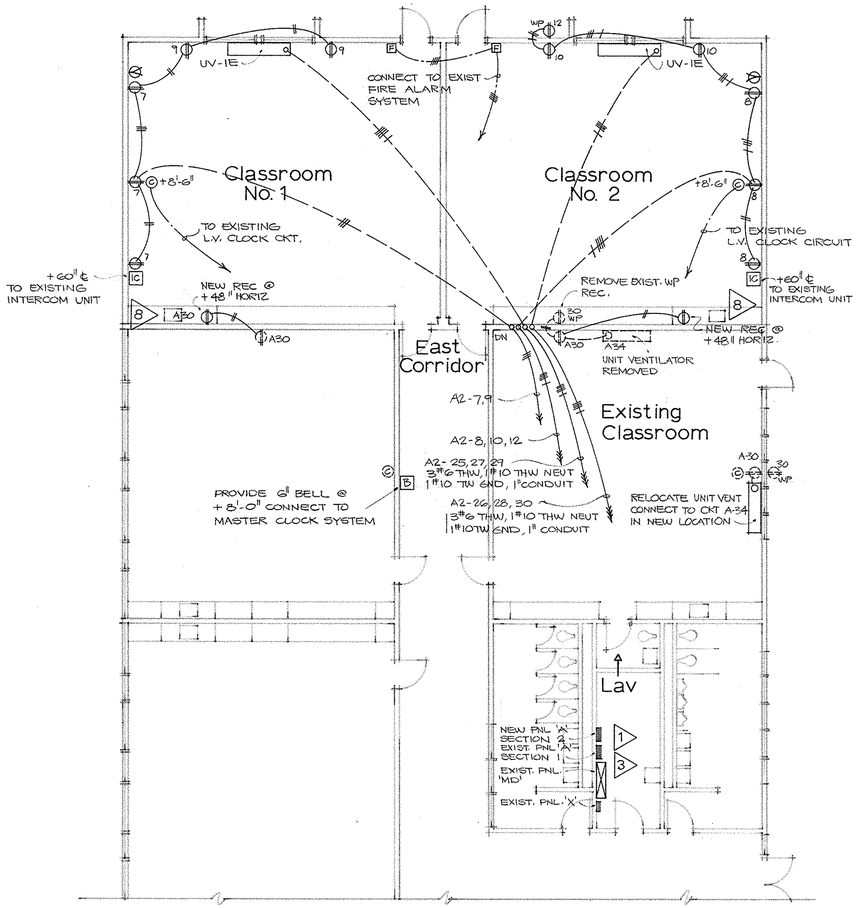
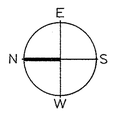


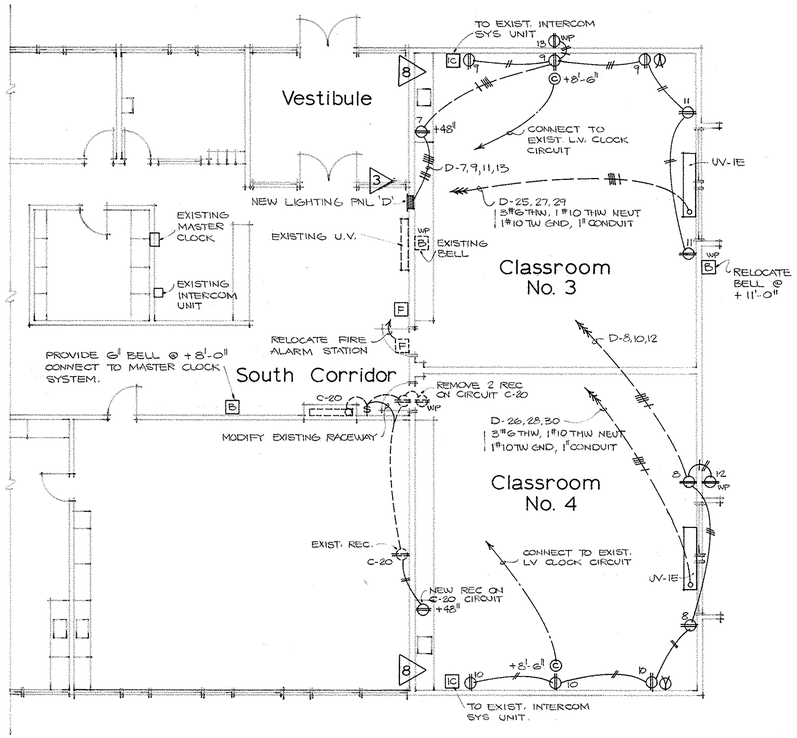
FLOOR PLAN EAST ADDITION

Scale 1/8" = 1'—0"



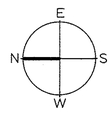
ELECTRICAL NOTES

1. LIGHTING PANEL SCHEDULES; ROOM NUMBERS ON TYPEWRITTEN SCHEDULE SHALL AGREE WITH ROOM NUMBERS AS ASSIGNED BY OWNER.
2. CONNECT 1 CKT OF FIXT. TO LT6 CKT, OTHER TO X-7.
3. LT6. PANELS A2 AND D; PROVIDE 2 SPARE 3/4" CONDUITS EACH PANEL TO ATTIC AND CAP.
4. UNDER FLOOR DUCT OUTLETS; PROVIDE TOTAL OF 12 SERVICE FITTINGS, SEE SECTION 1634-5 OF SPECIFICATIONS; VERIFY LOCATION WITH OWNER.
5. FOR UNDERFLOOR DUCT SYSTEM SEE SECTION 1611-7D OF SPECIFICATIONS.
6. SEE ARCHITECTURAL DWG. 7 FOR MODIFICATIONS IN GYMNASIUM.
7. KEEP ON JOB SITE ONE SET OF PLANS AND SPECIFICATIONS FOR REFERENCE DURING CONSTRUCTION.
8. PROVIDE TWO TYPE 'E' LIGHT FIXTURES AND WALL SWITCH



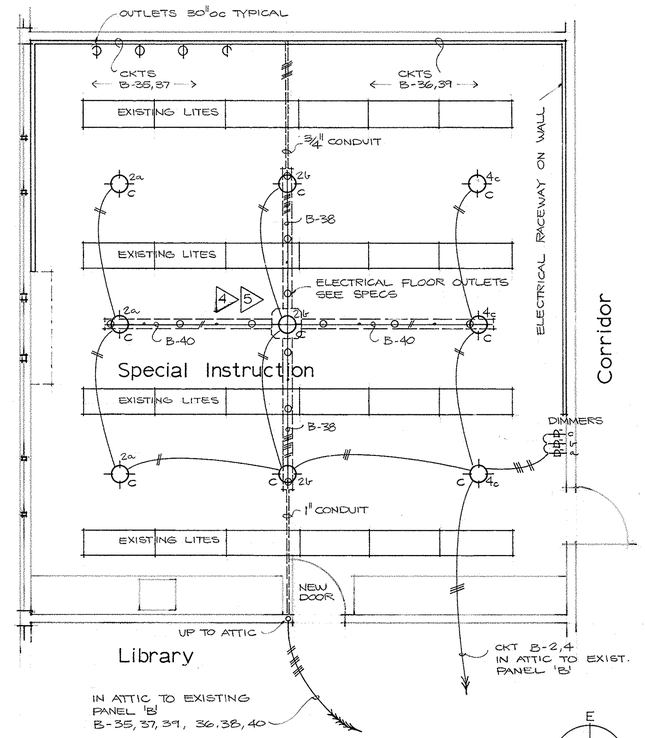
FLOOR PLAN SOUTH ADDITION

Scale 1/8" = 1'—0"



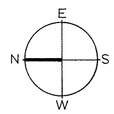
ELECTRICAL SYMBOLS

SYM.	DESCRIPTION	MOUNTING	HEIGHT
	LIGHTING PANEL	WALL	+54" ℄
	LIGHTING FIXTURE - FLUORESCENT	SEE SCHEDULE	
	LIGHTING FIXTURE - INCANDESCENT	SEE SCHEDULE	
S	SWITCH - SINGLE POLE	WALL	+48" ℄
S3	SWITCH - 3 WAY	WALL	+48" ℄
	DUPLEX RECEPTACLE	HORIZONTAL	+12" ℄
WP	DUPLEX RECEPTACLE WEATHERPROOF W/ LOCK	HORIZONTAL	+12" ℄
	SINGLE RECEPTACLE FLOOR	FLOOR	
J	JUNCTION BOX & COVER	AS SHOWN	
	SURFACE RACEWAY W/ RECEPTACLES	WALL	
C	CLOCK OUTLET	WALL	
T	THERMOSTAT	WALL	+60" ℄
TV	TELEVISION OUTLET	WALL	+12" ℄
F	FIRE ALARM PULL STATION	WALL	+54" ℄
IC	INTERCOM SPEAKER	WALL	+60" ℄
B	PROGRAM BELL	WALL	+8'-0" ℄
	RACEWAY EXPOSED OR CONCEALED		
	RACEWAY UNDER FLOOR		
	EXISTING RACEWAY		
	LOW VOLTAGE CIRCUITS		
	NUMBER OF CIRCUIT CONDUCTORS (3)		
	3 CIRC, COND, + 1 GND. COND.		
	HOME RUN TO PANEL NO. CIRCUITS (2)		



SPECIAL INSTRUCTION - ALTERNATE NO. 1

Scale 1/4" = 1'—0"



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CLASSROOM ADDITIONS to the COSMOPOLIS SCHOOL

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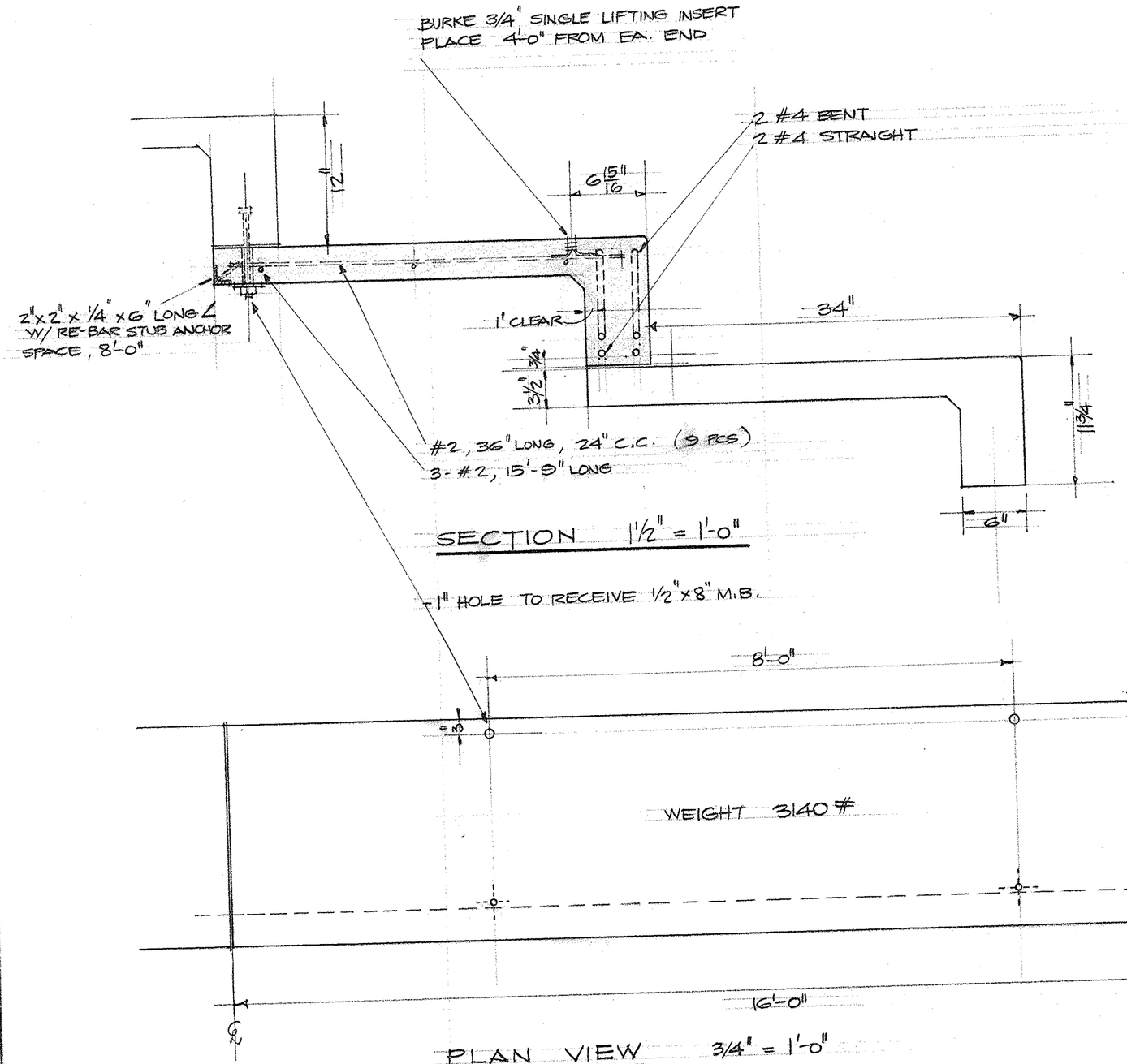
E 3



SECTION 1½" = 1'-0"

PLAN VIEW 3/4" = 1'-0"

RISER DETAILS

COSMOPOLIS GYMNASIUM
COSMOPOLIS, WASHINGTON

STREET & LUNDGREN, AIA
ABERDEEN, WASHINGTON

JULY 27'67

3RD STREET

M P ROOM

SCHOOL

B STREET

AUDITORIUM

GYMNASIUM

PROPERTY LINE

BLEND CONC. CURB INTO EXISTING

ASPHALT PAVING ALTERNATE # 2 STARTS @ EXISTING STREET

16'-0"

50'-0"

RADIUS

TOP SOIL & LAWN

29.69'

30.58'

30.91'

11 CARS

ASPHALT PARKING LOT & DRIVE ALTERNATE #2

H5

TO PAVED "H" CATCH BASIN

EXISTING ASPHALT STREET

BLEND ALTERNATE #1 ASPHALT INTO EXISTING STREET

25'-6"

21'-0"

29.60'

29.36'

ASPHALT PARKING ALTERNATE #2 STARTS @ EXISTING STREET

REMOVE EXISTING BLDG., & SIDEWALKS (DASHED) & REPLACE WITH FILL, TOP SOIL & LAWN.

30.25'

1'-6" x 2'-0" CAST IRON CATCH BASIN (SEE MECH.)

TO PAVED "H" CAT. B DRIVE

NEW CONC. CURB

29.00'

FLASH NEW WALKWAY ROOF TO EXISTING ROOF - WATERTIGHT. USE 16 GA. GG VALLEY FLASHING

FILL, TOPSOIL & LAWN

RAISE MANHOLE LEVEL W/ NEW LAWN GRADE

14 CARS

PAINT PARKING LANE DIVISION LINE 4" WIDE (TYPICAL)

60'

29.87'

30.20'

31.09'

31.59'

31.10'

31.60'

30.00'

8 EQUAL SPACES BETWEEN 4"x6" POSTS

DASHED ROOF LINES

16'-0"

30.56'

31.75'

30.17'

4" ø PLANT OPENG. (TYP.)

TOPSOIL & LAWN

PNL. 'N' CKT 4, DWG. E4

SERVICEWAY

31.00'

31.92'

57'-2"

ALIGN EDGE OF SIDEWALK WITH BUFFER

29.90'

& BUILDING

32.25'

117'-0"

REMOVE EXISTING STREET & SIDEWALKS AS SHOWN, AND REPLACE WITH FILL, TOPSOIL & LAWN

29.75'

PAVING PATTERN LINES (TYP.)

59'-10"

6'-0"

6'x6' CONC. PAD

18'-0"

29.50'

29.90'

NEW CONC. PAVEMENT TO BE LIGHT BROOM FINISH (TYP.)

30.40'

29.83'

30.28'

31.59'

31.60'

31.28'

PROPERTY LINE

31.27'

PAINT PARKING LANE DIVISION LINES 8" WIDE (TYP.)

PARKING AREA FOR 27 CARS ASPHALT PAVING

REMOVE EXISTING STREET CURB AND BLEND NEW ASPHALT PAVING IN PARKING AREA INTO EXISTING STREET

NEW CONC. CURB (BLEND INTO EXISTING)

REMOVE GASOLINE STORAGE TANK AND FILL VOID

4TH STREET

CALLED NORTH

12"

2"# 4 BARS CONT. TOP & BOT.

2½" ASPHALTIC CONC.

COMPACTED GRAVEL

1 / A-1 TYPICAL CURB @ ASPHALT

3/4" = 1'-0"

6"x6" 10/10 MESH

6"

12"

2"# 4 BARS CONT.

2 / A-1 CURB @ WALK

3/4" = 1'-0"

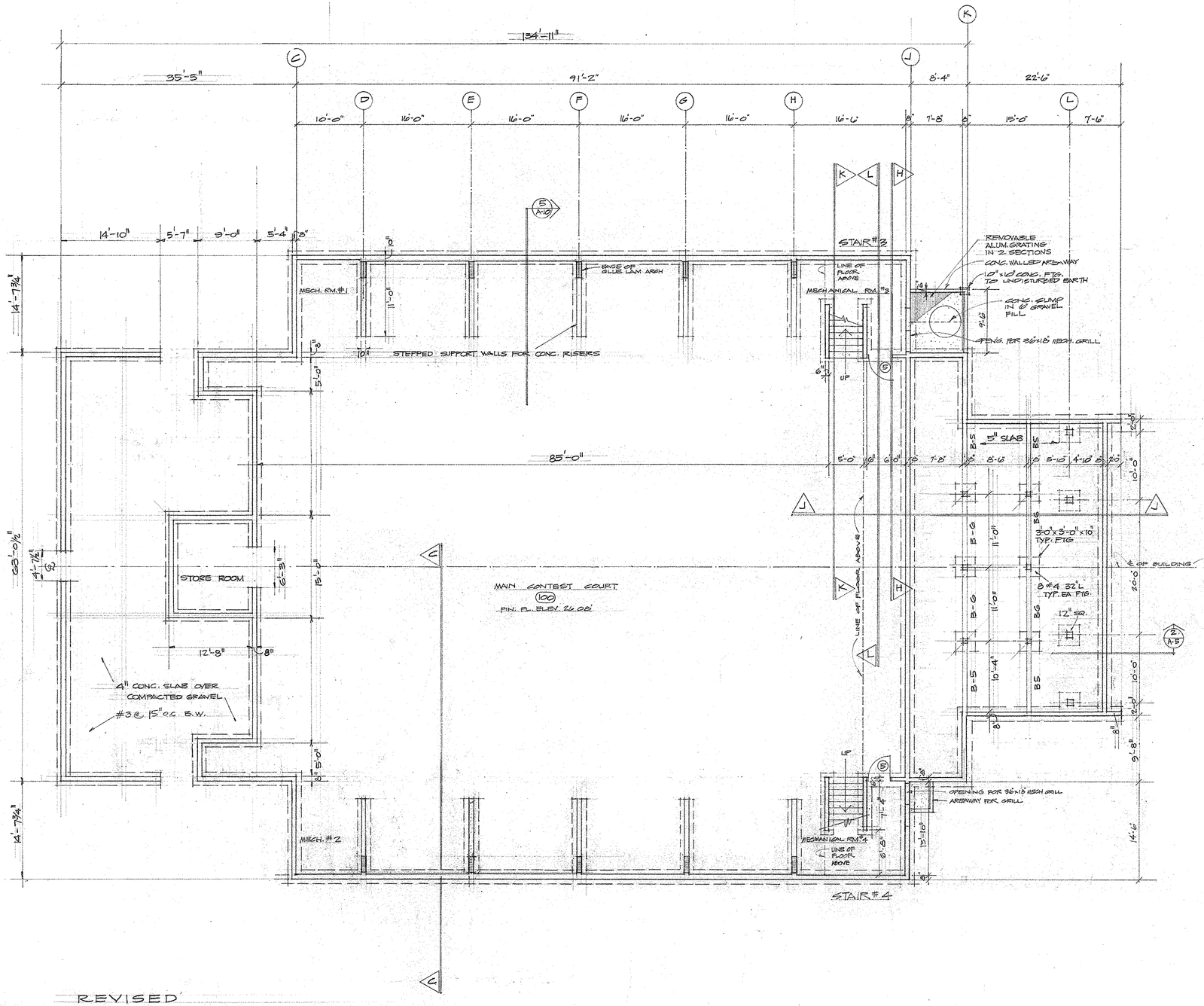
COSMOPOLIS SCHOOL GYMNASIUM

COSMOPOLIS SCHOOL DISTRICT #99
COSMOPOLIS, WASHINGTON

PLOT PLAN SCALE: 1/16" = 1'-0"

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

A-1



CALLED NORTH

REVISED

LOWER LEVEL FLOOR PLAN

SCALE: ⅛" = 1'-0"

NOTE: BUILDING IS SYMMETRICAL ABOUT THE ℄ OF BUILDING EXCEPT WHERE OTHERWISE SHOWN.

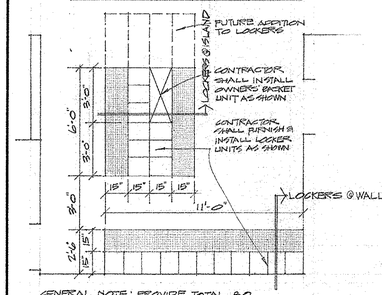
STRUCTURAL DIAGRAM OF UPPER LEVEL PLAN

SCALE: ⅛" = 1'-0"

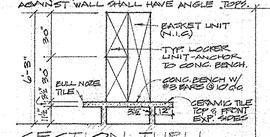
REVISED JUNE 1 1967

COSMOPOLIS SCHOOL GYMNASIUM		COSMOPOLIS SCHOOL DISTRICT # 99 COSMOPOLIS, WASHINGTON	REVISED LOWER LEVEL PLAN	STREET AND LUNDGREN A.I.A. ARCHITECTS AND PLANNING CONSULTANTS PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON	20 A-2

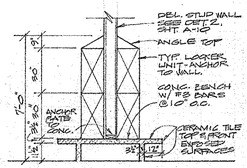
PLAN OF LOCKERS IN BOYS' SHOWERS — GIRLS' SHOWERS SIM. 1/4"=1'-0"



GENERAL NOTE: PROVIDE TOTAL 80 LOCKERS SIZES 12"W. x 12"D. x 30"H.). LOCKER UNITS SHALL BE 2 UNITS HIGH (60") IN ALL CASES AND THOSE ADJACENT WALL SHALL HAVE ANGLE TOPS.

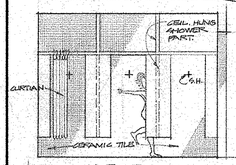


SECTION THRU LOCKERS @ ISLAND

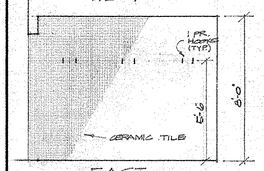


SECTION THRU LOCKERS @ WALL

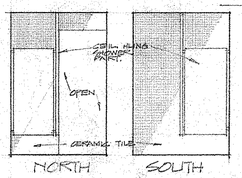
ELEVATIONS OF MOD. MOD. (213)



WEST

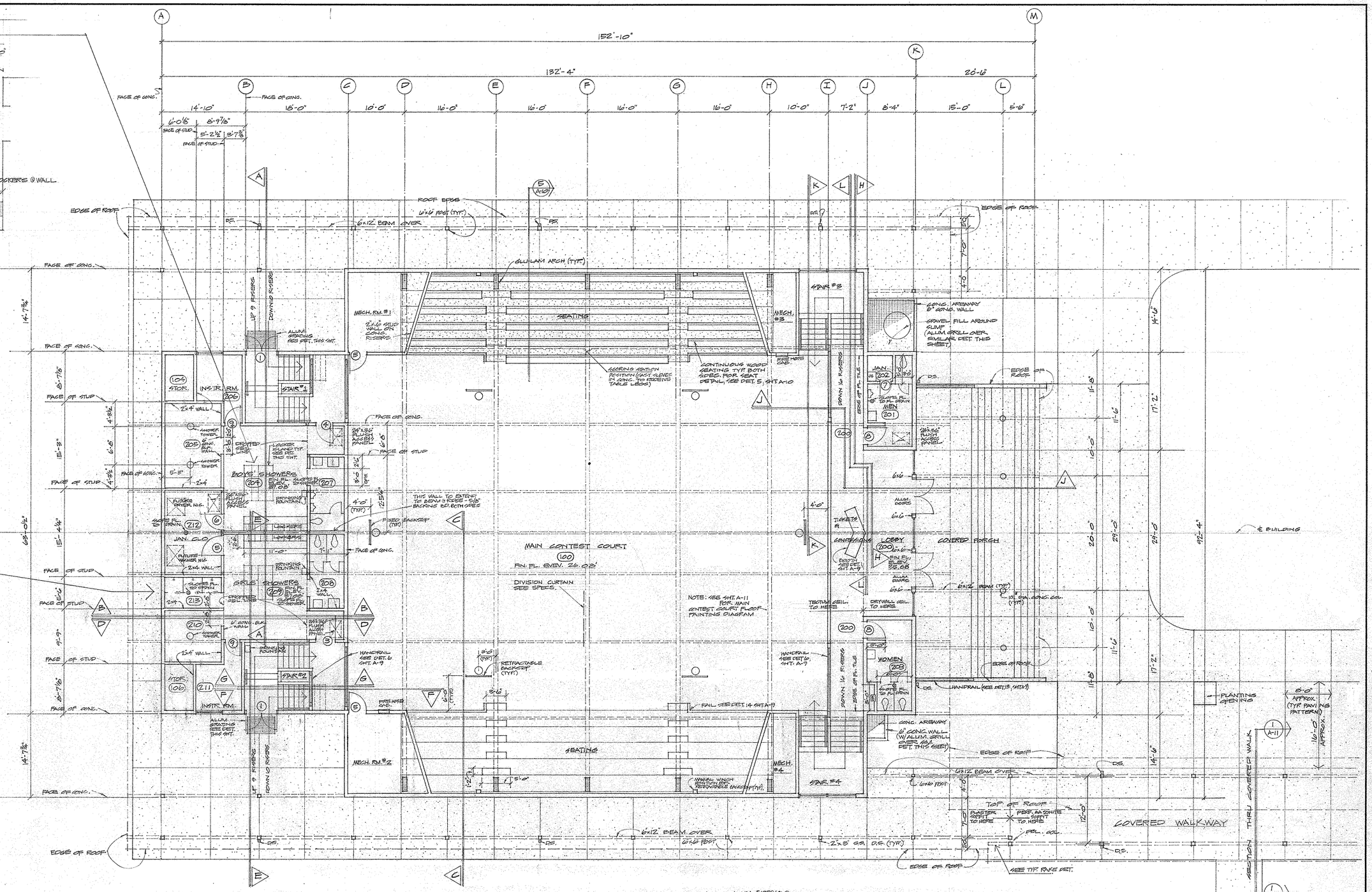


EAST



NORTH SOUTH

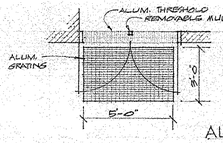
CALLED NORTH

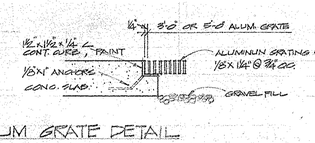


UPPER LEVEL FLOOR PLAN

SCALE: 1/8" = 1'-0"

NOTE: PLAN IS SYMMETRICAL ABOUT ℄ OF BUILDING UNLESS OTHERWISE SHOWN. ALL MESH GRILLS WHICH OCCURE IN INTERIOR CEDAR WALLS ARE TO BE PICKLED AND PAINTED TO MATCH WOOD FINISH.





ALUMINUM GRATE DETAIL

20

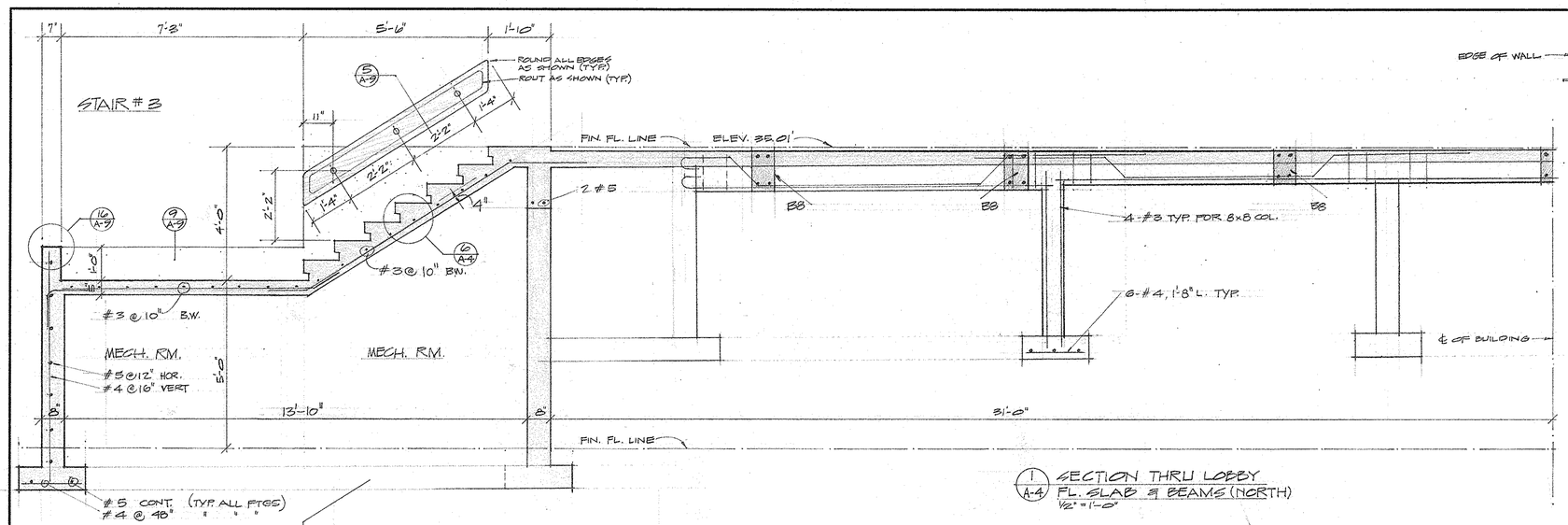
COSMOPOLIS SCHOOL GYMNASIUM

COSMOPOLIS SCHOOL DISTRICT #99
COSMOPOLIS, WASHINGTON

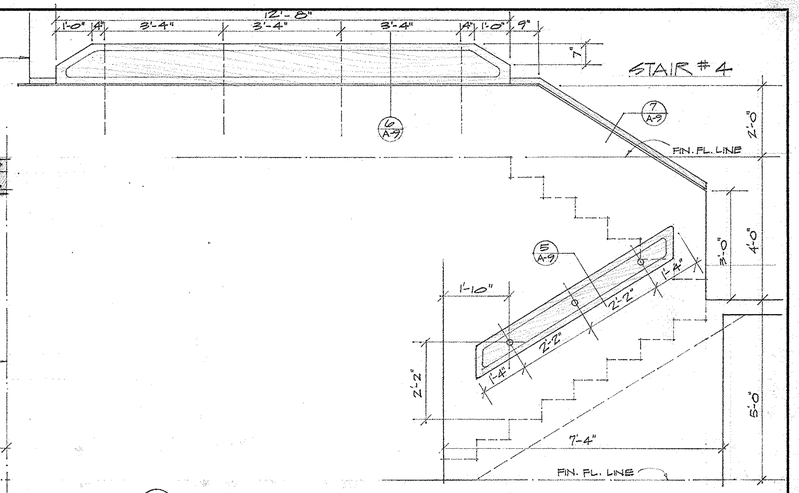
UPPER LEVEL PLAN

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

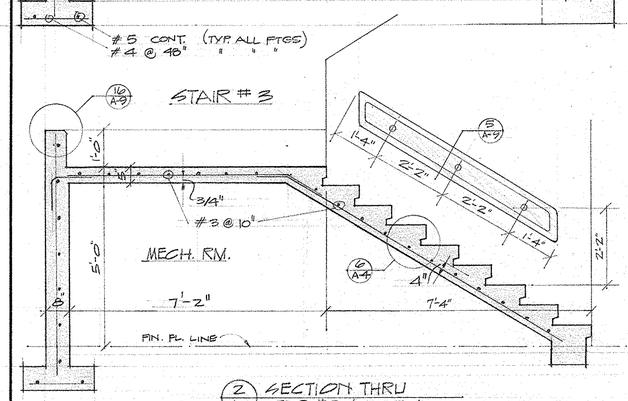
A-3



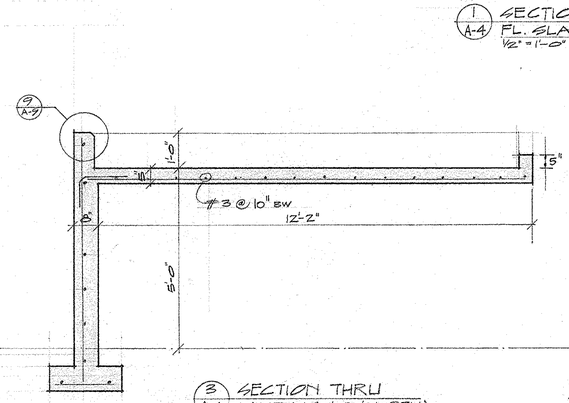
1 A-4 SECTION THRU LOBBY FL. SLAB & BEAMS (NORTH)
1/2" = 1'-0"



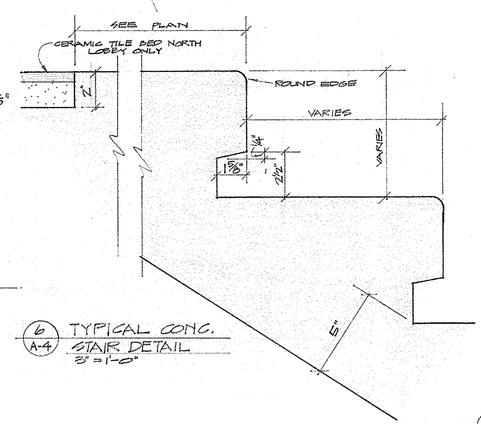
7 A-4 SECTION THRU STAIR Nº 4
1 1/2" = 1'-0"



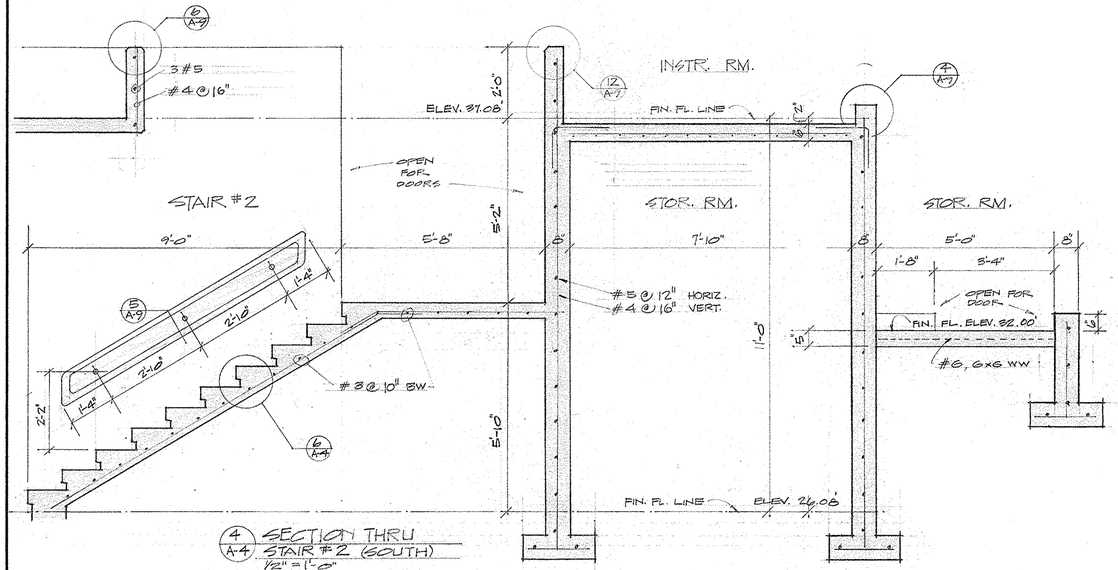
2 A-4 SECTION THRU STAIR #3 (NORTH)
1/2" = 1'-0"



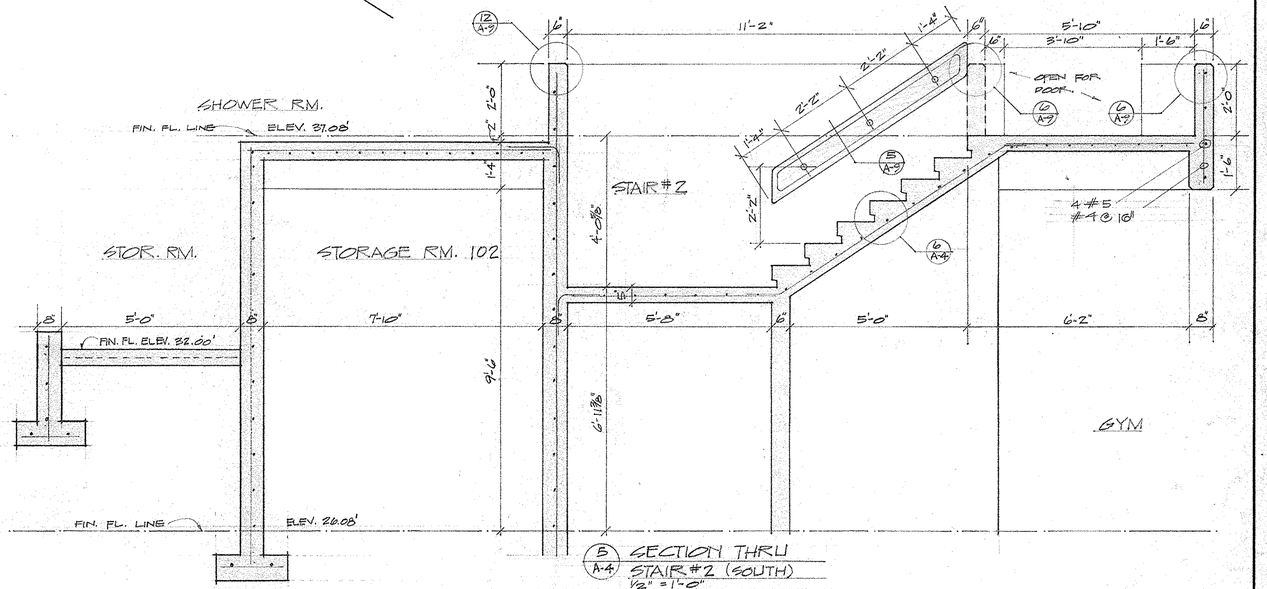
3 A-4 SECTION THRU LANDING # 3 (NORTH)
1/2" = 1'-0"



6 A-4 TYPICAL CONC. STAIR DETAIL
3" = 1'-0"



4 A-4 SECTION THRU STAIR #2 (SOUTH)
1/2" = 1'-0"



5 A-4 SECTION THRU STAIR #2 (SOUTH)
1/2" = 1'-0"

COSMOPOLIS SCHOOL GYMNASIUM

COSMOPOLIS SCHOOL DISTRICT # 99
COSMOPOLIS, WASHINGTON

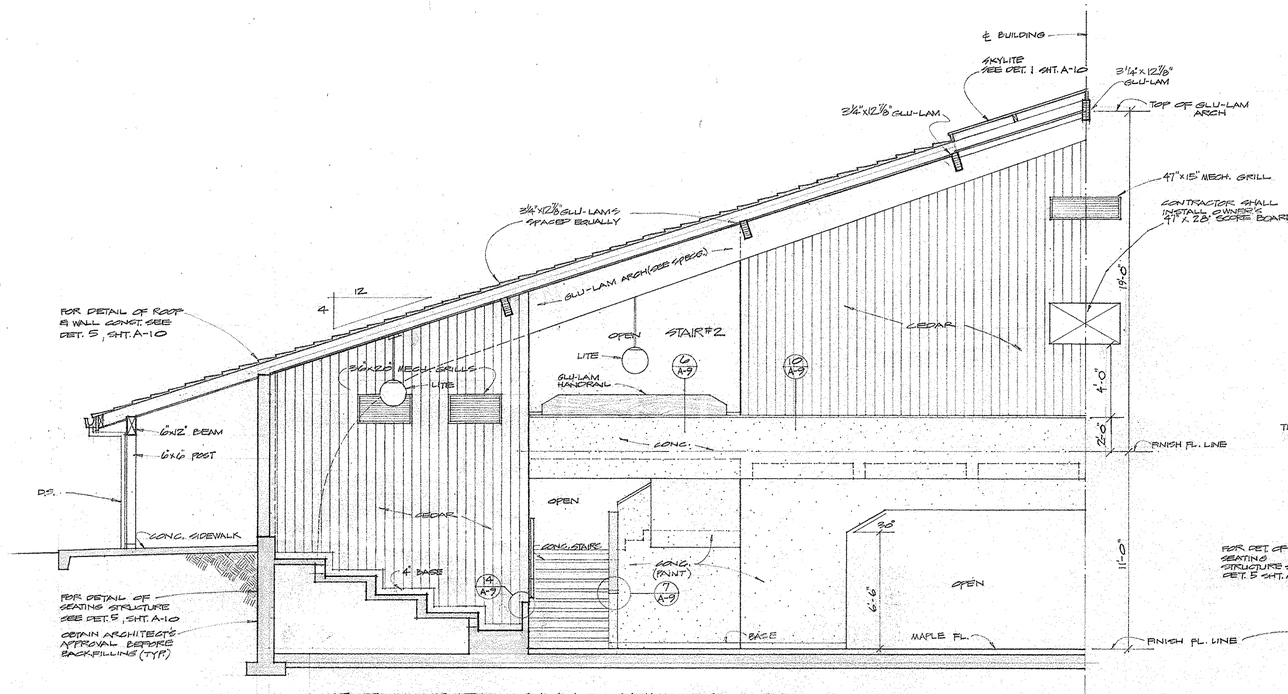
STRUCTURAL CONC. DETAILS

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

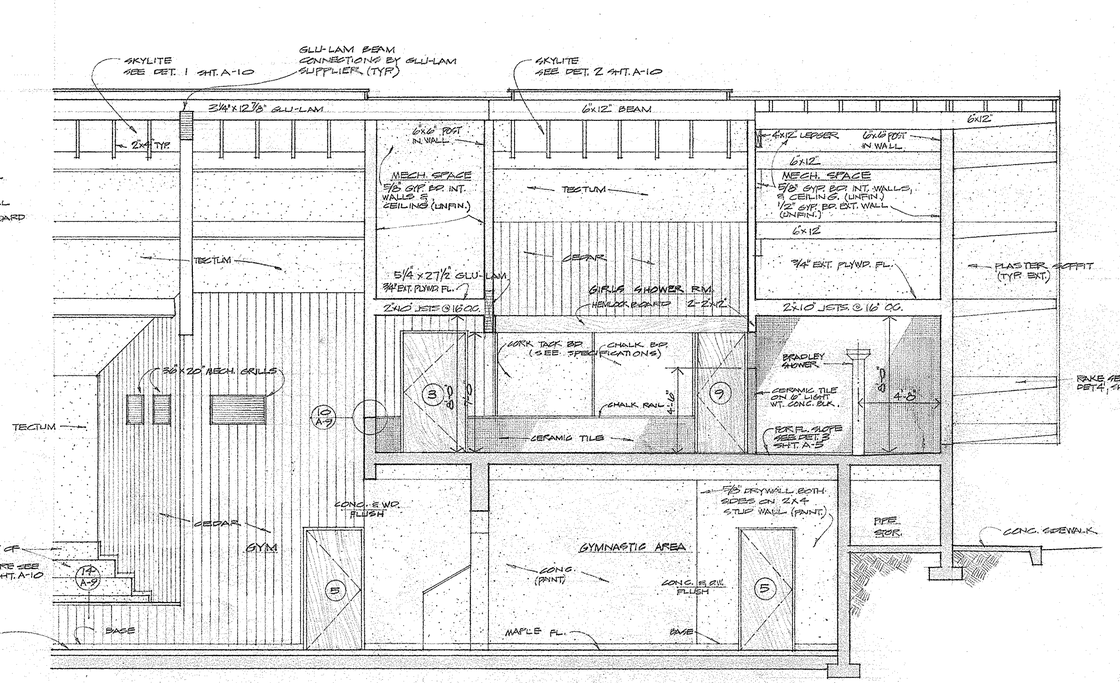
20 A-4


GIRLS' SHOWER
BOYS' SHOWER
℄ BUILDING
FINISH FL. LINE
ELEV. 37.08'
3/4" CHAMFER (TYP.)
18'-9 1/4" DIVIDED INTO THREE EQUAL SPACES
12'-2"
STAIR #1
BOLT LAYOUT DIAGRAM FOR HANDRAIL OPPOSITE ONE SHOWN
GYMNASTIC AREA
#3 @ 10" B.W.
STAIR #2
STORAGE
OPEN
1 A-5 SECTION THRU SHOWER RM. FLOOR SLAB & BEAMS (SOUTH)
1/2" = 1'-0"
LOBBY
ELEV. 35.08'
FIN. FL. LINE
B-7
2-#6
2-#4
7 #3 STIRRUPS
#4 @ 18" TEMP.
#3 @ 6", 2/3 BENT
DETAIL OF CONDITION BEYOND CONC. PORCH VARIES AS SHOWN
FILL
#3 @ 6"
10" DIA. CONC. COL. FORM WITH SONOTUBE 6 #4 VERT. #2 HOOPS @ 12"
CHAMFER ALL EXPOSED EDGES OF CONC. WALL
ELEV. 31.00'
GYM
2 A-5 SECTION THRU LOBBY FL. & FRONT PORCH (NORTH)
1/2" = 1'-0"
SHOWER RM'S
B-3
2 #4 TOP
FIN. FL. LINE AT WALLS
1-#7
2 #4
STOR. AREA
GYMNASTIC AREA
19'-6" (N.T.S.)
3 A-5 SECTION THRU SHOWER RM. FLOOR BEAMS (SOUTH)
1/2" = 1'-0"
SKYLITE SEE DET. 1 SHT. A-10
CEDAR
GIRLS SHOWER RM.
BOYS SHOWER RM.
HEMLOCK TRIM BD.
EXTENT OF SHOWER BEHIND
BRADLEY SHOWER (TYP.)
CERAMIC TILE
5/8 DRYWALL
LITE
MECH. GRILL
WIND.
STAIR #1
DOOR
6x12 BEAM CONT.
6x6 POST
CONC. SIDEWALK
SIDEWALK
FOR DETAIL OF ROOF & WALL CONST. SEE DET. 5, SHT. A-10
GYMNASTIC AREA
℄ BUILDING
MAPLE FL.
FIN. FL. LINE
OPEN
STORAGE SPACE
OBTAIN ARCHITECTS APPROVAL BEFORE BACKFILLING (TYP.)
A SECTION THRU GIRLS' & BOYS' SHOWERS, STAIR #1, GYMNASTIC AREA LOOKING SOUTH
SCALE: 1/4" = 1'-0"
MECH. SPACE SEE DET. 4 SECT. D SHT. A-6
CEDAR
GIRLS SHOWER RM.
5 1/4" x 27 1/2" GLU-LAM
2x10 @ 16" O.C.
HEMLOCK TRIM BD.
BRADLEY SHOWER
CERAMIC TILE
5/8" GYP. BD. (TAPE & PAINT)
BENCH FOR LOCKERS (SEE PLAN)
CERAMIC TILE
PIPE STORAGE
5/8 DRYWALL BOTH SIDES 2x4 WALL (PAINT)
#4 BARS 16" O.C. INTO BLK.
FLUSH
CONC.
GYMNASTIC AREA
20x12 LOUVRE
BASE
MAPLE FL.
FIN. FL. LINE
OBTAIN APPROVAL FROM ARCHITECT BEFORE BACKFILLING (TYP.)
B SECTION THRU GIRLS' SHOWER RM. LOOKING WEST
SCALE: 1/4" = 1'-0"

COSMOPOLIS SCHOOL GYMNASIUM		COSMOPOLIS SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	STRUCTURAL CONC. & 1/4" CROSS SECTIONS	STREET AND LUNDGREN A.I.A. ARCHITECTS AND PLANNING CONSULTANTS PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON	20 A-5

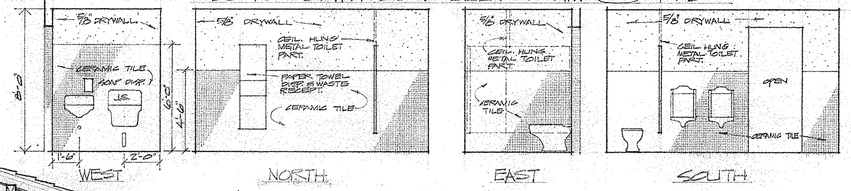


C SECTION THRU GYM LOOKING SOUTH SCALE: ¼" = 1'-0"

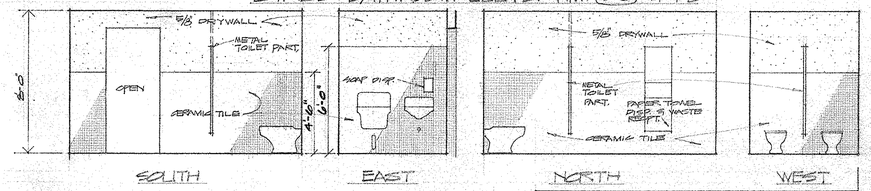


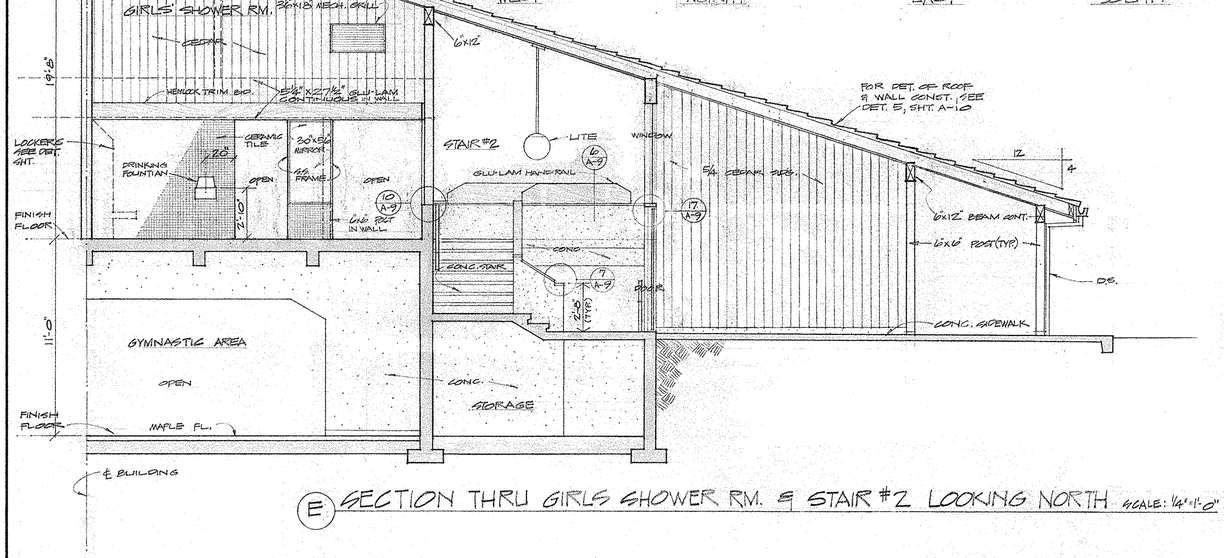
D SECTION THRU GIRLS SHOWER RM. & GYMNASTIC AREA SCALE: ¼" = 1'-0"

BOYS' BATHROOM ELEVS. RM. 207 ¼" = 1'-0"

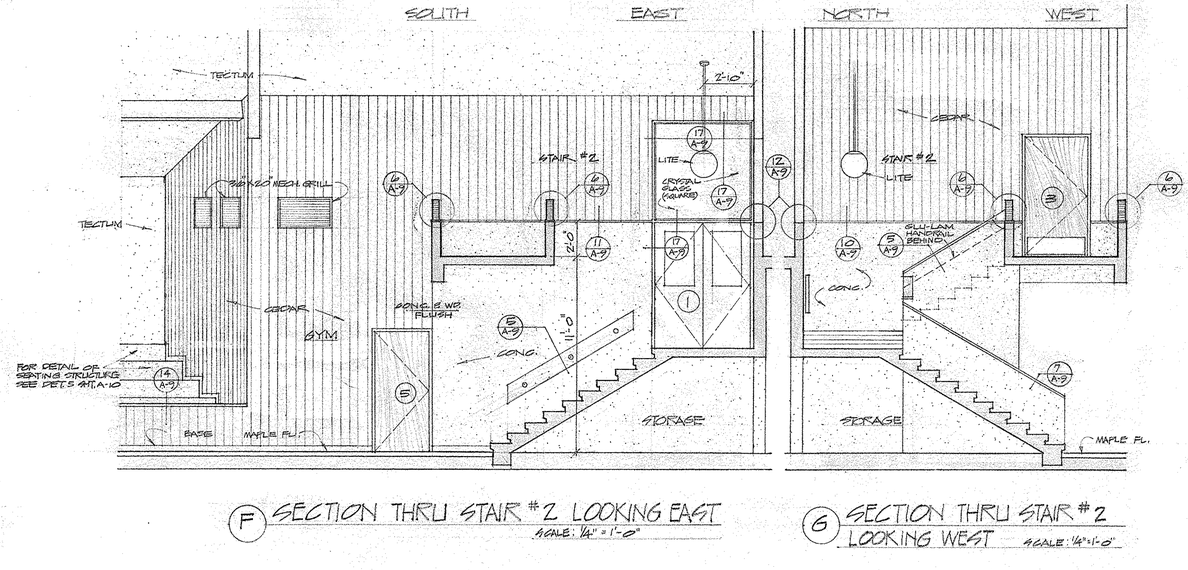


GIRLS' BATHROOM ELEVS. RM. 208 ¼" = 1'-0"





E SECTION THRU GIRLS SHOWER RM. & STAIR #2 LOOKING NORTH SCALE: ¼" = 1'-0"



F SECTION THRU STAIR #2 LOOKING EAST SCALE: ¼" = 1'-0"

6 SECTION THRU STAIR #2 LOOKING WEST SCALE: ¼" = 1'-0"

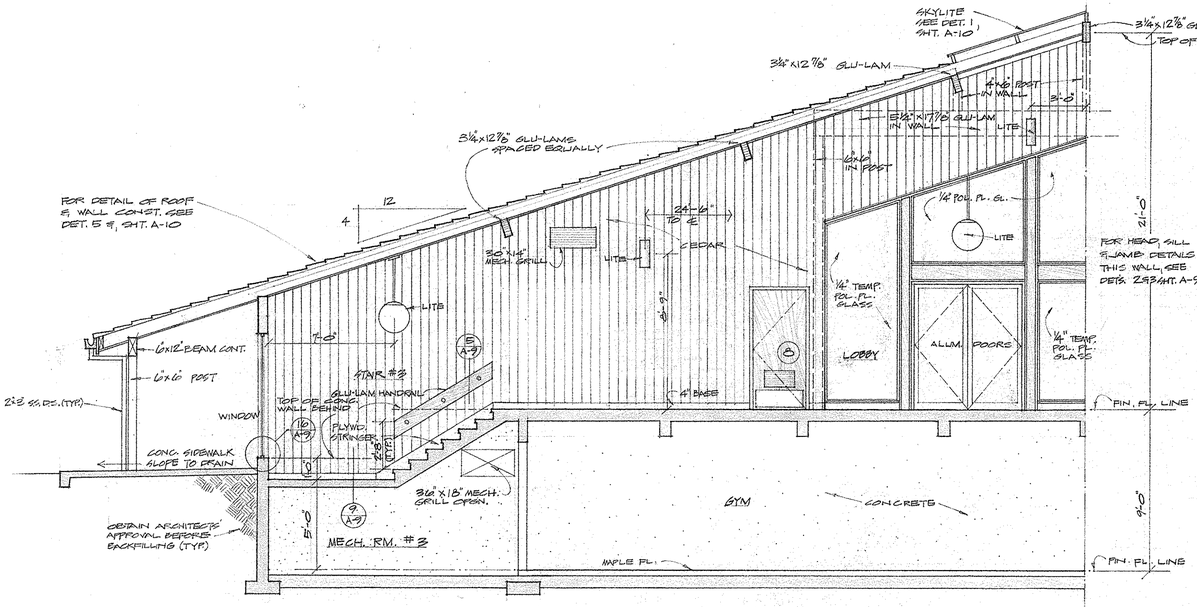
COSMOPOLIS SCHOOL GYMNASIUM

COSMOPOLIS SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON

¼" CROSS SECTIONS

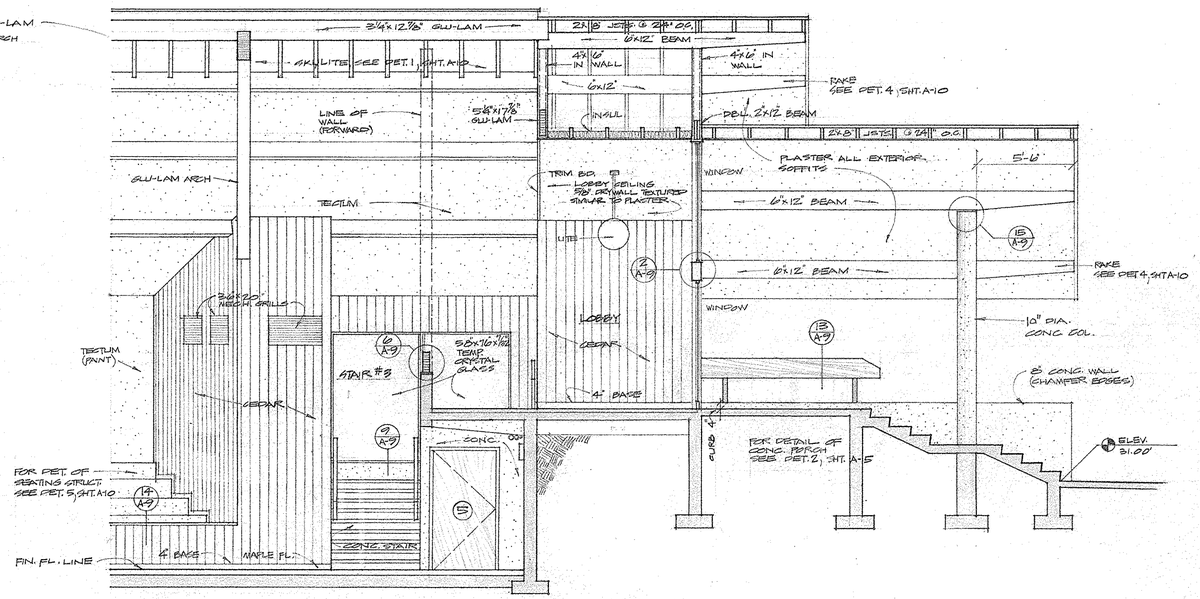
STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

20
A-6



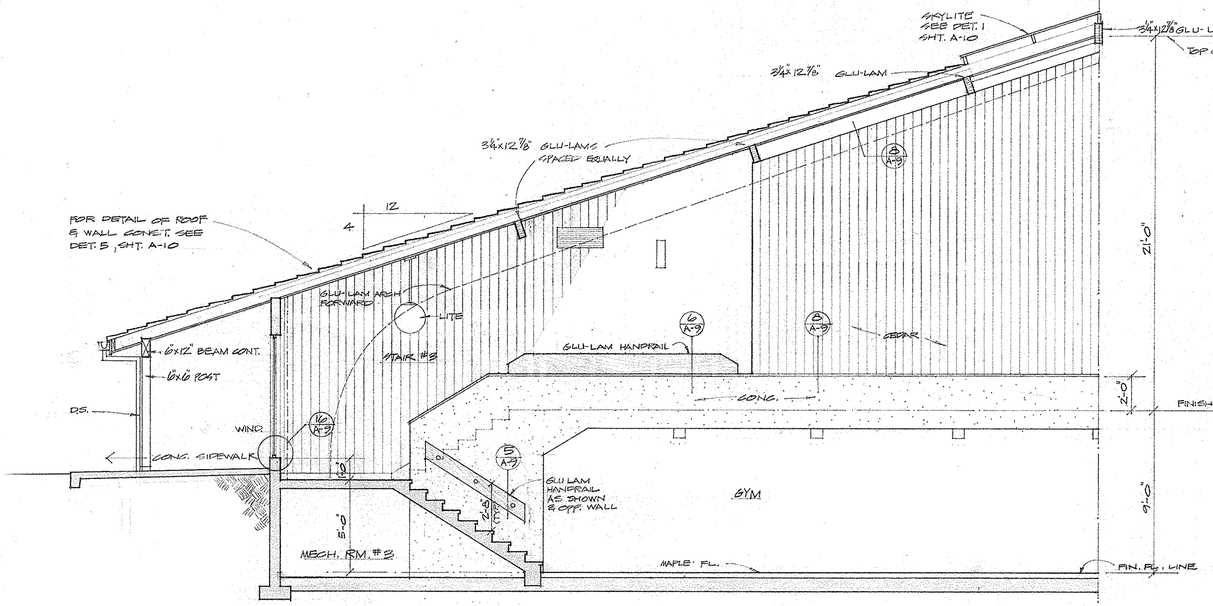
H SECTION THRU LOBBY & STAIR #3 LOOKING NORTH

SCALE: ¼"=1'-0"



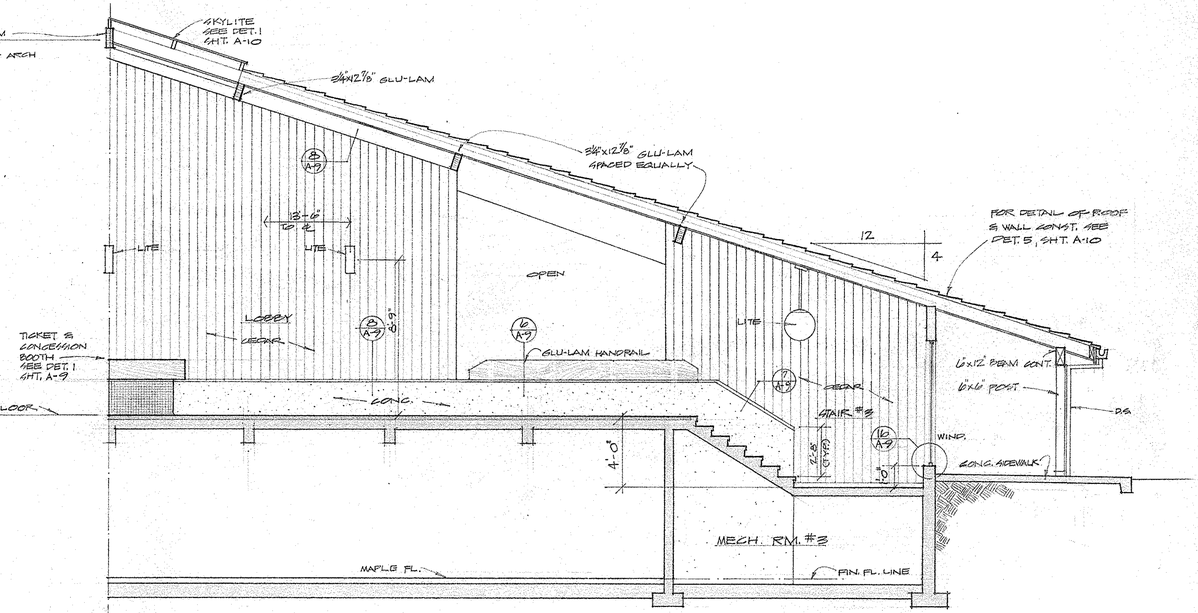
J SECTION THRU LOBBY LOOKING WEST

SCALE: ¼"=1'-0"



K SECTION THRU GYM & STAIR #3 LOOKING NORTH

SCALE: ¼"=1'-0"

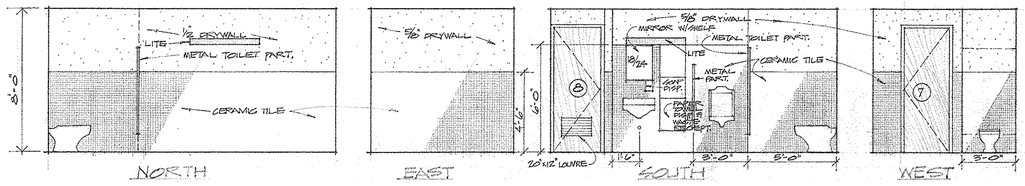


L SECTION THRU LOBBY & STAIR #3 LOOKING SOUTH

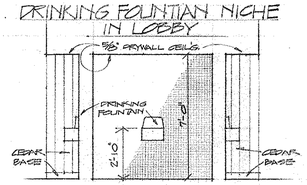
SCALE: ¼"=1'-0"

COSMOPOLIS SCHOOL GYMNASIUM		COSMOPOLIS SCHOOL DISTRICT #99 COSMOPOLIS, WASHINGTON	¼" WALL SECTIONS	STREET AND LUNDGREN A.I.A. ARCHITECTS AND PLANNING CONSULTANTS PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON	20 A-7

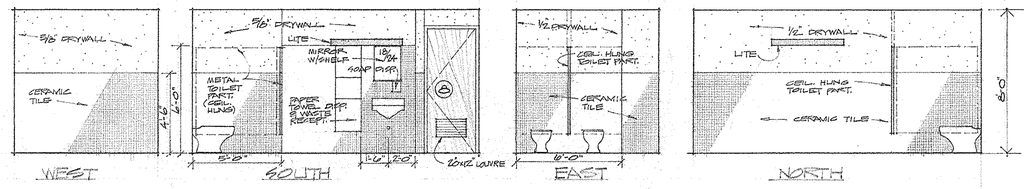
INTERIOR ELEVATIONS - MEN'S PUBLIC BATHRM. (201) 1/4"=1'-0"

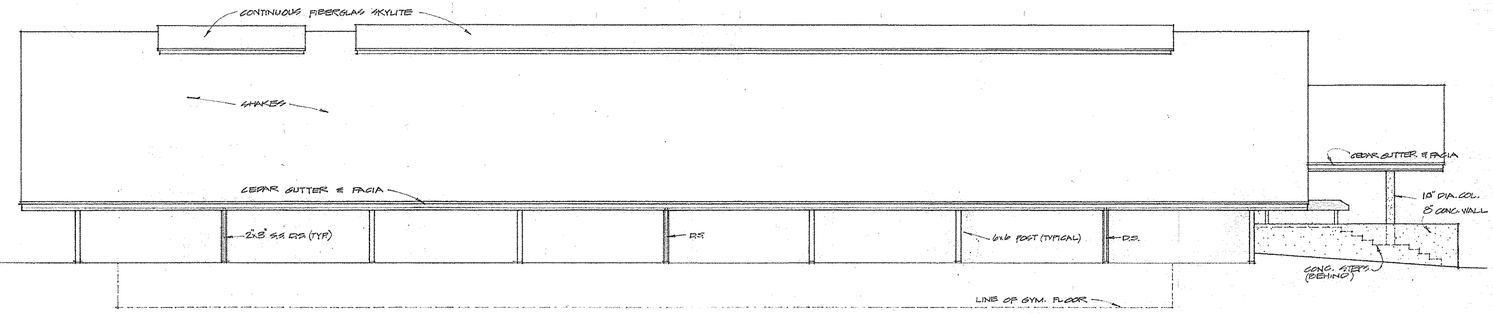


DRINKING FOUNTIAN NICHE IN LOBBY



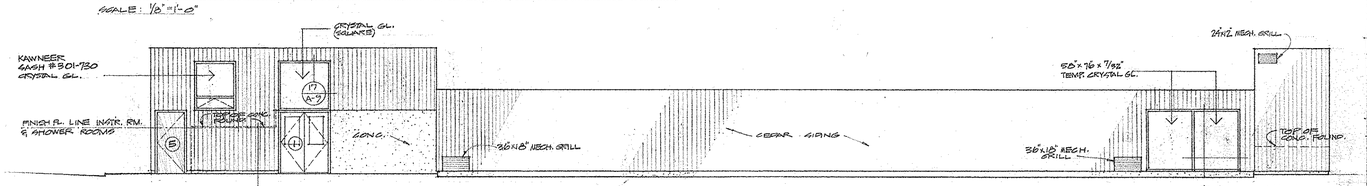
INTERIOR ELEVATIONS - WOMEN'S PUBLIC BATHRMS. (202) 1/4"=1'-0"





EAST SIDE ELEVATION (WEST SIDE EXACT OPPOSITE)

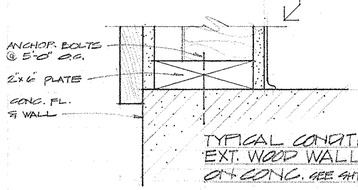
SCALE: 1/8"=1'-0"



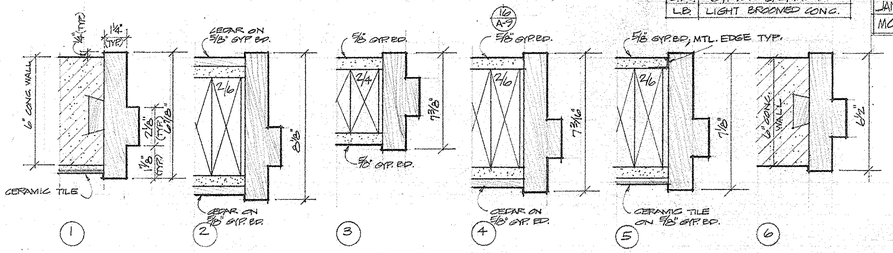
ABBREVIATIONS	
T.	TECTUM
P.B.	PLASTER BOARD
W.R.P.B.	WATER RESISTANT PLASTER BD.
P.	PAINT
C.T.	CERAMIC TILE *
S.	STAIN
B.F.	BULL FLOAT CONC.
S.T.	STEEL TROWEL CONC.
G.B.B.	GYPSUM BACKING BD.
L.B.	LIGHT BROOMED CONC.

EAST SIDE ELEVATION (UNDER COVERED WALKWAY)

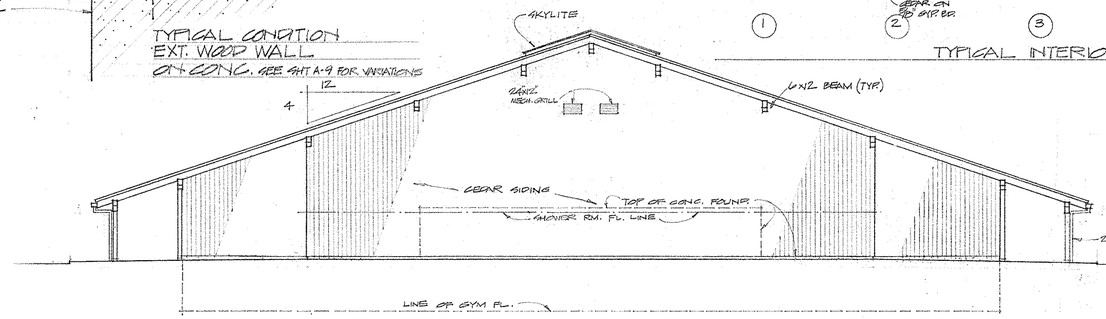
SCALE: 1/8"=1'-0" (WEST SIDE EXACT OPPOSITE)



TYPICAL CONDITION EXT. WOOD WALL ON CONC. SEE SHT A-9 FOR VARIATIONS

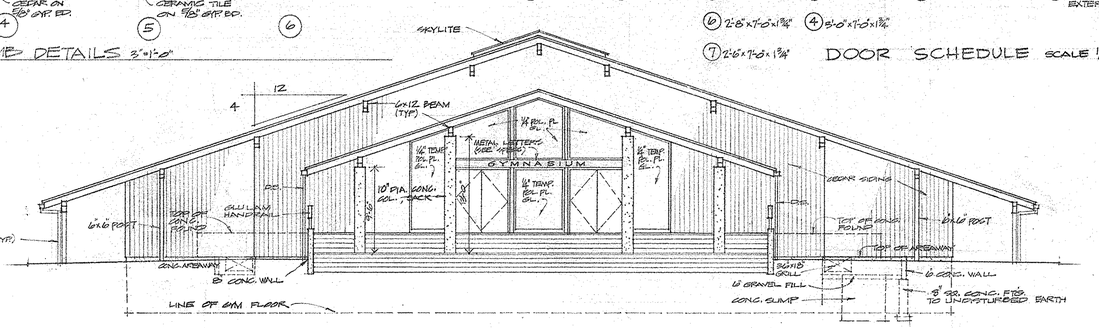


TYPICAL INTERIOR JAMB DETAILS 3"=1'-0"



REAR ELEVATION

SCALE: 1/8"=1'-0"



FRONT ELEVATION

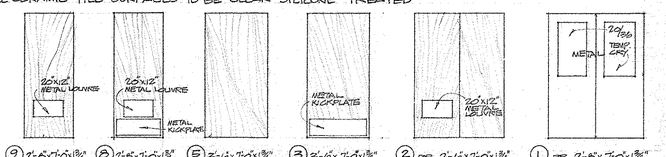
SCALE: 1/8"=1'-0"

ROOM FINISH SCHEDULE

NOTE: ALL EXTERIOR WALKS, COVERED PORCH, & ALL INTERIOR STAIRS TO BE LIGHT BROOM FINISH CONCRETE

ROOM	FLOOR MTL.	FLOOR FIN.	BASE MTL.	BASE FIN.	WALLS NORTH	WALLS SOUTH	WALLS EAST	WALLS WEST	CEILING MTL.	CEILING FIN.	WAINS.	REMARKS
STAIR #1	CONC.	L.B.	-	-	CONC. P.	CONC. P.B. P.	CONC. P.B. P. CEDAR S.	CONC. P. CEDAR S.	T.	-	-	
STAIR #2	CONC.	L.B.	-	-	CONC. P.	CONC. P.B. P.	CONC. P. CEDAR S.	CONC. P. CEDAR S.	T.	-	-	
STAIR #3	CONC.	L.B.	RUBBER	S.	CEDAR S.	CEDAR S.	- -	CONC. P. CEDAR S.	T.	-	-	
STAIR #4	CONC.	L.B.	RUBBER	S.	CEDAR S.	CEDAR S.	CONC. P. CEDAR S.	- -	T.	-	-	
MECH. #1	CONC.	S.T.	-	-	CONC. G.B.B.	CONC. G.B.B.	G.B.B. -	CONC. G.B.B.	G.B.B.	-	-	PLACE TYP. BATT INSUL.
MECH. #2	CONC.	S.T.	-	-	CONC. G.B.B.	CONC. G.B.B.	G.B.B. -	G.B.B. -	G.B.B.	-	-	IN INTERIOR MECH. RM.
MECH. #3	CONC.	S.T.	-	-	CONC. G.B.B.	CONC. G.B.B.	CONC. G.B.B. -	CONC. G.B.B. -	CONC. G.B.B.	-	-	WALLS = NONE IN EXT. MECH.
MECH. #4	CONC.	S.T.	-	-	CONC. G.B.B.	CONC. G.B.B.	CONC. G.B.B. -	CONC. G.B.B. -	CONC. G.B.B.	-	-	RM. WALLS OF CEIL. OR BELOW GRADE
GYM 100	MAPLE	GYM	SEE SPECS	-	CONC. CEDAR P. S.	CONC. CEDAR P. S.	CEDAR S.	CEDAR S.	T.	-	T.	PAINT REGULATION COURT LINES ON FLOOR AS DIRECTED
GYM TIC 101	MAPLE	GYM	SEE SPECS	-	CONC. P.	CONC. P.	CONC. P.	CONC. P.	CONC. P.B.	P.	CONC. P.	PAINT ENT. PLUMBING TO MATCH CEILING
STOR. 102	CONC.	S.T.	-	-	CONC. -	CONC. -	CONC. -	CONC. G.B.B. -	CONC. G.B.B.	-	CONC. -	
STOR. 103	CONC.	S.T.	-	-	CONC. -	CONC. -	CONC. G.B.B. -	CONC. G.B.B. -	CONC. G.B.B.	-	CONC. -	
STOR. 104	CONC.	B.F.	-	-	CONC. G.B.B. -	G.B.B. -	G.B.B. -	G.B.B. -	G.B.B.	-	G.B.B. -	NO INSULATION
STOR. 105	CONC.	B.F.	-	-	CONC. -	CONC. -	- -	- -	CONC. -	-	- -	EXT. STOR. RM.
STOR. 106	CONC.	B.F.	-	-	CONC. G.B.B. -	G.B.B. -	G.B.B. -	G.B.B. -	G.B.B.	-	G.B.B. -	WALLS OR CEIL.
LOBBY 200	C.T.	-	RUBBER	-	CEDAR S.	CEDAR CONC. S. P.	CEDAR S.	CEDAR S.	T. P.B.	TEX. P.	-	C.T. LINED DRINKING NICHE W/ P.B. CEIL. - PAINT
MEN 201	C.T.	-	C.T.	-	P.B. P.	P.B. P.	P.B. P.	P.B. P.	P.B.	P.	C.T.	SEE PET. SHT. A-8
JAN. 202	C.T.	-	RUBBER	-	P.B. P.	P.B. P.	P.B. P.	P.B. P.	P.B.	P.	P.B. P.	-
WOMEN 203	C.T.	-	C.T.	-	P.B. P.	P.B. P.	P.B. P.	P.B. P.	P.B.	P.	P.B. P.	GT. SEE PET. SHT. A-8
BOYS SH. 204	C.T.	-	C.T.	-	C.T. CEDAR S.	C.T. CEDAR S.	C.T. CEDAR S. P.B.	GBB. CEDAR S.	T.	-	C.T.	SEE SECTIONS A, B, & E
BOYS SH. 205	C.T.	-	C.T.	-	C.T. -	C.T. -	C.T. -	C.T. -	C.T.	-	W.R.P.B.	P. SEE SECT. A & B, ALL C.T. ON 5/8" WATER RESISTANT GYP. BACKING BD.
INSTR. RM. 206	C.T.	-	RUBBER	-	P.B. P.	P.B. P.	P.B. P.	P.B. P.	P.B.	P.	P.B. P.	
BOYS B.R. 207	C.T.	-	C.T.	-	P.B. P.	P.B. P.	P.B. P.	P.B. P.	P.B.	P.	P.B. P.	C.T. SEE PET. SHT. A-8
GIRLS B.R. 208	C.T.	-	C.T.	-	P.B. P.	P.B. P.	P.B. P.	P.B. P.	P.B.	P.	P.B. P.	C.T. SEE PET. SHT. A-8
GIRLS SH. 209	C.T.	-	C.T.	-	C.T. CEDAR S.	C.T. CEDAR S.	G.B.B. CEDAR S.	GBB. CEDAR S.	T.	-	C.T.	SEE SECTIONS A, B, & E
GIRLS SH. 210	C.T.	-	C.T.	-	C.T. -	C.T. -	C.T. -	C.T. -	C.T.	-	W.R.P.B.	P. SEE SECT. A & B, ALL C.T. ON 5/8" WATER RESISTANT GYP. BACKING BD.
INSTR. RM. 211	C.T.	-	RUBBER	-	P.B. P.	P.B. P.	P.B. P.	P.B. P.	P.B.	P.	P.B. P.	
JAN. CLO. 212	CONC.	S.T.	RUBBER	-	W.P. P.	W.P. P.	W.P. P.	W.P. P.	W.P. P.B.	P.	W.P. P.B.	P.
MOP. ROOM 213	C.T.	-	C.T.	-	C.T. -	C.T. -	C.T. -	C.T. -	C.T.	-	W.R.P.B.	P. SEE PET. SHT. A-8, ALL C.T. ON 5/8" WATER RESISTANT GYP. BACKING BD.

* ALL CERAMIC TILE SURFACES TO BE CLEAR SILICONE TREATED

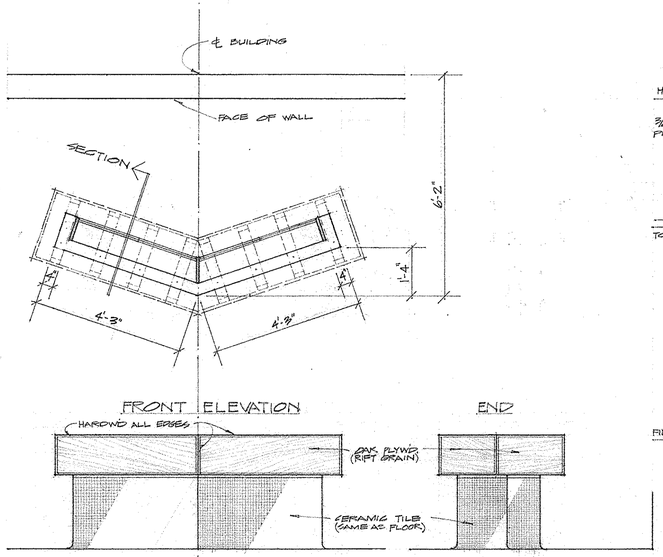


DOOR SCHEDULE SCALE 1/4"=1'-0"

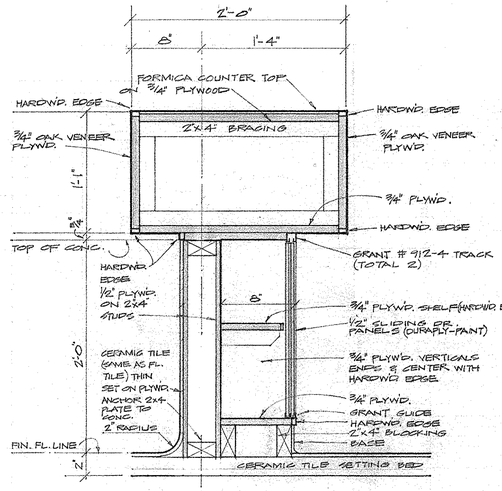
COSMOPOLIS SCHOOL GYMNASIUM		COSMOPOLIS SCHOOL PISTRICT # 99 COSMOPOLIS, WASHINGTON	INTERIOR & EXT. ELEVATIONS & SCHEDULES

STREET AND LUNDGREN A.I.A.
ARCHITECTS AND PLANNING CONSULTANTS
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

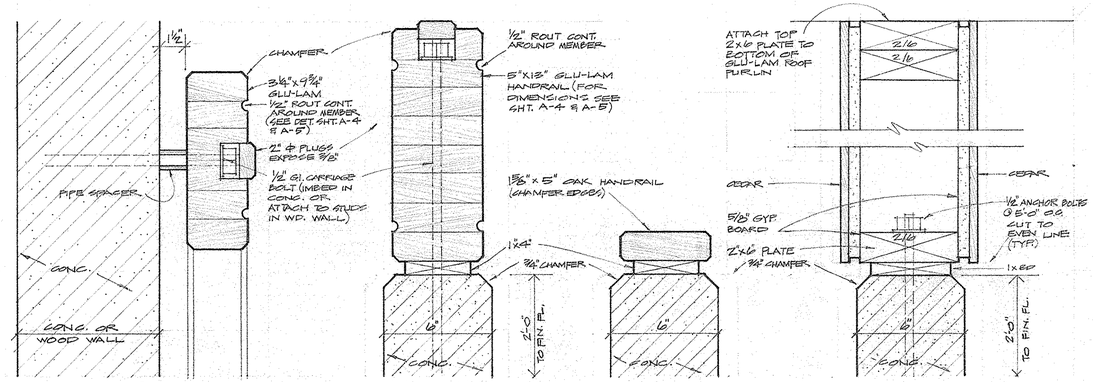
20 A-8



1 A-9 TICKET & CONCESSION COUNTER - FRONT LOBBY SCALE: ½" = 1'-0"



COUNTER SECTION 1½" = 1'-0"

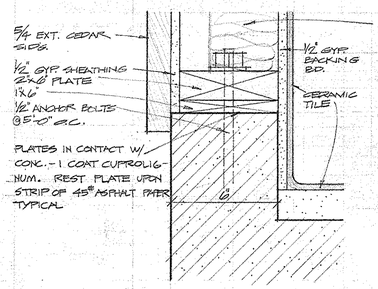


5 A-9 GLU-LAM HANDRAIL STAIRS # 3 & #4 3" = 1'-0"

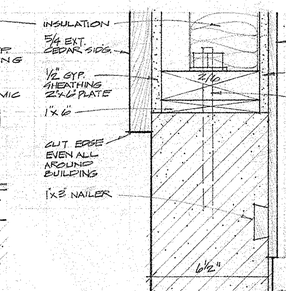
6 A-9 GLU-LAM HANDRAIL 3" = 1'-0"

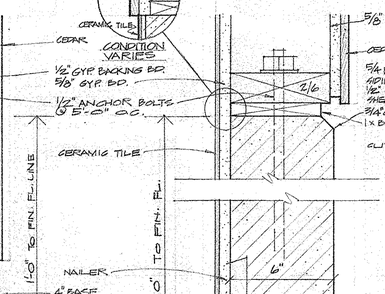
7 A-9 CONCRETE HANDRAIL 3" = 1'-0"

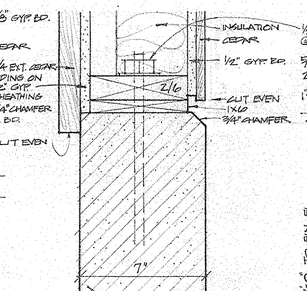
8 A-9 CONCRETE LEDGE 3" = 1'-0"

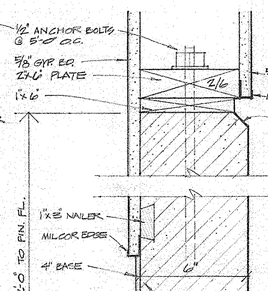


4 A-9 CONCRETE LEDGE @ SHOWER RM'S. SOUTH WALL 3" = 1'-0"







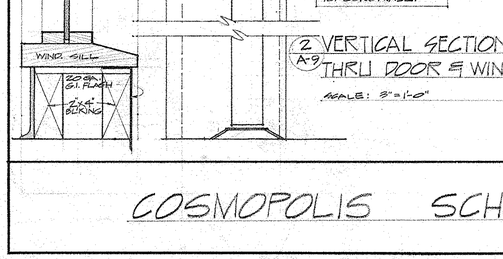


9 A-9 CONCRETE LEDGE 3" = 1'-0"

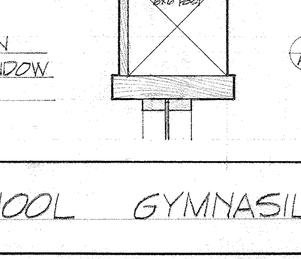
10 A-9 CONCRETE LEDGE 3" = 1'-0"

11 A-9 CONCRETE LEDGE 3" = 1'-0"

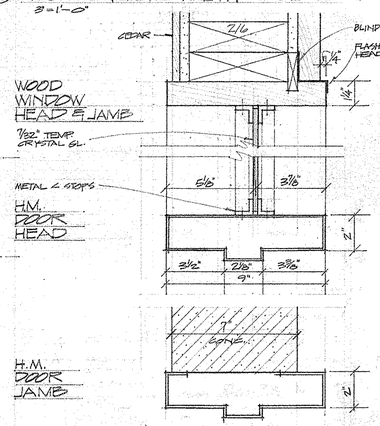
12 A-9 CONCRETE LEDGE 3" = 1'-0"



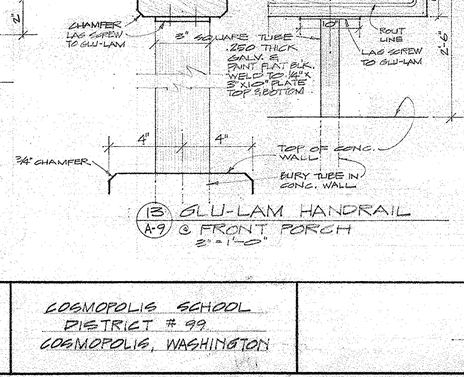
2 A-9 VERTICAL SECTION THRU DOOR & WINDOW SCALE: 3" = 1'-0"



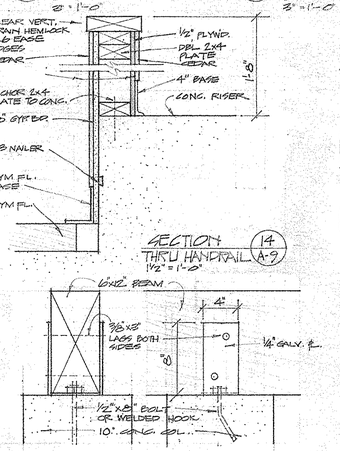
3 A-9 HORIZONTAL SECTION THRU DOOR & WINDOW SCALE: 3" = 1'-0"



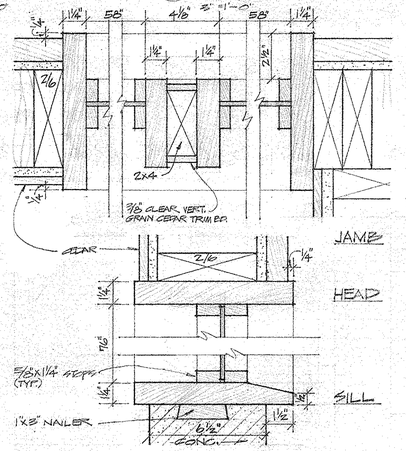
17 A-9 SECTION THRU EXIT DR.



13 A-9 GLU-LAM HANDRAIL @ FRONT PORCH 3" = 1'-0"



15 A-9 6"x12" BEAM CONNECTION TO CONC. COLUMN 1½" = 1'-0"



16 A-9 HEAD, SILL & JAMB DETAILS WINDOW STAIR # 3 & #4 3" = 1'-0"

COSMOPOLIS SCHOOL GYMNASIUM

COSMOPOLIS SCHOOL DISTRICT # 99
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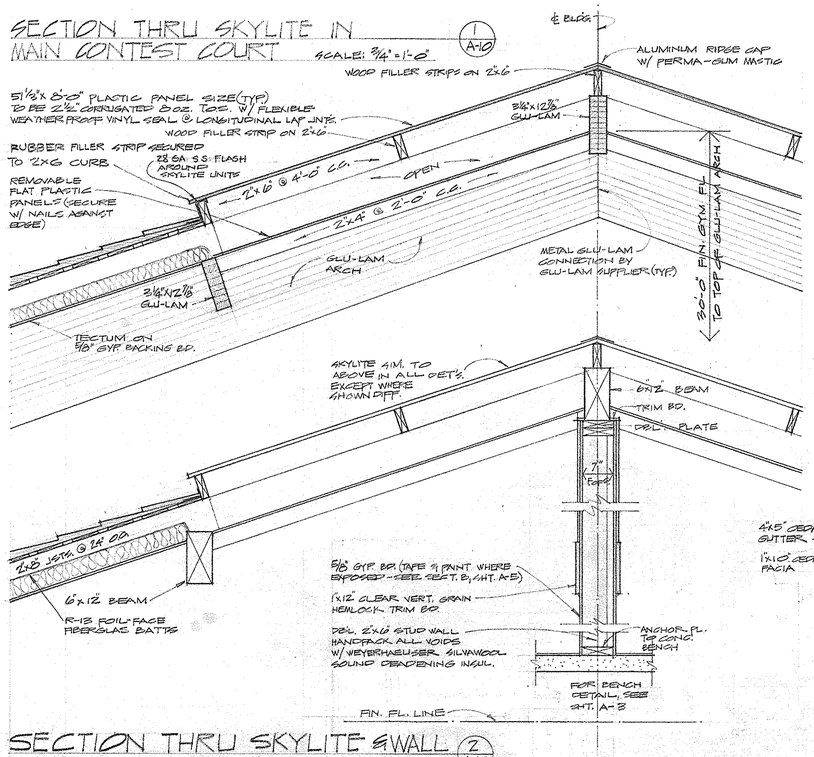
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

20 A-9

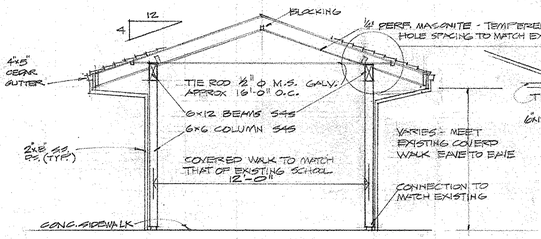
SECTION THRU SKYLITE IN MAIN CONTEST COURT

(1 / A-10) SCALE: 3/4" = 1'-0"

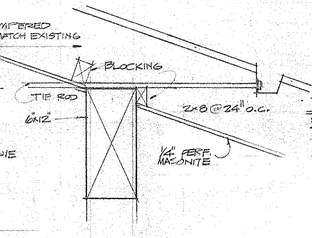


SECTION THRU SKYLITE & WALL IN SHOWER ROOMS

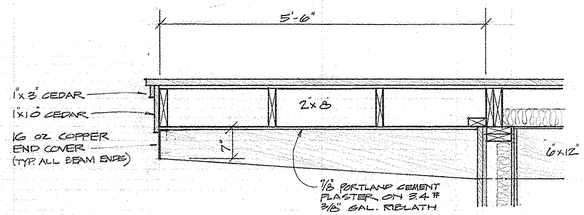
(2 / A-10) SCALE: 3/4" = 1'-0"



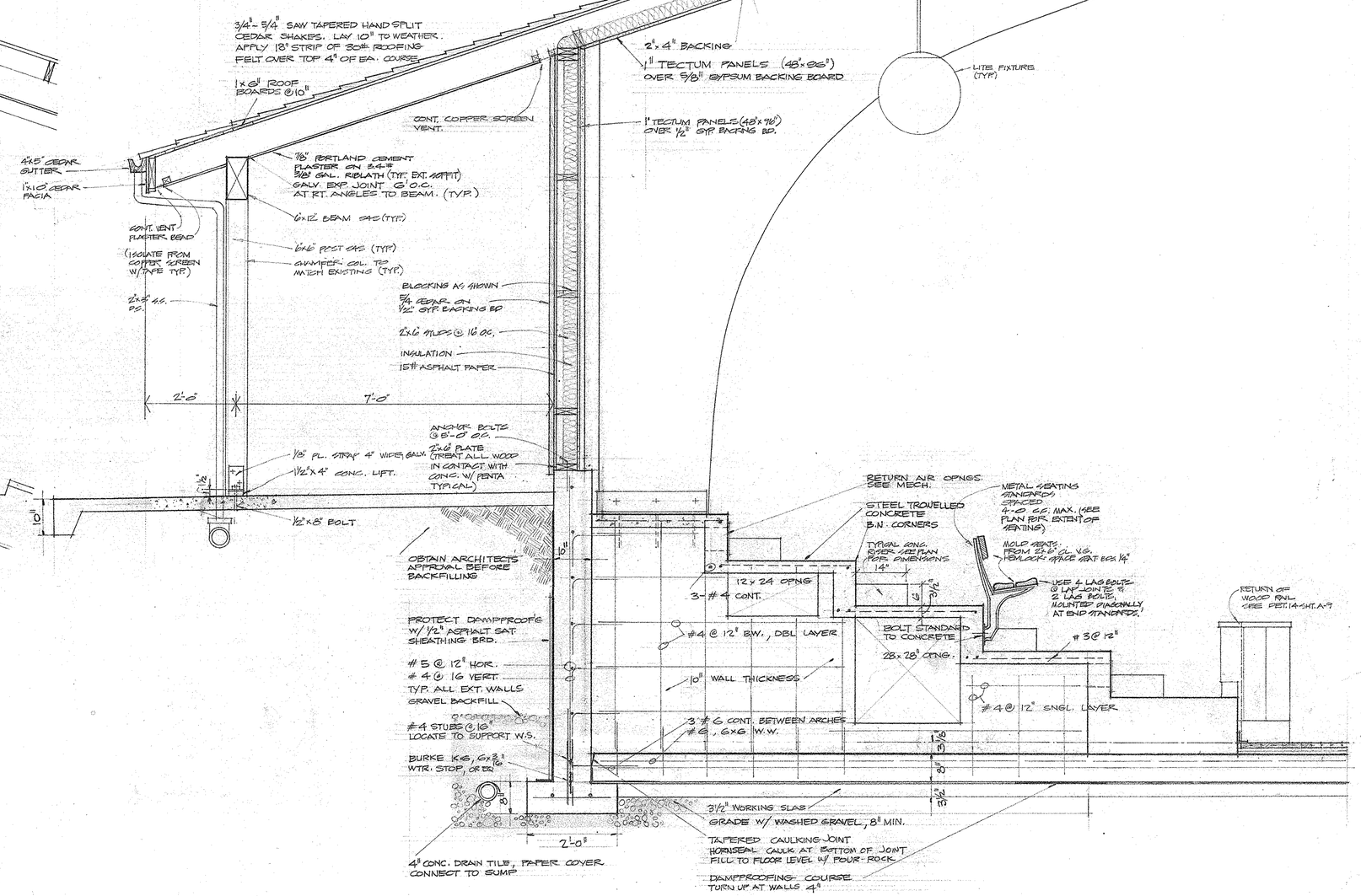
(6 / A-10) COVERED WALK SECTION
SCALE 1/4" = 1'-0"



DETAIL
SCALE 1 1/2" = 1'-0"



(4 / A-10) SECTION THRU TYPICAL RAKE
SCALE: 3/4" = 1'-0"



(5 / A-10) SECTION THRU GYM WALL & SEATING
SCALE: 3/4" = 1'-0"

COSMOPOLIS SCHOOL GYMNASIUM

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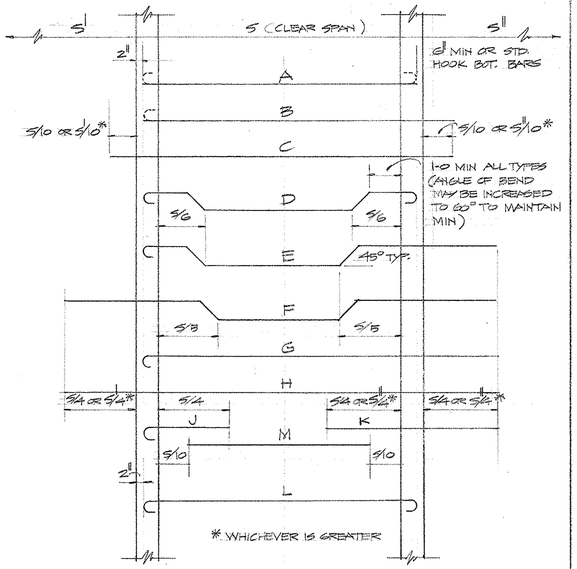
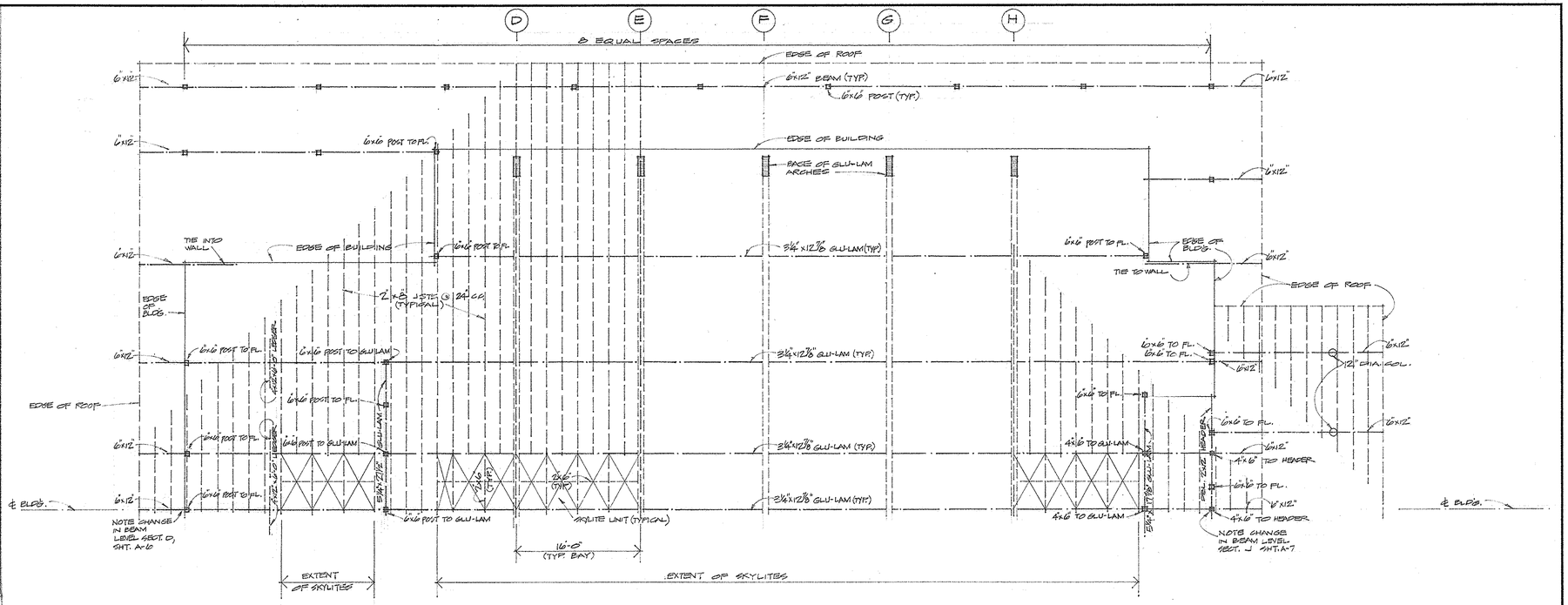
PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

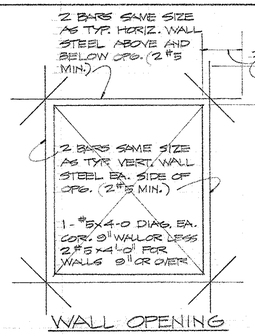
20
A-10



BEAM BAR TYPES



½ ROOF FRAMING PLAN (BLDG. SYMMETRICAL ABOUT ℄) SCALE: 1/8" = 1'-0"

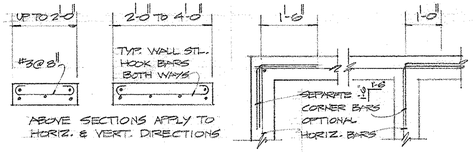


WALL OPENING

MINIMUM WALL REINFORCING		
THICKNESS	HORIZ. STEEL	VERT. STEEL
4"	#4 @ 14"	#3 @ 18"
6"	#4 @ 10"	#4 @ 18"
8"	#5 @ 12"	#4 @ 16"

EXCEPT AS NOTED ON DRAWINGS, REINF. ALL CONC. WALLS AS NOTED ABOVE ON ℄ OF WALL

TEMP. REINF. SCHEDULE	
SLAB THICKNESS	REINFORCING
4" TO 4½"	#3 @ 12"
4½" TO 5½"	#4 @ 18"
6" TO 7"	#4 @ 14"



SMALL SECTIONS CORNER DETAILS

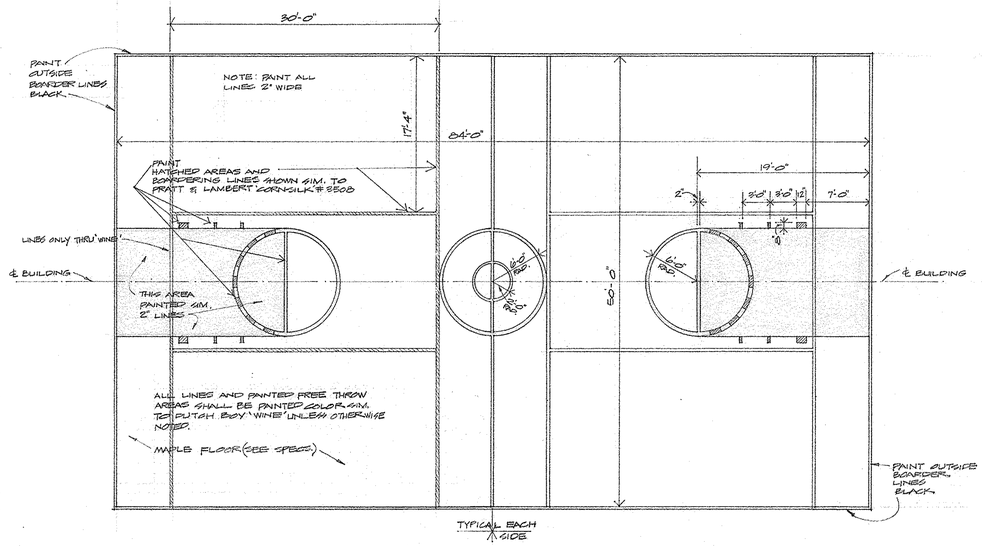
SINGLE LAYER REINFORCING

TYPICAL CAST-IN-PLACE WALL DETAILS

WATER CEMENT RATIO AND CEMENT CONTENTS SHALL BE AS FOLLOWS FOR VARIOUS CONCRETE STRENGTHS (F'c) BASED ON STANDARD 28 TESTS

	F'c	FC	MIN. SACKS OF CEM./CU.YD. CONC	MAX GAL H_2O/ SACK OF CEM
EXTERIOR NON-STRUCTURAL SLABS ON GROUND, WALLS, AND ALL OTHER CONC. NOT OTHERWISE NOTED	2500	1125	5½	6¾
FLOOR SLABS, BEAMS, COLUMNS	3000	1350	6	6

MAXIMUM SLUMP PER ASTM C-143 2" FOR FLOOR SLABS ON GROUND
4" FOR ALL OTHER CONCRETE



MAIN CONTEST COURT FLOOR PAINTING DIAGRAM

1/8" = 1'-0"

CONCRETE BEAM SCHEDULE															
MARK	W"	D"	BOT. BARS			BM. BARS			TOP BARS			STIRRUPS			
			NO.	SIZE	TYPE	NO	SIZE	TYPE	NO	SIZE	TYPE	SIZE	TYPE	SPACING	
B-1			2	10	A	2	10	D				3	⊔	2@3" 4@8" 3@24"	
B-2	8	16	2	5	A				2	4					
B-3	8	16	2	4		1	7		2	4					
B-4	8	16	2	5	A				2	5					
B-5	8	14	1	7	A	2	6	E	1	4	J	3	□	2, 8	
B-6	8	12	2	3	A	1	6	F	1	3		3	□	3, 6	
B-7	8	14	2	4	A				2	6	G	3	□	2, 5, 5, 7	

COSMOPOLIS SCHOOL GYMNASIUM

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PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON

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A-11

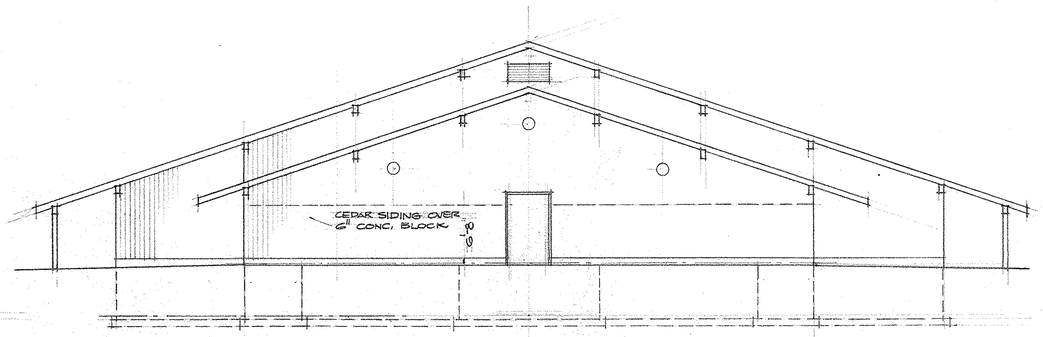
CONSTRUCTION NOTES

WALLS: MASONRY BLOCK TO 6'-8" HT.
W.P. GYP. BRD. ABOVE BLOCK, EXCEPT AS SHOWN
CERAMIC TILE TO 4'-6" HT. IN SHOWERS ONLY.

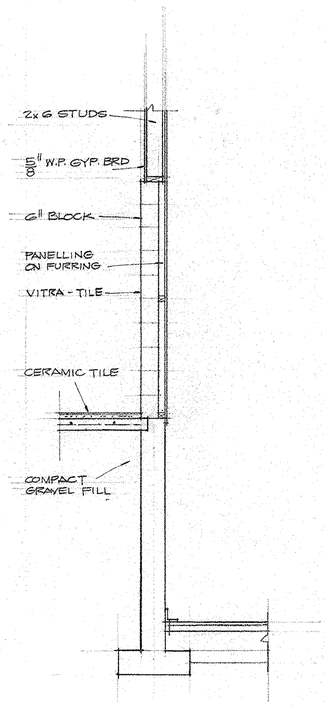
FLOORS: CERAMIC TILE IN GIRLS AND BOYS SHOWER & DRSG. RMS.
4" TILE BASE TYP.

CEILINGS: ACOUSTICAL TILE ON 1x4 FURRING

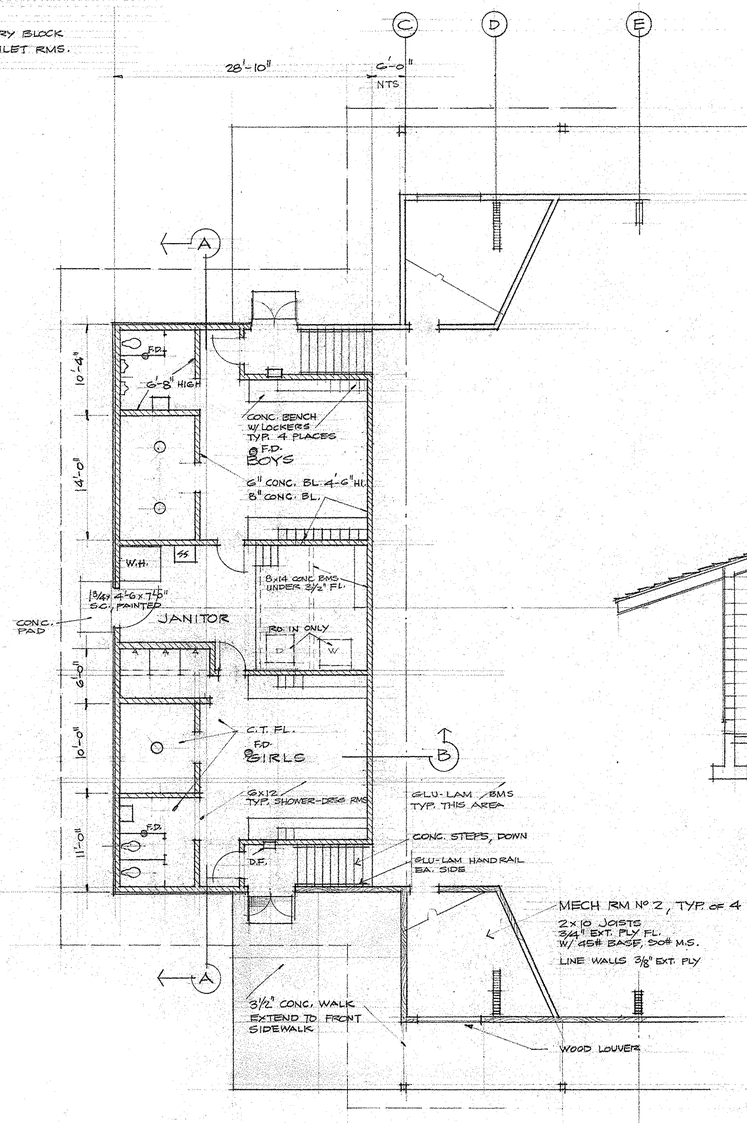
PAINTING: P & L VITRA-TILE TO 6'-8" HT. ALL MASONRY BLOCK
WALLS IN DRSG RMS, SHOWER RMS & TOILET RMS.
GYP. BRD. WALLS, 3 COAT WORK.



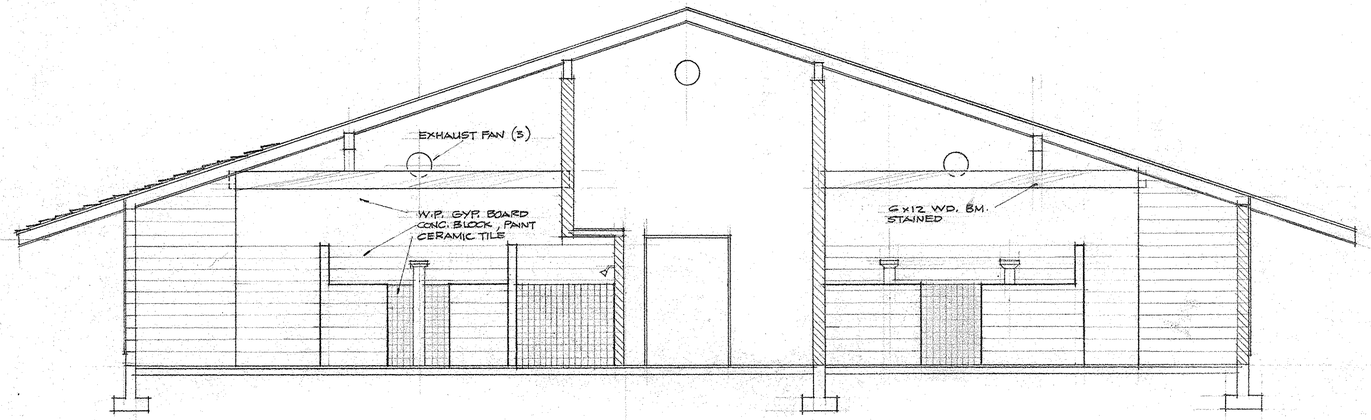
SOUTH ELEVATION
SCALE 1/8" = 1'-0"



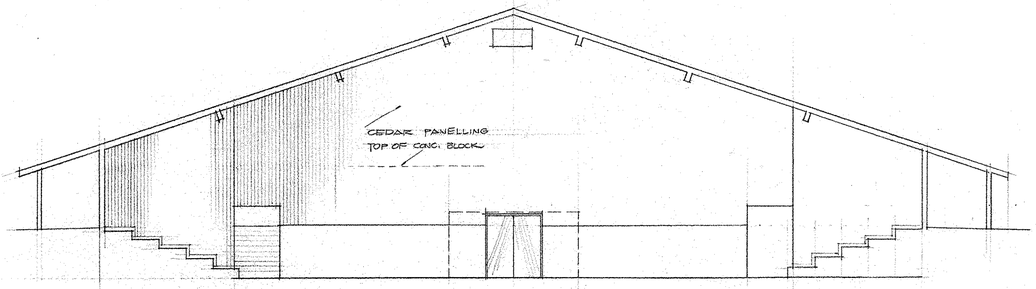
SECTION B
SCALE 1/2" = 1'-0"



REVISED PLAN
SCALE 1/8" = 1'-0"



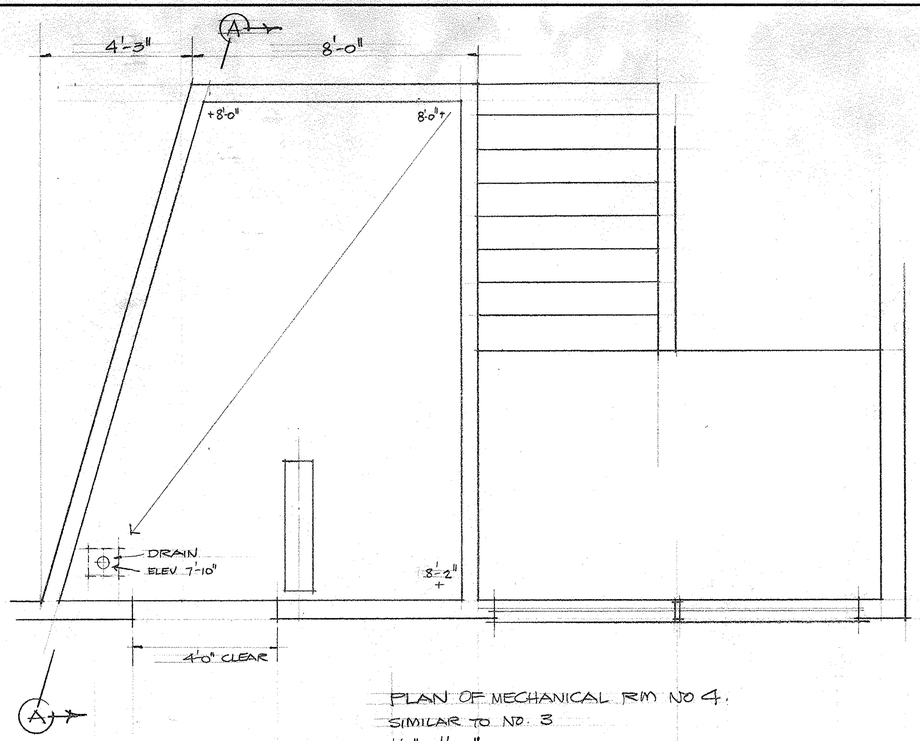
SECTION A-A
SCALE 1/4" = 1'-0"



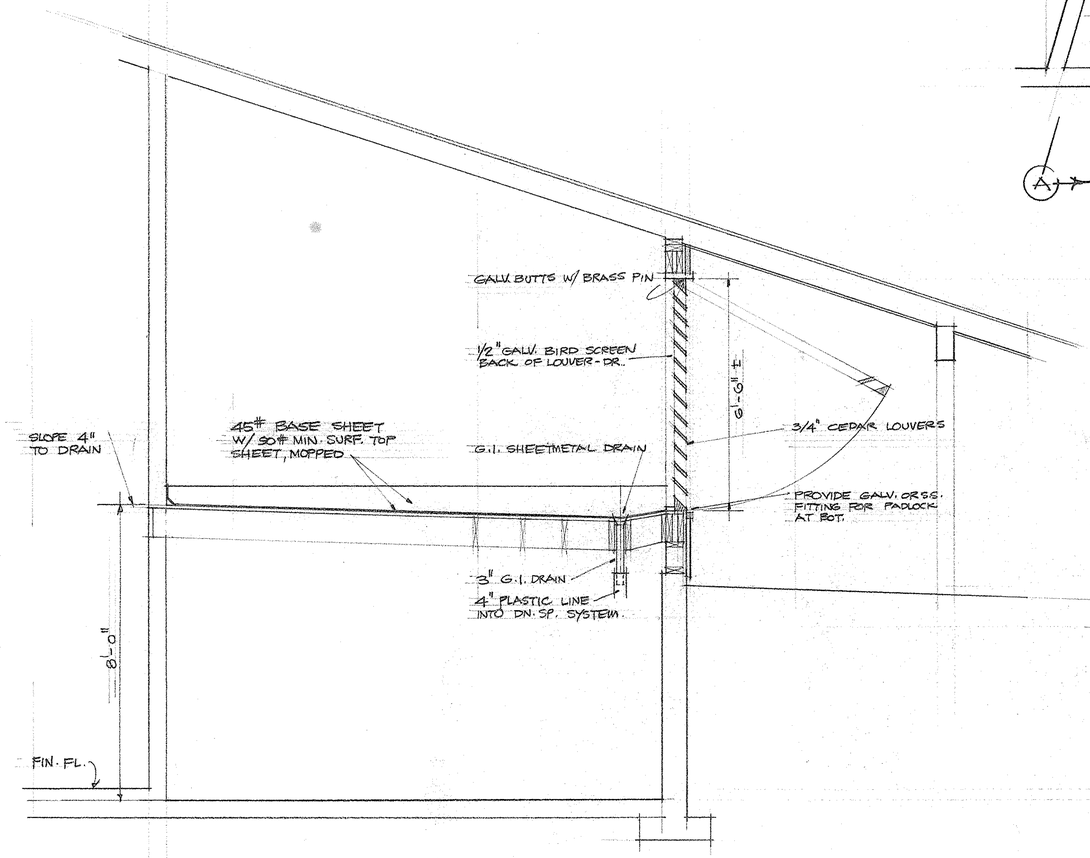
ELEVATION SOUTH WALL OF GYM.
SCALE 1/8" = 1'-0"

REV. 23 AUG 67

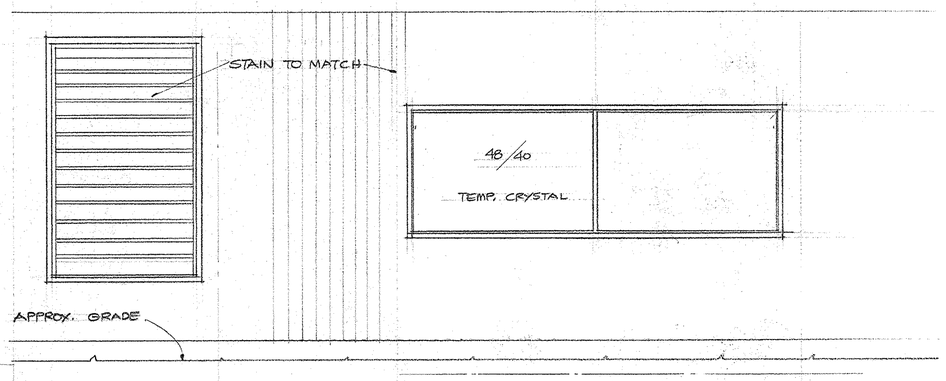
COSMOPOLIS SCHOOL GYMNASIUM	COSMOPOLIS SCHOOL DIST. 99 COSMOPOLIS, WASHINGTON	REVISIONS	STREET AND LUNDGREN A.I.A. ARCHITECTS AND PLANNING CONSULTANTS PROFESSIONAL BUILDING, ABERDEEN, WASHINGTON	MAY 26 67 A-12



PLAN OF MECHANICAL RM NO 4.
SIMILAR TO NO. 3
1/2" = 1'-0"



SECTION A - A
1/2" = 1'-0"



EXTERIOR ELEVATION
1/2" = 1'-0"

MECHANICAL ROOM PLANS

COSMOPOLIS GYMNASIUM

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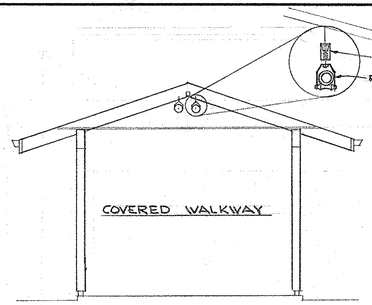
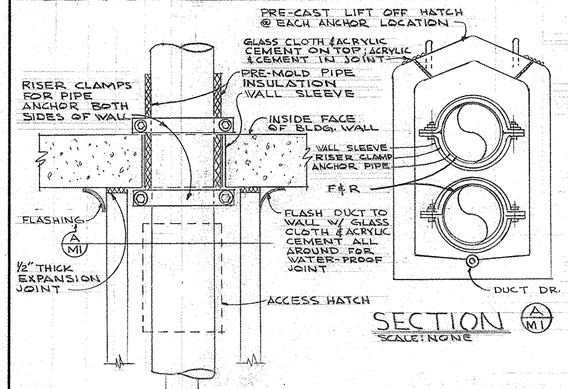
OCT. 4 67

A-13



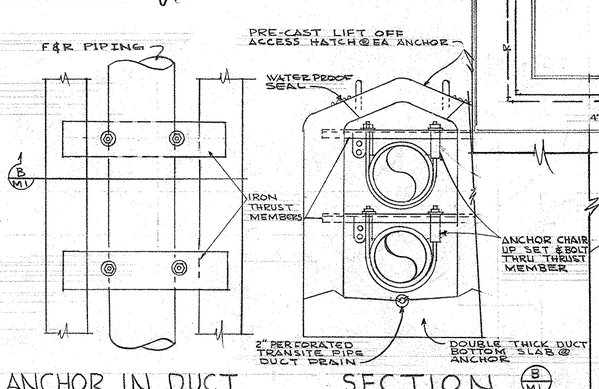
SECTION (C/M1)
SCALE: APPROX. 1/4"=1'-0"

BASIC BID



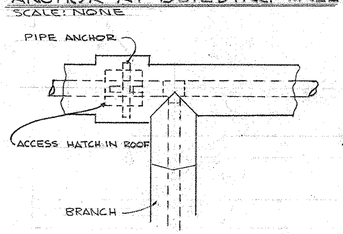
SECTION (A/M1)
SCALE: NONE

ANCHOR AT BUILDING WALL
SCALE: NONE

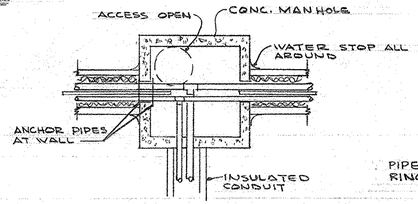


ANCHOR IN DUCT

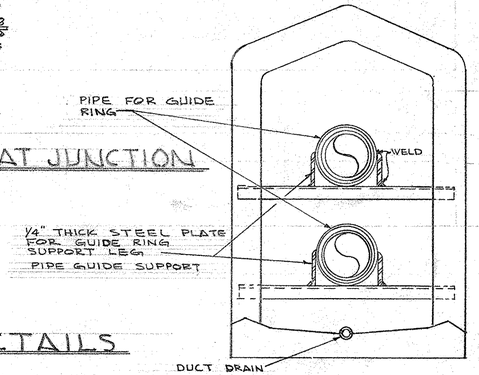
SECTION (B/M1)



JUNCTION TEE
SCALE: NONE



MANHOLE AT JUNCTION
SCALE: NONE



CONDUIT PIPE GUIDES
SCALE: NONE

CONDUIT SECTIONS & DETAILS
SCALE: AS NOTED

ALTERNATE BID #1 DETAILS SHOWN
ALTERNATE BID #2 DETAILS NOT SHOWN

PLOT PLAN
SCALE: 1/16"=1'-0"

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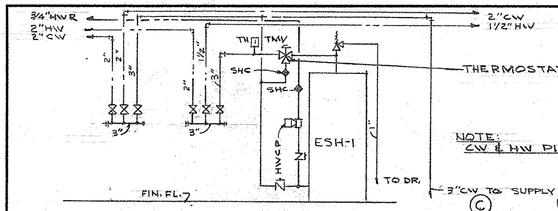
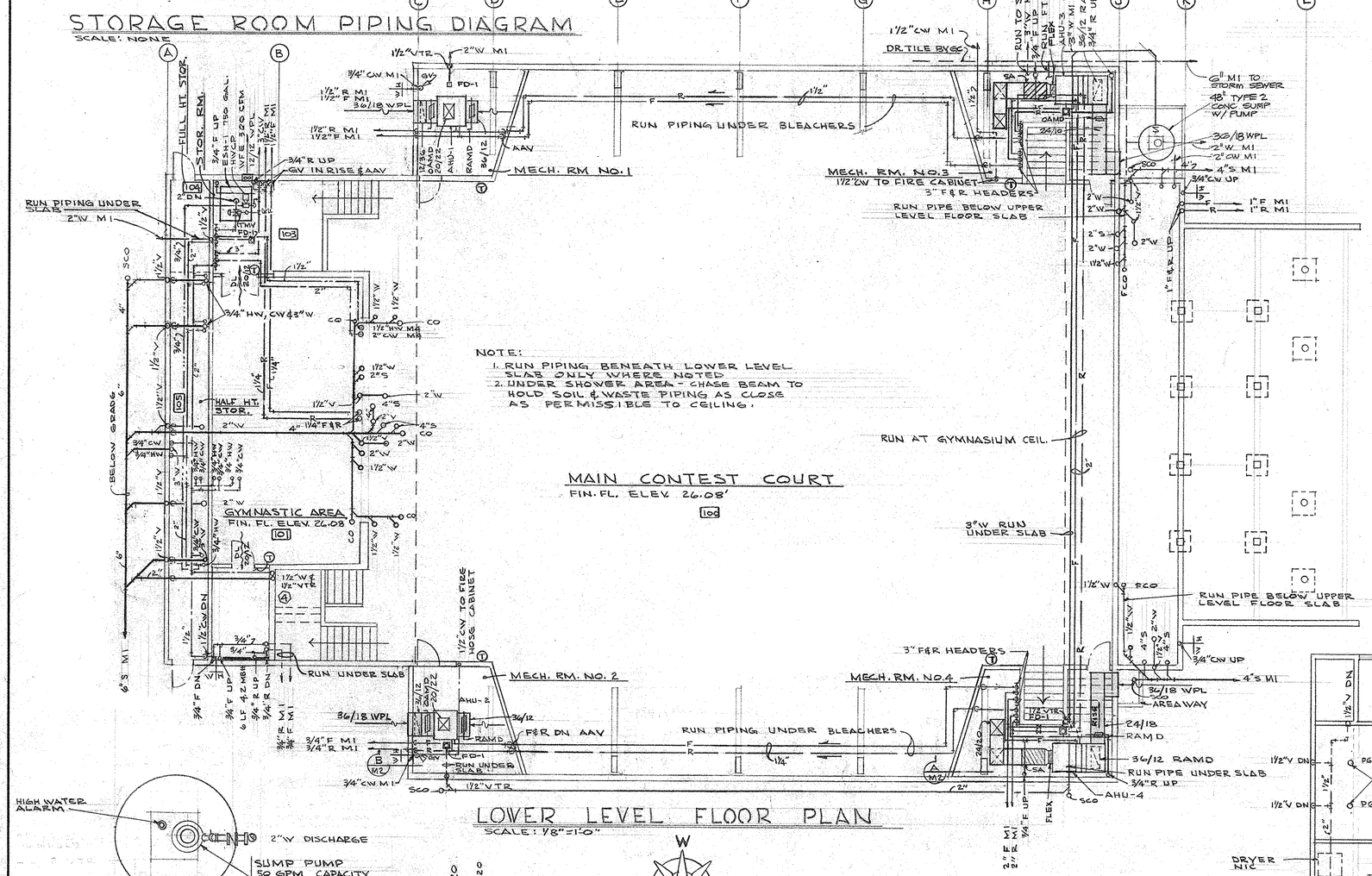


STORAGE ROOM PIPING DIAGRAM

SCALE: NONE



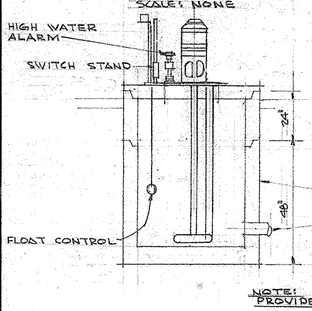
NOTE:
1. RUN PIPING BENEATH LOWER LEVEL SLAB ONLY WHERE NOTED
2. UNDER SHOWER AREA - CHASE BEAM TO HOLD SOIL & WASTE PIPING AS CLOSE AS PERMISSIBLE TO CEILING.

LOWER LEVEL FLOOR PLAN

SCALE: 1/8"=1'-0"

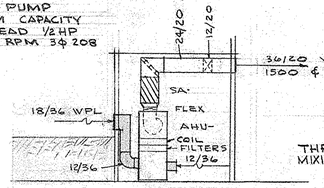
PLAN

SCALE: NONE



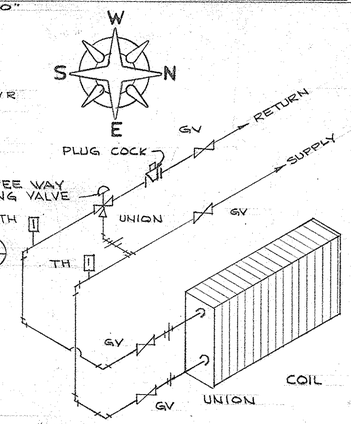
NOTE:
PROVIDE A BWV AT EACH INLET CONN.

SECTION



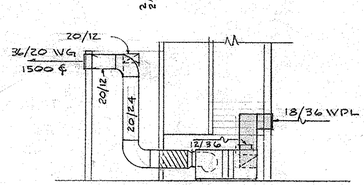
SECTION (B/M2)

SCALE: 1/8"=1'-0"



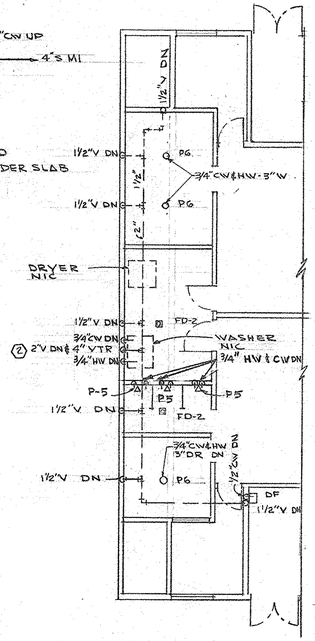
HEATING COIL CONNECTION

SCALE: NONE



SECTION (A/M2)

SCALE: 1/8"=1'-0"



PARTIAL UPPER LEVEL SHOWER RM. PLAN

SCALE: 1/8"=1'-0"

NOTE:
PLUMBING SHOWN ONLY

LEGEND

SYMBOL	DESCRIPTION
112	ROOM NUMBER
	SECTION A- SHOWN ON DWG. M-1
	ARROW DENOTES DIRECTION PIPES PITCH DOWN
GV	GATE VALVE
CV	CHECK VALVE
TMV	THERMOSTATIC MIXING VALVE
SHC	SQUARE HEAD COCK
STR	STRAINER
	UNION
TH	THERMOMETER
	DIRECTION OF FLOW
S	SANITARY SEWER- OUTSIDE BLDG.
ST	STORM SEWER
W	DOMESTIC WATER SERVICE OUTSIDE BLDG
	SOIL, WASTE, OR LEADER
	VENT PIPING
CW	COLD WATER PIPING INSIDE BLDG
HW	HOT WATER PIPING
FD-2	FLOOR DRAIN -2 DENOTES TYPE
	WALL HYDRANT
TP	AUTOMATIC TEMPERATURE & PRESSURE RELIEF VALVE
S	HOT WATER HEATING SUPPLY
R	HOT WATER HEATING RETURN
T	THERMOSTAT
6.0 LF 6.0	FINNED TUBE RADIATION - 6.0 LINEAL FT. 6. MBH OUTPUT
12/12 20/12	RECTANGULAR SHEET METAL DUCT FIRST FIGURE, SIDE SHOWN - SECOND SIDE NOT SHOWN
16 ø	ROUND DUCT - FIGURE DENOTES DIAMETER
	TURNING VANES
VD	VOLUME DAMPER
8"W x 4"H 100 CFM	WALL REGISTER - 8" WIDTH X 4" HEIGHT - 100 CFM SUPPLY AIR
32"L x 20"W 800 CFM	CEILING REGISTER 32" LENGTH X 20" WIDTH - 800 CFM EXHAUST OR RETURN AIR
20"W 20"H	DOOR LOUVER 20"
20"W 10"H	WEATHERPROOF WALL LOUVER - 20" WIDTH X 10" HEIGHT
16"x28" 950 CFM	RECTANGULAR CEIL. DIFFUSER - 16" WIDTH X 28" LENGTH 950 CFM AIR SUPPLY
	VALVE BOX
	ANCHOR POINT
HWR	HOT WATER RECIRCULATING PIPE
	SHADED DUCT DENOTES RETURN OR EXHAUST AIR

ABBREVIATIONS

GENERAL

ABV.	ABOVE	INSUL.	INSULATION
AP	ACCESS PANEL	INV.	INVERT
APPROX.	APPROXIMATE	LOC.	LOCATION
BLDG	BUILDING	MBH	1000 BTU/HR
CEIL.	CEILING	MC	MECHANICAL CONTRACTOR
CONC.	CONCRETE	NIC	NOT IN CONTRACT
CONN.	CONNECT	RM	ROOM
DN	DOWN	STOR	STORAGE
DR.	DRAIN	TYP.	TYPICAL
EC	ELECTRICAL CONTRACTOR		
ELEV	ELEVATION		
EXIST.	EXISTING		
FIN	FINISH		
FL	FLOOR		
HP	HORSEPOWER		

PLUMBING & HEATING

CI	CAST IRON	SH	SHOWER
CO	CLEAN OUT	RL	RAIN LEADER
CP	CONCRETE PIPE	VTR	VENT THROUGH ROOF
CW	COLD WATER	WH	WALL HYDRANT
CLW	CLOTHES WASHER	WPL	WEATHER PROOF LOUVER
DS	DOWNSPOUT	ESH	ELECTRIC STORAGE HEATER
FCO	FLUSH CLEANOUT	AP	ANCHOR POINT
HWCP	HOT WATER CIRCULATING PUMP	AAV	AUTOMATIC AIR VENT
SCO	SURFACE CLEANOUT	CB	CATCH BASIN
HB	HOSE BIBB	FD	FLOOR DRAIN
BWV	BACK WATER VALVE		

VENTILATING

AHU	AIR HANDLING UNIT	VD	VOLUME DAMPER
BDD	BACK DRAFT DAMPER	WFE	WALL FAN EXHAUST
CFM or ¢	CUBIC FEET PER MINUTE	WG	WALL GRILLE
CD	CEILING DIFFUSER	WR	WALL REGISTER
CG	CEILING GRILLE	WPL	WEATHER PROOF LOUVER
FLEX.	FLEXIBLE CONNECTION	RDT	ROOF DISCHARGE TERMINAL
EF	EXHAUST FAN	RG	RISER GRILLE
OAMD	OUTSIDE AIR MIXING DAMPERS	TG	TOP GRILLE
RAMD	RETURN AIR MIXING DAMPERS		
SA	SOUND ATTENUATOR		

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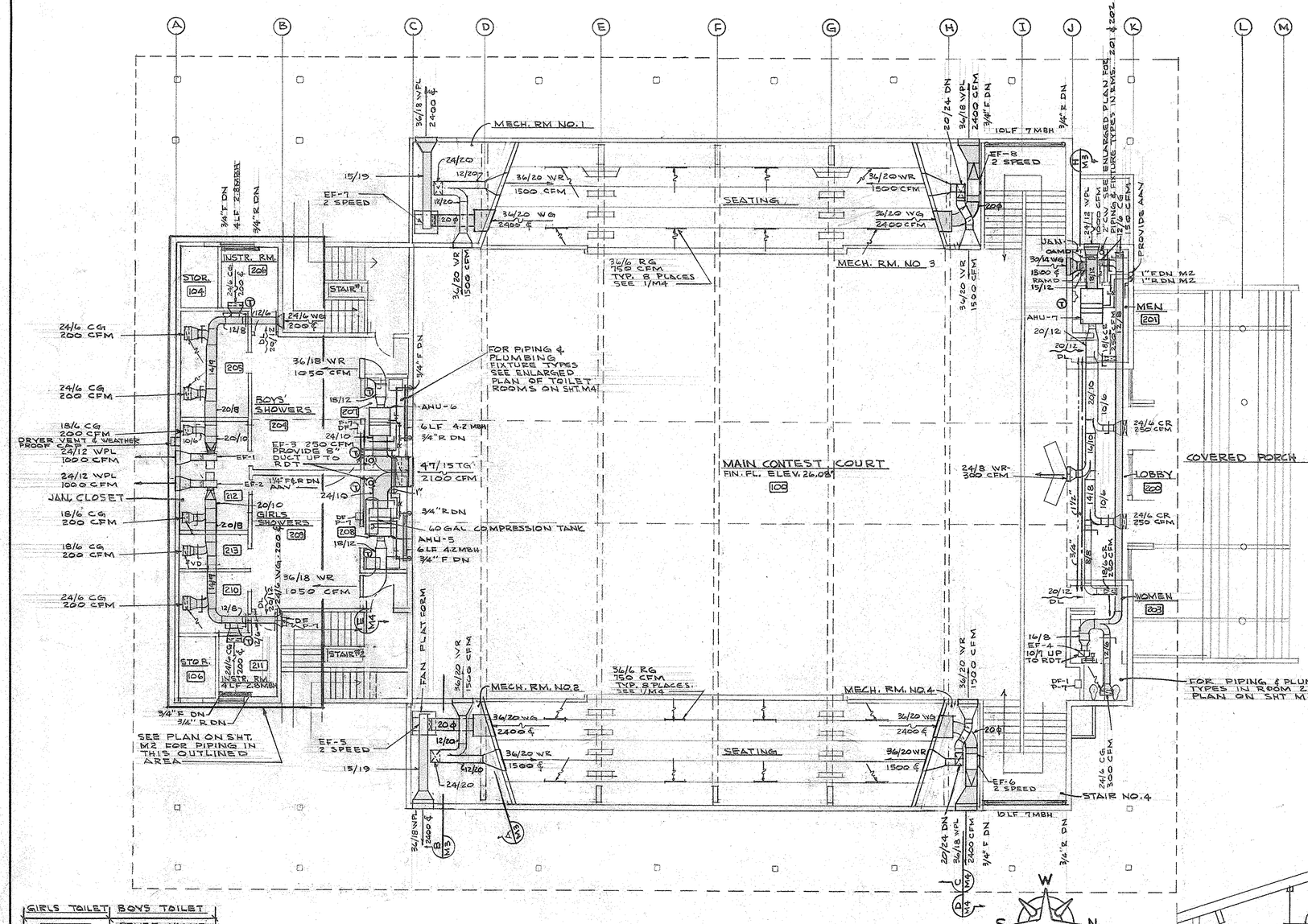
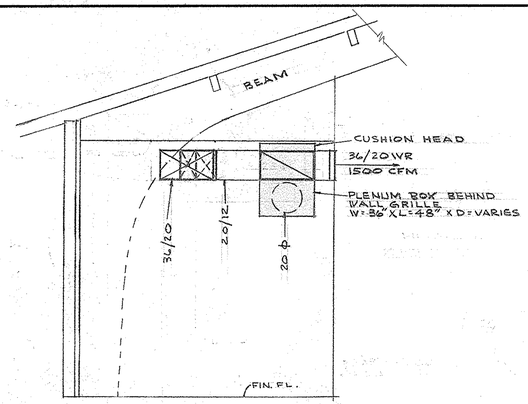
M-2



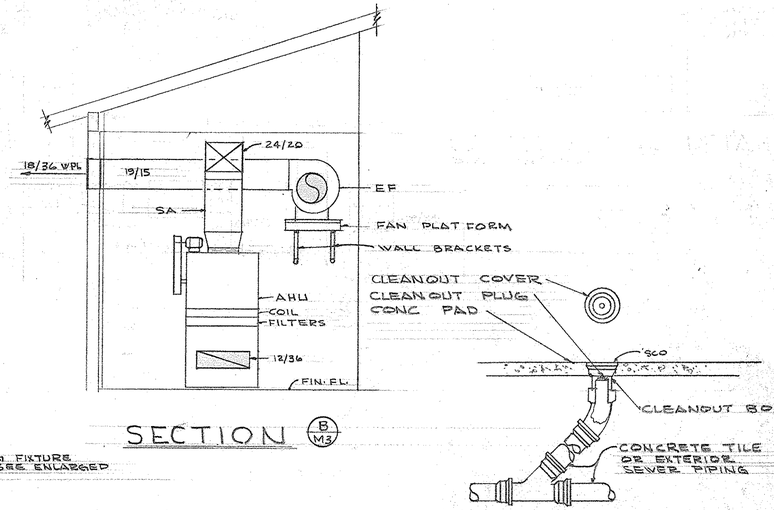
UPPER LEVEL FLOOR PLAN

SCALE: 1/8"=1'-0"



SECTION (A/M3)

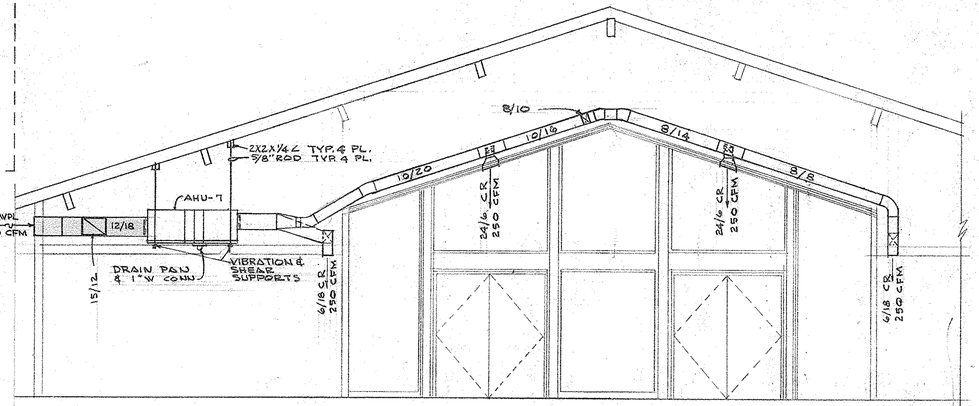
SCALE: 1/4"=1'-0"



SECTION (B/M3)

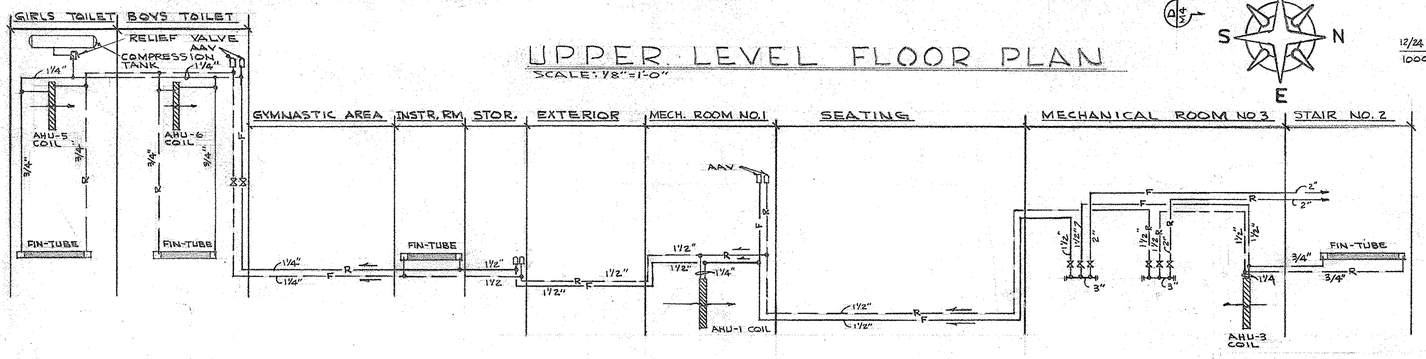
SURFACE CLEANOUT DETAIL

SCALE: NONE



SECTION (H/M3)

SCALE: 1/4"=1'-0"



HEATING PIPING DIAGRAM - WEST SIDE

SCALE: NONE

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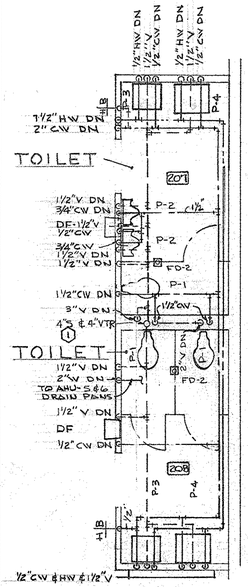
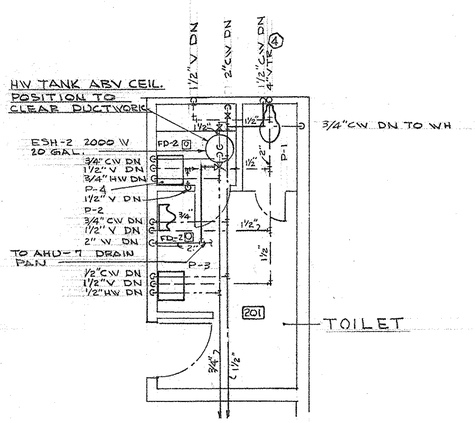
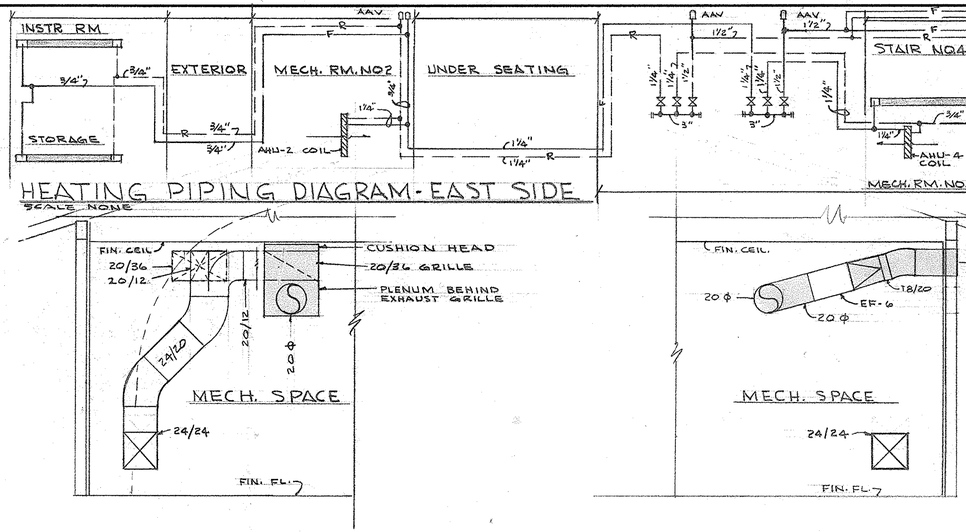
M-3





TOILET ROOM PLAN
SCALE: ¼"=1'-0"



HEATING PIPING DIAGRAM-EAST SIDE
SCALE: NONE

SECTION (G/M4)
SCALE: ¼"=1'-0"

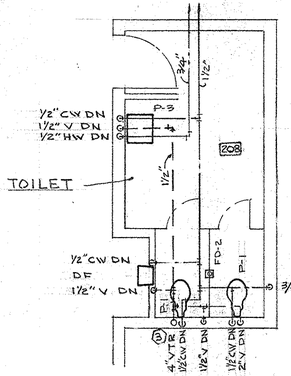
SECTION (D/M4)
SCALE: ¼"=1'-0"

FAN SCHEDULE

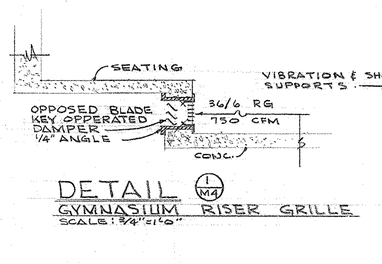
FAN NO.	TYPE & SERVICE	WHEEL DIAMETER	CFM	SP WG	MOTOR CHARACTERISTICS H P	VOLTS	PHASE	RPM	O.V. FPM
AHU-1	DWDI GYM SUPPLY	15"	3000	1¼"	1	208	3ø	750	1100
AHU-2	DWDI	15"	3000	1¼"	1	208	3ø	750	1100
AHU-3	DWDI	15"	3000	1¼"	1	208	3ø	750	1100
AHU-4	DWDI	15"	3000	1¼"	1	208	3ø	750	1100
AHU-5	DWDI SHOWER SUPPLY	9"	1050	¾"	½	208	3ø	960	1190
AHU-6	DWDI SHOWER SUPPLY	9"	1050	¾"	½	208	3ø	960	1190
AHU-7	DWDI LOBBY SUPPLY	12"	1300	7/8"	½	208	3ø	750	1150
EF-1	SWSI	13½"	1000	½"	¼	115	1ø	550	1000
EF-2	SWSI	13½"	1000	½"	¼	115	1ø	550	1000
EF-3	PROP TOILET EXHAUST	——	250	¼"	60W	115	1ø	1550	——
EF-4	SWSI TOILET EXHAUST	9"	600	½"	¼	115	1ø	880	1300
EF-5	SWSI	16½"	875/2400	½"	½	208	3ø	500	1600
EF-6	TUBE AXIAL	15"	875/2400	½	½	208	3ø	2000	1400
EF-7	SWSI	16½"	875/2400	½"	½	208	3ø	500	1600
EF-8	TUBE AXIAL	15"	875/2400	½	½	208	3ø	2000	1400
WFE	PROP MECH. RM. EXH	——	300	1/10"	1/80	115	1ø	1550	——

PLUMBING FIXTURE SCHEDULE

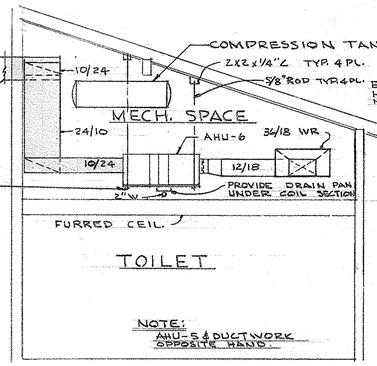
SYMBOL	FIXTURE	PIPE CONNECTIONS WASTE	VENT	CW	HW	REMARKS
P-1	WATER CLOSET	4"	2"	1½	——	FL. MT. FLUSH VALVE
P-2	URINAL	2"	1½"	¾"	——	WALL MOUNT
P-3	LAVATORY	1½	1½"	½"	½"	WALL MOUNT
P-4	SINK - SERVICE	3"	1½"	¾"	¾"	WALL MOUNT
P-5	SHOWER	2"	1½"	¾"	¾"	SINGLE HEAD
P-6	SHOWER	3"	1½"	¾"	¾"	PEDESTAL
P-7	DRINKING FOUNTAIN	1½"	1½"	½"	½"	



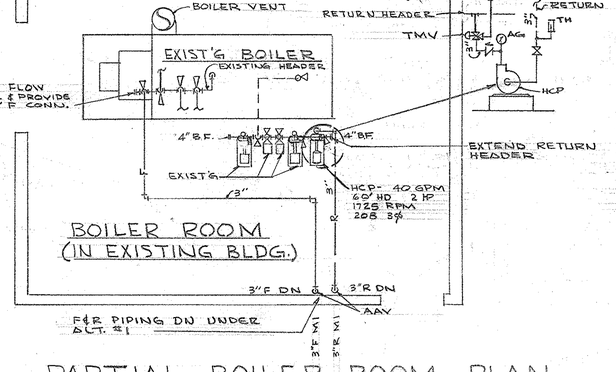
TOILET ROOM PLAN
SCALE: ¼"=1'-0"



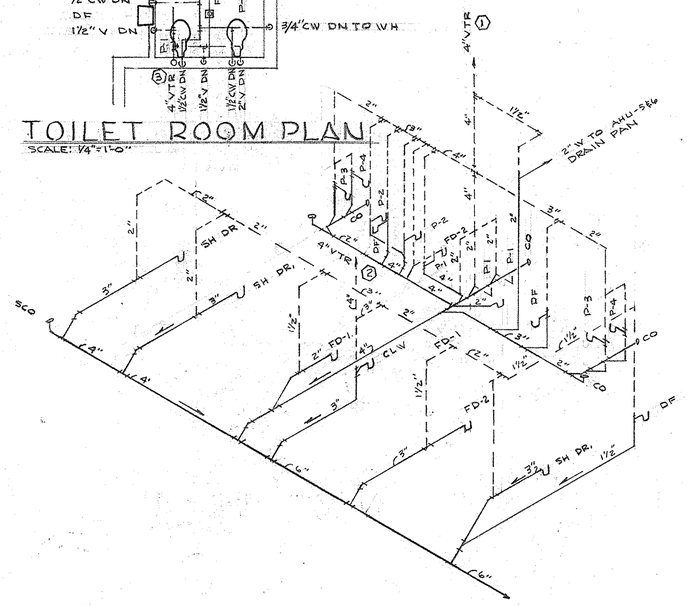
DETAIL (1/M4)
GYMNASIUM RISER GRILLE
SCALE: ¾"=1'-0"



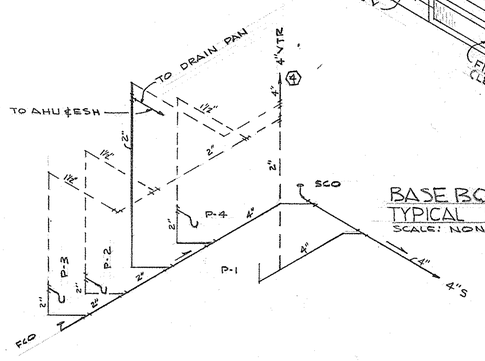
SECTION (E/M4)
SCALE: ¼"=1'-0"



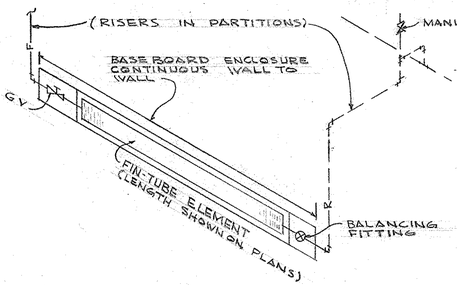
PARTIAL BOILER ROOM PLAN
SCALE: ¼"=1'-0"



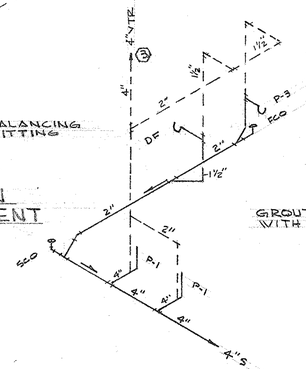
PLUMBING RISER DIAGRAM
SCALE: NONE.



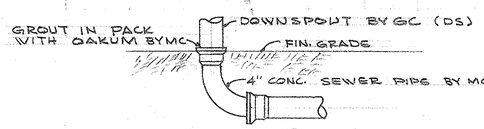
PLUMBING RISER DIAGRAM
SCALE: NONE



BASE BOARD RADIATION
TYPICAL PIPING ARRANGEMENT
SCALE: NONE



PLUMBING RISER DIAGRAM
SCALE: NONE



DETAIL (2/M4)
TYPICAL RAINLEADER CONNECTION
SCALE: NONE

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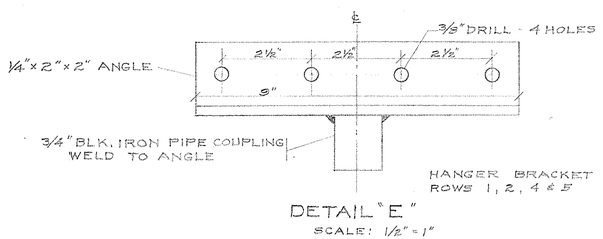
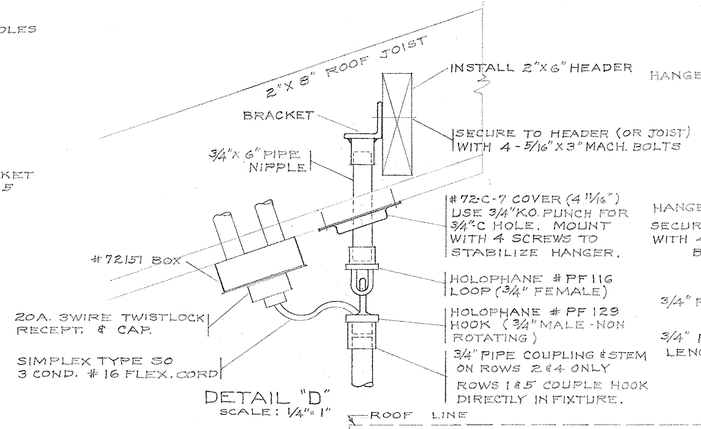


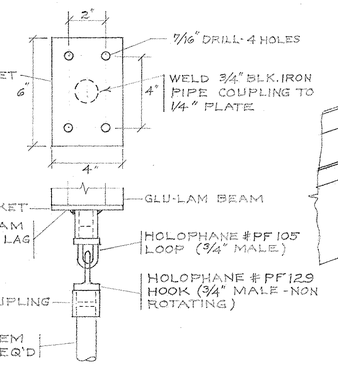
DETAIL "E"
SCALE: 1/2" = 1"

NOTES:

1. ALL FIXTURE HANGER PARTS TO BE PRIME COATED BEFORE INSTALLATION.
2. FIXTURES H1 & H2 ROWS 1 & 5 TO BE AS HIGH AS PRACTICABLE. OTHER ROWS MOUNT AT SAME HEIGHT.

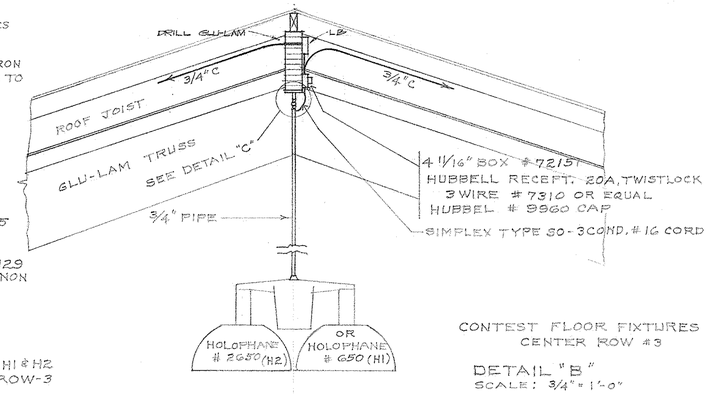


DETAIL "D"
SCALE: 1/4" = 1"



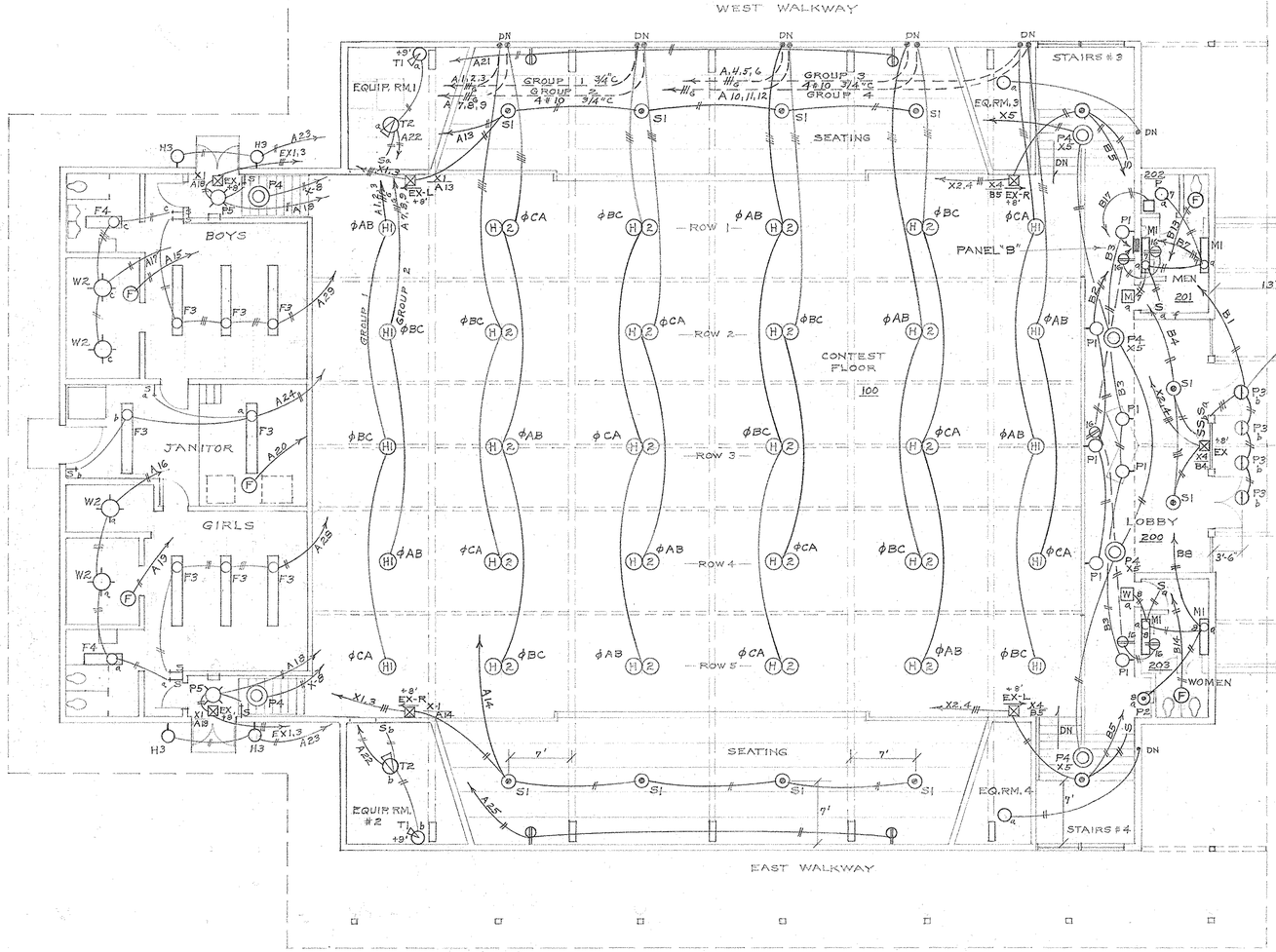
DETAIL "C"
SCALE: 1/4" = 1"

FIXTURES H1 & H2
CENTER ROW-3

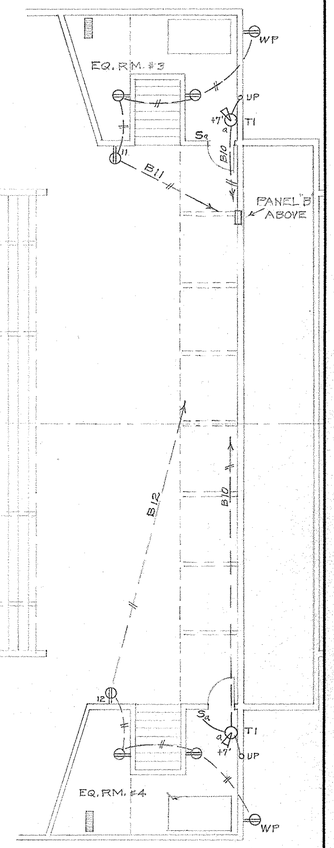


CONTEST FLOOR FIXTURES
CENTER ROW #3

DETAIL "B"
SCALE: 3/4" = 1'-0"



UPPER LEVEL FLOOR PLAN
SCALE: 1/8" = 1'-0"



LOWER LEVEL FLOOR PLAN - NORTH END
SCALE 1/8" = 1'-0"

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NOTE 1. PROVIDE SUFFICIENT LENGTH OF CONDUCTORS AS REQUIRED BY UTILITY FOR TERMINATION TO UTILITY TRANSFORMERS.

2. ELEVATION AND QUARTER OF POLE FOR SERVICE CONDUIT TERMINATION TO BE VERIFIED WITH UTILITY.

3. SERVICE: 120/208 VOLTS, 3 PHASE, 4 WIRE GROUNDED NEUTRAL

POWER POLE BY UTILITY

SERVICE: 3-3" CONDUITS EACH WITH-3-350 MCM THW AND 1-2/0 THW NEUTRAL

FOR PENETRATION OF WALL SEE DETAIL "A"

PANEL "MD"

PANEL "P"

PANEL "A"

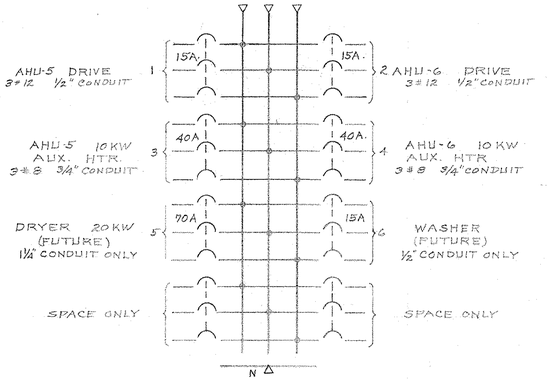
PANEL "X"

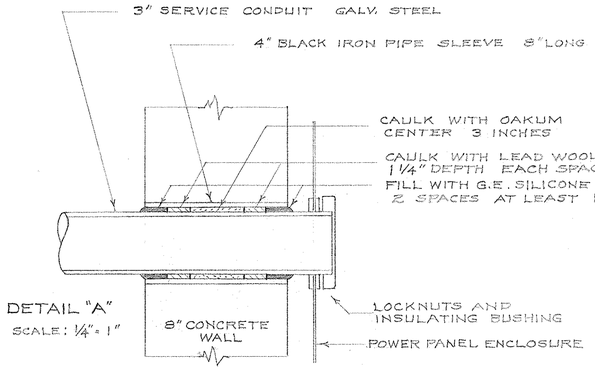
EQ. RM. #1
H.P. #1

SERVICE PLAN

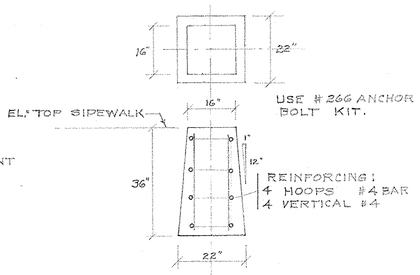
POWER PANEL "P"

SQUARE D TYPE NQO 120/208 V. 3 PH. 4 WIRE
100 A. MAIN LUGS BKRS. AS NOTED.



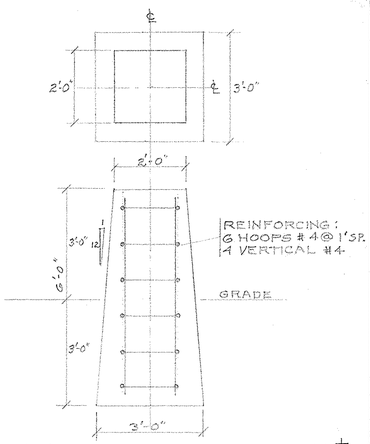


DETAIL "A"
SCALE: 1/4" = 1"



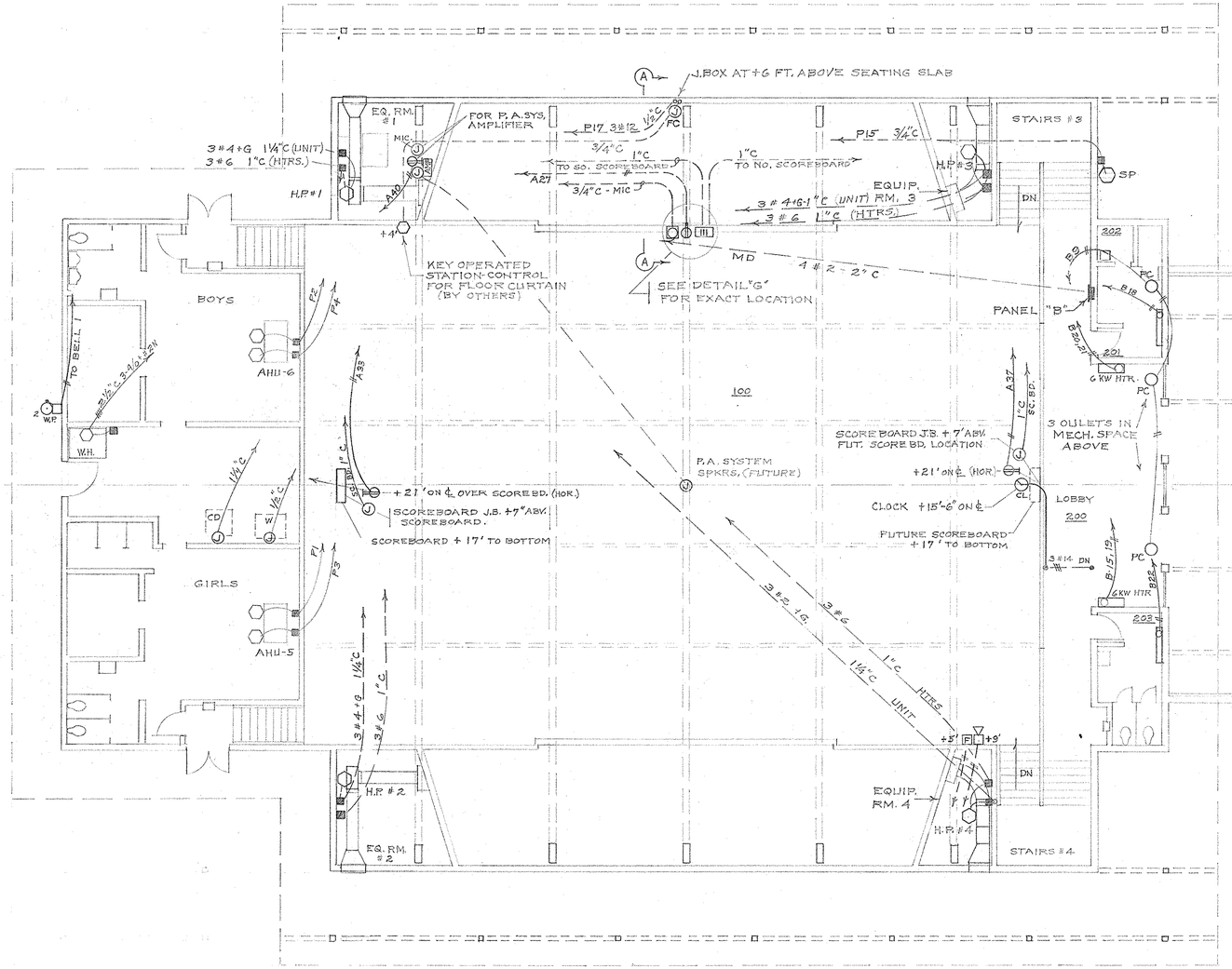
CONCRETE BASE FOR POST LIGHTS ☒ WI.

DETAIL "H"
SCALE: 1/2" = 1'-0"



CONCRETE BASE FOR PARKING LOT LIGHTS H5

DETAIL "J"
SCALE 1/2" = 1'-0"



UPPER LEVEL FLOOR PLAN
SCALE: 1/8" = 1'-0"

LOWER LEVEL FLOOR PLAN
NORTH END
SCALE: 1/8" = 1'-0"

N

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COSMOPOLIS, WASHINGTON

SIGNAL & POWER PLAN

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SYMBOLS

DESIG.	DESCRIPTION	TYPE MOUNTING	MOUNTING HEIGHT
———	CONDUIT CONCEALED IN CEILING OR WALL		
— — —	CONDUIT CONCEALED IN FLOOR		
– – – –	EXPOSED CONDUIT		
—T—	TELEPHONE CONDUIT 3/4" MIN. SIZE		
S S_2 S_3	SINGLE POLE, 2POLE, OR 3WAY SWITCH	FLUSH	4'
S_P	SWITCH WITH PILOT LIGHT	FLUSH	4'
S_{WP}	WEATHERPROOF SWITCH	FLUSH	4'
⊖	DUPLEX RECEPTACLE - GROUNDED TYPE	FLUSH	+12"
$⊖_{WP}$	WEATHER PROOF DUPLEX RECEPT. GND. TYPE	FLUSH	+12"
⊖	COMBINATION 120/208 DUPLEX RECEPT. GND. TYPE	FLUSH	+12"
⊙	FLOOR RECEPTACLE		
(J)	JUNCTION BOX WITH COVER		
(F)	FAN OUTLET		
(S)	SPEAKER	PURLIN	
⊡	MICROPHONE OUTLET		
$⊖_{CL}$	CLOCK	WALL	
$□_I$	INTERCOM STATION	WALL	
▥	SCOREBOARD OUTLET		
□	PROGRAM BELL 6"	WALL	
$□_{WP}$	WEATHERPROOF PROGRAM BELL 10"	WALL	
▨	POWER DISCONNECT SWITCH 3P. NO FUSE		
⬡	MOTOR OR EQUIPMENT FURNISHED BY OTHERS		
F	FIRE ALARM STATION NON CODED	FLUSH	+5'
⊠	FIRE ALARM HORN	SURFACE	
$⊠_{WP}$	FIRE ALARM HORN WEATHERPROOF	SURFACE	
(T)	LINE VOLTAGE THERMOSTAT	SURFACE	+5'

MOTOR & EQUIPMENT LIST

NO.	EQUIPMENT	LOCATION	CONTROL	HP/KW	VOLTS	PHASE
AHU-1	AIR HANDLING UNIT	EQUIP. RM. # 1	MAN./OFF/AUTO SEL. SW.	1	208	3 ϕ
AHU-2	AIR HANDLING UNIT	EQUIP. RM. # 2	MAN/OFF/AUTO SEL. SW.	1	208	3 ϕ
AHU-3	AIR HANDLING UNIT	EQUIP. RM. # 3	MAN/OFF/AUTO SEL. SW.	1	208	3 ϕ
AHU-4	AIR HANDLING UNIT	EQUIP. RM. # 4	MAN/OFF/AUTO SEL. SW.	1	208	3 ϕ
AHU-5	AIR HANDLING UNIT	OVER GIRLS TOILET RM 205	" "	3/4	208	3 ϕ
AHU-6	AIR HANDLING UNIT	OVER BOYS TOILET RM 207	" "	3/4	208	3 ϕ
AHU-7	AIR HANDLING UNIT	ABOVE RM. 201	THERMOSTAT - BY OTHERS	3/4	208	3 ϕ
EF-1	EXHAUST FAN	ABOVE RM. 212		1/3	115	1 ϕ
EF-2	EXHAUST FAN	ABOVE RM 212		1/3	115	1 ϕ
EF 31/32	EXHAUST FANS	ABOVE RMS. 207, 208	WALL SW.	± 1/8	115	1 ϕ
EF-41/42	EXHAUST FANS	ABOVE RMS. 201, 203	WALL SW.	1/4	115	1 ϕ
EF-5	EXHAUST FAN	EQUIP. RM. # 2	2 SPEED - BY OTHERS	1/2	208	3 ϕ
EF-6	EXHAUST FAN	EQUIP. RM. # 4	2 SPEED - BY OTHERS	1/3	208	3 ϕ
EF-7	EXHAUST FAN	EQUIP. RM. # 1	2 SPEED - BY OTHERS	1/2	208	3 ϕ
EF-8	EXHAUST FAN	EQUIP. RM. # 3	2 SPEED - BY OTHERS	1/3	208	3 ϕ
WFE-1	WALL EXH. FAN	STOR. RM. 103	WALL SW. & THERMOSTAT	1/8	115	1 ϕ
ESH-1	ELECT. WTR. HTR.	STOR. RM. 103		60KW 460 KW. FUT.	208	3 ϕ
ESH-1	WTR. HTR. CIRC. PUMP	STOR. RM 103		± 1/4	115	1 ϕ
ESH-2	ELECT. WTR. HTR.	JAN. CL. RM. 202		2.0 KW	115	1 ϕ
W	WASHER	JAN CL. RM. 212	—	3/4	208	3 ϕ
CD	DRYER	JAN CL. RM. 212	—	20 KW.	208	3 ϕ
SP	SUMP PUMP	EQUIP. RM # 3	FLOAT SW. ON PUMP	1/2	208	3 ϕ
FC	FLOOR CURTAIN	CONTEST FLOOR	KEY OPER. STATION	3/4	208	3 ϕ

GENERAL NOTES:

1. KEEP ON JOB FOR REFERENCE DURING CONSTRUCTION: A SET OF PLANS & SPECIFICATIONS, APPROVED MATERIAL LIST, COMPLETE WITH DRAWINGS OF ALL FIXTURES, PANELS AND SPECIAL EQUIPMENT.
2. VERIFY LOCATION OF ALL MECHANICAL EQUIPMENT BEFORE TERMINATING CONDUIT.
3. VERIFY ALL DIMENSIONS, DOOR SWINGS ETC. BEFORE PROCEEDING WITH WORK.
4. CIRCUITING SHALL BE INSTALLED EXACTLY AS SHOWN (EXCEPT WHERE SPECIFICALLY APPROVED IN WRITING BY ELECTRICAL ENGR.) TO MAINTAIN SYSTEM LOAD BALANCE AND FACILITATE CUSTOMER OPERATION AND MAINTENANCE.
5. VERIFY EXACT LOCATION OF ALL CLOCKS, SPEAKERS, SPECIAL MIC. OUTLETS, & TELEPHONE OUTLETS WITH ARCHITECT.
6. IDENTIFY BY COLOR (PAINT OR PERMANENT LABEL) ALL BREAKERS TO BE USED FOR SWITCHING AT PANEL.

▷ 7. LIGHTING FIXTURES H1 & H2 ARE TO BE FURNISHED WITH CONSTANT WATTAGE BALLASTS, GROUNDING LUGS, FUSE PROTECTION AND WIRE GUARDS.

◇ 8. LIGHTING FIXTURES S1 & S2 ARE TO BE INDOOR TYPE WITH CANOPY & SWIVEL (TYPE "S" BASE), WHITE BUTYRATE GLOBE AND MOGUL SOCKET.

† 9. POST LIGHT McPHILBEN - W1 TO BE FURNISHED WITH "A" BASE. ORDER INSTALLATION KIT # 266. (INCLUDES TEMPLATE & ANCHOR BOLTS).

* 10. INSTALL IN "DOWN" POSITION ONLY OF FIXTURES P1 ON NORTH WALL ABOVE CONCESSION STAND 150 R/SP (SPOT) LAMPS (2) USE 150 R/FL IN "UP" POSITION. OMIT

FIXTURE & LAMP SCHEDULE

	SYMBOL	CATALOG NO.	MOUNTING	LAMP NO.
	▷ (H1)	HOLOPHANE # 650-208 & 0379 GUARD	PENDANT SEE DETAILS B.C.D.E	H400 DX33-1
	▷ (H2)	HOLOPHANE # 2650-208 & 2-0379 GDS.	PENDANT SEE DETAILS B.C.D.E	2-H400 DX33-1
OMIT	H3	HOLOPHANE # 415	WALL	150
OMIT	H4	HOLOPHANE # 415 & # 0230 BOX	BEAM - SURFACE	150
	H5	HOLOPHANE # 465-120 WITH 24' POLE	CONCRETE BASE	H400 DX 33-1
◇	(S1	PRESCOLITE # 550 M 20" DIA.	PENDANT	300
OMIT ◇	(S2	STERNER # GPS 21-2501-5.0 - WHITE GLOBE	PENDANT	300
OMIT †	W1	MC PHILBEN # 4-410 D & G4261 WHITE DIFFUSER HT. 11'-4"	CONCRETE BASE	200/IF
	W2	MC PHILBEN # 4326	RECESSED	2 - 150
*	P1	PRESCOLITE # 1175 MATTE WHITE EXT.	WALL	2-150R/FL
	P2	PRESCOLITE # 1252-916 M. WHITE EXT.	REC. -OVER FOUNTAIN	75 R30/FL
	P3	PRESCOLITE # 1260-926 WITH WALL WASHER BAFFLE	SEMI-RECESSED	150R/FL
	P4	PRESCOLITE # 700	RECESSED	150R/FL
	P5	PRESCOLITE # 479-586	RECESSED	300 M
	P6	PRESCOLITE # 478-581	RECESSED	150
	P7	PRESCOLITE # 4041	WALL	2 - 100A
OMIT	F1	LIGHTOLIER # 10664	CEILING	4 - F40 WW
OMIT	F2	LIGHTOLIER # 10634	CEILING	4 - F40 WW
	M1	MOLDCAST # A925-T-UD	OVER MIRROR	2 - F40WW
OMIT	M2	MOLDCAST # A 23	CEILING	2 - 100A
	T1	STEBER # S 300	WALL	150 R/FL
	T2	STEBER # S 350	CEILING	300 R/FL
	F3	WESTERN LTG. CORP. # 304-36 SL	CEILING	4-F96T12WW
	F4	WESTERN LTG. CORP # 294-48 RS	CEILING	4-F40 WW
	F5	SMOOT-HOLMAN # A 24-RG	CEILING	2 - F40 WW
	EX	Mc PHILBEN # 30R-GM/K2/G	RECESSED IN BAND + 8'	2-25T6½DC
	EX-R	Mc PHILBEN # 30R-GM/K2/G/ARROW R	WALL - RECESSED + 8'	2-25T6½DC
	EX-L	Mc PHILBEN # 30R-GM/K2/G/ARROW L	WALL - RECESSED + 8'	2-25T6½DC
	M	McPHILBEN # 31-4254 MINI-SIGN "MEN"	WALL + 7'-6"	2-15T7C
	W	McPHILBEN # 31-4253 MINI-SIGN "WOMEN"	WALL + 7'-6"	2-15T7C
	P	BRYANT # 5228 PORCELAIN LAMPHOLDER	CEILING	150
	PC	BRYANT # 5291 PORC. PULL CH. + GND. OUTLET	CEILING OR WALL	150

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LOAD COMPUTATION

PANEL #	KVA	INITIAL AMPERES	ULTIMATE AMPERES	MINIMUM FEEDER SIZE
A	40	115	144	144 + 25% = 180 A.
B	26	72	90	90 + 25% = 112 A.
P	22	61	76	76 + 25% = 95 A.
N	3.5	10	* 12	* FUTURE
W.HTR "A"	60	167	167	167 + 25% = 208 A
W. HTR "B"	60	167	167	FUTURE
MD OTHER	HT. PUMPS	412	412	
TOTAL	205	827	889	

SERVICE SPECIFIED:

3 - # 350 MCM THW IN PARALLEL
3 × 310 A = 930 A.

3 - # 2/0 THW IN PARALLEL - NEUT.
3 × 175 A = 525 A.

REDUCED NEUTRAL COMPUTATION:

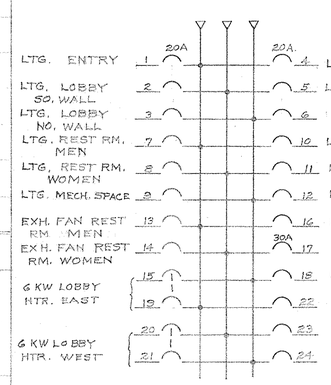
PHASE CONDUCTOR AMP RATING		930 A.
WATER HEATING	3φ	- 334 A.
FLOOR LIGHTING	3φ	- 63 A.
HEAT PUMPS	3φ	- 412 A
		121 A.

NEUTRAL:

USE 3 - # 2/0 3 × 175 = 525 A.

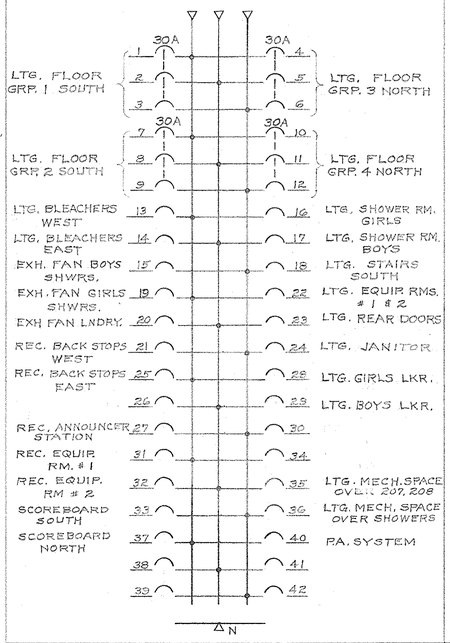
LIGHTING PANEL "B"

SQUARE D PANELBOARD TYPE NQO
208 V. 3 PHASE 4 WIRE # NQO-24-4L
100 A. MAINS, LUGS ONLY FOR # 4, FLUSH WITH FLAT FRONT, CONCEALED HINGES & FLUSH LOCK
ALL BRANCH CIRCUITS 20 AMPERES S.P. EXC. AS NOTED



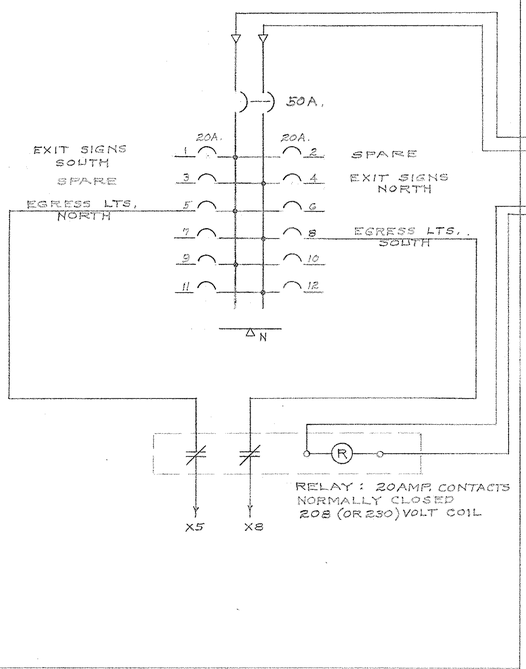
LIGHTING PANEL "A"

SQUARE D PANELBOARD TYPE NQO
208 V. 3 PHASE 4 WIRE # NQO-36-4L
225 A. MAINS, LUGS ONLY FOR 3/0, FLUSH WITH FLAT FRONT, CONCEALED HINGES & FLUSH LOCK
ALL S.P. BRANCHES 20 AMPERES
3 POLE BRANCHES 30 AMPERES - COMMON TRIP



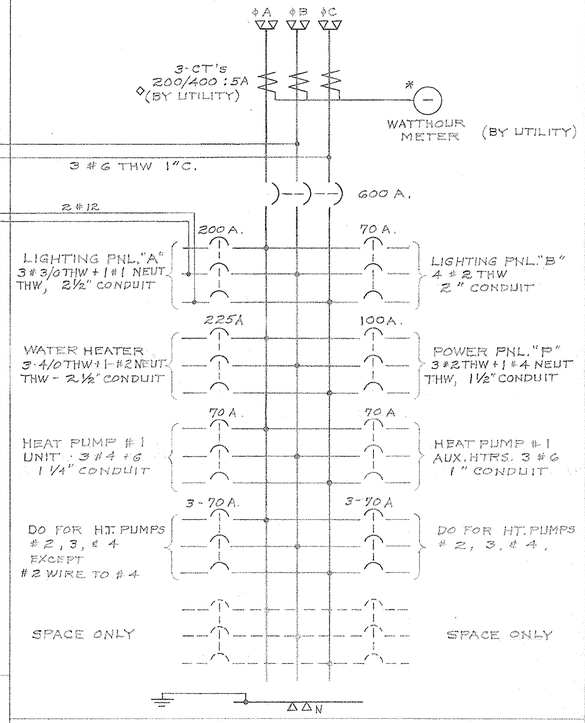
EXIT LIGHTS PANEL "X"

SQUARE D PANELBOARD TYPE NQO 240 V. 1 PHASE 3 WIRE # NQO-12-3AB 100 AMP. MAINS, 50 A. MAIN BKR SURFACE, WITH FLAT FRONT, CONCEALED HINGES & FLUSH LOCK
ALL BRANCHES 20 AMPERES S.P.



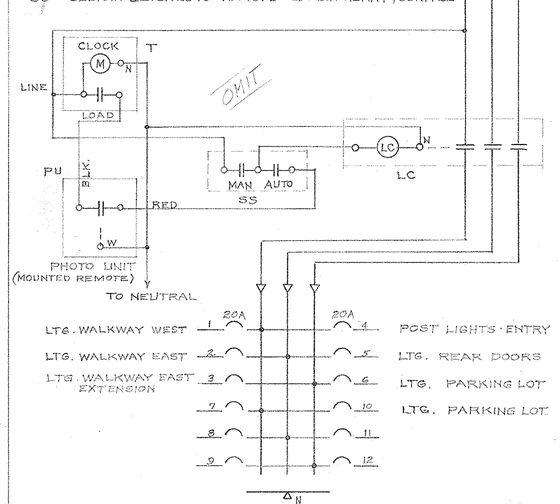
MAIN DISTRIBUTION PANEL "MD"

PANELBOARD ITE TYPE CDP 208 V. 3φ 4 WIRE WITH 600 AMP. MAIN BREAKER, INT. CAPACITY - 50,000 AMPS. A.C. ASY. DOUBLE LUGS FOR 2 - 350 MCM/PHASE & 2 - 2/0 NEUTRAL
◇ CT'S PROVIDED BY UTILITY. MFGR. TO INSTALL IN FACTORY
* MFGR. TO PROVIDE WHM SOCKET - 13 TERM. WITH CKT. CLOSING DEVICES
STRUCTURE-FREE STANDING



OUTSIDE LIGHTS PANEL "N"

SQUARE D PANELBOARD TYPE NQO 208 V. 3 PH. 4 WIRE # NQO-12-4L 100 A. MAINS, LUGS ONLY, SURFACE, WITH FLAT FRONT, CONCEALED HINGES & FLUSH LOCK, ALL BRANCHES 20 A. S.P.
LC - SQUARE D LTG. CONT. # MG-2, 30 A. 3P. 120 V. COIL
T - INTERMATIC # T-171 S.P. S.T. 40 A. 125 V. SKIPPER
PU - INTERMATIC # K1111-E 105/130 V. EARLY
SS - SEL. SW. GE. CR 2940 - NA 401-D S.P. DT. NEMA 1, SURFACE



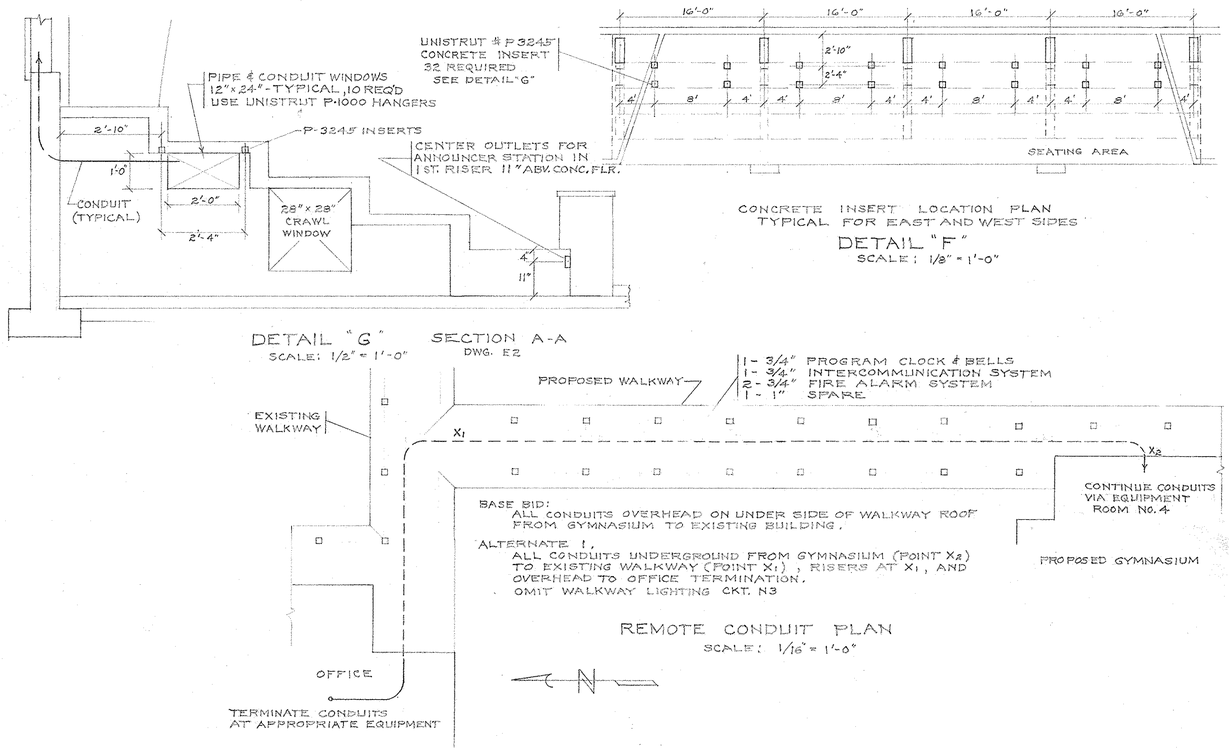
MOTOR STARTING PANEL "P"

MOTOR STARTING PANELBOARD ITE TYPE - MSF 208 V. 3φ 4 W. 200 A. MAIN LUGS, WITH NEUTRAL BUS.
1) PROVIDE 3 OL UNITS - ALL 3φ CONTROLLERS
2) * MOTOR DATA TO BE PROVIDED BY MECHANICAL CONTR.
3) ◇ PROVIDE EXTRA INTERLOCK
4 PROVIDE NEC DUAL ELMENT FUSES
5 CONTROL VOLTAGE 120 V. ALL UNITS (FROM SEPARATE SOURCE)

OMIT

◇ AHU-1 1 HP 208 V 3φ SW & FU + FVNR SIZED WITH MAN-OFF-AUTO SW & R/G PILOTS	1	2	◇ AHU-2 1 HP 208 V 3φ SW & FU + FVNR SIZE 0 WITH MAN-OFF-AUTO SW & R/G PILOTS
◇ AHU-3 1 HP 208 V 3φ SW & FU + FVNR SIZE 0 WITH MAN-OFF-AUTO SW & R/G PILOTS	3	4	◇ AHU-4 1 HP 208 V 3φ SW & FU + FVNR SIZE 0 WITH MAN-OFF-AUTO SW & R/G PILOTS
◇ AHU-5 ¾ HP 208 V 3φ SW & FU + FVNR SIZE 00 WITH R/G PILOT LTS.	5	6	◇ AHU-6 ¾ HP 208 V 3φ SW & FU + FVNR SIZE 00 WITH R/G PILOT LTS.
◇ AHU-7 ¾ HP 208 V 3φ SW & FU + FVNR SIZE 00 WITH MAN-OFF SW & R/G PILOTS	7	8	◇ EF-1 ⅓ HP 120 V. 1φ SW & FU + FVNR SIZE 0 WITH R/G PILOT LTS.
* ◇ EF-5 ½ HP 208 V 3φ SW & FU + 2 SPEED CONTROL WITH MAN-OFF-AUTO SW & R/G PLT.	9	10	◇ EF-2 ½ HP 120 V. 1φ SW & FU + FVNR SIZE 0 WITH R/G PILOT LTS.
* ◇ EF-6 ⅓ HP 208 V 3φ SW & FU + 2 SPEED CONTROL WITH MAN-OFF-AUTO SW & R/G PLT.	11	12	SP ½ HP 208 V. 3φ SW & FU ONLY
* ◇ EF-7 ½ HP 208 V 3φ SW & FU + 2 SPEED CONTROL WITH MAN-OFF-AUTO SW & R/G PLT.	13	14	◇ * EF-31 ± ½ HP 120 V. 1φ SW & FU + FVNR SIZE 00 MAN-OFF SW
* ◇ EF-8 ⅓ HP 208 V 3φ SW & FU + 2 SPEED CONTROL WITH MAN-OFF-AUTO SW & R/G PLT.	15	16	◇ * EF-32 ± ½ HP 120 V. 1φ SW & FU + FVNR SIZE 00 MAN-OFF SW.
FC ¾ HP 208 V. 3φ SW & FU ONLY	17	18	EF-41 ¼ H.P. 120 V. 1φ SW & FU + FVNR SIZE 00 WITH "MAN-OFF" SW
	19	20	EF-42 ¼ H.P. 120 V. 1φ SW & FU + FVNR SIZE 00 WITH "MAN-OFF" SW

TOTAL H.P. = ± 9.5 50 AMPS.



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E-4

Appendix F: FEMA E-74 Nonstructural Seismic Bracing Excerpts

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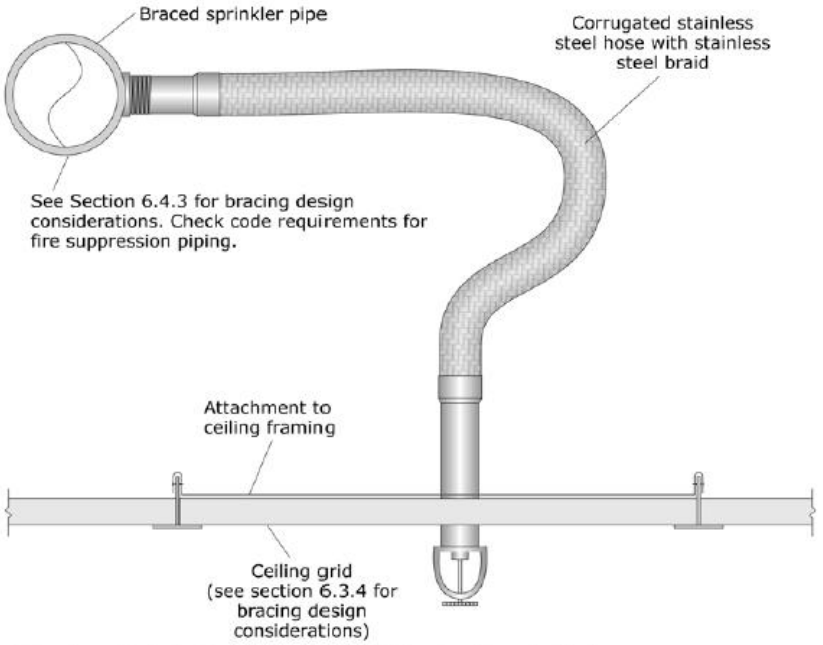


Figure G-1. Flexible Sprinkler Drop.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

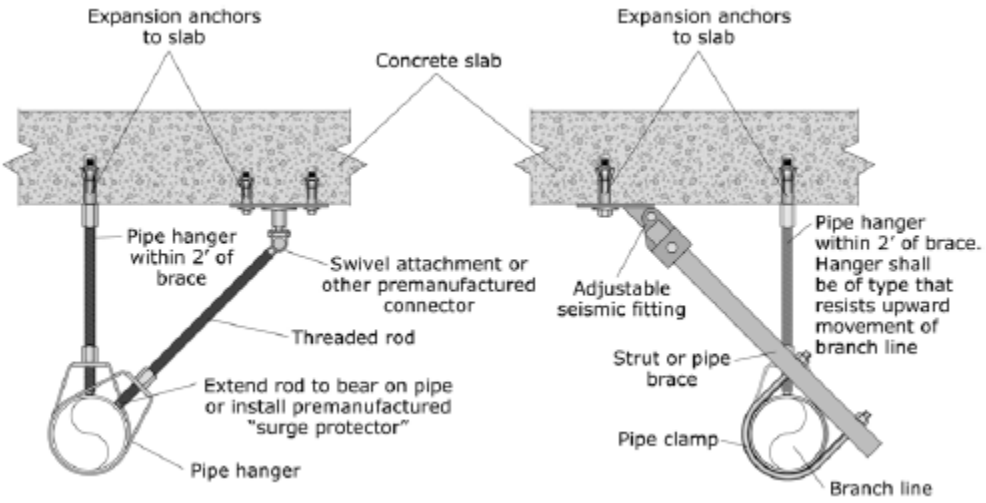


Figure G-2. End of Line Restraint.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

Partitions

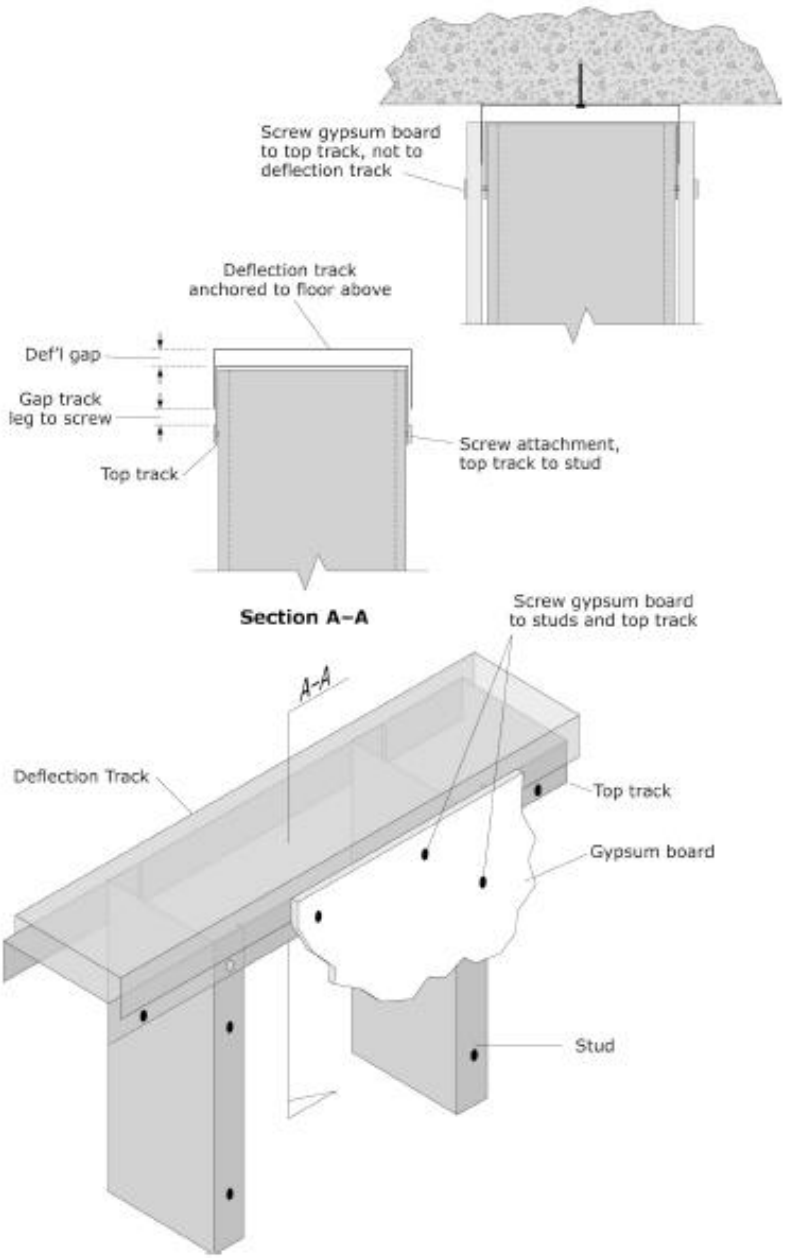


Figure G-3. Mitigation Schemes for Bracing the Tops of Metal Stud Partitions Walls.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

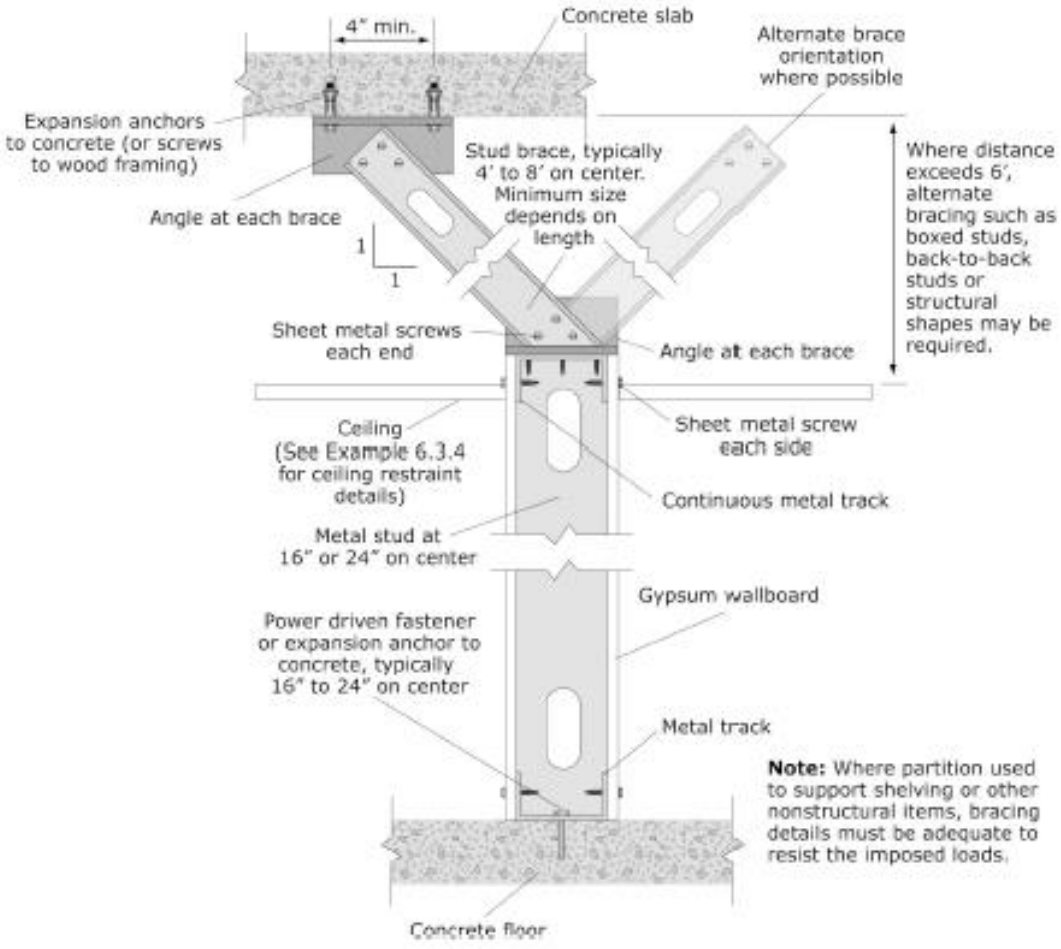
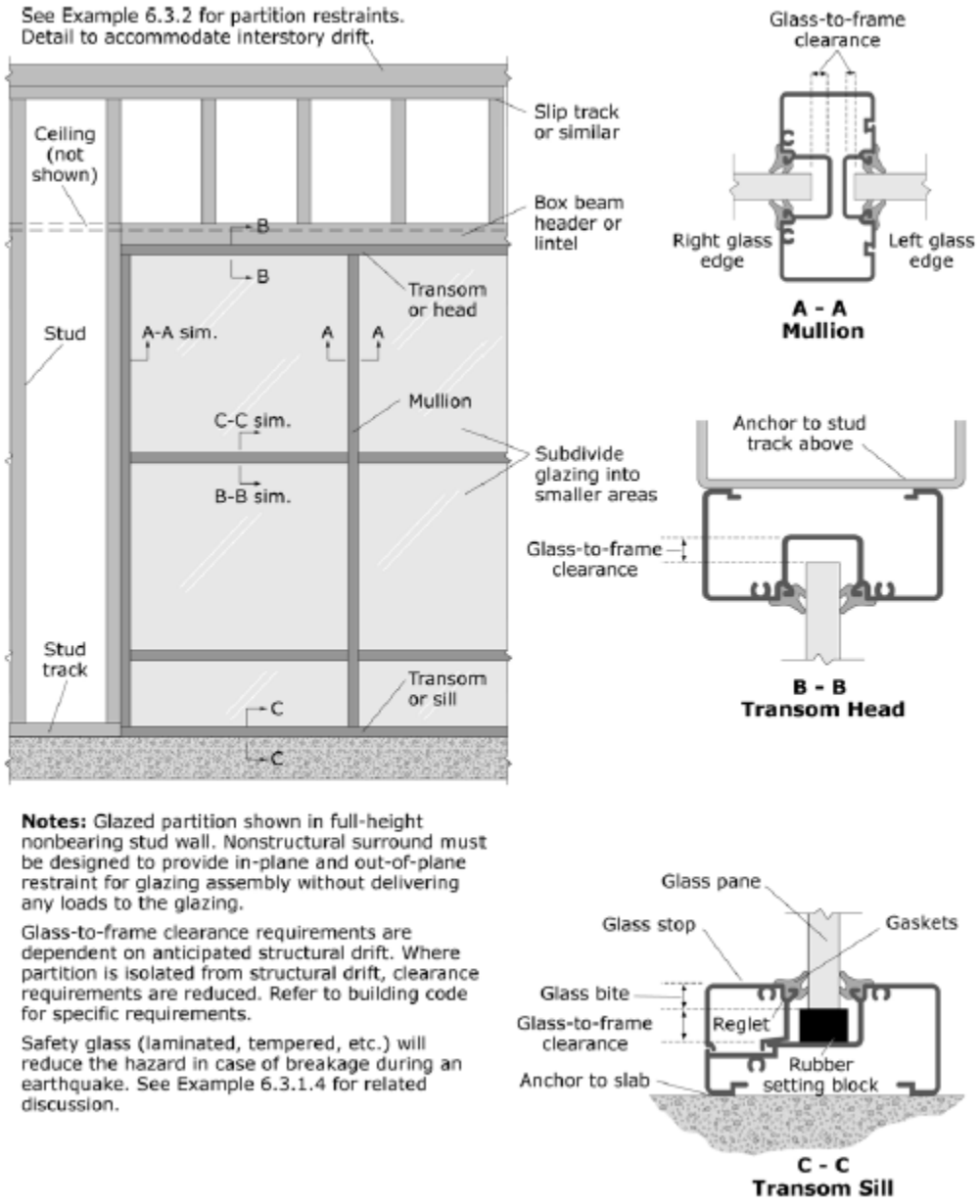


Figure G-4. Mitigation Schemes for Bracing the Tops of Metal Stud Partitions Walls.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)



Notes: Glazed partition shown in full-height nonbearing stud wall. Nonstructural surround must be designed to provide in-plane and out-of-plane restraint for glazing assembly without delivering any loads to the glazing.

Glass-to-frame clearance requirements are dependent on anticipated structural drift. Where partition is isolated from structural drift, clearance requirements are reduced. Refer to building code for specific requirements.

Safety glass (laminated, tempered, etc.) will reduce the hazard in case of breakage during an earthquake. See Example 6.3.1.4 for related discussion.

Figure G-5. Full-height Glazed Partition.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

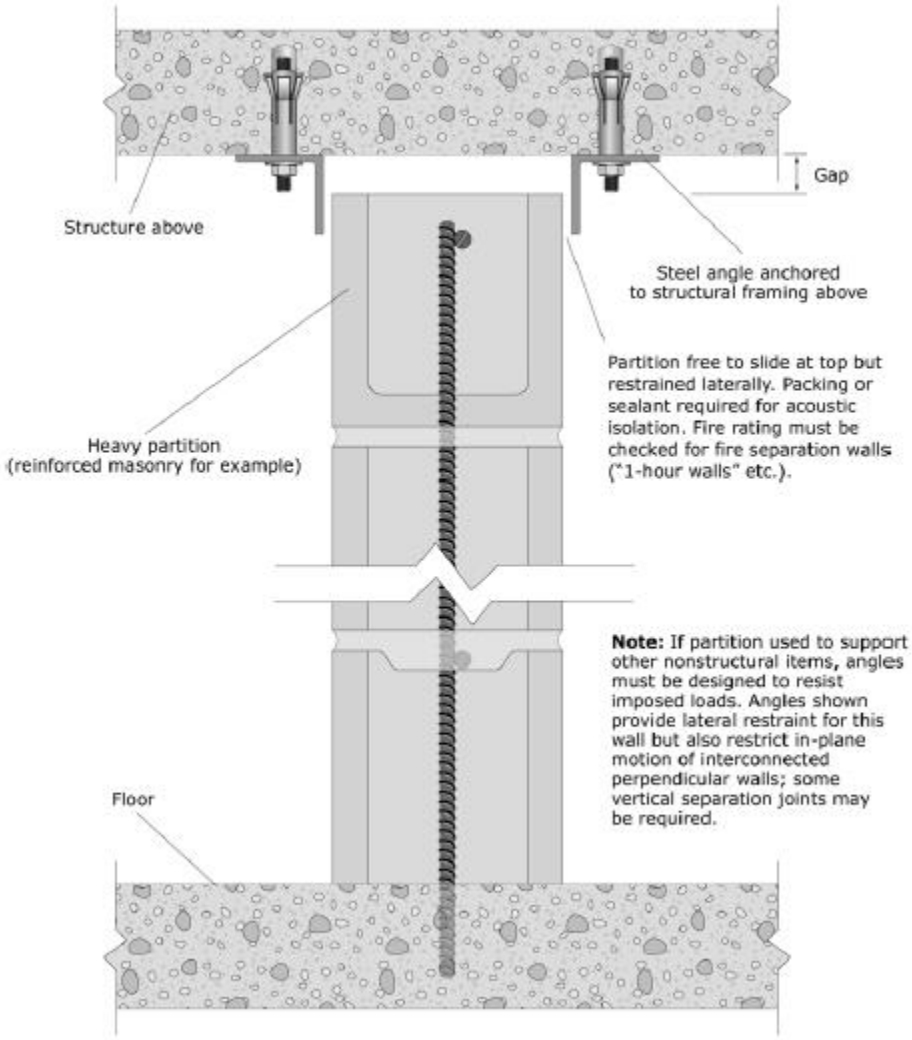


Figure G-6. Full-height Heavy Partition.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

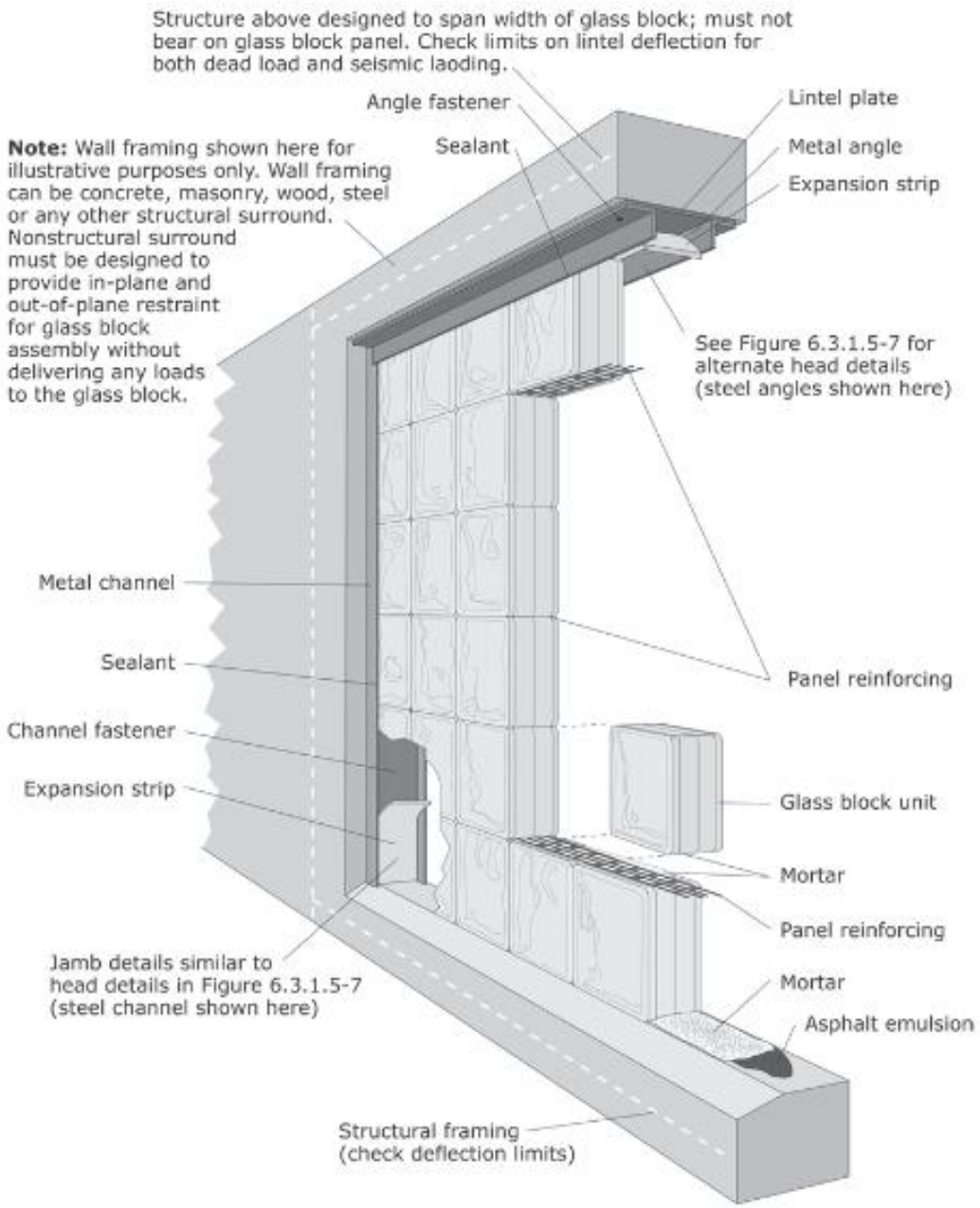


Figure G-7. Typical Glass Block Panel Details.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

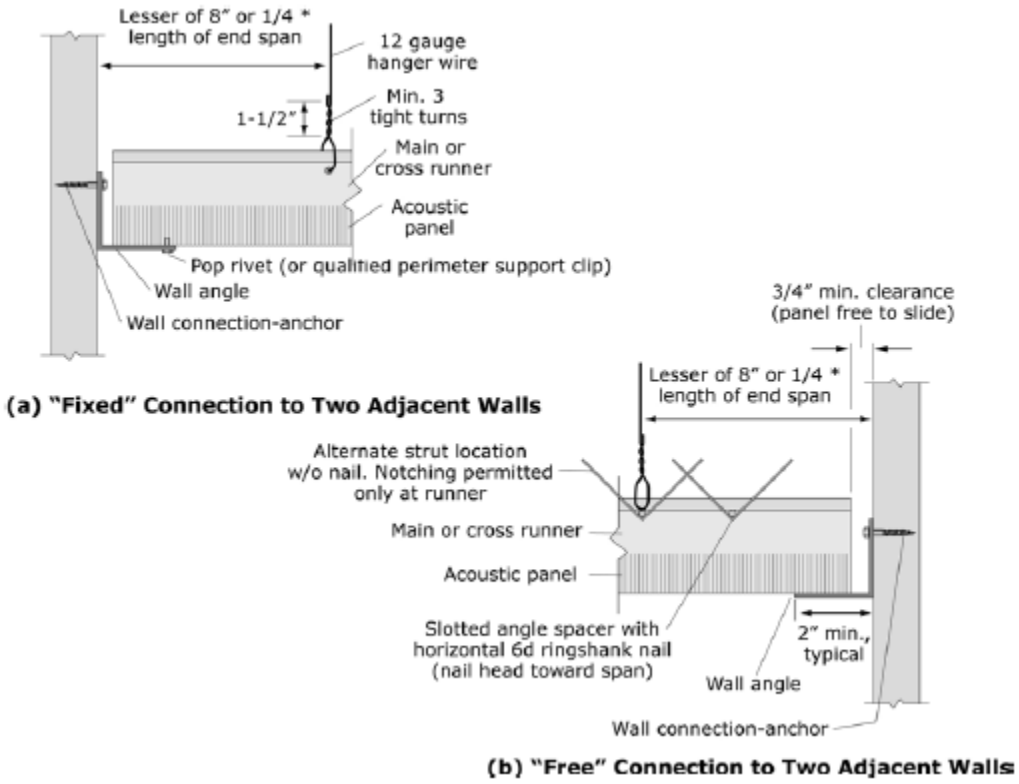
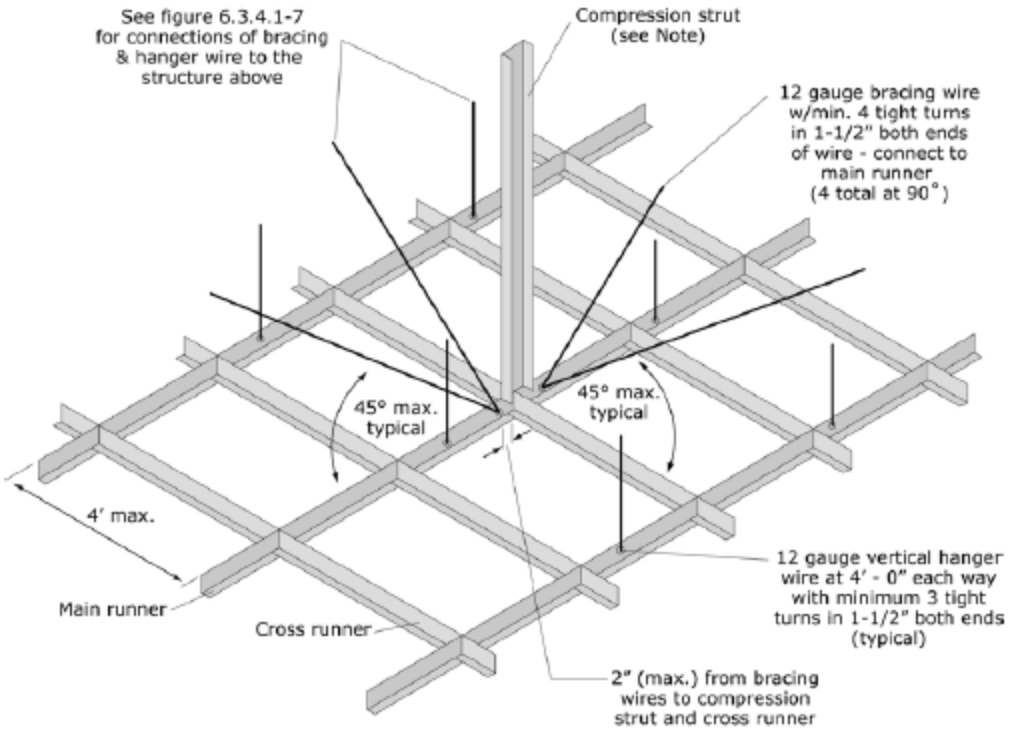


Figure G-8. Suspension System for Acoustic Lay-in Panel Ceilings – Edge Conditions.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)



Note: Compression strut shall not replace hanger wire. Compression strut consists of a steel section attached to main runner with 2 - #12 sheet metal screws and to structure with 2 - #12 screws to wood or 1/4" min. expansion anchor to structure. Size of strut is dependent on distance between ceiling and structure (l/r ≤ 200). A 1" diameter conduit can be used for up to 6', a 1-5/8" X 1-1/4" metal stud can be used for up to 10'

Per DSA IR 25-5, ceiling areas less than 144 sq. ft, or fire rated ceilings less than 96 sq. ft., surrounded by walls braced to the structure above do not require lateral bracing assemblies when they are attached to two adjacent walls. (ASTM E580 does not require lateral bracing assemblies for ceilings less than 1000 sq. ft.; see text.)

Figure G-9. Suspension System for Acoustic Lay-in Panel Ceilings – General Bracing Assembly.
(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

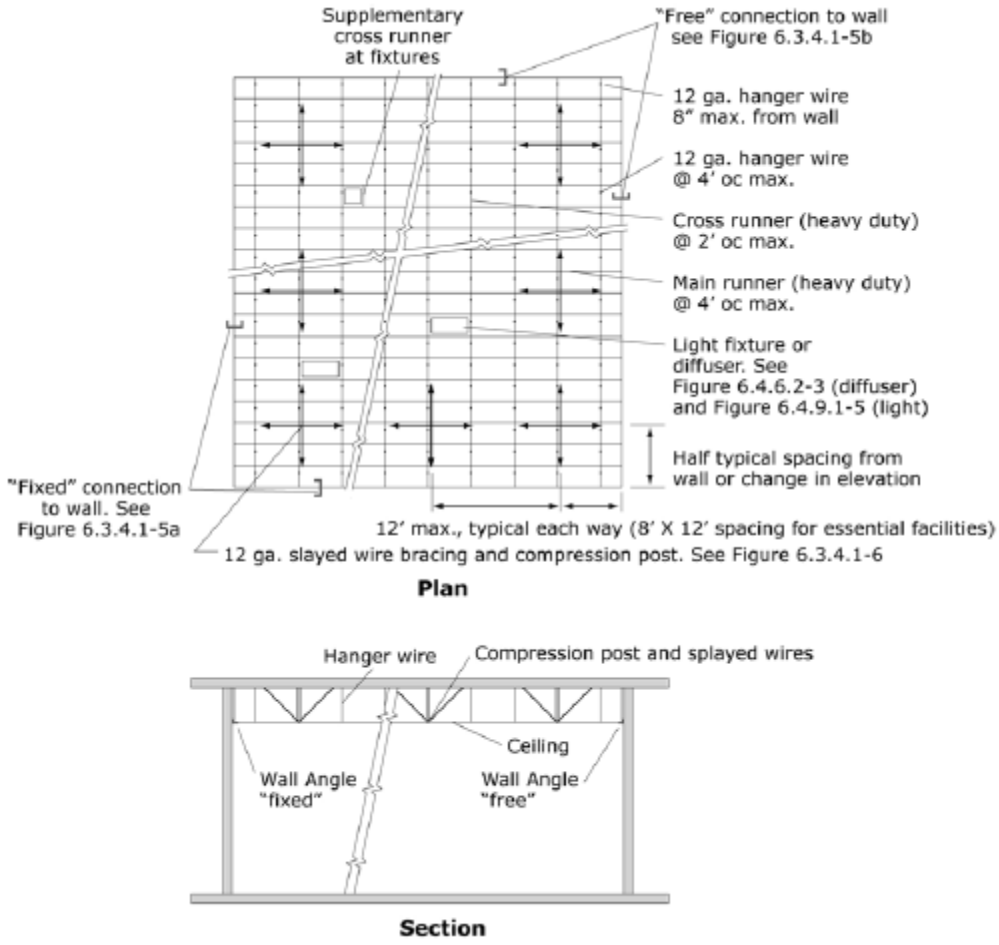


Figure G-10. Suspension System for Acoustic Lay-in Panel Ceilings – General Bracing Layout.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

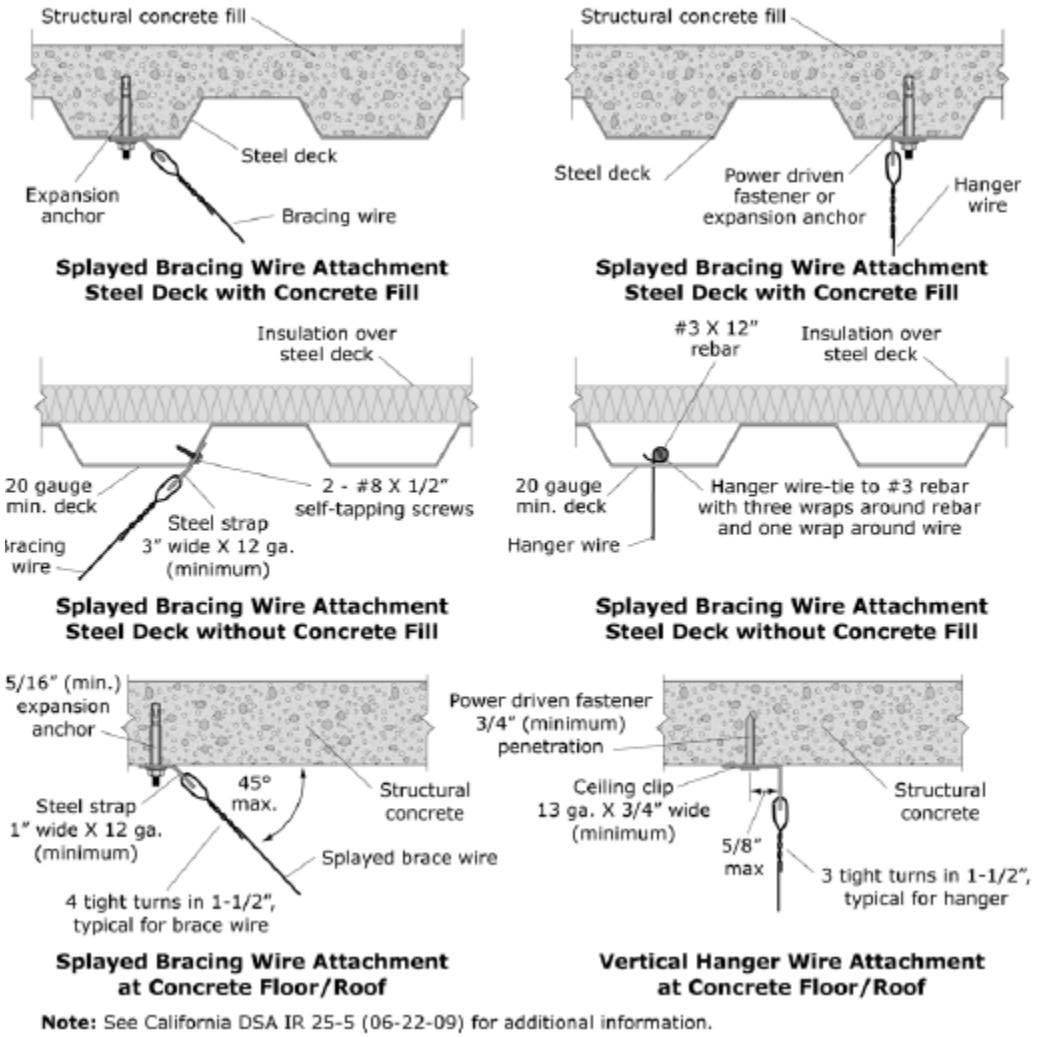
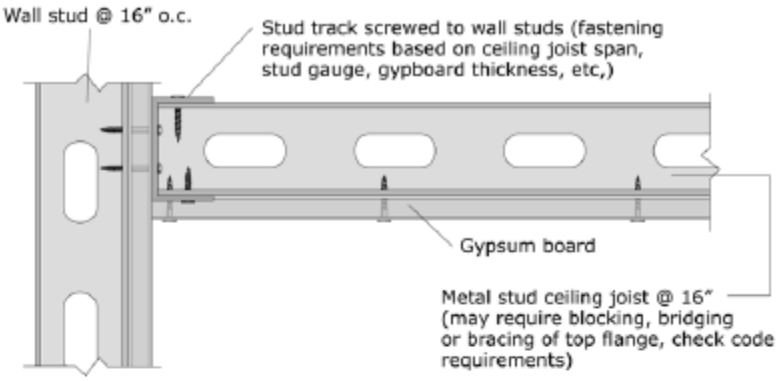
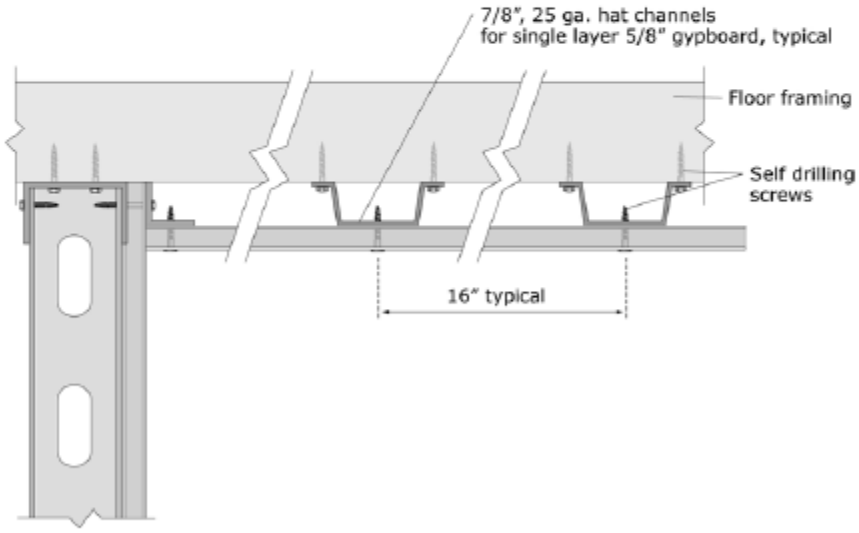


Figure G-11. Suspension System for Acoustic Lay-in Panel Ceilings – Overhead Attachment Details.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)



a) Gypsum board attached directly to ceiling joists



b) Gypsum board attached directly to furring strips (hat channel or similar)

Note: Commonly used details shown; no special seismic details are required as long as furring and gypboard secured. Check for certified assemblies (UL listed, FM approved, etc.) if fire or sound rating required.

Figure G-12. Gypsum Board Ceiling Applied Directly to Structure.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

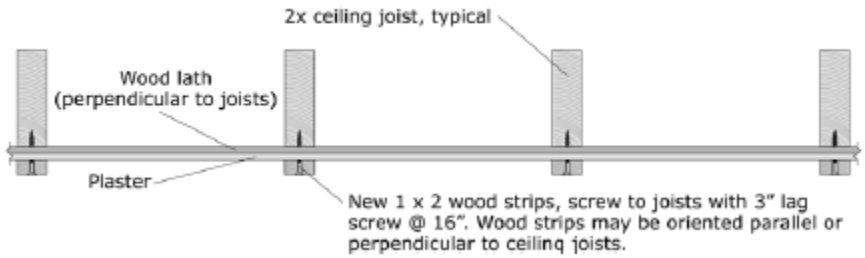


Figure G-13. Retrofit Detail for Existing Lath and Plaster.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

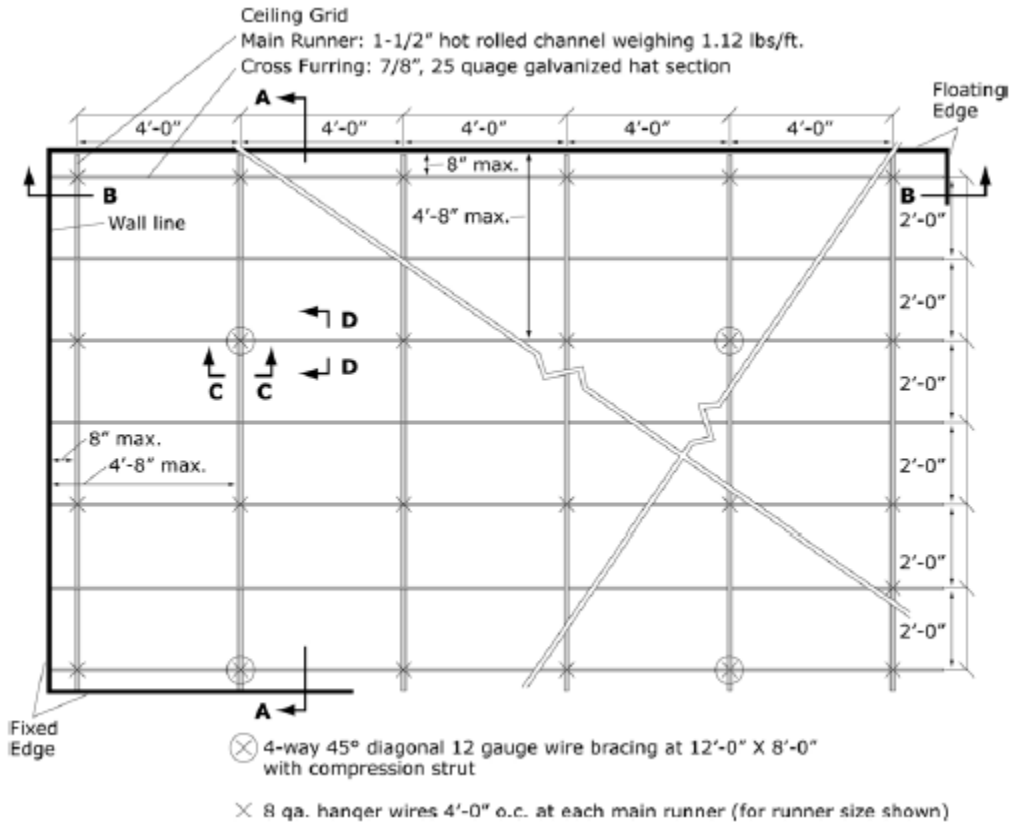


Figure G-14. Diagrammatic View of Suspended Heavy Ceiling Grid and Lateral Bracing.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

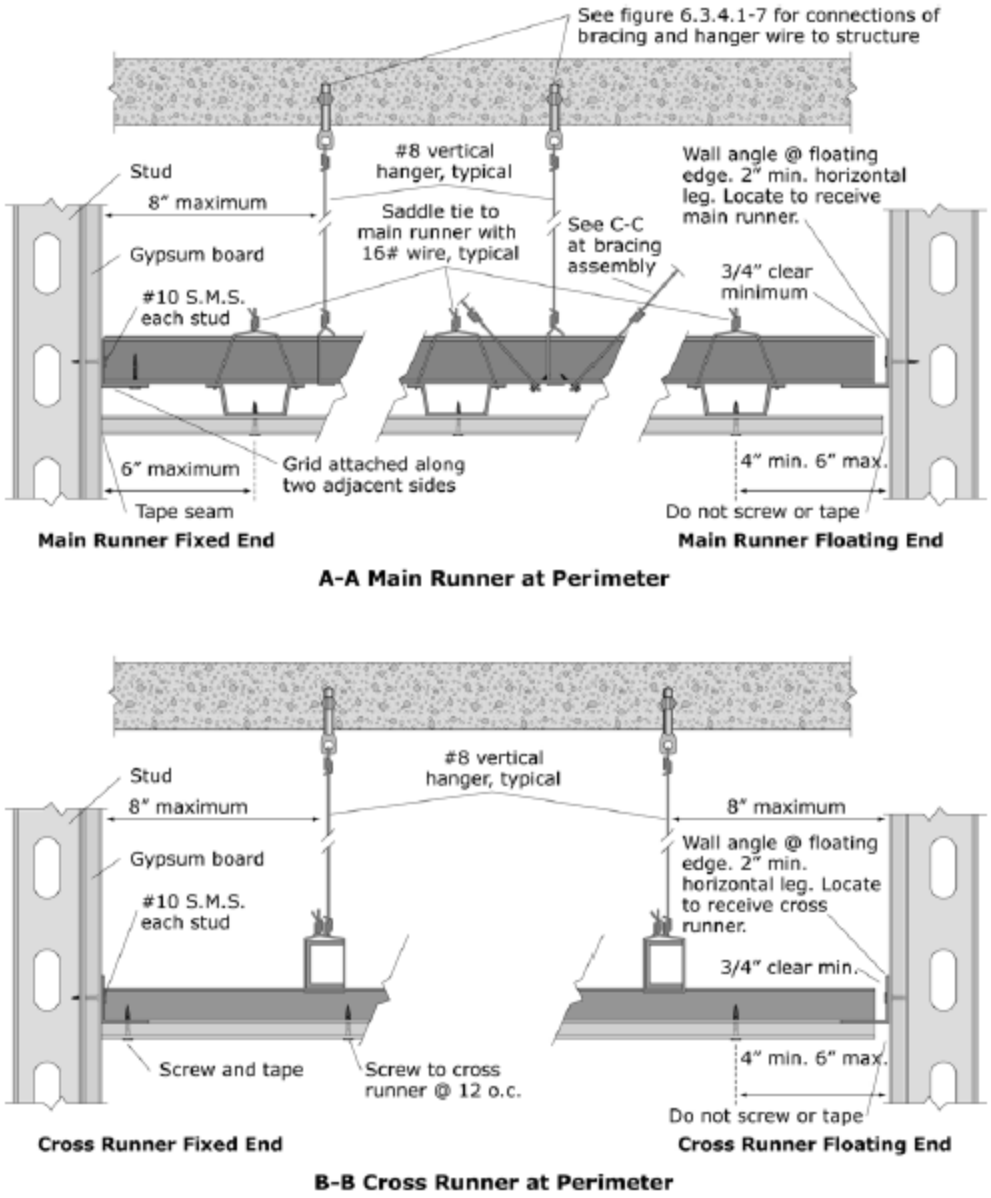
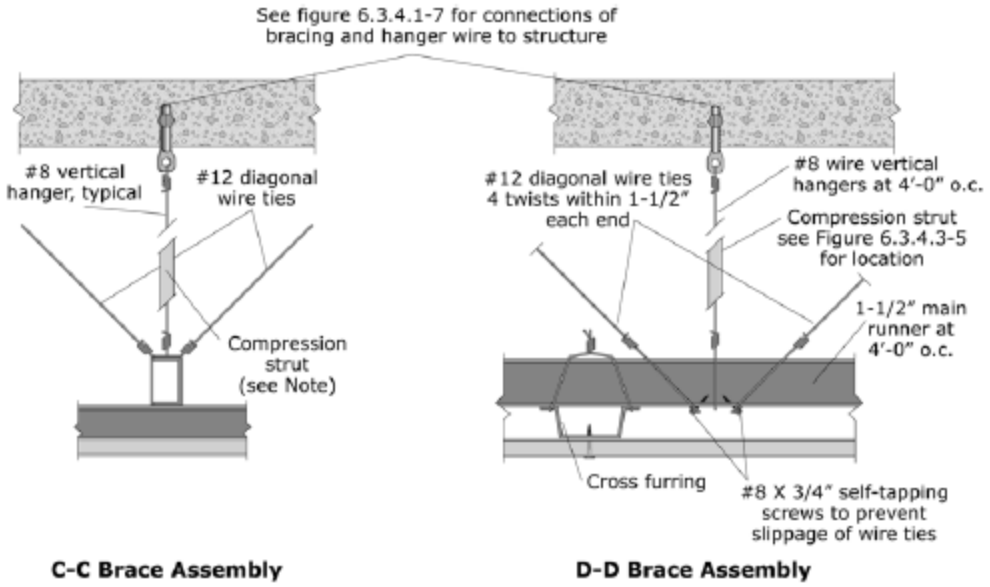


Figure G-15. Perimeter Details for Suspended Gypsum Board Ceiling.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)



Note: Compression strut shall not replace hanger wire. Compresion strut consists of a steel section attached to main runner with 2 - #12 sheet metal screws and to structure with 2 - #12 screws to wood or 1/4" min. expansion anchor to concrete. Size of strut is dependent on distance between ceiling and structure (l/r ≤ 200). A 1" diameter conduit can be used for up to 6', a 1-5/8" X 1-1/4" metal stud can be used for up to 10'. See figure 6.3.4.1-6 for example of bracing assembly.

Figure G-16. Details for Lateral Bracing Assembly for Suspended Gypsum Board Ceiling.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

Light Fixtures

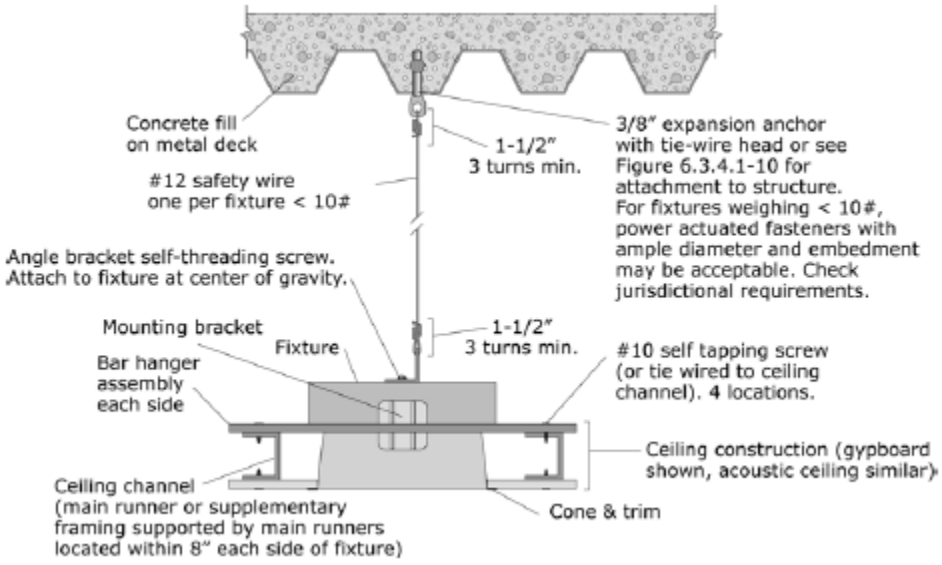


Figure G-17. Recessed Light Fixture in suspended Ceiling (Fixture Weight < 10 pounds).

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

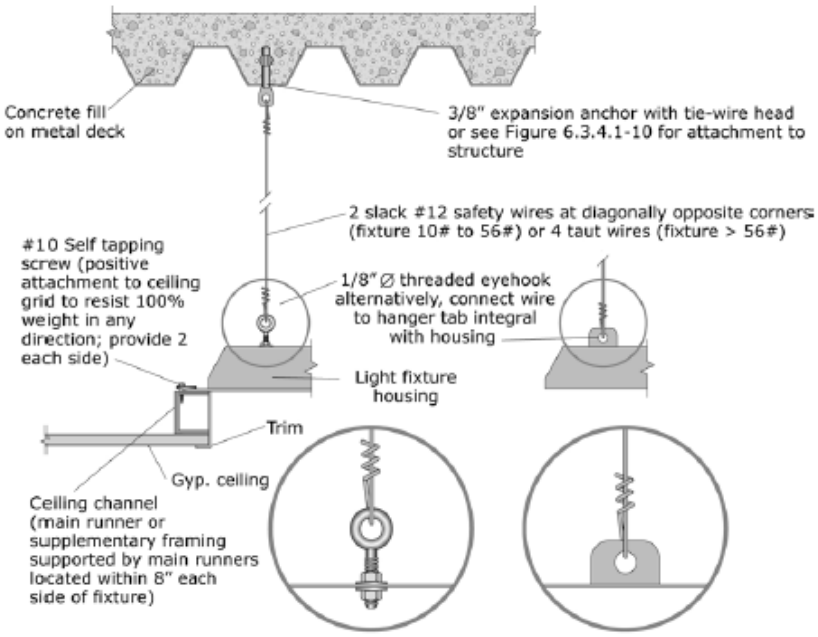


Figure G-18. Recessed Light Fixture in suspended Ceiling (Fixture Weight 10 to 56 pounds).

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

Contents and Furnishings

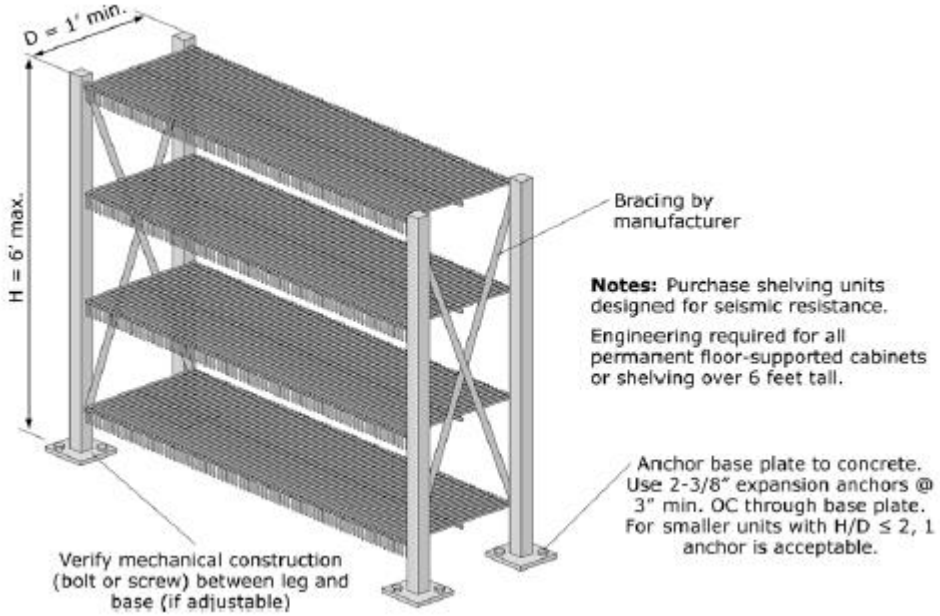


Figure G-19. Light Storage Racks.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

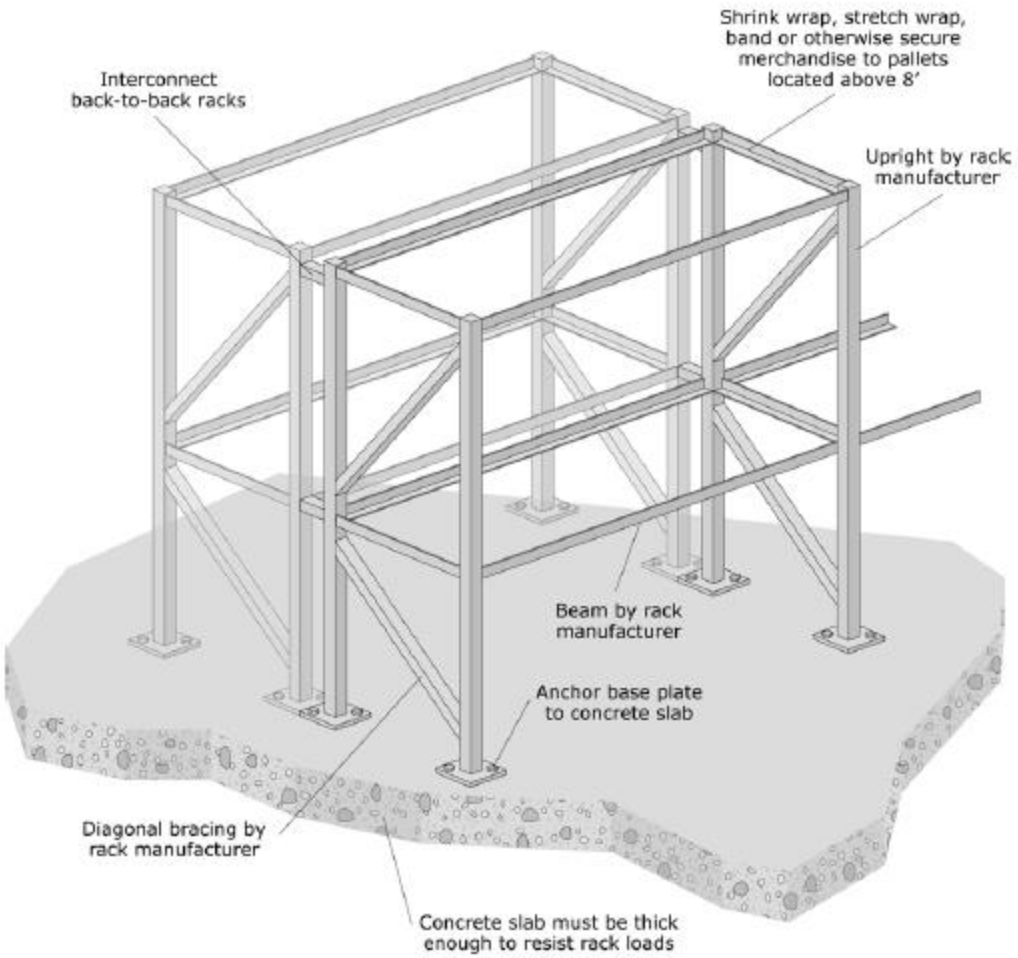


Figure G-20. Industrial Storage Racks.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

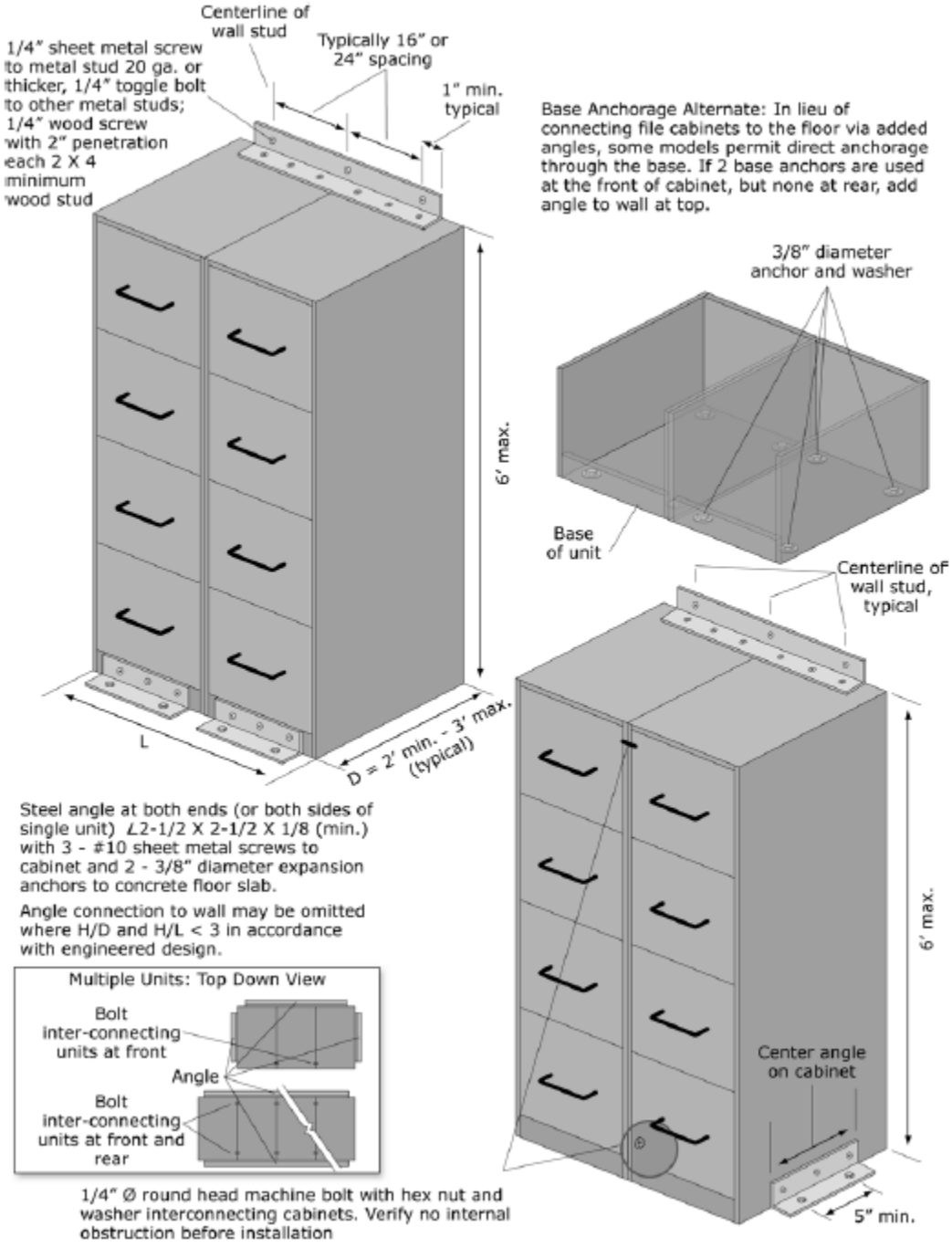


Figure G-21. Wall-mounted File Cabinets.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

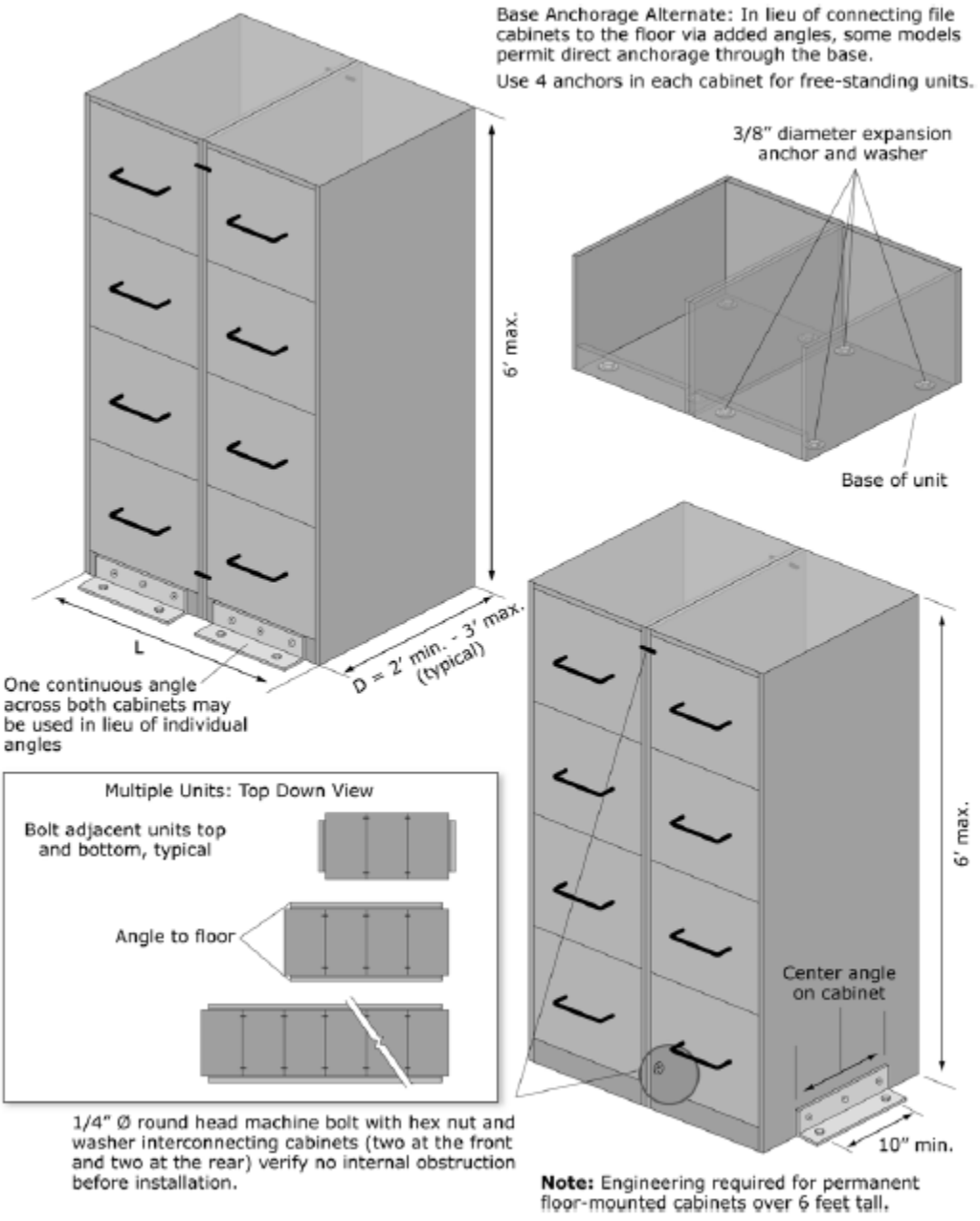


Figure G-22. Base Anchored File Cabinets.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

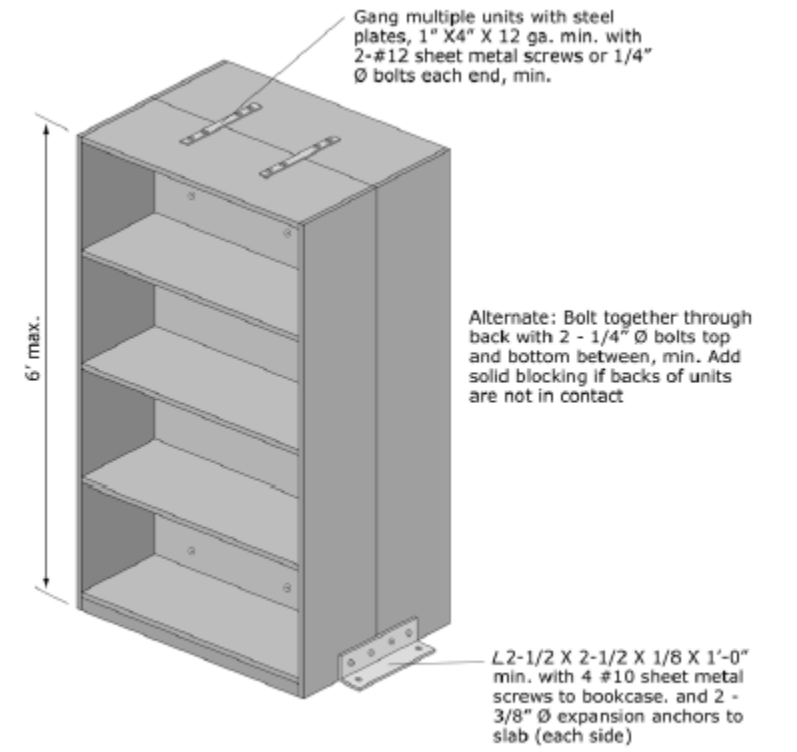


Figure G-23. Anchorage of Freestanding Book Cases Arranged Back to Back.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

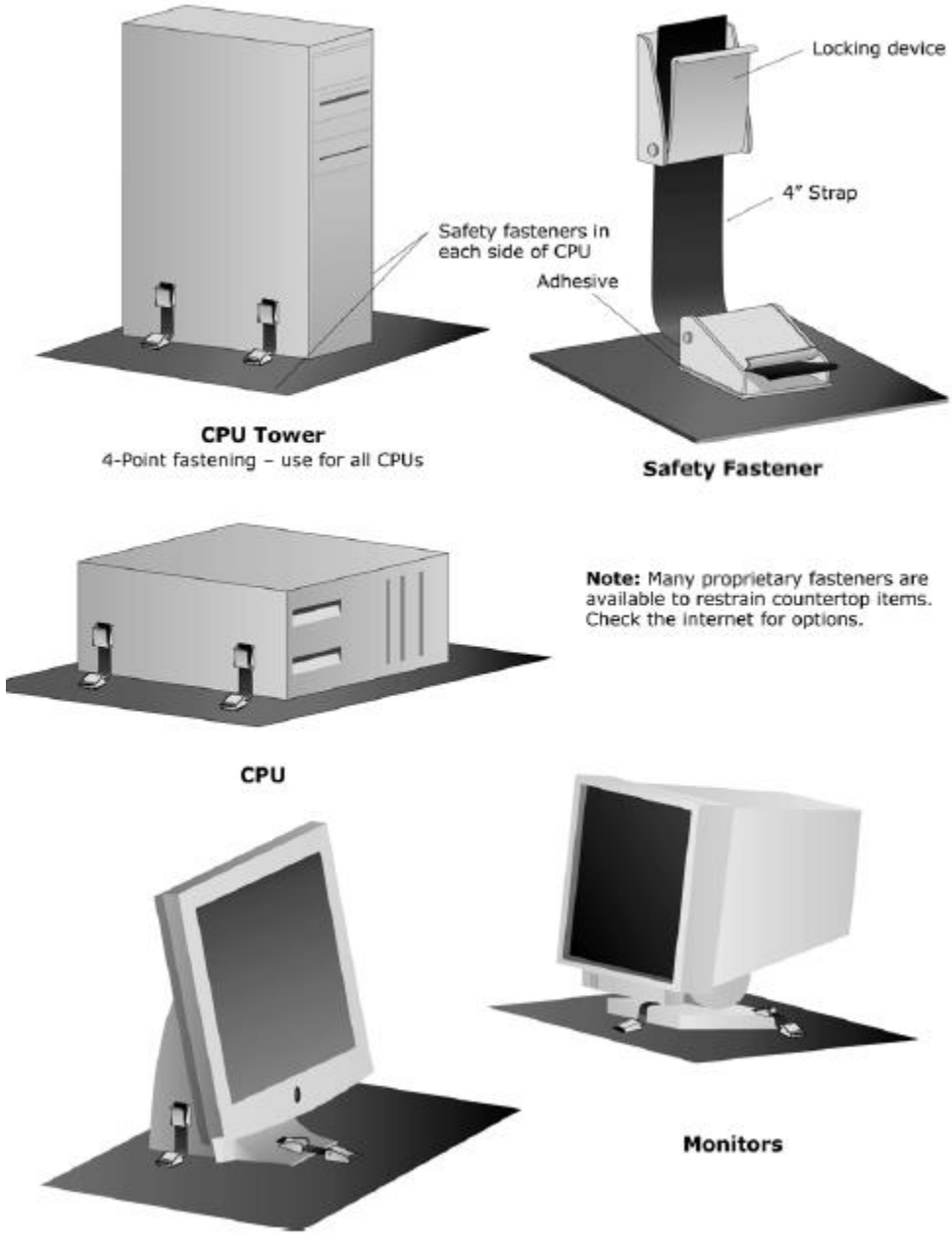
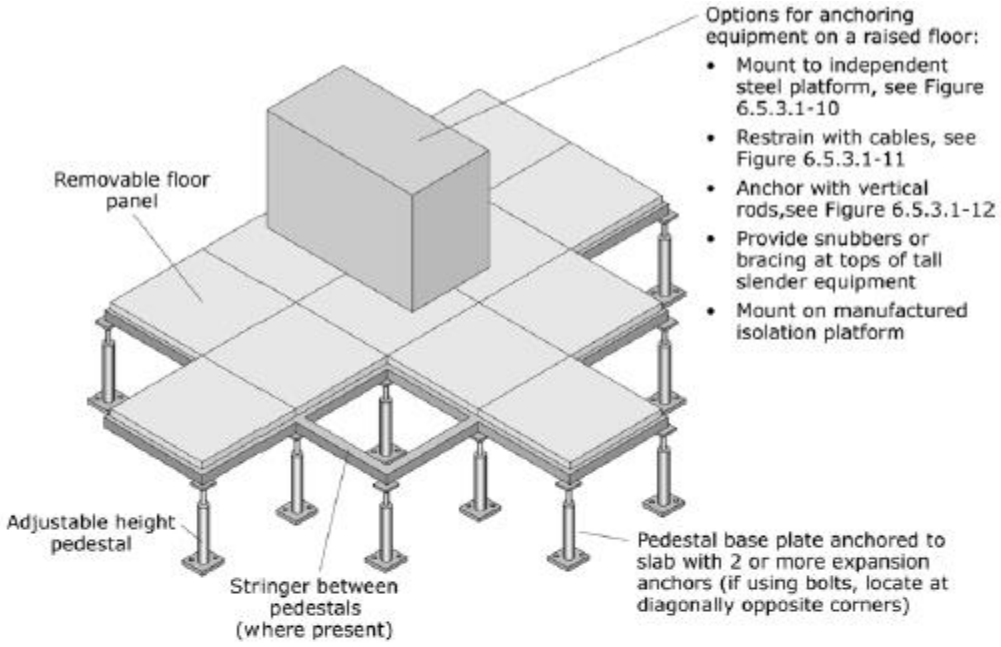
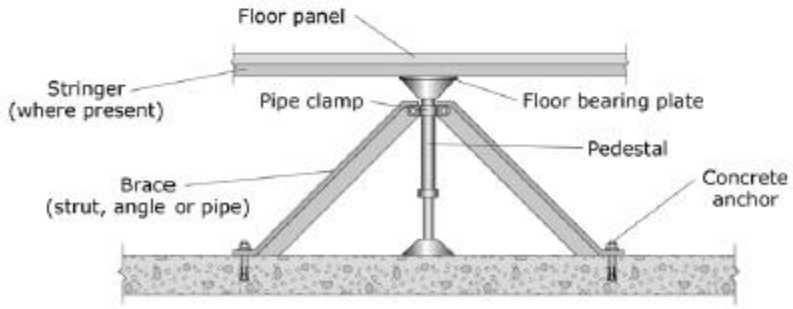


Figure G-24. Desktop Computers and Accessories.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)



Cantilevered Access Floor Pedestal



Braced Access Floor Pedestal
(use for tall floors or where pedestals are not strong enough to resist seismic forces)

Note: For new floors in areas of high seismicity, purchase and install systems that meet the applicable code provisions for "special access floors."

Figure G-25. Equipment Mounted on Access Floor.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

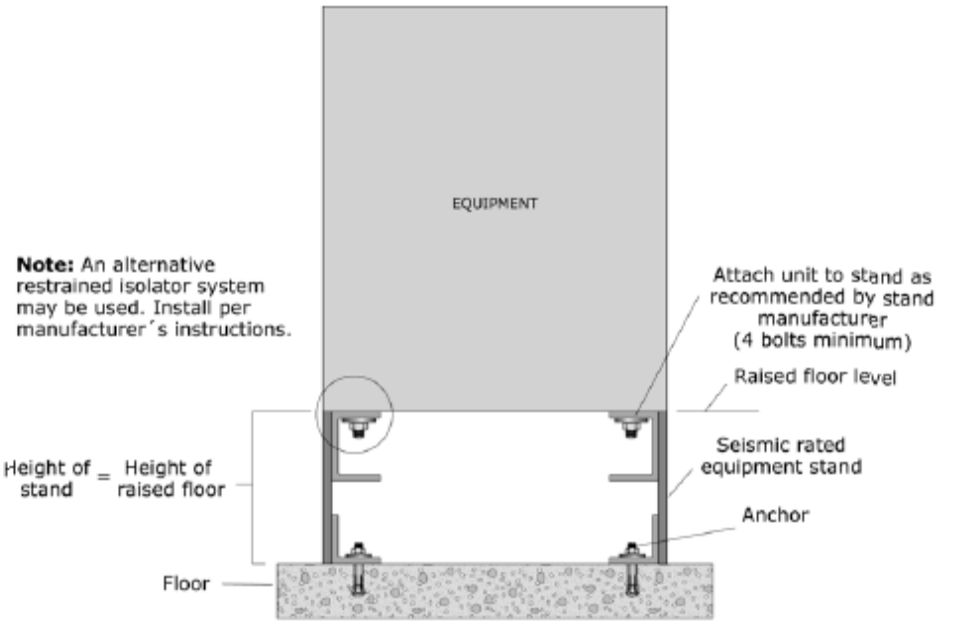


Figure G-26. Equipment Mounted on Access Floor – Independent Base.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

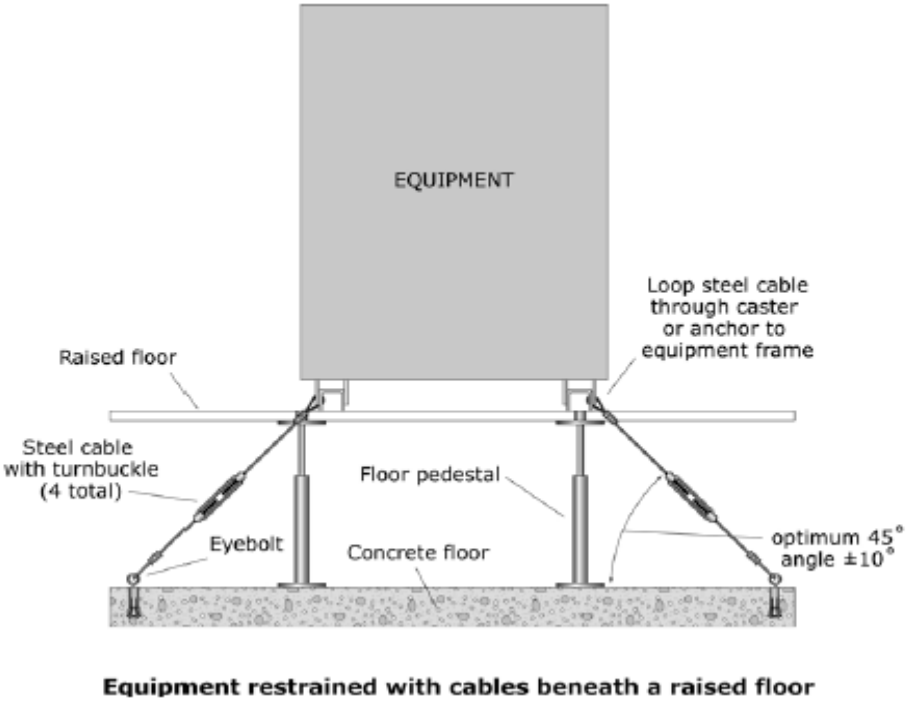


Figure G-27. Equipment Mounted on Access Floor – Cable Braced.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

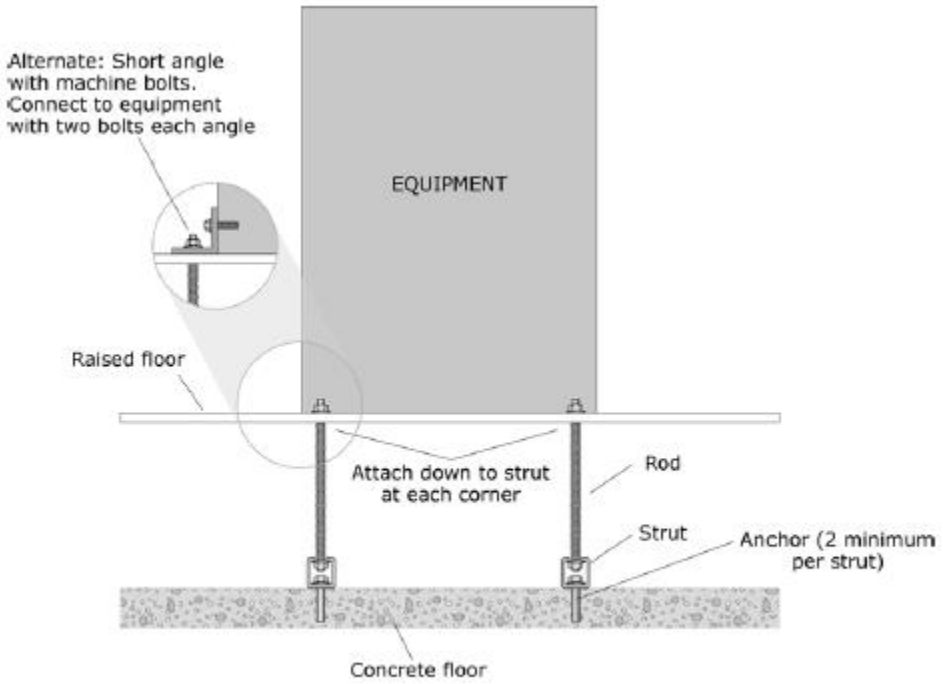
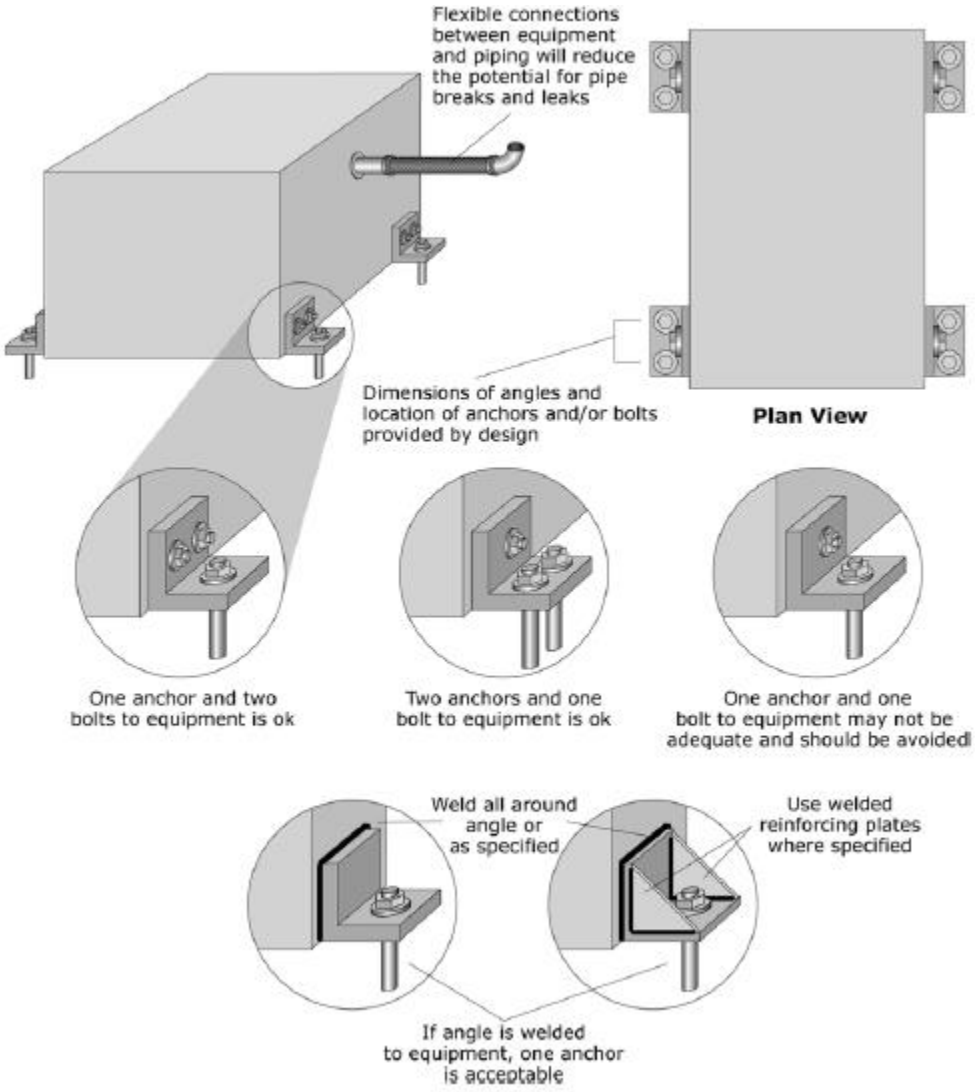


Figure G-28. Equipment Mounted on Access Floor – Tie-down Rods.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)



Note: Rigidly mounted equipment shall have flexible connections for the fuel lines and piping.

Figure G-29. Rigidly Floor-mounted Equipment with Added Angles.
(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

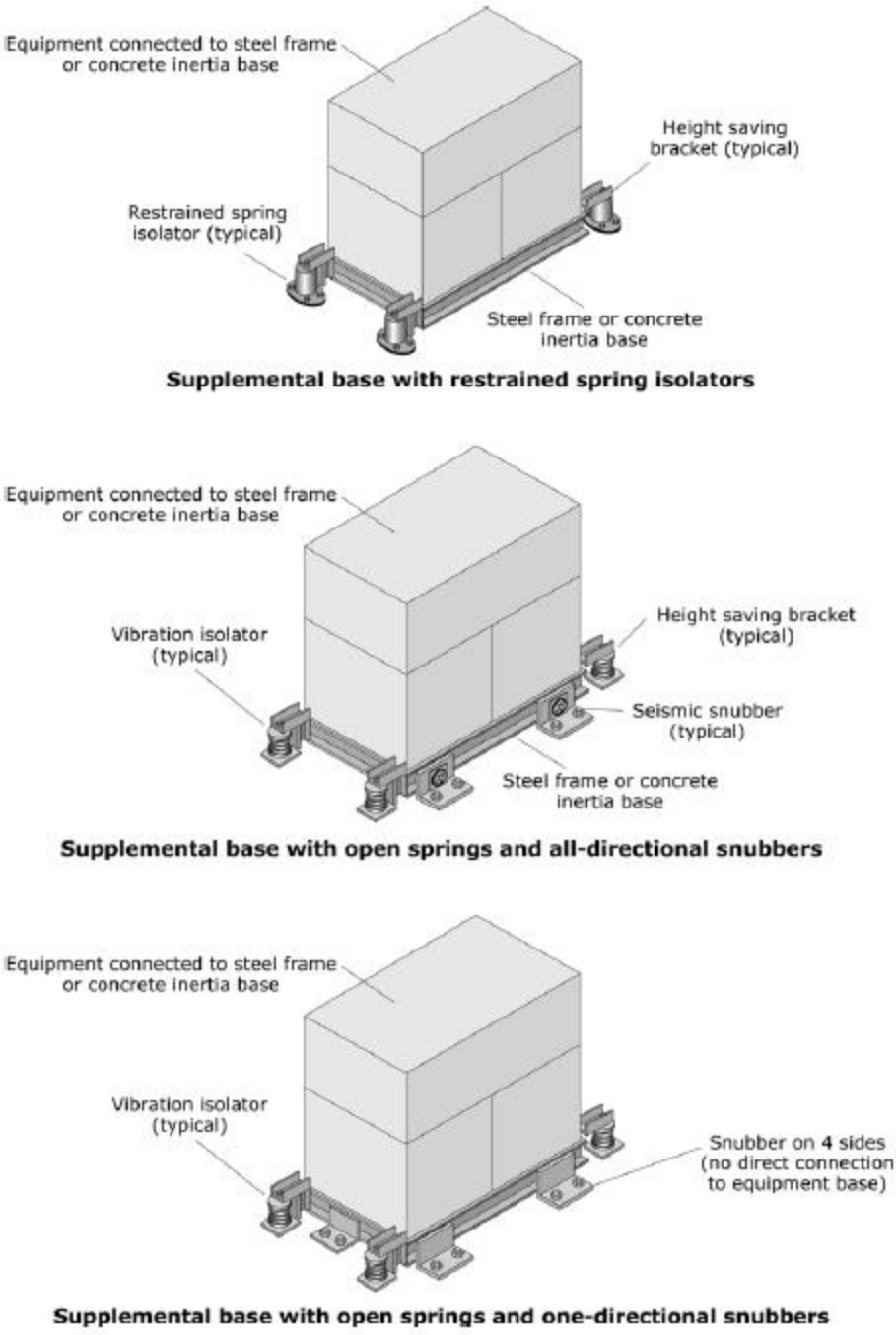


Figure G-30. HVAC Equipment with Vibration Isolation.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

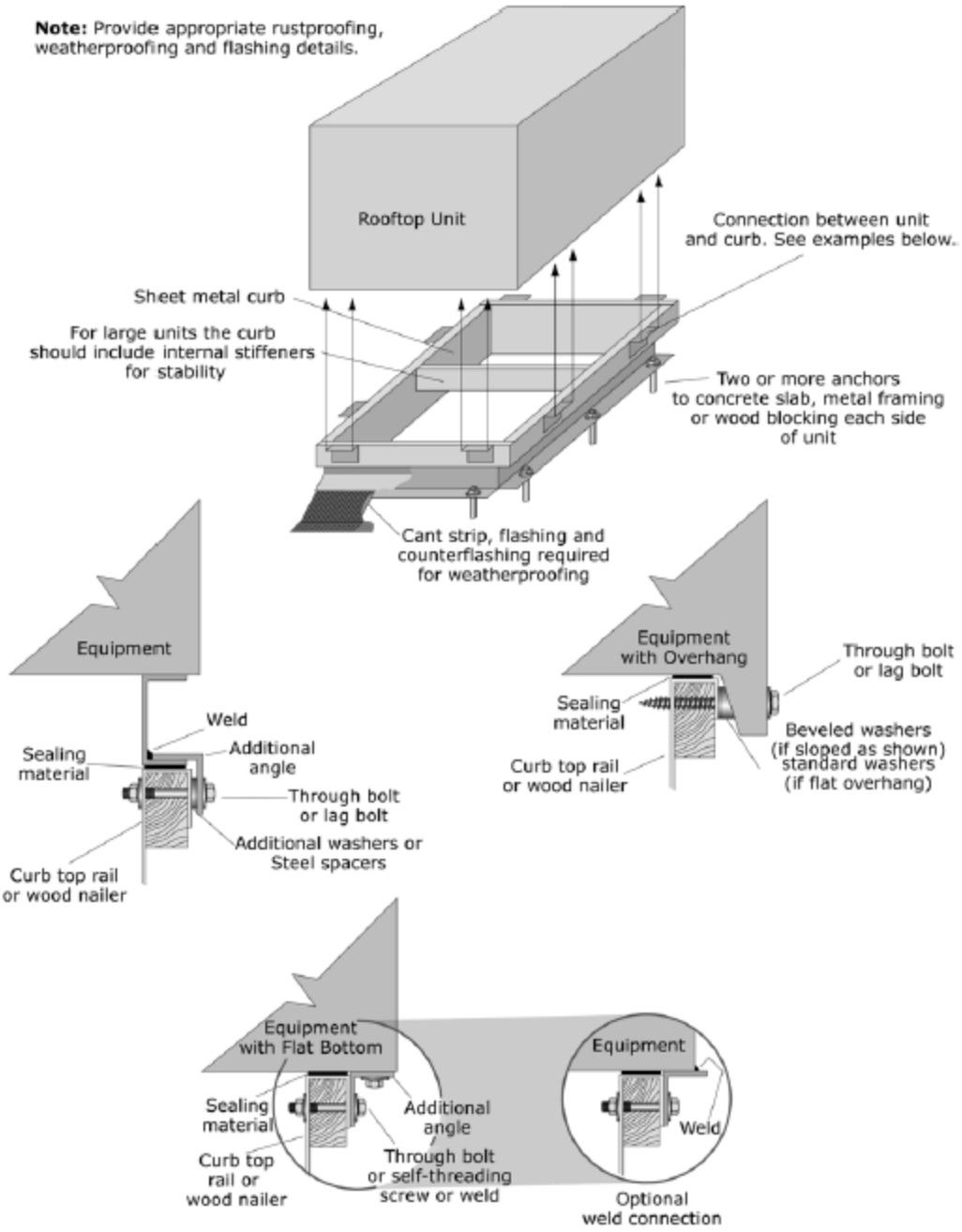


Figure G-31. Rooftop HVAC Equipment.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

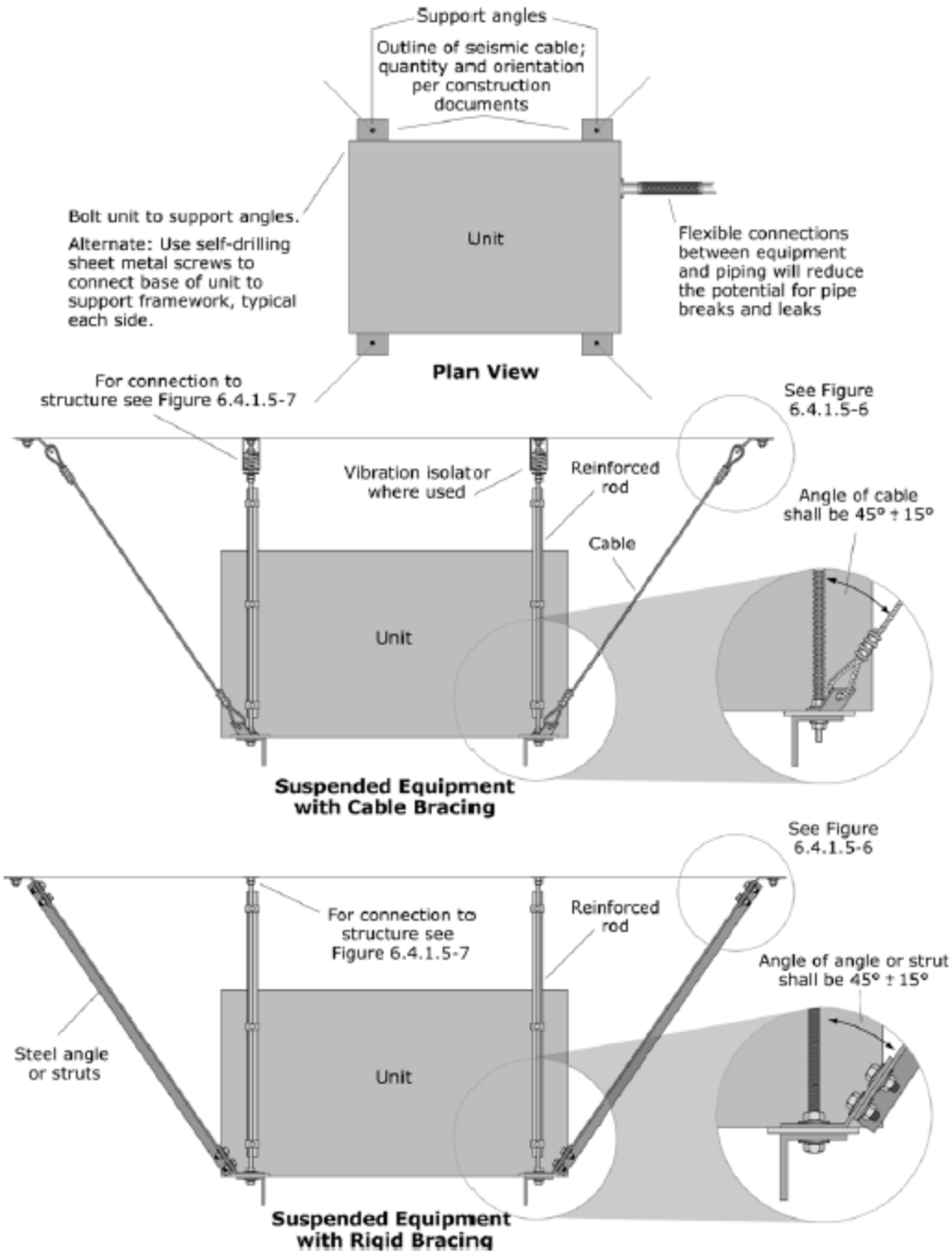


Figure G-32. Suspended Equipment.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

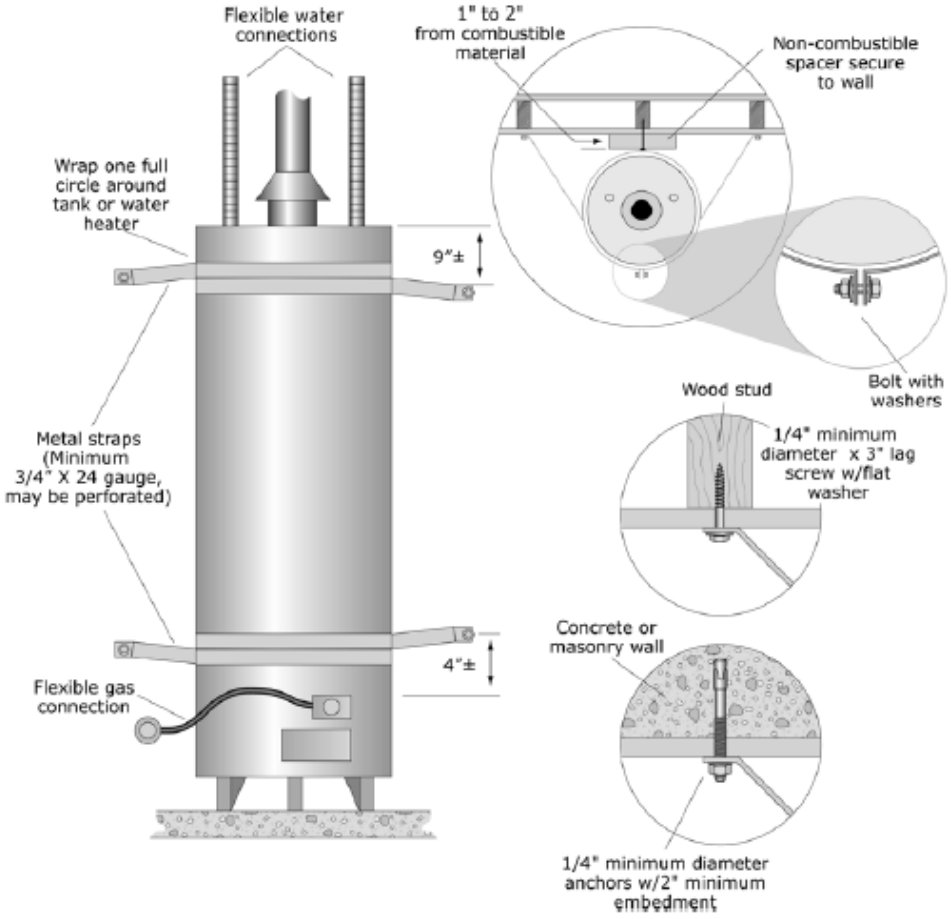


Figure G-33. Water Heater Strapping to Backing Wall.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

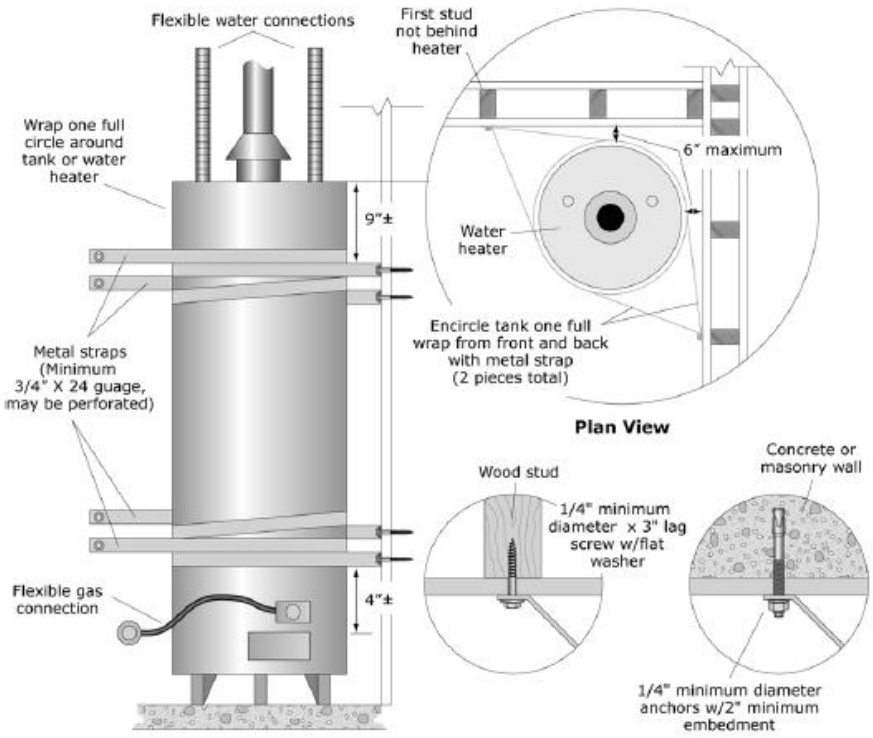


Figure G-34. Water Heater – Strapping at Corner Installation.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

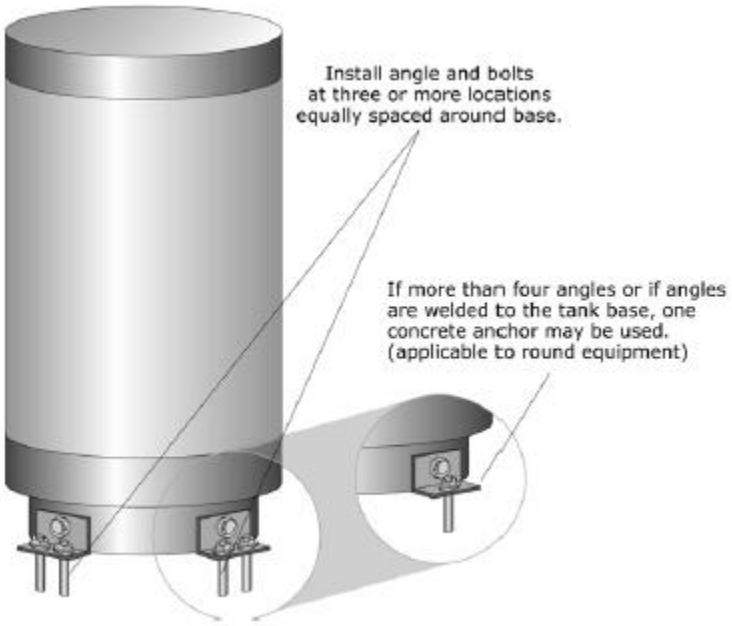


Figure G-35. Water Heater – Base Mounted.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

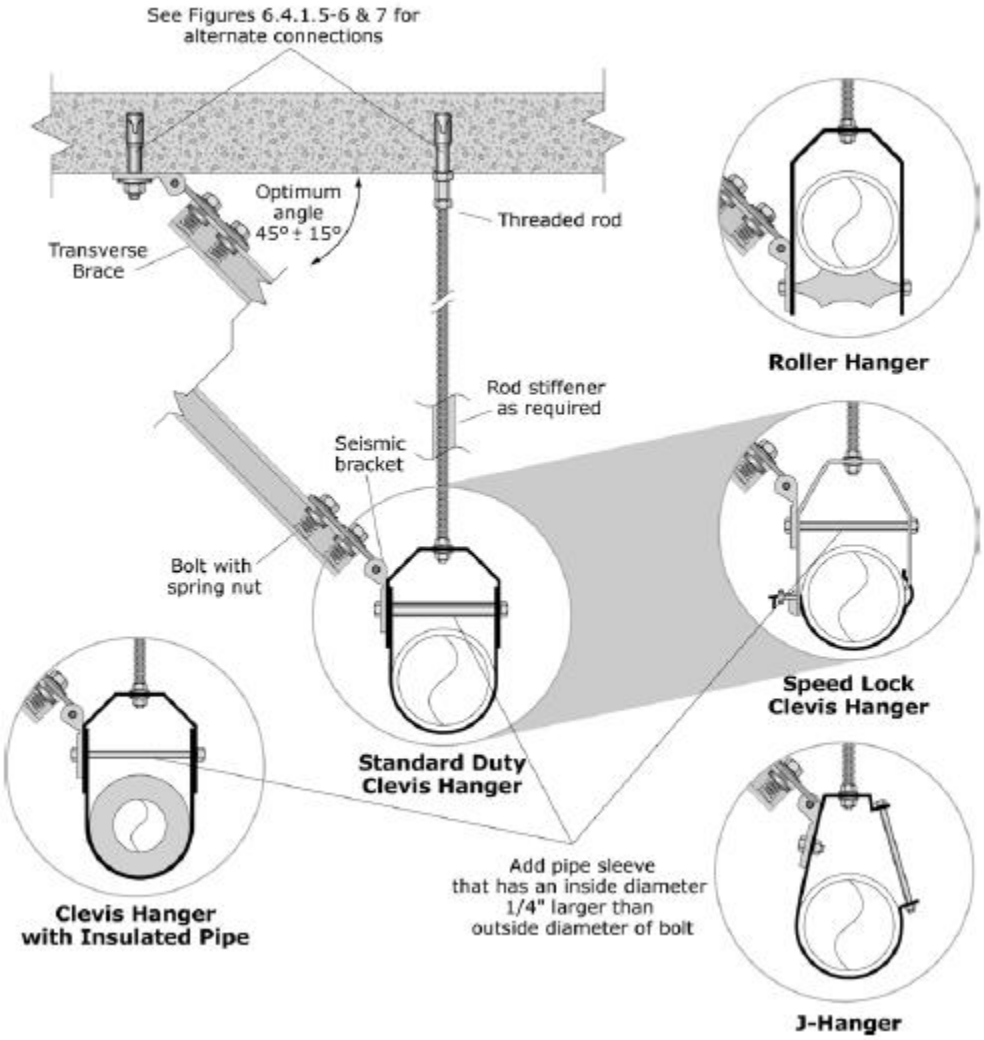


Figure G-36. Rigid Bracing – Single Pipe Transverse.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

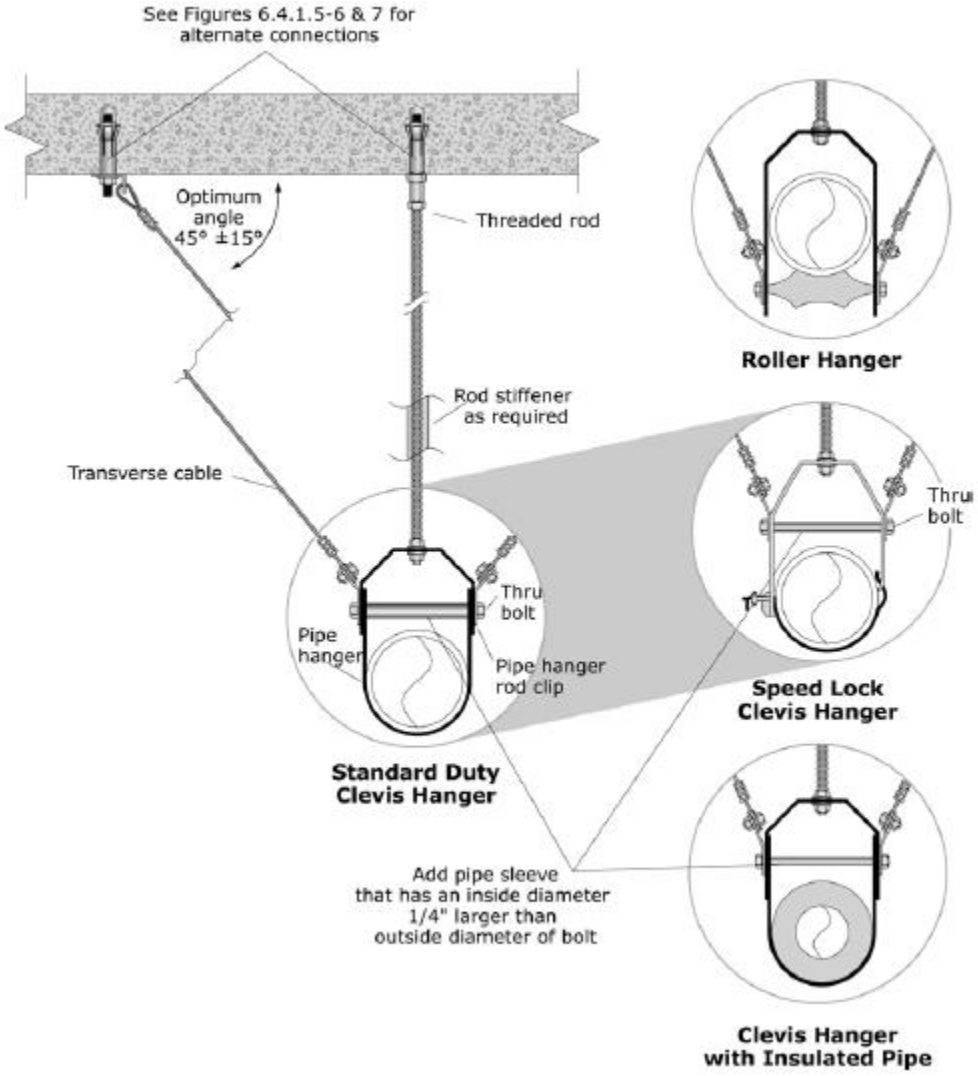


Figure G-37. Cable Bracing – Single Pipe Transverse.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

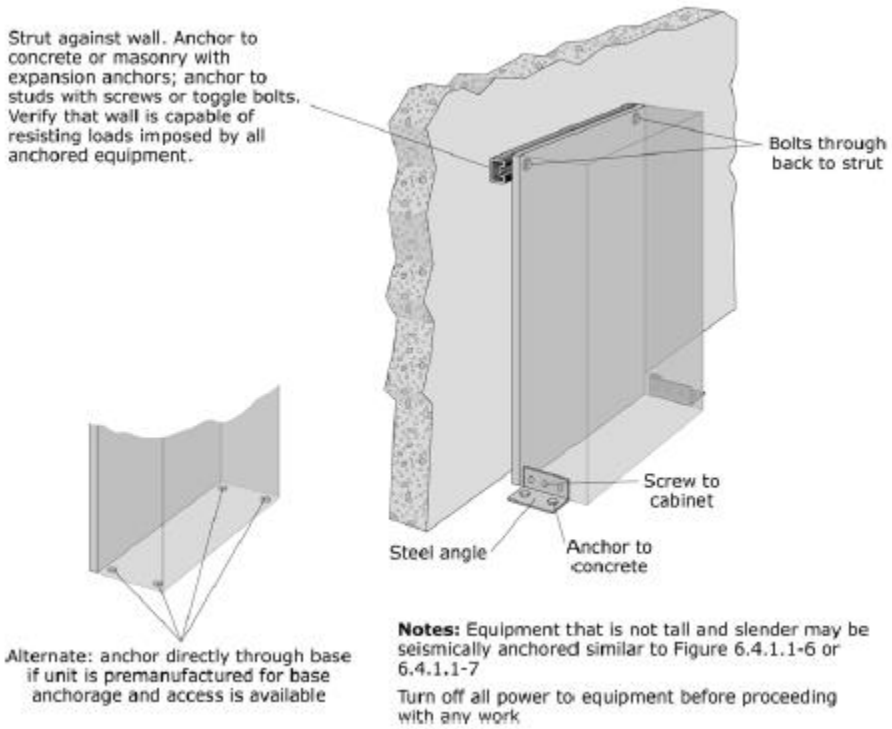


Figure G-38. Electrical Control Panels, Motor Controls Centers, or Switchgear.
(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

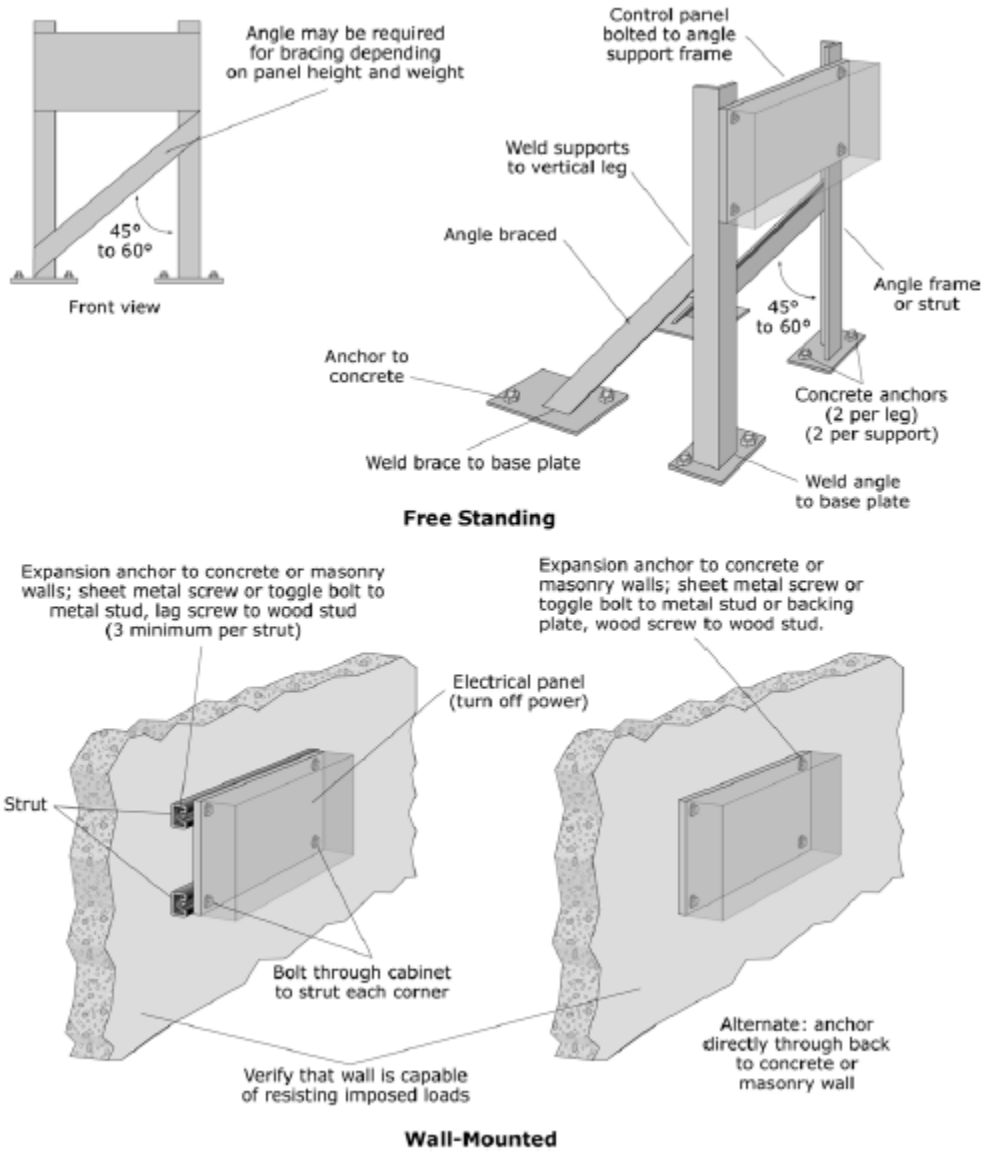


Figure G-39. Freestanding and Wall-mounted Electrical Control Panels, Motor Controls Centers, or Switchgear.

(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

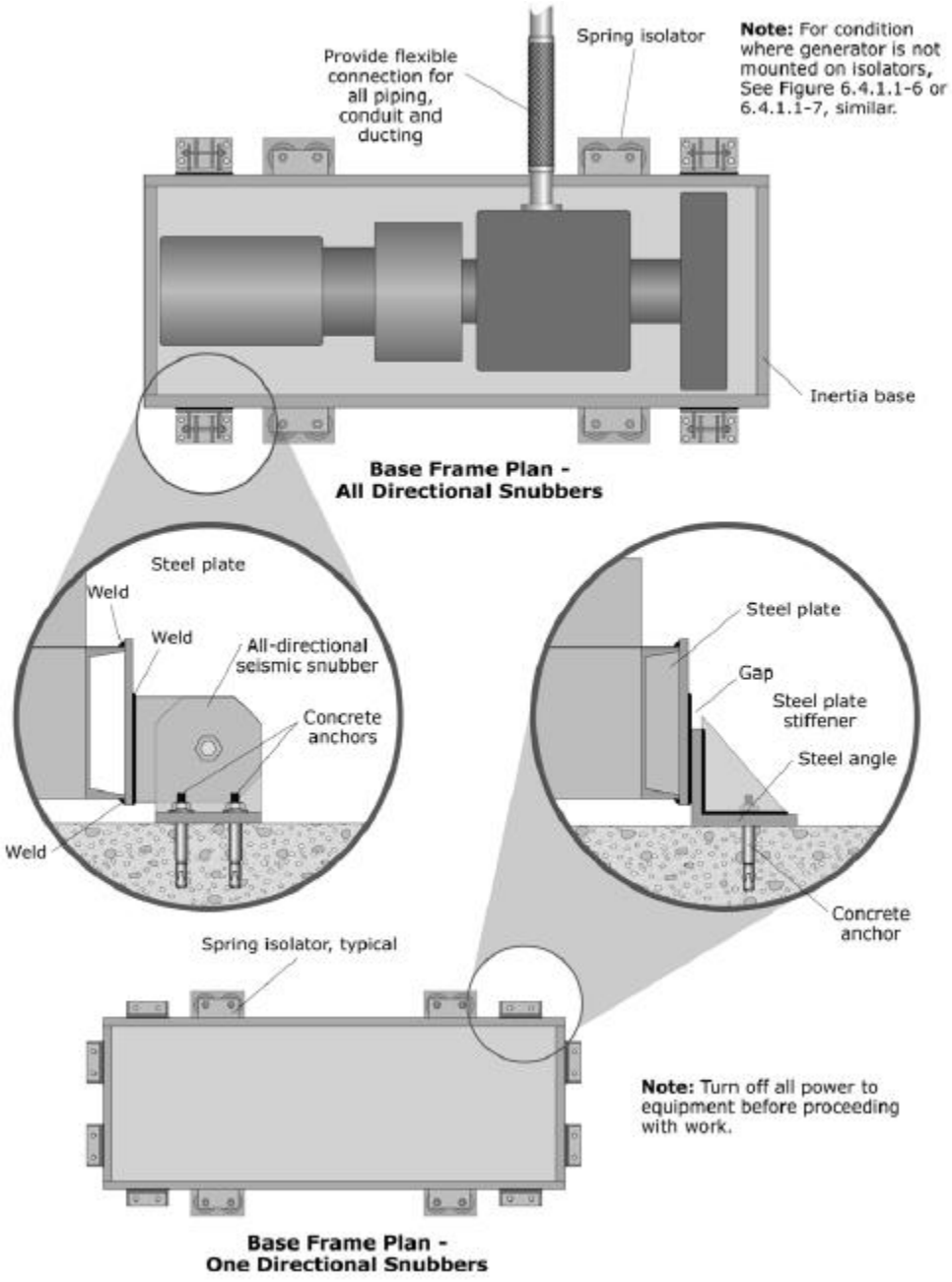


Figure G-40. Emergency Generator.
(FEMA E-74, 2012, Reducing the Risks of Nonstructural Earthquake Damage)

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